

Shared-Use of Railway Infrastructure in South Africa: The Case of Coal and Citrus Production in Mpumalanga

By

MISHACK SIYAFUNDA DUBE

THESIS

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Supervisor: Basani Baloyi

Declaration

I, Mishack Siyafunda Dube, declare that this research report is my original work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions.

It is submitted in partial fulfillment of the requirements for the degree, Master of Commerce (Development Theory and Policy) at the University of the Witwatersrand, Johannesburg.

Mishack Siyafunda Dube

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Name of Student

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Date Submitted

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Signature

The railway with its powerful steam locomotives fascinated and impressed our ancestors in much the same way that a Space Shuttle flight impresses us today... For the first time in human history, the railway freed travel from the constraints of human and animal muscle power and even the constraints of geography (Schivelbusch, 1987:1).

Abstract

Economic activities such as mining extraction and farming have in the past been supported by railway infrastructure, which continues to provide a cheap transportation option for the movement of freight. This research paper looks at the apparent bias that exists in the shared-use of railway infrastructure in South Africa between coal miners and citrus growers in Mpumalanga. The study is specifically concerned with the regulatory regime governing access and the extent to which it enables or hinders the shared-use of rail infrastructure, which is critical in the movement of freight for different sectors of the economy. The paper uses literature on regulatory practices and a case study of Mpumalanga's coal miners and citrus growers, to investigate South Africa's regulatory regime and its role in creating particular biases in the use of rail infrastructure.

KEY WORDS: Railways, Coal, Citrus, Mpumalanga, Transnet, Regulation, Shared-use

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List of Acronyms		
CAB	Container and Automotive Business unit	
CGA	Citrus Growers Association	
DoT	Department of Transport	
DPE	Department of Public Enterprise	
GFB	General Freight Business	
NRZ	National Railways of Zimbabwe	
PFMA	Public Finance Management Act	
RBCT	Richards Bay Coal Terminal	
SOC	State Owned Company	
SOE	State Owned Enterprise	
TFR	Transnet Freight Rail	

CHAPTER 1

Introduction

1.1 Background

Historically, railways set the pace for the industrial revolution in the 18th and 19th century in Europe and North America and played a crucial role in the socio-economic transformation from rural to industrial societies (Mckillop and Pearson, 1997). According to Collier (2011:18) “railways are the oldest continuous industrial technology” where the construction and maintenance of substantial railway systems has been a major catalyst in bringing modernity and industrial growth to the Third World. Herranz-Loncan (2011) makes the point that railways have (i) led to huge increases in aggregate productivity, market integration and labor mobility (ii) increased the stock of exploitable natural resources in mineral rich economies and (iii) stimulated the inflow of foreign capital and investment. Rail transport has always been identified as an efficient transport mode in the movement of people and freight (PPIAF, 2012). Therefore, this research paper has been motivated by issues around shared use of rail infrastructure between two different sectors of the South African economy, more specifically coal miners and citrus growers. Shared use refers to the ability for all sectors, both mineral and non-mineral to be able to access rail infrastructure without difficulty when demanded. Mineral and non-mineral users use rail infrastructure as part of an integrated network that facilitates in the coordination and promotion of economic activity both domestically and internationally (Toledano, 2012).

In South Africa rail infrastructure dominates the mining sector in terms of freight carriage and an example would be the extensive rail network transporting export coal to the Richards Bay Coal Terminal (RBCT) (Nel et al. 2004). The coal industry is predominantly the most important customer for South Africa’s rail network. The eMalahleni (Witbank) coalfields are an important center for South Africa’s current coal mining activity with about 55 collieries in operation (Banks et al. 2011). However, apart from mining, agriculture is also one of the largest economic sectors in Mpumalanga. According to the Provincial Growth Strategy and Development Strategy (2005) the agricultural sector is the second largest employer in the province behind mining and is a key driver in terms of job creation and economic growth. In 2012 the agricultural sectors contribution to Mpumalanga’s GDP (gross domestic product) (at constant 2005 prices) was 3.4% and although the sector's contribution

to the province's GDP declined from 4.2% in 1996 to 3.5% in 2010, it still maintained a comparative advantage over the same industry in the national economy (Mpumalanga Socio-Economic Outlook, 2013). However, because much of South Africa's economic activity has been centred around mining this presents a potential problem for other sectors, such as agriculture, to access rail infrastructure. The challenge to greater access can be attributed to the historic patterns of investment in rail infrastructure due to increased mining activities that have led to this sector dominating the use of rail services to the disadvantage of other users.

Brooke (2010) argues that rail services would function much better for citrus growers if there were for instance improved cost structures and coordination of rail activities similar to those afforded to the mining sector. Although efforts have been made to address these issues by the railway service provider, the citrus growers still do not have a seamless movement of cargo between two points like that of coal miners. Literature attributes this to a number of factors, such as freight costs, the modal characteristics, the commodity characteristics and economic regulation governing access to infrastructure. Vieira (1992) states that, in terms of freight movement, the mode that provides the minimum costs is often the one used by shippers. Therefore in response, freight transport tries to be as competitive as possible when it comes to their cost structure (Cambridge Systematics, 2013). However, despite favourable pricing the regulatory regime appears to have an overarching influence in terms of access to rail infrastructure. This is reiterated by Lapuerta and Moselle (1999), Campos and Cantos (2000) and Drew (2004), who explore the regulatory environment of network industries in their various capacities. The regulatory framework determines the rules that participants must adhere to in their activities. Therefore the research paper will focus on how the regulatory framework governing freight rail infrastructure has contributed to the biases in accessing rail amongst coal miners and citrus growers in South Africa.

1.2 Research Problem

Where there are presumed biases in accessing rail infrastructure, there exist challenges for sectors, such as mining and agriculture that require rail in the movement of their goods. This apparent bias has been principally explained through issues relating to modal choice that place emphasis on freight costs, modal characteristics and commodity characteristics. Vieira (1992), Cambridge Systematics (2013), Van der Mescht (2006) and Stander and Pienaar (2002) and Cook et al. (1999) have written extensively about this social phenomenon. Cheap

and reliable transport such as railways help ease costs for producers because “many commodities are traded at world market prices and transport costs come out of producer profits, thus low costs can help marginal producers to be more competitive” (PPIAF, 2012).

Table 1 below gives a comparison of cost structures between rail and road. As illustrated, in the case of citrus, rail is often characterised by lower line-haul costs over long distances compared to trucks, which are more cost effective over short distances (Van der Mescht, 2006). However, given the large volumes of citrus being transported in South Africa, the cost structure for citrus from point of production to ports shows that rail is the better option but there has been a decline in export volumes transported by rail for the citrus industry from 80% in 2000 to 5% in 2009 (Brooke, 2010).

Table 1: TRANSPORT COSTS CALCULATION 2011			
TFR Rail Price from Head to Port (Durban)			
Rail Price per Wagon = 24 pallets per Wagon			
Both Standard Height Pallets & High Cube Pallets			
Hoedspruit Siding	Letsitele Siding	Letsitele Siding	Polokwane Siding
R4 600	R6 200	R13 200	R11 750
Cost per Truck load = 24 pallets per Truck (7 Axle Trucks)			
Both Standard Height Pallets & High Cube Pallets			
Region		Durban by Road	
Hoedspruit		R12 000	
Zebidiela		R17 600	
Dendron		R17 600	
Letsitele		R14 500	
Pont Drift		R19 800	
Tshipise		R19 800	

Source: CGA 2012

Stander and Pienaar (2002) further point that shippers tend to attach a high value to the quality of service rather than to the costs, because the quality of the service has a direct impact on the efficient flow of freight from one point to another. Shippers tend to give preference to faster and more reliable modes (PPIAF, 2012), depending on the characteristics of the commodity being shipped, such as shipment size, shipment perishability and shipment density (Cambridge Systematics, 2013). Commodities with a short shelf life, such as citrus,

that are time sensitive would require a faster and more reliable mode (Brooke, 2010) than dense commodities like coal. Therefore examining commodity types and their characteristics enables shippers to negotiate for timely, reliable and high value service.

However, in some instances there exists a “Cross Over” group of goods whose characteristics are suited for any type of mode (CUTR, n.d). Table 2 below considers two products: coal and agriculture and two groupings are considered:

1. Those with a very low/no shift potential, and
2. Those with possible significant shift potential

Table 2: Coal and Agricultural Produce Shift Potential between modes

Very Low/No Shift Potential			
COMMODITY	REASON SHIFT IS/IS NOT POTENTIAL	KEY FACTORS IN MODE-CHOICE DECISION	MOST LIKELY MODE
COAL	- No shift required. Most tonnage shipped by rail and water. - Bulky - Not perishable - Long distance	- Transportation charges - Shipment density - Shipment value	Rail, Water
Possible Significant Shift Potential			
AGRICULTURE	- Predominantly shipped by truck. - Cross Elasticity for a 5% decrease in truck costs is 13.79 for rail. This is very high – rail need to work hard to keep agriculture customers (Beuthe, Jourquin, Geerts and Koul 2000). - Possibly bulky. - Possibly perishable. - Food is very varied. Bulk/unfinished food especially would have more of a shift potential. - Bulk food has a much lower Cross Elasticity for rail if truck prices decreased than finished foods (Cambridge Systematics 1995). - Food has been known to convert to rail (Morlok 1994). - Food is a commodity that trucks and railways compete for (Iiocco 1998).	- Transportation charges. - Package characteristics. - Distance of shipment. - Trip time and reliability. - Handling quality. - Shipment shelf life.	Bulk Food – Rail Finished Foods– Truck, Rail, Intermodal Water, Truck, Rail Bulky & Non-perishable – Rail

Source: CUTR (n.d)

This table depicts citrus as having a “cross over quality” and coal as not having this quality due to particular commodity characteristics. While this literature is valid, it does not explain the sources of why citrus would chose to move to road transportation other than stating that

this is due to better service. Therefore the literature on modal choice alone can not explain the causes of this bias.

On the contrary, literature on regulation looks at the contribution of the regulatory framework in creating biases to access rail infrastructure and this may include poor service. Lapuerta and Moselle (1999), Brown et al. (2006), Nowotny (1998) and Drew (2004) address these issues of regulation. Lapuerta and Moselle (1999) discuss two methods of accessing infrastructure - regulated access and negotiated access. However the weaknesses of these two methods often leads to foreclosure as network owners may deny access to their networks. Brown et al. (2006) and Nowotny (1998) then emphasise the need for regulation, to monitor and establish the rules of entry, for both old and new participants. However, this literature does not show how faults in the regulatory regime have reproduced biases.

Thus, the overall research problem seeks to shed more light on the following research question,

To what extent does the regulatory regime in charge of access to rail infrastructure enable or hinder shared use of rail infrastructure?

This presents one with the opportunity to add on to and bridge the gap in knowledge that seeks to see an improvement in freight rail activities for both the mining and agricultural sectors in South Africa. By examining cases that show how faults in the regulatory regime have reproduced biases that hinder or enable shared use of rail infrastructure.

1.3 Hypothesis

The domination of rail freight by the South African minerals sector that leads to a bias in the usage of rail infrastructure can be explained by testing the following hypothesis:

- In terms of access to rail infrastructure the ownership structure, either private or state owned, through its patterns of regulation has a significant bearing in enabling or hindering shared use of rail infrastructure.
- The regulatory regimes historical patterns of investment mean that mines have the appropriate infrastructure in place (physical factors and asset productivity) and have an advantage of proximity to rail infrastructure, which makes it easier for the

coordination of rail activities as opposed to farms (citrus plantations) that require such investment given their fragmented locations.

This hypothesis will be addressed specifically through examination of rail infrastructure and its usage in Mpumalanga province.

1.4 Research Aims and Objectives

- To assess and explain the apparent bias in the usage of rail infrastructure in South Africa between mineral and non-mineral users, more specifically between coal and citrus growers.
- To gain a deeper understanding into South Africa's rail network regulatory regime and its implications on the overall movement of freight at a sectorial level.
- To stimulate future debate on the topic, of the relevance of shared use of infrastructure and what implications this could have on the broader spheres of socio-economic development which often rely on infrastructure such as rail to harness growth potentials.

1.5 Research Approach and Method

This research looks into the regulatory framework that governs the use of rail infrastructure in an attempt to better explain the apparent bias that exists in the usage of rail infrastructure between citrus growers and coal miners. The research used both quantitative and qualitative methods of enquiry. Quantitative especially in gathering data on rail, such as tariffs, service costs, access pricing, volumes of commodities on rail, investment and revenue figures and the qualitative methods mainly due to the fact that, understanding a situation is gained from a holistic perspective (Hancock, 1998). For instance, it is concerned with the opinions, experiences and feelings of individuals. The methods employed evolved around interviews, synthesis of previous studies sourced from library materials such as books, reports, laws, regulations and articles or papers presented, relating to the subject matter. In-depth interviews with key personnel were conducted, among both the mineral (coal miner) and non-mineral (Citrus growers) users of rail infrastructure. Officials from the governing body that operates this infrastructure, which is Transnet, were also approached to gain more insight into the operations and use of rail infrastructure. In essence, interviews and documentary analysis

were used to establish reasons for modal choice and to understand the operations of the regulatory regime.

1.5.1 Case study

The Mpumalanga province presents a strong case study in showing how the agricultural and mining sectors interact in terms of the usage of rail infrastructure in the region. The emphasis of the case study in this research was used as a means of examining a contemporary phenomenon in its real-life context (Yin, 1981). Most importantly as Gunmmesson (2003: 488) notes, case studies give a full and rich description of relationships between different events and factors in the system, and as stated above this case study combined multiple data collection methods. The study focused more specifically on citrus growers and coal miners in the Mpumalanga regions of eMalahleni, Nelspruit, Eilandshoek, Thekwane, Ngodwana and Bushbuckridge. However, a more in-depth description and analysis of the case study is covered in chapter 3.

1.5.2 Operationalisation

Operationalisation is the process of identifying indicators or a set of criteria reflective of the concept and often the indicators selected must have a logical link with the concept (Kumar, 1999). This paper looks at the apparent bias in the usage of rail infrastructure more specifically in the context of the economic regulatory system governing access to the rail networks. Therefore, the theoretical framework of the regulatory school was used to operationalise this bias. Table 3 shows the indicators selected to explain this bias.

1. What is the regulatory framework that governs South Africa's freight rail?
2. Does the regulatory regime in place allow for multi-user access to rail infrastructure?
In terms of access pricing, access rights and long term development provisions/investment.
3. What investments as well as standing infrastructure, now and before exist[s][ed] to ensure the sustained use of rail infrastructure for either coal miners or citrus growers?

Table 3: Operationalisation table

Specific Research Question	Indicators/Questions	Data Source
Point 1 and 2	• Regulation provisions	• Policy documents • Rail Acts • Transnet regulatory framework • Regulatory Handbooks • Government working papers • Interviews
Point 3	• Investment decisions on capital expenditure over time • Price setting • Rail lines • Volumes • Tariff setting	• Interviews • Annual reports • Financial Statements

CHAPTER 2

Literature review

The aim of this section is to review the available literature on how shared use of rail infrastructure is best managed. Shared use of infrastructure is partly determined by who owns the particular infrastructure, either through the government as a public monopoly, through private investment or through partnerships. This in itself is imbedded in a deeper debate of the state versus market. Therefore, the first part of this literature review briefly outlines the historical shift towards expanded private sector involvement in the provision of public infrastructure. This is followed by a look into the progression leading to the need for economic regulation. In the second part, building on from the historical timeline focus is on the developments in the rail sector as a result of de-regulation as well as the alternate structures that have since developed apart from full private ownership, more so, given the case of South Africa's corporatized rail network.

2.1 Ownership Status and History: State - Market Debate

Historically issues around regulation and ownership within infrastructure services and operations stem from broader debates around privatization that came to the fore in the 1990s, a shift in policy from public to private. A transition from a centrally planned economy to a more market oriented one. A key debate that is at the center of privatisation is that of the state versus the market. On the one side advocates for the market such as John Williamson (1993), Peter Bauer (1974), Deepak Lal (1983) and James Scott (1998) were of the view that if left alone to operate freely the market alone could lead to increased efficiency and competition thereby solving the problems of underdevelopment. The state was viewed as a barrier to increased efficiency within the spheres of economic activity hence it had to take a secondary role. So with many countries recording negative growth rates in the 1970s this began to incite a need for more private participation in the spheres of government.

Meggison and Netter (2001:7), state "the economic theory of privatisation is a subset of the large literature on the economics of ownership and the role of government ownership / regulation of the productive resources." Put in a simple way, privatisation was a reform strategy formulated to help curb the poor performance of State Owned Enterprises (SOEs).

This meant that the existence of single state monopoly firms had to be relinquished to pave way for private investors that would facilitate the spread of market fundamentalism in the operations of state infrastructure (Lapuerta and Moselle, 1999). The argument behind this was that macro economic instability had been caused in many countries by excessive state intervention and so the solution was to stabilise, liberalise and privatise in order to reduce the states role in the economy. This was the sole remedy for structural adjustment in Africa and Latin America, which faced a debt crisis in the 1990s and was the standard reform for communist economies particularly in Central Europe and Eastern Europe that underwent democratisation.

However, despite the envisaged outcomes of the pro-market movement, such as improved efficiency and quality of service delivery through competition and / or clever regulation (Zhou, 2000), this view has been rejected by some authors who claim that most of the policies to come out of this, often found themselves clashing with public policy because some infrastructures are natural monopolies and may require some state involvement in order to ensure that social returns are maximised over private returns that increase prices and constrain output. Becirovic et al. (2011) points out that public ownership ensures that services of the utility sector are provided to marginalised areas that are often not cost-effective for private companies. Lin (2012) further suggests that the state is able to establish regulatory roles through the establishment of rules and ensuring that private gains are compatible with social objectives. In essence state capabilities are needed to ensure that socio-economic interventions such as infrastructure provision add net value to development Khan (2011).

This also shows that striking a balance between market led and state led infrastructure provision becomes complex and understanding some of the relationships that are born out of these complexities is subject to further research, but Layne (2000: 24) concludes the following

“Business does some things better than government but government does some things better than business...the public sector tends to be better at policy management, regulatory activities, ensuring equity and social cohesion...the private sector tends to be better at performing economic tasks, innovating, replicating successful experiments, adapting to rapid change, and abandoning unsuccessful or obsolete activities.”

With this in mind Ghosh (1992) makes the point that the market cannot function without the state and in turn the pattern of the development of the market would depend essentially on the

nature of the state. This is inline with what David Harvey (2007) mentions about the state versus market dichotomy in that, the market says that the state should not be involved in the operations of the market but in reality the market quite often needs the state to create more space for it to act. So, despite conflicting arguments from both schools, the two somewhat need each other in certain spheres of economic activity such as infrastructural provision and development.

2.1.1 Private Participation and the Development of Economic Regulation

With the state assuming a secondary role, the success of privatisation lay in increasing efficiency levels and competition. Thus, most traditional single state monopoly firms began to restructure inline with the codes and ethics of the market, which involved increased private participation in major sectors of the economy. However, critiques have argued that a change in ownership from public to private did not necessarily lead to increased efficiency gains let alone competition (Becirovic et al. 2011). Becirovic et al. (2011) mention that from the start there was a widespread growth of private monopolies particularly in those industries with high fixed costs, more specifically infrastructure industries, like railways, telecommunications, water and electricity supply. However, the monopoly power exercised by some industries prevented the development of competitors as the dominant players tended to foreclose the market from competition; new comers were either crowded out or simply denied access. Becirovic et al (2011:25) point out that

“Not the change in ownership leads to an improvement of efficiency of former state-owned companies, but the introduction of competition, where competition did not exist or was limited.”

So in essence the monopolies that existed or were being created after the de-regulation process of the 1990s tended to foreclose the market, limiting the opportunities for competition as access was denied. Therefore, the argument is that even after the post deregulation phase the probability of foreclosure still remained high amongst industries that had a monopolistic advantage, regardless of being under state or private ownership. It then followed that there was a need for economic regulation to monitor access to infrastructure (Lapuerta and Moselle, 1998), in terms of is access pricing, access rights and long-term developments, subsequently curbing monopolistic abuse practiced by some infrastructure industries. Therefore, the section to follow continues by looking at the development of economic regulation owing to an increase in private participation.

2.1.2 Economic Regulation

Regulation is a key concern when dealing with infrastructure industries. Brown et al (2006:5) state that a regulatory system should be defined as “the combination of institutions, laws, and processes that, taken together, enable a government to exercise formal and informal control over the operations and investment decisions of enterprises that supply infrastructure services”. Thus, legislation and in some parts separate regulatory entities with some degree of autonomy (Brown et al. 2006) have been created in this regard. In most cases when carrying out their functions regulators are legally distinct and independent from both private and public influence (DBIS, 2011). However, regulators are expected to adhere to sector policies specified by government (Drew, 2004). This view confirms that a major part of regulation is to ensure the efficient use of infrastructure as well as the promotion of competition among different firms, thereby maximizing on the benefits. Nowotny (1998: 3) summarises the starting points of regulation:

- Barriers of entry into markets.
- Price regulation-regulation of tariff levels and structure which involves profit and cost control.
- Setting of quality, standards and working rules that is, form of standards, minimum quality setting and mandatory tariff disclosure for the protection of the consumers.
- Obligatory contracting, which are the conditions under which regulated enterprises are obliged to offer their services to everyone.

However, the nature and extent of regulation as well as the scope and instruments of regulation are not fixed (Nowotny, 1998: 3) they also tend to differ across countries and their respective industries.

On regulation governing access to infrastructure Lapuerta and Moselle (1999), on network industries in Europe, define two methods for access to infrastructure,

- (i) Regulated access and,
- (ii) Negotiated access

Each as will be seen has its own terms and conditions with regards to access to a particular network.

Regulated access is seen as a scenario where the government sets the prices and terms through which potential new competitors can obtain access to essential networks Lapuerta and Moselle (1999). Such regulation is in line with arguments that are of the view that government plays a crucial role in enabling or hindering access; as it becomes that structure that dictates industry participants and the terms under which they access the infrastructure (PPAIF, 2012). An example of this is in Europe's gas industry; the right of access to the system is based on published tariffs or other terms and obligations (Lapuerta and Moselle, 1999). One could confirm that, to an extent, regulated access with its published tariffs makes access easier as customers have a clear understanding of the terms and conditions in place and in this case discriminatory terms are normally at a minimal. However contrary to this, a point put forward by Swaminathan and Houndete (2012), indicates that at times when governments are faced with monopolistic structures that do not want to surrender their monopoly status, they lack the bargaining power to implement regulation that allows for shared use or third party access.

Negotiated access is a situation where “competitors negotiate the terms of access directly with the incumbents and negotiations must be non-discriminatory so as to ensure efficient outcomes” (Lapuerta and Moselle, 1999:455). The authors continue by saying that a major difference between the two is that in the former regulated access gives “eligible customers a right to access, on the basis of published tariffs for the use of transmission and distribution systems” and in the latter “producers and eligible customers are able to negotiate access to the system with each other on the basis of voluntary commercial agreements”. Negotiated access has been dominant in most parts of Europe and North America on the bases that it can incite sufficient competition and entry. However, in contrast, both the Australian Government (2013) and Lapuerta and Moselle (1999), mention that in some instances negotiated access, given a vertically integrated network, an owner may deny competitors access to a network. Such misuse of power forecloses the market from competition, potentially denying the chances of shared use of infrastructure. This in essence highlights the shortfalls of negotiated access calling for a more inclusive and non-discriminatory economic regulatory framework. In Europe before British Gas became a regulated entity, its operations were based on negotiated access, however the problem with this was that it often engaged in discriminatory practices that hindered fair access to other parties. It was such that British Gas was foreclosing the market by refusing access to its

network by other firms. These examples to a large extent expose some of the weaknesses of negotiated access in practice.

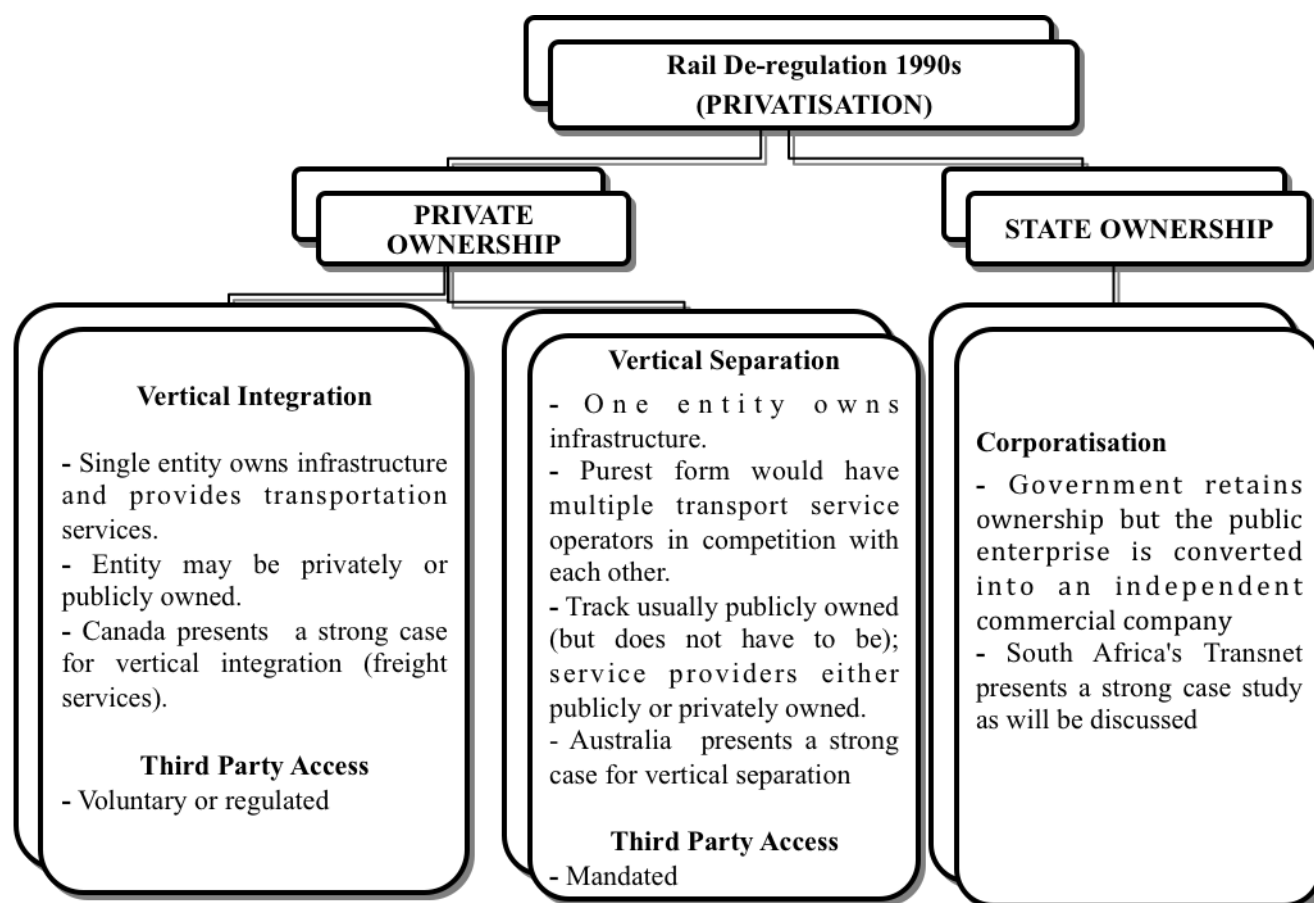
In conclusion, one can confirm that during the 1980s the market system with its policies of full privatisation of infrastructure, driven by private sector firms was dominant, with little need for the state. However, with the envisaged results not being realised, the 1990s onwards witnessed a new wave of socio-economic restructuring. Either the private sector was to become the owner or the government remained the sole owner. Furthermore, one can also confirm that the separation of ownership and operations within network industries led to ownership regimes that tend foreclose the market and restrict entry. It then becomes of paramount importance to understand the regulatory governance “such as the laws and codes under which they operate, their processes and procedures, and so forth” (Stern (2007:5), which is what this paper set out to do.

2.2 Developments in the Rail Sector

This section examines developments in the rail sector owing to the de-regulation phase of the 1990s. Before privatisation the most common structure of the rail sector was the existence of a single state monopoly firm, in control of both infrastructure and rail services (Campos and Cantos, 2000). State owned firms were not free but regulated and viewed as inefficient partly because of the state’s inability to pull expenditures and new investments for infrastructure projects (Pittman, 2007). There was a call for deregulation, which saw countries begin to replace national railways with commercial bodies possessing independent and “realistic” balance sheets (Campos and Cantos, 2000:10). Van Der Mescht (2005) states that by 1997 fourteen developing countries had transferred responsibility of most rail operations into private hands and that 44 rail networks in 16 countries had either been concessioned or privatized, with the notable experiences being in the European Union (Britain) and the United States of America. Campos and Cantos (2000:13) state, “deregulation brought about ownership structures that were separated along the lines of infrastructure and services”. Two structures are explored (i) Vertical integration and (ii) Vertical separation and given South Africa’s case a third structure is considered here, which is (iii) Corporatisation. One can confirm that the reasoning behind this was that such restructuring would boost the entry of several operators’ thus encouraging competition and increased efficiency of rail infrastructure in the movement of freight.

The restructuring process differed in each country depending on the objectives being pursued, either to stick to one operator or to increase competition on the tracks. Table 4 below summarises deregulation in the rail sector and the resultant outcomes.

Table 4: Railway De-regulation



Source: Author's re-construction (WESTAC, 1997:5)

Corporatisation, involves placing “selected publicly-owned enterprises into a position analogous to that of the private sector while retaining public ownership” (Department of Trade and Finance, 1998: 7), an example being South Africa’s Transnet, the state owned vertically integrated monopoly. In South Africa corporatisation as a reform mechanism was seen as a way of enhancing commercial performance (Eberhard, 2005). So the idea behind this was to make state enterprises adjust to the commercial and competitive environment that had been triggered by the market system, a somewhat alternative to full privatisation as reiterated by the NSW Treasury (1991). It also presented ground for the continuation of public ownership thus retaining the state’s economic and social obligations

(Department of Trade and Finance, 1998). A corporatised structure is based on the following; the government is the major shareholder and appoints directors with commercial expertise, the CEO is responsible to the Board of Directors and managers are often given the authority to make operational decisions (Department of Trade and Finance, 1998). Additionally, as a corporation, the government entity is also liable to pay company taxes and dividend payments (Eberhard, 2007). By extension some points worth noting about Government Corporations are as follows:

- The management of government corporations entails both management of basic functions as well as decisions on investments and prices, as they are expected to become self-financing (Klien, 2012).
- In Australia, some corporatised entities have their own power to invest and borrow for their operations (Department of Trade and Finance, 1998)
- By reallocating control rights to managers, this increases the potential to improve performance and increase efficiency (HERMES, 2008).

The operations of a corporatised structure will become much clearer after a discussion of Transnet and its operations in chapter 3.

Vertical integration is where a single public or private entity controls the infrastructure as well as the operating and administrative functions (Campos and Cantos, 2000). The justifications for a vertically integrated structure are well summarised below by WESTAC (1997:7)

(i) Costs and efficiency

An integrated railway must be innovative to make greater economic use of its infrastructure. This is only possible through the provision of creative service offerings that require the coordination of infrastructure and operations strengths. This competitive dynamic is absent if infrastructure is divorced from operations because track owners and transport service providers will pursue different objectives.

(ii) Rates and service

Distancing the infrastructure further from shippers is generally contrary to railways around the world that are pursuing closer ties with their customers. Therefore, customer service is likely to suffer under a separated model.

(iii) Operations

The operational aspects and interface between services from the track and running of trains is too complex to separate (e.g., track design standards and maintenance strategies affect train speeds and axle-loads which in turn affect customer service parameters such as reliability, transit time, and safety; dispatching to multiple service providers would be less efficient).

Vertical separation is a structure whereby one entity owns the infrastructure and other competing entities provide transportation services (WESTAC, 1997). Vertical separation has been identified as the most ideal structure to adopt given its potential to harness competition (United Nations, 2003). One of the justifications for a vertically separated structure related to cost and efficiency is that, with the introduction of a number of new operators this promotes greater efficiency and lower costs for industries (WESTAC, 1997:6). However, by way of contrast although shippers are presented with a varied choice of operators in this structure, a disadvantage cited by the Department for International Development (2004) is that separating infrastructure and operations can be a daunting task and it is sometimes better to carry out these activities jointly, like in the vertically integrated structure. Nonetheless, a difference worth noting echoed by WESTAC (1997) of the two structures is to do with the degree of Third Party Access to infrastructure. In a vertically integrated structure there is a low degree of third party access as operators tend to voluntarily grant access and in a vertically separated structure there is a high degree of third party access as it is mandated.

Today most railways are vertically integrated, but Lapuerta and Moselle (1999) point out that instead of encouraging new entrants within a level playing field, in most cases vertically integrated systems, either state or private tend to foreclose the market from competitors. Campos and Cantos (2000) explain that this vertical separation has led to a loss in economies of scale. This point is also shared by Havenga (2011) who argues that vertical separation of rail networks has the potential to destroy the economies of scale of vertical integration through the imposition of higher costs. Pittman cited in Havenga (2011) states that although vertical separation works well in other network industries railways present a different case because of “high proportions of fixed costs, upstream economies of scale and the locus of vertical separation”. Toledano (2012: 47), states that in Africa particularly in mining activities where mining companies have been “granted the vertically integrated concession of the railways, they have not been successful in achieving shared use even if the state has kept the ownership of the tracks”.

2.2.1 Rail regulation

In some countries that have adopted the vertically separated structure, such as Australia there have been cases of discriminatory behaviour in terms of access to rail infrastructure, such as in the Pilabara iron ore region, where BHP Billiton and Rio Tinto control the railways and Ports, here third party access to rail has been unsuccessful due to monopolistic practices. So in order to regulate such conflict, Third Party Access is governed by Part IIIA of the Trade Practices Act 1974 (TPA). It stipulates the means through which third parties can gain access to services (Feil, 2007). It is further stated that one of its objectives is to, “provide a framework and guiding principles to encourage a consistent approach to access regulation in each industry”. It is a regulatory framework for access negotiation supported by dispute resolution procedures and with this, today in Australia three different acts cover third party access to rail infrastructure (Feil, 2007). In Australia the Queensland Rail Network Access Undertaking (2010), states that the rail network has developed a framework to manage negotiations with access seekers for access to rail Infrastructure. It is mentioned that access seekers must provide as part of their access application all information necessary for the network provider to consider their application and the provider often has to respond with an indicative access proposal to an access seeker within 30 days. The indicative assessment indicates whether there is sufficient available capacity to accommodate the requested access rights and, if not, either an outline of the works, and an indicative estimate of the cost of such works, required to provide the additional capacity necessary to accommodate the requested access rights, or an outline of the requirements for an investigation into the provision of sufficient capacity for the requested access rights is provided (QR Networks Access Undertaking 2010). This basically sets the platform for negotiations to ensue. This summary is an epitome of Australia’s well established rail regulatory regime which up to date remains effective across most of its major states.

In Canada when competition was introduced in the railway industry which is a typical example of a privately owned vertically integrated structure, it also set up economic regulations to facilitate industry access and operations under the Canadian Transportation Act (Alberta Transportation, 2003). However, under the Canadian structure access rights are not as readily available as those found in Australia and the United Kingdom, but regulation is there to address disputes when they do arise. In this regard Perl (2002) states Canada has what is termed passive regulation. However, setting favourable terms and conditions for

network industries still remains a serious challenge for a number of regulatory and competition authorities owing to the existence of monopolistic industries embedded in the different structures identified above.

In conclusion, up to this point, “privatisation still remains controversial in terms of the degree and extent to which it should go and the pace and form it should take” Godana and Hlatshwayo (1998: 23), more so in network industries. Although privatisation was identified as being an immediate solution to the poor performance of public enterprises, the South African case is somewhat different. The de-regulation phase of the 1980s saw state owned entities such as Transnet, the rail operator, becoming more corporatized - away from the popular vertically separated and vertically integrated private structures. Therefore, the following chapter looks at South Africa’s regulatory regime as a result of these structural changes.

CHAPTER 3

Case study

This chapter will focus on how the regulatory regime with respect to pricing, access rights and long term development provisions (investments) has affected the movement of freight at a sectorial level. A detailed analysis will also be given through a case study of coal miners and citrus growers in Mpumalanga. It gives a picture of the impact the regulatory regime has in terms of hindering or enabling shared use of railway infrastructure in South Africa.

3.1 The South African Railway Network Regulatory Regime

In South Africa there is no economic regulatory body that currently exists for rail freight services. Therefore in this regard the regulatory environment that oversees access in South Africa is looked at via the institutional arrangements that exist between all major stakeholders. Transnet is indirectly managed by the Department of Public Enterprise (DPE) and the Department of Transport (DoT). Drew (2004) states the DoT is responsible for transport policy with minimal control over rail policy implementation as it does not administer the operations of Transnet. Under the DoT is the Railway Safety Regulator, which oversees railway safety in South Africa (PPAIF, 2012). On the contrary, the DPE is Transnets Freight Rails shareholder and quasi-regulator (Teljeur, 2003). This means that although the Department of Public Enterprise is the sole shareholder, the current institutional framework states that the shareholder cannot take the role of a regulator hence cannot question some of the business decisions and tariffs set by Transnet Freight Rail (TFR) as this would be in breach of corporate governance principles (Teljeur, 2003:43). This peculiar relationship has led to TFR having a certain degree of commercial autonomy in its decision making processes such as on pricing and access control. Overall the DPE has a more significant stake in the operations of Transnet as compared to DoT.

Although not fully adopted, the privatisation process of the late 1980s had a significant bearing in the re-structuring of Transnet as a corporatised entity. It is important to note that even though South Africa did not fully or partially privatise its rail infrastructure services and operations, Transnet as a State Owned Company (SOC) means that;

“Governments can establish and register a company using a formal company constitution drawn up according to corporate law, the memorandum and articles of association” and an arms-length distance is

also maintained by “vesting all or part of the shareholding in another ministry such as Ministry of Public Enterprises because they are interested in the company’s commercial performance without line-ministry political accountability, therefore less likely to succumb to political pressure” (PPAIF, 2012:69).

So, in essence rail infrastructure in South Africa despite being state owned, the services and operations have become more corporatised. Drew (2004: 27) goes on to add that;

“Although it may be considered that Transnet, as a public company is free to determine its own commercial policy, it is, in view of its shareholding, subject to compliance with the governance requirements of the Legal Succession Act, PFMA and Treasury Regulations as well a Shareholder’s Compact between Transnet and the Minister”.

The Public Finance Management Act (PFMA) is the accounting authority for public entities (National Treasury, 2002) and a shareholder compact is designed solely to regulate the relationship between the shareholder, on the one hand, and the Board and management of the SOE (Dwarf, 2012). So in this case, the shareholder compact is a negotiated arrangement with the SOE and Ministry of Public Enterprise that ensures the alignment of the SOE with government policy (Drew, 2004). Furthermore, Transnet’s mandate and strategic objectives of the company are set out in the shareholder compact (Transnet Report, 2010). The shareholder compact as depicted in table 5 is designed to enable the SOE to become more efficient and competitive by adhering to market principles and at the same time increasing their operational efficiency. In terms of the shareholder compact although the DPE is Transnets quasi regulator, the compact anchored by Transnets corporate plan (Presidential review committee, 2012), enables it to set operational and financial targets for individual or combined business units as shown in table 5. Therefore in conclusion one can confirm that the shareholder compact is the only instrument that is there to monitor the performance of Transnet’s freight rail business unit Transnet Freight Rail (TFR).

Table 5: Transnet Shareholder Compact 2010 - 2011

			2010		2011	
			Actual	Target	Actual	Target
Operational efficiency						
Locomotive efficiency	GFB	GTK 000/loco/month	4111	4059	5121	5337
	Coal export	GTK 000/loco/month	14713	14729	13505	15755
	Iron ore	GTK 000/loco/month	38310		38866	43650
Wagon turn around time/cycle	GFB	days	14	12,6	12,6	12,2
	Coal export	days	2,9	2,5	3	2,7
	Iron ore	days	3,5	3	3,5	3,3
Service delivery						
on-time departures	GFB	hours			5,8	3,1
	Coal export	hours			3,9	2,5
	Iron ore	hours			2,7	1,6
on-time departures	GFB				7,2	4,0
	Coal export				7,8	4,1
	Iron ore				4,8	2,7
Volume	GFB	mt	72,1	68	73,7	76
	GFB containers % market share	%	27	31	34	33
	Export Coal	mt	61,9	69	62,2	65
	Export iron	mt	44,7	43	46,2	48
Infrastructure	Capital Investments	R bn	9726	10063	12542	11612
	% local sourcing	%			74	77
	BBBEE procurement	%			75	70
Financial value Creation	EBIDTA margin	%	35,5	27,2	34,4	36
	Return on average assets	%	8,9	4,3	8	7,7
Human Capital	Number of employees	number			23665	24300
	Training spend	%	2	3	2,2	2,7
	Employment equity	%	76	76	77,6	77

Source: Transnet 2011

3.1.1 Access Pricing

Transnet is an enterprise with a commercial orientation and because railways have high fixed costs and operational costs one of the major objectives for an entity like this is to price services at a market competitive level greater than the variable costs of the service (PPAIF, 2012). Historically, Transnet rail freight tariffs were set on an ad valorem basis, meaning that tariffs were set on the basis of cargo value and not on size, quantity or weight (Teljeur, 2003). Today because of its commercial autonomy TRF is responsible for setting the tariff structure, tariff level and for access pricing. Its pricing strategy is determined subject to “approval by Transnet’s Tariff and Marketing Committee and the Transnet board, which evaluates the tariffs in the context of the overall profitability of Transnet” (Teljeur, 2003:40) and another point made is that Transnet is not expected to submit these tariffs to the DPE for approval. TFR in its pricing strategy makes use of the Ramsey pricing strategy, used more often by vertically integrated railways (OECD/ITF, 2009), such as Transnet itself. Ramsey pricing, involves setting charges according to the elasticity of demand of each user (United Nations, 2003) and the rate is normally the highest, as it is set at the level that the market will bear (PPAIF, 2012).

Transnet charges different rates to different business of which these rates are negotiated between TFR and the shipper. Although, some shippers have some negotiating capital they ultimately have no choice of substitutes and cannot take any tariff or price decision by TFR on review other than to lodge a complaint with Transnet itself as DPE can only exercise indirect and limited influence (Teljeur, 2003). This shows that access pricing can be a barrier to entry because if the price is set too high during negotiations the shipper may have to settle for the next best alternative, partly explaining why citrus has moved to road in Mpumalanga. In summary, TFR sets access prices, through the application of different strategies and models meaning that all entrants at a sectorial level either coal miners or citrus growers would receive different tariffs and price levels. The use of the Ramsey policy in which prices are not at a cost but at the highest level means that the system is open to abuse to hide inefficiencies and this is worsened by the fact that the shareholder compacts do not address pricing issues, which in this regard denotes the weaknesses of the shareholder compact as an instrument for monitoring TFR. So, a major challenge is that the regulatory regime does not know how TFR sets prices but to be accommodative freight costs need to be

set in such a way that they are low enough to retain customers in all sectors of economic activity, but high enough to retain revenues to sustain the infrastructure.

3.1.2 Access rights

In terms of access rights Transnet Freight Rail (TFR) controls access to its network. According to an interview with TFR management access to the network is negotiated on the following grounds:

1. Access is granted on the number of slots available on the mainline and whether Transnet has the capacity to handle the demand, therefore shippers are required to submit their volume projections in advance for instance per annum, which would make it easier for Transnet to not only allocate a slot but to set appropriate tariffs and prices.
2. Frequency or consistency of the volumes to be moved per day, week or month.
3. The shippers intending to gain access or to get a slot on the TFR mainline/rail head need to have the appropriate infrastructure in place such as feeder lines, railway sidings and loading equipment to allow for a seamless process from point of collection to port.
4. Based on the commodity characteristics of the commodity to be moved, is the appropriate equipment available to Transnet, such as wagons and containers.

Teljeur (2003) states that price negotiations often benefit large or organised customers like mineral users who can influence the tariffs they face. On the other hand some customers have direct accounts and are served directly by TFR such as the big coal mining houses and some automotive industries. Customers without direct accounts with TFR, such as the citrus growers, tend to make use of transport brokers who have direct accounts with TFR. In this regard shippers seeking entry would not receive the same technical terms and conditions for access. For instance, volume projections for certain shippers would put them at a disadvantage at the negotiation table, especially those that run on seasonal projections like agricultural produce. This suggests that differences in traffic volumes play a significant role in influencing access decisions. Important to note from the interview is that subject to the negotiation process if there is no agreement reached on access rates/terms/fees with the

shipper, given TFR's control the shipper has no choice but to seek an alternative mode.

Transnet justifies this on the basis that it is expected to be self-financing meaning in most cases the highest margin customers will be allocated capacity first (Teljeur, 2003). Therefore, the degree of commercial autonomy Transnet Freight Rail has over most of its operations has given it leeway to foreclose the market for lower margin customers whose operations tend to be less profitable like citrus produce.

3.1.3 Long term development provisions / Investment

PPAIF (2012) states that, the fact that railways are capital intensive means that a high proportion of the cash flow should be spent on investment, so financial activities such as borrowing and raising capital from markets as Transnet does, allows it to invest more than its annual cash flow, thus ensuring expansion and operational efficiency. Insufficient investments in the long run have led to a series of inefficiencies, as seen through the National Railways of Zimbabwe (NRZ), where lack of investment overtime has left the network operating below capacity levels (Dube, 2012). Investment has to be an ongoing process. Therefore, long term development provisions would in this case focus on the investment decisions made by TRF and how some of these investment decisions affect rail use at a sectorial level. Investment levels in this case are paired according to how much TRF pumps into its different operations and business units. An analysis of physical factors (rolling stock) and an analysis of asset productivity (track productivity) is also warranted in this regard. Drawing from the section on access pricing, TFR has in the past relied on price increases to generate a sufficient cashflow for investment and one of the main aims of this has been to grow TFR's General Freight Business (GFB). Table 6 shows capital investments made by Transnet from 2002 to 2010.

Table 6: Transnet capital investment by division 2002-2010

	Spoornet/Transnet Freight Rail (Rb)	CoalLink	General Freight
2002		R131m Locomotives R110m wagons R93m General capacity expansion	
2003	5 year plan R30b Spoornet 5y R14b		
2005	5 year plan R40b Spoornet 5y - R16b R3.8.6b spent in 2005 Wagon fleet renewal and modernisation for General Freight R550m Ore line: capacity expansion (29 mt to 41mt) R332m Coal line: capacity expansion (71 mt to 86 mt) R256m Upgrade 200 additional class 18E 1 locomotives for general freight R200m Ore line: sustain 05/06 to 09/10 R108m Building of 256 CCR11 jumbo coal wagons on the coal export line R71m	R3.9b - 5 year plan CoalLink plan to increase capacity to 86mt by 2010 through take-or-pay agreements with coal industry • Replating of coal line jumbo wagons • Upgrade of 11E locomotives	9.0b - 5 year plan General freight to 160mt by 2010 Eskom/Spoornet plan 67km 9mt/a dedicated Ermelo-Majuba line Spoornet/Auto industry plan increase of vehicle exports - Durban harbour Scheduled Durban-City Deep container train service (5 container trains/day) introduced
	Total R1 517m		
2006	5y plan R64.5b Spoornet R31.5b R7.2b spent 2006 Centralization of capital projects above R300m Consolidation of all major maintenance and maintenance responsibility with Transwerk	7.9b 5 year plan 110 new locomotives 400 jumbo wagons Wagon fleet renewal Upgrade 200 Class 18E1 locomotives	R10.8b 5 year plan Majuba coal supply line
2007	5y plan R64.5b Spoornet 5y R31.5b R7.4b spent 2007	50 refurbished diesel locomotives. Target capacity to 78mt per annum (previously 72mt per annum) to 82 mt per annum during 2008, once the Jumbo coal wagons currently on order from Rail Engineering and the first new heavy haul locomotives on order from Mitsui are received. This will be incrementally improved in line with coal demand up to 92mt by 2012, based on long-term take-or-pay contracts with coal miners.	Plan procurement of 212 diesel locomotives
2008	Spoornet 5y R34.8b	R4.9b 5 year plan	R24.6b 5 year plan
2009	R9.7b targeted capex for 2009 R2.8b wagons R3.3b locomotives R2.2b infrastructure Higher allocation for expansion vs previous years focus on heavy maintenance	R1.6b actual R8.8b 5 year plan	R5.4b actual R25.6b 5 year plan
2010		Coal line – first 6 of 110 Class 19E locomotives delivered. 592 wagons delivered.	Container-on-rail performance indicator. Market share grew from 27% to 31% of market share of rail containers expressed as a percentage of railable maritime import and export containers.

Source: Rustonjee (2013)

In an interview with TFR and through analysis of figures from Rustomjee (2013), it is seen that major investments are channelled towards those profitable commodity groups such as coal, iron ore and manganese as well as profitable lines such as Natcor and CoalLink. However, overall most of Transnets capital investments have focused on sustaining rather than expansion (Transnet 2012). Investments are targeted towards existing capacity which serves existing customers whilst new investments that could serve other customers are disregarded. Such selective investments leave some commodities underserved by TFR which shows the outcomes some of the investment decisions have on the use of rail at a sectorial level.

A look into Transnets Report (2013), shows that a lot of capital investments by Transnet compared to other operating divisions such as Transnet National Ports Authority and Transnet Pipelines, a big chunk of it has in the past been channeled to TFR with figures reaching R18.3 billion in 2013 up from R8.6 billion in 2009, the investment target is a display of needing to rescue the business from collapse. A further look into TFR investment decisions based on this report (2013:52-55) shows investment figures for its three business segments;

- Total investment for Export coal R3 303 million
- Total investment for Iron export ore 2 011 million
- Total investment for General Freight R13.0 billion

The huge investment into some of these business segments such as export coal and iron ore could be paired to the amount of revenue they generate for TFR and the need to sustain and expand them given their dedicated well coordinated structures. Although General Freight receives a lot of investment, one needs to take into account that given the different commodities that fall under this segment, coordinating the movement of freight in this regard has proved to be a challenge for TFR compared to the well run export coal and iron ore lines. In the General Freight Business, which citrus falls under, it can be noted that although TFR has been investing regularly there continues to be operational inefficiencies in both rolling stock and track productivity which has left freight rail less attractive for most agricultural shippers (Brooke, 2011). In essence, for the GFB there still remain huge deficiencies despite the massive injections of capital investments and although it comprises of a range of commodities, table 6 suggests that investments have been targeted to a limited set of general freight such as manganese and automotive.

Table 7 below provides a summary of some of the key points raised which help frame an understanding of the regulatory regime.

Table 7: Tabulated Summary of the South African Rail Regulatory Regime

Decision	Regulatory Agency	Ministry (Department of Public Enterprises)	Company/enterprise (Transnet – Transnet Freight Rail)
Tariff structure	X		✓
Tariff level	X		✓
Service quality	X	✓	✓
Consumer complaints	X		✓
Sector expansion plans	X	✓	✓
Investment plans/decisions	X		✓
Technical and safety standards	✓		
Anti-competitive behavior	✓		

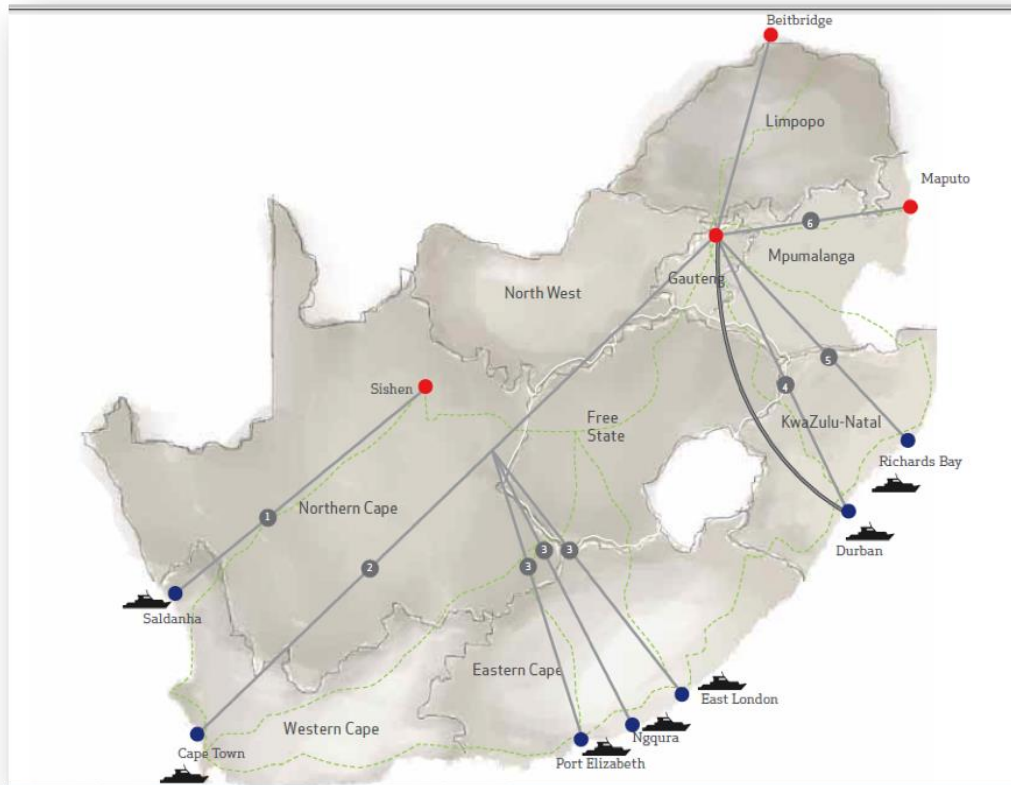
Source: Authors own re-construction 2014

In conclusion, this section has managed to give an account of the regulatory regime in terms of access pricing, access rights and long term development provisions and how it relates to overall access to rail infrastructure in South Africa. Access is granted by the state monopoly through a negotiation process and investments, as shown, appear to bias coal, manganese and the automotive sector. Although TFR is monitored through the shareholder compact, it is more concerned with operational efficiency and profit and less on discriminatory practices such as access pricing and access rights.

3.2 Rail Operations in South Africa: Outcomes of the Regulatory Regime on the movement of Coal and Citrus

Transnet is the biggest freight Rail Company in Southern Africa. Locally Transnet TFR is responsible for the transportation of rail in South Africa and owns and maintains a network of 22 000 kilometres (Transnet, 2013). The development and maintenance of rail continues to provide a cheap transportation option for the movement of freight.

Map 1: Transnet's Reach



Corridor	Primary Commodities Transported
1 Sishen to Saldanha	Export iron ore
2 Capecor	General freight
3 Southcor	Automotives, managanese and general feight
4 Natcor	General freight such as steel, domestic coal, containers, liquid bulk, refined synthetics, crude, avtur and gas
5 R.Baycor	Export coal, magnetite and chrome
6 Maputo Corridor	Gernal freight

 Port and Terminals
 Pipelines
 Rail

Source: Transnet Annual Report 2010

The fact that Transnet is run as a State Owned Company, at arms length of government, puts it in a compromising position because while attempting to respond to market demands it has to maintain principles that are in line with public sector objectives. Through this Transnet tends to hold social and economic development hostage to market forces (Von Holdt 2003). This is because given the post deregulation phase of the transport industry initiated in the 1990s, TFR as a corporatised entity changed their strategy to focusing more on those routes that were profitable (CGA, 2010), namely their heavy haul export lines that move coal and iron ore. Referring to the table which identifies the key corridors and commodities it is interesting to note that citrus production does not seem to be a part of this. So, despite rail

networks' existing in most major areas of production credence is being given to the profitable lines and corridors, which has left those sectors that do not fall into TFR's "profitable bracket", such as citrus growers at a disadvantage.

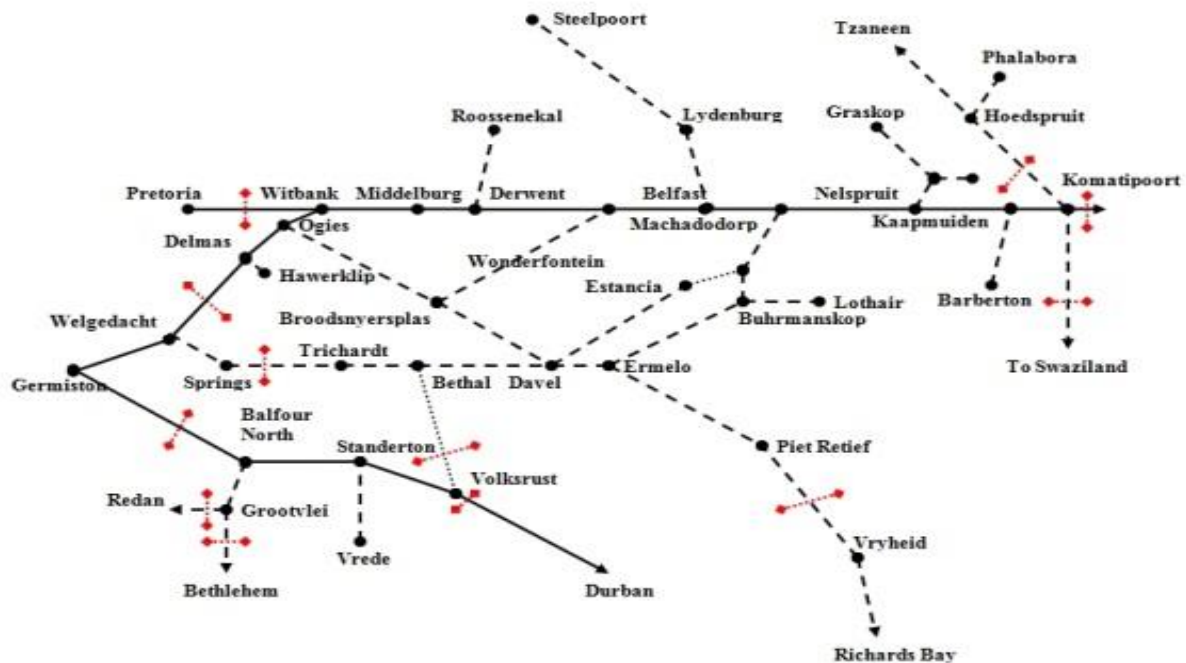
3.2.1 Mpumalanga

The size of TFR's Rails network in Mpumalanga is 2,233 kilometers and the rail system in the province is said to generate the greatest volume of traffic of any province in South Africa (Dpwr, 2014). Traffic routed includes coal, chrome and ferrochrome ores, iron ore, containers and automotive products, forestry products, chemicals and liquids and various agricultural produce (Dpwr, 2014). The movement of coal falls under the Coal Business Unit and citrus under the Container and Automotive Business unit (CAB) of TFR (Transnet, 2013). Consequently, as we continue to see a growth in both the mining and agricultural sector, the demand for cheap, sustainable, consistent and reliable transport options to move freight in this region such as rail continues to grow. Therefore the ultimate challenge rests on rail networks being able to organize themselves in such a way that they meet the needs of the extractive industries and that of the agricultural sector as efficiently as possible, Collier (2011).

From a commercial point of view, both agriculture and mining are dependent on railways because rail is highly operationally efficient based on the carrying capacity of wagons and rail tends to be most competitive when it offers better prices and services to its clients (PAIF, 2012). However, it is argued that rail transport has the habit of restricting itself to a relatively small number of industries and commodities, like large scale, bulky goods often supplied by some mineral and certain non-mineral sectors (DBSA, 2012). The reason behind this has been attributed to the differences in profitability margins, as agriculture has often been associated with a lower value rendering its need for rail inferior to that of mining (Collier, 2011). Through this it then becomes of interest to look at how inputs such as transport networks are bound together towards the functioning of the different strategic and non-strategic sectors of the economy through a real life case.

3.2.2 Coal

Map 2: Rail Lines running through Mpumalanga's Coal Fields



Source: Dpwrt 2010

The Mining sector is the second largest contributor to the Mpumalanga economy with most mining activity largely situated in the Highveld area of Ermelo and eMalahleni. Mpumalanga accounts for 83% of South Africa's coal production and South Africa has in the past relied on coal to generate much of its export revenues (Dpwrt, 2010). The railways from the mines to the ports are controlled by the state owned monopoly Transnet. It owns and operates a dedicated coal track from eMalahleni to the sea, a distance of 580km and about 24 trains can use the system per day (Transnet, 2013). The local distribution channel sees coal from the eMalahleni coalfields being transported by rail through the coalex line to the Richards Bay Coal Terminal (RBCT) for export, which is privately owned by the largest mining groups (Transnet, 2013). The RBCT with a capacity of about 70 million tons per annum is said to be one of the biggest customers for rail in Mpumalanga as it accounts for 50% of gross tonnage moved by rail (Nel et al, 2004). It is further stated that this coal line to Richards Bay generates half the total revenue of TRF (Eberhard, 2011). Local coal use is mostly demanded

by Eskom, the state-owned power company and by Sasol the large sythetic fuels company. Over 90% of South Africa's coal consumption is used for electricity generation and almost 80% of saleable coal production is from mines controlled by five of the country's largest mining groups (Eberhard, 2011); BHP Billiton Energy Coal South Africa, Anglo American Coal, Sasol, Exxaro Resources and Xstrata.

Historically dating back to the 1970s, the activities of these mining groups were hugely supported by railway infrastructure through state investment and the Transvaal Coal Owners Association (Eberhard, 2011). These mining activities have been analysed through broader debates that focus on the Minerals Energy Complex. McDonald (2011) states that “at the heart of the Minerals-Energy Complex is mineral extraction and processing”, which is heavily centred on capital accumulation, in the form of financial and speculative capital activities, which often do not have developmental linkages with rest of the sectors that drive sustained growth (SIMS report, 2012). Of importance in this regard is that railways have facilitated in this form of capital accumulation through their linkages with the mining sector. Although this research does not focus on the links between railways and the MEC, one can confirm that the regulatory regimes historic patterns of investment in this sector has meant that mines to-date have the appropriate infrastructure in place (railway sidings, feeder lines and loading equipment) and have an advantage in proximity to Transnets mainline, as seen through a site visit of the eMalahleni coalfields. It was seen that it is easier for the coordination of rail activities especially for coal in this region. Furthermore, investments in the coal line were hugely facilitated through a 10 year contract between the rail operator Transnet and coal shippers which came to an end in 2005, since then tariffs have been set through a negotiation process which some coal exporters argue are set too high (Eberhard, 2011) but they still have leverage given the volume densities they generate compared to other sectors like citrus. An interview revealed that prices between TFR and the coal miners are negotiated and one advantage they have is the fact that most of the major coal miners have existing key accounts with TFR.

So the argument here is that the current regulatory regime would in this case favor the existing users of the infrastructure that have always been prioritized rather than new users. So despite past disputes of TFR under-investing in rail capacity (Eberhard, 2011) an interview with some mining companies revealed that this has not deterred most of them from changing their mode as rail still remains as the best modal choice given the dedicated coal

lines and their access to the main ports, and TFRs commitments over the past years to pump in more investments into this business unit, as shown in the shareholder compact and capital investment table in the previous section. The desire to investment more in coal, one can argue is driven by the sales, revenues and profits generated from this sector as shown in figure 1.

Figure 1: Annual SA Coal production, Sales & Exports 2003 – 2012

Table 13: SA coal production and sales							
Year	Production	Local sales		Export sales		Total sales	
	Metric tonnes	Mass 1 000t	Value R1 000	Mass 1 000t	Value R1 000	Mass 1 000t	Value R1 000
2003	237 872.1	168 942.5	13 243 714.2	71 556.5	13 490 623.1	240 498.9	26 734 337.2
2004	243 371.5	178 674.9	13 644 186.2	67 946.5	14 494 479.4	246 621.4	28 138 665.6
2005	244 988.3	173 437.3	14 878 140.0	71 442.1	21 155 176.0	244 879.4	36 033 316.0
2006	244 832.4	177 049.0	16 245 873.7	68 747.3	21 620 934.2	245 796.3	37 866 807.9
2007	247 666.4	182 769.6	19 718 642.1	67 675.4	24 447 656.2	250 445.1	44 166 298.4
2008	252 699.1	197 033.0	30 104 160.8	60 630.7	44 706 203.8	257 663.7	74 810 364.6
2009	250 538.1	184 676.7	34 442 650.1	60 539.5	31 006 559.2	245 216.2	65 449 209.3
2010	257 205.8	186 366.2	33 702 228.7	66 769.8	37 477 184.4	253 136.0	71 179 413.1
2011	252 756.9	177 705.3	37 285 726.1	68 807.1	50 548 677.6	246 512.4	87 834 403.7
2012	258 575.8	185 668.7	43 921 277.0	76 008.7	52 226 904.3	261 677.3	96 148 181.3

Source: Chamber of Mines of South Africa 2012

In 2012 it is approximated that 71% of production was sold locally at a value of R43.9 Billion and 29% was exported at a value of R52.2 Billion (Chamber of Mines, 2013). In terms of revenue generation for TFR as depicted in Figure 2, in 2012 GFB made up 56.6% of TFR's revenue compared to 12.4% from Export coal. However, although GFB generates the “lion's” share of TFR's revenue coal operations are well coordinated and better served by TFR compared to GFB. However it can be argued that for a single commodity coal exports rival iron ore exports as the biggest contributor to Transnets revenues.

Figure 2: GFB and Export Coal Contribution to TFR Revenue 2012 – 2013

Salient features	Year ended 31 March 2013 R million	Year ended 31 March 2012 R million	% change
Revenue	31 797	27 658	15,0
- General freight	17 125	15 660	9,4
- Export coal	8 610	7 629	12,9
- Export iron ore	4 181	3 440	21,5
- Other	1 881	929	102,5

Source: Transnet Report 2013

In conclusion, the fact that Transnet has been focusing its attention on particular routes sheds light into what Marsay (2005) mentions, in that rail needs to focus on those sectors for which it has an economic advantage such as mining, reason being in one way or another mining related processes require the use of railway infrastructure to transport break bulk such as coal and iron ore. However, following such a comparative advantage strategy may lead to elements of bias in that, sectors that increase freight traffic will be favored over those that do not. Although this makes economic sense for the financial stability of the rail networks it would not promote multi-sectorial growth, partly explaining the lag in agriculture based on the revenues generated vis-à-vis mining. It becomes a trade-off between serving business at the expense of promoting sustained sectorial growth within the economy.

3.2.3 Citrus

Apart from mining, agriculture is one of the main production driven sectors in South Africa. According to the South Africa year book 2012/13 (2012), the primary agricultural sector contributes about 3% to the country's gross domestic product (GDP) behind mining which recorded a 4.9% contribution to GDP in 2013. The agriculture sector is not only self-sufficient in virtually all major agricultural products, such as citrus in this case but is also a net food exporter, highlighting the importance of this sector in the economy.

Map 3: Citrus Production Areas in South Africa including Rail Hubs and Ports



	Citrus Production (ha)	
Limpopo	31%	25 674
Swaziland	3%	1 774
Eastern Cape	21%	12 508
KZN	7%	3 405
Western Cape	16%	8 961
Mpumalanga	21%	6 817

Source: Source: CGA Stats Book 2012

Table 8: Farms Consulted - Mpumalanga Citrus Growers: Ehlanzeni District

Name of Farm	Area Located	Ha	Exporting Yes/No:
Cairn Lemon Oil	Nelspruit	15ha	NO
Setama Impelo	Nelspruit	15ha	NO
Sibonelo	Eilandshoek	15ha	YES
Thekwane Farm	Thekwane	170ha	YES
Champagne	Bushbuckridge	200ha	NO
Ryton Estates	Ngodwana	500ha	YES

Source: Authors re-construction

Mpumalanga province a major producer of citrus fruit for both domestic and export markets until recent years used to rely heavily on rail, as railed fruit was easily directed into any major fruit ports and citrus break-bulk terminals in South Africa, all of which are directly linked to the rail network (Brooke, 2010). The farms denoted in table 8 do not depict the total number of citrus farms in the province; these are the ones the research restricted itself to. There are more than 1000 citrus growers in the Western and Eastern Cape and in the Northern Region which covers Mpumalanga, Zimbabwe and Swaziland. Mpumalanga accounts for 21% of South Africa's citrus production and a third of its export volumes (CGA, 2012). South Africa is ranked third in the world for fresh citrus exports and the citrus variety includes Valencia, navels, grapefruits, soft citrus, lemons, Midseasons and Pummelos (CGA, 2012).

Firstly, access issues can be attributed to the fact that, in terms of tariffs and pricing despite rail being associated with lower transport costs, research has shown that since 2009, there has been a drastic decrease in the use of rail by citrus growers owing to among others variations in pricing and transport rates (Brooke, 2010). The general argument is that the cost of rail is higher than road for the citrus growers (Brooke, 2010) taking into account the fact that some citrus farms are not directly connected to rail heads, thus an alternative transport mode has to be used to gain access to rail networks, however, such long logistical chains tend to increase transport costs for this sector. In a report by the CGA (Brooke, 2011) explained that "rising transport costs and logistical constraints are impacting heavily on the profitability and sustainability of citrus production in the region". In an interview with Mitchell Brooke the logistics Manager for the CGA, it was revealed that logistics costs for the Northern region amount to 60% of revenue and about 25% of these costs are land freight logistics. Stander and Pienaar (2005) explains that in the early days the South African Railways now Transnet although built on and driven by business principles, mining and agricultural products had different and cheaper tariff structures as agricultural products were subsidized. However, one can then confirm that the loss in government subsidies paid to the rail industry for agriculture after deregulation in the late 1980s has had adverse effects for sectors such as citrus and further affected Transnet's ability to offer a reliable and efficient service to these particular agricultural sectors.

Access has also been partly hampered by the fact that in some cases where railway infrastructure is easily accessible the disadvantage has been on the terms governing access. For instance in South Africa in those citrus regions that are considered rail viable, because

citrus growers do not have direct rail accounts with TFR, the link between the growers and TFR is done through transport brokers who tend to increase the amount citrus growers have to pay to get their produce transported (Brooke, 2011). This third party commission charged by these transport brokers at the end of the day makes the cost of rail seemingly higher than road, making the prices uncompetitive as denoted in table 9. This has partly contributed to the move away from rail to road transportation for the growers. In this regard a key account offered directly to the citrus growers would help cut costs but this to has never materialised to-date. This could be partly blamed on the lack of tactical and operational planning from the citrus growers as a group as reiterated by (Crickmay, 2010).

Table 9: Break-bulk Rail Cost vs Road to Durban Port 2010

Citrus Production Region	Durban Port by Road - Grapefruit 17kg Cartons					Durban Port by Rail - 24 plts <u>Standard</u> 'O' type wagons					Durban Port by Rail - 24 plts <u>High Cube</u> CX Containers				
	KM	CPK	Ave. Cost	GF - STD 32 plts per Truck	GF - H/C 28 plts per Truck	Transport packhouse to rail siding	Rail to port per wagon	Rail to port per pallet	Ins & Levy	Ave. Cost	Transport packhouse to rail siding	Rail to port per wagon	Rail to port per pallet	Ins & Levy	Ave. Cost
Letsitele via Letsitele	1 000	18.00	R 18 000	R 563	R 643	R 50	R 10 040	R 418	R 20	R 488	R 50	R 11 868	R 495	R 20	R 565
Hoedspruit via Hoedspruit	800	18.00	R 14 400	R 450	R 514	R 50	R 8 000	R 333	R 20	R 403	R 50	R 9 500	R 396	R 20	R 466
Malelane via Komatipoort	600	18.00	R 10 800	R 338	R 386	R 50	R 6 000	R 250	R 20	R 320	R 50	R 7 500	R 313	R 20	R 383

Source: CGA 2010

Secondly, in terms of investment although in an attempt to carry out its public obligations TRF has in the past pledged to invest capital that would see the increased use of rail by the fruit industry there has been no long-term commitment towards this. Instead there have been huge investments in coal, particularly on infrastructure upgrades and increase in rolling stock. Therefore, owing to poor investments there remains an under utilization of rail infrastructure by the citrus growers. Based on interviews the argument is that TFR has remained committed to servicing commodities like coal and iron ore, deeming citrus not rail friendly due to its seasonality and inability to fill up wagons on a regular basis compared to coal. This has partly resulted in a deteriorating relationship between the rail service provider TFR and the citrus growers. An interview with the CGA further revealed that there has been no focus by Transnet to invest in citrus thus explaining why citrus in Mpumalanga has seized from moving on rail. Some of the farmers interviewed could attest to this, because despite some of

them being close to a rail head there has been no developments to ensue access to the main lines.

Therefore, for most of them there is little hope of rail becoming part of their long-term transportation goals if they continue to face secondary treatment from the current regulatory regime. As a result most citrus growers as mentioned have since been routing their commodities by road. While there have been arguments that point to citrus not generating enough volumes to demand rail use, from an economic stand point Hausmann and Rodriguez (cited in Di John, 2011) argue that a country's inability to develop an alternative export industry such as citrus which has a lot of potential could trigger the Dutch disease. Which is "the adverse development implications, typically on manufacturing as well as agriculture, associated with a booming minerals sector" (Jourdan, nd: 4). Therefore more investments are needed to boost this particular sectors supply chain.

Interviews with some of the citrus farmers revealed that physical factors such as dilapidated, outdated infrastructure and the limited railway infrastructure at ports have been working against them. It is reported that there has been a significant drop on both forestry and citrus traffic owing to capacity constraints and tariff increases by TFR, pushing a huge amount of freight volumes on to road transport (Dpwr, 2013). For instance, there remains a serious demand for reefer containers as they have been identified as more efficient in the movement of citrus and there has been a limited number of packhouses accessible to rail (CGA, 2011). In 2010 it was reported that some citrus wagons remained undelivered to the Durban port for upto 12 days and out of 10 citrus receiving points only 3 could effectively receive rail (CGA, 2011). Furthermore, the increased volume of citrus being transported through road transportation is putting a strain on some of South Africa's major roads as they are built for specific axle loads (Ndlovu, 2013). With all these events working against citrus, this has been worsened by the fact that some citrus traffic from Limpopo has since been transferred to the Natcor line away from the Swaziland line, to make way for coal trains (CGA, 2012), as a result currently about 350 trucks transport citrus to Durban per day.

Although talks have ensued between the Container and Automobile Business unit in which citrus falls under and with other various stakeholders in the Limpopo region such as the MEC for Roads and Transport and the Department of Economic Development, to address some of the challenges faced by citrus growers, there remains little progress in this regard for the past 5 years (Brooke, 2012). However the MEC for Roads and Transport and the

Department of Economic Development do not have a direct bearing on Transnets operations, therefore engaging the DPE in this case would be more ideal given its mandate discussed in section 3.1.

To this point some critical reflections that can be made about the outcomes of the regulatory regime can be summarised as follows;

- Due to the absence of competition for the state monopoly, the substantial efficiency gains experienced after corporatization have not benefited smaller consumers like citrus growers and that the principal beneficiaries have been the large consumers with lobbying and bargaining power like the huge mining companies who control the RBCT.
- The regulatory regime in terms of access pricing, access rights, long term development provisions and the process of regulatory decision making tends to favour coal, citing this as a result of the volume projections, profitability rates and revenue generated from this business unit compared to citrus whose figures are hard to quantify under the General Freight Business. Therefore because coal has the volumes citrus is being foreclosed.
- On pricing Transnet Freight Rail does not provide a service directly to citrus growers compared to coal miners, so the negotiation process for citrus growers involves a Third party resulting in inflated logistical costs.
- The loss in government subsidies paid to the rail industry for agriculture after deregulation has shifted the balance towards road transport, as is the case for citrus in Mpumalanga.
- The regulatory regimes historic patterns of investment, mean that mines have the appropriate infrastructure in place which makes it easier for the coordination of rail activities as opposed to citrus farms that require such investment given their geographical dispersion, in this case the regulatory regime tends to prioritize on the existing users who already have the support mechanisms in place, such as those seen at the eMalahleni coalfields.

In conclusion to chapter 3, one can confirm that an economically unfriendly relationship between rail service providers and the different sectorial users (in this case citrus), as dictated by the regulatory regime does have potential to cause bias in terms of rail usage, more so in

terms of hindering the shared-use of rail infrastructure between the so called strategic and non-strategic sectors of the economy. As discussed, the South African regulatory regime which is in control of access tends to give priority to those sectors that help full-fill its business objectives of increasing its revenue and profit margins to sustain its balance sheet. The coal sector in this region has been a major beneficiary through the necessary infrastructural and investment backing compared to citrus. The movement of citrus by rail in this region has since stopped attributed to problems in pricing, access rights and investment decisions set by TFR as highlighted, thus most citrus growers in Mpumalanga have opted for road transportation. However, it is important to indicate that the cost advantage of efficient well run-rail transport can boost competitiveness among shippers in both coal and citrus production, but the regulatory regime needs to be committed to such an initiative to trigger such beneficial outcomes.

CHAPTER 4

Summary and Conclusion

4.1 Summary

In summary, the ability to access railway infrastructure has a significant bearing on the movement of freight for most sectors of production that make use of rail, particularly where there is mixed use of mineral and non-minerals that demand similar rail lines. This thesis explained this social phenomenon by exploring the regulatory regime governing access to rail infrastructure in South Africa, through a case analysis of the shared-use of rail infrastructure between coal miners and citrus growers in the Mpumalanga province.

Firstly, one of the objectives was to assess and explain the apparent bias that exists in the usage of rail infrastructure between mineral and non-mineral users, more specifically between coal and citrus growers. One important finding indicates that, ownership structure, either state or private, essentially sets in motion the regulatory terms that often govern rail access. For instance, the different ownership structures born out of the deregulation phase for rail, namely the private vertically integrated and vertically separated structures, tended to dictate the usage of infrastructure through monopolistic practices, thereby foreclosing the market from competition. Hence there was a call for economic regulation to monitor and establish rules of access and usage, as in the case of Canada and Australia.

Secondly, the South African rail corporatised structure was considered in this paper to ascertain the extent to which the regulatory regime in charge of access enabled or hindered the shared use of rail infrastructure. With the absence of an economic regulator and a large degree of commercial autonomy the operations of Transnet, the vertically integrated state monopoly which controls access to its infrastructure were explored. The current regulatory regime through the auspices of the shareholder compact does not regulate price and access. It stipulates targets for investments but it is difficult to tell which commodities are being targeted. This has allowed for a vacuum in which interests that have always benefited and are seen as more profitable benefit at the disadvantage of others such as citrus.

Finally, it was also seen that the regulatory regimes historical patterns of investment in mining in South Africa have enabled this sector to have an added advantage, in that coal miners have always had the appropriate infrastructure in place which has made it easier for the coordination of rail activities as opposed to some citrus farms.

Conclusion

In conclusion the paper has managed to show that there is indeed an apparent bias that exists in the shared use of railway infrastructure between coal miners and citrus growers. The theoretical framework of the regulatory school was used to explore this bias. Through an analysis of the regulatory regime, the paper managed to confirm that the mining sector does not encounter as much barriers to the use of rail infrastructure in comparison to non-mineral users. This study indicates that the factors that hinder the shared use of rail infrastructure between the agricultural and mining sector in South Africa is centred on the failures of the institutions and methods of administering economic regulation in light of corporate fundamentalism. However, despite the bias that exists, both coal miners and citrus growers still demand rail infrastructure to facilitate growth potentials and operational efficiency. The regulatory regime in charge of access needs to create an enabling environment for this to occur.

Way forward

There is a possible need for government/DPE to make serious governance reforms with regards to the operations of TFR and its relationship with the different sectors, such as transparency of decision-making by the entities making regulatory decisions or set up an independent economic regulator.

This paper suggests that Transnet (TFR) needs to review its regulatory substance, which is the content of its regulation (Brown et al. 2006), such as:

- Tariff levels
- Tariff structures
- Quality of service standards
- Investment or connection obligations and reviews, and
- Network access conditions for new and existing customers

To ensure that its operations are non-discriminatory for participants who require access to rail

infrastructure in the movement of their goods.

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Appendix

INTERVIEW WORKSHEET – CITRUS GROWERS

Contact Name

Title:

Telephone Number:

Firm:

Location:

Interview Date:

Time:

Choice Factor	Question/s to be asked
Physical Attributes of Goods	
- Shipment size? - Shipment package characteristics? - Shipment self-life? - Shipment value?	
Flow of Shipment	
- What is your shipment frequency? - What is the average shipment distance?	
Mode Used	
- Which modes (mode) are used for freight transportation? - What is the international best practice?	
Mode Decision	
- How do you decide on transportation mode? - What shipment characteristics do you consider most important: price, reliability or speed? - Have you used rail in the past? - Have you been satisfied/ dissatisfied and why? - Is rail frequency a problem? - Do you have contracts with trucking companies? If so, was rail considered before entering into such contracts? - Is rail an option?	
Accessibility/ Location	
- Is rail an option? - Are you near a railhead? - Would you consider using truck to get to rail? - Was rail accessibility considered when deciding on a location? Was highway proximity considered when deciding on a location? - If rail were accessible, would you consider using it? - If rail is not accessible, are you satisfied with this? Would you consider using it? - Are you looking to build rail connections to make it accessible? - Do Mpumalanga citrus growers generate sufficient volumes of cargo to demand the use of rail transport? - Is rail part of your company's long-term transportation goals? - What would rail have to do to become part of your future goals (e.g. increase reliability, increase shipment frequency etc.)? - How many cold stores are there in Mpumalanga and how many are rail capable? - How many hubs are in Mpumalanga? And are located close to the main line and how accessible are they to the farmers in the region?	

- Has there been a slow response by Transnet to meet some of the demands of the citrus growers?

Shared Use of Rail

- Does coal traffic affect the transportation of citrus?
- Does the fact that farmers are dispersed present too many logistical problems which tends to work against them in terms of access to rail?
- What infrastructure do citrus producers have in place that facilitates access to the main railway lines?
- Does citrus production receive a lot of investment, which could facilitate in the building of rail infrastructure that connects to the main lines?
- In conclusion, would you say there is a bias with regards to shared use of rail infrastructure in South Africa more specifically between the agriculture and the mining sectors?

Future Plans

- Are you looking to build rail connections to make it accessible?
- Is rail part of your company's long-term transportation goals?
- What would rail have to do to become part of your future goals (e.g. increase reliability, increase shipment frequency etc)?

INTERVIEW WORKSHEET – MITCHELL BROOKE

Contact Name

Title:

Telephone Number:

Firm:

Location:

Interview Date:

Time:

QUESTIONS FOR THE CITRUS GROWERS ASSOCIATION: LOGISTICS

- Are the current arrangements between Transnet and coal producers conducive enough for the transportation of this commodity by rail in terms of (Policy, Price, Capacity, Infrastructure)
- In the industrial and logistics oriented market, freight transport clients prefer high quality of service (transport cost is not as important) and road transport service quality is regarded as being superior to that of rail transport. How far true is this within the citrus sector?
- What infrastructure do citrus producers have in place that facilitates access to the main railway lines?
- What are the procedures in acquiring a rail account and can the issue around transport brokering be avoided so as to reduce rail costs?
- Has the CGA been successful in managing a rail account on behalf of the growers?
- Do Mpumalanga citrus growers generate sufficient volumes of cargo to demand the use of rail transport?
- How successful have citrus growers been in re-establishing the use of break-bulk rail transportation?
- Does the fact that farmers are dispersed present too many logistical problems which tends to work against them in terms of access to rail.
- Does coal traffic affect the transportation of citrus?
- Does citrus production receive a lot of investment, which could facilitate in the building of rail infrastructure that connects to the main lines?
- In conclusion, would you say there is a bias with regards to shared use of rail infrastructure in South Africa more specifically between the agriculture and the mining sectors?

INTERVIEW WORKSHEET – TRANSNET

Contact Name

Title:

Telephone Number:

Firm:

Location:

Interview Date:

Time:

Regulation on Access

- Which one of the following models describes the rail sector in your country?
- Where does Transnet derive its authority to carry out its economic regulation from, Constitution, law or statute, Government decree, contract or Combination of the above?
- In terms of regulation to access rail, which one does Transnet make use of: Regulated Access or Negotiated Access?
- Does the regulation require that all entrants receive the same technical terms and conditions for access?
- Does the regulation require that all entrants receive the same prices for access?
- Are there any groups of customers who access rail at a very low price?
- If operators cannot agree on access rates/terms/fees who can intervene to resolve conflicts?
- Is there a legally defined process for appealing unfair economic regulatory decisions for customers?

Decision	Regulatory Agency	Ministry	Company/enterprise (identify which company/enterprise)
Tariff structure			
Tariff level			
Service quality			
Consumer complaints			
Sector expansion plans			
Investment plans/decisions			
Technical and safety standards			
Anti-competitive behaviour			

The Transnet Freight Rail divisional team managing the citrus sector is the Container and Automotive Business (CAB)

- Has there been any attempt by Transnet to improve its services or tailor make certain facilities to accommodate or promote a shift back to rail transport for citrus farmers?

- Citrus produce has strict arrival and departure times, thus has rail transport been able to meet these demands?
- What are the procedures in getting a rail account and can the issue around transport brokering be avoided so as to reduce rail costs for citrus growers?
- What are the rents earned by citrus and coal producers and how do they affect Transnet's financial position?
- Do the differences in traffic volumes or consistency of freight carried influence how each sector is treated on a business level?
- Can one say, because mining is the largest industry in the primary sector this would make up for its dominance in the rail sector?
- How much competition exists for the use of rail infrastructure in South Africa?
- Railway infrastructure networks' financial sustainability depends critically on high traffic volumes which sector provides the most volume and can this sector alone sustain Transnet or that particular business unit?
- Are all freight railway networks in South Africa multi-product?
- How many major railway lines run through Mpumalanga are they mostly single-track or double track lines?
- Do the railway service levels and quality in South Africa respond to the market demands of both mineral and agricultural sector?
- How much investment goes into citrus production both private and public compared to investments that goes into mining, could we say this has an influence on access to infrastructure such as rail?
- What competitive advantage is offered by rail (Transnet) to the citrus producers or coal producers?
- It is sometimes mentioned that governments that own shares in mining operations, oil production and refining, steelworks, or similar industries sometimes pressure rail freight managers to keep tariffs artificially low to support so-called 'strategic' industries. What is your take on this?
- Can shared use impair/affect operating efficiency?

INTERVIEW WORKSHEET – TRANSNET

Contact Name

Title:

Telephone Number:

Firm:

Location:

Interview Date:

Time:

Department of Public Enterprise
• Where does Transnet derive its authority to carry out its economic regulation from? Constitution, law or statute, Government decree, contract or Combination of the above? • What measures have been taken by the Department of State Enterprise to ensure that Transnet provides an equitable service to all strategic sectors of the economy? • Has the parliament passed any framework laws aiming at reforming the rail sector? • Have there been any serious disputes or controversies involving Transnet operational services in the movement of freight were the DPE had to intervene? Which sectors involved? • What are your biggest concerns with the way some of these state enterprises like Transnet operate in terms of their economic regulatory framework?