

**UNIVERSITY OF KWAZULU-NATAL**

**ASSESSING STAKEHOLDERS' PERSPECTIVES ON MARITIME  
PORT PRICING IN SOUTH AFRICA**

**By**

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## DECLARATION

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## ACKNOWLEDGEMENTS/DEDICATIONS

I dedicate this dissertation to:

- My Lord, heavenly father, and Jesus Christ, my saviour, thank you for always being there for me. You are my alpha and omega. You gave me life and wisdom and kept me thus far. I promise to live for you; I dedicate my life in serving your will. "...all the days of my life ... I will dwell in the house of the Lord forever" (Psalm 23v6). I know that if you are with me I'll conquer all obstacles. "...what is impossible with men is possible with God" (Luke 18v27).

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.....  
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## ACRONYMS

BUSA	Business Unity of South Africa
Cape CoC	Cape Chamber of Commerce
CMA CGM	CMA CGM Shipping Agency South Africa
CPI	Consumer Price Index
CSU	Colorado State University
CTC Timber	CTC Timber Products
DCT	Durban Container Terminals
DTI	Department of Trade and Industry
EBITDA	Earnings Before Interests, Taxation, Depreciation and Amortisation
EMC	EThekweni Maritime Cluster
Forestry SA	Forestry South Africa
FPEF	Fresh Produce Exporters Forum
Fruits SA	Fruits South Africa
FTW	Freight and Trade Weekly
GRT	Gross Registered Tonnage
IPAP	Industrial Policy Action Plan
Maersk	Maersk Line and Safmarine
NAAMSA	National Association of Automobile Manufacturers of South Africa
NFLS	National Freight Logistics Strategy
NPA Act	National Ports Act no 12 of 2005
OEMs	Original Equipment Manufacturers
PPP	Public-Private Partnership
Prop.	Proposed
ROD	Record of Decision
RSA	Republic of South Africa
SAAFF	South African Association of Freight Forwarders
SAASOA	South African Association of Ship Operators and Agents
SADC	Southern African Development Community

SAPIA	South African Petroleum Industry Association
SAR&H	South African Railway and Harbours
SASC	South African Shippers Council
SATS	South African Transport Services
SOE	State-Owned Entity
SRAC	Short-Run Average Cost
SRMC	Short-Run Marginal Cost
TEU's	Twenty-Foot Equivalent Units
TFR	Transnet Freight Rail
the Regulator	Ports Regulator of South Africa
TNPA	Transnet National Ports Authority
TPT	Transnet Port Terminals
TY	Tariff Year
UKZN	University of KwaZulu-Natal
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar
Xpanse	Xpanse Investments (Pty) Limited
ZAR	South African Rand

## **ABSTRACT**

The South African government has recognised the importance of promoting efficient and effective transport as well as the strategic role of maritime ports in the logistics chain. This study critically assesses stakeholders' perspectives on maritime port pricing in South Africa. More specifically, the study analyses the annual Transnet National Ports Authority (TNPA) tariff application, the stakeholders' submissions, as well as the Ports Regulator's record of decisions for 2010/11, 2011/12 and 2012/13 tariff years.

The study uses content analysis to analyse the three TNPA tariff applications, 48 stakeholders' comments/submissions and three Ports Regulator's records of decisions. The study gathers data on port pricing from 1999 to 2012 and uses descriptive statistics to analyse the trends in port pricing. The stakeholders' perspectives are contrasted and compared with the three port doctrines identified in the literature, namely, the Anglo-Saxon, the European and the Asian doctrine.

The findings show that South Africa's complementary system of ports and uniform pricing policy is distinct. The content analysis found the following issues: ports stakeholders criticise TNPA for abusing its monopoly power; hindering global competitiveness; not taking cognisance of the state of the country's economy; charging price increases which are higher than inflation; creating an environment which does not support job creation; being inconsistent and non-compliant with the national policies; not applying cost-based pricing principles; not having a justifiable pricing methodology; low productivity and inefficiency; inconsistent and unreasonable pricing of products; poor service delivery and poor port security. TNPA currently cannot achieve its stated objectives.

South Africa has elements of all three contesting port doctrines. The clash in port doctrines is a source of misunderstanding and contention. The ports are financed and managed using a mix of elements from the European and Asian doctrines, whereas the pricing methodology appears to be following the Anglo-Saxon doctrine. The Ports Regulator of South Africa has the potential to deal with the stakeholders concerns, however, this authority needs to be strengthened. South Africa needs to develop a port doctrine that will be consistent with the country's vision and policies.

## CONTENTS

DECLARATION .....	i
ACKNOWLEDGEMENTS/DEDICATIONS .....	ii
ACRONYMS .....	iii
ABSTRACT.....	v
CONTENTS.....	vi
LIST OF FIGURES .....	ix
LIST OF TABLES.....	x
CHAPTER ONE .....	- 1 -
1.1 Background and Context.....	- 1 -
1.2 Objectives, Need for the Study, and Research Questions .....	- 3 -
1.3 Research Approach/Methodology .....	- 4 -
1.4 Structure of this Dissertation.....	- 5 -
CHAPTER TWO .....	- 6 -
2.1 Introduction .....	- 6 -
2.2 Port Services, Infrastructure and Pricing.....	- 7 -
2.2.1 Common Tariff Categories .....	- 11 -
2.2.2 Pricing Principles for a Good Port Pricing System.....	- 13 -
2.3 South Africa’s Ports .....	- 16 -
2.3.1 South Africa’s Ports: Policy, Governance and Pricing .....	- 18 -
2.3.2 Port Evolution in South Africa.....	- 36 -
2.4 Port Doctrine: Ownership, Financing and Pricing.....	- 40 -
2.5 Conclusions .....	- 45 -
CHAPTER THREE .....	- 47 -

3.1	Introduction .....	- 47 -
3.2	Need for the Study, Research Aim and Research Questions.....	- 47 -
3.3	Quantitative and Qualitative Research .....	- 48 -
3.4	Research Method Employed.....	- 50 -
3.4.1	Data Selection and Reliability.....	- 51 -
3.4.2	Data Analysis .....	- 54 -
3.4.3	Ethical Considerations .....	- 56 -
3.5	Conclusion.....	- 56 -
CHAPTER FOUR.....		- 58 -
4.1	Introduction .....	- 58 -
4.2	South African Maritime Ports: Governance, Pricing and Stakeholders’ Perspectives .....	- 59 -
4.2.1	Monopoly Power.....	- 63 -
4.2.2	Global Competitiveness .....	- 64 -
4.2.3	South Africa’s Economy .....	- 67 -
4.2.4	Above Inflation .....	- 69 -
4.2.5	Job Losses .....	- 71 -
4.2.6	Inconsistency and Non-compliance .....	- 72 -
4.2.7	Tariff Methodology.....	- 74 -
4.2.8	Non Cost-based Nature of the TNPA Tariff .....	- 76 -
4.2.9	Transparency on Information.....	- 78 -
4.2.10	Low Productivity and Inefficiency .....	- 79 -
4.2.11	Differentiation in Tariffs.....	- 81 -
4.2.12	Price increases above tariff applied for.....	- 82 -
4.2.13	Unresolved Matters .....	- 86 -
4.2.14	Customer Service .....	- 86 -



4.2.15	Misalignments.....	- 87 -
4.2.16	Security Efficiency.....	- 88 -
4.3	Discussion .....	- 88 -
4.3.1	South African Contemporary Ports Pricing Rationale .....	- 88 -
4.3.2	The Impact of Allowed Tariff Increases on Required Revenue.....	- 96 -
4.4	Conclusion.....	- 102 -
CHAPTER FIVE .....		- 104 -
5.1	Introduction .....	- 104 -
5.2	Research Aim and Methodology Employed.....	- 104 -
5.3	Findings on the Research Questions.....	- 105 -
5.3.1	What are the perspectives of the stakeholders on South African port pricing? .....	- 105 -
5.3.2	What are the reasons, rationale and arguments proposed by TNPA that support the large increases in port tariffs?.....	- 107 -
5.3.3	What are the strengths and weaknesses of the TNPA tariffs proposals for 2010/11, 2011/12 and 2012/13 tariff years? .....	- 108 -
5.3.4	What are the significant issues raised in the stakeholders' submissions?.....	- 110 -
5.4	Limitations of this Dissertation and Areas for Future Research .....	- 111 -
REFERENCES .....		- 113 -
<b>APPENDIX 1. Themes on Stakeholders'</b> .....		- 124 -
APPENDIX 2. Ethical Clearance Certificate.....		- 127 -
APPENDIX 3. Turnitin Report.....		- 128 -

## LIST OF FIGURES

Figure 2.1. Various Services Provided in South African Ports .....	10
Figure 2.2. South African Ports.....	17
Figure 2.3. Port Comparisons (pricing and container moves per hour).....	25
Figure 2.4. Container Port Pricing Comparisons.....	27
Figure 2.5. Distribution for TNPA source of revenue.....	29
Figure 3.1 Organisational Complexities for South African Maritime Sector.....	53
Figure 3.2 Stakeholders' Submissions to the Ports Regulator in 2009, 2010 and in 2011	55
Figure 4.1. Percentage Change in South Africa's Port Charges, 2002 to 2012.....	70
Figure 4.2. Volume of cargo handled by port in 2010.....	92
Figure 4.3. Tariff and Revenue Results for 2010/11, 2011/12 and 2012/13 .....	101

## LIST OF TABLES

Table 2.1. Common Tariff Categories.....	11
Table 2.2. Tariff categories that are part of TNPA revenue.....	13
Table 2.3. Traditional Port Types and their Characteristics.....	20
Table 2.4. Port Function Matrix.....	21
Table 2.5. Public and Private Sector Market Share for Major Service Categories .....	23
Table 2.6. Cargo dues per container, 2001-2012 (Rands).....	32
Table 2.7. Percentage change in South Africa’s port charges, 1999-2012.....	33
Table 2.8. History of South African ports governance and pricing reforms.....	37
Table 2.9. European (Continental) Doctrine vs. Anglo-Saxon Doctrine.....	42
Table 2.10. Asian Doctrine.....	44
Table 3.1. Differences Between Qualitative and Quantitative Research Methods.....	49
Table 3.2. Summary of the Stakeholders’ Submissions on Port Pricing in South Africa, 2009 to 2011.....	54
Table 4.1. Port Function Matrix in South Africa.....	59
Table 4.2. A Summary of the stakeholders’ perspectives on port pricing in South Africa, 2009 to 2011.....	60
Table 4.3. Port Costs and Efficiency Benchmark Measured by Safmarine Nokwanda in Various Ports.....	66
Table 4.4. Selected Products with Different Percentage Increase: Proposed and Actual Tariff Increases.....	85
Table 4.5. Key Pillars of the Pricing Strategy.....	95
Table 4.6. TNPA and Ports Regulator calculation of the Required Revenue Model, 2010/11 to 2012/13.....	98

# CHAPTER ONE

## INTRODUCTION

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### 1.1 Background and Context

South Africa is a major sea-trading nation. Flatters and Stern (2007) note that South Africa's economic growth is characterised as export-led. Sea transport carries approximately ninety-eight per cent by volume of South African exports, and more than ninety per cent of world seaborne commerce (Chasomeris, 2003). The Ports Regulator (2010a: 17) stated that, "the basic economic function of ports is to act as an interface between sea and land-based transport in as seamless and efficient a fashion as possible, and therefore the most appropriate measure of the economic performance of a ports system is the cost of moving cargo through that port system." The South African government has recognized the need to promote efficient and effective transport and the strategic role of maritime ports in the logistics chain (NFLS, 2005; Havenga, 2010; Chasomeris, 2011).

The strategic position of commercial seaports as an interface between different transport modes makes them a vital link in the supply and distribution channels of global trade networks. Consequently, ports occupy a fundamental role in a country's transport system and may be powerful tools for facilitating and stimulating trade and economic development. As a result of the significant progress toward trade liberalisation and globalisation, the relative competitiveness of trading countries is often dependent upon efficient and cost-effective port systems. It is essential that ports offer quick, reliable service to both ships and their cargo, to allow for the timely flow of goods through the transport process (Juhel, 1998). Ports offer a range of services, operate under different organisational structures and face a dynamic environment. Port prices are an important consideration in the provision of these services, and can literally 'make' or 'break' a port. Correct pricing is capable to direct a maritime port to growth and prosperity, while the incorrect pricing is capable of leading a maritime port to "extinction or to the proliferation of subsidies and inefficiency" (Haralambides and Veenstra, 2002: 1 and Chasomeris, 2005). Haralambides & Veenstra (2002: 782) argue that, "high prices would normally deprive a port of part of its patronage (vessels and cargo owners) and thus reduce demand for port services" and

hurt the very trade the port is supposed to serve. Haralambides (2002) notes, however, that even though low maritime port prices have the potential to bring clientele to the port, congestion could result, investment costs may not be recovered in the long run and the port's competition may complain about unfair competition, particularly when low prices are the result of subsidies.

Several studies have emphasised the fact that South Africa's maritime port stakeholders have articulated a defensible dissatisfaction "with port governance, policy and pricing that promoted: import substitution; intra- and inter-port cross-subsidisation; inter-modal cross-subsidisation; insufficient investment in port infrastructure and superstructures; bureaucracy and skewed prices" (Jones 1988; Department of Transport, 2002; NFLS, 2005; Chasomeris, 2011: 4). Additionally, the South African ports structures have exercised monopoly power which prevents competition and promotes the complementary system of ports which charges uniform cargo dues across all ports, that is, a single tariff book that applies to all eight commercial ports (Gumede and Chasomeris, 2012).<sup>1</sup> The state-owned entity, Transnet, through Transnet National Ports Authority (TNPA), owns and controls all eight commercial ports in the country. Government has approved an additional port, Port Nolloth, to be owned and controlled by TNPA. This port is being used traditionally for fisheries. Apart from owning and controlling the ports, Transnet also operates ports through Transnet Port Terminals. Transnet is not only involved with maritime ports, but also controls all freight rail business, through Transnet Freight Rail, and pipe-lines, through Transnet Pipelines.

The purpose of this chapter is to provide an introduction to the dissertation. This chapter proceeds as follows. Section 1.2 discusses the study objectives, the need for this study and the research questions of this dissertation. Section 1.3 provides an overview of the research methodology that this study employs. Section 1.4 provides the overview of this dissertation.

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<sup>1</sup> Eight Commercial Ports in South Africa are: Port of Richards Bay, Port of Durban, Port of East London, Port of Ngqura, Port of Port Elizabeth, Port of Mossel Bay, Port of Cape Town, and Saldanha Port. These ports are located in various cities in three coastal provinces.

## **1.2 Objectives, Need for the Study, and Research Questions**

President Zuma, in his 2012 State of the Nation Address, highlighted the importance of strengthening the maritime sector in this country and indeed it has become the country's new focal point. The South African maritime sector has potential to contribute and reshape the economic development of the Republic of South Africa. In a benchmark study commissioned by the Ports Regulator of South Africa in 2010, out of twelve ports South African Ports were generally classified as being least efficient while being most expensive. Radelet and Sachs (1998) and DTI (2010) have shown that a high transport costs discourages trade and thus hinders economic development.

One might have believed that the results of the Ports Regulator benchmark study would prompt Transnet National Ports Authority to reduce their prices in order for South Africa's ports to be globally competitive; however, they have been applying for huge tariff increases since 2010. Dowd and Fleming (1994:29) confirm that the port's viability is largely determined by the success or failure of a port's pricing strategy. The Ports Regulator (2010: 2) argues that fundamentally, "the economic function of a port is to lower the generalised cost of through transport." For the 2012/2013 financial year, Transnet National Ports Authority (TNPA) applied for 18.06% increase in tariffs but the Ports Regulator of South Africa allowed an increase of 2.76%. For 2011/2012, TNPA applied for an 11.91% increase, and 10.62% for 2010/2011. The Ports Regulator of South Africa allowed for 4.49% and 4.42% for 2011/2012 and 2010/2011 financial years respectively. What is notable about TNPA tariff increase applications since 2010 is that TNPA has applied for tariff increases that are more than twice the consumer price index (CPI). In his State of the Nation Address, President Mbeki (2004: 1) stated: "We will continue to work to reduce the cost of doing business in our country...we will seek to work with Parliament to expedite the process of the restructuring of our ports to bring in new investment and lower the costs of moving imports and exports." In 2011 and 2012 the Ports Regulator granted TNPA tariff increases that were below the inflation rate (CPI).

This study aims critically to examine perspectives of the stakeholders on maritime port pricing in South Africa. More specifically, the study analyses TNPA tariff applications, the stakeholders' responses, as well as the Ports Regulator's record of decisions for 2010/11, 2011/12 and 2012/13

tariff years. In order to determine the best way forward for pricing of ports in South Africa, the specific research questions that the study seeks to address include the following:

- What are the perspectives of the stakeholders on South African Port Pricing?
- What are the reasons, rationale and arguments proposed by TNPA that support the large increases in port tariffs?
- What are the strengths and weaknesses of the TNPA tariff proposals for 2010/11, 2011/12 and 2012/13 tariff years?
- What are the significant issues raised in the stakeholders' submissions?

### **1.3 Research Approach/Methodology**

This study used content analysis to critically examine perspectives of the stakeholders on maritime port pricing in South Africa. More specifically, the study analysed TNPA tariff applications, the stakeholders' responses, as well as the Ports Regulator's record of decisions for 2010/11, 2011/12 and 2012/13 tariff years.

For each of the three tariff years (2010/11, 2011/12, 2012/13), TNPA has applied for increases in tariffs (10.62%, 11.91% and 18.06% respectively) to the Ports Regulator of South Africa. The Ports Regulator invited stakeholders to comment on applications before approving a tariff increase. In order to answer the research questions, the study uses content analysis to examine the TNPA's tariff applications, stakeholders' comments and the Ports Regulator's record of decisions. These documents are publicly available at the Ports Regulator's website. For the 2012/13 financial year, 15 stakeholders submitted non-confidential comments, 30 for 2011/12 and 3 for 2010/11. This study analyses all of the forty-eight comments/submissions. The study analyses the issues raised by the various stakeholders for the period from 2010/11 to 2012/13.

This study further used descriptive statistics to analyse the trends in port pricing in South Africa. In addition, the study compared and contrasted the various perspectives on South Africa's ports policy, governance and pricing. The study uses the Anglo-Saxon, the Asian, and the European doctrine to analyse South Africa's port investments and pricing.

#### **1.4 Structure of this Dissertation**

Chapter one provides an introduction to the dissertation. This chapter provides the background and context of the study. Furthermore, this chapter declares the purpose and provides the overview of this dissertation.

Chapter two gathers and discusses literature on maritime port pricing. The literature provides an overview of the port sector in general which includes structures of different ports' arrangements, services offered in a port to both cargoes and vessels, various port environments and port policy. The literature identified the historical South African maritime port stakeholders' discontents and discusses the evolution in South African maritime port environment, policy, governance and pricing.

Chapter three identifies the methodology employed in this research dissertation. Chapter three analyses the different options for research that include the well-known quantitative and qualitative research methodology. Chapter three explains that although this study uses mostly a qualitative methodology, it also uses descriptive statistics which is a qualitative method. The chapter discusses the data selection method used and discusses the reliability of data.

Chapter four is the analysis and discussion of perspectives on port pricing in South Africa. The chapter analyses the current state of the South African maritime port industry. Chapter four discusses thematically, the contemporary issues raised in the stakeholders' submissions and the historical discontents identified in the literature review.

Chapter five provides conclusions and recommendations based on the research and discussions in this dissertation.



## CHAPTER TWO

### REVIEW OF LITERATURE ON MARITIME PORT PRICING

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#### **2.1 Introduction**

Seaports are a vital interface between land and sea. Port costs are an essential factor that the shippers have to consider, especially for a major sea-trading nation like South Africa. TNPA (2012) confirms that port users' understanding and commitment is vital to the success of a port pricing strategy. Goode (2008) notes that although the cost of port services may seem small, they are an important element in the cost of moving freight. On average port costs account for approximately thirteen per cent of the total transport costs along the value chain (Goode, 2008). For South African ports, the costs to transport containers are ranked among the most expensive in the world, while they are, at the same time, ranked among the least productive. NFLS (2005), Havenga (2010) and Chasomeris (2011) noted, that the South African government has acknowledged the necessity to promote efficient and effective transport and the strategic role of maritime ports in South Africa. TNPA (2012) confirms that the ports pricing approach should be guided by the objective of ensuring a smooth transition for all port users with limited or no disruption to port operations. The South African government is committed to reducing the cost of doing business in South Africa through reducing port costs.

This chapter provides both a theoretical and practical understanding South African port users' historical discontents, the evolution of port pricing in South Africa, South African policies on maritime port pricing, and the various global issues surrounding seaports. In particular consideration is given to the evolution in global port policy and pricing which includes a thorough understanding of traditional maritime port doctrines. This chapter gathers literature on maritime port pricing. Literature provides an overview of the port sector in general which includes; structures of different ports arrangements, services offered in a port to both cargoes and vessels, various port environments and port policy. It is not the purpose of this study to investigate the various port pricing strategies. Such an investigation will be necessary for future studies. This chapter proceeds as follows: Section 2.2 provides a discussion on port service, infrastructure and pricing that may be expected in a port: section 2.3 provides a discussion and a

perspective of South Africa's port environment; section 2.4 discusses three broadly-accepted port doctrines on investments and pricing which would be compared and contrasted against South African practice; and section 2.5 concludes the chapter.

## **2.2 Port Services, Infrastructure and Pricing**

The structure of port tariffs depends on what services and facilities the port offers to its users. Goode (2008: 4) argued that "pricing for port calls and services within a port should be proportional to the costs of a ship making the call that covers the four principal cost items, namely time spent in a port, general marine and land infrastructure, use of a berth and the costs of handling the good." Vessel owners and cargo owners are two important groups of stakeholders in the port. The services and facilities that the port provides can thus be divided into two complementary groups: marine functions and cargo functions. This split can also be thought of in terms of a differentiation between services provided on the seaward side and the landward side. Port infrastructure and services are required by both vessel and cargo owners as considered below.

Port infrastructure is built to enable the port to provide facilities for both ships and their cargo. At this point, it may be helpful to differentiate between the various types of infrastructure. Basic infrastructure refers to all permanent, single-purpose assets that enable the port to function safely and efficiently and which allow related activities to take place. Infrastructure is defined as all permanent and semi-permanent multipurpose assets in the port. Note that not many theorists would draw this distinction between basic infrastructure and infrastructure. Lastly, superstructure refers to multipurpose assets in port excluding vehicles, basic infrastructure and infrastructure. Examples are warehouses, sheds and cargo-working equipment such as cranes (Van Niekerk, 1994). Within these definitions, there is also a differentiation between infrastructure that is provided on the marine side, specifically for the benefit of ships calling at the port and those utilised for cargo. Marine infrastructure includes channels, breakwaters (basic infrastructure), turning basins, quays and berths (infrastructure). Cargo-working infrastructure relates to road, rail, cargo aprons and open working areas for cargo, while cargo superstructure includes warehouses, terminals, cranes and gantries (Giladi, 2003). It is usually in the pricing of

infrastructure - whether it is marine or cargo-working infrastructure - rather than services, that problems are encountered. The pricing of marine infrastructure is one of the biggest challenges facing the ports authority. The basic infrastructure in ports is considered to be permanent or non-renewable, with a single purpose only. The use of the asset by one vessel does not prevent the use of that same asset by other vessels, in uncongested conditions. The exclusion principle thus does not apply and no specific costs can be attributed to the passage of one particular ship, but rather, costs are common to all users (Van Niekerk, 1994). A further feature of marine assets is the initial large and essentially sunk costs, fixed costs of creating the facilities, coupled with a marginal cost of usage that is virtually zero. Under such conditions, setting a price equal to marginal cost would result in a loss-making situation.

Port services can be divided into two broad categories, that of marine services and cargo services. Marine services relate to the operation of the vessels themselves, such as tug services, towage, pilotage, berthing gangs and mooring services, among others. Marine services are not as difficult to price as infrastructure and thus do not create as much controversy (Giladi, 2003). The exclusion principle does apply to marine services, that is, if one vessel utilises a service, another cannot. For example, a tug can only provide assistance to one ship at a time. Here the user is clearly identifiable and can be charged directly, according to the costs involved in providing the service in question. Van Niekerk (1994) suggests that for marine services, charges should be based on business principles and coverage should include: operating costs of the service provided; capital costs; profit (to enable for provision of replacement and development) and taxation. Since pilotage and tug services are usually supplied by a single operator, it is feasible to charge according to what the ship owner will bear, subject to price regulation to exclude excessive profits (Van Niekerk, 1994). The probability of being able to price port services accordingly will depend on what function the port fulfils in the national economy. If the port is required to act purely as a lowest-cost transport provider then prices that are pitched at a level that generates profit may be unacceptable. The government may prefer to price services at marginal cost and subsidise port activities.

Cargo services are those relating to the handling of goods carried by the vessels visiting the ports. These cargo-handling services include stevedoring, stacking and storage. The difficulties

in pricing cargo-working infrastructure are similar to those encountered in the pricing of marine infrastructure. The costs of road and rail development are large and indivisible among different users, making it unfeasible to price at marginal cost (Bennathan and Walters, 1979). By contrast, equipment (superstructure), cargo aprons, open areas and cargo services can usually be allocated to a specific user and charged accordingly. Bennatham and Walters (1979) argued that all charges relating to cargo should be cost-related and non-discriminatory. In particular, the port would not want to price these facilities and services far in excess of cost, making it expensive for vessels to work more cargo per call (or carry marginal cargoes) and discouraging patronage of the port. This would limit port-related activity, since it is through the handling of cargo, rather than vessels themselves, that ports are able to generate most of their income (Van Niekerk, 1994; Giladi, 2003; and Jones, 2003 and 1988).

These services and facilities are required to allow the port to perform its various activities. It is in fulfilling their function as trade facilitators and performing such activities that ports incur costs for which a charge must be raised against users. Transnet National Ports Authority (TNPA) is a landlord-type ports authority. The National Commercial Port Policy therefore requires that TNPA “owns, develops and maintains port infrastructure; does not engage in port operations (except as operator of last resort); does not employ cargo handling labour; fulfils a ports regulatory and port landowner function; and owns all port land” (TNPA 2009: 8; 2010: 8 and 2011: 9). Such requirements portray TNPA as a multiplayer. TNPA is a port landlord, master planner, controller of ports navigation, port marketer and administrator, change agent, as well as the coordinator with other state agencies (TNPA 2009; 2010 and 2011). The core functions of the TNPA therefore are to:

- *“promote the use, improvement and development of ports, and control land use within the ports, having the power to lease port land under conditions it determines;*
- *plan, improve, develop and maintain port infrastructure;*
- *make and apply rules to control navigation within port limits and approaches, ensure protection of the environment and ensure safety and security within port limits;*
- *ensure that port services and facilities are provided, and may enter into agreements or licence other parties to provide these;*

- ensure that adequate, affordable, equitable and efficient port services and facilities are provided for port users;
- ensure non-discriminatory, fair, transparent access to port services and facilities; advancement of previously disadvantaged people; promotion of representation and participation in terminal operations; enhanced transparency in port management; and
- advise on all matters relating to the port sector, and liaise with all stakeholders” (TNPA, 2009: 9; 2010: 8 and 2011: 9).

Figure 2.1 shows various services provided within South Africa’s ports.

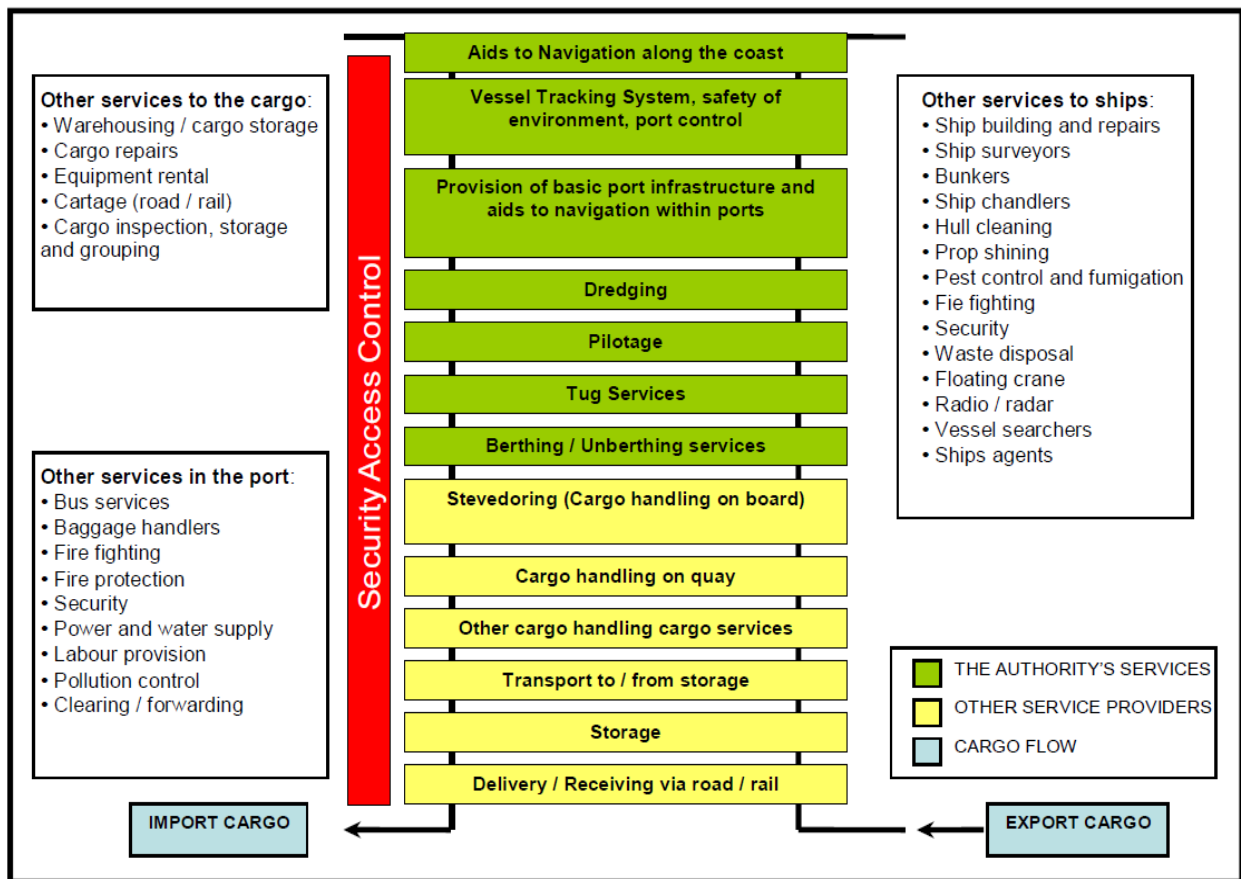


Figure 2.1. Various Services Provided in South African Ports.

Source: TNPA, 2011: 12.

TNPA (2009, 2010 and 2011) is responsible for providing aids to navigation along the coast; vessel tracking systems, safety of the environment, port control; provision of basic port infrastructure and aids to navigation within ports; dredging; pilotage; tugs services; and berthing or unberthing services. Stevedoring, storage, transportation to and from storage, delivery or receiving via road or rail, cargo handling on the quay and other cargo handling services are provided by port operators such as the state-owned Transnet Port Terminal (TPT) as well as other private operators.

### **2.2.1 Common Tariff Categories**

There are some important characteristics to note about cargo-handling charges. Nombela (2000: 2) argued that, “the historic distinction between stevedoring (moving goods within the ship) and loading (moving goods between the ship and the quay) has been eroded by modern cargo handling techniques.” The method utilised is determined by the type of cargo being serviced and has led to the formation of specialised terminals and equipment. Cargo-handling costs may form up to 60% of the total cost of moving goods through a port (Trujillo and Nombela, 2000; and Jones, 2003). Any port concerned with cost efficiency must therefore pay strict attention to this category of service. Table 2.1 shows common tariff categories in the international tariff books.

**Table 2.1. Common Tariff Categories**

<b>TARIFF CATEGORY</b>	<b>DESCRIPTION AND PURPOSE OF TARIFF</b>
<b>Payable by ship owner</b>	
Channel Dues	Usually a fixed fee for access to the port and use of navigation aids.
Port Dues	A fixed fee for general use of port facilities, related to the provision and maintenance of basic infrastructure
Berth Dues	A charge payable for the occupation of a berth or quay, related to the cost of provision and maintenance of such a quay.
Pilotage	A compulsory charge for piloting vessels in and out of the port, designed to cover the costs of providing the services of a pilot.
Tug Assistance	This charge is payable for the assistance and/or attendance by tugs to ships

	entering or leaving the harbour, or moving between berths within the port and covers the capital, maintenance and operating costs of tug services.
Mooring / Unmooring	Berthing service charges are payable for the services of berthing staff for ships mooring and unmooring in the port and is based on the costs of the staff employed.
Dock Dues, Syncrolifts, Slipways	Charges for ship repair services are payable for the use of drydocks, floating docks, syncrolifts and slipways and are intended to contribute towards provision and maintenance of these facilities.
Equipment Hire <sup>1</sup>	This charge includes both wharf crane hire and that of marine equipment and is payable for the use of such equipment and the cost for port employees to provide the service. The fee contributes toward capital, operating and maintenance costs of equipment.
<b>Payable by cargo owner</b>	
Cargo Dues	Cargo dues are levied on all cargo passing over the wharf or handled in the port and cover the costs of providing cargo-handling infrastructure in the port.
Storage, Rent	These charges are levied on cargo that is being stored in open, covered or enclosed areas away from cargo-working berths and should cover the costs of such storage.

Note 1: In respect of non-liner cargo, equipment hire is usually charged to the cargo owner.

Source: Author compiled using data from United Nations Conference on Trade and Development (UNCTAD), 1992; Van Niekerk, 1994; McPherson, 2003 and TNPA, 2012.

South Africa's ports system is distinct. Unlike in most international ports, where it is the state budgets that fund some port capital, the income made from the port authority's activity in South Africa are "used to maintain basic port infrastructure, provide current and future port infrastructure, maintain and provide the current and future marine fleet, and maintain and provide current and future ship repair facilities" (TNPA, 2012: 16). Goode (2008) explains that the pricing system of a port is often influenced by the ports development history over time. Table 2.2 shows tariff categories that are part of TNPA revenue which may not be found in other port authorities internationally.

**Table 2.2. Tariff Categories that are Part of TNPA Revenue**

<b>TARIFF CATEGORY</b>	<b>DESCRIPTION AND PURPOSE OF TARIFF</b>
Light dues	Raised per vessel (per gross ton) at the first port of call for the provision of navigation aids to vessels along the South African coast.
Vessel Traffic Services	Raised per vessel (per gross ton) at all ports for the provision of vessel traffic services, safety of the port environment and port control.
Rentals	Rental arrangements including escalations are negotiated on a case-by-case basis and are not reflected in the tariff book for lease of port land to terminal operators, port service and port facility providers.
Floating Crane Services	Raised per service, per hour for floating crane services rendered to the vessels.
Dry-dock, floating dock, synchrolift and slipways	Raised per service for the use of a facility, based on the size of the vessel (per gross ton) for dry-dock, floating dock and synchrolift fees.
Port Service Licence, Port Rule Licence, Port Rule Registrations and Port Rule Permit Fees	These are fees payable for licences, registrations and permits in accordance with section 57 of the Act and with Port Rules issued in terms of section 80(2) of the Act. Raised as a fee for the respective licences, registrations and permits issued.

Source: Author compiled using data from TNPA 2009, 2011 and 2012.

### **2.2.2 Pricing Principles for a Good Port Pricing System**

Pricing systems are viewed differently by port users and port managers. Port users would ideally like to see tariffs that are clearly understandable and easily comparable between ports. This



would simplify comparisons between ports in terms of pricing, facilitating the users' decision of which port to patronise. In South Africa, however, cargo dues are priced uniformly across ports. Hence, the choice of a port by port users is not determined by the price. Port users then consider other factors such as port infrastructure, port connectivity and port congestion. Secondly, the pricing scheme should specify exactly what services are included in any particular charge. In addition, port users would support a system that takes account of the constraints that arise from their working practices. Any pricing policy that is in place should be as stable as possible and users should be informed in advance of any price changes, giving them enough time to modify their behaviour if necessary (UNCTAD, 1975).

Another consideration for port authorities is the extent to which changes in port charges will be absorbed by foreign shipping lines or traders. Bennathan and Walters (1979) suggested that the question that should be asked is whether the benefits of reducing port tariffs or increasing port investment will be passed on to the residents of the country or enjoyed entirely by foreigners that operate in the maritime industry. A good pricing system should make it possible to achieve port objectives. It should be cheap to start up and easy to operate. This requires some degree of simplicity. The structure of the tariff may be simplified by reducing the number of charges or the number or variables in the basis for each charge. The only possible disadvantage is that if the system is too simple, it may not allow authorities to achieve complex pricing objectives (McPherson, 2003). UNCTAD (1975: 9-10) states that pricing systems should satisfy 3 main requirements:

- 1. They should improve the utilisation of port assets. This is perhaps the most important consideration in designing tariffs and is basically an efficiency criterion. Note that there are certain strategies that are more 'correct' than others in terms of economic theory. An economically efficient pricing strategy would be one based on marginal cost.*

2. *They should facilitate a comparison between port charges and costs. This implies some method of grouping port costs in appropriate 'cost centres' that can be used as a base for corresponding port tariffs.*
3. *They should allow for proper identification of benefits. This requires a specific charge designed for each specific user that reflects the benefit to that user of consuming port resources.*

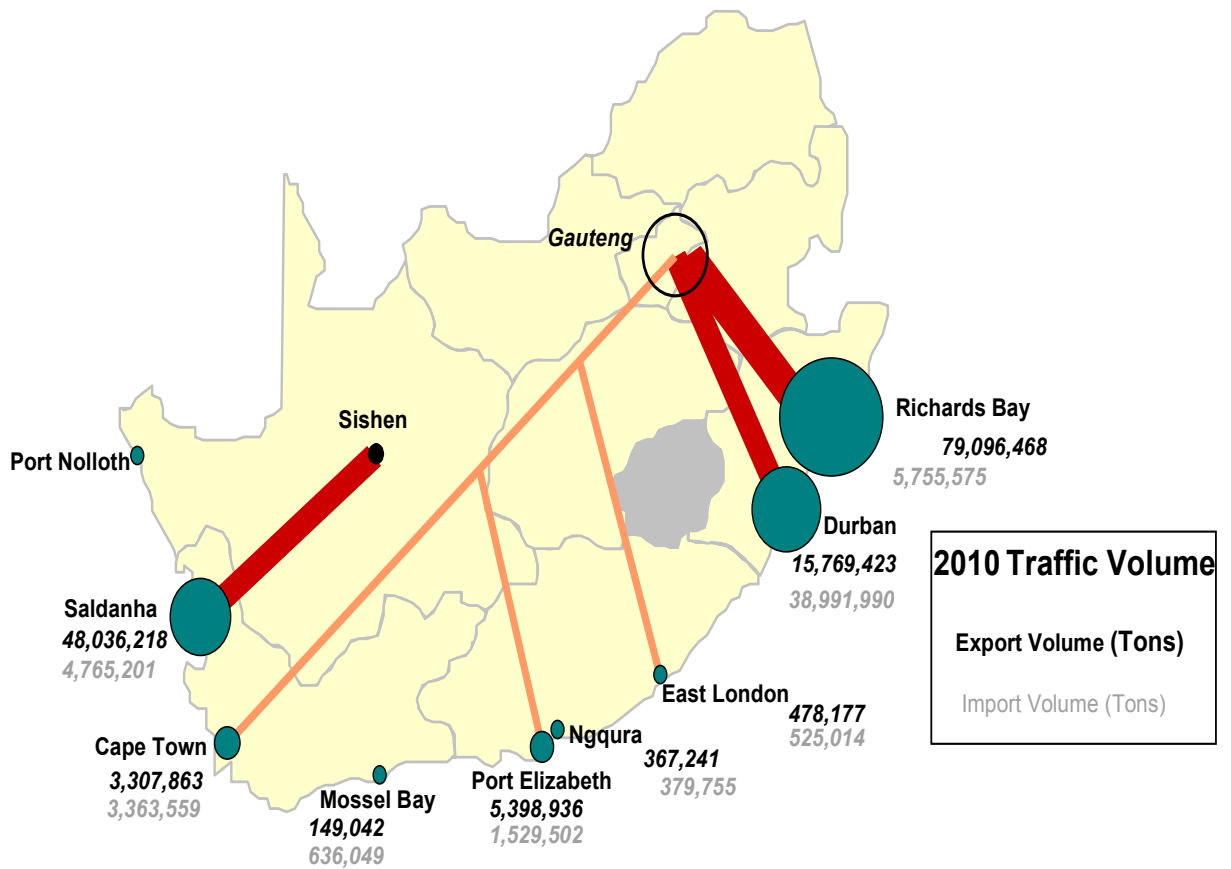
There are, however, other characteristics that Jones (2003b) and McPherson (2003) would like to see included in port pricing schemes:

4. *Tariffs should be equitable, such that all port users are treated equally.*
5. *Tariffs should promote trade or at least not be a constraining factor.*
6. *The structure of prices may reward regular or efficient port users.*
7. *Pricing policies should be competition enhancing. Charges should not be so high that they exclude smaller users from participation in profit making activities. These smaller independent users provide essential competition for the larger, more powerful shipping lines in the market.*

Dowd (1992) identifies basic strategies to port pricing policy: those strategies that are purely economic in nature, those in which financial objectives feature heavily and the pricing principles of public enterprise. Goss (1990b) however argues that these strategies should not be identified and implemented separately, but instead should be used complementarily. There are also various ways of strengthening the tariff-making capabilities of ports and certain conditions that any particular pricing strategy should meet (Arnold, 1985; Goss, 1990b; UNCTAD, 1992 in McPherson, 2003).

### **2.3 South Africa's Ports**

With about 2 798 kilometres coastline, South Africa currently has eight commercial maritime ports which are all publicly owned by the State-Owned Enterprise (SOE) called Transnet National Ports Authority (TNPA). TNPA also own the ninth port, the port of Port Nolloth, which is utilised for fisheries. Although these maritime ports are different in locations and specialise in diverse cargoes for different customers, there is a single tariff book which applies the same cargo dues throughout the ports. During the last quarter of the 20<sup>th</sup> century, South Africa became a major sea-trading nation. Jones (2001: 2) explains that “the 1970s witnessed massive capital widening as bulk ports were constructed to propel the South African economy into a phase of export-led growth predicated on high volumes of low-value bulk staples, and as existing ports were re-fashioned to cope with the global container revolution.” Figure 2.2 shows the demarcation of South African commercial maritime ports.



**Figure 2.2. South African Ports**

Source: Author compiled using data from Chasomeris, 2007; Department of Transport, 2011.

Considerable volumes of cargoes passing through South African ports are to be used in the Gauteng province (see figure 2.2). The Port of Durban remains the premier container port in South Africa. More than two thirds of all South Africa’s containerised cargoes are handled in the Port of Durban. The growth of the Port of Durban does not solely depend on the Gauteng businesses. Bhikraj (2008: 1) noted that, “over forty per cent of containers handled at the port are destined for customers in the Durban and KwaZulu-Natal region.” While other ports in South Africa (Mossel Bay, Port Elizabeth, Ngqura and East London) are under-utilised, some ports face much congestion. With the uniform cargo dues tariff structure in place, there is little incentive for port users to divert cargo from congested ports (like the Port of Durban) to the under-utilised ports. The uniform cargo dues tariff structure does not allow port managers to offer lower prices

in under-utilised ports to attract traffic and no ability to adjust prices to deal appropriately with congestion in congested ports, in the case where identical activities are offered. One may argue that prices are very unlikely to affect the port choice. For example Transnet attempted to induce carriers to divert cargoes by equalising rail rates between Port Elizabeth and Gauteng to match the shorter Durban-Gauteng rates, without apparent success. Such an attempt did not consider the value of time. For each port, pricing should take cognisance of factors such as port facilities, landside linkages, port location, port congestion and port utilisation.

### ***2.3.1 South Africa's Ports: Policy, Governance and Pricing***

Dramatic changes in the international shipping industry and an evolution in the perceived role of port services and facilities has consequently required ports to redefine and focus more intently on appropriate goals and associated port-pricing policies. Haralambides (2002: 2) argues that, “the pricing strategy of a port is dependent on the way the port is financed and, ultimately, on the ownership status of the port.” The way port investments are financed, that is, privately or publicly, bears the most upon the way port services are priced. A publicly owned port infrastructure does not have to recover – through price – investment costs and thus its prices could be quite low and competitive compared with a privately owned port that has to recover investment costs and, other things being equal, would thus be at a competitive disadvantage had it to compete with a public port (Haralambides & Veenstra, 2002).

The physical characteristics of a port often determine its traffic base, target markets and the consequential port tariff structure. The type of cargo handled in the port has a significant impact on both the form and complexity of the port tariffs. Bulk cargo, for instance, is homogeneous in type and in its requirements for cargo handling and the use of land transport. Thus, tariffs are quite simple and can usually be bundled into a single cargo-handling charge. Similarly, based on the principle that “a box is a box”, the handling of containerised cargo requires only one charge. Break-bulk cargo, on the other hand, is heterogeneous and requires more complex tariffs. If ports serve a mixture of cargo types and provide separate facilities for each, then tariffs can incorporate different rates for each type of cargo and its accompanying service and facility requirements (UNCTAD, 1992).

The structure of port tariffs is determined not only by the resources and services the port is offering, but also the objectives of the port in offering such resources or services (Arnold, 1985). Objectives are determined by port authorities, either by formal or informal consensus, or are set by government policy. Objectives of port management are most likely to differ according to the extent to which the port is under the control of public authorities and in active competition with other ports (Suykens, 1986 and Haralambides and Veenstra, 2002). Port objectives may also change over time due to changes in the surrounding environment. Some relatively common objectives for ports are, for instance: to provide the transportation infrastructure needed for the smooth transition for cargo moving between land and water modes, to promote the foreign and coastal trade of a nation/region or to promote regional economic development (UNCTAD, 1992).

Each port is unique and regardless of how it is developed and organised a port's main function is "to enable, hopefully in a safe and cost effective manner, the transfer of goods from sea to shore and vice-versa" (Haralambides & Veenstra, 2002: 783). By nature, a port is an interface between land and sea; a node in the transportation series; a point where cargoes switch transport mode. Cargo handling is thus a port's main business. According to Baird (1999: 1-2), there are three distinct and essential elements that must be fulfilled in ports. Firstly, there is a port regulator or authority whose responsibility it is to ensure that navigable approaches to the port are maintained and improved (conservancy function), monitor port performance, co-ordinate port policy with government policies, promote port facilities to users and safeguard port users against monopolies. Secondly, there is the port landowner. This duty involves the planning and implementation of port policies and development strategies, as well as the provision and maintenance of channels, fairways, breakwaters, locks, turning basins, berths, piers, wharves etc. Lastly, there is the port operator who handles cargo activities and may be involved in warehousing, storage and packaging functions and sometimes even towage and ship repairs. Port ownership refers to the ownership of these specific functions and, the basic function of the port determines the basic structure of tariffs.

There are three broad operating structures in ports; namely, Landlord, Tool, and Operating ports (UNCTAD 1992; Van Niekerk 1994; Juhel 1998; Jones 2003a; 2003b). Table 2.3 summarises the main characteristics of the three traditional types of ports.

**Table 2.3. Traditional Port Types and their Characteristics**

PORT TYPE	PORT AUTHORITY JURISDICTION OVER		
	Infrastructure	Superstructure	Cargo-handling operations
Landlord port	Yes	No	No
Tool port	Yes	Yes	No
Operating port	Yes	Yes	Yes

Source: Jones, 2003.

Landlord port: The port authority owns and controls the use of basic port infrastructure and land in the port area. It usually develops the land and leases it to operators (mostly on a long-term concession basis), who use it for cargo handling and other port-related activities, whilst still retaining all regulatory functions (Jones, 2008). The interface between private and public sector is consequently the quay edge.

Tool port: The port authority owns and controls traditional port infrastructure, as well as cargo handling superstructure (in the form of physical terminal structures and equipment) and heavy equipment, but leases out the operation of some or all of these to private operators to carry out commercial operations (Jones, 2003). The port authority retains all regulatory functions.

Operating port: The port authority owns and operates all port assets and provides all commercial services to ships and cargo using its own facilities, equipment and labour (Jones, 2003). In addition, it fulfils all regulatory functions. The public-private interface can be seen as the port perimeter fence.

Ports may be owned by a variety of bodies. For example, port ownership may be completely public (Singapore) or completely private (Hong Kong), or it may fall somewhere between the two. As such, these ports may have different objectives. If the port is a public body, the extent to which it acts as a source of revenue for public investment is an important issue. Overwhelmingly though, the worldwide choice has been to vest regulatory powers required to manage port

activities in a public port authority, while the commercial operators leasing or renting facilities are usually private companies (UNCTAD, 1992).

Table 2.4 shows a port function matrix. The matrix offers a conceptual framework to better understand four port models of regulation, ownership and operation. In a study of the world’s top 100 ports, Mouknass (2001) categorises 7 ports in model 1, 88 ports in Model 2, 2 ports in model 3 and the remaining 3 ports in model 4.

**Table 2.4. Port Function Matrix**

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
4. Private	Private	Private	Private
5. South Africa	Public	Public	Public & Private

Source: Chasomeris, 2011b.

Mouknass (2001) categorised South African ports under model 1. In reality, however, the distinction between these different types of ports is blurred and a port may not fit exactly into any one of these four categories. UNCTAD (2003: 28) explains that, “despite being State-owned, nearly all African ports, like the rest of the world, are undertaking reforms aimed at commercializing all port operations and promoting private sector participation.” Furthermore, State disengagement and public-private partnership has produced some benefits in ports in relation to export competitiveness, at the political level, as it has resulted to diminishing of costs and improvement of operational efficiency. UNCTAD (2003: 28) suggested that “the landlord



port option, whereby operations are run independently by an autonomous department, private operator and/or state owned operator, of the port authority, is thus the most appropriate solution for the majority of Africa's ports." Gumede and Chasomeris (2012) confirm that South Africa's ports model is unique. Chasomeris (2011b) proposed an extension to the port function matrix which should include Model 5, a South African Port Model. As mentioned, the port landlord in South Africa is the State-Owned Enterprise (SOE), Transnet National Ports Authority.

All commercial port business in South Africa is regulated by another government entity called the Ports Regulator of South Africa. Gumede and Chasomeris (2012) note Transnet and the Ports Regulator are independent of each other despite both being state owned. Transnet also act as a port operator as Transnet Port Terminals (TPT). Chasomeris (2011) notes that private operators have to compete with TPT for market share. Transnet also controls all freight rail business as Transnet Freight Rail (TFR) and pipelines, formerly known as Petronet. Several studies (Botes, 2006; Goode, 2007; Thompson, 2009; Chasomeris, 2011; and Gumede and Chasomeris, 2012) have criticised Transnet for their lack of transparency and information in their reporting. this lack of transparency and information has hindered regulation by the nascent Ports Regulator of South Africa (Gumede and Chasomeris, 2012). The current institutional structure has led port users to express discontent with port governance which includes player-referee concerns (as the private sector has to compete with TPT for market share), and monopoly power which prevents competition and promotes the complementary system of ports with a uniform cargo dues pricing system, that is, a single tariff book that applies to all eight commercial ports. Table 2.5 shows the market share and distribution between the public and private sector operators.

**Table 2.5. Public and Private Sector Market Share for Major Service Categories**

Service	TNPA	Port Operation	
		SOE - TPT	Private Sector
Marine services	100%		
Bulk cargo handling		37%	63%
Break-bulk cargo handling		78%	22%
Container handling		97 <sup>a</sup> %	3 <sup>b</sup> %
Car (on wheels) handling		100%	

Note:

- a. These figures are approximations based on testing actuals on a limited number of cargo terminal owners.
- b. The balance 3% excludes containers that move through the multipurpose terminals, as the majority are TPT run, thus analysis of private terminal operators indicates that private terminals handle only 3% of national container traffic.

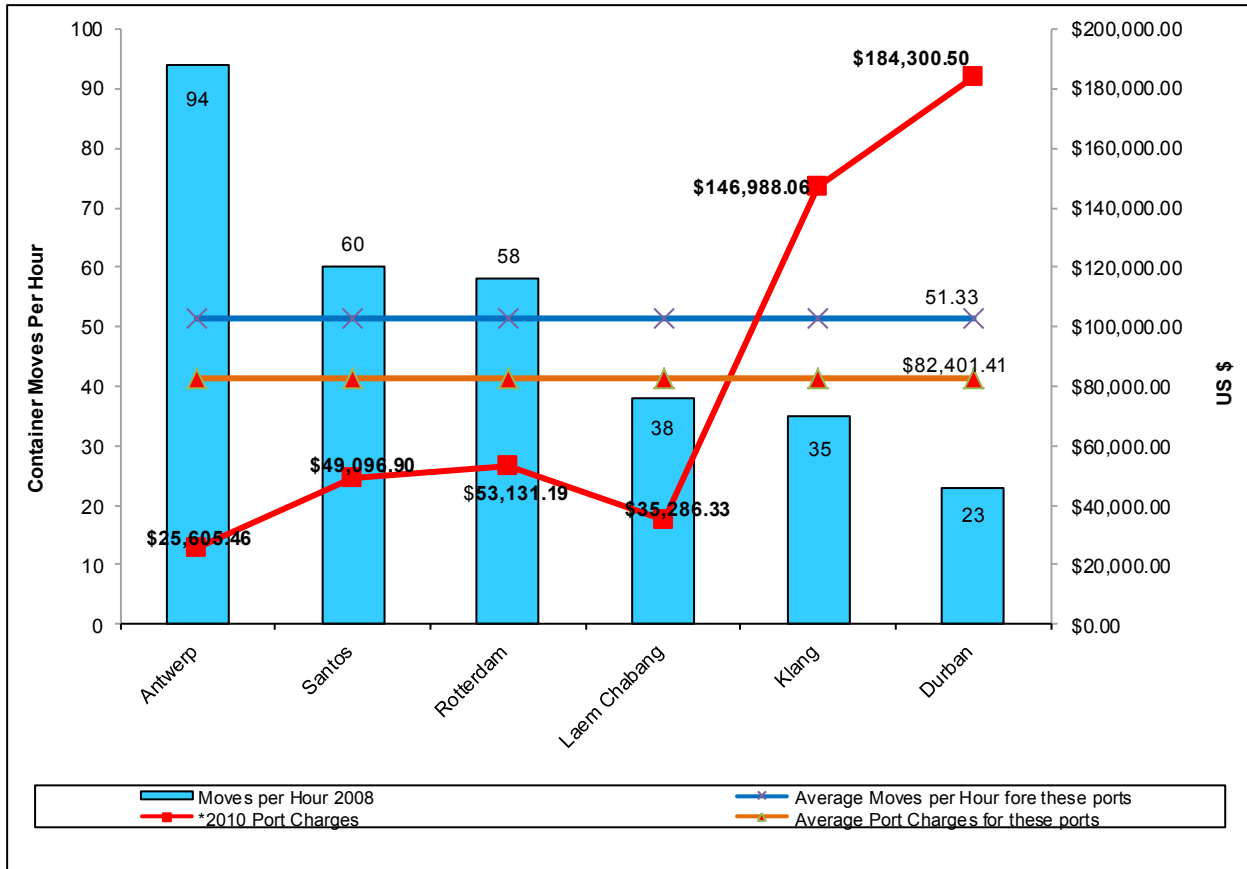
Source: Ports Regulator 2010:31.

With Transnet (TNPA) as the port landlord, high value operations (Cars, Containers and break-bulk) are dominated by Transnet (TPT), while private sector only dominate in low value operations (bulk). Transnet powers have limited international operators from entering the South African market (Notteboom, 2011). Notteboom (2011: 52) states that “while many argue that the powers of Transnet prevent competition, it creates an excellent environment for coordination among ports and between the ports and the rail system.”

Gumede and Chasomeris (2012) noted that South Africa is pursuing a democratic developmental state and the country’s state-owned enterprises are to play a vital role. The maritime sector is the

new focal point in South Africa. In his State of the Nation Address, President Zuma (2012) highlighted the importance of strengthening the maritime sector in this country. Edigheji (2005) confirms that in order for a democratic developmental state to be successful, a premium must be placed on the country's SOE's. Transnet (2010) believes that they are in line with the visions of the developmental state and thus have confidence that they will remain the dominant player with regard to owning and operating a certain part of the freight systems for many years ahead. Transnet (2010: 4) claims that they have "made significant strides over the past five years," and they have plans that include "creating additional capacity through efficiency improvements and expansion of the infrastructure network, attracting more cargo to rail and promoting intermodal solutions, developing a transshipment hub to overcome challenges of poor maritime connectivity both regionally and globally and developing a climate change strategy for the company." Zuma (2009) suggests that South Africa needs to involve the state-owned enterprises and Development Finance Institutions in both strategic planning and performance monitoring and evaluation in order to achieve the vision of the developmental state. Since South Africa is pursuing a democratic developmental state, "the port reform rhetoric in South Africa has clearly shifted from discussions on the potential concession of port terminals to discussions on public-private partnerships" (Gumede and Chasomeris, 2012: 92).

In 2010, the Ports Regulator of South Africa commissioned a port benchmark study; the study which sought to benchmark South African ports against other ports in the world. This study revealed that during 2010 South African ports were the most expensive ports but were very low in terms of performance (Ports Regulator, 2010). Figure 2.3 below is an example of the measures used in benchmarking South African container ports. In figure 2.3, South African ports are represented by the Port of Durban solely because Durban is South Africa's premier container port. The Ports Regulator (2010) and Chasomeris (2011) note that the Port of Durban handles about two thirds of the country's container volumes.



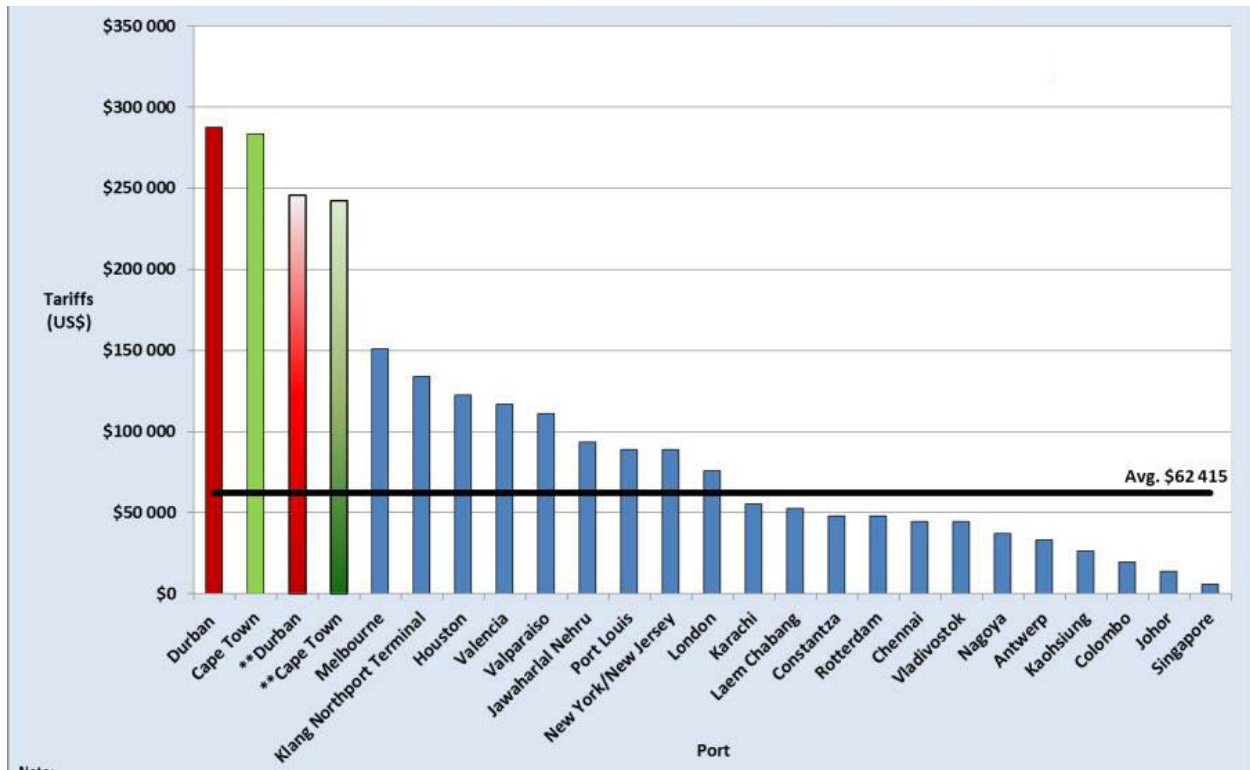
**Figure 2.3. Port Comparisons (pricing and container moves per hour)**

Source: Author compiled and generated from Ports Regulator, 2010a.

With regard to port charges, the 2010 Port benchmark study revealed that Port of Durban was leading with the price (\$184,300.50) that was more than twice the average port charges (\$82,401.41); the Port of Klang being the second, charging \$146,988.06; and the other four ports are charging relatively below the average, ranging from \$25,605.46 to \$53,131.19 (Ports Regulator, 2010a). When it comes to container moves per hour in 2008, where the maritime industry was facing a perfect boom, the Port of Durban was the lowest performing port, moving only about 23 container crane moves per hour (Ports Regulator, 2010a). The Port of Klang moves 35 containers, the Port of Laem Chabang moves 38, the Port of Rotterdam moves 58 and the Port of Santos moves 60. The leading port with regard to port performance was the port of Antwerp, moving about 94 containers in an hour. The Ports Regulator, however, might have

made a mistake in the calculations of container moves per hour for the Port of Antwerp. Duinkerken et al. (2002), Rankine (2003), Bryfors et al. (2006) and Smith (2012) proved that it is practically impossible for a port to achieve 94 crane moves per hour. Duinkerken et al. (2002) argue that well invested and automated ports can only achieve a maximum of about 70 crane moves per hour.

Notwithstanding the results of the 2010 port benchmark study, figure 2.4 shows that the 2012 port benchmark study revealed that South African cargo owners and logistics operators still face considerably higher container port costs than the rest of the ports surveyed in the study. The Ports Regulator (2012b) argues that such high container port costs are in contradiction to the national industrial policy which aims to incentivise the value addition for containerised cargoes. From figure 2.3 and figure 2.4, one can clearly identify that South African container port costs are approximately more than three times the world average container port costs, even after an introduction of the national cargo dues rebates. Figure 2.4 compares the 2012 port prices for the Port of Durban and Port of Cape Town (Both in South Africa), with twenty-one different ports around the world. Port of Durban and Port of Cape Town are ranked first and second respectively in terms of the amount of container movements in the country.



Note:

\*\*South African port price including 2012 cargo due rebates

**Figure 2.4. Container Port Pricing Comparisons**

Source: Ports Regulator, 2012b: 9.

The 2010 and the 2012 port benchmark study (Ports Regulator, 2010a; and 2012b) revealed a picture of South African ports that is inconsistent with the vision of the South African National Port Policy (2002). The vision of the South African National Commercial Port Policy seeks to create a South African commercial ports system that is globally competitive. South Africa’s ports system should be safe and secure, and it should operate efficiently at a level of international standards and in a method that supports the country’s economic growth (RSA, 2002). The

National Commercial Ports Policy of 2002 clearly states the vision of South Africa's ports system:<sup>2</sup>

“A system of ports, seamlessly integrated in the transport network, that is jointly and individually self-sustainable through the delivery of high levels of service and increasing efficiency for a growing customer base, enhancing South Africa's global competitiveness and facilitating the expansion of the South African economy through socially and environmentally sustainable port development” (RSA, 2002: 11).

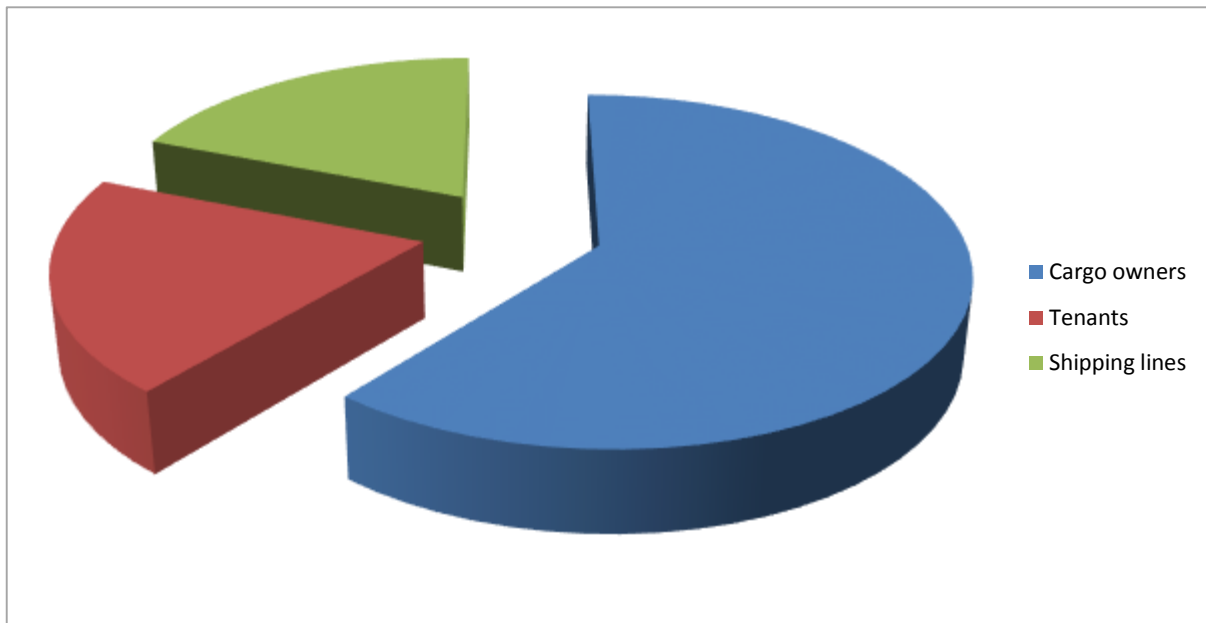
Additionally, the National Commercial Ports Policy (2002) suggests that the South African port system ought to serve the economy while also meeting the requirements of port users in an approach that is cost-effectively and environmentally sustainable. Jones (2002) notes that the South African transport sector, which includes the ports system has a long history of getting prices wrong which thus also resulted in a long history of misdirecting resources across and within transport modes. The vision of South Africa's port system thus seeks to rectify countless impairments in the history of port policy, governance, and also pricing. South Africa's port pricing strategy and the economic system at large were designed to promote export and import substitution (Chasomeris, 2011). Chasomeris (2011) confirms that South Africa's ports have experienced many pricing and performance problems. For a number of port functions, including marine infrastructure and service, maritime port prices in South Africa (prior to 2002) were set relatively lower than full cost recovery. Port dues, berth dues, tug charges and pilotage charges generated revenues which were also relatively lower than related costs. It is only cargo handling charges that were moderately closer to associated costs, even though these tariffs also fell short of full cost recovery.

The historical background of South African ports pricing reveals that South Africa was applying a value based, ad valorem wharfage, pricing system rather than a cost-based tariff structure. Several studies (Jones, 1998; Jones, 2002; Chasomeris, 2007; Goode, 2007; Chasomeris, 2011) note that in the old tariff book, ad valorem wharfage had long been the most provocative and the most bitterly resented tariff over the past fifty years. Chasomeris (2011: 6) notes “the high levels of ad valorem wharfage grossly skewed revenues in excess of costs.” Since the system of ad

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<sup>2</sup> The “system of ports” to which the vision refers includes all the existing commercial ports, that is, Richards Bay, Durban, East London, Ngqura, Port Elizabeth, Mossel Bay, Cape Town, Saldanha Bay, Port Nolloth, and offshore cargo handling facilities as well as all future ports and offshore cargo handling facilities to be constructed.

valorem was value based, it favoured low valued commodities even though commodities may be using identical infrastructure and port services. For example, consider for identical containers ad valorem was charged at 1.8% on imports and 0.9% on export. This difference is a reflection of the import substitution industrialisation strategy that was part of South Africa's freight system. Port wharfage tariffs were half the rate for exports than for identical imports. Unlike other top class world ports, which operate under extremely competitive environments, South Africa's ports were able to exercise their monopoly power and levied high wharfage charges due to the nonexistence of competition both inter- and intra -port. Maritime ports in South Africa were able to make profit which was ranging from 300 to 400 per cent (Jones, 2002 in Chasomeris, 2011). Due to this ad valorem system, wharfage was the main source of harbour revenue and thus skewed prices that significantly exceeded average costs leading to South African ports emerging as profitable entities (Jones, 2002 in Chasomeris, 2011). South African maritime ports are relatively cheap for ships but expensive for cargo owners. Figure 2.5 shows the distribution of TNPA revenue source.



**Figure 2.5. Distribution for TNPA source of revenue**

Source: Author compiled using data from Greve (2013 in *Engineering News*, 2013).



Tenants and shipping lines contribute about 20% each to TNPA revenue whereas cargo owners pay about 60%. Several studies (Jones, 1988; Jones, 2002; Chasomeris, 2011) have criticized such practices as they unnecessarily penalise cargoes and discourage the carriage of additional cargo which prejudices the main business of the port. Since the main function of a port is to act as an interface between land and sea modes of transport and thus the main business is to transfer cargo from the land to sea and vice versa, South Africa's port pricing should be making ports cheap for cargoes and relatively more expensive for ships (Chasomeris, 2011).

With this background it was then necessary to reform South Africa's maritime port sector. Chasomeris (2011) notes that the background history and the evolution of South Africa's ports provide port users with a rationale to appreciate the current maritime port policy, governance and pricing reforms. In 2002, South Africa's port system experienced a considerable port reform. It became necessary for ad valorem wharfage to be abolished in order to achieve a fairer, competitive and efficient pricing of ports. For the ports reform to be legislated, in March 2002, the cabinet approved the White Paper on National Commercial Ports Policy. The National Commercial Ports Policy's purpose was "to ensure affordable, internationally competitive, efficient and safe port services based on the application of commercial rules in a transparent and competitive environment applied consistently across the transport system" (RSA, 2002: Ministerial foreword). In May 2002, implementation of the National Commercial Port Policy was observed. Maritime port pricing moved from a value-based pricing, ad valorem wharfage charges, to a set of cargo dues pricing structure that was meant to be more cost-based (Chasomeris, 2011). Cargo dues are charged for the provision and the maintenance of the land infrastructure of the port which include quaywalls, buildings, railway, lighting, security, road and fencing (Chasomeris, 2011). Cargo dues are levied on a unit basis (set box rate) for containers and a tonnage (volume) basis for other forms of cargo. Other consequences of this transformation include the abolition of the previous injustice to high value cargoes and an attempt to re-aligned South African maritime port pricing to the standard international benchmark (Jones, 2002; Chasomeris, 2011). Chasomeris (2011) explains that, this major transformation in pricing system, from ad valorem wharfage to cargo dues, also endeavoured to limit the degree of cross-price irregularities and cross-subsidisation across cargo function and marine functions. Transport costs for high value cargoes became cheaper and for low value cargoes became more expensive (Chasomeris, 2007; Chasomeris, 2011; Goode, 2007).

With any reform there will always be gainers and losers. Those who had benefited from the previous, ad valorem wharfage, system had lost a great deal through the transformation. Hence, cargo dues system created a centre of attention with criticism from port users who were benefiting from the previous system, especially low-value exporters. The change in pricing process delinked pricing from the value of a cargo, thus potentially bringing pricing more towards a cost base. One can appreciate that the move from wharfage to cargo dues has decreased the proportion that this component has been contributing to the total income for Transnet National Ports Authority from 76% to 70% (Goode, 2007). However, cargo dues on containers are still not cost-based. The cost of loading and offloading a container using a crane is similar if not identical. However, cargo dues for imports are almost double those of exports for an identical container. This gives a sense that Transnet is still exercising preferential pricing for export promotion. Cargo dues are being charged even for an empty container. Table 2.6 shows cargo dues charged in South Africa, per container, for the period from 2001 to 2012.

**Table 2.6. Cargo dues per container, 2001-2012 (Rands)**

<b>Size</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>20' Imports</b>	1 398.00	1 480.00	1 510.00	1 540.20	1 555.60	1 610.05	1 682.50	1 796.07	1 942.23	2 028.08	2 119.14	2 177.63
<b>40' Imports</b>	2 796.00	2 960.00	3 020.00	3 080.40	3 111.20	3 220.09	3 364.99	3 592.13	3 884.44	4 056.13	4 238.25	4 355.23
<b>20' Exports</b>	668.00	735.00	750.00	765.00	772.65	799.69	835.68	892.09	964.68	1 007.32	1 052.55	1 081.60
<b>40' Exports</b>	1 336.00	1 470.00	1 500.00	1 530.00	1 545.30	1 599.39	1 671.36	1 784.18	1 929.37	2 014.65	2 105.11	2 163.21
<b>Empty</b>	-	50.00	51.00	51.00	51.51	53.31	55.71	59.47	64.31	67.15	70.17	72.10

Source: Author compiled using data from Goode, 2007 and Transnet National Ports Authority Tariff Books for, 2008 to 2012.

With cargo dues still remaining the major source of TNPA income, some considerable adjustments had to be instituted in 2002 in order for South African pricing to attempt to be more internationally acceptable. Table 2.7 shows the trend in South Africa's port charges from 1999 to 2012.

**Table 2.7. Percentage change in South Africa's port charges, 1999-2012**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2010	2011	2011	2012	2012
												*	**	*	**	*	**
Marine Services	9	7	10	25	11	11	3.6	4.5	5.6	7.5	8.14	10.62	4.42	11.91	4.49	18.06	2.76
Lights, Port & Berth dues	7	7	9	30	6.5	6.5	3.6	4.5	5.6	7.5	8.14	10.62	4.42	11.91	4.49	18.06	2.76
Wharfage to Cargo dues	W <sup>2</sup>	W <sup>2</sup>	-5 <sup>3</sup>	-8 <sup>3</sup>	2	2	1	3.5	4.5	6.75	8.14	10.62	4.42	11.91	4.49	18.06	2.76
CPIX to CPI <sup>1</sup>	6.9	7.7	6.6	9.3	6.8	4.3	3.9	4.6	6.5	11.3	7.2 <sup>1</sup>		4.3 <sup>1</sup>		5.0 <sup>1</sup>		5,6 <sup>1</sup>

Note:

1. South Africa changed from using CPIX to using CPI in 2009.
2. In 1999 and 2000, *ad valorem* wharfage was 1.78% for imports and 0.89% for exports. In 2001, it was reduced to 1.7% and 0.85%.
3. Overall weighted average reduction from wharfage to cargo dues.

\* Proposed Tariff increase

\*\* Actually Tariff Increase Allowed

Source: Author compiled using data from Chasomeris, 2011; Ports Regulator, 2012 and Stats SA, 2012.

In order for the transformation of maritime port pricing systems, once off adjustments became necessary. Marine services charges are user charges levied for a specific service, such as: berthing, pilotage, repair facility hire, safety services, towage and miscellaneous charges. Historically, marine services were charged below cost recovery and thus in 2002 we observe a major increase of twenty-five per cent on marine tariffs to realign with the acceptable sustainable pricing, and thereafter it followed the average tariff increment. Lights dues, port dues and berth dues are raised to cover water-side infrastructure at the port which include turning basins, aids to navigation inside the port, breakwaters and maintenance dredging of the port (Chasomeris, 2011). Since these dues were also charged way below cost recovery, to realign them we also observed a subsequent increase of thirty per cent in 2002, and thereafter it followed the average tariff increases. Since the ports reform in South Africa brought the transformation in pricing from ad valorem pricing to cargo dues, the overall weighted average effect in 2001 and 2002 brought about the reduction in the price charged for this category. Prior to that, ad valorem was charged at about 1.8% for the value of imports and 0.9% for the value of exports, although in 2001 it was reduced to 1.7% for imports and 0.85% for exports. The realignment in lights dues, ports dues, berth dues and marine charges helped to reduce the effects of intra-port cross subsidisation (Chasomeris, 2011). Chasomeris (2011) notes that, TNPA has confirmed that part of South Africa's efforts to improve pricing and competitiveness is targeting tariff increases that are below inflation. In the latest developments, from 2005 to 2012, a tariff increase is observed, on average, to be slightly below inflation. Only in 2009 and 2010 are the tariff increases slightly above inflation. Chasomeris (2011: 7) then concludes that, "the below inflation tariff increases have contributed towards a reduction in real transport costs that, in turn, may promote growth in South Africa's international trade".

Global competitiveness and pricing methods are just one aspect of the 2002 South African port reforms, other aspects are on ensuring a growing customer base and facilitating the development of South Africa's economic growth with environmentally and socially sustainable development. As a part of contributing to the country's economic development, there are a number of challenges that SOEs in South Africa have the potential to confront: "these challenges include a huge level of unemployment, skills shortages, increasing congestion, poor regional integration, weak maritime connectivity and the carbon intensity of the current system" (Gumede and Chasomeris, 2012: 91). For example, unemployment is a major predicament in South Africa.

With population of about 50 million people, a labour force of about eighteen million, the official unemployment rate in South Africa, using a narrow classification, is just above twenty-five per cent, and when using a broad definition, South Africa is sitting just above 36.5 per cent unemployment rate (Stats SA, 2012). The broad definition thus includes a number of above two million discouraged job seekers. For the youth alone, the unemployment rate is just above fifty per cent (Stats SA, 2012). In line with the historical port users' discontents, the previous institutional structure was unable to achieve the goals and the visions of the 2002 National Commercial Ports Policy. As an attempt for mediation, the National Ports Act (2005) brought about the creation of the National Ports Regulator of South Africa which was then established in 2007. According to the National Commercial Port Policy (2002) Transnet should inspire commercial discipline in maritime ports, and create an environment for efficiency benefits essential for maritime ports and users to turn out to be competitive in the global economy (National Commercial Ports Policy, 2002). As per the National Ports Act no. 12 of 2005, the main functions of the Ports Regulator of South Africa are:

- *“to exercise economic regulation of the ports system in line with government’s strategic objectives;*
- *to promote equity of access to ports and to facilities and services provided in ports;*
- *to monitor the activities of the National Ports Authority to ensure that it performs its functions in accordance with this Act; and also*
- *to hear complaints and appeals under the Ports Act. This mandate is to be exercised in accordance of Government policy with respect to commercial ports, as set out in the National Commercial Ports Policy.” (Ports Regulator, 2011).*

Gumede and Chasomeris (2012: 96) confirm that the “Ports Regulator of South Africa has the potential to address several of the historical governance issues.” However the Ports Regulator as an institution in South Africa is still young and needs to be strengthened and supported. It is arguably unhealthy to expect that the Ports Regulator who has a budget of about nine million rands should regulate an entity that has an asset-base which is above fifty billion rands (in 2011 prices). This current status is one hindrance for proper regulation in South African maritime ports. Another aspect that presents a hindrance to proper regulations is that Transnet’s lack of

information and transparency in their reporting. This is also inconsistent with the King III Report's codes of good standards of governance that all South African companies should comply with (Gumede and Chasomeris, 2012). Chasomeris (2011: 11) argues that, "port pricing issues that still need to be addressed include: the lack of port competition; the inefficient pricing across all eight commercial ports – contributing towards intra- and inter-port cross-subsidisation; the gross skewness of port revenues compared with costs; several unresolved product and industry specific issues with an unclear and partly unjustified port pricing methodology; and insufficient information provided by the Port Authority to allow for a fair assessment of individual tariffs."

The introduction of the Ports Regulator of South Africa has changed the whole institutional structure of the South African maritime ports system. For example, TNPA now must apply to the Ports Regulator for any price increases. The Ports Regulator then has to allow for industry comment and submissions from port users with regard to tariff increases applied for by TNPA. The Ports Regulator also assesses the application and whether or not it is in line with legislative objectives of the country including the National Ports Act and the National Commercial Ports Policy of the country and then makes a decision accordingly. Such process has been in effect from the 2010/11 tariff year. Chapter 4 provides the content analysis of the stakeholders' submissions.

### ***2.3.2 Port Evolution in South Africa***

Gumede and Chasomeris (2012) argue that commercial ports play a fundamental role in South Africa's transport chain and they may shape and stimulate the economic development and growth of the whole of the Southern African region. Hence, they should be treated as strategic entities operated on sound economic principles with an understanding that the role of the country's ports is not limited to the facilitation of trade only (Gumede and Chasomeris, 2012). Jones (2001) notes that the port- and maritime-related landscape of the southern African region changed dramatically and irreversibly between 1970 and 2000. A brief reflection on the evolution of South Africa's port policy, pricing and governance shows that, historically, commercial ports have reflected the political system along with its related and often undesirable market and industrial policies (Chasomeris, 2011).

Ports in South Africa have passed through various governance structures. Table 2.8 shows the evolution of South Africa's port governance and pricing reforms and how they have evolved through various structures of governance from 1833 to the present.

**Table 2.8. History of South African ports governance and pricing reforms**

<b>Duration</b>	<b>Organisation</b>	<b>Governance and Pricing attributes</b>
1833 – 1908	Autonomous Structure Pre-Union	<ul style="list-style-type: none"> <li>• The harbours were financially autonomous</li> <li>• Each port authority administered its own tariffs</li> <li>• Revenue generated as a result accrued to harbour administrations and was easily identifiable.</li> <li>• Inter-port competition was rife and promoted competitive tariffs.</li> </ul>
1909 – 1981	South African Railways and Harbours (SAR&H)	<ul style="list-style-type: none"> <li>• The unification of both the harbour and railway authorities.</li> <li>• The subsequent introduction of a uniform tariff structure brought to an end the prior inter-port competition.</li> <li>• The ports were supposed to be run according to sound business principles, generating enough revenue to remain self-sufficient, with the exception of providing preferentially cheap transport specifically for the agricultural and industrial sectors.</li> <li>• There was a large degree of cross-subsidisation from the surplus profits generated by harbour activities to cover the losses incurred by the railways.</li> </ul>
1982 – 1989	South African Transport Services (SATS)	<ul style="list-style-type: none"> <li>• The SATS Act of 1981 transformed SATS into a business enterprise belonging to the state.</li> <li>• The ports' physical capital, from an expenditure and</li> </ul>



		<p>revenue perspective, was controlled by SATS.</p> <ul style="list-style-type: none"> <li>• The Act also required that the “economic interest and the transport needs of the whole country” be taken into consideration, rather than just those of the agricultural and industrial sectors.</li> <li>• Although SATS reduced inter-modal cross-subsidisation that placed harbour profits in better perspective, there was still some surviving inter-modal and considerable intra-port cross subsidisation.</li> </ul>
1989 - 2007	Transnet	<ul style="list-style-type: none"> <li>• To commercialise the activities of SATS, a public company called Transnet was formed on the 1st November 1989, with government as the sole shareholder.</li> <li>• Transnet was the umbrella company, which maintained five divisions: Spoornet (rail); Portnet (ports); Petronet (pipelines); Autonet (roads); and South African Airways, all of which operated as separate companies.</li> <li>• Portnet had two conflicting objectives: firstly, it had to act as a port authority to safeguard public interest, and secondly to exploit its comparative advantage in the pursuit of its objectives.</li> <li>• In 2002, Portnet split into a landlord port authority (now called Transnet National Ports Authority and a port operator (now called Transnet Port Terminals). This was a result of the National Commercial Port Policy of 2002.</li> </ul>
2007 - Present	Transnet and Ports Regulator of South Africa	<ul style="list-style-type: none"> <li>• The Ports Regulator of South Africa was established under the provision of National Ports Act of 2005 which objectives are to: <ul style="list-style-type: none"> <li>○ Develop an effective and productive port industry for economic growth and development</li> <li>○ Promote and improve efficiency and performance in</li> </ul> </li> </ul>

		<p>the management and operations of ports.</p> <ul style="list-style-type: none"> <li>○ Promote the development of an integrated regional production and distribution system in support of government policies</li> <li>● Although both Transnet and Ports Regulator are state owned entities, they are independent of each other.</li> <li>● Since 2010/11 TNPA has to apply for tariff increases annually to the Ports Regulator.</li> <li>● Ports Regulator allows for industry comments on the TNPA tariff application and TNPA's responses to those comments and then makes a decision.</li> <li>● TNPA has developed Port Rules in terms of section 80(2) of the National Ports Act “for the control and management of ports and the approaches thereto and for the maintenance of safety, security and good order in the ports”. Port rules came into effect on 6 March 2009.</li> </ul>
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Source: Gumede and Chasomeris, 2012: 85-87.

South African port governance and institutional structures “have evolved from the Pre-Union autonomous structures (1833 – 1908) to the South African Railways and Harbours (SAR&H) (1909 – 1981) to the South African Transport Services (SATS) (1982 – 1989) and to Transnet from 1989 till the present” (Gumede and Chasomeris, 2012: 93). In 2007, however the current institutional structure was modified by the establishment of the Ports Regulator of South Africa. During the pre-Union era of autonomous structure, there was no national coordination of the system of ports. SAR&H then introduced a system that was coordinating the country’s transport. The operational and the pricing system of rail and harbours across the country were then unified; operating with business principles but with exceptions of preferential cheap transport for certain sectors. Huge levels of cross-subsidisations were observed. In 1981, the cabinet approved South African Transport Services Act, which then established SATS: “SATS was thus to operate the ports according to business principles, with no exceptions” (Chasomeris, 2007: 102). However

SATS faced a number of hindrances in achieving its mandates. One of the hindrances was the uniform tariff structure which was not cost-based and disregarded commercial dissimilarities between South African ports (Chasomeris, 2007). Chasomeris (2007) notes that, the uniform tariff structure resulted in considerable inter-port cross-subsidization. In 1989, the cabinet decided to commercialise all the SATS businesses and thus formed an SOE called Transnet. Port users perceived Transnet, being commercial, could misuse its monopoly power. Chasomeris (2007: 102) notes that the white paper has acknowledged that, “having a national ports authority function as part of a transport company has resulted historically in the formation of several undesirable conditions that have detracted from the primary purpose of ports, skewing prices, misallocating port revenues and creating suspicion in the maritime and transport industries about the impartiality of the port entity within a transport company.”

From the evolution in port governance and pricing, one can clearly conclude that South Africa has not yet fully achieved her objectives. There are still issues that still need to be confronted. Chasomeris (2007) argues that South Africa’s port environment is not in line with the standards of international best practice and also inconsistent with the visions and the goals of the country’s policies; which include ideals of economic development and growth through export alignment and re-integration of South Africa into the international economy.

#### **2.4 Port Doctrine: Ownership, Financing and Pricing**

The South African maritime sector has the potential to contribute to and to reshape the economic development of the Republic of South Africa. In the benchmark study commissioned by the Ports Regulator of South Africa in 2010, out of twelve ports, container handling at South African Ports were generally classified as being least efficient while being most expensive. Jones et al (2010); and Radelet and Sachs (1998) have proven that a high port tariff discourages trade and thus hinders economic development. In addition, the South African ports structures have displayed monopoly power which prevents competition and promotes the complementary system of ports with a uniform cargo dues pricing system, that is, a single tariff book that applies to all eight commercial ports (Gumede and Chasomeris, 2012).

Maritime ports across the globe are not homogeneous. Haralambidies (2002: 2) explained that, “the pricing strategy of a port is dependent on the way the port is financed and, ultimately, on the

ownership status of the Port.” The port should adopt a port doctrine that would not be inconsistent with the economic policy, governance and pricing objectives. Different ports across the globe are unique and there is no simple “one size fits all” approach that can be applied to port systems (Gumede and Chasomeris, 2012). Strandenes and Marlow (2000) note that maritime ports differ in terms of activities, resources and services they offer to port users, although offering a mix of all three. Gumede and Chasomeris (2012) argue that, it is paramount to take into account the vision, economic and political context that the maritime port is operating under before applying a particular port strategy. TNPA (2009b: 11) reiterated that “a straight comparison, without including complex issues such as the exchange rate, country labour costs, country port funding, government support to ports, etc., does not provide for an accurate comparison.” It is imperative that the South Africa’s ports establish their own clear governance, operational and pricing principles that will not be inconsistent with its ports policy and, vision. In an attempt to conceptualise the diversity of maritime port policy, governance and pricing, Bennathan and Walters (1979) identified two popular doctrines that are present in the world’s ports. Although they may be operating under different conditions, maritime ports are either operating on a European (Continental) doctrine or on an Anglo-Saxon doctrine (Bennathan and Walters, 1979). Lee and Flynn (2011), however, point out features in most of Asian ports that cannot be found in the two historical doctrines. Lee and Flynn (2011), further propose that the Asian doctrine should also be adopted as a third ports doctrine. Table 2.9 better describes the features in the two contesting doctrines.

**Table 2.9. European (Continental) Doctrine vs. Anglo-Saxon Doctrine.**

European (Continental) doctrine	Anglo-Saxon
Maritime ports should be part of the social infrastructure of a national economy or whole region.	A maritime port should stand on its own.
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.	The Anglo-Saxon doctrine evaluates port performance mainly on the profitability of the port.
Profitability is not necessary.	At least, the port should not incur a loss and at best should earn a reasonable profit.
European prices facilitate the economic growth of the port's hinterland.	The main rationale for investment proposals and tariff policy is that they make money.
Maritime port investment decisions are not made based on profitability (or cost recovery) at the enterprise level.	Attempt to ensure that ports cover their costs and, make a profit irrespective of the effects on the wider local economy.

Source: Author compiled using data from Bennathan and Walters, 1979; Strandenes and Marlow, 2000 and Lee and Flynn, 2011.

On the one hand, a port under the European (Continental) doctrine shall pursue the direction of the development of the national and or the regional economy; hence, it is usually constructed under the auspices of public funds (Lee and Flynn, 2011). Lee and Flynn (2011) note the typical expected benefits for the Continental doctrine which include: lower transportation costs, job creation in the course of port construction and also multiplier impacts for social welfare. On the other hand, the Anglo-Saxon doctrine does not pursue objectives of the regional or of national interests. Such a doctrine views a port as a mere gateway for international trade. Lee and Flynn

(2011: 793) argue that the Anglo-Saxon doctrine “requires port developers to evaluate port development on the basis of commercial cost accounting so that port charges should be borne by port users to meet investment hurdle rates required by investors.” Under the Anglo-Saxon doctrine, ports are operated under pure business principles, and thus, in practice, port prices will be expected to be higher than those in the European doctrine. Lee and Flynn (2011: 793) argue that “such higher port charges of the Anglo-Saxon approach would in theory lead to lesser port competitiveness compared with ports under the European Doctrine.” Investors in the Anglo-Saxon doctrine usually require higher rates on returns of their deployed capital, normally under a short period of time, and hence, consequently implementation of large port developments may be hindered (Lee and Flynn, 2011). Cross-subsidisation is more likely to happen under the European doctrine than under the Anglo-Saxon doctrine, especially with the expansion of ports and development of new maritime ports.

In Asian ports, however, neither of the two prominent doctrines are sufficient to describe the success of major developments for Asian container ports (Lee and Flynn, 2011). Lee and Flynn (2011) argue that legendary Asian maritime hub port developments like Busan, Pelepas, Singapore, Tanjung, Shanghai (Yangshan) and Kaohsiung have neither followed the European doctrine nor the Anglo-Saxon doctrine. Lee and Flynn (2011) note that the central government’s multi-dimensional roles have been the driving force of the Asian maritime ports. In most Asian ports the central government has been the sole role player from port investor, port designing, port developing, port operating, price-making, and port mediator (Lee and Flynn, 2011). Lee and Flynn (2011) note that the function of eminent Asian maritime ports is extremely closely interconnected to the national economic development and they play a role in government strategies to achieve economic development plans. Asian ports are regarded as fundamental infrastructure for the respective country’s economy and also a “helping hand” for international trade. Lee and Flynn (2011: 796) state that “the Asian Doctrine contends that port assets and related infrastructure should be in the public sector to avoid the risk of monopolization by private firms, and sea ports should be regarded as fundamental assets of and national security for the national economy.” Lee and Flynn (2011) identify the following eleven elements of the Asian doctrine which are not featured in the Anglo-Saxon doctrine and or the European doctrine.

**Table 2.10. Asian Doctrine**

Port Element	Description
1. Central government is a multiplayer at opening stages.	At the opening junctures, the central government wears several caps like policy making, port designing, investor, and port manager.
2. Central government is the prime port investor.	Central government is the prime investor of port infrastructure such as land purchase, dredging, breakwaters and connecting rails and roads. The state may well encourage private investment and participation beyond the initial stages of port development.
3. Central government control port policy and pricing at opening stages.	At opening junctures, the central government solely control port authority to govern overall port policy and pricing, and then devolve to the control of local government as the system matures.
4. Central government controls landside activity.	Central government also controls landside activities through their integrated national planning although there is an involvement of local and regional authorities.
5. Central government controls customs administration.	Central government facilitates cargo clearance process although different part of the government controls customs administration which can be fragmented geographically.
6. Central government fund special economic zones.	Central government generally fund the establishment of special economic zones for manufacturing or distribution near the ports to generate cargoes, with a number of inducement policies based on regulation and/or special law.
7. No private sector monopoly.	No monopoly position can be provided to the new private terminal operators in the port.
8. Expansion ahead of demand.	Monopolistic pricing is generally avoided by port capacity expansion which is done well ahead of demand for port services, although popular infant industry opinions are normally applied to all ports.

9. The Port is viewed as a communal overhead.	To counterbalance deficient capital accumulation by local government and private sector, central government allocate financing goals to national economic goals, and thus maritime port infrastructure is viewed as communal overhead capital.
10. Central Government retain control over port authorities.	To keep control of stable economic growth and to keep track of national price levels, central government retain control over the port authority in governing overall port pricing.
11. Cross-subsidisation exists for new investments.	For port expansion and or new additional ports, central government employs huge levels of cross-subsidisation.

Source: Author created using data from Lee and Flynn, 2011.

**2.5 Conclusions**

This chapter provides both a theoretical and practical understanding of the historical South African port users’ discontents, evolution of port pricing in South Africa, South African policies on maritime port pricing, and the evolution in global port policy and pricing that includes an understanding of traditional maritime port doctrines.

The structure of port tariffs depends on what services and facilities the port offers to its users and the structure of port governance and investments. Vessel owners and the cargo owners are two important groups of stakeholders in the port. The services and facilities that the port provides can thus be divided into two complementary groups, marine functions and cargo functions. The physical characteristics of a port often determine its traffic base, target markets and the consequential port tariff structure. Each port is unique and regardless of how it is developed and organised a port’s main function is “to enable, hopefully in a safe and cost effective manner, the transfer of goods from sea to shore and vice-versa” (Haralambides & Veenstra, 2002: 783). Port prices are an important consideration in the provision of these services and forms one of the cornerstones upon which the wider strategic plan of the port is built. Button (1993: 122) states that, “there is no such thing as the ‘right’ price but rather there are optimal pricing strategies



which permit specified goals to be obtained.” Strategic port pricing requires a consideration of the port’s planning and development philosophy, its investment criteria and its overall goals.

South Africa’s port system is distinct. South Africa’s ports employ complementary systems with a uniform cargo dues tariff structure that is applied across all South African ports. South Africa’s ports could not be categorised in the common conceptual framework of the port function matrix. South Africa’s ports are regulated by the state-owned Ports Regulator, owned by state-owned TNPA and operated by state-owned TPT and other private port operators. TNPA and TPT are both under the umbrella company Transnet. Although Transnet and the Regulator are both state owned, Gumede and Chasomeris (2012) note that they are independent of each other.

Unlike other ports internationally, where the municipal or state budget fund some port capital investment, the income generated by TNPA “is used to maintain basic port infrastructure, provide current and future port infrastructure, maintain and provide the current and future marine fleet, and maintain and provide current and future ship repair facilities” (TNPA, 2012: 16). In an attempt to improve ports in South Africa, ports have evolved through various governance and pricing structures and principles. Port evolution in South Africa provides an opportunity to appreciate the current institutional structure, however, it has not been able to abolish all of the port users’ discontents. Different ports across the globe are unique and there is no simple ‘one size fits all’ approach that can be applied to port systems. Application of a clear maritime port doctrine may be a solution to the port policy, governance and pricing dilemma in South Africa. Ports differ in terms of activities, resources and services they offer to port users, although offering a mix of all three. It is paramount to take into account the vision, economic and political context that the port is operating under before applying a particular port strategy, and thus, it is imperative that the ports system identify its own clear doctrine that would be consistent with its policies and vision.

Chapter three outlines the research methodology employed in this dissertation.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

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#### **3.1 Introduction**

This chapter will discuss the method and the techniques that were used to conduct the research. . The Free Dictionary (2012: 1) defines research as “the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions”. Methodology is defined as “the analysis of the principles of methods, rules, and postulates employed by a discipline” (The Free Dictionary, 2012: 1). Nunamaker and Chen (1990: 1) then define research methodology as “the application of scientific method to the complex task of discovering answers (solutions) to questions (problems).”

This chapter proceeds by discussing the need of the study and outlining research aims and research questions in 3.2. Section 3.3 discusses the two main categories under which research can generally be categorised, namely, qualitative and quantitative. Section 3.4 discusses the research method employed in this dissertation. The data selection and reliability as well as the method of analysing employed are also discussed.. Section 3.5 concludes the chapter.

#### **3.2 Need for the Study, Research Aim and Research Questions**

This study aims critically to examine perspectives of the stakeholders on maritime port pricing in South Africa. More specifically, the study analyses the TNPA tariff applications, the stakeholders’ responses, as well as the Ports Regulator’s record of decisions for 2010/11, 2011/12 and 2012/13 tariff years. In an attempt to find the best way forward for pricing of ports in South Africa, the specific research questions are as follows:

- What are the perspectives of the stakeholders on South African port pricing?
- What are the reasons, rationale and arguments proposed by TNPA that support the large increases in port tariffs?
- What are the strengths and weaknesses of the TNPA tariffs proposals for 2010/11, 2011/12 and 2012/13 tariff years?
- What are the significant issues raised in the stakeholders’ submissions?

It is imperative that the researcher select a research methodology and an approach that would be directed towards the successful finding of solutions to the above research questions. Jackson (1995) argues that research methods are predominantly differentiated into two categories, namely, quantitative research and qualitative research.

### **3.3 Quantitative and Qualitative Research**

Van Biljon (1999) notes that the researcher must specify whether the research project is more qualitative or quantitative in nature. Several studies (Mouton and Marais, 1992; Leedy and Ormond, 2001; Africa, 2006) define quantitative research as the one that is more formalized and more unambiguously controlled and with a range which is more precisely defined, and reasonably closer to the physical sciences than the qualitative research method. Leedy (1999) suggest that, if a researcher believes;

- That there is an objective reality that can be measured;
- That they are familiar with quantitative studies;
- That the research covers a lot of breadth;
- That there is a short period of time available,
- That the researcher's ability or desire to work with people is relatively low;
- That the researcher's preference for standardized structure is very high; and
- That the researcher is highly skilled in statistics and deductive reasoning, and technical and scientific writing

then the researcher should opt for a more quantitative research approach. If on the other hand

- the researcher is more skilled in attentive and inductive reasoning, literacy, narrative writing skills;
- the researcher believes that there are multiple constructed structured realities;

- The researcher is familiar with qualitative studies;
- The research question is exploratory or interpretive, with limited or missing literature;
- The focus is on an in-depth study, with a relatively long time available;
- The researcher's ability/desire to work with people is relatively high and the preference for standardized structure is relatively low

then the researcher should opt for the qualitative research approach (Leedy, 1999). Table 3.1 tabulates the differences between quantitative research and qualitative research methods:

**Table 3.1. Differences Between Qualitative and Quantitative Research Methods**

<b>Quantitative Research</b>	<b>Qualitative Research</b>
Hypotheses are explicitly formulated and stated.	Hypotheses are itemized in the procedure of research objectives.
Concepts are in the method of different variables and have explicit meanings.	Concepts can be in the form of classifications, motives, or themes and can be deduced in numerous ways.
Measures are systematically created and standardized before data collection.	Measures are not systematic and created in an informal manner.
Data are usually in the number format from measurements.	Data are in word format from observations, documents, transcripts or analysis.
Theory is immensely untailed and it is deductive.	Theory can be untailed or recognized and it is frequently inductive.
Procedures are customary and replication is anticipated.	Procedures are individual and replication is extremely rare.
Analysis occurs by using statistics, charts or	Analysis occurs by extracting themes from

tables and discussing what or how they show a relationship to hypotheses.	evidence and organising data to present a coherent consistent picture.
---------------------------------------------------------------------------	------------------------------------------------------------------------

Source: Author compiled using data from Van Biljon, 1999: 38; Africa, 2006: 68.

Clearly, the two research methods differ in terms of hypotheses, measures, concepts, data collection, procedures, theory used, and analysis. In practice, these methods are not necessarily contesting. Africa (2006), confirms that it is of great benefit and not inappropriate to use a combination of both methods although expertise, resources and time may be the major constraints in most cases.

### **3.4 Research Method Employed**

Although this study uses some elements of quantitative research approach, it mainly employs a qualitative research approach. The study uses content analysis to analyse stakeholders' perspectives on maritime port pricing in South Africa as well as TNPA's maritime ports tariff increment proposals, the Ports Regulator's Record of Decisions (ROD) and TNPA's response to the Ports Regulator's ROD. Content Analysis is "a systematic, research method for analysing textual information in a standardized way that allows evaluators to make inferences about that information" (Crowley and Delfico, 1996: 6). A study by Colorado State University (2012) confirms that a researcher may use content analysis as a research tool to establish the existence of certain concepts or words within texts or sets of texts. Mouton (1996) confirms that content analysis may be used for secondary data in a textual form. With content analysis, researchers enumerate and scrutinize the existence, connotations and relationships of such concepts and, words then make assumptions about the messages conveyed by the writer/s, the texts, the culture, and even the audience and time of which these are a part (Crowley and Delfico, 1996 and Colorado State University, 2012). For this study, content analysis will be appropriate because it evaluates documentation which provides a context rationale with descriptions. This dissertation analyses the content of texts in documents thematically. Holsti (1969) argues that content analysis should be used if a researcher desires to make extrapolations about the backgrounds of

communications, to describe and make implications about the physiognomies of communications, and to make interpretations about the significances of communications. Content analysis seeks to make interpretation in communication as it clarifies the six questions of; who, why, how, what, to whom, with what effect (Holsti, 1969; Krippendorff, 2004). Full documentation limits the possibility of researchers omitting important points, purposely or unconsciously. In this way prejudice can be limited throughout data collection (Crowley and Delfico, 1996). In addition, content analysis is appropriate because this dissertation deals with vast volume of content, ranging from one page to one hundred and sixty-three page documents that need to be analysed in order to extract the most important themes and perspectives on port pricing in South Africa.

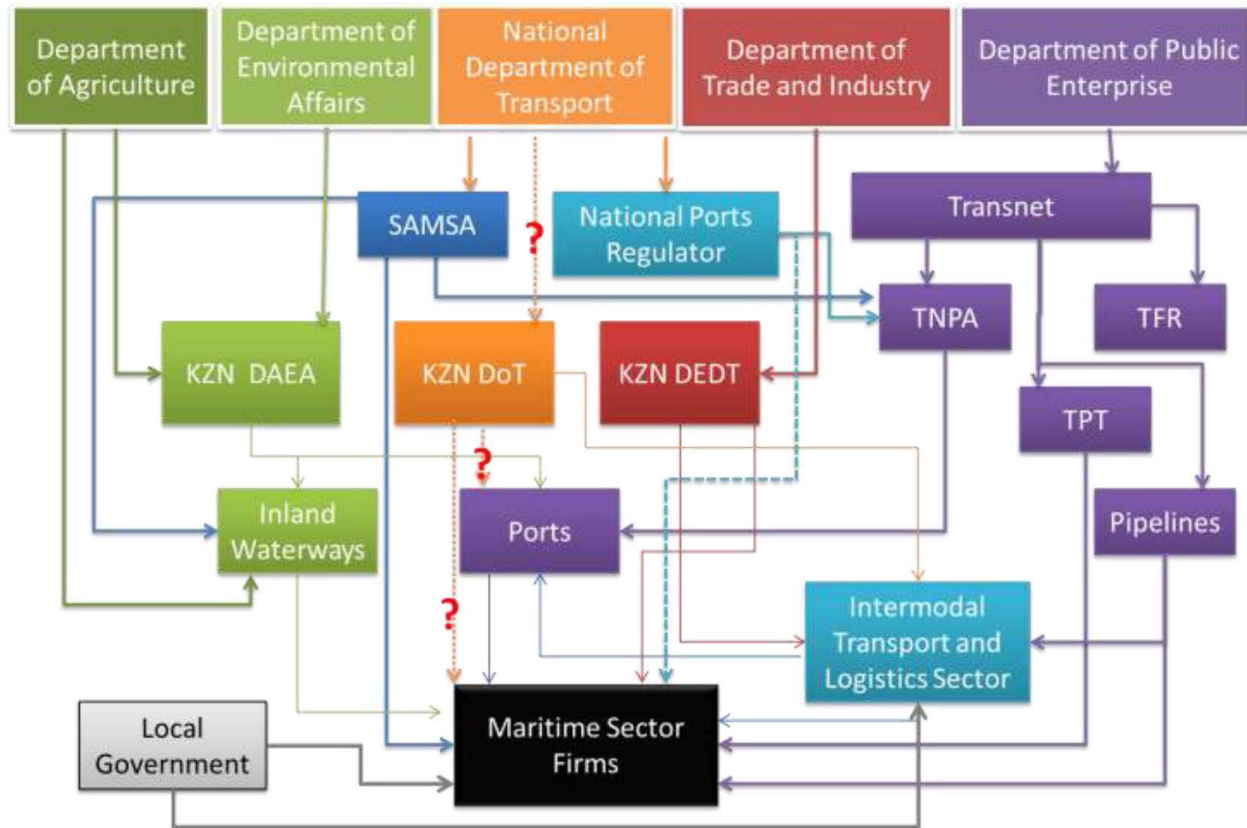
The study also uses descriptive statistics to analyse the annual trends in port pricing in South Africa over the years 1999 to 2012. In addition, the study contrasts and compares the various stakeholders' perspectives on South African ports policy, governance and pricing. The study further compares and contrasts contemporary practice in South Africa's ports against the three port pricing doctrine identified in the literature, specifically, the Anglo-Saxon, the Asian, and the European doctrine to identify a better way forward for South Africa.

#### ***3.4.1 Data Selection and Reliability***

The study uses purely secondary data. Although some of the data are in numbers, the bulk of the data are in the form of words from documents, transcripts and analysis. The data used is in the public domain; publicly available from Statistics South Africa, TNPA and the Ports Regulator of South Africa. Krippendorff and Bock (2007) argued, for the reliability tests, a content analyst should verify that data are not the result of inauthentic causes. Likewise, data used in the study represent port users' views with regard to port pricing in South Africa. The data and perspectives are submitted by the port users in order for the Ports Regulator of South Africa to make a decision about port tariffs for the period concerned.

Each year TNPA is required to apply to the Ports Regulator of South Africa for the approval of ports' tariffs. The Ports Regulator therefore invites ports' stakeholders to submit their perspectives on port pricing and their take on TNPA's application. This study uses the whole

population of the three years of TNPA tariff increment applications, Stakeholders' submissions/comments to the TNPA Application, Ports Regulator's and TNPA's Response to the ROD. For three tariff years stakeholders of the South African maritime ports have been expressing their views on port pricing in South Africa. These views require further assessment to find the best way forward for South Africa in terms of port governance and pricing. For the 2012/13 financial year 15 stakeholders submitted non-confidential comments, 30 for 2011/12 and 3 for 2010/11. These submissions are made in the prior tariff period. For example, submissions for 2010/11 tariff year are made in 2009, 2011/12 submissions are made in 2010 and 2012/13 submissions are made in 2011. However the Ports Regulator publishes its decision shortly before it becomes implemented. For example, the decision for the 2010/11 tariff year is made in 2010, likewise 2011/12 tariff year's decision is made in 2011 and 2012/13 tariff year's decision is made in 2012. The tariff year commences annually on the first day of April and tariffs may remain in place until a new decision is made by the Regulator. These stakeholders are not the total population for maritime stakeholders. The South African maritime sector has a complex structure of stakeholders. Figure 3.1 shows an organisational complexity of maritime stakeholders in South Africa and specifically, the KwaZulu-Natal province. The majority of stakeholders that submitted their perspectives are from maritime sector firms.



**Figure 3.1 Organisational Complexities for South African Maritime Sector**

Note: ? = There is no direct link currently.

Source: Urban-Econ (2012)

Although ports are controlled nationally, in each province they deal with a different government structure. Each port is situated has a municipality. The local municipalities and their respective provincial governments must comply with the national legislature. Such structures have some level of influence which affects the smooth running of the respective port(s). Since South Africa is a major sea-trading nation and ports are the backbone of maritime trade, the population for maritime sector stakeholders is large. It is practically impossible, therefore, to determine accurate figures. Nevertheless the submitted perspectives are the publicly available perspectives that the Ports Regulator considers when making a decision. Furthermore, Mouton (2006) confirms that sampling is impossible to do if a researcher employs secondary data analysis.



### 3.4.2 Data Analysis

This dissertation uses a thematic approach in analysing stakeholders' concerns. The study extracts the main stakeholders' concerns, codes them into different themes and analyses the frequency distribution of stakeholders' concerns. Table 3.2 exhibits a table heading for the table used in extracting a summary of the stakeholders' perspectives on port pricing in South Africa, 2009 to 2011.

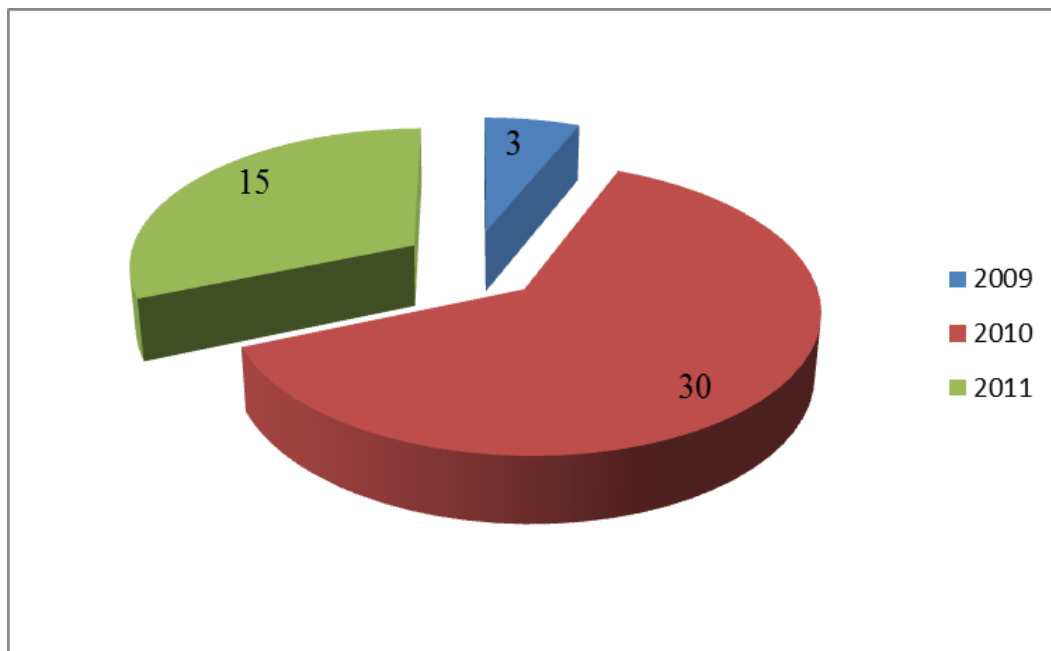
**Table 3.2 Summary of the Stakeholders' Submissions on Port Pricing in South Africa, 2009 to 2011**

Stakeholders Concerns	Number of submissions			
	2009	2010	2011	Total
	3	30	15	48

Source: Author created.

There is no particular structure that the stakeholders are required to follow when they forward their perspectives. Hence, stakeholders determine their own structure and their own format. These formats and structures are dissimilar for each stakeholder and for each submission. Because of such variety in the structure and formatting, each stakeholder's submission largely represents port pricing concerns that directly affect that particular stakeholder.

Figure 3.2 shows the scedasticity of the number of submission as submitted by stakeholders in 2009, 2010 and 2011



**Figure 3.2 Stakeholders’ Submissions to the Ports Regulator in 2009, 2010 and in 2011**

Source: Author compiled using information from Ports Regulator (2012b)

There were a total of three publicly available submissions submitted in 2009, thirty submitted in 2010 and fifteen in 2011 which makes a total of forty-eight. The current tariff process was introduced in 2009 for the 2010/11 tariff year. At that stage, most stakeholders were not aware of such a process. As a result, the Ports Regulator only received three stakeholders’ submissions. The highest number of stakeholders’ submission was in 2010 as the information about the tariff process was better communicated than in the previous year. The decline in the number of stakeholders’ submissions in 2011 was partly due to the fact that some stakeholders operating in a similar industry opted to submit their perspective as a collective. For example, in 2010 General Motors South Africa (GMSA), Mercedes Benz and the National Association of Automobile Manufacturers of South Africa (NAAMSA) submitted three different perspectives whereas in 2011, the perspectives submitted by NAAMSA also represented the views for GMSA and Mercedes Benz. Likewise, the eThekweni Maritime Cluster (EMC), South African Association of Freight Forwarders (SAAFF) and South African Association for Ship Operators and Agents (SAASOA) opted to commission the members of the School of Economics and Finance at the University of KwaZulu-Natal to compile a single report which would represent their

perspectives. Separate submissions made by SAAFF and SAASOA are additional to the combined report.

A total of thirty-five stakeholders participated in the tariff process in the period covered in this dissertation. Twenty-four of these stakeholders have only submitted perspectives for one of the tariff years, nine submitted for two of the tariff years and three submitted for the whole three tariff periods. The sample size used may seem like representing a minority, considering the estimated number of direct stakeholders. However, the majority of stakeholders participating in this tariff process represent several numbers of port users. For example SAASOA represents the population of the ship operators and agents in South Africa, SAAFF represents the population of the freight forwarders in South Africa, SAPIA represents the population of petroleum firms in South Africa, and NAAMSA represents the population of automobile manufacturing firms in South Africa.

Seventeen themes on stakeholders' concerns were extracted from 48 stakeholders' submissions. Most of these themes represent the discontents that have consistently been submitted throughout the period of this study. Furthermore, the literature review of this study suggests that some of the current discontents have been articulated in the past by port stakeholders in South Africa. Chapter 4.2 present the content analysis of the current stakeholders' concerns.

### **3.4.3      *Ethical Considerations***

All ethical issues were considered in this study. The study proposal was submitted and presented to the Graduate School of Business and Leadership, University of KwaZulu-Natal and the University of KwaZulu-Natal approved the study and granted an ethical clearance certificate (see appendix 2).

### **3.5 Conclusion**

South Africa's ports have a potential to contribute to and reshape the economy of this country, however, they are generally considered as being among the most expensive ports in the world

and at the same time they are among the least productive ports. This study aims critically to examine perspectives of the stakeholders on maritime port pricing in South Africa. This chapter therefore discussed the method and the techniques that were used to conduct the research and the justifications chosen.

This study has elements of both quantitative and qualitative research. The study uses content analysis to analyse stakeholders' perspectives on maritime port pricing in South Africa as well as TNPA's maritime ports tariff increment proposals, the Ports Regulator's Records of Decisions (ROD) and TNPA's response to the Ports Regulator's ROD. The study also uses descriptive statistics to analyse the annual trends in port pricing in South Africa over the years 1999 to 2012. The data used is in the public domain. Stakeholders' concerns are discussed thematically.

The study further compares and contrast contemporary practice in South Africa's ports against the three port pricing doctrines identified in the literature, specifically, the Anglo-Saxon, the Asian, and the European doctrines to identify a better way forward for South Africa.

The results of analysis and discussions of perspectives on port pricing in South Africa as mentioned in this chapter are presented in chapter four.

## CHAPTER FOUR

### ANALYSIS AND DISCUSSIONS OF PERSPECTIVES ON PORT PRICING IN SOUTH AFRICA

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#### **4.1 Introduction**

This chapter presents the analysis and discussion of stakeholders' perspectives on maritime port pricing in South Africa. Themes are extracted from the submissions, coded and analysed according to frequency. As per South African port policies, legislation and regulatory requirements, Transnet National Ports Authority (TNPA) needs to submit tariff adjustments application to the Ports Regulator annually. The Regulator should then allow industry submissions on the application and then make a decision in accordance with the National Commercial Ports Policy, the National Ports Act, and the regulatory directives. This chapter compares and contrasts the arguments raised by the various stakeholders for the period from 2010/11 to 2012/13. The chapter uses content analysis to analyse stakeholders' perspectives. This chapter contrasts and compares the discussion with the three port pricing doctrines identified in the literature, specifically, the Anglo-Saxon, the Asian, and the European doctrines. The chapter also discusses the impact of the allowed port pricing increment and the rationale for the proposed port pricing increments.

This chapter proceeds as follows. Section 4.2 provides a summary reportage of the stakeholders' perspectives categorised into themes. Section 4.3 provides an intergrated analysis and discussion of the stakeholders' perspectives and South African contemporary port pricing rationale in comparison with port policies, legislations, and regulatory principles and the impact of the regulator's decisions on tariff applications rationale. Section 4.4 presents a summary of the chapter.

## 4.2 South African Maritime Ports: Governance, Pricing and Stakeholders' Perspectives

Table 4.1 shows the current institutional structure in South African ports as per port functions.

**Table 4.1. Port Function Matrix in South Africa**

Regulation	Ports Landlord	Ports Operation
<ul style="list-style-type: none"> <li>Ports Regulator</li> </ul>	<ul style="list-style-type: none"> <li>Transnet National Ports Authority</li> </ul>	<ul style="list-style-type: none"> <li>Transnet Ports Terminals, and</li> <li>Various private operators</li> </ul>

Source: Adapted from Chasomeris, 2011b; and Gumede and Chasomeris, 2012

As has been pointed out above, Gumede and Chasomeris (2012) note that even though both the Ports Regulator and Transnet National Ports Authority are state owned, they are independent of each other. TNPA has three main sources of income, “namely: tariffs published in its tariff book; contracted tariffs; and contracted property leases” (TNPA, 2010: 5). For the three tariff years (2010/11, 2011/12, and 2012/13) TNPA submitted that the rationale for TNPA tariff application are for TNPA “to:

(1) Recover its investment in owning, managing, controlling and administering ports and its investment in port services and facilities;

(2) Recover its costs in maintaining, operating, managing, controlling and administering Ports and its costs in providing port services and facilities; and

(3) Make a profit commensurate with the risk of owning, managing, controlling and administering ports and of providing port services and facilities” (TNPA, 2009: 8; 2010: 5; and 2011: 6). In response to these three tariff applications, ports stakeholders have criticised TNPA for: abusing its monopoly power; hindering global competitiveness; not taking into cognisance the state of the country’s economy; charging price increases which are higher than inflation; creating an environment which does not support job creation; being inconsistent and non-compliant with the national policies; not applying cost-based pricing principles; not having a

justifiable pricing methodology; low productive and inefficiency; inconsistent and unreasonable pricing of products; poor service delivery and poor port security. Table 4.2 shows a summary of the themes that emerged from the content analysis of the stakeholder submissions to the Ports Regulator for the years 2009, 2010 and 2011.

**Table 4.2. A Summary of the stakeholders’ perspectives on port pricing in South Africa, 2009 to 2011**

Stakeholders Concerns	Number of submissions			
	2009	2010	2011	Total
	3	30	15	48
<u>Global competitiveness</u> Port tariffs in South Africa are among the highest in the world. High port tariffs hinder the country’s and exporters’ global competitiveness	2	15	13	30
	66.67%	50.00%	86.67%	62.50%
<u>Economy</u> High ports tariff hinder SA’s economic growth. They increase costs of doing business in the country	3	13	8	24
	100.00%	43.33%	53.33%	50.00%
<u>Above inflation</u> The applied for tariff increase is above the country’s inflation rate (Consumer Price Index)	3	12	7	22
	100.00%	40.00%	46.67%	45.83%
<u>Tariff methodology</u> Tariff methodology does not provide incentive for TNPA to reduce cost. The required revenue guarantees TNPA cost and investment recovery and profit even though some of the cost items may be due to inefficiencies	-	9	9	18
	-	30.00%	60.00%	37.50%
<u>Price increases above tariff applied for</u> Even though TNPA mention that they are charging a uniform price increase, on certain commodities the	-	13	2	15
	-	43.33%	13.33%	31.25%

increases range from 80% to 864.6%				
<u>Inconsistency and non-compliance</u> TNPA is not complying fully with the national port policies and legislation. Tariff rationale is inconsistent with the country's economic visions	1 33.33%	7 23.33%	5 33.33%	13 27.08%
<u>Low productivity and inefficiency</u> South African ports lack efficiency; with huge delays, port congestions, higher turnaround times, few moves per hour, underutilisation.	1 33.33%	6 20.00%	6 40.00%	13 27.08%
<u>Transparency on information</u> TNPA lacks transparency in their reporting and they provide insufficient information and justification in their tariff application	2 66.67%	6 20.00%	2 13.33%	10 20.83%
<u>Not cost-based</u> Ports have adopted a policy to charge their tariffs based on costs; however several products are not cost-based.	- -	7 23.33%	2 13.33%	9 18.75%
<u>Abuse of monopoly power</u> TNPA abuses their monopoly power over all South African commercial ports	1 33.33%	3 10.00%	4 26.67%	8 16.67%
<u>Profitability</u> High ports tariffs hinder ports users' profitability. TNPA remain the cash cow for Transnet having huge profit margins	1 33.33%	5 16.67%	2 13.33%	8 16.67%
<u>Differentiation in tariffs</u> Tariff adjustment for handling each commodity should be assessed individually	- -	5 16.67%	3 20.00%	8 16.67%
<u>Job losses</u> High port tariffs lead to huge job losses, as the stakeholders will have to retrench in order to decrease	- -	5 16.67%	3 20.00%	8 16.67%



costs				
<u>Unresolved matters</u>	-	4	1	5
Before further adjusting tariffs there are unresolved matters that TNPA has to address with the stakeholders concerned	-	13.33%	6.67%	10.42%
<u>Customer service</u>	1	3	-	4
TNPA should improve customer service in their ports	33.33%	20.00%	-	8.33%
<u>Misalignment</u>	-	3	-	3
Tariffs of some commodities are misaligned with international tariff levels	-	10.00%	-	6.25%
<u>Security efficiency</u>	-	1	-	1
Some cargo went missing at the port in 2010 – TNPA should improve their security	-	3.33%	-	2.08%

Source: Author analysed and compiled from 48 stakeholders' submissions to Ports Regulator (2009, 2010, and 2011).

The current system for port tariff approval started in 2009 for 2010/11 tariff year. A number of stakeholders did not know about the process, hence only three stakeholders responded to the call for submitting perspectives. The publicity went better in 2010, hence 30 stakeholders responded. A number of stakeholders in 2011 submitted confidential perspectives hence only 15 could be used in this study. Most of these concerns have been consistently submitted throughout the period of this study. The following sub-sections discuss in more detail the main themes that emerged from the analysis summarised in Table 4.2.

#### **4.2.1 Monopoly Power**

The private operators have expressed player-referee governance concerns as most high valued cargo operations are operated by TPT and the majority of low value cargo operations are operated by the private operators (see table 2.5). Table 2.5 in the literature review clarified the distribution of the market share for private and public operators. Notteboom (2011) contends that Transnet's power has deterred international terminal operators from entering the South African market. Furthermore, TNPA (2009: 10) argued that their sustainable business routine is indeed essential to the well-being and the future of the South African economy. "Leading terminal operator groups such as APM Terminals, Hutchison Port Holding and DP World have set up business in other Sub-Saharan countries" (Notteboom, 2011: 52). Notteboom (2011) argues that while there are many who argue that Transnet powers prevent competition, it creates an exceptional environment for coordination among ports and between ports and other transport systems in the country. Transnet also owns and controls all freight rail business and pipelines in the country.

This study has found that 8 (16.67%) out of 48 South African maritime stakeholders' submissions, for period from 2010/11 to 2012/13 tariff years, have consistently criticized Transnet for abusing its monopoly power. Johan Venter (2009). TNPA is an absolute monopoly; it has no competition with no alternatives available either to other government entities or to the private sector. Eight submissions argue that high port tariffs hinder port users' profitability, while TNPA remain the cash cow for Transnet having huge profit margins. Johan Venter (2009) argues that TNPA's tariff application is a clear indication that TNPA is a cash cow for the whole Transnet group. TNPA makes an enormous profit yet they still need huge price increases. For the 2009 financial year end, TNPA made a healthy profit with a margin of 73.9%, contributing 17.5% to Transnet's total revenue and 36.4% to Transnet's EBITDA (Johan Venter, 2009; Cape Chamber of Commerce, 2010; FPEF, 2010). NAAMSA (2010) argued that, with regards to earnings before tax as the percentage of revenue, anything above 10% in a monopolistic situation is deemed excessive. TNPA is able to do as they please because they face no competition (SASC, 2011). For the period of three years, TNPA has been incurring over-recoveries (SASC, 2011). The Cape Chamber of Commerce (2011) argues that Transnet has a clear policy to milk the port for all the revenue it can possibly justify. Forestry South Africa (2011: 2) notes that TNPA, like other South African parastatals, "occupies a monopolistic position and hence operates

in an environment which is not based on those normal, commercial business principles that would need to be adopted by a private company operating in a competitive market.” Khan (2012) notes that there is no company world-wide has the Earnings Before Interests, Taxation, Depreciation and Amortisation (EBITDA) which equate or are close to that of the TNPA.

The results from this analysis clearly indicate that TNPA is pocketing excessive profits from ports. Transnet is able to charge high prices because they enjoy a monopoly status over all ports in South Africa. High monopoly profits in South African ports transfer wealth from port users to TNPA. The Ports Regulator of South Africa has the duty to investigate and deal with all issues regarding misuse of monopoly power. However, Chasomeris (2011) and Gumede and Chasomeris (2012) argued that the Ports Regulator is currently under-resourced, hence, it needs to be strengthened as an institution to improve its ability to regulate South African ports.

#### ***4.2.2 Global Competitiveness***

While Transnet continues to be profitable, with their price increases, it is becoming difficult for port users to sustain profit margins. For the period from 2010/11 to 2012/13, 30 (62.5%) out of 48 submissions argued that doing business in South Africa is consistently becoming a challenge. This total of thirty comprises two out of three for 2010/11, fifteen out of thirty for 2011/12, and thirteen out of fifteen for 2012/13 (see table 4.2). The extracts of the specific points submitted are discussed below.

SAAFF (2009 and 2011: 3) argue that consideration of “the impact of ever increasing cargo dues on the ability of South Africa to compete in international markets is relevant.” Huge costs in South Africa severely affect global competitiveness of the South African port users. Several submissions (Cape Chamber of Commerce, Columbus Stainless, 2010; 2010; SAASOA, 2010, 2011; SASC, 2011; Shell, 2011; XPANSE, 2011) argue that, South African tariffs are already among the highest in the world, further increases pose a challenge to staying internationally competitive. Columbus Stainless (2010) is a price taker in its industry; price increases will add a burden to the competitiveness of the firm. As a result of high tariff increases in South Africa, the wood chip export industry is under severe financial pressure and the volumes of exports have been reduced by 30% (CTC Timber Products, 2010; Forestry SA, 2010). It is imperative for the

South African fruit industry to remain globally competitive by ensuring affordable access to South African ports (Fruits SA, 2010; FPEF, 2010). The price increases were added on when the ZAR was strong and appreciating, but now South African exporters are struggling to sustain in their businesses (Lanxes, 2010; Mondi 2010). Likewise, “The the existence and sustainability of the chrome ore business is hugely threatened by this increase” (MASA Chrome, 2010: 1). The Transnet tariff increase makes the South African economy one of the least competitive economies in the world (BUSA, 2011). General Motor SA (2010) raises a concern as to whether TNPA understands the fundamentals of the automotive industry and of a global business more generally. Due to the tariff increases South African companies have lost international business (BUSA, 2011 Forestry South Africa, 2011). The Fresh Produce Exporters Forum (FPEF, (2011) argue that tariff increases increase input costs leading to high costs of doing business in South Africa.

TNPA has an enormous mandate which includes lowering the cost of doing business in South Africa, however, they are applying for higher tariffs which would substantially raise costs of doing business in South Africa (SASC, 2011). Maersk (2011: 4) argues that, the “TNPA tariff increase will impact the cost of doing business in South Africa and thus ultimately negatively influence South Africa’s ability to compete in the global market.” Diving School (2011) confirmed that tariff increases burden competitiveness and cost that some of their services can no longer stay competitive in the global market. SAAFF (2009, 2010, and 2011) believe that cargo dues in South Africa results in port costs that exceed those of many of South Africa’s global competitors. SAASOA (2011) confirms that Portugal’s proposed tariff increase for 2012 was 2.5%; Cyprus Ports Authority, being the sole owner and administrator of Cyprus Ports, charges an annual tariff increase of an average of 2.5%.

To better illustrate the high costs in South Africa, Maersk (2011) benchmarked the costs borne by its vessel, Safmarine Nokwanda; with 50,657grt, a draught of 12 metres on arrival and departure, and the capacity of 1000 TEUs discharged, 800 TEUs loaded and 200 TEU empty based on current productivity statistics as it impacts the port stay. The results of the Maersk benchmark study are shown in table 4.3. Table 4.3 clearly shows that out of the 15 ports that Safmarine Nokwana calls at, 4 of the top 5 expensive ports are in South Africa. With an industry average of US\$18,990.73 per port call, South African ports charges range from US\$23,323 to

US\$40,556 per port call. Moreover, one should note that it is only in South Africa where cargo dues are even charged for containers. However, all South African ports are featured in the bottom 6 (4 out of 6) least productive as they could only achieve a range from 22 to 35 berth moves per hour while the industry average is 54.8.

**Table 4.3. Port Costs and Efficiency Benchmark Measured by Safmarine Nokwanda in Various Ports**

<b>Ports</b>	<b>Total Liner Cost per call (USD)</b>	<b>Total Liner Cost Per TEU (USD)</b>	<b>Marine Costs (USD)</b>	<b>Liner Cargo Dues for empty containers</b>	<b>Port efficiency measured in Berth Moves per Hour</b>
Durban	40,556	20	38,663	1,893	32
Port Elizabeth	37,664	19	35,751	1,893	28
Cape Town	35,474	18	33,581	1,893	35
Yantian	27,484	14	27,484		101
Walvis Bay	23,323	12	23,323		22
Bremerhaven	22,549	11	22,549		76
Rotterdam	20,247	10	20,247		73
Tilbury	14,255	7	14,255		50
Tema	13,528	7	13,528		33
Pointe Noire	9,701	5	9,701		12
Tanjung Pelepas	9,621	5	9,621		82
Port Louis	8,728	4	8,728		26
Salalah	7,942	4	7,942		83
Kaohsiung	7,860	4	7,860		90
Jebel Ali	5,929	3	5,929		79

Source: Maersk (2011: 3).

One should note that Maersk used berth moves per hour to measure productivity. Although this was not explained, presumably it refers to container moves, either in TEUs or physical number of boxes (though these may be very different measures). The standard methods for measuring terminal/port productivity in the container trades are either in box moves per gantry cranes (GCH), or in box moves per ship working hour (SWH).

NAAMSA (2011: 2) state that “the global automotive sector is one of the most competitive in the world”. Coming from the 2008/09 recession the automotive industry in South Africa, which constitutes a mere 0.61% of the global automotive industry, is one of the industries which was worst affected (NAAMSA, 2011). The South African automotive industry has a goal to increase its market share to 1% by 2020 (NAAMSA, 2011). NAAMSA (2011) propose that any tariff increase should be based on the interest of positioning South Africa as a competitive player in the global field.

The findings in the literature review support the contemporary stakeholders’ perspectives. The literature reveals that South Africa’s ports container handlings are generally classified among the most expensive ports in the world; likewise, stakeholders submit concerns which suggest the same. A proper benchmark study can assist in trying clearly to identify the strengths and the weaknesses of the South African port pricing strategy. Such a benchmark can be used to single out the areas where Transnet can improve in order for their pricing system to be better aligned to the average international prices.

#### ***4.2.3 South Africa’s Economy***

For decisions in the port sector, Gumede and Chasomeris (2012) suggest that the importance of taking into cognisance the economy that the ports operate in cannot be overemphasised. While TNPA (2009: 10) state that Transnet has a strategy “to be a focused freight transport company delivering integrated, efficient, safe and cost effective freight solutions which help promote economic growth in South Africa,” twenty-four (50%) out of forty-eight submissions highlighted that high ports tariffs hinder South Africa’s economic growth since they increase costs of doing

business in the country. These twenty-four submissions comprise three out of three submissions for 2010/11, thirteen out of thirty for 2011/12 and eight out of fifteen for 2012/13 (see table 4.2). The relevant specific extracts of the submissions are discussed below.

High logistical costs have a negative impact on every aspect of the economy (SAASOA, 2009; SAAFF, 2009; Cape Chamber of Commerce, 2010). SAAFF (2009, 2010 and 2011), CMA CGM (2010), Mercedes-Benz (2010), SAASOA (2010 and 2011), BUSA (2011), FPEF (2011) and MASA (2010) argue that, while the country is trying to recover from the economic downturn, such huge tariff increases would be detrimental to the country's progress. The Cape Chamber of Commerce (2010: 1) stated that they "fear the new tariffs will be the last straw for many of our exporters who are already suffering in the wake of the world financial crisis made worse by sharp increase in the value of the rand." (Cape Chamber of Commerce, 2010: 1). Historically when the ZAR was weak, TNPA would use that as a reason for tariff increments (SAASOA, 2009). Now, with the South African currency is getting stronger, huge tariff increases add a burden (SAASOA, 2009; Forestry SA, 2010; Mondi, 2010; the Grape Co., 2010).

TNPA high tariff proposals do not instil medium to long-term confidence in South Africa's shipping and maritime industry (CMA CGM, 2010). If South Africa still intends to maintain its position as one of the top exporters in the world, TNPA has to reduce its tariffs (MASA Chrome, 2010). SAAFF (2010: 8) proposed that the Ports Regulator reject TNPA tariff proposals and instruct TNPA to submit proposals that "recognise the needs of the South African economy and trade facilitation." South African Africa's economy is about 60% dependant on international trade (BUSA, 2011). BUSA (2011) believes that this contribution is likely to increase and remain the key engine for many years to come. However, Xpanse (2011: 6) argued that TNPA has been determining tariffs "on the basis of short-term considerations and fail to recognise the long-term implications." SAAFF (2011: 3) concluded that TNPA "continues to have difficulty in realising the impact its tariff decisions have on the South African economy." This is clear as several stakeholders have consistently raised similar discontents for the past three tariff years. SAAFF (2010: 8) suggested that "national needs, aspirations and requirements must be of primary consideration."

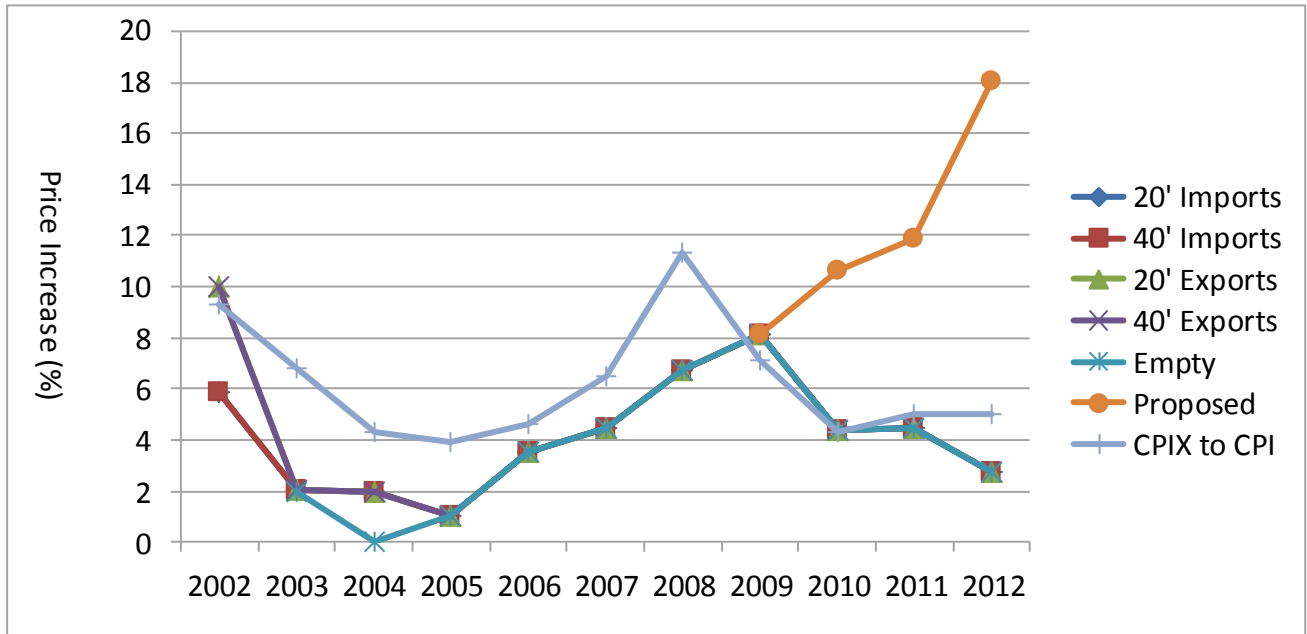
Clearly, South Africa's port pricing needs to acknowledge the state of the economy. The current port pricing system should assist the country to achieve the vision of a democratic developmental

state. South Africa's ports must create a doctrine that would be consistent with the country's economy and vision.

#### ***4.2.4 Above Inflation***

Inflation in South Africa is measured using the consumer price index (CPI). CPI is a direct measure of the general increase in the country's consumer price levels. The South African Reserve Bank has a goal to keep inflation (CPI) between 3 and 6 per cent. Twenty-two (45.83%) of the forty-eight submissions highlighted that the applied for tariff increase is above the country's inflation rate: Three out of three submissions for 2010/11, twelve out of thirty for 2011/12, and seven out of fifteen for 2012/13 (see table 4.2). The extracts from the specific comments submitted are discussed below. Higher transport tariffs lead to higher product prices for the end user. Since 2002, maritime port price increases have been below the inflation rate (CPI) in South Africa. Prior to 2009, TNPA was applying tariff increases without the control of the Ports Regulator, however, below inflation (CPIX) increases were applied. Since the Ports Regulator came into effect, in 2009, TNPA has been wishing to charge port tariffs which are above the rate of inflation (CPI). The transport sector is a crucial sector in the economic development of a country. A significant increase in transport prices will translate into a significant increase in the product that is being transported. As a result a multiplier effect of higher than inflation tariff increases may eventually increase the country's inflation rate. Figure 4.1 shows the percentage change in port pricing trends from 2002 to 2012 in comparison with the CPI(X).





**Figure 4.1. Percentage Change in South Africa’s Port Charges, 2002 to 2012**

Note: -South Africa changed from using CPIX to using CPI in 2009.

Source: Author compiled from Chasomeris, 2011; Ports Regulator, 2012; and STATS SA, 2012.

For an SOE like Transnet, controlling all commercial ports, to contemplate a tariff increase which is almost double the consumer price index is breathtaking (SAAFF, 2009 and 2011). The requested increase is unreasonable, considering that it is significantly in excess of the inflation rate (Anglo, 2011; BUSA, 2011; Cape Chamber of Commerce, 2010; Mercedes, 2010; Mondi, 2010; NAAMSA, 2010 and 2011, SAAFF, 2010; SASC, 2011; and the Grape Co., 2010), whereas the government’s plan is to keep the inflation target below 6% (FPEF, 2011; Shell, 2010). Compared to 2009, notwithstanding that both tariff increment proposals are well above inflation, the 2010 inflation has been lowered but Transnet still applied for an increased tariff increment that is above inflation (CMA CGM, 2010). Administered tariff increases which have no relations to CPI are unacceptable and impose a worrying trend on the community (BUSA, 2011; Forestry SA, 2010). BUSA (2011: 15) and Forestry SA (2011 and 2011: 2) note that, “it has become a worrying trend that ‘administered price’ inflation is consistently out of line with

the general inflation rate.” Parastatals are frequently requesting tariff increments which have absolutely no relation to the CPI (BUSA, 2011; Forestry SA, 2010 and 2011).

#### **4.2.5 Job Losses**

Eight (16.67%) out of forty-eight stakeholders’ submissions argue that high port tariffs lead to huge job losses, as the stakeholders will have to retrench in order to decrease costs. These eight submissions comprise five out of thirty submissions for 2011/12 and three out of fifteen submissions for 2012/13 (see table 4.2). The extracts from the specific comments submitted are discussed below.

The huge tariff increment will lead to more financial pressures which could result in export companies closing some of their operations, which would then result in a number of job losses, in both formal and informal employment (Cape Chamber of Commerce, 2010; CTC Timber, 2010; FPEF, 2010; the Grape Co., 2010). BUSA (2011) and NAAMSA (2011) argued that the high inflation-promoting increases proposed by TNPA shrink the economy and undermines all efforts to create employment. SASC (2011) argues that job creation will very likely to be at a slow pace. BUSA (2011: 3) states that, “as a result of these years upon year tariff increases, the productive sector of the economy that contributes immensely to economic growth has shed thousands of domestic jobs.” (BUSA, 2011: 3). TNPA tariffs should be creating an environment which should allow businesses to prosper so that they can be able to create more employment (BUSA, 2011; and Forestry SA).

In an economy where unemployment is above a quarter of the labour force, job creation is among the country’s core priorities. Although TNPA (2010, 2011 and 2012) suggest a plan which would create employment, they cannot win the battle of eleviating unemployment alone. The majority of stakeholders which have made these submissions are firms which provide a large amount of employment. Lower profitability of firms may translate into even higher unemployment figures in the country.

#### ***4.2.6 Inconsistency and Non-compliance***

Thirteen (27.08%) of forty-eight stakeholders' submissions argued that TNPA is not complying fully with the national port policies, legislation and their tariff rationale is inconsistent with the country's economic visions. These thirteen submissions comprise one out of three submissions for 2010/11, seven out of thirty for 2011/12, and five out of fifteen for 2012/13 (see table 4.2). Extracts from the specific comments submitted are discussed below.

Xpanse (2011: 3) stated that "Transnet did not comply with the National Ports Act and government policy as set out in the National Commercial Ports Policy." Busa (2011), Mercedes (2010), and SASC (2011) argued that huge tariff increases will hamper and prohibit the achievement of the objectives as set out by the National Ports Acts for the South African ports industry, these are to promote economic growth and development in South Africa. SAASOA (2009) argued that TNPA is not fulfilling its statutory mandates. TNPA's application does not comply with directive 22(3) since the information they are required to provide is not provided (SAASOA, 2009). Directive 22 (3) states that "the Authority must report annually to the Regulator regarding all agreements entered into with licensed operators, parties to an agreement and port users for the variation in terms of section 72(4) of any tariff published in terms of section 72(1) of the Act. Such report must include details of ... the nature of the agreed variation..." (Department of Transport, 2008: 30). SAASOA (2009: 3) are of the view that TNPA has failed to comply with section 11(k) of the National Ports Act no 12 of 2005 ("the NPA act") which states that, "TNPA is expected to promote efficiency, reliability and economy on the part of the licensed operators in accordance with recognised international standards and public demand." General Motors SA (2010) believes that the preferential cargo dues tariff for OEMs based on individual volumes is inconsistent with the objectives and the requirements of directive 23 and the Regulator's Regulatory Principles. Directive 23 is reflecting "fairness, the avoidance of discrimination and the promotion of access to ports, and the effective and efficient management and operation" as requirements (General Motors, 2010: 3). Mondi (2010) submitted that TNPA did not comply with the requirement of directive 22. FPEF (2010; and 2011) argued that TNPA did not address the manner in which the tariffs will affect costs of doing business in South Africa as it is required to do by directive 22(c)(i); and the proposed profit margin and rate of return together with a motivation as to why they are commensurate with risk as it is required by directive 22(c)(ii). FPEF (2010) further argued that TNPA did not consider directive 22(13)

which set out limits for any increases to existing revenue weighted-tariffs to Consumer Price Index minus the efficiency factor. As required by the regulatory principles, Busa (2011) suggested TNPA should liaise with its supply chain partners when considering increasing tariffs. Busa (2011) and SASC (2011) contended that TNPA did not consult National Ports Consultative Committee, as it is required to do in section 80(2)(c) of the NPA act, when there was a proposal for substantial alterations to the authorities' tariffs.

TNPA (2009; 2010; and 2011) submitted that since contracted tariffs and property leases are a medium-long contractual agreement, they need not to be included in TNPA tariff applications. In terms of the regulations, TNPA needs to include its real estate business on application, however, even in the 2012/13 tariff application TNPA has not included this section (Shell, 2011; and SAAFF, 2010). Shell (2011) points out that in the previous TNPA tariff applications the Regulator ruled that the exclusion of TNPA property business was non-compliant with the terms of regulations and thus advised TNPA to include this section on the following applications. Xpanse (2011) pointed out that TNPA continues to resist complying with the regulatory principle. The Regulator's 2010/2011 tariff Record of Decision ("ROD"), when the Regulator rejected 10.62% tariff increment applied for by TNPA and allowing only 4.42%, advised TNPA, inter alia, to "(1) engage in a public process, (2) submit a timetable for the resolution of the disputed valuation methodology, (3) assess the capital structure used in the application, (4) assess the evaluations used for the determination of future depreciation expenses, and finally (5) comply with the Regulator's directives on the relative equity in the determination of different tariffs" (Xpanse, 2011: 3). However, Xpanse (2011) submitted that TNPA did not engage all stakeholders in a public process nor submit any timetable, hence, there is no agreed valuation methodology; no assessment was done, neither for capital structure used in the application nor for evaluation used for determining future depreciation expenses; and still TNPA does not comply fully with the Regulator's directives. In addition, SAAFF (2010) highlighted that directives require that the increase should not exceed consumer price index for the year under consideration.

Inconsistencies and non-compliance of a state owned entity make it practically impossible to better implement and monitor the progress towards achieving the country's visions. TNPA's inconsistencies and non-compliance contradicts TNPA's key pillars of their own pricing strategy

that required TNPA's pricing to be aligned with the country's regulations and policies (TNPA, 2012).

#### ***4.2.7 Tariff Methodology***

Eighteen (37.5%) out of forty-eight stakeholders' submissions argued that tariff methodology does not provide incentive for TNPA to reduce costs. Nor does it address the fact that in the TNPA cost and investment recovery some of the cost items may be due to inefficiencies. These eighteen submissions comprise nine out of thirty submissions for 2011/12 and nine out of fifteen for 2012/13 (see table 4.2). Extracts from the specific comments submitted are discussed below.

NAAMSA (2010: 3) submitted that "for years the methodologies used in calculating the actual tariffs have remained the same although our world has changed." NAAMSA (2011) submitted that, although they cannot dictate the methodology TNPA should apply, they would support a methodology which is accepted in a competitive environment. Mondi (2010: 3) stated that "the methodology employed does not take into account economic reality in South Africa." Furthermore, Columbus Stainless (2010) argued that the current methodology neither complies with the basic requirements under directive 22 and 23 nor supports the objectives of the NPA Act. The required revenue method is in contrast to the NPA act objectives to promote efficiency and performance in ports operation management and to develop an effective and productive ports industry for economic growth and development (Columbus Stainless, 2010). Additionally, Busa (2011), Mondi (2010), Forestry SA (2011) and SASC (2011) criticized the current methodology that TNPA uses, mentioning that it does not provide an incentive to the TNPA to critically look at how they can improve their operational performance without having to apply for huge tariff adjustments. The current methodology ensures that profit and any costs increments, to which operating inefficiencies might have added, are absorbed in the revenue increase (Busa, 2011, Columbus Stainless, 2010 and SASC, 2011). SAAFF (2010) contended that TNPA costs lack transparency. Columbus Stainless (2010) and Xpanse (2010) suggested that cost reduction methods must be prioritised when considering tariff adjustments. Xpanse (2011) submitted that TNPA did not resolve the tariff methodology involving the stakeholders as it was suggested by the Regulator's ROD whereby determination of proxy betas and standards for regulator accounts

were to be resolved. Furthermore, SAAFF (2010) and Xpanse (2011) submitted that TNPA did not include all TNPA business as it has been previously required to do by the Regulator, in particular reference was made to TNPA's real estate. For 2012/13, if the real estate business is not included the revenue requirement, post clawback, was 9.645 billion rands, however when real estate is included, the revenue requirement, post lease premium differential adjustment and post clawback, get reduced by about 4.36% to be 9.224 billion rands. Reducing revenue required by 4.36% may seem small, however, it results in the TNPA proposed tariff increase of 18.06% being reduced by 5.14% to a 12.90% tariff increase for 2012/13 tariff year (TNPA, 2011). In addition FPEF (2010; and 2011) contended that although single uniform tariff may be perceived as systematic and predictable, it is not necessarily fair because the services offered to different products are not the same and do not cost the same. For example, Anglo (2011) argued that "the tariff for bulk export coal from Richards Bay Port should be looked as an individual operation as the port is operated differently to other coal export ports." This uniform tariff across all ports gives a lea-way for service cross-subsidisation (Anglo, 2011). However, NAAMSA (2011) argued that one cannot properly determine if subsidisation does happen or not since TNPA is not providing sufficient information. Nevertheless TNPA (2009b) confirmed that some form of subsidisation does exist.

Maersk (2011) and Xpanse (2010: 9) recommended "the inclusion of the Real Estate business in the calculation of the tariff" as it is believed that it is consistent with Transnet's financial strategy. NAAMSA (2010) highlighted that it is not clear how CAPEX were determined, calculated and justified. Xpanse (2011) requested that the Regulator should set the basic methodology for the determination of tariffs, which would simplify port tariffs, prevent double payments, determine the price mechanism that deals with congestion, and clarify the relationship between port facilities and port users. For the 2011/12 tariff increase application, TNPA misapplied Hamada's formula that they used to calculate the relevant cost of equity (Jones et al., 2010). According to Jones et al (2010) this formula can only be used if an entity has risk-free debts, hence the total calculation of nominal cost of capital was incorrect. Given that Transnet is a parastatal company, the debt risk premium that they used appears to be excessive (Jones et al., 2010). In addition, Jones et al. (2010) argued that the risk-free rate that TNPA used in the 2011/12 tariff application does not take into account the then recent substantial global decrease in interest rates. Xpanse (2010) suggested that TNPA should not price to recoup their investment

on infrastructure in a short-term but they should rather develop a tariffing policy that will recoup investments over the long-term. Such a suggestion is an element of the European (Continental doctrine). Busa (2011) suggested that the regulator looks at other models, alternative to the current ‘required revenue model,’ which South African ports should employ going forward.

The methodology that is currently in place makes it difficult to better detect the direct cost associated with each product. The required revenue model requires that the port users pay for all port revenues and costs, which may include costs that may be due to inefficiencies.

#### ***4.2.8 Non Cost-based Nature of the TNPA Tariff***

Nine (18.75%) out of forty-eight stakeholders’ submissions argued that, while ports have adopted a policy to charge their tariffs based on costs, several products are not cost-based. These nine submissions comprise seven out of thirty submissions for 2011/12 and two out of thirteen for 2012/13 (see table 4.2). Extracts from the relevant specific comments submitted are commented on below.

NAAMSA (2011) contended that a tariff that they pay should commensurate with the goods and services they receive. Cox Yeats (2010) find it difficult to understand the cost associations of TNPA pricing. Cox Yeats (2010) submitted that they find it difficult to find scrutiny in distinguishing cargo dues payable on stainless steel as opposed to cargo dues payable on carbon steel. TNPA (2010: 41) submitted that “the final cargo due tariff basis will be a combination and contribution of the facilities used; volume throughput and commodity value.” Cox Yeats (2010) and Stainless Steel (2010), however, argued that breakbulk carbon steel and breakbulk stainless steel use absolutely identical facilities and services. The assumption by TNPA, which appears to suggest that low volumes should attract higher cargo dues, is difficult to understand since TNPA did not indicate what measures the volumes are measured against (Cox Yeats, 2010). Cox Yeats (2010: 3) stated that “it appears that the underlying assumption of TNPA is that the more valuable the product, the higher the level of cargo dues it bears.” This, however, raises more difficult questions as it is understood in South Africa that TNPA had moved from Ad Valorem Wharfage pricing, which was value based prior to May 2002, to cargo dues which were supposed to be more cost-based. Busa (2011: 18) asked, “Why are there still products that are tried on a

value basis?” Cox Yeats (2010) further argued that “the fact that one product is more valuable than another does not mean that its manufacturer has a greater propensity to bear cargo dues.” Cox Yeats (2010) submitted that while it is correct that stainless steel is more valuable than carbon steel, the cost associated with manufacturing stainless steel are also higher than the ones for carbon steel.

Columbus Stainless (2010), however, argued that the costs increases that have been faced by TNPA are not in proportion to the proposed increases in tariffs. Xpanse (2010: 3) state that, “port basic infrastructure charges should be set in line with marginal costs.” Xpanse (2010) argues that infrastructure authorities should be discouraged from recovering full costs from tariffs. General Motors SA (2010) discourages the current pricing principle which is based on the cost recovery system. SAPPI (2010) argues that TNPA pricing does not take into account the level of cost of each service impact. For an example, in 2010/11 TY woodpulp was charged at R41.09 whereas steel, which has more impact than woodpulp, was charged at R20.92 (TNPA, 2010 and SAPPI, 2010). NAAMSA (2011) understands that there has not been any major increase in TNPA costs, increases of this magnitude in relation to cost is not understandable. Mondi (2010) argues that the current TNPA pricing regime gives no incentives to TNPA to reduce costs. TNPA, on their application, consistently mention that they want to recover all costs and returns (SAASOA, 2009). Such an approach is an element of the Anglo-Saxon doctrine. The Required Revenue model that TNPA essentially uses is a ‘cost plus’ approach which guarantees profit regardless of how inefficient TNPA may be (Mondi, 2010). Mondi (2010: 3) suggest that “the Ports Regulator should enforce strict cost management measures on the TNPA.”

Since TNPA adopted a user-pay principle which suggest that each activity’s pricing should be cost-based, a proper costing exercise audited for each cargo commodity type could assist in clearly identifying the handling and servicing each cargo type. Such an exercise would help TNPA to identify areas to where they may reduce costs, such as those that may have been as the result of inefficiencies.



#### ***4.2.9 Transparency on Information***

Ten (20.83%) out of forty-eight stakeholders' submissions argue that TNPA lacks transparency in their reporting and they provide insufficient information and justification in their tariff application. These ten submissions comprise two out of three submissions for 2010/11, six out of thirty for 2011/12, and two out of fifteen for 2012/13 (see table 4.2). Extracts from the relevant and specific comments submitted are discussed below:

Xpanse (2011) submitted that the TNPA 2012/13 tariff application was not complete. SAASOA (2009) noted that the whole of the tariff was not provided. SAASOA (2009) argued that it is impossible properly to appreciate the overall impact of the proposed tariff if TNPA only provide proposed figures exclusive of the terms and conditions in respect of which they operate. Furthermore, SAASOA (2009) mentioned that it would be difficult to make proper submissions in circumstances where the proposed terms are not known. FPEF (2011) note that TNPA did not provide sufficient information as the directives require. Xpanse (2011) and Columbus Stainless (2010) argued that TNPA did not fully disclose all its operating expenses and they also did not provide sufficient explanation on expense items whereby the forecasted increase was above inflation as it was required by the Regulator's ROD. Furthermore, Xpanse (2011) noted that TNPA did not adhere to the call by the Regulator's ROD to breakdown the sundry cost element in the operating expenses as it appears to be the second largest cost category. Furthermore "the tariff fails to distinguish between the provision of a pilotage service using a launch or a pilot helicopter" (SAASOA, 2009: 1). SAAFF (2009) noted that TNPA did not provide sufficient rationale with regard to uniform increase for all TNPA services; "there appears no rational explanation as to why the provision of, for example, Pilot Helicopter use should experience exactly the same cost pressures as a Fire Team Training course" (SAAFF, 2009: 3). Deneys Reitz (2010: 1) stated that "there is currently no explanation available from TNPA for the tariff increase."

General Motors SA (2010), Mercedes (2010) and NAAMSA (2010) noted that TNPA did not provide a transparent rationale as to the adjustment of the automotive sliding scales which have created additional costs to the automotive industry. NAAMSA (2011) argued that the TNPA tariff application does not provide sufficient details to interrogate whether cross-subsidisation exists or not. Cox Yeats (2010) argued that TNPA has consistently failed to provide justifiable

rationale for the substantial disparity between tariffs charged for stainless steel and tariffs charged for other steel products. Mondi (2010) argue that the tariff application did not reveal the level of risk assumed by the TNPA, thus making it difficult to properly understand the whole tariff methodology. The level of details provided by TNPA does not allow port users to properly interrogate the justification for the requested tariff increment (NAAMSA, 2010). However, SAASOA (2010) acknowledges that the level of details in the 2011/12 TNPA tariff application has been improved. FPEF (2011), NAAMSA (2010) and Xpanse (2011) proposed that the Regulator should request that TNPA provide details on (1) how Capex requirements were determined, justified and calculated; (2) Cash flow forecast; (3) the calculation of the forecasted costs; (4) the previous year's earnings before tax as the percentage of revenue; (5) the estimated increase in volume; (6) the manner in which the tariff will affect the cost of doing business in South Africa; (7) the promotion of access to South African ports. Without access to detailed information it is extremely difficult properly to understand the rationale that TNPA employed (NAAMSA, 2010; SAAFF, 2010). NAAMSA (2011) suggested that TNPA should disclose the rationale and the basis for re-valuating their Required Asset Base. Insufficient information provided by TNPA will hamper the regulation processes (FPEF, 2011).

TNPA contradicts itself by their lack of transparency. TNPA's pricing strategy requires TNPA to provide sufficient detail for regulation (TNPA, 2012). Gumede and Chasomeris (2012) confirmed that a lack of transparency by TNPA indeed hinders proper regulation.

#### ***4.2.10 Low Productivity and Inefficiency***

Thirteen (27.08%) out of forty-eight submissions argued that South African ports lack efficiency; with huge delays, port congestions, higher turnaround times, relatively few moves per hour, underutilisation. These thirteen submissions comprise one out of three submissions for 2010/11, six out of thirty for 2011/12 and six out of fifteen for 2012/13 (see table 4.2). Extracts from the relevant and specific comments submitted are discussed below.

Xpanse (2010 and 2011) noted that the government announced that the Regulator's primary intention was to improve efficiencies in the South African ports system. However, Busa (2011: 18) mentioned that, "South African ports are not on par with globally accepted standards of

efficiency and lack competitiveness and competition.” Shell (2011) supports any initiatives which seek to improve efficiency and competitiveness of South African ports. Busa (2011: 16) on their request mentioned that they “want the ports and all related services to be run efficiently and effectively.” Busa (2011) argued that it is imperative that TNPA have programmes to improve efficiency and to reduce costs. South African shippers rely on South African ports to process their shipment timeously in order for them to plan their lead-times accordingly (JA Bremner CC, 2011). South African ports are globally known for their inefficiencies, thus an above-average increase in prices should be associated with above-average increase in efficiencies (Columbus Stainless, 2010). The Ports Regulator’s ports benchmark study revealed that while South African container ports are among the most expensive ports in the world, they are ranked among the least productive ports in the world (Ports Regulator, 2010). Freight Train (2010) argue that ports such as Singapore and Shanghai and Rotterdam are able to reach a number of around 375 container handling per ship per hour whereas Durban only can reach a maximum of 26 per hour. One should note that such a comparison is biased as the respondent did not use consistent and standard measures for port productivity. Furthermore, such a comparison is illogical. The literature review reveals that Duinkerken et al. (2002), Rankine (2003), Bryfors et al. (2006) and Smith (2012) have proved that it is impossible for a port to achieve 375 container moves per hour.

Columbus Stainless (2010: 13) stated that at the moment they are paying “very high costs for low rate of efficiency” TNPA should be looking at either reducing their tariffs to be in line with their productivity or improving their productivity to be in line with their prices (SASC, 2011). Freight and Trade Weekly (FTW) has published in 2010, October 15 issue, that the Port of Durban is ranked as the most expensive port in the world whilst it is ranked 39 in terms of efficiency (Columbus Stainless, 2010). FTW in 2011 published a series of articles which suggest that shippers and vessels are looking at alternatives to avoid the Port of Durban at all costs (Busa, 2011 and SASC, 2011). Importers and exporters from neighbouring states avoid South African ports because of inefficiencies and exorbitant costs (Busa, 2011). South Africa has made a record for producing some of the worst delays in the history of containerization (Busa, 2011 and SASC, 2011). JA Bremner CC (2011) pointed out that their shipment in July had been delayed by 12 days in the Port of Durban. Port of Durban has been faced with persistent congestion (Busa, 2011 and SASC, 2011). Vopak (2010) argues that South African port efficiencies are hindered by

consistent poor planning and implementation. Mercedes (2010) noted that the TNPA tariff application failed to disclose efficiency measures and their effectiveness. Busa (2011) recommend that South African ports should improve efficiencies so that they can be able to increase volumes across the berths that ultimately will bring economies of scale and thus tariffs may be reduced over time which will lead to South Africa being globally competitive. Benchmark studies in the literature clearly show that South African container ports are relatively low productive compared to its peers across the globe. One cannot overemphasise the need to improve productivity as it will improve the country's competitiveness.

#### ***4.2.11 Differentiation in Tariffs***

Eight (16.67%) of forty-eight stakeholders' submissions argue that Tariff adjustment for handling each commodity should be assessed individually. These eight submissions comprise five out of thirty submissions for 2011/12 and three out of fifteen for 2012/13 (see table 4.2). Extracts from the relevant and specific comments submitted are discussed below.

NAAMSA (2010) believes that the basis for each tariff increase needs to be reviewed. Anglo (2011) argues that each commodity should be looked at as an individual operation as the port handles each commodity differently from other commodities. Anglo (2011: 1) argued that, "by applying a single increase across all commodities TNPA is subsidising the service cost across the various ports." General Motors SA (2010) criticise the preferential tariff that TNPA has designed in order for the automotive industry to increase its volume of trade, "it is ill-conceived to suggest that OEMs (Original Equipment Manufacturers) will take, or be able to take, more steps to increase their volume of imports and exports simply because they can take advantages of greater volume discounts available on cargo dues" (General Motors SA, 2010: 1). General Motors SA (2010) contended that OEMs are already highly incentivised both locally and globally to maximize sales. General Motors SA (2010) argued that preferential tariffs which discriminate against low volume OEMs make it difficult for local manufactures to make a positive business case for new programmes or products and also difficult for infant manufactures to enter the industry as it currently is favouring well-established players in the industry. General Motors SA (2010) and Mercedes (2010) declared that the application for preferential tariffs is non-

transparent and overly complicated and further argued that there is no real justification in calculating the base-tariff based on the length of the vehicle.

NAAMSA (2010) argued that the preferential tariff for OEMs is actually misleading and actually causes a further increase in cost to the automotive industry. Despite the Regulator's intent of 4.42% increase for the 2010/11 tariffs the moving volume threshold actually increased by around 20% on cargo dues, similarly in the 2011/12 tariff year the increase would be around 15% despite the stated application of 11.91% (NAAMSA, 2010). General Motors SA (2010) recommended the introduction of a reduced flat tariff per vehicle for which they would welcome a discussion with TNPA. Mondi (2010) argues that since the change from ad valorem pricing, certain users or industries have been selected for special treatment which is unfair to other users or industries and there has not been any explanation as to why this is happening. SAPPI (2010) suggested that tariffs of commodities of a similar category must be flat rated. NAAMSA (2010), however, appreciate that TNPA has initiated a tariff review project for which the fruits are to be enjoyed in the coming tariff years.

#### ***4.2.12 Price increases above tariff applied for***

Fifteen (31.25%) of forty-eight respondents submitted that, even though TNPA (2009; 2010; and 2011) tariff applications explicitly propose uniform tariff increases for all commodities of 10.61%, 11.91% and 18.06% for 2010/11, 2011/12 and 2012/13 tariff years respectively, in actual tariff book proposals, one can clearly identify tariff increases for certain commodities that are significantly higher. These fifteen respondents comprise thirteen out of thirty submissions for 2011/12 and two out of fifteen submissions for 2012/13 (see table 4.2). Extracts from the relevant and specific comments submitted are discussed below.

King and Sons (2010) mentioned that they have strong objections from exporters of Vermiculite, Wood Chips and Chrome Ore. CTC Timber (2010) and Deneys Reitz (2010) find it difficult to understand the 612.37% proposed increase in wood chips tariff for 2011/12. Such a huge proposed increase in the wood chips 2011/12 tariffs would put the timber industry under financial pressure (CTC Timber, 2010). Anglo (2010), Masa (2010), Kings and Sons (2010) and Lanxess (2010) argued that an extraordinary increase of 117.21% proposed by TNPA for chrome

ore in for 2011/12 tariff year was completely unjustifiable and insensitive to the chrome ore export industry. Shell (2010) and SAPIA (2010) lodged a complaint with regards to an 80% increase in crude & petroleum products exports for 2010/11 tariffs while the Regulator had approved an increase of only 4.42%. In essence the 2011/12 tariff application sought a number of extraordinarily high tariff increases. TNPA (2010) recognized that most tariffs were not properly aligned. In a process to realign tariffs, break bulk exporters also complained about a number of their products which had extraordinarily high proposed increases. As per the TNPA (2010) proposal, tariffs for Base metals were going to increase by 12.68%, Wheat and products thereof to increase by 14.26%, Timber and products thereof (excluding furniture) to increase by 246.45%, Cement and Clinker to increase by 272.99%, Granite and product thereof to increase by 350.38%, Logs to increase by 644.81%. Even if there were grounds for realigning tariffs, increases of this magnitude in the current climate are unjustifiable and will have an adverse effect on the industry (Forestry SA, 2010; Columbus Stainless, 2010; and Mondi 2010).

Exporters should appreciate the decline in tariffs for some of the other break-bulk commodities as a result of the tariff realignments. Tariffs for ores and minerals: olivine were to decrease by 76.02%, scrap steel to decrease by 64.55%, asbestos and products thereof to decrease by 46.47%, aluminum and fluoride and ferric sulphate to decrease by 44.07%, chemicals and product thereof to decrease by 44.05%, and Magnesium to decrease by 16.07%. Chasomeris (2011: 11) argues that, “the proposed tariff increases arguably show the intentions of TNPA.” With proper regulation some of the extraordinary increases shown in table 4.4 were corrected. The 2011/12 extraordinary tariffs increase application for molasses & products thereof, chrome ore, vermiculite and woodchips were ultimately corrected by the actual tariffs approved by the Regulator (see table 4.4). The 2012/13 proposed increases, however, show an attempt by TNPA to rectify the damage that had been caused with huge tariff increases that have experienced in the 2010/11 tariff year. The Ports Regulator increased the extent to which the reversal was made. For example, magnetite experienced 300% price increase in 2010/11, TNPA has applied for 69.22% decrease in tariffs of magnetite in 2012/13, however, the Ports Regulator approved a tariff decrease of 73.15%. Table 4.4 shows the liquid bulk exports and dry bulk exports products that had been the victims of extraordinary increase in tariffs.

According to the key pillars of the TNPA (2012) pricing strategy, pricing must be easy to understand. Charging tariff increases which are different from the Regulators allowed adjustments, without a proper justification make it difficult to understand and rely upon the pricing model.

**Table 4.4. Selected Products with Different Percentage Increase: Proposed and Actual Tariff Increases**

Products	2009/10 Tariff	2010/11 Tariff	Actual % increase 2010/11	Prop. tariff 2011/12	Prop. % increase 2011/12	Actual tariff 2011/12	Actual % increase 2011/12	Prop. Tariff 2012/13	Prop. % Increase 2012/13	Actual tariff 2012/13	Actual % increase 2012/13
Crude & petroleum products	13.12	23.62	80.03%	26.43	11.90%	24.68	4.49%	16.91	-31.48%	14.72	-40.36%
Molasses & products thereof	2.62	2.74	4.58%	26.43	864.60%	2.86	4.38%	3.38	18.18%	2.94	2.80%
Chrome Ore	4.73	4.94	4.44%	10.73	117.21%	5.16	4.45%	6.09	18.02%	5.30	2.71%
Coal	2.62	6.54	149.62%	7.32	11.93%	6.83	4.43%	3.37	-50.66%	2.94	-56.95%
Ores & minerals: Magnetite	2.62	10.48	300.00%	11.73	11.93%	10.95	4.48%	3.37	-69.22%	2.94	-73.15%
Vermiculite	12.86	13.43	4.43%	40.89	204.47%	14.03	4.47%	16.56	18.03%	14.42	2.78%
Woodchips	5.50	5.74	4.36%	40.89	612.37%	6.00	4.53%	7.08	18.00%	6.17	2.83%

Note:

Prop. = Proposed

Source: Adapted from Chasomeris, 2011; Ports Regulator, 2010; 2011; TNPA, 2011; 2011b and Author's calculations.



#### ***4.2.13 Unresolved Matters***

Five (10.42%) of forty-eight respondents submitted that before further adjusting tariffs there are unresolved matters that TNPA has to address with the stakeholders concerned. These five submissions comprise four out of thirty submissions for 2011/12 and one out of fifteen for 2012/13 (see table 4.2). Extracts from the relevant and specific comments submitted are discussed below.

Cox Yeats (2010: 1) submitted that their client (Columbus Stainless) had placed a complaint with regards to the 2009/10 and 2010/11 tariffs and “the grounds of complaint set out in the consolidated complaint, apply in respect of the proposed 2011/12 tariff.” Nevertheless this matter had been subjudice since the consolidated hearing was to take place during the second week of March in 2011 (Cox Yeats, 2010). SAPIA (2010) had a subjudice complaint lodged with the Regulator about liquid bulk exports while NAAMSA (2010) also had already complaint about pricing in the automotive sector. NAAMSA (2010) and SAPIA (2010) therefore appealed that the tariffs for their respective commodities should not be increased until their respective matters were resolved. As per table 4.4, tariffs for product which had been overcharged in previous years had been corrected in the 2012/13 tariffs. For example, to compensate crude & petroleum products which was charged an 80.03% increase in 2010/11 prices, these had to be decreased by 40.36% in 2012/13. Coal and ores & minerals: magnetite experienced tariff increase of 149.62% and 300.00% in 2010/11, the Regulator determined that the tariff for coal and magnetite should decrease by 56.95 % and 73.15 respectively for 2012/13.

#### ***4.2.14 Customer Service***

Four (8.33%) of forty-eight respondents submitted that TNPA should improve customer service in their ports. These four submissions comprise one submission made for 2010/11 and three made for 2011/12 (see table 4.2). Extracts from the specific comments submitted are discussed below.

In the discussion of tariffs, Johan Venter (2009) suggested that the services offered should be considered. Masa (2010) suggested that TNPA should, as a priority, improve the declining services at South African ports. Mondi (2010) argued that both TNPA and the Regulator have a

serious shortcoming in terms of communication. Mondi (2010) only got to know about the process of tariff increment through other port users. Goedehoop (2010) complained that TNPA did not send them any correspondence with regards to a Transnet strike which led to them losing thousands of rands. As per the *batho pele* principles, customer service is the key to the success of any organisation. One cannot overemphasise the need for any organisation to ensure customer satisfaction. TNPA should employ dedicated personnel to liaise with and make timeous decisions in relation to the industry.

#### ***4.2.15 Misalignments***

Three (6.25%) of forty-eight respondents submitted that tariffs of certain commodities are misaligned with international tariff levels. These three submissions were only submitted for 2011/12 (see table 4.2). Extracts from the relevant and specific comments submitted are discussed below.

While TNPA (2010) highlights that some tariff applications are to realign tariffs to an internationally acceptable standard, Mondi (2010) notes that TNPA had applied for pricing certain similar commodities, which may cost Transnet the same, with different prices. SAPPI (2010: 1) posed the question, “why must we keep on subsidising other types of cargoes that have far more impact on TNPA’s infrastructure than ours?” As a way forward SAPPI (2010) recommended that woodpulp be priced the same as or lower than steel. Cox Yeats (2010) submitted that stainless steel is not priced the same as cold rolled steel and mild steel, although they are in the same category: “the proposed cargo dues on cold rolled steel / mild steel are R23.41 per ton, being some R65.65 per ton less than the proposed cargo dues for stainless steel of R89.06 per ton” (Cox Yeats, 2010: 2; and Stainless Steel, 2010). Shell (2010) suggested that TNPA tariff increases should be aligned with national objectives. A proper benchmark study and a continuous consultative process can assist in the better re-alignment of tariffs.

#### ***4.2.16 Security Efficiency***

One (2.08%) of forty-eight respondents submitted that some cargo went missing at the port in 2010 – TNPA should improve their security. This submission was only submitted for 2011/12 (see table 4.2). Extracts from the relevant and specific comment submitted is discussed below.

While TNPA mention that cargo dues are also used for improving security efficiency, in 2010 a finished product case (DCT207540) which was worth R18, 851.34 and a coil (DCP208683) which was worth R452, 313.36 went missing in August and September respectively (Columbus Stainless, 2010). This appears to have been a once-off incident that happened in 2010.

### **4.3 Discussion**

#### ***4.3.1 South African Contemporary Ports Pricing Rationale***

South Africa's ports system is said to be under-resourced in terms of investments. The technology, the machinery and the equipment is old. However, South African maritime sector has an overarching long-term vision for South Africa to become one of the top 35 maritime nations by 2014 (BEE Maritime Charter, 2008 and SAMSA, 2011), and thus TNPA has to implement a longstanding port development programme of creating capacity ahead of its demand. TNPA has expressed their commitment to spending 33 billion rands for ports development and expansion. Bhikraj (2012), the former TNPA manager of the Port of Durban, noted that in today's global changing world TNPA needs to invest in ports for two major reasons; (1) to maintain the current capacity, and (2) to provide for forecast demand. With wear and tear it is paramount constantly to maintain and repair current machinery and equipment especially in the ports sector. Clearly old technologies, machinery and equipment cannot efficiently handle capacity over time. Indeed it becomes more costly if old machinery is operated as opposed to the relatively up-to-date machinery. The country has to make some South African ports transshipment hubs for the country and the Southern African region and the current pursuit of the democratic developmental state (Zuma, 2012). From the year 2012 and beyond, Zuma (2012) has committed the government to a massive infrastructure development drive in South Africa. Government has approved 300 billion rands to Transnet towards infrastructure investment for which 46.7 billion Rands would be spent on ports (Transnet, 2012). Most of the

materials that will be used will be passing South African harbours and thus South African ports would have to be ready, hence a further need for Transnet port investments. However to fulfill its roles and function like any other entity, TNPA will need to charge tariffs.

TNPA (2009: 8) submitted that tariffs should ensure that they cover all “costs and make a return on the fair value of assets commensurate with the opportunity cost of capital and which provide for necessary investment in port infrastructure and related assets.” Clearly this is a direct transfer of costs from TNPA to port users. This method ultimately means that port users would pay for (1) all ports investments; (2) all ports costs; and (3) for TNPA is to make a profit. This method guarantees TNPA profit regardless of whether TNPA is efficient or productive or not. When ports activities are profitable, one can rest assured that the seaports are self-sufficient, they would not need to rely on subsidies and bail-outs. Such a price strategy is an element of the Anglo-Saxon doctrine to pricing and investment in seaports. The Anglo-Saxon doctrine “considers that the port should be self-sufficient and should make a profit, or at least should not make a loss” (Strandenes and Marlow, 2000: 4). The Anglo-Saxon doctrine can also fit well if the ports were private because it limits the opportunity to make any losses. It is perceived that private investors would always be looking forward to making a return on their investment. However the contemporary policies and visions in South Africa view the ports as having the potential to contribute largely to the economic development of the country and the Southern African region. Section 2 (a) of the NPA act (2005: 11) highlights the first objective of the act which is “to promote the development of an effective and productive South African ports industry that is capable of contributing to the economic growth and development of our country.” And hence, the Ports Regulator was established under the NPA act (2005) with the objective to “develop an effective and productive port industry for economic growth and development” (Gumede and Chasomeris, 2012: 87). Furthermore, the national commercial ports policy (2002: 1) states that “the port system can have a multiplier role on the economy of the country and the Southern African Development Community (SADC) region.” In addition, for South Africa to become a democratic developmental state South Africa’s ports will have to contribute to the economic development.

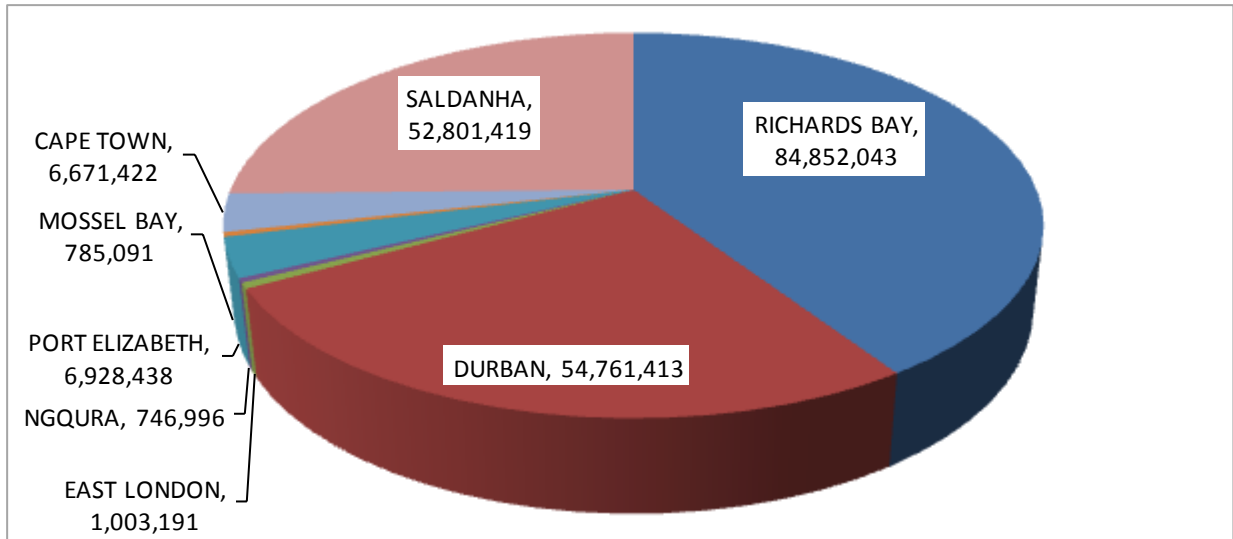
Zuma (2009) suggested that to achieve the visions of the developmental state the country needs to involve its state-owned entities. And thus, TNPA (2010b) believe that they are in line with the

objectives of the developmental state. Such a developmental state's role for ports would be to contribute to economic growth and regional development and this may be viewed as an element of the European (Continental) doctrine. The European doctrine "views the port as part of the social infrastructure and hence assesses its value in terms of contribution to the development of the region and not necessarily in terms of profitability" (Strandenæs and Marlow, 2000: 4). Transnet (2012) has a seven year market demand strategy which includes a 47 billion investment in South African sea ports. Transnet (2012) believes that their investment will create about 588 thousand job opportunities, create world class infrastructure, and will drive regional integration. Clearly South African ports appear to be employing contesting doctrines. South African ports have a vision and operate according to the European doctrine but aim to charge tariffs according to the Anglo-Saxon doctrine. It is practically impossible to achieve both the objectives concurrently. The study by Radelet and Sachs (1998) concluded that higher tariffs will make it difficult to promote economic development, thus leading to lower economic growth. Sánchez et al., (2003: 200) agree that "greater transport costs lead to lower levels of foreign investment, a lower savings ratio, reduced export of services, reduced access to technology and knowledge, and a decline in employment." (Sánchez et al., 2003: 200). Correct pricing could efficiently strengthen South Africa's ports and has a potential to contribute to the country's economic development. The Department of Trade and Industry (DTI, 2010) argue that TNPA fail to recognise the critical importance of the port sector for broader industrial development and neither do they recognise the significant potential economic contribution nor employment multiplier inherent in the port sector. South Africa's port system still needs to confront a number of challenges which include ports under-investments, old technologies, old machinery, skills shortages, huge levels of unemployment, increasing congestion, poor regional integration, the carbon intensity of the current system, and weak maritime connectivity (TNPA, 2010b).

Without a better understanding of the economic and political contexts of South Africa's ports, and the country's vision at large, it is challenging to advocate for any one of the doctrines. With proper regulation of South Africa's ports will come the potential to contribute to the betterment of the country's economic growth. The TNPA tariff application is ordinarily published during the final week of July or the first week of August each year for the following tariff period. Likewise, Khan (2012), the Chief Executive of Ports Regulator of South Africa, confirmed that TNPA has submitted a tariff application for 2013/14 on time, however, Ports Regulator rejected the entire

application, claiming that it did not meet the regulatory framework, and hence the final application was published late in September. The DTI (2010: 64) confirmed that key South African ports' constraints are "infrastructure, availability of port space, inconsistent and high pricing of facilities, poor scheduling of facilities, availability of dedicated personnel to liaise with and make timeous decisions in relation to the industry, availability and functionality of equipment, and identification and resolution of problems as they arise." These constraints remain unsolved to date (DTI, 2010). South Africa is sitting with an unemployment rate of about 25%, using a narrow definition, and about 36%, using a broader definition which includes about 2.2 million discouraged work seekers (Gumede and Chasomeris, 2012). Since the ports are state-owned, TNPA needs to contribute towards confronting these challenges.

The Port of Durban alone has been consistently associated with persistent congestion and the shipping lines are getting discouraged to use the port (Orlek, 2011). While the Port of Durban is the busiest port in Africa (Ports Regulator, 2010b) it is also having a huge challenge of not having sufficient port space. Inefficiencies, less productivity and delays have been reported to be high in the Port of Durban (Peat, 2011; and Orlek, 2011). However, Bhikraj (2012) reported that capacity for most operations in the Port of Durban exceed the demand that the port faces. Congestion, inefficiencies and delays are therefore as a result of old machinery and technologies as well as skills shortages. Compared to other South African multi-purpose ports, the Port of Durban accounts for about 67.7% of containers handled in the country; the Port of Cape Town handles about 19.7%; the Port of Port Elizabeth about 10.9%; the Port of East London about 1.5%; and the Port of Richards Bay, although it was not developed to handle containers, but it handles about 0.2% (Ports Regulator, 2010b). The Ports of Cape Town, Port Elizabeth, and East London combined face less traffic and congestion as compared to the Port of Durban. The ports have been reported to be underutilised. South Africa cannot employ a uniform blanket solution to its challenges and for ports development. South Africa needs a mechanism to redistribute cargoes to other ports. Figure 4.2 shows the distribution of cargo handled in South African ports in 2010.



**Figure 4.2. Volume of cargo handled by port in 2010**

Source: Adapted from Department of Transport, 2010.

Only three of the eight South African ports consistently dominate the volumes of cargo handling. About ninety-one per cent of cargo handled in South Africa is handled in only three ports. One should acknowledge that the pricing element alone cannot fully redistribute traffic in South African ports. Ports, those which handle identical products, with different levels of investments, lack of port space and hinterland connectivity should not price the same. With a current complementary system of ports and pricing system which charges a uniform tariff across all ports regardless of the differences each port faces, port managers in underutilised ports have no ability to adjust tariffs in order to attract cargos into their ports. For example it appears that a shipper in Gauteng would still prefer to use the Port of Durban rather than Port of Ngqura regardless of inefficiencies and delays. Although all ports would cost Gauteng shippers the same, the inland movement would be cheaper if using Port of Durban for the reason that the Port of Durban is the closest South African container port to Gauteng. Hence, it is relatively cheaper for Gauteng shippers to use the Port of Durban. The Port of Ngqura faces less traffic and less congestion. The port started its operations in 2009. However it has been reported that, since its inception, the Port of Ngqura has been underutilised. The Port of Ngqura was developed to be the transshipment hub port for the Southern African Development Communities (SADC) region. The Port of Ngqura is South Africa's deepest container port with the largest back of port space,

but it has poor regional integration and a small hinterland. The port's viability is also being challenged by the weak road and rail infrastructure.

Central government have committed to improve rail and road system in the country (Zuma, 2012). However, the DTI (2010: 63) argued that "the strong mandate from Government in the form of the Industrial Policy Action Plan (IPAP) has not found expression in clear resolution of existing port constraints and programmes on the part of the TNPA." Government involvement is an element of the Asian doctrine. Asian ports have established a new doctrine which reiterates the role of central government in ports developments. Lee and Flynn (2011) argued that the two doctrines (Anglo-Saxon and European) are not sufficient to explain the success of Asian ports. The new doctrine is therefore called the Asian doctrine. Lee et al., (2008) confirmed that some elements of the Asian doctrine are also being practiced in South Africa. With the Asian doctrine, port authorities govern overall port policy and pricing under the control of the central government in order to enable consistent economic growth and control national price levels. Furthermore, in order to expand capacity or to create additional new port developments, government employs cross-subsidization; and "landside connectivity is part of the integrated planning under the central government" (Lee and Flynn, 2011: 798). Likewise, Khan (2012) confirmed that cross-subsidisation in South Africa is allowed, as long as such cross-subsidisation is in the public interest. However, the findings of this dissertation show that South African ports' users have criticised South African port pricing by TNPA and regard it as inconsistent with economic growth and with national price levels. Such findings suggest that South Africa is not a maritime nation, rather a nation with maritime ports. By the TNPA's being inconsistent in the application of the national policies, this contradicts the main objectives of the state-owned entities. State-owned entities, primarily, are supposed to carry out objectives of the state. If the state objectives clash with the maritime sector, it becomes harder for the country to become a maritime nation. With the Regulator's intervention the port was instructed to charge tariffs which are in line with the national price levels in the form of below consumer price index per centages. Gumede and Chasomeris (2012) argue, however, that the Regulator still needs to be strengthened in order to effectively align South African ports with the government objectives of economic growth. As was pointed out above, for the 2011/12 tariff year, the Ports Regulator was allocated a budget of 9.3 million Rands while expected to regulate TNPA which had an asset base of about 50 billion Rands (Gumede and Chasomeris, 2012). A lack of information provided by TNPA



adds a burden on ports regulation. Clearly, South Africa's ports system has a clash of doctrines. South Africa has to develop its own clear port doctrine that would be consistent with the country's visions and policies.

Stakeholders' perspectives are aligned with the realities that current South African port pricing system is facing. The current port pricing structure creates a great deal of confusion and misunderstanding. TNPA (2012: 7) confirms that the current tariff structure is characterised by a lack of the following:

- *“A clear set of principles and rules to be applied in determining the individual tariffs for the various services and facilities;*
- *Clarity and transparency regarding all operating costs, expenses and revenues incurred or generated from a specific service or facility, as well as the value of the capital stock related to such services or facilities;*
- *Explanation for differential tariffs for different commodities using the same handling classification;*
- *Information detail with respect to services or facilities pricing and cost relationships, making it impossible to determine where and in which direction subsidisation takes place or if it does not;*
- *Information on how the tariff structure promotes access to ports and efficient and effective management and operation of ports.”*

Additionally, TNPA (2012) further confirms that South African ports tariffs have a number of imbalances which include very high tariff levels for cargo dues, very high differentials in the levels of cargo dues for different cargo types and commodities for which there is no clear motivation provided for such differences, while there are relatively low levels of tariffs for cost-based maritime services which result in subsidisation of some services, and very low revenue levels compared to international landlord ports authorities that recoup from the real estate business over the decades and are recorded in several of these stakeholders' submissions. TNPA appears finally to be acknowledging these issues that the stakeholders have consistently raised.

TNPA (2012) has proposed the new pricing strategy which will be aligned to the six strategic pillars, as show and explained in table 4.5 below.

**Table 4.5. Key Pillars of the Pricing Strategy**

	<b>Key Pillars</b>	<b>Description</b>
1.	Comprehensive	<ul style="list-style-type: none"> <li>• Covers all revenue and costs</li> <li>• Addresses all charges</li> <li>• Clarifies all pricing modifiers</li> <li>• Provides sufficient detail for regulation</li> </ul>
2.	Defendable/Compliant	<ul style="list-style-type: none"> <li>• Based on clear principles</li> <li>• Aligned with regulatory directives and regulator expectations</li> <li>• Supported by a robust methodology</li> </ul>
3.	Simple	<ul style="list-style-type: none"> <li>• Easy to understand and administer</li> <li>• Rationalises charges</li> <li>• Simplifies charges for port users</li> </ul>
4.	Competitive	<ul style="list-style-type: none"> <li>• Comparable to ports worldwide</li> <li>• Protects regional market share</li> <li>• Supports SA economic development</li> <li>• Fair on all port users</li> <li>• Allows for competition within ports</li> </ul>
5.	Implementable	<ul style="list-style-type: none"> <li>• Full legal and regulatory compliance</li> <li>• Addresses impact on port users</li> </ul>
6.	Sustainable	<ul style="list-style-type: none"> <li>• Allows maintenance of existing infrastructure</li> <li>• Allows future expansion of infrastructure</li> </ul>

Source: TNPA, 2012: 10

### ***4.3.2 The Impact of Allowed Tariff Increases on Required Revenue***

For tariff applications, the TNPA employs the revenue requirement method. The Ports Regulator (2010) notes that such a method is not expressed explicitly by the regulatory framework, however, it is not specifically excluded. The Regulator therefore opted to accept the method as applied by the TNPA with exception to where, in the Regulator's opinion, it was incorrectly applied. The formula used, therefore, is as follows:

$$\text{Revenue Requirement} = (\text{cost of capital} \times \text{regulatory asset base ("RAB")}) + \text{operating costs} + \text{depreciation} + \text{taxation expense} - \text{clawback}$$

Where the Regulatory Asset Base (RAB) = value of the assets used in the regulated services – accumulated depreciation on such assets + working capital (Ports Regulator, 2010; 2011 and 2012). The cost of capital was determined using the Capital Asset Pricing Method (CAPM). The Chief Financial Officer of the TNPA, Abdool (2012), and Khan (2012) note that CAPM was not designed for port pricing, nevertheless, it was allowed in the absence of an appropriate alternative method.

Table 4.6 shows the TNPA calculation of the required revenue model in contrast to the Ports Regulator calculations for tariff year 2010/11, 2011/12 and 2012/13. The difference in RAB was because, for 2010/11, the Ports Regulator (2009: 5-6) stated that “the TNPA had incorrectly added the (2009/2010) capital expenditure of R3.489 billion and the depreciation of R686 million, to arrive at a combined capital expenditure and depreciation of R2.888 billion, while in fact, these add up to R 2.803 billion.” In 2011/12 and 2012/13, the Ports Regulator (2010 and 2011) believed that TNPA had incorrectly calculated their Weighted Average Cost of Capital (WACC). To determine TNPA's asset Beta for the calculation of cost of capital, TNPA simply selected a number of ports, 11 for 2010/11 and 17 for 2011/12, and used the average of those ports. The Ports Regulator, however, opted to consistently use the asset beta for the global ports industry as used by the Queensland Competition Authority. The Ports Regulator (2010: 11 and 2011: 9) explains that, “TNPA's equity is not publicly traded and therefore it is not possible to calculate its beta directly.”

In table 4.6, the difference in RAB is because TNPA used CPI inflation of 6.46% and a CPI inflation forecast of 5.87% in their WACC calculations. The Regulator considered the CPI forecast of 5.87% as credible and therefore used it for all elements requiring inflation. For the WACC, the TNPA used an average of a selection of ports to calculate the beta co-efficient of 0.62 and assumed a market premium of 6.0%. The Regulator, however, opted to use the latest Queensland Competition Authority (QCA) global asset beta for ports of 0.5 and decided to continue using the long-term premium of 5.8% supported by research from both the Ports Regulator and TNPA. The operating expenses proposed by TNPA are 20.94% more than the 2010/11 operating expenses. The regulator decided that an increase of 13.04% was more appropriate because only some of the increases in operating expenses were justified (Ports Regulator, 2011b).

**Table 4.6. TNPA and Ports Regulator Calculation of the Required Revenue Model, 2010/11 to 2012/13**

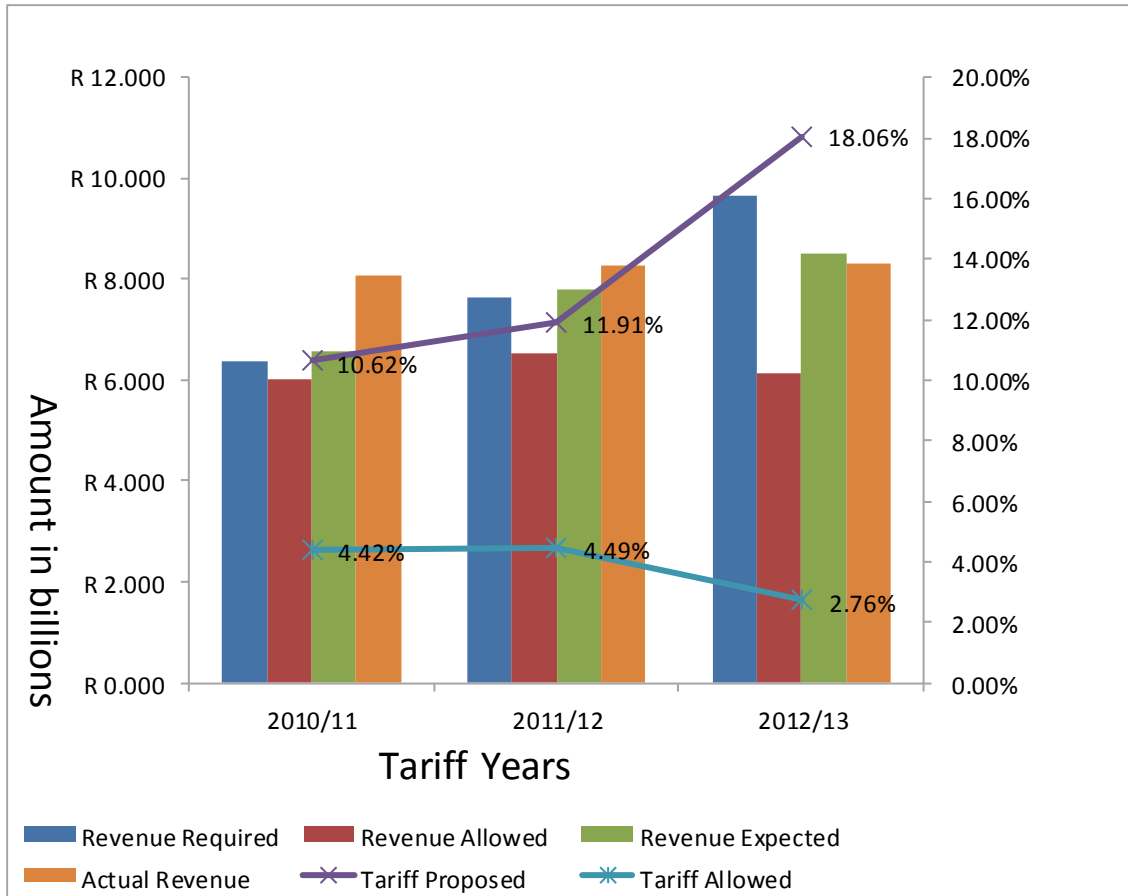
Description	2010/11		2011/12		2012/13	
	TNPA	Ports	TNPA	Ports	TNPA	Ports
	Proposed	Regulator Decision	Proposed	Regulator Decision	Proposed	Regulator Decision
	R million	R million	R million	R million	R million	R million
Regulatory Asset Base (RAB)	45 677	43 165	51 480	48 529	58 490	60 001
Real post-tax Weighted Average Cost of Capital (WACC)	6.02%	5.15%	5.38%	4.71%	8.97%	6.13%
Return on Capital (ROC)	2 750	2 225	2 768	2 284	5 245	3 675
Plus: Depreciation	837	837	937	937	1 130	1 330
Plus: Operating Expenses	2 474	2 364	2 859	2 672	2 981	2 986
Plus: Taxation Expense	1 026	813	1 077	816	786	342
Total Revenue	7 087	6 239	7 641	6 710	10 142	8333
Less portion of forecast over-recovery in 2010/11				186	497	540
<b>Total Revenue Requirement</b>	<b>7 087</b>	<b>6 239</b>	<b>7 641</b>	<b>6 523</b>	<b>9 645</b>	<b>7793</b>
Real Estate Income	219	219				1 643

<b>Marine Business Income</b>	<b>6 868<sup>1</sup></b>	<b>6 020</b>	<b>7 641</b>	<b>6 523</b>	<b>9 645</b>	<b>6 150</b>
<b>Smoothed<sup>1</sup> Revenue Required</b>	<b>6 377<sup>1</sup></b>					
Expected (Allowed) Revenue (Previous Year)	5,360	(5 360)	6 584	(6 020)	7 807	(6 523)
Expected Volume Increase (%)	7.56%	7.56%	3.70%		4.65%	
Revenue resulting from volume increase	5765	5765		6 243		5 985
Revenue shortfall		255		280		165
<b>Tariff increase 2011/2012</b>	<b>10.62%</b>	<b>4.42%</b>	<b>11.91%</b>	<b>4.49%</b>	<b>18.06%</b>	<b>2.27%</b>

Note 1. TNPA had required a present value of revenue for three year (2010/11 to 2012/13) of R18 134m which would have translated into the required revenue, for each year, of R6 868m, R7 539m, and R8 251m and the tariff increase of 19.13%, 2.19% and 4.00% respectively. TNPA, however, proposed a three-year view on tariff increase in order to lessen the substantial first year increase. Such a three-year view was going to translate into a tariff increase of 10.62% for the period of three years. Although TNPA recommended a three-year view, they would need to re-apply in each subsequent year in order to comply with the regulatory directives and the National Ports Act.

Source: Author compiled using data from Chasomeris, 2011; Ports Regulator, 2010; 2011 and 2012 and TNPA, 2009; 2010 and 2011.

Sigonyela in *Mail and Guardian* (31 January 2011) noted that the TNPA had expressed their disappointment with the Regulator's decisions as it may affect TNPA's ability to successfully achieve their market demand strategy for port investments and it might also affect their ability to maintain debt service ratios. Although the difference between the applied-for tariff increase and the allowed tariff increase seems huge, the empirical results show that the bottom line revenue requirement seems not to be heavily affected. TNPA has consistently surpassed their main revenue objectives and received revenue that is more than they required. Figure 4.3 shows tariff results for the 2010/11, 2011/12, and 2012/13 tariff years. On the TNPA tariff applications for 2010/11 to 2012/13 tariff years, TNPA had required revenues of 6.377 billion rands in 2010/11 TY, 7.641 billion rands in 2011/12, and 9.645 billion rands in 2012/13 TY when granted and hence applied for a tariff increase of 10.62%, 11.91% and 18.06 for 2010/11, 2011/12, and 2012/13 TY respectively. However The Regulator ascertained that revenue of 6.02 billion rands was necessary for 2010/11 TY, 6.523 billion rands was necessary for 2011/12 TY and 6.15 billion rands for 2012/13 TY, and hence allowed actual tariff increase of 4.42%, 4.49%, and 2.76% for 2010/11, 2011/12, and 2012/13 TY respectively. Nonetheless, with the allowed tariff increments, TNPA (2010; and 2011) submitted that they expected to recover revenue of 6.584 billion rands for 2010/11 TY and 7.807 billion rands for 2011/12 TY. These expected revenues are a clear indication of over-recovery as they are above both the Regulator's allowed revenue that TNPA should have tried to recover and TNPA initial revenue required. For 2012/13 TY TNPA (2012) submitted that they are expecting to recover 8.490 billion rands. Although this is less than what they initially required but it is still more than the allowed revenue that the Ports Regulator assessed to be appropriate. The annual financial statements reports actual revenues which are even higher than the expected revenue for both 2010/11 and 2011/12 tariff years and slightly lower for 2012/13. Overall, for the three tariff years, the trend for the actual revenue received by TNPA presents the gradual increase.



**Figure 4.3. Tariff and Revenue Results for 2010/11, 2011/12 and 2012/13**

Source: Author compiled using data from TNPA (2009; 2011; 2011 and 2012); Transnet (2011 and 2012) and Ports Regulator (2010; 2011; and 2012)

One should note that the applied-for tariff increases and revenue required by TNPA do not account for TNPA’s real estate business whereas the allowed tariff increase and revenue allowed by the Regulator account for TNPA real estate business. It appears that if TNPA had included real estate business on their application for various tariff years, their respective required revenue would have been lowered, as well as their applied for tariff increases. For example: for 2012/13 TY TNPA (2011) submitted that their revenue requirement was 10.142 billion rands, which translated to 9.645 billion rands post-clawbacks, if real estate business is not included whereas if the Regulator insisted that the real estate business should be accounted for since it is still part of the whole marine business for which TNPA is responsible and from which it is making revenue,



then the TNPA revenue requirement would be 10.024 billion rands, which translates to 9.224 billion rands post-lease premium differential adjustment and post-clawbacks.

#### **4.4 Conclusion**

The country's ability to trade effectively relies heavily on Transnet. South African ports are state owned by the SOE, Transnet. Private operators have expressed their discontent at the player-referee relationship between TPT and TNPA. TPT operates the majority of highly lucrative cargoes while the private sector operates the majority of low-valued cargoes. South Africa's ports system is distinct. South Africa employs a complementary system of ports with a uniform cargo dues tariff structure that is applied across all ports regardless of the diverse environments the ports may face.

The purpose of this chapter was to present the content analysis of stakeholders' perspectives on port pricing in South Africa. TNPA has submitted tariff applications for 2010/11, 2011/12 and 2012/13 requesting tariff increases of 10.62%, 11.91% and 18.06% respectively using the revenue requirement method to the Ports Regulator of South Africa. The Ports Regulator therefore allowed stakeholders to submit their perspectives on the TNPA tariff application. The Ports Regulator then assessed TNPA tariff applications and the stakeholders' submission in accordance with the regulatory framework, the National Ports Act, the National Commercial Ports Policy and the regulatory directives and then made a decision to reject TNPA's requested increase and allowed annual increases of 4.42%, 4.49% and 2.76%.

The findings of the content analysis showed that ports stakeholders criticise the Transnet National Ports Authority for abusing its monopoly power; hindering global competitiveness; not taking into cognisance the state of the country's economy; charging prices which are higher than inflation; creating an environment which does not support job creation; being inconsistent and non-compliant with the national policies; not applying cost-based pricing principles; not having a justifiable pricing methodology; low productivity and inefficiency; inconsistent and unreasonable pricing of products; poor service delivery and poor port security.

TNPA submitted that most port tariffs in South Africa are not properly aligned with the international standards of pricing. TNPA (2009; 2010 and 2011) further mentions that they need to make massive investments which are essential for the well-being and the future of the South African economy. The South African ports system has a number of challenges that it still needs to confront which include issues relating to infrastructure, port under-investments, old technologies, old machinery, inconsistent and high pricing of facilities, availability of port space, poor scheduling of facilities, increasing congestion, skills shortages, availability and functionality of equipment, the country's huge level of unemployment, poor regional integration, availability of dedicated personnel to liaise with and make timeous decisions in relation to the industry, the carbon intensity of the current system, weak maritime connectivity, and identification and resolution of problems as they arise (DTI, 2010 and TNPA, 2010b). TNPA (2010b) believes that the current institutional structure is indeed in line with the objectives to overcome these challenges, however, they need to make sufficient revenue in order to be better enabled to confront these challenges. TNPA (2011) expressed the view that they need sufficient revenue in order for them to make 46.7 billion rands investments in ports in an attempt to create capacity ahead of demand. The current ports system has elements of both the European (Continental) and the Asian doctrine.

The TNPA persistently submitted that they need such tariff increases in order for them to recover all investments, recover all costs and make sufficient profits. Such a rationale, however, does not provide incentive for TNPA to reduce costs, it guarantees TNPA profit, regardless of the inefficiencies that they might have. Such a pricing rationale is an element of the Anglo-Saxon doctrine. TNPA, in its current state cannot achieve its objectives to contribute to the country's pursuit of a democratic developmental state. South Africa's port sector has a clash of doctrine. Ports investments and operations are in accordance with the European (Continental) and the Asian doctrine while the ports tariff rationale is in accordance with the Anglo-Saxon doctrine. The literature, however, concludes that there is no 'one size fits all' approach that can be applied in ports. South Africa's ports have the potential to contribute to the country's economic growth. South Africa has to develop its own clear port doctrine that would be consistent with the country's visions and policies. The proposed TNPA pricing strategy presents a clearer version which better acknowledges that country's vision.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

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#### **5.1 Introduction**

This chapter aims to provide conclusions and recommendations stemming from the discussions and analysis of the stakeholders' perspectives on maritime port pricing in South Africa. The South African government has committed itself to strengthen the maritime sector in South Africa. Ports can play a vital role in the country's economic growth. Ports offer a range of services, operate under different organisational structures and face a dynamic environment. Port prices are an important consideration in the provision of these services. The South African government has recognized the importance of promoting efficient and effective transport and the strategic role of maritime ports throughout the logistics chain. Government views the maritime sector as a new focal point to promote the country's economic growth. South Africa's container ports, however, have been identified as showing low productivity and yet they are extremely expensive to operate.

This chapter proceeds as follows: Section 5.2 provides the research aim and the methodology used in achieving the objectives of this dissertation. Section 5.3 discusses the findings on research questions of this dissertation and recommendations for the way forward. Section 5.4 discusses the limitations of this dissertation and the recommendations for future studies.

#### **5.2 Research Aim and Methodology Employed**

The aim of this study was to examine critically the perspectives of the stakeholders on maritime port pricing in South Africa. More specifically, the study analysed the TNPA tariff applications, the stakeholders' responses, as well as the Ports Regulator's record of decisions for 2010/11, 2011/12 and 2012/13 tariff years. This dissertation employed content analysis to critically examine the stakeholders' perspectives of maritime port pricing in South Africa. This

dissertation also used descriptive statistics in analyzing the trend and the status of port pricing in relation to South Africa's inflation rate (CPI). The study further compares and contrasts contemporary practice in South Africa's ports against the three port pricing doctrines identified in the literature, specifically, the Anglo-Saxon, the Asian, and the European doctrines to identify a better way forward for South Africa.

For the trend of three tariff years (2010/11, 2011/12, 2012/13), TNPA applied for an increase in tariffs (10.62%, 11.91% and 18.06% respectively) to the Ports Regulator of South Africa. The Regulator invited stakeholders to comment on applications before approving a tariff increment. The Regulator then assessed TNPA tariff applications and stakeholders' concerns, in line with the regulatory framework, regulatory directives, national policies and legislation and then made a decision. The Regulator allowed actual tariff increase of 4.42%, 4.49%, and 2.76% for 2010/11, 2011/12, and 2012/13 TY respectively.

### **5.3 Findings on the Research Questions**

This dissertation had four specific research questions. A summary of the findings are presented below:

#### ***5.3.1 What are the perspectives of the stakeholders on South African port pricing?***

The port pricing system in South Africa is distinct. TNPA employs a complementary system.. Ports do not compete with one another; a uniform pricing principle is applied across all ports regardless of the differences in the environment they operate in. The literature revealed that port stakeholders have been dissatisfied with the governance, policy and the pricing system in South African ports. Major issues that stakeholders had concerns with include:

- Promotion of import substitution;
- Intra- and inter-port cross subsidisation;
- Inter-modal cross subsidisation;

- Insufficient investment in port infrastructure and superstructures;
- Bureaucracy and skewed prices that lack transparency.

In an attempt to address these issues, ports have evolved through different restructuring initiatives. From a pre-union autonomous structure, to South African Railways and Harbours to South African Transport Services to Transnet and now to the two structures: Transnet and the Ports Regulator of South Africa. This dissertation notes that the current institutional structure provides an opportunity to appreciate the significant progress made, however, not all of the issues are completely dealt with while new discontents have developed. The Ports Regulator has the potential to properly address several of the maritime stakeholders' discontents, but the Regulator needs to be strengthened. Ports in South Africa need a more transparent and justifiable pricing methodology.

Maritime port reforms in South Africa brought the transformation in pricing from ad valorem pricing to cargo dues, the overall weighted average effect in 2001 and 2002 typically brought about a reduction in the price charged for high valued cargoes. Prior to that, ad valorem was charged at about 1.8% for the value of imports and 0.9% for the value of exports, although in 2001 it was reduced to 1.7% for imports and 0.85% for exports. South Africa's ports were able to exercise their monopoly power and levied high wharfage charges due to the nonexistence of competition both inter- and intra-ports. The realignments in lights, ports and berth dues and marine charges helped to reduce the effects of intra-port cross subsidisation (Chasomeris, 2011). Chasomeris (2011) notes that TNPA has confirmed that part of South Africa's efforts to improve pricing and competitiveness is targeting tariff increments that are below inflation. From 2005 to 2012, tariff increases were, on average, slightly below inflation. Only in 2009 and 2010, the tariff increase was slightly above inflation. Chasomeris (2011: 7) then concludes that, "the below inflation tariff increases have contributed towards a reduction in real transport costs that, in turn, may promote growth in South Africa's international trade".

National Port Act 12 of 2005 provided for the establishment of the Ports Regulator of South Africa, which was then established in 2007 and the "objectives are to: (1) develop an effective and productive port industry for economic growth and development; (2) promote and improve efficiency and performance in the management and operations of ports; and (3) promote the

development of an integrated regional production and distribution system in support of government policies” (Ports Regulator, 2009 in Chasomeris, 2011b: 6 and Gumede and Chasomeris, 2012: 87). Since 2009 TNPA has to apply for tariff increases to the Ports Regulator, annually for the following tariff year; then the Ports Regulator allows for industry comments on the TNPA tariff application and TNPA’s responses to those comments; and then makes a decision in accordance with the National Ports Act of 2005, National Commercial Ports Policy of 2008, and Draft Regulatory Directives of 2008. Gumede and Chasomeris (2012: 87) note that, “although both Transnet and the Ports Regulator are state owned entities, they are independent of each other.” South African ports have the potential to contribute to the economic development of the country if they can improve their pricing strategy and methodology.

### ***5.3.2 What are the reasons, rationale and arguments proposed by TNPA that support the large increases in port tariffs?***

In all three tariff applications, TNPA (2009: 8; 2010: 5 and 2011: 6) submitted that, their main rationales for tariff increase are to “recover its investment in owning, managing, controlling and administering ports and its investment in port services and facilities; recover its costs in maintaining, operating, managing, controlling and administering Ports and its costs in providing port services and facilities; and make a profit commensurate with the risk of owning, managing, controlling and administering ports and of providing port services and facilities.” Furthermore, TNPA (2010) argued that most port tariffs in South Africa are not properly aligned with the international standards of pricing. TNPA (2009; 2010 and 2011) further mention that they need to make massive investments which are essential for the well-being and the future of the South African economy. TNPA (2011) maintain that they need sufficient revenue in order for them to make 46.7 billion rands investments in ports in an attempt to create capacity ahead of demand.

### ***5.3.3 What are the strengths and weaknesses of the TNPA tariffs proposals for 2010/11, 2011/12 and 2012/13 tariff years?***

This dissertation found the following as strengths of the TNPA tariff applications throughout the period 2010/11 to 2012/13. The South African ports system has a number of challenges that it still needs to confront which include issues relating to:

- shortage of infrastructure,
- ports under-investments,
- old technologies,
- old machinery,
- inconsistent and high pricing of facilities,
- availability of port space,
- poor scheduling of facilities,
- increasing congestion,
- skills shortages,
- availability and functionality of equipment,
- the country's huge level of unemployment,
- poor regional integration,
- availability of dedicated personnel to liaise with and make timeous decisions in relation to the industry,
- the carbon intensity of the current system,
- weak maritime connectivity, and
- identification and resolution of problems as they arise.

TNPA (2010b) believes that the current institutional structure is indeed in line with the objectives to overcome these challenges, however, they need to make sufficient revenue in order to be better enabled to confront these challenges. Transnet (2012) has a seven year market demand strategy which includes a 47 billion rand investment in South African sea-ports. Transnet (2012) believes that their investment will create about 588 thousand job opportunities, create world class infrastructure, and will drive regional integration.

This dissertation found the following to be weaknesses of the TNPA tariff applications throughout the period 2010/11 to 2012/13. TNPA still lacks transparency in their reporting. TNPA is not fully consistent with the national policies and regulatory framework. TNPA is persistently requesting to charge tariffs that are higher than the country's inflation rate (CPI). TNPA seeks to recoup their investment for long-term infrastructure in a short period of time.

This dissertation found that TNPA in its current state cannot efficiently fulfill its objectives. South African ports are currently facing two contesting objectives. TNPA's two contesting objectives are "to act as a port authority to safeguard public interest and to exploit its comparative advantage in the pursuit of its objectives" (Gumede and Chasomeris, 2012: 86). The first objective, which is in line with the European doctrine, means that all TNPA actions should be directed towards promoting economic development, whereas the latter objective, which is in line with the Anglo-Saxon doctrine, results in TNPA misusing their comparative advantage (monopoly power) by charging higher tariffs. Indeed TNPA, ports legislation and policies have objectives for economic growth and development. TNPA, however, charge their prices to be profitable and to make quicker returns on investments. Higher tariffs will make it difficult to promote economic development, thus potentially this could lead to lower economic growth. TNPA have investment rationales which are in line with the Asian and the Continental doctrines but have pricing rationales that are in line with the Anglo-Saxon doctrine. South Africa's ports have the potential to contribute to the betterment of the country's economic growth. However, South Africa has to develop its own clear port doctrine that would be consistent with the country's visions and policies. The Ports Regulator of South Africa needs to be strengthened as proper regulation can better address port stakeholders concerns.



#### ***5.3.4 What are the significant issues raised in the stakeholders' submissions?***

This dissertation finds that for the 2010/11, 2011/12 and 2012/13 financial year, maritime port stakeholders raised several issues. Most stakeholders raised issues that directly affect their line of business. The percentage of the forty-eight submissions that identified each of the following issues is in parentheses. These issues were presented in table 4.2 and include: high port tariffs in South Africa hindering the country's global competitiveness (62.5%); TNPA does not take cognisance of the state of the country's economy (50%); TNPA persistently wants to charge tariffs which are higher than the country's inflation rate (45.83%); the tariff methodology that is being applied does not provide an incentive for TNPA to reduce cost and to improve efficiencies (37.5%); tariff increases for certain products are unjustifiably higher than the approved tariff increase (31.25%); TNPA is not complying fully with the national policies, country's vision, port legislation, regulator framework and regulatory directives (27.08%); South Africa's ports show low productivity and lack efficiency, with huge delays, port congestion, high turnaround times, low container moves per hour and underutilisation (27.08%); TNPA lacks transparency in their reporting and they provide insufficient information and justification in their tariff applications (20.83%); South Africa's port pricing is still not fully cost-based (18.75%); TNPA abuses its monopoly to make an inflated profit margin of 73.9% (16.67%); high port costs detract from port users' profitability (16.67%); tariff adjustments for each product should be assessed individually (16.67%); high port tariffs lead to huge job losses, as the stakeholders will have to retrench in order to decrease costs (16.67%); before applying for tariff adjustment TNPA should ensure that all unresolved matters are addressed (10.42%); TNPA should improve customer service in their ports (8.33%); tariffs for certain products are still misaligned (6.25%); TNPA should improve their security efficiency (2.08%).

Port tariffs in South Africa are among the highest in the world. High port tariffs hinder the country's and exporters' global competitiveness and the growth of the South African economy, since they increase costs of doing business in the country. High port tariffs hinder port users' profitability, which has led to massive job losses. TNPA is not complying fully with the national port policies and legislations, and regulatory framework.

TNPA lacks transparency in their reporting and they provide insufficient information and justification in their tariff applications. The tariff methodology does not provide an incentive for TNPA to reduce costs even though some of the cost items may be due to inefficiencies. Tariff adjustments for handling each commodity should be assessed individually. Furthermore, TNPA should improve customer service, security efficiency, productivity and efficiency. TNPA, since it is State-Owned, is supposed to act in the best interest of the country. Decisions and pricing that TNPA make should be in the best interest of South African maritime stakeholders, however, stakeholders consistently raise issues with TNPA decisions.

#### **5.4 Limitations of this Dissertation and Areas for Future Research**

The ethical clearance certificate was granted for this dissertation for the use of data which are in the public domain. Other stakeholders submitted confidential concerns which couldn't be reflected in this study. Several stakeholders submitted their perspectives in groups or through associations. Such groupings of perspectives may seem to be from the minority of stakeholders, however, they represent collaborative views from a number of stakeholders belonging to each association.

The study provides options that the country can consider in making the best of the current situation, however, it does not suggest possible pricing methods that TNPA should employ going forward which would satisfy the majority of South African stakeholders. The Ports Regulator of South Africa has called a stakeholder's symposium, in March 2013, to deliberate on the pricing strategy and the pricing methodology that South Africa should employ. Such pricing strategy and methodology are research areas that need to be further investigated.

Chapter 3 of this dissertation clearly identifies research objectives and the methodology used. This dissertation does not seek to interrogate the nuances in the harbour tariff book, neither the National Ports Act nor any other legislation, other than those issues that have been raised by port stakeholders in their submissions.

The study acknowledges that South Africa is unique and hence should be developing its own port investment and pricing doctrine that would be consistent with the country's policies and

economic context. This study, however, does not recommend any particular model or doctrine that the country should use. Since the country is in pursuit of a democratic developmental state, further research is needed on public-private partnerships as a method to deal with ports inefficiencies, under-investments and old technologies.

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## APPENDIX 1. Themes on Stakeholders'

2010/11, 2011/12 and 2012/13 Tariff year

No.	Themes	List of stakeholders' submissions commented about each theme									
1	High Cost in SA (Global Competitiveness)	Johan Venter 2010/11	SAAFF 2010/11	Cape CoC 2011/12	Columbus Stainless 2011/12	CTC Timber 2011/12	Johan Venter 2011/12	Xpanse 2011/12	Forestry SA 2011/12	FPEF 2011/12	General Motors 2011/12
		Goedehoop 2011/12	Lanxess 2011/12	Masa 2011/12	Mondi 2011/12	NAAMSA 2011/12	SAAFF 2011/12	SAASOA 2011/12	Anglo 2012/13	Busa 2012/13	Cape CoC 2012/13
		Diving School 2012/13	Forestry 2012/13	FPEF 2012/13	Maersk 2012/13	NAAMSA 2012/13	SAAFF 2012/13	SAASOA 2012/13	SASC 2012/13	Shell 2012/13	Xpanse 2012/13
2	Economy	SAASOA 2010/11	SAAFF 2010/11	Cape CoC 2011/12	CMA CGM 2011/12	Xpanse 2011/12	Forestry SA 2011/12	General Motors 2011/12	Masa 2011/12	Mercedes 2011/12	Mondi 2011/12
		NAAMSA 2011/12	SAAFF 2011/12	SAASOA 2011/12	Grape Co 2011/12	Vopak 2011/12	Busa 2012/13	Forestry SA 2012/13	FPEF 2012/13	NAAMSA 2012/13	SAAFF 2012/13
		SASC 2012/13	Shell 2012/13	SAASOA 2012/13							
3	Above inflation (CPIX)	Johan Venter 2010/11	SAASOA 2010/11	SAAFF 2010/11	Cape CoC 2011/12	CMA CGM 2011/12	Forestry SA 2011/12	Goedehoop 2011/12	Mercedes 2011/12	Mondi 2011/12	NAAMSA 2011/12
		SAAFF 2011/12	SAASOA 2011/12	Shell 2011/12	Grape Co 2011/12	Vopak 2011/12	Anglo 2012/13	Busa 2012/13	Forestry SA 2012/13	FPEF 2012/13	NAAMSA 2012/13
		SAAFF 2012/13	SASC 2012/13								

4	Methodology	Columbus Stainless 2011/12	SAASOA 2011/12	EMC 2011/12	Xpanse 2011/12	FPEF 2011/12	Freight Train 2011/12	Mondi 2011/12	NAAMSA 2011/12	SAAFF 2011/12	Anglo 2012/13
		Busa 2012/13	Forestry SA 2012/13	FPEF 2012/13	Maersk 2012/13	NAAMSA 2012/13	SAAFF 2012/13	SASC 2012/13	Xpanse 2012/13		
5	Huge increase (unjustified) in certain commodities	Anglo 2011/12	Columbus Staineless 2011/12	CTC Timber 2011/12	Deneys Reitz 2011/12	Xpanse 2011/12	Forestry SA 2011/12	King & Sons 2011/12	Lanxess 2011/12	Masa 2011/12	Mondi 2011/12
		SAASOA 2011/12	SAPIA 2011/12	Shell 2011/12	SAASOA 2012/13	SAPIA 2012/13					
6	Inconsistency and Incompliance	SAASOA 2010/11	General Motors 2011/12	FPEF 2011/12	Xpanse 2011/12	Masa 2011/12	Mercedes 2011/12	Mondi 2011/12	Vopak 2011/12	Busa 2012/13	FPEF 2012/13
		SASC 2012/13	Shell 2012/13	Xpanse 2012/13							
7	Efficiency	Johan Venter 2010/11	Freight Train 2011/12	General Motors 2011/12	Masa 2011/12	Mercedes 2011/12	Vopak 2011/12	Busa 2012/13	Cape CoC 2012/13	JA Bremner 2012/13	Maersk 2012/13
		SASC 2012/13	Shell 2012/13	Goedehoop 2011/12							
8	Dearth of information	SAASOA 2010/11	SAAFF 2010/11	Deneys Reits 2011/12	General Motors 2011/12	Mercedes 2011/12	Mondi 2011/12	NAAMSA 2011/12	SAAFF 2011/12	FPEF 2012/13	Xpanse 2012/13
9	Cost base	Cox Yeats 2011/12	Columbus Staineless 2011/12	Xpanse 2011/12	General Motors 2011/12	SAASOA 2011/12	SAPPI 2011/12	Vopak 2011/12	Diving School 2012/13	NAAMSA 2012/13	
10	Monopoly Power	Johan Venter 2010/11	Cape CoC 2011/12	Mercedes 2011/12	SAAFF 2011/12	Cape CoC 2012/13	Forestry SA 2012/13	JA Bremner 2012/13	SASC 2012/13		
11	Profitability	Johan Venter 2010/11	Cape CoC 2011/12	Columbus Stainless 2011/12	Johan Venter 2011/12	FPEF 2011/12	SAAFF 2011/12	Diving School 2012/13	FPEF 2012/13		
12	Differentiation in Tariffs	General Motors	Mercedes 2011/12	Mondi 2011/12	NAAMSA 2011/12	SAPPI 2011/12	Anglo 2012/13	Diving School	NAAMSA 2012/13		



		2011/12						2012/13			
<b>13</b>	<b>Jobs</b>	CTC Timber 2011/12	Columbus Stainless 2011/12	FPEF 2011/12	Grape Co 2011/12	Busa 2012/13	Forestry SA 2012/13	SASC 2012/13	Cape COC 2011/12		
<b>14</b>	<b>Unresolved Matters</b>	SAPIA 2011/12	NAAMSA 2011/12	Shell 2011/12	SAPIA 2012/13						
<b>15</b>	<b>Misalignment</b>	Mondi 2011/12	SAPPI 2011/12	Shell 2011/12							
<b>16</b>	<b>Service delivery</b>	Johan Venter 2010/11	Goedehoop 2011/12	Shell							
<b>17</b>	<b>Security efficiency</b>	Columbus Stainless 2011/12									

## APPENDIX 2. Ethical Clearance Certificate



UNIVERSITY OF  
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20 April 2012

Mr Sanele Aubrey Gumede (206509799)  
Graduate School of Business and Leadership

Dear Mr Gumede

Protocol reference number: HSS/0105/012M  
Project title: Assessing Stakeholders' Perspectives on Maritime Port Pricing in South Africa

### EXPEDITED APPROVAL

I wish to inform you that your application has been granted Full Approval through an expedited review process:

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

A handwritten signature in black ink, appearing to read 'S. Collings', written over a horizontal dotted line.

Professor Steven Collings (Chair)  
Humanities & Social Sciences Research Ethics Committee

cc Supervisor Dr MG Chasomeris  
cc Mrs Wendy Clarke

## APPENDIX 3. Turnitin Report

### Master of Commerce

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#### ORIGINALITY REPORT

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