



South Africa's port doctrine: dilemmas and the way forward

Ayanda Meyiwa¹ · Mihalis Chasomeris^{2,3}

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Abstract

This study uses content analyses to examine 137 stakeholders' submissions to the Ports Regulator of South Africa from 2009/2010 to 2018/2019, classifying themes into two broad categories, namely port authority pricing and port governance, which together define South Africa's port doctrine. Results show that South Africa's system of eight commercial seaports is unique and is financed and managed using a mix of elements from the Anglo-Saxon and Asian doctrines and attempts to charge port tariffs according to the Anglo-Saxon doctrine. The paper critiques the port authority pricing methodology employed in South Africa and shows its inconsistency with sound pricing principles and global best practices. The governance structure and how it has persistently defied legislation, which served to promote anticompetitive behaviour and at worst accommodated years of corrupt activities that have recently surfaced, are also discussed. The recommendation is a swift incorporation of Transnet National Ports Authority (TNPA) as a stand-alone entity outside of Transnet. Incorporation of TNPA would help to remove the present conflicts of interests, improve transparency, accountability and regulation as well as incentivise improved productivity and infrastructure spending, and attract private investments into the ports system.

Keywords Port governance · Port pricing · Port doctrine · Developmental state

Introduction and background

The African National Congress (ANC), the South African ruling political party, follows a developmental state orientation for its political-economic policies. In this paradigm of economic growth and development, the state governs the markets and facilitates both the allocation of the country's key strategic resources and finances to purposefully selected industries and the distribution of incomes in the economy to correct market failures in this respect (Low, 2004). This is what Levi-Faur (1998) referred to as governed development as opposed to that facilitated by market forces alone. In a developmental state, the state uses its

commercial enterprises as key players in industrial development (Chow, 2004; Edigheji, 2010; Chang, 2010) and this is no different in South Africa (Roberts & Rustomjee, 2010). As such, Transnet and its maritime divisions, Transnet National Ports Authority (TNPA) and Transnet Ports Terminals (TPT), are committed to driving economic growth and development in South Africa. According to TNPA (2019), its mandate is to help reduce the cost of doing business in South Africa by reducing logistic costs and to contribute to economic development. However, such a commitment is contradicted by TNPA's historical investment practices. Since the fiscal years 2012/2013, TNPA has been asking for annual revenues that are well above their budgeted and actual capital expenditure. Indeed, the requested annual tariff increases have been made with the aim to achieve progressively greater revenue while budgeted and actual capital expenditure (CAPEX) have been progressively decreasing (TNPA, 2019). It is worth mentioning that such a downward trend in investment into ports has coincided with the market demand strategy (now known as Transnet 4.0) that proposed a total planned capital expenditure of R300 billion over 10 years from the year 2012. Of this planned expenditure, R87 billion was earmarked for ports, a CAPEX that proved to be above TNPA's Regulatory Asset Base at that time and was

✉ Ayanda Meyiwa
meyiwaa@ukzn.ac.za

Mihalis Chasomeris
chasomerism1@ukzn.ac.za

¹ School of Accounting, Economics and Finance, University of KwaZulu-Natal, Durban, South Africa

² Private Bag X54001, Durban 4000, South Africa

³ Graduate School of Business and Leadership, University of KwaZulu-Natal, Durban, South Africa

going to be funded through an amalgamated loan from various international financial institutions (Aderibigbe, 2015). These two observations, along with a questionable cost recovery method TNPA has continued to use in order to collect revenue from port stakeholders which neither conforms to international best practice nor reflects the pricing principles TNPA claims to uphold, lead the authors to believe that TNPA's commitment to economic growth is only nominal and not practical.

South Africa has eight commercial ports that are run by a single national ports authority, TNPA, using a single tariff book and thus applying uniform tariffs to ports that differ in infrastructure and the markets they serve. TNPA is a subdivision of Transnet state-owned corporation (SOC) that is wholly owned by the government through the Department of Public Enterprises (DPE). TNPA was established 'to be a landlord of ports responsible for the safe, efficient effective and economic functioning of the national ports system which it manages, controls and administers on behalf of the State' (Transnet, 2019: p. 1). Under a landlord model, 'the port authority acts as a regulator and as a landlord, while port operations (especially cargo handling) are handled by private operators' (World Bank, 2007: p. 21). Port operations in South Africa, however, are handled both by private operators and a public operator called Transnet Port Terminals (TPT), a division of the Transnet group.

On an annual basis, TNPA issues a revised tariff book with proposed tariff adjustments in view of the required revenue projections for that fiscal year. These adjustments are based on a mathematical formula to determine the needed revenues to finance its annual operations. The formula is called the revenue required (RR) methodology. The RR methodology heavily depends on the landlord's regulatory asset base (RAB) and the weighted average cost of capital (WACC). The correct valuation of the RAB and the correct determination of the WACC are therefore very important in determining the annual tariff adjustments.

The annual tariff adjustments proposed by TNPA are then submitted to the Ports Regulator of South Africa (Ports Regulator), a body that was established to monitor and regulate the operations of TNPA so that it does not abuse its monopoly power as the sole landlord of ports in the entire country. Once submitted, the Ports Regulator takes the proposed tariff adjustments and makes them available to all port stakeholders—cargo owners, shipping lines, terminal operators and any other party that may be impacted by port operations—who are then given a period of time to make comments on TNPA's proposed tariff adjustments for the next fiscal year. The Ports Regulator also recalculates the tariff adjustment applied for using the same principles (RR methodology) that TNPA used. After taking into consideration its own recalculations and stakeholders' comments, the Ports Regulator then communicates the approved

tariff adjustments to TNPA and to the public using the annual Record of Decision (RoD). Throughout its history, the Ports Regulator has consistently revised the tariffs applied for by TNPA, almost always approving tariff increases that are significantly lower than those proposed. In some years, the Ports Regulator has made a ruling that there be no increases in tariffs and in other years, it has ruled in favour of tariff decreases based on its recalculations and what it believes the actual RAB and WACC to be (TIPS, 2014). This discrepancy between proposed and approved tariffs has raised concerns regarding TNPA's valuation of the RAB and caused the Ports Regulator to request further information from TNPA on the valuation method, but up until the year 2017, TNPA has either failed to provide such information or ignored these requests. Moreover, the fact that tariffs are set on a system-wide basis—uniform tariffs for different ports in different environments—means that tariff charges do not relate directly to specific infrastructure assets, making the determination of the cash flows suffer from a revenue attribution problem.

The many challenges that remain with respect to port authority pricing, which involve the RR methodology used to determine annual tariff adjustments, and the tariff structure used to attribute costs to various port users, and the governance and regulatory practices of TNPA are a subject of an ongoing research and may collectively be referred to as challenges of a port doctrine. Without giving a definition, Bennathan and Walters (1979) were the first to coin the term 'port doctrine' in reference to various pricing practices and structures of governance within and across maritime ports in continental Europe and the UK. The Oxford Dictionary defines doctrine as a belief or set of beliefs held and taught by a Church, political party or other group. From this definition, one may consider a port doctrine as a certain paradigm, a set of principles regarding port pricing and port governance that a particular port or port system adheres. Some ports may actively pursue best practice in the industry, while others passively continue with their inherited practices. South Africa's port doctrine is inconsistent, but part of the problem is that whatever may be pieced together as South Africa's port doctrine appears to be inconsistently or incoherently applied in its ports. The authors believe this undermines TNPA's commitment to economic development and it contributes to making the whole of Transnet fall short of the South African developmental state's goals.

The objective of this study, therefore, is an articulation of a more coherent port doctrine to examine current dilemmas and recommend a way forward. Thus, using content analysis to examine 137 stakeholders' submissions over a 9-year period, this paper will attempt to logically outline South Africa's challenges with respect to port doctrine and make recommendations for improvement.

Literature review

A developmental state

A developmental state is a concept coined by Johnson (1982) in his diagnostic study of the post war Japanese economy. In a series of studies that would result in what developmental economists would call the ‘Japanese Miracle’, Johnson extrapolated a number of elements that constituted the Japanese developmental state and then these elements would be used to assess its ‘replicability’ and its transferability. The first element is the existence of a small, inexpensive, but elite state bureaucracy staffed by the brightest and best managerial talent in the system. The bureaucracy’s duties would firstly be to identify those industries to be developed (industrial structure policy); secondly, to identify and choose the best means of rapidly developing the chosen industries (industrial rationalisation policy); and thirdly, to supervise competition in the designated strategic sectors in order to guarantee their economic health and effectiveness.

The second element is a political system in which the bureaucracy is given sufficient scope to take initiative and operate effectively. The third element is the perfection of market-conforming methods of state intervention in the economy. This involves establishing legal clarity and simple, straightforward legislative guidelines on development. The fourth and final element is a pilot organisation. In Japan’s case, it was the Ministry of International Trade and Industry (MITI). The key characteristics of the MITI are its small size, its indirect control of government funds, its ‘think tank’ functions, its vertical bureaus for the implementation of industrial policy at the micro level and its internal democracy (Woo-Cumings, 1999).

A developmental state upholds the role of government in economic development through the state’s active entrepreneurship, bureaucracy and autonomy, all of which are aimed to facilitate a social engineering process that will create an environment conducive for long-term industrial development. This remains true of the developmental state while it maintains its distinctiveness from state-socialist planning and free market capitalism (Radice, 2008). In analysing the developmental state, however, one must tread carefully because it exhibits some of the characteristics of central socialist planning while at the same time making way for private capital to prosper. According to Radice (2008), the developmental state combines elements of market and plan, linking a mixed economy to a political-ideological approach that combines authoritarian technocracy with a relatively egalitarian distribution of income and wealth.

Some of the strengths of the developmental state in achieving economic growth include the following: (a) The ‘State’s explicit agenda is economic development, marked by clear emphasis on strategic industrialisation, growth and productivity; (b) Absence of explicit commitment by the state to general

welfare and social conditions; (c) An elite bureaucracy, composed of subject experts, having close links with private businesses. The latter is what Evans (1989) referred to as embedded autonomy; and (d) A political system where bureaucracy has adequate degree of power in its operations’ (Onis, 1991, pp. 113–115).

Woo-Cumings (1999) further explains the mutuality between private enterprise and the state sector, saying that the concept ‘developmental state’ means that each side uses the other in a mutually beneficial relationship to achieve developmental goals and enterprise viability. When the developmental state is working well, neither the state officials nor the civilian enterprise managers prevail over the other. The state is a catalytic agency and the managers are responding to incentives and disincentives that the state establishes.

In the efforts to achieve its millennium developmental goals (MDGs), and understanding that the concept of a developmental state is not a static concept but it may find variation from state to state, the South African government is pursuing a democratic developmental state. This is because, unlike most of East Asian economies, whence the concept found its articulation, the South African government has no direct control over the commercial banks, but has nonetheless built financial resources and analytical capacities in state-owned companies like Transnet as well as the Development Bank of Southern Africa (DBSA) and the Industrial Development Corporation (IDC) for which the state can have a direct influence to drive the developmental agenda (Edhigeji, 2010).

The Asian port doctrine

From history, we can separate two categories that contribute toward a port doctrine of sorts. These are port authority pricing and port governance. Port authority pricing is concerned with the tariff methodology, tariff structure and the resulting prices. Governance is concerned with the legal status of the ports company (the landlord and port terminal operator) and the managerial structure and policies that result therefrom. Governance is also concerned with ports regulation, which addresses the role central government plays as policy maker and shareholder in the port industry, which invariably affects pricing practices and regulatory manoeuvres.

Pursuant to the developmental state model, the Chinese and other Far-East Asian states have had their port development and port investment activities championed by the state and centrally coordinated with the rest of the hinterland economy. Lee and Flynn (2011) present a uniquely Asian detailed exposition of a new paradigm in container port development, which they call the Asian port doctrine.

Under the Asian port doctrine, central government is involved as port designer, developer, operator, port pricing maker, mediator and investor (Lee & Flynn, 2011). This 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 no strange phenomenon to economies such as Korea, Singapore and Taiwan, which are seen as adherents to the Asian (port) doctrine where central government plays a role in infrastructure construction, terminal pricing and facilitation. Lee and Flynn (2011) further mention that one of the core elements of the Asian Port Pricing Framework is administered pricing.

Administered prices were prevalent in the Chinese economy. One of the ways to stabilise and control the national price levels was through China's central bank anchoring its currency and keeping it at a fixed 8.28 Yuan to the US Dollar from 1994 to 2005 and it was a remarkable success. Port planners at central government level control the national price index and determine the port sector's trade competitiveness through pricing used at the port authority level (McKinnon, 2006). The Asian Port Doctrine, with administered prices and central planning, is a classical illustration of developmental 'statism' as expressed by Wade (1990) as the government intentionally gets the prices wrong in order to address market failure that characterises much of East Asia (Low, 2004). This is evident in administered port prices.

Pricing tools are also employed in the expansion and/or development of new ports, which would otherwise have to charge high tariffs reflective of their high costs of construction. These ports are given an opportunity to price their services and products at competitive levels and avoid full transfer of standard construction costs to the users. The cross-subsidy mechanism in Asian ports creates opportunities for the expansion of capacity that would otherwise not be possible, giving rise to construction of more container hub ports (Lee & Flynn, 2011). This is more so a possibility for Far Eastern ports than it is for ports outside the framework of the Asian Doctrine. Moreover, Asian port pricing does not solely depend on full cost recovery as is the case in the Anglo-Saxon doctrine. For the Asian doctrine, in considering the socioeconomic impacts of the ports, the total construction costs are partly discounted and allocated to social overhead capital (Lee & Flynn, 2011). An alternative to the Asian port doctrine is the Anglo-Saxon doctrine which is discussed in the 'The Anglo-Saxon doctrine' section.

The Anglo-Saxon doctrine

Governance informs port authority pricing and the principles within which a port authority should price its services. Among the roles of the port authority, as stipulated by the World Bank, are the 'full recovery of all port-related costs, including capital costs, plus an adequate return on capital as a principal objective... Full cost recovery should be viewed as a minimum port authority objective; once this

objective has been achieved, however, the port authority can pursue other-than-financial objectives considered desirable by the government or by itself'. This implies that the key consideration in port authority pricing is for the financial sustainability of the port authority and anything else is secondary. This conforms with a certain port paradigm that Bennathan and Walters (1979) referred to as the Anglo-Saxon doctrine, in which all European port authorities are seen to support full cost recovery from port users (Haralambides 2002; Santos et al. 2016).

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 revenues adequate to cover operating costs and to finance investment expenditure. Most ports in the UK are privately owned and tariffs are charged on a commercial cost basis. Accordingly, Strandenes and Marlow (2000) propose the following five pricing guidelines:

- 'The full cost of providing port services should be recovered from users;
- 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;
- 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.' (Strandenes & Marlow, 2000: pp. 320–321)

These five points are more in line with what Meersman et al. (2003) mentioned. That is, the aim of port pricing is to confront the user with the additional cost that he causes. Interestingly, however, this argument was in favour of short-run marginal cost pricing while Meyric (1989) advances much the same reasoning albeit for average cost pricing. Marginal cost pricing is challenging to implement because of the difficulty associated with quantifying marginal costs (Haralambides, 2002).

Port authority governance and pricing in South Africa

With respect to governance as an aspect of port doctrines, TNPA is one of five operating divisions of Transnet SOC Ltd. and it manages all eight South African commercial ports in a landlord capacity, providing infrastructure and marine services. TNPA operates within a legislative and regulatory environment created by the National Ports Act 2005 (Act No. 12 of 2005). The National Ports Act creates a role for the National Ports Authority whereby it is responsible for the port regulatory function at the ports—i.e. controlling the provision of port services through licencing or entering into agreements with port operators to ensure that efficient port services are provided. The Act also establishes that the main functions of the Ports Regulator are to (National Ports Act, 2005: p. 32):

‘(a) exercise economic regulation of the ports system in line with government’s strategic objectives; (b) promote equity of access to ports and to facilities and services provided in ports; (c) monitor the activities of the Authority to ensure that it performs its functions in accordance with this Act.’

The Regulator must:

‘(a) hear appeals and complaints contemplated in sections 46 and 47, respectively, and investigate complaints contemplated in section 48; (b) negotiate and conclude an agreement with the Competition Commission established by section 19 of the Competition Act, 1998 (Act No. 89 of 1998), to coordinate and harmonise the exercise of jurisdiction over competition matters, and to ensure consistent application of the principles of this Act; (c) advise and receive advice from any other regulatory authority; (d) consider proposed tariffs of the Authority, contemplated in section 72, in the prescribed manner; (e) promote regulated competition; (f) regulate the provision of adequate, affordable and efficient port services and facilities’.

Transnet Port Terminals (TPT) is a division of Transnet SOC Limited, South Africa’s state-owned freight transport company which owns and operates 16 terminals situated across seven of South Africa’s ports. Operations are divided into major market sectors, namely containers, bulk, break bulk and automotive, and are organised into three geographical regions—Eastern Cape, Western Cape and KwaZulu-Natal. The Ports Regulator is responsible for regulating port authority pricing and operations, as listed in its responsibilities above, but its regulatory duties do not extend to TPT as a port terminal operator.

TNPA has a dual mandate of lowering the logistics costs of doing business in South Africa and contributing toward economic development. Its landlord role shares some similarities with best practice in port governance as stipulated by the World Bank in its Port Reform Toolkit. One of those similarities is the establishment of an independent regulatory body whose objectives are to ‘ensure fair competition among competing operators in the port; to control monopolies (including public ones) and mergers; and to prevent anticompetitive practices’. The World Bank further stipulates that the regulator should only be effected in the event of serious threats to free competition within the port. It should preferably have the character of an arbitrator instead of a court of law and be accepted by the port community as being independent. The anticompetitive behaviour of the landlord, according to the World Bank, involves

- ‘Use of a dominant position to prevent or lessen competition.
- Cross-subsidisation by the provider of monopoly services of contestable services, thereby threatening fair competition.
- Price fixing among competitors.
- Use of other practices that are intended to restrict, distort, or prevent competition’.

TNPA has been accused, and is accordingly being investigated by the South African Competition Commission, of the use of a dominant position to prevent or lessen competition. Furthermore TPT, which is TNPA’s unregulated sister company, and the most dominant terminal operator in South African ports, was suspected to be benefiting from preferential pricing arrangements with TNPA (Competition Commission, 2016). Cross-subsidisation of loss-making divisions of Transnet by the ports sector and cross-subsidisation of some services by others, that is, the container trade and the automotive cargo trade in South African ports being charged premium tariffs, thus appearing to be subsidising dry bulk trade to keep the latter’s tariffs discounted below the global average tariffs. Such a practice, according to Gumede and Chasomeris (2015), is reminiscent of *ad valorem* wharfage that was discontinued during the 2002 port reforms in South Africa and which is against international best practice.

In South Africa, the Ports Regulator is empowered by the National Ports Act (Act No. 12 of 2005) to, *inter alia*, monitor the activities of TNPA to ensure that it performs its functions in accordance with this Act and to hear complaints and appeals. The act makes provisions for the incorporation of TNPA (National Ports Act, 2005), yet such a provision has been ignored since the promulgation of the act and even beyond the establishment of the Ports Regulator, which ought to enforce adherence to the provisions of the act.

In South Africa, when the Authority proposes tariffs, the ‘Regulator should ensure that such tariffs allow the Authority to:

- 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.’ (TNPA, 2012: pp. 8–9)

The preceding bullet points are akin to the fourth point from the World Bank Port Reform Toolkit, i.e. ‘Generate internal cash flows needed to replace and expand port infrastructure and superstructure’. In this respect, TNPA’s revenue requirement methodology has the financial sustainability criteria in common with the global best practice for a port authority. Nevertheless, South Africa’s port authority pricing also factors in the risk element that is associated with owning, managing, controlling and administering ports. This element is a puzzle because TNPA is a monopoly and faces no competition from any rival landlords (Bhuckory, 2013; Fruit, 2013). Further to this, TNPA decides the amount of total revenue that should come from ship owners, cargo owners and tenants, using the tariff structure, which is the allotment of costs to these port stakeholders. This tariff structure is governed by four core design principles summarised below:

- ‘Cost Based—each tariff should cover the costs of providing the related infrastructure and services;
- User Pays—every port user should contribute for the right and access to port facilities that they use;
- Required Revenue—the tariff methodology, as a mathematical function, can be disaggregated and applied to each individual tariff to cover operating costs, depreciation, taxation and a fair return on TNPA’s assets; and
- Competitiveness—market expectation and common or best practices have been considered’ (TNPA, 2012: p. 8)

These core design principles are said to help support the tariff structure with ‘sound design principles, a more balanced and equitable distribution of charges to various port user groups, the need to support government policies through the tariff structure, as well as being strongly aligned with international norms and standards’ (TNPA, 2012: p. 8). Notwithstanding what TNPA says concerning its port pricing structure, Meyiwa and Chasomeris (2016) demonstrate that the port authority falls short of its own aforementioned

principles. For example, charging uniform tariffs for ports that differ in structure, commodities handled and markets served 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 that running a complementary ports system clashes directly with cost-reflective pricing and inter-port competition—so also is the practice of intermodal, intra-port and inter-port cross-subsidisation.

With respect to governance, SA (South Africa)’s ports share some characteristics with ports that subscribe to the Asian port doctrine in that SA’s ports are publically owned and predominantly publically run (Chasomeris, 2011). They also were, for the most part, constructed through government auspices and in the older dispensation, they were seen to favour some sectors which the government had targeted for development over others (TIPS, 2014). These are also classical characteristics of the developmental state mandate where government invests heavily in key sectors that can have positive industrial spin-offs (Woo-Cumings ed. 1999) and was also evident under SA’s apartheid government with its heavy investment in domestic steel and petrochemical production through Iscor/Mittal and Sasol, precisely because of ‘the strategic goals to have domestic capabilities in key sectors such as those providing inputs into arms manufacture’ (Roberts & Rustomjee, 2010: p. 56). Thus, SA’s ports have historically shared common traits with those run and constructed under the Asian developmental state model. The significant difference is with respect to pricing in South Africa’s ports which seems to be misallocating its cross-subsidies. From this, and other misallocations, stem a host of stakeholder complaints regarding South Africa’s ports authority pricing and port governance which will be explored in this paper.

Moreover, it is an international best practice for landlord ports to recover a bulk of their revenues from terminal operators (tenants) through rental incomes and for the marine infrastructure costs to be largely allotted to shipping lines (TNPA, 2012). Table 1 shows, however, that the port costs in the history of TNPA have largely been repatriated from cargo owners, with shipping lines facing lower tariffs than the global benchmarked average whenever they call in South African ports. Table 1 shows that since 2012, there has been a noticeable, though slow, progression toward the proposed long-term end-state in port costs distribution. Specifically, cargo owners have being allotted reduced cost burdens, but overall still contribute the greatest revenues to TNPA. TNPA argues that allocating a greater share of port costs to shipping lines will make South Africa’s ports less appealing and will inevitably cause them to shift the cost burden to cargo owners through higher prices. Nevertheless, the Ports Regulator (2015) rejected the TNPA proposed end-state distribution of port costs among port users and proposed their alternative long-

Table 1 Distribution of port costs among port user groups

Port user groups	Current realised (2012)		FY 2018/2019	Proposed long-term end-state	
	TNPA (%)	Ports Regulator (%)	TNPA (%)	TNPA (%)	Ports Regulator (%)
Cargo owners	61	60	55	46	35
Tenants	19	22	23	33	29
Shipping lines	20	18	22	21	36

Source: Author created using information from the TNPA (2012); Gumede and Chasomeris (2018); and Ports Regulator (2015)

term end-state that sees a greater proportion of costs allocated to shipping lines (36%) and tenants (29%), with a significant reduction in costs allocated to cargo owners, from the present 60% to the proposed 35% (Gumede & Chasomeris, 2018).

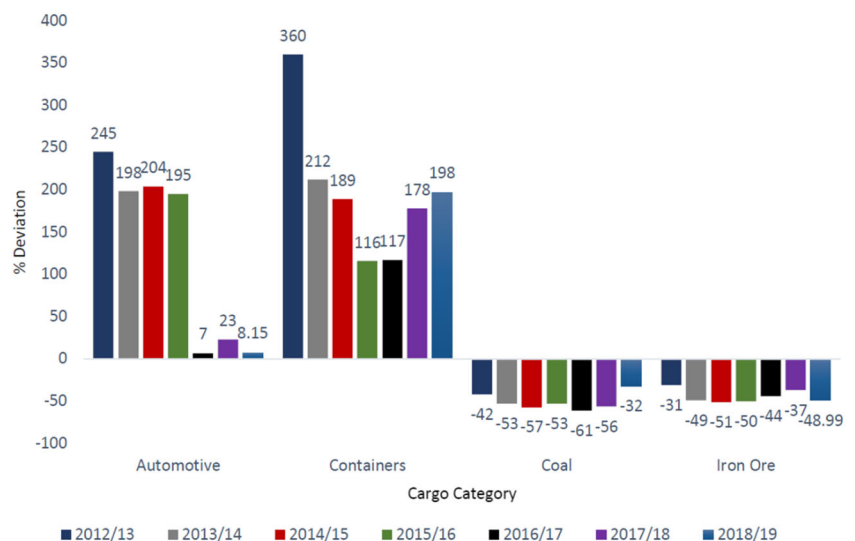
The legacy of ad valorem tariffs was still evident as recently as 2019. Figure 1 shows that the bulk commodities are charged much lower rates than the Ports Regulator benchmarked mean and containers and automotives are charged much higher than the benchmark mean. Containers (export and import) and automotives are still potentially cross-subsidising bulk exports tariffs, even more so if only cargo dues are taken into account with container and automotive cargo owners facing costs at premiums of between 271 and 146% of the benchmarked mean respectively and the bulk cargo types below the benchmarked mean.

Thus, TNPA ostensibly prices according to best international practices and even its core design principles that are said to uphold its structure appear sound, but the practice hitherto has not necessarily aligned. Indeed, the Anglo-Saxon doctrine in pricing appears to be followed in South Africa, but because of the ports system, competition is absent and is particularly discouraged by the use of a uniform tariff book.

Research methodology

Previous studies by Gumede and Chasomeris (2015) and Meyiwa and Chasomeris (2016) have used content analysis to analyse port stakeholders’ comments regarding South Africa’s port doctrine up to the 2014/2015 review period. Likewise, this study uses content analysis of 137 stakeholder submissions to the Ports Regulator over 9 years, from fiscal years 2009/2010 to 2018/2019. The study examines themes that emerge from stakeholders’ comments regarding port authority pricing, pricing structure and the governance of South Africa’s ports. Content analysis describes a family of analytic approaches ranging from impressionistic, intuitive, interpretive analyses to systematic, strict textual analyses (Rosengren, 1981) According to Cavanagh (1997), content analysis is a flexible qualitative data analysis tool. This tool of data collection consists of analysing the contents of documentary materials such as books, magazines, newspapers and the contents of all other verbal materials, which can be either spoken or printed. In this case, the material assessed is available from the Ports Regulator’s website. According to Good and Douglas (1954: p. 670), ‘Content-analysis is measurement through proportion. Content analysis measures pervasiveness and that is sometimes an index of the intensity of the force’. For this

Fig. 1 South African Port Costs (as deviation from the sample global average). Source: Ports Regulator of South Africa (2018)



study, the themes and their ‘index of the intensity’ is with respect to the pricing and governance practices of TNPA as landlord of South Africa’s ports as commented on by various port stakeholders including cargo owners, freight forwarders, terminal operators, ship operators and ship agents. These annual submissions, collected from the website of the Ports Regulator of South Africa, range in length from one page to 163 pages for the longest submission. The study extracts the stakeholders’ main concerns, codes them into different themes and analyses their frequency distribution.

The two broad themes within which the various port stakeholders have expressed their concerns in the past are those of port authority pricing and port governance. These will be discussed in view of the evidence from historical practices of TNPA and compared with the national government’s objectives with respect to the ports and TNPA’s objectives. TNPA’s port governance model and its governance objectives have been referred to as the doctrine, specifically port doctrine.

Results and discussion

Over the 2009/2010 to 2018/2019 tariff review period, analyses of the 137 ports stakeholders’ submissions to the Ports Regulator resulted in the identification of 77 relevant themes. These themes are broadly categorised and discussed under port authority pricing (the ‘[Port authority pricing methodology and tariff structure](#)’ section) and port governance (the ‘[Port governance](#)’ section).

Port authority pricing methodology and tariff structure

Over the 2009/2010 to 2018/2019 tariff review period, it has been stated repeatedly that the revenue requirement (RR) tariff methodology employed is not satisfactory, is arbitrary, is unjustifiable and incentivises overstating the required revenue by inflating the weighted average cost of capital, the regulatory asset base and the market risk premium among other variables. Other themes, with relatively low frequency, were that there is inappropriate use of income from berth dues and cargo dues that the TNPA FY 2018/2019 tariff allocation will almost wholly prejudice the cargo owners (see Table 1). In addition, TNPA revenues and profits are being used to subsidise other Transnet divisions rather than being re-invested into the ports system.

The most prominent themes over the period 2009/2010 to 2014/2015 are those relating to the arbitrary and unjustifiable nature of the RR methodology (53 submissions) and its annual above-inflation tariff increase requests (26 submissions). Market risk determinants along with the valuation of the regulatory asset base and returns to capital were arguably

inaccurate (25 submissions). From 2015/2016 to 2018/2019, a further 15 submissions agree that the RR methodology remains arbitrary and unjustifiable. In addition, volume forecasts cause anomalies in tariff determination trends (10 submissions) and the methodology itself provides undesired incentives; thus, the methodology still needs revision (10 submissions). Incentives to overstate the required revenue with a potential to undermine various port users’ profitability remains one of the weaknesses of the methodology. Indeed, such critiques of the RR methodology are validated by Chasomeris (2015) and Gumede and Chasomeris (2017) that show that the RR model may incentivise unnecessary port capital expenditure (investments), bloat operating expenditure and port prices at levels that are not in the best interests of the country’s trade competitiveness and economic development objectives.

One of the three objectives to be achieved through the methodology is to ‘make a profit commensurate with the risk of owning, managing, controlling and administering ports and of providing port services and port facilities’ (TNPA, 2012: pp. 8–9). The stakeholders are of the view 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, not be against recovery of opportunity costs of capital employed. In addition, the South African Shippers’ Council (SASC, 2013) mentions that TNPA did not initially pay for the infrastructure and they were only given the mandate to own, manage and administer the assets so as to ensure their efficiency and effectiveness. The same sentiment is repeated by National Ports Consultative Committee (2017, 2018) for the most recent tariff years leading to 2019/2020. Therefore, the ports are regarded as national assets to serve the welfare of the economy that should not be used to generate huge profits out of port operations.

The RR methodology is heavily dependent upon the valuation of the Regulatory Asset Base. Lotter and Chasomeris (2018) explain that there are essentially two viable valuation methods for the RAB. These are the financial capital maintenance (FCM), based on historic cost and trended original cost (TOC), and physical capital maintenance (PCM), based on the depreciated optimised replacement cost (DORC) model. TNPA argues in favour of the PCM method, then treated on a TOC going forward. The Ports Regulator stipulated that the FCM method should be applied in the valuation of the TNPA valuation of port assets. Indeed, South African Association of Ship Owners and Agents (SAASOA, 2018) highlights that the TNPA used an inappropriate RAB valuation methodology that overinflates port assets. Likewise, Sasol (2018) stated that the use of the historic approach to the RAB valuation has allowed TNPA to get away with excessive profits for years. The

historical cost approach has assets prior and up to the year 1990 included in the valuation so the Ports Regulator does well to use the TOC which excludes the fully depreciated pre-1990 assets, bringing them to a zero valuation according to the South African Association of Freight Forwarders (SAASOA, 2018). In the end, the Ports Regulator's Record of Decision, having taken stakeholders' submissions into consideration, applied a version of the FCM method to the RAB valuation. This resulted in a ZAR 16.5 billion reduction in the value of the RAB and that contributed to a ZAR 1 billion reduction in the required revenue for TNPA and a 6.27% weighted average decrease in tariffs for the review period 2019/2020.

With reference to the tariff structure, for the tariff review periods 2009/2010 to 2019/2020, 52 submissions cited that the current tariff structure inhibits ports' global competitiveness, with five of these recommending that TNPA ought to do a thorough costing for each port service offering and practice cost-based pricing. Fifteen submissions said that the tariff structure is misaligned with international tariff standards, and 15 submissions also highlighted that the pricing is inconsistent and unreasonable. Five stakeholders' submissions still maintained that the majority of the TNPA proceeds are used to subsidise other divisions of Transnet instead of reinvesting in the ports sector. It is clear that there is confusion about the purpose of cross-subsidies in the South African ports system or that TNPA does not do a good job of justifying these. The possibility of differential pricing has been suggested, for example, on regional differences such that the transshipment hubs may be priced differently (SAAFF, 2017). This would be a challenge because the income and expenditure statements for each of the eight commercial ports are not made public and with the prevailing blanket tariff approach the potential for differential pricing is inhibited by a lack of information.

Table 1 shows that slow progress has been made toward the adjustment of the tariff structure into a fairer distribution of port costs among port user groups. However, TNPA's tariff structure still falls short of satisfying sound pricing principles outlined by Strandness and Marlow (2000) as well as their own core design principles.

The Asian port pricing, governance and investment practices resonate with the ideology of a developmental state as far as cross-subsidies for capacity expansion and administered prices to control for market failure are concerned. South Africa, on the other hand, professes to be a developmental state yet in TNPA, one of the most profitable divisions of Transnet, the pricing is said to be cost-based and the tariff structure founded on user-pays principle, competitiveness, best practices and revenue requirement. These pricing practices, except for revenue requirement, are tenets of the Anglo-Saxon port doctrine and the best practices supposedly adhered to are those endorsed by the World Bank in its Port Reform Toolkit (2007). The revenue requirement principle, however,

does not facilitate the attainment of the first three pricing principles. It provides disincentives to efficiency in TNPA because revenues are predetermined and the prices adjusted to those targets with no incentive to reduce costs and little incentive to improve productivity. With respect to the tariff structure, the cross-subsidisation practiced in Asian ports is for the expansion of ports, not the funding of loss-making divisions and alternative modes of transportation. Indeed, for fiscal year 2016, Fakir and Chasomeris (2019) demonstrate that the RR model allowed TNPA, as a division of Transnet, a tax revenue of ZAR 889 million, while for the entire Transnet group, the corporate tax amounted to only ZAR 411. Thus, the TNPA tax allowed as a percentage of group tax liability was 216.30%.

Port governance

From 2009/2010 until 2017/2018, 43 stakeholders criticised TNPA for inefficiency and low productivity of ports, for having no regard for the prevailing economic conditions in its operations and pricing (30 submissions), for lack of transparency in reporting or justification of prices (18 submissions), for non-compliance with national policies and for favouring TPT over private terminal operators by allowing TPT to charge monopoly prices even though it is not the only terminal operator (20 submissions). Four submissions stated that TPT is generally given preferential treatment that gives it an unfair advantage, and abuse of monopoly power. Furthermore, the complaint that TNPA is simply non-compliant has persisted even for the tariff years 2018/2019 and 2019/2020, with the proportion of stakeholder submissions advancing the complaint growing from 13 in 2018/2019 to 20 in 2019/2020. This complaint on non-compliance is in addition to the fact that TNPA is required, according to the National Ports Act, to submit its request for tariff increases to the National Ports Consultative Committee (NPCC) as well as the Ports Regulator. To the best of the NPCC's knowledge, TNPA has never complied in that respect (NPCC, 2018).

Five stakeholders' submissions stated that much of the TNPA proceeds are used to subsidise other divisions of Transnet instead of being reinvesting into the ports sector. SAASOA (2018) and Sasol (2018) berate TNPA for cross-subsidisation and transferring profits to the Transnet group while maintaining only minimal investment in the ports. The NPCC supports cross-subsidisation within the port system. However, it is difficult to monitor the degree to which the authority may or may not be subsidising other Transnet divisions. A further conflict of interest is that the members of the TNPA Deemed Board are the same as the members of the Transnet Board (Transnet, 2019). Therefore, in some instances, board decisions of the Transnet group may supersede the best interests of the TNPA division and port stakeholders. Indeed, from 2010 to 2014, about R16.7 billion was transferred from the TNPA division to the Transnet group.

Hence, port users argue that they are cross-subsidising less profitable divisions of Transnet. The Cape Chamber of Commerce (2017) recalls that cross-subsidisation was referred to as the Transnet group milking the ports authority of its profits and that no other port in the world has a tariff structure like South Africa's.

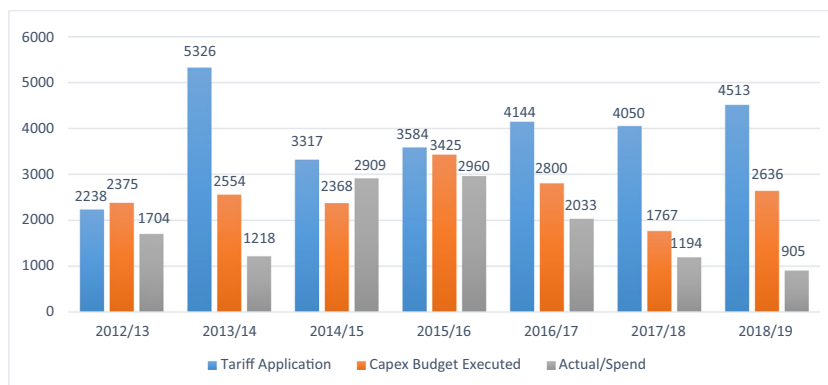
TNPA has the right to issue licences and it is expected to monitor terminal operators' productivity. TPT, however, is a public terminal operator division within the same Transnet group, which presents a conflict of interest. Furthermore, TPT is not subject to Ports Regulator's regulatory oversight. This is all the more reason why the TNPA needs to be incorporated according to SAAFF (2017). That is, TNPA needs to be a stand-alone SOC. In addition to cross-subsidisation, there is a lack of transparent risk delineation between TNPA and the Transnet group. TNPA's delegation of authority framework is linked to that of Transnet, the latter's framework not being consistent with that of the National Ports Act. This, according to the NPCC (2018), has an impact on decision-making, CAPEX spent and inefficiencies within the ports system. Figure 2 shows the comparison between the revenue required, applied for by TNPA in the annual tariff application, budgeted CAPEX and the actual CAPEX. Since the 2012/2013 fiscal year, the revenue requirement has been consistently higher than the budgeted and actual CAPEX, which prompts the question: Are such wide discrepancies between revenue applied for and the actual capital expenditure a sign of misallocated funds and lack of capacity and competency to spend? The actual CAPEX declined by more than 69% from ZAR 2.9 billion in 2015/2016 to less than ZAR 905 million in the 2018/2019 fiscal year. However, the annual profit before tax increased 155% from just over R2.9 billion in 2016/2017 to more than R7.4 billion in 2018/2019 (Transnet, 2019). This has all been against the backdrop of increasing CAPEX revenue requirement applications since 2012/2013 from ZAR 2.238 billion to ZAR 4.513 billion in the 2018/2019 fiscal year with the biggest discrepancy being in 2013/2014 where the revenue requirement was at its highest at ZAR 5.3 billion, dwarfing the actual capital expenditure which stood at ZAR

1.2 billion for the same year. The decline in actual investment into the ports system is not consistent with TNPA's planned increases and is a major concern to port users and the Ports Regulator.

The historical underinvestment in South African ports as well as the continued reduction in actual CAPEX may compromise the trade competitiveness of South Africa. TNPA governance, pricing and investment generally counter the ideal role of state-owned enterprises in a developmental state contributing to South Africa's economic development and specifically contradicts TNPA's goal to contribute to economic development through a reduction in logistics costs.

The treatment of tax in the RR formula is controversial. The NPCC (2017) requires assurance from the Ports Regulator that the authority is taxed on its stand-alone profit and not on its watered-down profit due to the Transnet group or divisional influences. This is deemed important due to the authority not being incorporated or appropriately ring-fenced in compliance with the National Ports Act of 2005. Indeed, the Ports Regulator observed that the 28% tax allowance on TNPA as part of the RR methodology has been excessive, resulting in high prices for port users and exorbitant profits for the Transnet group. Moreover, the 28% tax rate would have been justified for a stand-alone entity, but TNPA is a division within Transnet and should not be carrying an unjustifiably greater burden of tax on behalf of the whole group. Since 2018/2019, Ports Regulator instructed TNPA to use an equitable tax rate approach. This approach gives due consideration to the profits and losses of other divisions in the Transnet group. Fakir and Chasomeris (2019) calculate an equitable tax rate for TNPA for the years 2011 to 2017. Their results show that port users could have saved an estimated ZAR 2.6 billion had the equitable tax rate been applied from the start of regulation. Going forward, the application of an equitable tax rate should result in an estimated annual savings of about ZAR 500 million for port users. Alas, the inappropriate tax calculations throughout the regulatory period along with lack of transparency and non-compliance, through inadequate information supplied to the Ports Regulator by

Fig. 2 Capital expenditure tariff application vs. budget vs. actual, FY 2012/2013 to FY 2018/2019. Source: Authors adapted and compiled from TNPA (2019)



Transnet and TNPA, are only a few of the many things that may be associated with the misappropriation of profits and funds within Transnet.

The Public Affairs Research Institute (PARI) has uncovered widespread corruption in the governance of Transnet, as the former CEO of the group is suspected to have caused a loss of approximately ZAR 35 billion in what appears as suspicious transactions over 8 years (Public Affairs Research Institute, 2018). These activities resulted in the formation of a powerful structure called the Board Acquisitions and Disposals Committee (BADC), which was mainly responsible for facilitating a small network of companies among whom most information on lucrative tenders would be communicated and to whom the biggest tenders were leaked before the public call for bidding. What then followed was exotic holiday gifts given by those ‘elect’ bidding companies to Transnet’s permanent CFO (who was also chairman of the BADC), followed by that same gift-giver company winning the bid. Such corruption bearing striking resemblance to a flock of vultures encircling a carcass is very reminiscent of the minerals-energy complex insofar as it was a crystallisation of business and political interests around the minerals and energy-producing sector that halted the diversification of the South African industrial base (Fine, 2008). To this, the PARI (2018: p. 32) attests: ‘governance of Transnet has been undermined and repurposed to materially benefit a politically connected elite, while compromising national economic and social development’. Other corrupt activities included service providers and consulting firms in some transactions being encouraged to charge premium service fees and prices and to launder the money through paying kickbacks to other companies in which the BADC members had interests. The report compiled after the audits states that ‘at Transnet, governance structures have been repurposed to enable corruption and rent seeking on a massive scale’ (Public Affairs Research Institute, 2018: p. 7).

The democratic component of South Africa’s developmental state also comes under question when, 14 years after the act prescribed the corporatisation of TNPA, Transnet has made very little progress in that direction despite the legislation to incorporate being in agreement with most private port users. The NPCC supports the recommendation that the Ports Regulator finds a middle ground that will involve commencing the corporatisation of the Ports Authority from 1 April 2019. Along with this recommendation, the NPCC (2018) recommends a CAPEX expenditure to be set aside to facilitate a smooth transition.

Upon reflecting on South Africa’s port governance and the preceding evidence of corruption, the disregard for legislation, incongruity between principles and actual practice, non-compliance with regulation, misappropriation of investment budget, discouragement of competition and the persisting player-referee dilemma between TNPA and TPT only serve to

reinforce suboptimal port performance and unjustifiable pricing. All of these are characteristics of the present South African port doctrine, which is an inconsistent amalgam of Asian and Anglo-Saxon port doctrines with suboptimal results.

Conclusion and the way forward

South Africa is pursuing a model of a democratic developmental state. South Africa’s system of eight commercial sea-ports, however, is unique and is financed and managed using a mix of elements from the Anglo-Saxon and Asian doctrines and appears to be attempting to charge port tariffs according to the Anglo-Saxon doctrine. The study used content analyses to examine 137 stakeholders’ submissions to Ports Regulator from 2009/2010 to 2018/2019, classifying themes into two broad categories, namely port authority pricing and port governance, which together define the port doctrine. The major themes identified on port authority pricing were that after a number of attempted improvements on the RR methodology and tariff structure, challenges still persist, not the least of which are the disincentives to improving productivity and investment into ports. Regarding the RR methodology, there remain unresolved issues on the correct valuation of the regulatory asset base. As it stands, the RR methodology does not provide the right incentives and may shield inefficiencies at ports even against annual planned budgets for CAPEX that are progressively higher, while actual port investment is declining. TNPA also seems to have contradicting principles governing its own tariff structure while the slow progress toward a fairer cost allocation to different user groups remains a continuing disregard of international best practices, which TNPA claims to be aligned with. Moreover, the complex governance structure of Transnet and the history of intermodal cross-subsidisation has, of late, proved to be conducive for corruption at the group level. If the status quo remains, there is little assurance that TNPA, the most profitable division, is insulated from the corruption in which the group has been implicated. The recommendation is a swift incorporation of TNPA as a stand-alone entity outside of Transnet. Incorporation of TNPA as a stand-alone entity is in line with the Act as well as best international practices for a landlord port as recommended by the World Bank (2007). It would further help to remove the present conflicts of interests, improve transparency, accountability and regulation as well as incentivise improved productivity and infrastructure spending, and attract private investments into the ports system.

This study’s first contribution is the comparison and contrast between claims at democratic developmental statism by SA’s government and practice by TNPA as a state-owned enterprise in its contribution toward the fulfilment of

developmental state goals. TNPA's practices, here referred to as a port doctrine and assessed against the reviewed literature, speak neither into SA's democratic developmental state goals nor into international best practices of port authority pricing and governance. The second contribution this study makes is to link the theoretical concept of a port doctrine to the empirically verified concept of a developmental state. By briefly reviewing the Asian port doctrine in the literature and contrasting the Asian developmental state with SA's democratic developmental state, this study's further contribution is a demonstration that a port doctrine and a political ideology can and should be compatible. TNPA should adopt a port doctrine that embodies the objectives of a democratic developmental state and truly contributes to economic development.

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