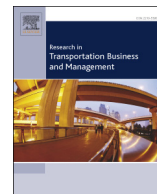




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International trade logistics costs in South Africa: Informing the port reform agenda

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ABSTRACT

South Africa's port system has undergone significant changes in the last three decades, from being a state department, to a division of a state-owned company, to separating the landlord and operations functions into distinct entities. Both entities however remain divisions of the state-owned company Transnet, which is also the sole owner and operator of the national freight rail system. Competition concerns gave rise to the establishment of the Ports Regulator of South Africa, mainly to achieve economic regulation and equitable access in the ports sector. The question posed in this research is whether further reform is required at present, or whether addressing other aspects impacting on international trade logistics costs require more urgent attention. The research results suggest that port authority and terminal charges contribute only 10% to international trade logistics costs (16% if maritime shipping costs are excluded). We believe that collaboratively confronting port congestion, bureaucratic import/export requirements and the hinterland feeder system could unlock much more value for stakeholders in the short to medium term, instead of allocating scarce resources to the administrative task of port reform *per se*, without a clear understanding of the role of ports in the total national logistics system. The fact that it is challenging to engineer, and act upon, such an understanding should not be a deterrent to at least attempt a strategic infrastructure view for a national economy, which does not exclude the possibility of further reform in the longer term.

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1. Introduction

South Africa's ports are publicly owned and managed by the state-owned company (SOC) Transnet via two operating divisions, namely Transnet National Ports Authority (TNPA) responsible for the port landlord functions, and Transnet Port Terminals (TPT) responsible for operations. The country promotes a complementary port operating model (as opposed to a competitive model) between its eight commercial ports, and system-wide pricing is applied between differentiated cargo types across ports (regulator-approved exceptions apply). The ports mainly serve their natural hinterland; substitution typically only takes place in times of severe congestion or emergencies (MERIT, 2002). Transnet also owns and operates the national railway.

Given this industry structure, competition and efficiency concerns gave rise to the establishment of the Ports Regulator of South Africa (PRSA) in 2007, in accordance with the National Ports Act, Act 12 of 2005 (the Act). In the South African context, port regulation is defined in section 30 of the Act which is given effect in the related regulations

and directives issued under the Act.ⁱ The Act established PRSA with the mandate to (1) regulate economic participation within the ports system in line with the government's strategic objectives, (2) promote equity of access to port operations, (3) monitor the TNPA to ensure that it complies with the Act, and (4) hear complaints and appeals with respect to the industry (South African Government, 2007, 2005). This mandate should ultimately unlock the role of the ports sector in achieving the national strategic objectives of inclusive economic growth, increased investment, employment creation, and poverty reduction. This presupposes advancing beneficiation, which on a sectoral level leads to the promotion of growth of the manufacturing sector and the export of manufactured goods. Efficient infrastructure is a driver of economic growth and SOCs play a key role in this given its custodianship of a country's large-scale public infrastructure base (in the case of this research, South Africa's rail and ports system are owned by Transnet SOC Ltd) (PRSA, 2015–16a; TIPS, 2014).

High port performance and public ownership are not mutually exclusive and the relationship between port performance and adherence to specific landlord or operating port structures is not straightforward. Almost thirty years post the corporatisation of Transnet and

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ⁱ The regulations and directives are available from <http://www.portsregulator.org/documents>, section 'Legislation, Regulation and Policy'.

the deregulation of the transport industry, port users are, however, still of the opinion that port governance and policy in South Africa give rise to *inter alia* import substitution, skewed pricing, cross-subsidisation both between ports and between modes within the Transnet stable, and insufficient investments (Gumede & Chasomeris, 2013, 2012). An understanding of port- and related costs in relation to national logistics costs can inform further port reform and regulatory efforts.

The purpose of the research presented in this paper is to extend South Africa's national freight logistics costs model to incorporate international trade logistics costs (ITLC). The hypothesis is that direct port authority and terminal costs are a relatively small portion of South Africa's ITLC, while the contribution of the port's activities (e.g. waiting time at port) and import/export documentation requirements are of greater importance. Adding the ITLC to the model required the integration of the country's existing freight logistics costs model, financial records from the TNPA and TPT, and data from international databases. The impact of international trade logistics activities on logistics costs was then calculated. The objectives of the research are to develop a methodology for adding ITLC to national logistics costs and, through this quantification, to assist port stakeholders in prioritising those activities that will have the biggest impact on enhancing national competitiveness.

In the next section, a summary of the evolution of port governance in South Africa is provided. This is followed by the methodology to calculate ITLC and the results of the model. Lastly, concluding remarks and next steps are presented.

At the outset, it is important to define the following concepts:

- Freight logistics is defined as "...that part of the supply chain process that deals with the transportation, warehousing, inventory holding, and administration and management of commodities between the origin (that is, where they are produced, mined or cultivated) and the destination (that is, the point of delivery to the consumer, either as input to further production processes or for consumption). By definition, this excludes the cost of passenger transport; transport, storage, packaging and handling of mail and luggage; and storage and transport tasks that occur during the production, mining or cultivation process." Botes et al. (2006: 4).
- South Africa's annually conducted national freight logistics costs model was developed in 2004 (Botes et al., 2006) and has since been refined (Havenga, 2010). Due to information and budget constraints, the model excluded ITLC, i.e. it measured logistics costs within South Africa up to the quay wall landside for exports and from quay wall landside for imports. Logistics costs are composed of three direct elements, namely, transport; storage; and management and administration costs, and one indirect element, namely, inventory carrying costs (time-based working capital financing the cost of inventory in the logistics chain).
- For the purposes of this research, South Africa's freight logistics costs model was extended to include ITLC, defined as:
 - South African port authority charges;
 - South African port terminal costs;
 - South African import/export documentation costs;
 - Induced transport costs due to the waiting time in front of and in South African ports i.e. truck standing cost and ship standing cost. (Induced costs were included in the domestic logistics costs model, but not identified separately. Isolating these costs also improve accuracy through facilitating informed research and enabling feedback); and
 - The cost of maritime transport up to the foreign quay wall for exports and from the foreign quay wall for imports.

(This is in addition to the domestic logistics costs of imports and exports which is already included in the freight logistics costs model and will be ring-fenced and reported on for the purposes of this study).

2. The evolution of port governance in South Africa

2.1. Port governance history and the current governance structure

Port governance in South Africa can be characterised into distinct periods (Gumede & Chasomeris, 2012). These are (a) the autonomous structures prior to South Africa becoming a Union in 1910 (1833–1908); (b) the South African Railways and Harbours (1909–1981); (c) the South African Transport Services (1982–1989); (d) Transnet (through Portnet) from 1989 until 2002; and (e) Transnet (through TNPA and TPT) and PRSA from 2002 until the present. The salient aspects characterising each period are provided in Table 1. Aside from the earliest period, the South African ports were consolidated into a single operation until the early 2000s. From 2002 (and later formalised in the Act) that was changed by separating the landlord function of the ports from port operations through the ring-fencing of the TNPA into a separate entity.

Fig. 1 summarises the current governance framework for South African ports. Transnet is an SOC reporting to the Department of Public Enterprises (DPE). TNPA and TPT are divisions of Transnet. TNPA is bound by the Act under the custodianship of the Department of Transport (DoT). The DoT is responsible for developing and implementing an enabling legislative framework that will allow the transport industry to contribute optimally to the country's socio-economic growth ideals, while the DPE drives profitable performance of the SOCs as instruments of economic growth within this legislative framework. The existence of two controlling Ministries with different objectives is uncommon, and a potential cause of policy weakness. There is therefore a need for better coordination between the two departments to ensure effective outcomes (TIPS, 2014). The DoT is also home to PRSA and the South African Maritime Safety Association (SAMSA). TNPA is required to include port users in its planning process by consulting with the Port Consultative Committee (PCC) as a user representative forum in each port, legislated in the Act (PRSA, 2015–16b).

South Africa's eight commercial ports are operated as a complementary system of ports and do not compete with each other. The salient characteristics of the ports are highlighted below.

2.2. Overview of South Africa's ports

Table 2 describes the public and private participation in South African port activities. Gumede and Chasomeris (2012) regard the South African port structure as unique since the country has both private and public port terminal operators, while the regulator and landlord functions are state-owned, yet mutually independent (in contrast to international practice, refer Section 2.7). The private sector plays a sizable role (48%) in bulk port operations (because of the large volumes handled through petroleum and coal terminals, although iron ore at the Port of Saldanha is handled by TPT), while the majority of containers and all automotive cargo (roll-on/roll-off) are handled by TPT. Those bulk and break-bulk terminals not being operated by TPT are leased to private participants on long-term contracts. They mostly operate in specialised markets and do not compete with TPT, or with each other (Pieterse, Farole, Odendaal, & Steenkamp, 2016). Private sector bulk (liquid and dry) and break-bulk terminals are located in the ports of Cape Town and Durban. They handle fruit, refrigerated cargo, sugar, edible oils, steel, chemicals and mixed cargo (SAMSA, 2012).

South Africa's ports can be broadly divided into three categories. Firstly, multipurpose ports that handle a variety of commodities i.e. unitised cargo in containers as well as break-bulk and in some instances bulk cargoes at specialised terminals. Secondly, dedicated bulk export ports that focus on handling one main commodity (although they do handle smaller volumes of other commodities). Thirdly, a port developed predominantly for future transshipment cargo, namely the Port of Ngqura (SAMSA, 2012). The Ports of Durban, Cape Town, Port Elizabeth and East London are classified as multipurpose ports, while the ports of

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