

The Impact of Regional Liberalization and Harmonization in Road Transport Services:

A Focus on Zambia and Lessons for Landlocked Countries

Gaël Raballand

Charles Kunaka

Bo Giersing

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Abstract

Based on a detailed empirical study, this paper argues that regional liberalization of trucking services has had an important effect on transport costs and tariffs for Zambia's economy. Zambia is a peculiar example in Southern Africa as it benefits from relatively low transport costs compared with other landlocked countries in Africa. This is mainly because of competition between Zambian and other regional, mainly South African, operators and because of South African investments in Zambia's trucking industry. As a result, the costs of

operators registered in Zambia and South Africa are similar. The study also demonstrates that enhancing trucking interoperability in Southern Africa would significantly impact positively the Zambian trucking industry's competitiveness. The main measures to significantly increase trucking competitiveness in the region would more likely derive from reducing fuel costs in Zambia, improving border-post operations, and relaxing South African truck import rules.

This paper—a product of the Africa Sustainable Development Division, Africa Transport Department—is part of a larger effort in the department to study transport services in Africa and their impact on transport prices. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at graballand@worldbank.org.

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The Impact of Regional Liberalization and Harmonization in Road Transport Services: A Focus on Zambia and Lessons for Landlocked Countries

Gaël Raballand^{1,2}

Charles Kunaka³

Bo Giersing⁴

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² World Bank Africa Transport Unit.

³ Sub-Saharan Africa Transport Policy Program (SSATP).

⁴ Portfutures.

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1 Introduction

Being a landlocked country with the main economic centers lying at least 1400km from the nearest seaport, Zambia is highly dependent on the efficiency and costs of cross-border transport services. Transport costs can contribute as much as 17 % to import costs (MacKellar et al. 2000), which is more than three times the amount in most developed countries but comparable with most landlocked countries. Rizet and Hine (1993) calculated that costs in Africa were up to six times higher than in Pakistan. Therefore, efficiency improvements in the transport sector could have a significant effect on import costs and the competitiveness of exports.

Because of scarce data on transport cost determinants, a consensus has not been reached yet on factors explaining high transport costs. Several authors mainly attribute this problem to trucking industry market structure and regulation. Rizet and Hine argue that low levels of competition between service providers in Africa are one of the key explanatory characteristics. Some authors, like Pedersen (2001), attribute the high costs to freight characteristics and infrastructure problems such as distances between major economic centers and the regional seaports, highly seasonal nature of demand for transport, low population and production densities, widespread use of second-hand trucks, and

poor maintenance of roads. In addition, some researchers argue that governance issues and rent-seeking activities such as border-crossings, roadblocks and customs procedures are important as they can make significant contributions to transit delays and costs (Arvis et al. 2007).

Solutions to the above problems have been debated for some time. One approach that has gained currency is to widen markets through regional integration. Based on such thinking, the various sub-regions across Africa are pursuing programs intended to lead to the establishment of free trade areas. In Southern Africa, both the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC) are aiming at establishing such areas within the next few years.

In order for free trade areas to be effective, it is critical that intraregional trade is able to move without hindrance. Inefficient transport services can be an impediment to the realization of benefits expected from free trade areas.

Aware of the importance of transport facilitation to achieve trade integration, member States of COMESA and SADC have adopted measures and rules aimed at liberalizing transport, harmonizing transport rules and developing infrastructure in the sub-region. Eight states in Southern Africa are members of both COMESA and SADC and have ratified the transport protocols of both organizations⁵.

In pursuit of the goals of a regional integrated market, and in common with other sub-regional organizations, COMESA and SADC have focused on two major sets of rules:

- liberalization of market access in respect of carriage of international road freight, and
- harmonization of rules to ensure interoperability within sub-regions.

This paper focuses on road transport in Zambia and reviews the nature of transport demand, sector characteristics and the role of competition from regional transport operators, mainly those from South African. It also explores the likely impact on Zambia of convergence of national and regional rules affecting interoperability, trucking competitiveness and lifting market access restrictions.

The paper is divided into four sections: the first section describes Zambia's trade direction and main transport corridors, the second presents the main determinants of transport tariffs and costs in Southern Africa, the third draws some lessons for landlocked developing countries and the final section concludes.

⁵ In COMESA the guiding provisions are contained in the Treaty as a rather general chapter on transport while SADC has a separate and comprehensive Protocol on Transport, Communications and Meteorology. Due to differences in emphasis dating back to the origins of the two organizations, COMESA would appear to be more advanced on transport issues as they relate to trade facilitation and SADC relatively more advanced on transport infrastructure development.

2 The Zambia Road Transport Market

2.1 Freight Volumes

Zambia's main trading partner is South Africa⁶, accounting for 1.8 million tonnes per year (44% of the estimated total freight traffic in 2005). The DRC and Zimbabwe account for about 9% and 8% respectively of total trade. Zambia's international trade outside the SADC region accounts for about 36% of total trade.

The main products transported by road within Zambia are:

- Mining products (both inputs and outputs: ores, concentrates, metals, sulphur, sulphuric acid, coal),
- Agricultural products (sugar, tobacco, cotton),
- Fuels (diesel and petrol),
- Food (bulk grain).

According to data from the Zambian Revenue Authority, the total volume of Zambian regional and international trade is 4.1 million tonnes in 2005, made up of 2.3 million of imports and 1.6 million of exports (see Figure 1).

Road transport is the dominant mode in Zambia and is expected to remain so. Current modal share is about 71% of Zambia's trade (in volume) is carried by road, 24% by rail⁷ and about 5% accounts for oil imports by pipeline from Dar es Salaam (TAZAMA pipeline).

High value mining and agricultural goods (cobalt and fresh / frozen products) are generally transported by air freight except for copper cathodes (about USD 250,000 per load), which are exported by road to Gauteng, where they are containerized in order to be exported through Durban.

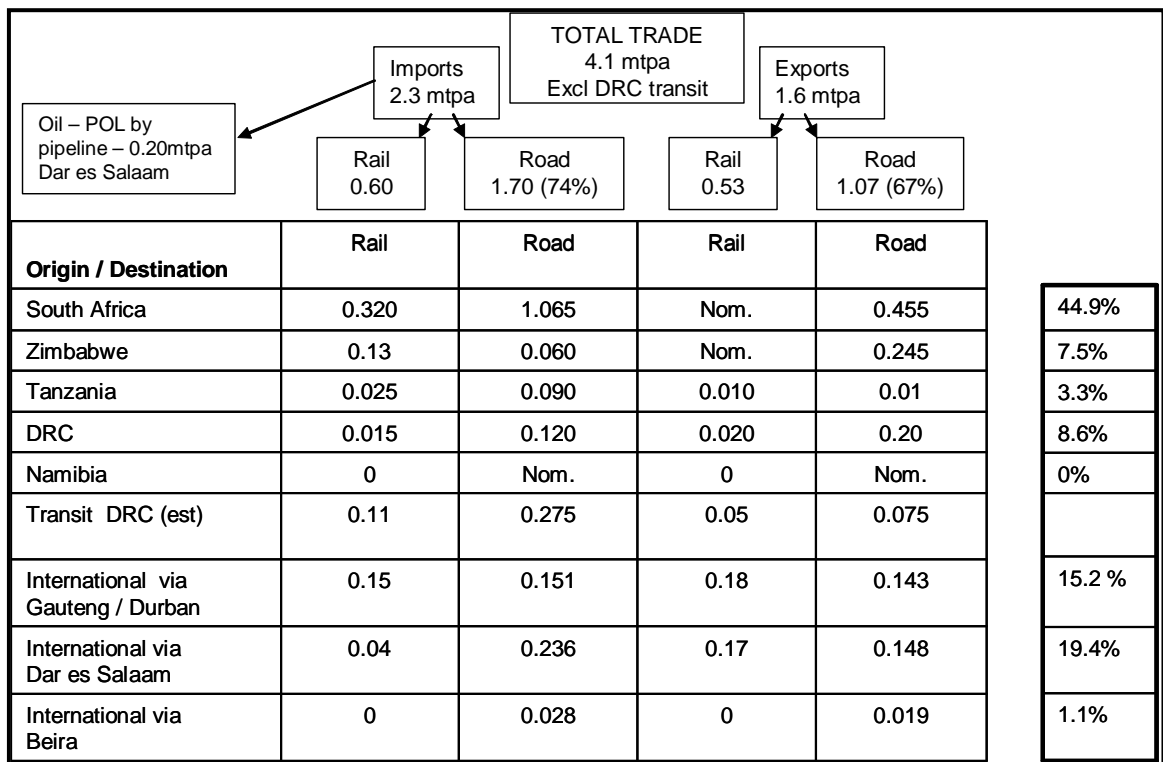
⁶ On Zambia's routes from South Africa, only about 10% of general cargo is containerized for costs savings reasons. Trucks have increased payloads and volumetric capacity when not containerized.

⁷ There are two rail operators relevant for Zambia's trade. Railway Systems of Zambia (RSZ) is the rail operator of Zambian Railways following a 20-year concession agreement signed in February 2003. The total traffic carried by Zambia railway has fallen from more than 6 million of tonnes per year in 1975, to 4.5 million in 1988 and to less than 1.5 million in 1998. For such low volumes, the minimum required railway tariffs to achieve financially viable operations will be, in most cases, higher than the equivalent road tariffs with longer transit times. This is partly due to deregulation of the road transport sector, but also due to shrinkage of the economy, particularly mining and agricultural sectors.

Tazara is jointly owned by the governments of Zambia and Tanzania, and initially financed by China in 1975. The capacity of rail infrastructure is in the region of 5 million of tonnes per year, but operations and equipment capacity to 1.5 million. Current traffic amount 0.5 million, of which about 0.2 million is traffic to and from Zambia and the DRC.

In general, regional freight in Southern Africa is dominated by the flow of manufactured and consumer goods out of South Africa into the other SADC countries. As a result and in the absence of flows in the reverse direction, some foreign registered trucks travel to South Africa empty. In the case of Zambia and based on a full payload, the freight flow imbalance by road is about 630,000 tonnes per year⁸. This imbalance most often translates into freight tariff discount on the backload. Similar situations exist in Malawi and Namibia with respect to South African routes.

Figure 1 Zambia - International Trade Traffic Patterns



However, larger operators (with 50 or more trucks), both in Zambia and South Africa, have a clear advantage over the smaller operators because they have a broader customer profile and more flexible operating conditions. Hence, larger operators are better able to secure back hauls. Presently, due to the high demand for transport services in Zambia, large Zambian operators currently operate with virtually 100% back hauls, which enhances substantially the trucking sector's profitability and competitiveness. Demand for road transport services is

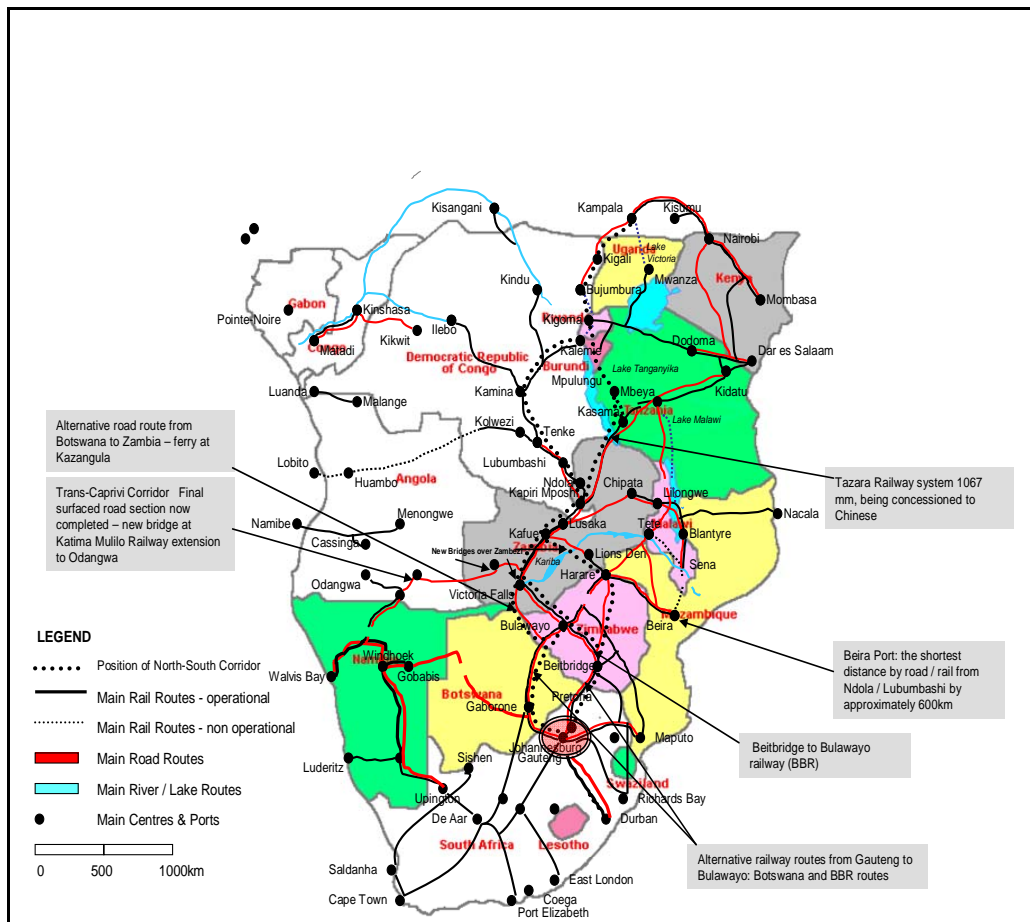
⁸ Estimated freight flows are the following: Zambian imports by road of 1.7 million tonnes (excluding imports by pipeline) versus 1.7 million tonnes of exports by road.

high because railway services have not been able to provide increased capacity and in 2006 RSZ also increased tariffs by 45%.

2.2 Zambia – Main Trade Routes

Compared to most developing landlocked countries in Africa, Zambia is particularly well serviced in terms of road and rail infrastructure. There are several alternative road and rail connections from Zambia's main economic centers to regional ports (Figure 2 and Box 1).

Figure 2 Main Transport Corridors in the SADC Region



Box 1 Zambia's Main Transport Corridors

Dar es Salaam Corridor

This is Zambia's 'natural' import and export port and transport corridor. The corridor is served by road and rail, with the infrastructure on both services being in generally good order and operating at well below capacity, with the exception of the Nakonde border post, which is often congested.

North South – Chirundu, Beit Bridge, Gauteng, Durban

This is the most heavily trafficked corridor for regional trade, which connects South Africa with Zimbabwe, Zambia, Malawi, central and northern Mozambique, the DRC, Tanzania and the great lakes region. Average road transit times on the Ndola Gauteng route is about 7 days – 2.1 round trips per months for the larger trucking companies using the Chirundu – Beit Bridge route.

Road infrastructure is in good condition but the border post-upgrades have been delayed. Delays and congestion occur at the Beit Bridge and Chirundu border posts, particularly at peak periods. Delays at Beit Bridge can be up to 3 days due to processing capacity limitations. At Chirundu, processing normally takes up to 1 day. Some of the traffic appears to have been switched to the Kazangula crossing, but delays appear to be even higher.

Despite significant longer distance from Zambia, Durban remains an attractive alternative to Dar es Salaam, because the flow of goods exported out of South Africa allows the trucking companies to offer a discount for the back haul, to offset the additional cost of the longer distance. Increasing copper production and export from Zambia during 2004/5, has allowed the larger trucking companies to achieve a balance of goods transported north and south.

Another important attraction for Durban as an import and export port for Zambia, is the fact that Durban serves as a regional hub port with a high vessel calling frequency, and therefore favored by many customers. This position is gradually also being attained by Dar es Salaam and to a lesser extent by Walvis Bay, but not yet by Beira and Maputo.

North South – Kazangula / Victoria Falls

This is the 'alternative' North – South route between South Africa, Botswana, Zambia and the DRC, which bypasses Zimbabwe.

The road conditions on the Kazangula route are good, except for a stretch of about 80 km north on Livingstone in Zambia, which requires upgrading. This route was originally served by two old river ferries at Kazungula, operated by the Zambian ministry of transport. The ferries were unreliable, and did not comply with the minimum safety standards (one sank in 2004, with considerable loss of life), and have since been replaced with two modern ferries. This route has become increasingly popular, partly because of increasing congestion at Chirundu, but also because it bypasses Zimbabwe, which frequently suffers from fuel shortages.

Congestion may occur mainly because Zambia's customs office at Kazungula is not able to cope with the increased traffic demands.

Beira Corridor

From the Zambian and DRC Copperbelts, Beira offers the shortest route by road to any

regional seaport. Despite the very significant distance advantage by road, Beira has not been able to attract significant levels of traffic to and from Zambia. This is mainly due to the fact that Beira port has a 8 metres draft and has very few direct calls: the port serves mainly as a feeder port to Durban and road transport directly between Durban and Zambia is therefore most often quicker and cheaper.

Walvis Bay Corridor – Walvis Bay is currently being aggressively marketed by the Walvis Bay Corridor Group (WBCG) as the western gateway to the SADC region, for trade to and from the West. Walvis Bay is an efficient port and has invested in additional capacity well ahead of demand. The road distance from Walvis Bay to Ndola is about 2300 km, about 15% longer than to Dar es Salaam, but considerable shorter than to Durban. The road conditions along the route are good, with the exception of the 80km section north of Livingston. The route crosses the Zambezi via the new bridge at Katimo Mulilo and has the advantage of no congestion at either the port or at the border post. The main marketing advantage of this route is the savings in time, possibly 7 to 10 days, for Zambian trade to and from the west. Walvis Bay has not yet been successful in capturing significant volumes of Zambian traffic, possible because the port has mainly acted as feeder port for the South Africa ports – Cape Town Port Elizabeth and Durban – but this appears to be changing. During 2006, container volumes through Walvis Bay have increased from about 40 000 TEUs to more than 150 000 TEUs, because of a decision by Maersk to use the port as a feeder for Angola. Transit times between Ndola and Walvis Bay should be of the order of 4 to 5 days with one border crossing.

The current ports serving Zambia are Dar es Salaam, Durban and Beira, providing a high level of transport flexibility. Still all the routes are long (up to 3,000 kms), with long transit times (up to 10 days by road and 25 days by rail) and are rather expensive (ranging on average between 50 USD per tonne and 160 USD per tonne) (see Tables 1 and 2). The Zambia – South Africa road corridor through Zimbabwe is the most important transport route for Zambia⁹ going through Beit Bridge, Chirundu and Kasumbulesa.

Table 1 Indicative Transport Tariffs

CORRIDOR Ndola, Zambia	Distance (km)	Freight Flow Imp/Exp %	Tariff ¹⁰ US\$ /t		Tariff US\$ /TEU ¹¹	
			Imp	Exp	Imp	Exp
Dar es Salaam	1970	65% / 35%	80	50	1,800	1,400
Durban	3000	50% / 50%	120	120	2,040	2,040
Beira	1400	80% / 20%	100	100	1,700	1,700
Walvis Bay	2300	80% / 20%	160	160	2,700	2,700

⁹ It remains difficult to extrapolate data and statistics because changes in regulations and rules could bring about traffic flows redirections in respect of alternative routes such as the Dar es Salaam or Tanzanian route, and a modal shift to rail via RSZ and/or Tazara.

¹⁰ Tariffs may differ considerably from actual contracted values, depending on operator capacity, backload contract type, conditions of payment, customer profile, weight of bulk goods or container and competitive environment.

¹¹ Container tariffs based on one truck carrying two TEUs. Bulk tariffs based on one truck carrying 34 tonnes.

The tariffs are all deregulated. Road and railway tariffs are largely similar, and influenced by the demand and the existence (or lack of) competition between operators and transport modes.

Table 2 Main Transport Routes

To / From Ndola	Mode	Estimated Volume (in million tonnes per year, in both directions)	Estimated Transit time (days)
Dar es Salaam	Road	0.48 (incl DRC)	8.5
Dar es Salaam	Rail	0.21 (incl DRC)	18
Dar es Salaam	Road/Rail multimodal	Incl in 0.21 above	19
Harare	Road	0.3	2 - 3
Gauteng / Durban	Road	1.58	7 - 9
Zimbabwe / Gauteng / Durban	Rail	0.82	21
Beira	Road	Not significant	4
Walvis Bay	Road	Not significant	4 - 5

Route selection is often determined by the customer or the shipper, not the transporter. Vessel calls, availability of appropriate port handling equipment and transit times all influence the choice of trade routes. Copper mining companies in Zambia have a policy of maintaining alternative competing routes and modes in order to achieve competitive services. However, overload control practices and the attendant corruption in some cases, plays an influence on route assignment over the regional network. Some routes are favored by some operators because of the ability to pass through them with an overloaded truck, either against additional payments or absence of controls – the Kazungula route has previously had this reputation, and could be one of the reasons for the congestion on this route. Overloading significantly improves truck operating profits (but also controls en route). For the same reasons, this route is avoided by some operators.

Delays at border-crossings such as Beit Bridge and Chirundu have also a great impact on road transport sector profitability. Indeed, they drastically increase the number of days trucks stay idle, therefore increasing fixed costs per day for the trucking company. However, delays at border-crossings vary considerably. They may range from few hours to 4-5 days. Measures to improve border-posts operations are therefore likely to have a significant effect on transport costs, through a significant increase in the yearly mileage.

3 Road Transport Services in Zambia – the Impact of Regional Liberalization

The Zambian national road network has been significantly improved over the past 10 years. The road network is now largely in good condition, although there

are sections on the main routes where maintenance schedules have fallen behind due to a lack of funds. The network provides a sound basis for a vibrant cross-border road transport sector.

Currently, some 1,300 to 1,500 large trucks registered in Zambia operate nationally and regionally¹². Zambian truck operators can be classified into the following categories, subject to the trucks they operate:

Box 2 A Typology of Zambian Trucking Companies¹³

1. **Small trucks**, two axles, used for local distribution and deliveries (less than 3.5 tonnes) and which do not require an operating permit. These trucks are operated mainly by businesses rather than by transport companies.
2. **Medium sized rigid trucks**, two axles, and smaller articulated trucks with up to four axles (from 3.5 tonnes to 20 tonnes). Many of these trucks are also owned and operated by businesses (construction companies, manufacturing companies, wholesalers and retailers) and used mainly for distribution and deliveries, but they also serve the agricultural sector, carrying tobacco, sugar to processing plants and warehouses. These trucks are generally not used for cross-border regional transportation because of the higher cost of operating per ton of freight carried. This category of companies would be the most affected if the rule on cabotage is lifted because this would allow foreign trucking companies to carry out local direct deliveries on a discounted price or tariff basis while waiting for back hauls.
3. **Large Articulated Trucks**, five to eight axles (up to 56 tonnes) operated by small and medium sized Zambian trucking companies, carrying mainly bulk goods within Zambia (copper metal, copper concentrate, cement, coal, sugar, grain and smaller numbers of containerized goods). This forms the core of the Zambian trucking sector, driven by the current 2006 high demand for transport services from the mining and agricultural sectors. There are many Zambian trucking companies which operate in this category, transporting bulk goods to and from inland ports such as Ndola, Lusaka, Livingstone, Kapiri, transshipped to or from rail, as part of a multi-modal transport system. The demand for road haulage within Zambia is set to increase with the planned increased copper production.
4. **Large Articulated Trucks¹⁴**, six to eight axles (48 tonnes to 56 tonnes), operated by the large Zambian trucking companies on regional routes and cross-border freight services. This is mainly confined to the large operators generally owning between 15 and more than 200 trucks.

¹² For Gross Vehicle Mass (GVM) of trucks between 48 tonnes and 56 tonnes. Based on truck performance data (turnaround times) and freight flows, 3600 units currently operate on Zambian roads and Zambian regional transport routes. According to the RTSA, 8483 trucks are currently licensed (including small trucks).

¹³ Virtually all road trucks used for regional cross border freight services are of the trailer combination type, either seven axles carrying a 35 tonnes load or six axles carrying a 27 tonnes load.

¹⁴ The typical distance target for a Zambian operator is 11000 km per month, or 130000 km per annum, and the trucks are operated to the end of their economic life, which is typically more than 1500000 km, or up to 12 years total service.

3.1 Competition in the Zambian Road Transport Sector

Fekpe (1996) and Maasdorp (2001) maintain that regulations are the key barriers to liberalization and efficiency improvements in the road transport industry. Maasdorp further argues that it is important that SADC States should get their policies right before making commitments under the General Agreement on Trade in Services (GATS). It is through region-wide approaches that some of the measures that can improve market access and regional-intra-operability can be taken. As the SADC Protocol on Transport, Communications and Meteorology prohibits discrimination based on nationality, the tendency is towards measures that apply to all countries and not just bilaterally. Several rules have a major impact on trucking industry's competitiveness in Southern Africa. This section explores three categories of factors that influence road transport competition in Zambia: regulations governing market entry, transport costs and truck interoperability.

3.1.1 Market Entry Regime

The key determinants of market entry of foreign operators into the Zambia road transport sector are permits and fleet ownership.

Permits are issued for a limited period of time. Each country has the right to refuse entry to operators who regularly flout its regulations. The permits are based on bilateral agreements signed between pairs of countries. Based on the Protocol and the model agreement for passenger and freight transport services, SADC states have concluded bilateral agreements to facilitate international road transport on all major corridors of the sub-region. Still, though they have several common items, the agreements¹⁵ do not always follow a standard format¹⁶. In most cases the agreements have also not been fully implemented. Some provisions have been neglected or are not implemented, presumably because agreements are vague or do not define clearly responsibilities such as membership and chairmanship of the joint committees or information schedules.

Road transport in Zambia is controlled and regulated by the Road Transport and Safety Agency (RTSA) which is in charge of vehicle testing, collection of road license fess, issuing of cross border-permits, collection of road user fees, and enforcement/fines. Zambia has so far concluded bilateral agreements with Malawi, Mozambique, Zimbabwe, Namibia, Botswana and South Africa. Interestingly, an agreement with Tanzania has not yet been concluded and the single permit system for cross border traffic is not yet in place. Permits are issued at the border by the country of entry and records are not kept by the RTSA.

¹⁵ Bilateral Agreements have to date been signed between South Africa, Botswana, Namibia, Zimbabwe, Zambia, Malawi and Mozambique, which will shortly be joined by DRC and Tanzania.

¹⁶ For more details on key provisions, see appendix 2.

In an effort to overcome the multiplicity of bilateral agreements between pairs of states, in 2002 SADC drafted a multilateral agreement for signature by all states. The agreement, based on a similar SACU agreement provides the regulatory framework for liberalizing the regional road transport market in Southern Africa.

However, some of the States have not been willing to accede to the agreement before several operational issues are harmonized or standardized. Lack of harmonization in those issues is considered to have the potential to negate any expected benefits from the adoption of the multilateral agreement. Some of the relevant issues highlighted relate to interoperability of infrastructure and equipment¹⁷.

There are two important provisions of the bilateral agreement which restrain market access to foreign companies in trucking services, the “third country rule”¹⁸ and cabotage prohibition.

3.1.2 Third Country Rule

The third country rule bans operation of trucks registered in a third party country to transport goods between two other countries. However, in practice, it is accepted as long as the route goes through the third country and bilateral agreements have been signed with the third country. For example, Zimbabwean trucks can carry goods between Zambia and South Africa, but only as long as they transit through Zimbabwe. But a South Africa registered truck cannot carry goods between Tanzania and Zambia. This is a protective measure for local trucking companies. The third country rule is included in the Zambia-South Africa bilateral agreement.

Taking into account freight characteristics in Southern Africa, i.e. the fact that the backload rate is high, and rather similar operating costs between Zambian and South African operators, lifting cabotage prohibition and third country rules would probably have a rather limited impact on road transport services between Zambia and South Africa. Indeed, most Zambia’s transport flows are between Zambia and South Africa. Large Zambian companies are able to secure 100% back hauls from South Africa. Consequently, unlike fleets from Malawi, Zambian trucking companies do not have any need to transport freight from Botswana to Zimbabwe, for instance, to partially secure back hauls¹⁹.

Trade flows between Zambia and neighboring countries are much lower than South Africa-Zambia trade flows and thus the added competition of fleets from Zimbabwe or Botswana is not likely to induce significant gains for Zambia’s

¹⁷ Discussed below in section 3.2.

¹⁸ Interestingly, even within the SACU agreement the same restrictions also apply.

¹⁹ For small operators, difficulties to secure backhauls are higher, which means that the end of the third country rule should have a positive impact.

transport costs. This is confirmed by the fact that non-South African trucking companies in the sub-region present rather similar operating costs (for a same quality of service), lifting this rule would not induce transport tariffs to decrease.

3.1.3 Cabotage

Cabotage is the carriage of *domestic goods* by a foreign operator. It is prohibited in Zambia and most of the SADC countries. In Zambia, cabotage prohibition is implemented and the RTSA does not issue cabotage permits. As such, in practice, Zambian trucking companies operating on the domestic market are then protected from foreign competition. However, several South African companies bypass this rule by investing in trucking companies in Zambia. Among large trucking companies registered in Zambia, several of them are controlled or owned by South African companies.

South Africa on the other hand, is one of a few countries that issue cabotage permits. This practice by the South African Cross- Border Road Transport Agency to issue permits provides an opportunity for Zambian operators to obtain partial backloads in South Africa. However, the cabotage permits issued in South Africa are relatively expensive²⁰ and valid for a limited time (see Table 3).

Table 3 Number of Cabotage Permits Issued in RSA

		2004/2005	2005/06
TEMPORARY PERMITS	14 Days	1017	1160
	3 Months	0	6
PERMANENT PERMITS	3 Months	0	4
	6 Months	0	1
	1 Year	0	18
Replacement of vehicles	of	0	3
Duplicate of permits		0	0
Renewals of permits		0	0
TOTAL		1017	1192

²⁰ The CBRTA issues permits to South African operators to travel to the countries covered by the bilateral agreements on a 14 day, 3 month, and 12 month renewable basis, at costs of R260, R390 and R1460 respectively (May 2006). Permits are issued without quotas or restrictions on numbers.

Zambia's road freight industry faces competition from other Southern African operators. Several foreign trucking companies operate extensively along Zambian main transport corridors. The importance of the foreign operators can be seen in Table 4 which gives the estimated²¹ numbers of trucks operating on a continuous basis on the different routes and which are registered in other SADC countries. The market is therefore highly competitive, with Zambian trucking companies' market share of up to 40%. It was even confirmed through monitoring at Chirundu border-post that most of the trucks operating on the international routes are owned by South African and Zimbabwean companies²², as much as 70-80% of the traffic through Chirundu.

Table 4 Numbers and Origins of Trucks Operating along Main Zambian Corridors

Road Route / Corridor	Zambia	South Africa	Other Countries
Zambia – Zimbabwe – South Africa, via Chirundu	500	900	300
Zambia – Zimbabwe – via Chirundu	100	0	150
Zambia – Botswana – South Africa, Via Kazungula	200	300	100
Zambia – Tanzania, via Nakonde	100	0	300
Zambia – DRC via Kasumbulesa (Zambian trucks and trucks in transit)	300	100 ²³	200 ²⁴
Zambia – Namibia, via Katimo Mulilo	50	0	20
Zambia – Malawi via Chipata	50	0	30
Zambia internally – Bulk Goods	200	0	0
Total number of currently licensed Zambian Heavy Trucks	1300 - 1500		
Estimated total number of foreign Heavy Trucks on Zambian routes at any one time		1200	1100

²¹ The statistics provided by the Cross Border Agencies in Zambia and South Africa, and also the Zambian Revenue Authority, do not publish data on the number of trucks using the various road corridors. The only effective way to obtain this information would be to undertake a detailed border post and customs survey. Temporary permits do not indicate the numbers of trips carried out by each truck for the duration of the permit. Estimates are based on data from cross-border permits, customs records, previous observations of border-posts, and information provided by selected transport operators.

²² It is worth noting that most South African-owned trucking companies use mainly Zimbabwean drivers whereas Zambian-owned firms mainly employ Zambian drivers.

²³ Most of trucks are in transit from South Africa and Tanzania.

²⁴ Mainly trucks in transit from Zimbabwe.

The number of foreign trucks operating in Zambia is high because Zambia is a net exporter in terms of freight volumes and consequently this makes it economically viable for South African companies to run round trips. The South African fleet is the most important in the sub-region benefiting from economies of scale. The Gauteng truck fleet of heavy trucks is about eight times larger than the Zambian fleet²⁵.

Thus, some large South African trucking companies have taken over control of several large Zambian companies, which is also a specificity of Zambian trucking industry. FDI in the trucking industry has been the main solution South African companies found to bypass market entry barriers. However, it is worth noting that although some large companies benefit from South African capital, they are run by Zambian management.

3.2 Comparison of Transport Costs²⁶ in Zambia and South Africa

Transport tariffs in Zambia can be considered to be low²⁷ for road transport especially for a landlocked country in Africa. In June 2006, road transport tariffs were based on between 9 ZAR and 11 ZAR per km, depending on back haul rate and on competition extent. This translates into a transport tariff between 26 ZAR cents per tonne per kilometer (tkm), and 39 ZAR cents per tkm, or 3.7 USD cents to 5.6 USD cents per tkm²⁸.

One of the important inputs into setting tariffs are the transport costs. The South Africa Road Freight Association reports total operating costs for a seven axle interlink, typically used on the Zambia – South Africa route, to be 9.80 ZAR per

²⁵ The Gauteng – Durban freight corridor study, (TMT March 2005), indicated that there were 81,000 registered heavy goods vehicles in Gauteng, (representing 38% of the vehicles in South Africa), of which an estimated 50,000 were rigid trucks, 20,000 were articulated combinations, and 10,000 were longer 48t to 56t combinations of the type used for regional freight transport and of the type operated by the Zambian trucking companies. Gauteng represents 38% of South Africa's vehicles, but more likely about 50% of the registered heavy trucks in South Africa.

²⁶ This section is based on original data. Despite several cross-checks of these data collected from freight trucking operators, these data should be used with some caution due to the fact that vehicle operating costs differ between companies.

²⁷ That is also why, railway services have great difficulty in competing on price and even greater difficulty in competing on service levels (transit time).

²⁸ A recent pre-feasibility on the construction of the North West railway extension from Chingola to Solwezi used a railway tariff of USD 15 cents per net tkm as a competitive tariff with road, clearly off the mark by a large margin, indicating that the railway project cannot compete with road transport. Railway tariffs in the SADC region, for general freight on lines carrying 500,000 to 1 million tonnes, are typically of the order of 3.3 USD cents per tkm, but sometimes up to 10 USD cents, when there is competitive interference or government intervention (like in Zimbabwe).

km. This is comparable with Zambian operators; tariffs being from 9 ZAR to 11 ZAR per km for a truck with an average payload of 33.9 tonnes²⁹.

It is important to note here that the typical distance target for a Zambian operator is 11000 km per month, or 130000 km per annum, and the trucks are operated to the end of their economic life, which is typically more than 1,500,000 km, or up to 12 years total service.

For Zambian companies operating in the sub-region (and not exclusively on the domestic market), fuel costs are lower than their counterparts operating only on the Zambian market because truckers usually fill tanks outside Zambia, avoiding high fuel costs in Zambia. For such Zambian companies operating in the sub-region, costs are cut to 1.35 USD per km or 4.0 USD cents per tkm, i.e., less than a South African-based operator (see Table 5 for a breakdown of VOCs).

**Table 5 Comparison of Vehicle Operating Costs Breakdowns
(in percentage of total costs)**

	South Africa	Zambia (domestic)	Zambia (cross- border)
Finance	4.7	1	1,5
Depreciation	11.3	2	2
Insurance	6.2	3	7
Vehicle Staff	19.3	18	21
Overheads, Licenses and permits	9.1	9	10
Fuel and Oil	32.6	45	35,5
Maintenance	11.3	16	17
Tyres	5.4	6	6
TOTAL	1.51 USD per km or 4.4 USD cents per tkm	1.59 USD per km or 4.7 US cents per tkm	1.35 USD per km and 4.0 USD cents per tkm

For cross-border transportation, Zambian large companies and South African transport companies face similar transport costs, which make Zambian companies competitive. However, for domestic traffic, small Zambian companies are less competitive than South African ones.

²⁹ The RFA costs are based on the following assumptions:

- Truck Cost Price USD 141,000 (USD1 = ZAR 6.5, April 2006)
- Cost of 2 trailers USD 48,600 (10 year life)
- Residual Value after 5 years 25%
- Distance 140,000 kms per year
- Cost of capital 10.5% per year
- Utilization coefficient 75%
- Operating Days per year 265
- Payload 33.9 t = 34 t.

South African companies allocate a higher share of their costs to finance, depreciation and insurance because of prohibition of South African companies to import second-hand vehicles whereas Zambian operators allocate higher share to fuel costs since they are allowed to import second-hand trucks and have, therefore, finance, depreciation and insurance costs lower.

Two items greatly affect competitiveness of South African and Zambian transport operators: fuel costs and truck imports rules.

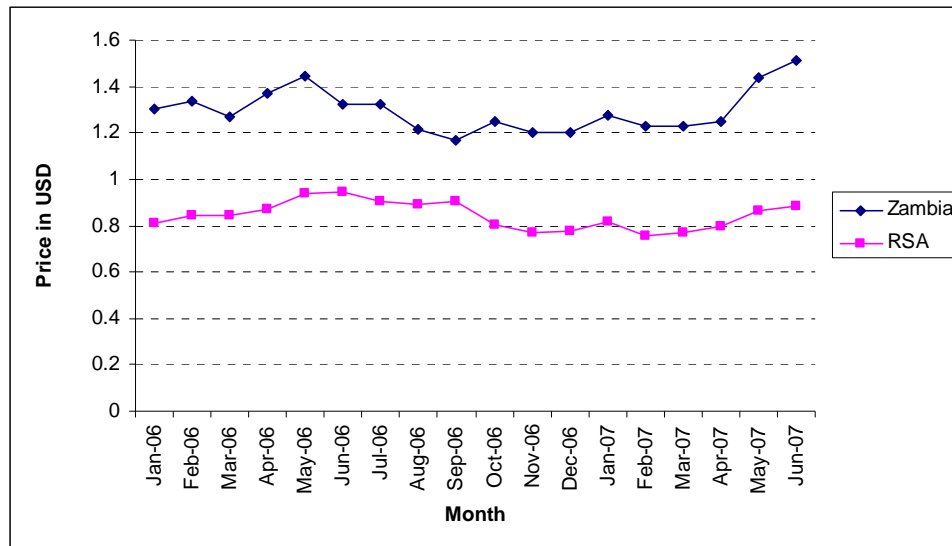
3.2.1 Fuel Costs

Fuel prices in Zambia are higher than in other countries in Southern Africa. In June 2006 the price for diesel fuel in Zambia reached 4,700 ZMK per liter, equivalent to USD 1.50 per liter. In South Africa, Botswana and Zimbabwe, the equivalent price was about USD 1 per liter (depending on exchange rates). Figure 3 shows the diesel price trends in South Africa and Zambia. The prices in Zambia are higher may be partly explained by the frequent closures of the Indeni oil refinery, leading to fuel being imported by road on a short notice (instead of pipelines) and, Government involvement in oil refining even more importantly, high taxes on fuel (GTZ 2007).

As a result, Zambian transport operators, on the domestic market, pay higher fuel prices by as much as 50% than in other countries. As a result, trucks entering Zambia frequently enter on a full tank of fuel.

³⁰ Zambia is among the top five African countries for fuel prices (GTZ 2007).

Figure 3 Fuel Price trends in South Africa and Zambia (in USD)



The fuel price differences affect the structure of operator costs. The South African RFA Vehicle Cost Schedule records the fuel and lubricants costs for a seven axle interlink to be 32.6 % of total operating costs. Within Zambia, the fuel costs component reaches 45% of total operating costs. Diesel fuel costs are the major cost elements in Zambia’s operators transport costs. Otherwise, if fuel costs were similar to neighboring countries, domestic transport costs would be lower than South African operators transport costs.

3.2.2 Truck Import Rules

In South Africa the importation of used and depreciated vehicles is prohibited. Such imports require an import permit, which is very rarely granted except for special circumstances (returning residents, immigrants and special motivated circumstances³¹). Elsewhere in the other SADC countries, Zambia included, import permits are issued freely, as long as tariffs and duties are paid.

Imports of used trucks result in savings in the initial purchase price and the subsequent financing and depreciation costs. A Zambia operator can purchase a 3 to 4 years old heavy truck with about 320,000 – 480,000 kms on the odometer for about USD 25,000 USD to USD 40,000, whereas a South African operator will have to pay between USD 100,000 and USD 150,000 for a new unit.

³¹ Import permits are granted only if such goods or substitutes are not manufactured domestically, constituting a *de facto* ban on such goods.

Maintenance costs³² for the Zambian operators will be higher, but this additional cost is more than offset by savings in depreciation costs³³. Almost all trucks registered in Zambia are purchased used, mostly from the UK, or from the USA as left hand drive units. Left hand drive vehicles cannot be registered in South Africa, and they are also not allowed under the SADC Protocol on transport Communications and Meteorology.

The prohibition of used vehicles can be explained by safety and national industry protection reasons. South Africa has a substantial motor vehicle industry, including the building and assembly of trucks³⁴. However, according to Kaplan (2004), “despite some productivity gains, the South African auto and auto components industry has been and remains internationally uncompetitive”. Still the situation is not likely to change as it remains a politically sensitive issue with the sector benefiting from extensive public support.

At the same time, in the other SADC countries, the prohibition of used trucks imports is unlikely to happen as there are no obvious benefits for the trucking industry in insisting on new vehicles. In any case, the domestic trucking companies have an advantage over the larger South African companies and would otherwise have to raise transport tariffs substantially.

3.3 Regional Intra-Operability Issues

There are several other regional practices that have the potential impact to enhance competition in the regional road transport market and then to reduce transport tariffs and costs. The main issues are outlined below.

3.3.1 Road User Charges

³² Zambian operators have their own fully equipped workshops, and keep their own stock of spares. The used truck and spares are bought directly rather than through local agents.

³³ Zambian operators will typically operate their trucks until they are more than 10 years old.

³⁴ The industry has been driven by the Motor Industry Development Program (MIDP), which was introduced in 1995. The MIDP was initially scheduled to run until 2007 but has been given a five-year extension to 2012. The MIDP aimed at increasing the volume and scale of local production, expanding exports and modernizing the industry. In the eight years the program has existed, vehicle and car components have risen to ZAR 40 billion from ZAR 4.2 billion in 1995. The industry's contribution to the GDP is 6.2%, which puts it in second place behind mining. The number of manufacturers has grown from seven to twenty-six. South Africa assembled 26727 heavy trucks in 2005, a 28% increase compared to 2004.

Source: Siya Qoza, The Sowetan available at <http://www.tradeinvestsa.co.za/Incentives/index.shtml#Motor>.

All foreign registered trucks pay road user charges based on the gross vehicle mass irrespective of the weight carried whereas domestic trucking companies are not charged for this because domestic companies are supposed to pay for road maintenance when they purchase licenses.

Both COMESA and SADC Protocol advocate the recovery of the costs of transport infrastructure from users³⁵. One of the key principles behind cost recovery is non-discrimination on the basis of country's registration of vehicles. However, differences in the charges levied on foreign registered vehicles across the region have been identified as an impediment to the creation of an integrated regional transport market. Several efforts have been made to harmonize calculation and collection of charges.

It is unlikely that road user charges can be harmonized throughout the region. Road user charges will most likely remain a matter of negotiation and reciprocal action between SADC countries. This is related to the cost of road infrastructure, itself linked to traffic volumes, which are often low for countries like Botswana, Namibia and Mozambique, where a higher charge is felt justified. In South Africa, freight volumes on main corridors support a concessioning process such as toll fees.

Despite initiatives to harmonize charges and how they are determined, most States have either continued with their existing arrangements or introduced new regimes that have not always been fully congruent with regional recommendations. As a result, the region has different sources of road financing arrangements in place including road or bridge tolls (Mozambique, South Africa, Zimbabwe), fuel levies (all States), fixed charges per unit of weight and distance (SADC States that are also members of COMESA such as Zambia) and other fees (see Table 6 for details).

**Table 6 Comparison of Road User Charges
(in USD per 100 km unless specified otherwise)**

COUNTRY OF ENTRY	COUNTRY OF DESTINATION					
	Malawi	Mozambique	Zambia	Zimbabwe	South Africa	Botswana
Malawi	-----	50	10	10	Toll Roads, no user fees	User fees, no distance related Except for Trans-Kalahari, (about USD16 / 100 kms)
Mozambique	50	-----	50	50		
Zambia	10	50	-----	10		
Zimbabwe	10	50	10	-----		

Where the charges are different, countries with high road user charges have faced retaliation from other countries in the region.

³⁵ Road user charge is not calculated as a share of actual maintenance costs. Cross-border road user charge should not be seen as the proxy for covering maintenance costs. Indeed, 80% of required maintenance revenue derives from fuel levy and only less than 10% from cross-border road user charge.

These differences continue to impact negatively some countries such as Mozambique. Indeed, because any foreign truck entering some countries has to pay high road user charges, trucking companies prefer to avoid the countries with high road user charges despite the fact that they add only 5-10% of total transport tariffs. Beira, in Mozambique, illustrates this issue. Beira is the shortest outlet for Zambia and could then be the quickest and cheapest logistics solution for Zambia's trade. However, mainly because of higher road user charges for foreign operators entering Mozambique, any foreign truck company entering Mozambique loses 5-10% of prices charged compared to other corridors. Since margins are relatively low in a competitive market, foreign trucking companies prefer to avoid taking this route all the more as the trade imbalance is high. Consequently, the overall competitiveness of Beira Corridor is compromised because of such differences. Mozambique does not also yet allow the use of seven axle interlinks, neither is it a member of the COMESA Yellow Card Insurance scheme for third party liability.

3.3.2 Axle-Load Limits

The standardization of axle-load limits is important to the regional efficiency of road transport operations. Indeed, because of differences in load limits, truckers are fined or need to reduce their loads when transporting goods in the region, which reduces trucking industry profitability.

The main reasons for seeking to standardize axle-load regulations are economic, namely:

- If all countries have harmonized limits, a truck that is correctly loaded in one country would remain correctly loaded in all Member States. This results in optimal use of available transport capacity, and
- Cross-border road transport operators would have streamlined procedures.

Despite the strong reasons for harmonization, the standardization of axle-load limits has been moving slowly even after extensive studies in the 1990s. While some SADC States have moved to regionally recommended limits, others are still lagging behind. After lagging behind by several years, Zambia recently raised its limits for the tandem axle to the same level as the other countries (see Table 7). The lower limit in Zambia had been intended to protect the domestic industry, which is dominated by copper exports. This disadvantaged foreign operators who would otherwise ferry loads at the higher limit in the other countries.

Table 7 Axle-Load Limits in SADC Region

	Steering Axle	Single Axle	Single Axle	Tandem Axle	Tandem Axle	Tridem Axle	Tridem Axle	Combination
	Two Tyres	Two Tyres	Dual Tyres	Four Tyres	Dual Tyres	Six Tyres	Twelve Tyres	GVM (t)
Botswana								
Malawi	8	8	10	16	18	24	24	56
Mozambique	8	8	10	16	18	24	24	56
Namibia	8	8	10	16	18	24	24	56
South Africa	8	8	10	16	18	24	24	56
Tanzania	8	8	10	12	18	24	24	56
Zambia	8	8	10	12	18	24	24	56
Zimbabwe	8	8	10	16	18	24	24	56

In addition to varying load limits, the enforcement of the prevailing limits is a serious challenge across most of Southern Africa. The various authorities are now working towards linking axle load control to customs clearance at border-posts. Such systems are already operational at Beit Bridge on the Zimbabwe side of the border with South Africa, at Kazungula on the Botswana side, and at Grobblersbrug on the South African side of the border with Botswana. Once there is sufficient integrity in the management of weighbridge stations as well as standardized axle-limits, it is intended that certificates issued in one country would be recognized in the other countries. Zambia is one of the countries that used to face serious challenges with overloading but is now developing more robust enforcement systems.

3.3.3 Vehicle Equipment and Dimensions

In addition to the need to harmonize axle load limits, there are also differences in limits pertaining to vehicle equipment and dimensions. Presently, the main differences relate to interlinks, which are prohibited in both Mozambique and Tanzania. Differences in such standards compromise the efficiency of cross-border operations as operators are forced to use different configurations for different markets³⁶.

³⁶ Specifically, various standards on vehicle equipment and dimensions have deemed critical and of high priority. Consequently, three proposals have been drafted, namely, "Specification for Bus/Trailer Combination", "Harmonization of Vehicle Regulations and Standards: Loads on vehicles" and "Harmonization of Vehicle Regulations and Standards: Equipment and Dimensions of Vehicles". The "Specification for Bus/Trailer Combinations" defines the limits, in terms of mass and dimension, that should not be exceeded by buses drawing trailers and drawn trailers. The limits are defined to enhance the safety of operations. The "Harmonization of Vehicle Regulations and Standards:

3.3.4 Third Party Insurance

One of the challenges faced in road transport operations in Southern Africa relates to the different regimes used with respect to third party liability insurance³⁷ in foreign territories. The crossing of international borders requires that operators own or obtain some form of third party insurance to cover liabilities arising from accidents that may occur in a foreign territory.

Differences in third party insurance regimes result in an increase in transport operating costs and risks in three respects:

- Increased paperwork and hence costs;
- Contribution to delays at borders; and
- The need for drivers to carry cash and the risks associated with doing so.

The harmonization of these systems is still elusive, though Mozambique is the only country where difficulties are mostly experienced. As far as Zambia is concerned, this affects operations to the Port of Beira in particular.

3.3.5 Driver Training and Licensing

In 1999, SADC adopted the SADC Drivers' License as an Annex to the SADC Protocol on Transport, Communications and Meteorology. The license is part of several proposals to harmonize the way in which drivers are trained, examined and licensed across the region. Standardized manuals were adopted in 2004.

Since the adoption of the Annex on the Drivers' License, the following SADC States now issue the credit card sized SADC drivers' license: Angola, Botswana, Lesotho, Malawi, Mauritius, Namibia, South Africa, Swaziland, and Zambia. In Zambia Transaid has developed a program to train drivers based on the SADC manuals.

Loads on Vehicles", defines, amongst other things, permissible maximum axle load limits, distribution of axle mass-load, information plates on vehicles, and the manner in which goods are carried on vehicles. The "Harmonization of Vehicle Regulations and Standards: Equipment and Dimensions of Vehicles", among other issues, defines the various pieces and types of equipment for road vehicles, how the equipment is fitted, safety devices, and the dimensions of vehicles. It is intended that standards adoption will lead to achievements of other Protocol objectives, especially regarding vehicle testing, road traffic control and enforcement. These are critical areas as all SADC member States have high accident rates.

³⁷ There are currently three main systems of third party liability insurance in use for cross-border transport in the region, namely, cash payments, fuel levy and the Yellow Card system.

4 Transport Services in Southern Africa and Lessons for Landlocked Developing Countries

Regulatory regimes and efficiency of logistics services in Southern Africa are the most advanced in Africa. While Zambia is among the most distant landlocked countries from major ports such as Durban – the preferred port of entry in the sub-region - it benefits from a high transport quality and low transport prices. Southern Africa combines liberalization with enforcement of rules affecting regional competitiveness of the trucking industry to prevent potential negative externalities of the sector.

Figure 4 Comparative average transport prices and productivity in Africa

	Average transport price per ton-km (in US cents)	Average yearly mileage (in kilometers)	Average truck fleet (in years)
Southern Africa (North-South Corridor)	4-5	100,000-144,000	5
West Africa (Lomé-Ouagadougou)	6-8	40,000-50,000	Over 12
East Africa (Mombasa-Kampala)	8	100,000-144,000	7
Central Africa (Douala-Chad)	10-25	60,000-70,000	12

Source: trucking surveys and interviews of trucking companies in 2007.

While organized companies in Southern Africa can optimize their truck utilization and have almost similar ratio as European haulers (8000-12000 kilometers per month), oversupply is frequent on the main international corridors in Central or West Africa and their utilization can be as low as 2000 kilometers per month. Contrary to Southern Africa, Central Africa combines low quality transport and high transport prices.

This case study illustrates the importance of regional liberalization to the efficiency of trucking companies. Zambia's case underlines the potential benefits to landlocked countries of exposing national service providers to wider regional competition. Competition in trucking services contributes to lower transport tariffs and increases transport quality.

In particular, landlocked francophone countries offer potential for benefiting from liberalization. The francophone countries follow two main intertwined practices of a transit bilateral treaty, which defines quotas for the fleet of the coastal and landlocked country and an informal practice of a queuing system to allocate freight to transporters, the "tour de rôle". As a result of the implementation of both, a fixed price is set by the institution in charge of allocating freight and

transport quality and productivity are low³⁸. There is therefore, no incentive to be more efficient and more productive because freight is allocated through non-transparent criteria.

While the above practice is seen as fair as it “spreads” the profitability of the trucking business among truckers regardless of the quality of the service they deliver, it can be and is bypassed by those with clout or “business” astuteness thus bringing some kind of competition. Bypassing the “tour de rôle” translates into long waiting times for loads at the port, from two weeks up to two months, for “regular” companies thus jeopardizing their profitability.

The Zambia case study also sheds light on the sequencing of reforms. In a regulated environment such as in West and Central Africa, there is no clear evidence that end-users of road transport services will benefit from lower prices in case of reduced transport costs due to massive investment in infrastructure along the main international corridors.

Nevertheless, in a deregulated market such as in East Africa along the Northern Corridor and along the North-South Corridor, transport productivity can be increased by reducing delays at the border or at the port. Delays at border-crossings have a great impact on road transport sector profitability: they drastically increase the number of days trucks stay idle, therefore increase fixed costs per day for any trucking company. Measures to improve border-posts operations are therefore likely to have a significant effect on transport costs, through increases in the yearly mileage. In East Africa or Southern Africa, trucks may stay idle at the border for up to 1/3 of total transport time.

Zambia’s case also demonstrates the importance of maritime transport or port management in corridor selection. Although Durban is the most remote port for Zambia’s importers/exporters, this remains the preferred port of the sub-region. Operators usually prefer to import containers from Durban over longer distances than import from closer ports such as Maputo, Beira or Dar-es-Salaam because of lower port efficiency and vessel calls. Low efficiency increases transport unreliability and while low vessel calls necessitate feeder links from Durban to the less well served ports.

Consequently, for any landlocked country, there is a trade-off between the recourse of port competition and the need to benefit from economies of scale/good management of a hub port. Zambia case clearly demonstrates that importers/exporters prefer to benefit from Durban port advantages than using closer ports.

The key policy recommendation is for a cautious approach to large port investments to develop “new” corridors. Unless significant projected freight

³⁸ A landlocked country limiting access to its freight market for foreign companies self imposes higher transport tariffs on its trade because transport can not be optimized due to a lack of backloads and transport operators charge at a higher price one way assuming no backload.

volumes are secured, the returns on investment may not be as high as would otherwise be the case. A shorter distance from major economic centers does not mean a future sudden shift of flows. Without frequent direct calls from major shipping lines, good port management and eased procedures, a major investment in ports or in roads may not always be successful.

5 Conclusions

Zambia is in an exceptional position as a landlocked country. It benefits from several reliable alternative corridors, modes of transport and access to foreign direct investment in the transport sector, mainly from South Africa.

Zambia's freight characteristics and regulation make it possible for the transport sector to operate in an environment that is highly competitive, which contributes to lower transport tariffs. As a result, Zambian trade benefits from low transport tariffs compared to other landlocked countries in Africa.

The assessment has shown that lifting cabotage prohibition and third country rules, which are the remaining entry barriers for foreign operators to access the Zambian market, would probably have a limited impact on Zambia's trucking competitiveness for most operators. Freight characteristics in Southern Africa, regional FDI flows in the trucking sectors and the possibility of Zambian operators to benefit from cabotage in South Africa have induced similarity of operating costs between Zambian and South African operators. Hence, there is already limited scope for reducing costs on the international trade routes through complete liberalization.

The main measures to increase trucking competitiveness in the sub-region would derive from easing national obstacles such as improving border-post operations, reducing fuel costs in Zambia or relaxing South African truck import rules.

If implemented, the above measures should contribute significantly to decreasing transport costs for Zambia. However, Zambia does not have any leverage on South Africa's import rules and should then concentrate on modernizing border-post procedures and reducing fuel costs.

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Appendix 1 GATS and Transport Services in Southern Africa

The GATS articles that are relevant to transport service liberalization in Southern Africa are those on market access and national treatment. On market access, GATS states that a member state should give no less favourable treatment to the services and suppliers of other members than mentioned in its commitments, while on national treatment, it states that each member shall give no less favourable treatment to foreign services and providers than it gives to its suppliers and services.

GATS allows countries to take measures that are specific to trade integration under regional groupings. States, therefore, can liberalize trade in services within their regional groups provided that the agreements have:

- Substantial sectoral coverage, meaning that they cover all four modes of supply as defined in GATS and are designed to encourage trade among the members;
- Eliminates measures that discriminate against service suppliers of other countries in the regional grouping; and
- Prohibits new or more discriminatory measures.

These provisions have, to a large extent, been observed in SADC where liberalization of transport markets, at a national level, has been pursued as a key objective of Protocol implementation. Liberalization process has been characterized by four main processes:

- Promoting market-based provision of these services, including cost recovery;
- Developing of infrastructure based on regionally harmonized policies and standards based on international best practices.
- Reforming the public sector to provide comprehensive, transparent, and predictable enabling policies, legal and regulatory environments for service providers; and
- Promoting the provision and operation of infrastructure and services by the private sector or through public, private partnerships.

So far, two SADC States have made offers in the transport sector under GATS: Lesotho and South Africa. Both offers cover road transport and are linked to the SADC Protocol. Lesotho offers horizontal commitments with no limitations on national treatment but with limitations on market access applying to commercial presence and staff presence (Maasdorp, 2001). The South African offer imposes limitations on both market access and national treatment. Moreover, the South African offer applies to its immediate neighbours and other countries in Sub-Saharan Africa.

Appendix 2 : Key provisions of Bilateral Agreement Between South Africa and Zambia, Zimbabwe, Mozambique and Malawi.

Articles	Zambia (freight and passengers)	Zimbabwe (freight and passengers)	Mozambique (passengers only)	Malawi (freight and passengers)
Objectives	Key objectives is to regulate and ensure fair competition, to harmonize, improve efficiency, manage information (article 2)	Article 2	Not defined	Not defined
Cabotage	Agreement does not give the right to practice cabotage (article 3)	Freight only (article 4.12)	Ignored	Article 2
Third Country Rule	Prohibition (article 4)	Not Covered	Passengers only	Not covered (article 2)
Permits	Issuing of permits (one per vehicle) for single and 3 month and 12 month multi entry. 12 month requires 2 nd country approval.	Article 4	Not Covered	Article 4 & 5
Joint Committee	Joint committee shall be appointed, meets four times per year, settle disputes, arbitration (article 6)	JC meets twice per year (article 3)	JC meets once per year	JC meets once per year
Joint Route Management Committee	JRMC may be established to monitor and exchange information, promote interests – (not obligatory) (articles 4.12 to 4.16)	Yes	Yes	Yes
Information Management	Maintain registers, (poorly defined schedule) distribute information on 3-monthly basis at JC meetings (article 7)	Information on a 3-monthly basis	Information on a 3-monthly basis	Information on a 3-monthly basis
Technical Matters	Validity of registration, fitness testing, weight certificates, permits, harmonization of standards (article 8)	Yes	Yes	Yes
Ancillary Matters	Harmonize taxes, fees levies. Entitled to impose reciprocal charges (article 9)	Harmonize border operating hours, immigration procedures	Entitled to impose reciprocal charges	Borders, immigration and reciprocal charges
Application of Legislation	Agreement not to conflict with national laws (article 10)	Yes	Yes	Yes
Infringements	Right to suspend or revoke permits, and to bar (article 11)	Yes	Yes	Yes
Commencement Termination	In force indefinitely, 6 months notice to terminate (article 12)	Yes	Yes	Yes

Appendix 3 Zambia's and South Africa's controlling agencies of cross-border transport

Each country has the right to refuse entry to operators who regularly flout regulations such as axle loads limits.

Road Transport **in Zambia** is controlled and regulated by three agencies³⁹, falling under three different governmental bodies:

1. The Road Fund Agency (RFA), under custody of the Ministry of Finance, responsible for funding of capital works and road upgrades and maintenance. Budgets are prepared and administered by RFA and allocated to the Road Development Agency (RDA) and Road Transport and Safety Agency (RTSA).
2. The Road Development Agency, falling under the Ministry of Public Works, responsible for the planning, execution, operation and management of road construction and weighbridges.
3. The Road Transport and Safety Agency, falling under the Ministry of Transport and Communications, responsible for vehicle testing, collection of road license fees, issuing of cross border-permits, collection of road user fees, and enforcement/fines. The RTSA is the main road transport regulatory agency in Zambia, which was recently established (2002) and not yet fully staffed and resourced.

All vehicles in Zambia must be registered as Public Service Vehicles and must comply with the relevant regulations regarding fitness testing, insurance and road tax, in order to obtain an operating permit.

In South Africa, regulatory functions are handled by the Cross Border Road Transport Agency, (CBRTA), based in Pretoria/Tshwane. The CBRTA was established by an Act of Parliament in 1998, and falls under the Department of Transport. The main responsibility of the South African CBRTA is to 'promote the flow of goods and people across the borders to neighboring countries.'

It regulates the flow of goods and people through a permit system. The CBRTA is also in charge of the negotiation and implementation of bilateral transport agreements with other SADC countries, which allow a 'single permit system' to be adopted. Each country can issue permits for entry into the other country, subject to certain criteria such as compliance with safety and operating regulations. Initially this was done on a quota system, which eventually has fallen away.

The CBRTA has its team of law enforcement officers, operate at the key weighbridges and also operate frequent road blocks for cross-border traffic.

³⁹ Means of their financing is described in Appendix 1.

Appendix 4 Revenues of Zambian transport agencies

1. A **15% levy on fuel** – with the recent strengthening of the Zambian Kwacha against the USD, fuel prices have been maintained in ZMK terms, and the income has therefore not been significantly affected
2. **Road User charges for foreign hauliers** on a 10\$ per 100km basis⁴⁰. This income has been affected by the change in the USD/ZMK exchange rate and is now significantly less. Income from this source in 2005 was a total of USD 4.1 million, of which almost 50% came from the Nakonde border post with Tanzania, and about 25 % came from the Chirundu border post with Zimbabwe
3. **Cross Border Permits**, issued for all Zambia trucks traveling to South Africa, Zimbabwe, Namibia, Mozambique, Malawi, but not yet the DRC and Tanzania – however, the bilateral agreements with these two countries are almost complete. Cross border permits issued in Zambia cost ZMK 325 000 (USD 100) for 3 months, more than the equivalent, about 40% more than the equivalent South African issued permit – this could mainly be due to the strengthening of the Zambian currency by a similar amount during the past 6 months
4. **Annual Road Tax/license fees**, for all registered vehicles in Zambia, fines for traffic offences, overloading etc. income from the trucking sector is estimated at about USD 4 to 5 mill. – *The total RFA income from the above sources is approximately USD 44 mill or 18% of the current RFA budget requirement.*
5. **Donor funds** still make up a significant contribution, and are mainly earmarked for capital projects and training – currently about 56% of budget requirements
6. **Contribution by the Government of Zambia** – about 24 % of the current RFA budget.

⁴⁰ The Zambian road tax system is based on vehicle permitted gross weight, with the smallest truck falling in the weight bracket of 2000 kgs to 4000 kgs, with an annual vehicle road tax fee of ZMK 160000 (= approx USD 50, May 2006). The annual road tax increases in ZMK 10000 amounts for increasing gross vehicle weights of 6000, 9000, 12000, 15000, 17000 and 20000 kgs, up to ZMK 220000 (= about USD 68). Above the gross vehicle weigh of 20000 kgs, which applies to all the long distance trucks of 48 000 kgs to 56 000 kgs, the annual road tax was previously ZMK 300000, but RTSA informed that this has recently been increased to ZMK 1 million (= about USD 300) in order to partially compensate for the damage caused to the road pavements by the heavy trucks. Foreign trucks contribute towards road maintenance costs by paying a road user charge of USD 10 per 100 kms of distance traveled in Zambia, in both directions. The route is specified for road user permits and for cross border permits issued to Zambian trucks.

Appendix 5

Permit Statistics of CBRTA

		BOTSWANA		SWAZILAND	
		2004/05	2004/05	2004/05	2004/05
TEMPORARY PERMITS	14 Days	619	635	324	289
	3 Months	513	1365	408	1491
PERMANENT PERMITS	3 Months	8953	7675	7707	6806
	6 Months	0	0	0	0
	1 Year	91	91	165	138
Replacement of vehicles		49	34	48	32
Duplicate of permits		27	26	19	23
Renewals of permits		113	117	89	145
TOTAL		10365	9943	8760	8924

		ZIMBABWE		MOZAMBIQUE	
		2004/05	2005/06	2004/05	2005/06
TEMPORARY PERMITS	14 Days	761	475	658	545
	3 Months	4234	4714	5107	4219
PERMANENT PERMITS	3 Months	443	22	35	396
	6 Months	0	0	0	0
	1 Year	81	91	131	87
Replacement of vehicles		16	13	47	25
Duplicate of permits		21	18	19	8
Renewals of permits		86	101	46	105
TOTAL		5642	5434	6043	5385

		ZAMBIA		MALAWI	
		2004/05	2005/06	2004/05	2005/06
TEMPORARY PERMITS	14 Days	604	661	169	150
	3 Months	4015	4860	799	664
PERMANENT PERMITS	3 Months	12	14	1	0
	6 Months	3	0	0	0
	1 Year	53	61	18	32
Replacement of vehicles		22	14	3	3
Duplicate of permits		23	18	3	3
Renewals of permits		102	87	34	21
TOTAL		4834	5715	1027	873