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Motorcycle parts and aftermarket industry regional value chain in Southern Africa

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Abstract: This paper provides an overview of the structure, key functions, and characteristics of the motorcycle parts and aftermarket industries in Southern Africa in order to identify challenges to and opportunities for growth in these industries. The research examines the end markets and utilization of motorcycles, the status of these markets, and demand for local or regional production processes. The paper also considers the main factors affecting the sales of motorcycles and their parts in the region and assesses whether a more coordinated approach between governments and foreign and local firms could lead to assembly and/or manufacturing value-added activity in the Southern African Development Community region.

Keywords: aftermarket, industrialization, motorcycles, motorcycle parts, regional integration, South Africa, SADC

JEL classification: F1, L5, O14, O25

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1 Introduction

Countries in the SADC region differ greatly in their manufacturing capacity, the number of products they produce, and their capacity to move to new products. Member states are at different levels of industrial development: several countries in the region are stuck within commercial exploitation of agriculture and the extractive industries; others are in the early stages of developing a manufacturing sector; a few have a wider industrial and commercial base; and most have lost industrial capacity over the past decade. Countries, however, have the power to change and need not be path-dependent.

The automotive sector, into which the motorcycle industry falls, is one of the most globalized sectors, with its products spread around the world and dominated by large companies enjoying worldwide recognition. In terms of manufacturing, the sector is the largest in the world, with an output equivalent to that of the world's sixth largest economy. The automotive sector is also one of the largest investors in research and development (R&D), thus playing a key role in society-wide technological development. It is capital-intensive and technologically advanced, in terms of both its manufacturing processes and its products.

Within the motorcycle industry, the level of competition is increasing and the production base of most original equipment manufacturers (OEMs) is being shifted from the developed countries to developing countries to take advantage of low-cost production. Motorcycle products have spread around the world and are dominated by a handful of companies. Motorcycles are becoming more complex, to satisfy consumer demands for improvements in safety, fuel economy, performance, and quality. OEMs are constantly under pressure to identify consumer preferences, national biases, and new market segments where they can sell vehicles and gain market share.

In the SADC region, all motorcycles and their parts are imported from offshore markets. All imported motorcycles are categorized as 'new' motorcycle imports and are shipped in predominantly as completely built units (CBUs). This research considers the possibility of SADC countries assembling motorcycles and establishing a regional value chain; South Africa has manufacturing capabilities and capacity in the assembly of motor vehicles and the production of parts for motor vehicles. There is also potential to grow demand for motorcycles among low-income households as a more affordable and time-efficient mode of transport. This paper draws on the concept of product space¹ and the extensive work of Ricardo Hausmann on the capacity to move from one product into similar product types.

The paper argues that to develop a competitive motorcycle industry would require a concerted effort by the governments in the region to attract global players and, in partnership with them, to shift demand patterns and build supply capabilities.

Figure 1 illustrates the potential and risks in the development of a motorcycle industry.

¹ See theoretical framework Section 2.2.

Figure 1: Potential and risk of a motorcycle industry



Note: IPR = intellectual property rights.

Source: TIPS based on Lejanos (2015).

2 Methodology and theoretical framework

2.1 Methodology

This paper has sourced its information by analysing and processing primary and secondary data. Primary data were collected through questionnaires and face-to-face interviews with industry participants and relevant industry associations such as the Association of Motorcycle Importers and Distributors (AMID) and the Motorcycle Dealers' Association (MDA). Semi-structured interviews with stakeholders were conducted to verify secondary data from publicly available sources.

Quantitative secondary data was collected from the databases of national statistical agencies in the region as well as the databases of international organizations such as the International Trade Centre (ITC). Qualitative secondary data was collected from key policy documents and previous research studies by both international and local motorcycle industry bodies.

The research considered the following:

- Trade trends in motorcycles in South Africa, the SADC region, Africa, and globally, as an indicator of demand for different products, with a particular focus on South Africa, Angola, Tanzania, and the Democratic Republic of the Congo (DRC), which have the highest population of motorcycles and have the main import markets in the region;
- The trade in motorcycle parts, both within the region and with the rest of the world, and the main trading partners;
- The demand for motorcycle parts;
- Regulations on the registration and sales of motorcycles and parts by the different countries;

- The effect of tariffs, changes in exchange rates, and foreign subsidies on the competitiveness of local distributors and agents;
- The nature of motorcycle sales and distribution in the different countries.

The research methodology aimed to determine the constraints on the development of motorcycles as a mode of transport as well as the industrial development constraints, and to provide policy options.

2.2 Theoretical framework: Product space and structural transformation

Product space analysis is based on the understanding that countries move from things they know how to do, to things that are nearby or related, or what is called the ‘adjacent possible’. This understanding provides the basis for assessment of the likelihood of a new product emerging in a country’s export basket, taking account of the correlation of a product with its ‘nearby’ products in the product space network (Singh et al. 2018). If countries already have what it takes to make one product, they will find it relatively easy to move to others that require similar capabilities. It follows that potential products with the most connections to existing products will be the easiest to develop in the future. The underlying concept is that similar products require similar operational conditions (skills, infrastructure, resources, linked markets) and could relatively easily be exported from the country.

The export of such a new product would, in turn, make feasible other new products that require similar capabilities. The process of diversification of the export (or production) structure could continue over time. In this way, product space analysis indicates the paths to industrial diversification and provides a basis on which to predict the evolution of a country’s industry, along with recommendations of products that have similar factor endowments (more existing know-how, reducing risk) and high potential gain (opening more adjacent products for continued diversification opportunities) (Singh et al. 2018).

Hausmann and Klinger (2009: 5) have argued that

countries seldom grow prosperous by producing the same things more productively. They usually change what they produce in the process of development. Structural transformation is the process whereby countries move to new economic activities that are more productive and thus are able to pay higher wages. This process is important for growth – countries that are able to upgrade their exports by developing new economic activities tend to grow faster.

In their earlier investigation into how and why the level of sophistication of a country’s exports evolves, Hausmann and Klinger (2009: 8) found that ‘the process of structural transformation favours nearby products (those with similar inputs) in a highly heterogeneous product space (groups of export sectors)’.

3 Policies and institutional framework regulating the motorcycle industry in selected SADC member states

Paths to successful industrialization require diversification, i.e. enterprises breaking into new industries, using new processes, and producing new and better-quality products for domestic and foreign markets (SADC 2015).

Designing industrial policy within a regional integration context is a complex matter due to the economic diversity of the member states in terms of structure, endowments, size, and approaches to regional policy. Regional industrial policy should not concentrate on the production and exchange of physical goods only. Services linked to industrialization are important constituents, and an examination of motorcycle parts and aftermarket services attests to that. According to the SADC (SADC 2015), the appropriateness of a regional industrial policy is judged by the following parameters, which all regional motorcycle industry stakeholders need to take into consideration:

- Its effectiveness in addressing common and cross-cutting concerns;
- The potential for identifying areas of growth in industrialization of the sector by considering current and future opportunities and challenges faced in the SADC region;
- Incorporation of industry-supporting microeconomic and macroeconomic measures in an integrated manner;
- Equity in sharing gains and obligations;
- Demonstrated commitment by member states to the development of common industrial policies and strategies.

Economic integration provides the scope to erect or expand production in the face of a limited domestic market (Koskenkylä 2004). This is because it helps manufacturers in a member country to access the relevant markets in another member country. In this context, economic integration within the SADC region, as well as identifying, building, and supporting new industries with a high level of sophistication in technology and industrial processes, is critical for broader economic development.

The vital ingredients of success in building a competent industry are a substantial pool of suppliers of parts or components (Fujita 2013), demand for the products, and an effective distribution and service network. This situation has been observed in many success stories. For example, the post-war surge in major Japanese automotive and electronic manufacturing was due to easy access to parts or components through integrated networks with suppliers (Canis 2011), as well as access to the markets of America and Europe.

A supportive policy framework together with institutional frameworks that promote regionally acceptable productivity and quality standards for motorcycle parts manufacturing and assembly in the region is also required.

In the SADC region, given the lack of an existing motorcycle industry, there are few policies and regulations that specifically govern the motorcycle industry aside, from the import duties placed on motorcycles by a number of member states. Without any commitment to developing the industry and with most imports into South Africa destined for the luxury market, there has been little need for an enabling policy framework.

Table 1 describes a few policies that relate to motorcycles in three Southern African countries.

Table 1: Policies and regulations in selected SADC member states affecting the motorcycle industry

Member states	Policies or institutional frameworks	Implications for the motorcycle industry
South Africa	National Land Transport Transition Act (2000)	Required the establishment of the National Transport Register, whose purpose was to integrate the land transport systems (i.e. the Subsidy Management System, the Land-Transport Permit System, and the Registration Administration System). This facilitated the issuing of public road-carrier permits (e.g. permits to use motorcycles as carriers), therefore regulating entry into the road-carrier markets.
	National Credit Act (2005)	Provided an enabling environment in which buyers could use credit to purchase motorcycles and even apply for new loans to pay off existing debt. However, poor money management skills often led people into over-indebtedness, where they could not uphold service credit agreements. Consequently, South African credit providers became more conservative when granting credit.
	Consumer Protection Act (2008; effective 2011) Revised Homologation Standards (VC9098) (2013)	Almed to promote fairness, openness, and good business practices between suppliers and consumers of goods and services, e.g. by imposing a five-day cooling-off period. Subjected all grey or parallel importers to testing and certification for the importation of motorcycles and parts so that their imports conformed with international environmental and safety standards.
Tanzania	10% duty remission on importation of completely knocked down (CKD) kits (2018/19) Pre-shipment Verification of Conformity (PVoC) programme (2012)	In line with other East African Community (EAC) member countries, Tanzania agreed to decrease tax on imported motorcycle parts for assembly from 25% to 10% for a period of one year. This measure promoted domestic assembly in Tanzania and other EAC member countries. Subjected all regulated imports (e.g. motorcycles and parts) to verification and testing processes in the country of supply, to ensure that the requirements of the applicable Tanzanian standards and technical regulations were met. This measure prevented the importation of counterfeit and low-quality motorcycles and parts that might be harmful to the environment and induce unfair competition into the Tanzanian motorcycle industry.
Angola	Customs tariff (2005)	Imposed a 10% tax on imports of motorcycle tyres.

Sources: Republic of South Africa (2000, 2005, 2008, 2011); EY (2018); Bureau Veritas (2018); Export.gov (2018).

The change in South Africa's policy on grey imports in 2013 has had a detrimental effect on the retailing of motorcycles, which is discussed in more detail below.

Currently, no policy support framework exists specifically for motorcycles, while the South African automotive sector for the production of passenger and light utility vehicles has significant policy, financial, and technical support from both the public and private sector. If the motorcycle industry were to receive similar support, the industry could grow.

4 The motorcycle industry in South Africa and the SADC region

4.1 South Africa

The industry and the market

South Africa does not manufacture and assemble motorcycles; consequently, all motorcycles and parts are imported by subsidiaries of international OEMs (e.g. BMW, Honda, and Suzuki) and independent importers such as KMSA Distributors and Yamaha. Motorcycle parts are solely imported for the motorcycle aftermarket—maintenance and parts replacement. South African firms in this industry use two marketing channels, some distributing parts to motorcycle dealers nationwide, others selling directly to the public (WOW 2016). While some prefer a broad reach

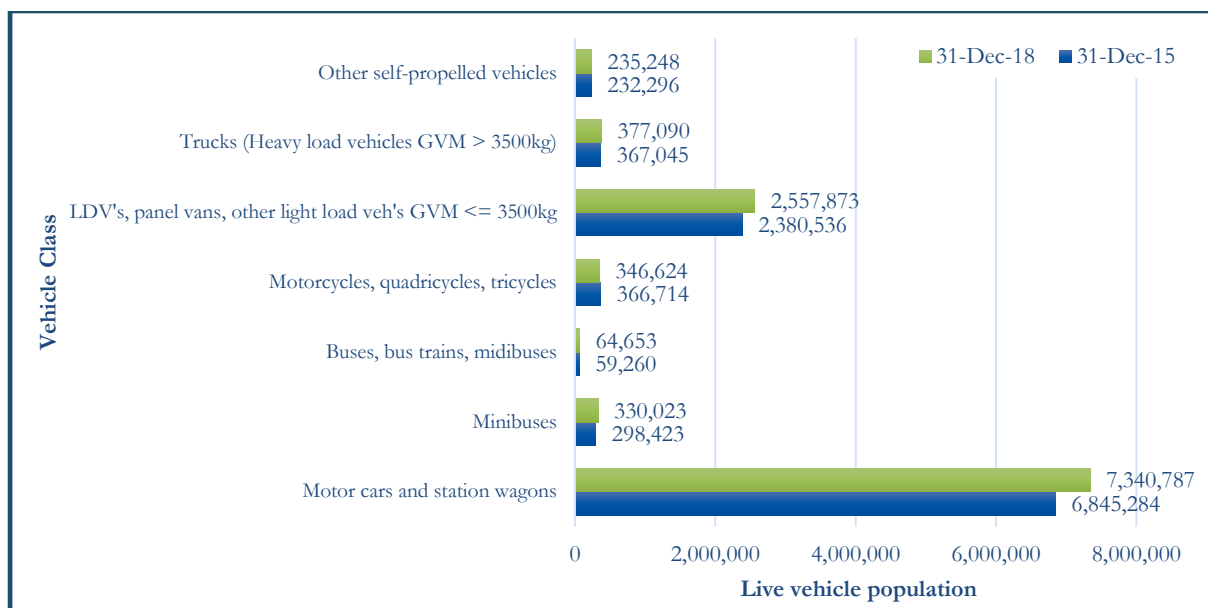
into the market (i.e. selling or distributing parts of every motorcycle model), others prefer to focus on one or two models only. Most distributors in this industry do not have the advertising and marketing budgets generally associated with their automotive counterparts, only a few being linked to car manufacturers and thereby being able to benefit from sharing import and marketing costs (WOW 2016).

In contrast to other regions of the developing world—Asia in particular—in South Africa motorcycles are not a preferred mode of transport compared with motor cars and station wagons, light-duty vehicles (LDVs), panel vans, and other light-load vehicles. There is no mass use of motorcycles as a means of transport and the South African motorcycle industry mainly supplies high-end users for recreational or high-end transport or for sporting or off-road purposes. Use for business purposes is limited to a small number of delivery vehicles.

South Africa has various types of motorcycles that respond to the needs of the different domestic market segments, i.e. recreational, competition, commercial, and agriculture (AMID 2017). What is glaring in this typology, however, is the absence of general commuter use by workers or low-/middle-income households.

There has recently been a slight decline in the live (or registered) motorcycle population, as shown in Figure 2.

Figure 2: Live/registered vehicle population in South Africa (2015–2018)

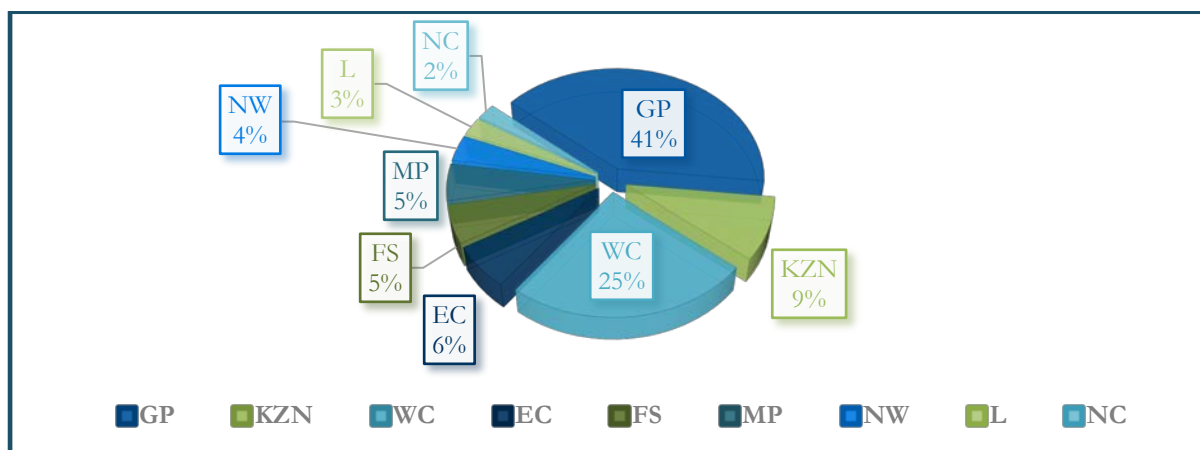


Source: eNaTIS (2018).

It will be seen from Figure 2 that the number of motorcycles on South African roads decreased from 366,714 in December 2015 to 346,624 in December 2018, a decline of 5.5 per cent.

Figure 3 shows the motorcycle population by provinces in South Africa in December 2018.

Figure 3: Live motorcycle population by provinces in South Africa (December 2018)



Notes: GP = Gauteng; KZN = KwaZulu-Natal; WC = Western Cape; EC = Eastern Cape; FS = Free State; MP = Mpumalanga; NW = North West; L = Limpopo; and NC = Northern Cape.

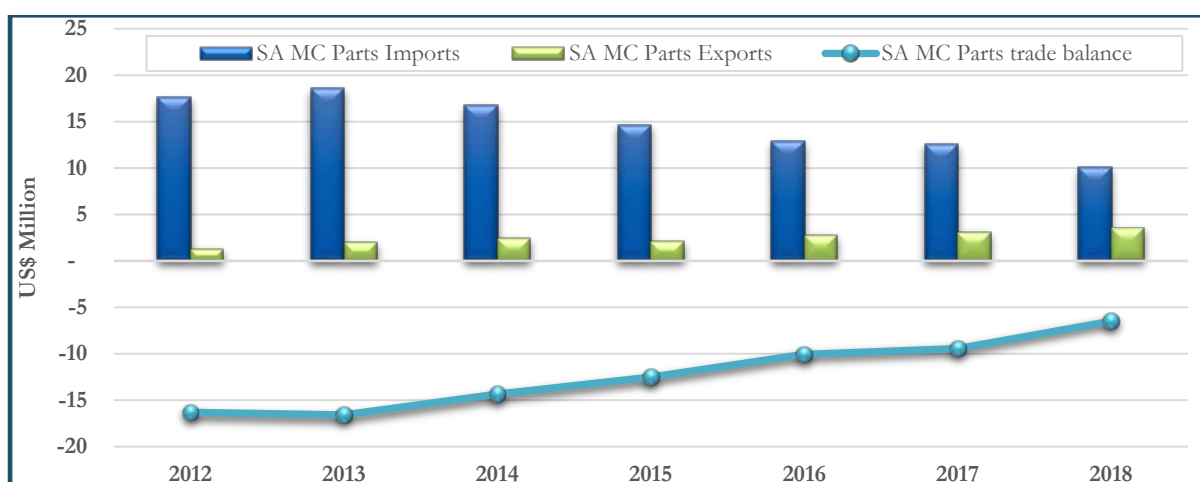
Source: eNaTIS (2018).

The live motorcycle population in December 2018 was particularly high in Gauteng and the Western Cape, accounting for 41 per cent and 25 per cent, respectively, of the total motorcycle population in South Africa. This can be ascribed to the fact that Gauteng and the Western Cape are the provinces that house the two cities (Johannesburg and Cape Town) with the highest urban population and the populations with the highest disposable income in South Africa.

Industry dynamics

The South African motorcycle industry has changed substantially over time, and its growth or decline appears to be cyclical and linked to broader economic growth. After a sharp decline in 2009 and 2010 (following the global financial crisis) South African imports of motorcycles increased over three consecutive years (a total increase of 26.3 per cent) before declining again in the next three years. In 2015, sales were even lower than in 2009 and, according to AMID, the revenue of its members declined by an annual rate of about 7 per cent between 2015 and 2018, from R1.8 billion to R1.4 billion. Figure 4 illustrates South Africa's motorcycle parts trade with the world for the period 2012–2018, covering imports, exports, and trade balance.

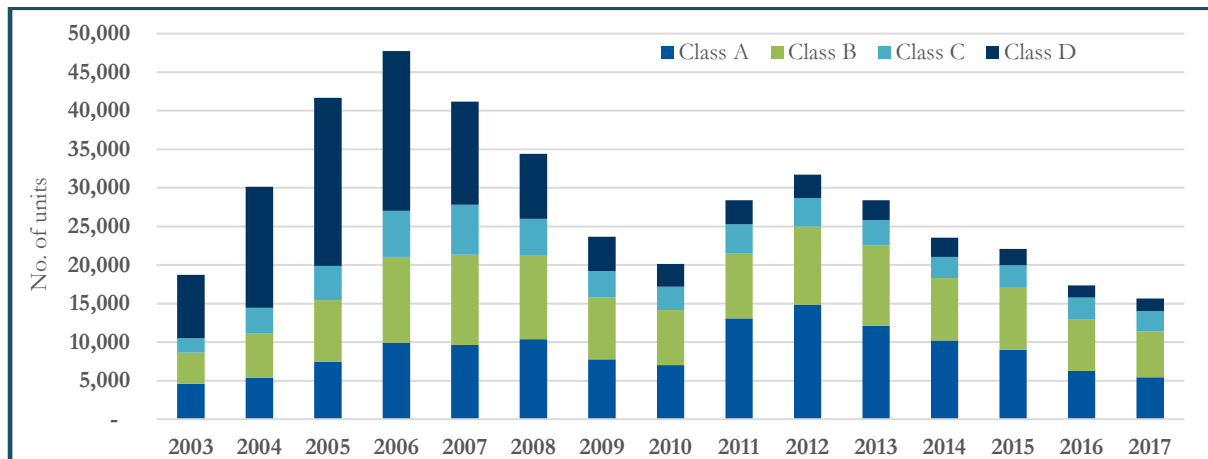
Figure 4: South Africa's motorcycle parts trade with the world, 2012–2018 (US\$ million)



Source: ITC calculations based on UN Comtrade statistics, 2019 (Trade Map 2019).

As has been seen, demand for motorcycles in South Africa is dwindling. Figure 5 shows the long-term trend in sales of motorcycles in South Africa. On average, aggregate motorcycle sales declined by 13 per cent annually between 2012 and 2017. Sales for Class A, B, C, and D motorcycles declined annually by 3.5 per cent, 2.6 per cent, 2 per cent, and 8.2 per cent, respectively, over the same period.

Figure 5: South Africa's motorcycles sales, 2003–2017 (no. of units)

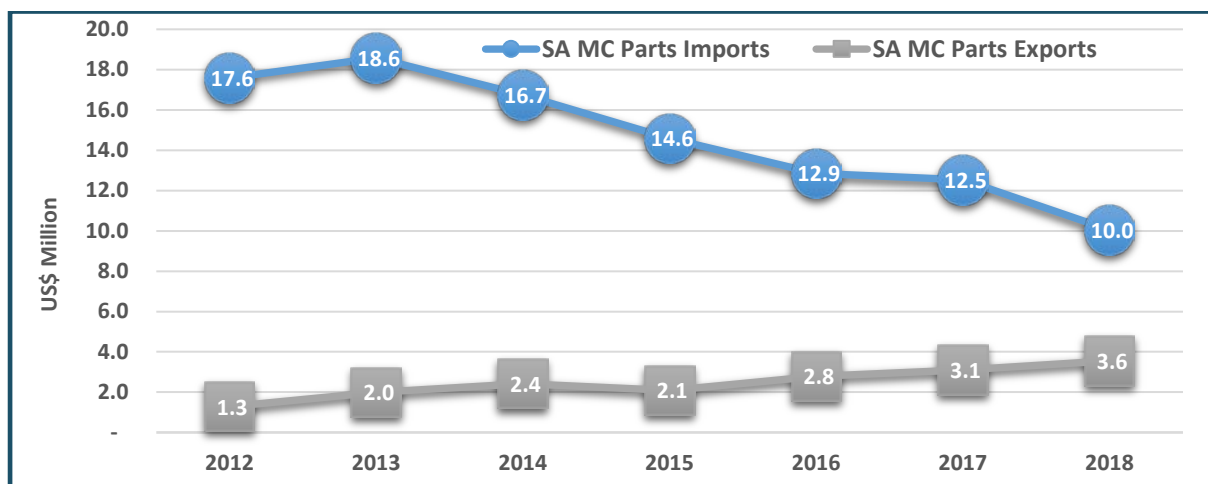


Note: Class A = Scooters 0–150cc and motorcycles for commercial and agricultural use; Class B = Trail >151cc, Road 151–800cc and >800cc, Cruisers; Class C = competition and off-road; Class D = Quads.

Source: AMID (online).

In parallel with the decline in new unit sales, from 2013 motorcycle parts imports began to decline, as shown in Figure 6. It should be noted, however, that since 2012 the (re)export of motorcycle parts to other African countries has been increasing.

Figure 6: South Africa's motorcycle parts imports and exports, 2012–2018 (US\$ million)



Source: TIPS, based on data from Trade Map (2019).

Industry demand determinants

South Africa appears to be moving against the global trend. In other parts of the world, light motorcycles (and more recently electric bicycles) have become crucial in providing a flexible, affordable mode of transport for low-income households. In Viet Nam, for instance, due to urbanization, lack of parking, incessant traffic jams, and the low cost of motorcycles in the two major cities, motorcycles have become the most popular mode of transport (My Thanh 2018). The

use of motorcycles for transport has been increasing in other African countries, too, partly in response to ineffective public transport systems and increasing rates of urbanization. For example, the collapse of the public intra-city transport system in Nigeria paved the way for the rise of motorcycles, which have long since displaced motor vehicles as the preferred means of intra-city transportation (Olubomehin 2012).

This decline coincides with three important trends: first, South Africa entered a period of slow growth due to the end of the commodity boom and global downturn; second (and related to the first point), the foreign exchange value of the rand decreased, which raised the prices of fully imported motorcycles; and third, new regulations passed in 2013 affected the supply of motorcycles in South Africa (see Box 1).

Box 1: Exchange rate volatility and Compulsory Homologation Standards

Exchange rate volatility: As the South African motorcycle, parts, and aftermarket industry solely depend on imports (mainly from Italy and China), a depreciated rand raises costs. Between January 2012 and December 2018, the rand weakened against both the euro and the yuan, from R10.22 to R14.87 to the euro and from R1.23 to R2.10 to the yuan (Xignite 2019).

Compulsory Homologation Standards – VC9098: According to AMID (2015), motorcycles were the last category of vehicles in South Africa that did not adhere to the international Economic Commission for Europe (ECE) standards. For this reason, on 1 December 2013, the South African Bureau of Standards (SABS) implemented VC9098, which compelled all grey or parallel importers to undergo testing and obtain certificates for motorcycle and parts imports (AMID 2015). This was to ensure that all motorcycles and parts sold in South Africa were homologated to a uniform international standard, and conformed to all the environmental and safety standards detailed by VC9098. However, VC9098 had the unintended consequence of limiting competition and vehicle diversity, which impeded growth not only for motorcycles but also in the motorcycle parts and aftermarket segments.

In addition to the above, demand-side constraints for South Africa include:

- The requirement for car driver licence-holders to go through the full licence application process to drive a motorcycle;
- High import duties on motorcycle accessories and safety gear. These duties are higher than the tariff on the motorcycles and their components.
- Lack of a policy framework aimed at making motorcycles affordable for low-income commuters, as seen in Asia;
- No effort by transport authorities to promote motorcycles in high-density communities by informing communities about motorcycle-riding and to dispel the belief that it is a high-risk mode of transport.²

Industry supply-side capabilities

South Africa has world-class capabilities in the assembly of motor vehicles and the production of automotive parts. However, as indicated, South Africa is not involved in the manufacture or assembly of motorcycles, nor in the manufacture of any motorcycle parts; consumers and firms in the industry depend entirely on imports. The supply of motorcycle parts is met by a combination of domestic importers, distributors, and dealers. The logic of this product space shows that South

⁴ When the Gauteng province, which has the largest population of motorcycles, introduced an e-tolling system in 2013, motorcycles initially received no preferential treatment, as they were not seen as a mode of transport to alleviate road congestion but rather as catering to a high-end market. This changed only after interventions by AMID.

Africa has the potential to shift into the manufacture of motorcycle parts and assembly of motorcycles, with an existing trade and distribution network with other African countries.

On the distribution and retail side of the industry, there are around 15 key firms, and they are located mainly in Gauteng, Western Cape, and KwaZulu-Natal due to the high motorcycle population in these three provinces relative to other provinces (WOW 2016).

An important domestic industry player is the MDA, whose 65 members provide retail and aftermarket services across the country. Table 2 shows the key firms in the South African motorcycle market, motorcycle parts market, and motorcycle aftermarket.

Table 2: Key firms in the South African motorcycle, parts, and aftermarket industry

Firm	Description of product	Contribution to employment	Number of outlets	Brands distributed
Gauteng				
Africa Automotive Aftermarket Solutions (Pty) Ltd	Wholesale and retail distributor of motor spares.	1,100 (Head Office)	500 franchises 27 branches	N/A
BMW (South Africa) (Pty) Ltd	Imports motorcycles, automotive components, and lifestyle accessories.	3 500	24	BMW, BMW Motorrad
Chinese Bike Parts (Pty) Ltd t/a Bike Parts-SA	Imports and retails fairing kits for Suzuki, Yamaha, Honda, and Kawasaki motorcycles; supplies parts and undertakes repairs for various motorcycle makes.	N/A	N/A	Suzuki, Yamaha, Honda, Kawasaki
Honda Motor Southern Africa (Pty) Ltd	Imports and distributes Honda motorcycles and parts.	99 (Head Office)	33	Honda
Husqvarna Motorcycles SA (Pty) Ltd	Imports, and is involved in retailing of, Husqvarna motorcycles and spare parts.	N/A	N/A	Husqvarna
KMSA Distributors (Pty) Ltd	Imports and distributes Kawasaki products and Zongshen motorcycles; sells parts and accessories.	44 (Head Office)	53	Kawasaki, SYM, Zongshen
KTM Motorcycles SA (Pty) Ltd	Imports and distributes motorcycles, parts, and accessories.	14 (Head Office)	15	KTM
Rodeo Drive Cars (Pty) Ltd t/a Ducati South Africa	Imports, and is involved in retail of, new and used motorcycles; retails parts and operates a workshop.	20	N/A	Ducati
Smith Mining Equipment (Pty) Ltd	Imports motorcycles and quad bikes.	135 (Head Office)	42	Unhal, Polaris, Victory
Southern African Motorcycles (Pty) Ltd (SAM)	Imports, sells, maintains, and repairs motorcycles and related parts and accessories; products include quads, road bikes, scooters, scramblers, and commercial cycles.	N/A	N/A	Bahan, Bajaj, BBR, BigBoy, Gomoto, Jonway
Suzuki Auto South Africa (Pty) Ltd	Imports Suzuki motorcycles and parts.	66 (Head Office)	44	Suzuki

Firm	Description of product	Contribution to employment	Number of outlets	Brands distributed
KwaZulu-Natal				
Combined Motor Holdings Ltd	Retails motorcycles.	2,885 (Group)	4	Honda
Tuning Fork (Pty) Ltd t/a Yamaha Distributors	Imports and distributes a range of Yamaha products, including motorcycles.	155 (Head Office)	190	Yamaha
Western Cape				
Harley-Davidson Africa (Pty) Ltd	Imports and distributes Harley-Davidson motorbikes, parts, accessories, and clothing.	6 (Head Office)	11	Buell, Cruise Drive, Custom Vehicle Operations, CVO, Dyna, Electra Glide, Fat Bob, Harley, Harley-Davidson, Heritage, Night Train, Nightster, Road King, Road Glide, Rocker, Rocker C, Screamin' Eagle, Softail, Sportster, Springer, Street Bob, Street Glide, Super Glide, Twin Calm 96, Ultra-Classic, VRSC Victory
V-Two Cycles CC t/a The Viper Lounge	Dealer in second-hand and new motorcycles; operates a motorcycle wash and valet service; undertakes customization, respraying, and custom spraying of motorcycles and helmets, chroming, and engineering.	N/A	N/A	

Source: WOW (2016: 4), reproduced with permission from the copyright holder.

According to AMID, the South African motorcycle, parts, and aftermarket industry value chain is dominated by three firms: Honda, BMW, and Southern African Motorcycles (Pty) Ltd (SAM), previously known as Big Boy. In 2015, Honda had the largest market share at 17.5 per cent, followed by SAM and BMW, both at 12 per cent (WOW 2016).

The impact of the revised homologation standards in 2013 saw a decline in the supply of motorcycle parts in South Africa. Certain brands of the four major Japanese importers—Honda, Kawasaki, Yamaha, and Suzuki—did not comply with the VC9098 Homologation Standards and therefore could no longer be imported into the South African market (Droppa 2018).

Supply was also affected by the liquidation of Motonia in 2015, while Big Boy, which supplied mainly grey imports, was acquired by SAM, so that the latter is now the only firm geared to meeting the demand of a broader, low-end market in the South African commercial motorcycle segment (WOW 2016).

Industry trade body/ association

The South African industry association, AMID, has as a key part of its mandate to promote the sustainability of the industry by engaging with various bodies on matters affecting motorcycling and growth dynamics in the domestic industry. For example, the association lobbies the government on issues of road safety, licensing, and homologation (AMID online). Since AMID's constructive engagements with the South African National Roads Agency (SANRAL) prevented motorcycles being included in the same toll category as light motor vehicles, the controversial

Gauteng Freeway Improvement Project made provision for motorcycles as a separate category of vehicle (AMID online). In its recent efforts to support the industry the association is engaging with the following:

- SABS and the National Regulator for Compulsory Specification (NRCS) to ensure a stable and equitable regulatory environment for homologation;
- Department of Transport to give input on legislation affecting road safety and licensing;
- Banks to make finance more accessible to the leisure market as well as the retail network.

Challenges and opportunities

Our research identified a number of strengths, weaknesses, opportunities, and threats (SWOT) pertaining to the motorcycle parts and aftermarket industry (Table 3).

Table 2: South African motorcycle parts and aftermarket industry SWOT analysis

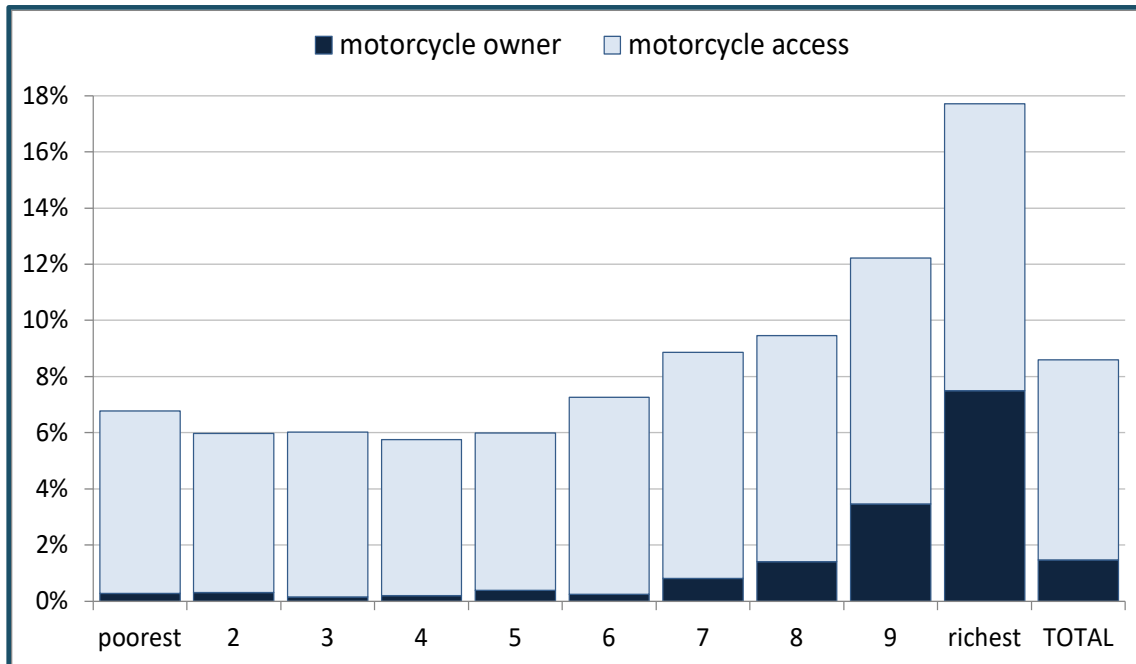
Strengths	Weaknesses
Established and experienced importers and distributors Established industry association with initiatives to unlock growth	No motorcycle parts manufacturers No assemblers Industry reliance on imports, making it is susceptible to domestic currency depreciation Lack of institutional framework and policies governing the industry. Absence of policies or incentives supporting domestic manufacture of motorcycle parts.
Opportunities	Threats
Refinement of the licensing regime to allow car licence holders to ride motorcycles up to a certain capacity (e.g. 125cc), thereby increasing the motorcycle population in South Africa and unlocking jobs for low-skilled car licence holders to work in delivery jobs for commercial firms Improving access to regional markets (regional trade in parts is increasing) Development of the assembly and manufacturing of electric scooters and motorcycles	Legislative changes (e.g. homologation rules) Declining sales of motorcycles, which reduces demand for motorcycle parts and aftermarket services Rising cost of living in South Africa, which hinders sales of recreational bikes Deteriorating road infrastructure and road safety concerns, reducing demand for motorcycles and derailing growth in motorcycle parts and aftermarket sectors

Source: TIPS compilation.

Despite the fact that low-end motorcycles are substantially cheaper as well as more convenient than most forms of public transport in South Africa, they have not been introduced on a large scale. Instead, most motorcycles belong to the richest 10 per cent of households, who buy much heavier and more expensive models. The cheapest lightweight motorcycles advertised in South Africa cost around R10,000 in 2019. Most households would pay for one with four to five years' commuting at current levels of expenditure. In fact, however, virtually no low-income households own motorcycles (Figure 7).

From the standpoint of transport policy, the central question becomes whether motorcycles could help alleviate the transport crisis inherited from apartheid. That crisis emerged because before 1994 poor communities were generally pushed far from economic centres, both to the historic labour-sending regions (the so-called 'homelands') and to townships on the periphery of cities. Providing affordable, efficient, safe, and clean transport therefore becomes a central challenge.

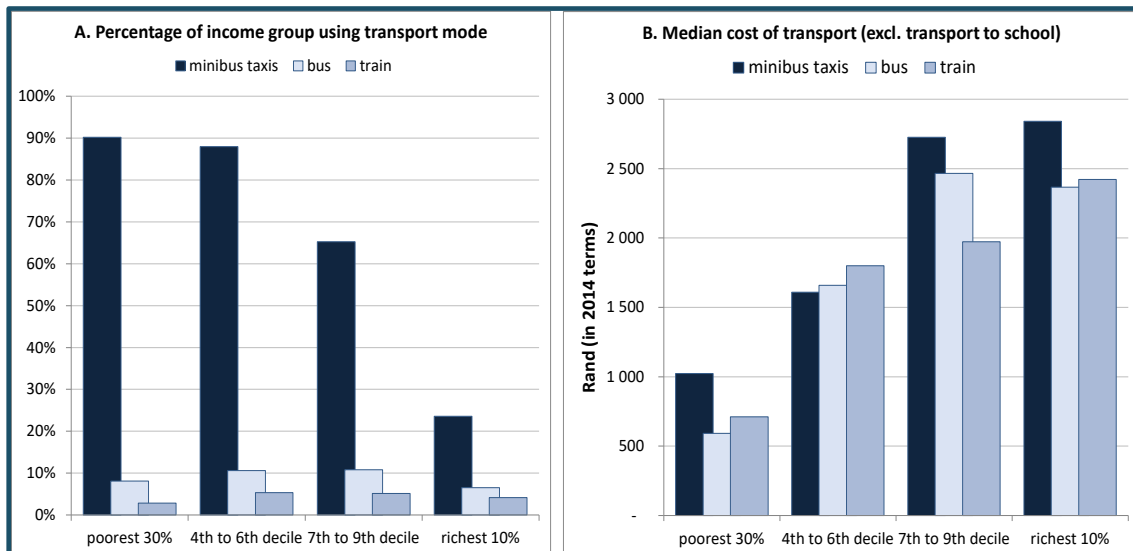
Figure 7: Ownership of motorcycles by income decile, 2014/15



Source: Calculated from Statistics South Africa’s Living Conditions Survey 2014/15, electronic database, downloaded from Nesstar facility at www.statssa.gov.za in March 2019.

Virtually all low-income households use some kind of public transport, mostly minibus taxis (Figure 8). The median expenditure on public transport for households that use it came to around R1,000 a year for the poorest 30 per cent of households, and between R1,500 and R2,500 a year for the fourth to ninth decile in 2014/15. These figures do not include the cost of transport for school. In 2019 rand, the equivalent amounts would be around 25 per cent higher.

Figure 8: Use of different transport modes and median cost by income group, 2014/15



Source: Calculated from Statistics South Africa’s Living Conditions Survey 2014/15, electronic database, downloaded from Nesstar facility at www.statssa.gov.za in March 2019.

Wider use of motorcycles would certainly improve the quality of life for low-income communities. The advantages of lightweight motorcycles for commuting are their flexibility and timesaving compared with public transport, as well as relatively low purchasing and running costs, and limited

pollution compared with heavier models and cars. The disadvantages are the high initial cost relative to the use of public transport, though this could be managed through financing options; the relatively high risk of accidents; and, compared with public transport, the increase in pollution.

In addition to the development of a supportive institutional framework for the motorcycle industry, the major trade-related challenges identified in the research are non-tariff barriers and lack of demand.

4.2 SADC region

The SADC Industrialization Strategy and Roadmap emphasizes economic diversification as a discovery process dependent on close private–public sector collaboration. The Roadmap notes that the diversification policy should be founded on effective partnership with the enterprise sector to identify projects, products, and processes that will broaden the industrial base and propel economies up the value-addition and technology ladders. As part of this process, member states are tasked with setting up working parties drawn from the public and private sectors and with identifying new products and processes that ‘fit’ the country’s actual and latent comparative advantage. In collaboration with the private sector, policymakers have been tasked with generating a list of industrial diversification projects, identifying those for which there is potential to develop regional and global value chains (SADC Secretariat 2015).

An example of success in this approach is the development of Kenya’s motorcycle industry, in which a partnership has developed between foreign OEMs and local assemblers, supported by the country’s government (Box 2).

Box 2: The Kenyan experience

Kenya is the second largest importer of motorcycles in Africa, with an 8 per cent share of the continent’s motorcycle imports. Imports increased annually by 26 per cent between 2010 and 2013 and by more than 5 per cent between 2014 and 2017. In 2017, Kenya’s imports of motorcycles amounted to about US\$110 million. Kenya National Bureau of Statistics (KNBS) data show that between January and September 2017, 163,883 motorcycles worth Sh9.2 billion (about US\$92 million) were bought by Kenyans.

Aside from being a major import market in Africa, Kenya prides itself on having significant local assembly capability and capacity. There are over 20 motorcycle companies with assembly plants in the country, and in 2015 these companies formed the Motorcycle Assemblers’ Association of Kenya (MAAK). MAAK provides guidance to members on various government policies relating to business, banking, taxation, record keeping, and technical aspects of their products, especially maintaining and improving the quality of their outputs to increase competitiveness and keep up with international standards requirements.

Between 2007 and 2015, the motorcycle industry experienced robust growth in production: from 16,000 to over 100,000 locally assembled units. Mola (2015) reported that in 2014 the industry contributed almost US\$22 million in the form of direct taxes only; and through its assembly plants and distribution network, the industry also continued to offer employment opportunities to more than 100,000 Kenyans. In 2018, MAAK and the Kenyan Ministry of Industrialization and Enterprise Development started developing a localization policy to increase local content from 10 per cent to 45 per cent in the country’s assembly of motorcycles. The Kenyan government considers the motorcycle assembly industry as an opportunity to tackle youth unemployment and one of the key industries to increase the manufacturing value add of the country.

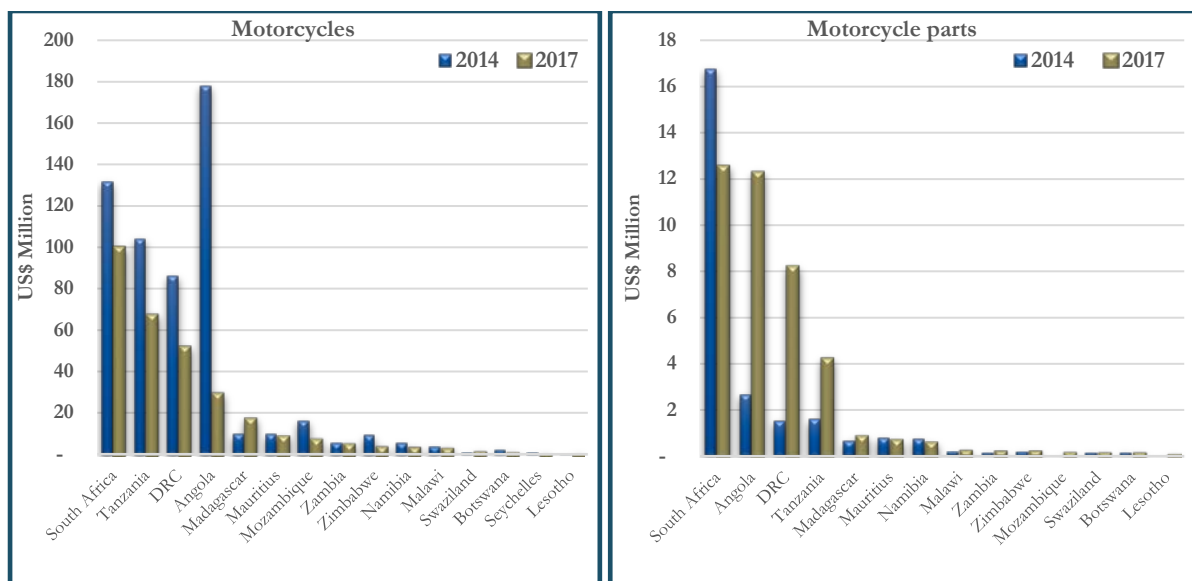
The demand for motorcycles is driven by the motorcycle taxi industry. Motorcycle taxis, commonly referred to as ‘boda bodas’, are preferred by both rural and urban commuters for their ability to access places other vehicles have difficulty reaching, and their ability to manoeuvre on busy urban roads. MAAK estimated in 2017 that there were about 600,000 boda boda operators in the country, transporting about 21 million Kenyans. However, KNBS data show that the total number of motorcycles registered in Kenya was only 14,013 that same year (Ngunjiri 2018).

The Kenyan experience demonstrates the potential of the motorcycle industry in Africa, if industry stakeholders form partnerships to pursue a common goal of local industrial development.

The demand determinants within a country are also critical to substantiate local production, such as the use of motorcycles as a preferred mode of transport, which would need to be significant. The population size (in units) of motorcycles in the SADC region is varied. For example, in 2017, South Africa’s motorcycle population (just over 3 per cent of all vehicle classes) was low compared with the other main importing countries in the region (Angola, DRC, and Tanzania), which have larger motorcycle populations. These countries import motorcycles at the lower end of the market (Class A) in value terms, whereas the South African market is dominated by imports of costlier mid-to-high-end models³ for recreational and competition purposes.

In South Africa, the demand for motorcycles and the demand for parts are positively correlated. In the other main markets in the region the demand for motorcycles and the demand for parts are negatively correlated. The SADC region overall is experiencing a decline in the import of fully assembled motorcycles, Madagascar being the only country recording an increase in imports since 2014 (Figure 9). However, there is an increasing demand for motorcycle parts in Angola, DRC, and Tanzania.⁴

Figure 9: SADC member states imports of motorcycles and parts, 2014 & 2017 (US\$ million)



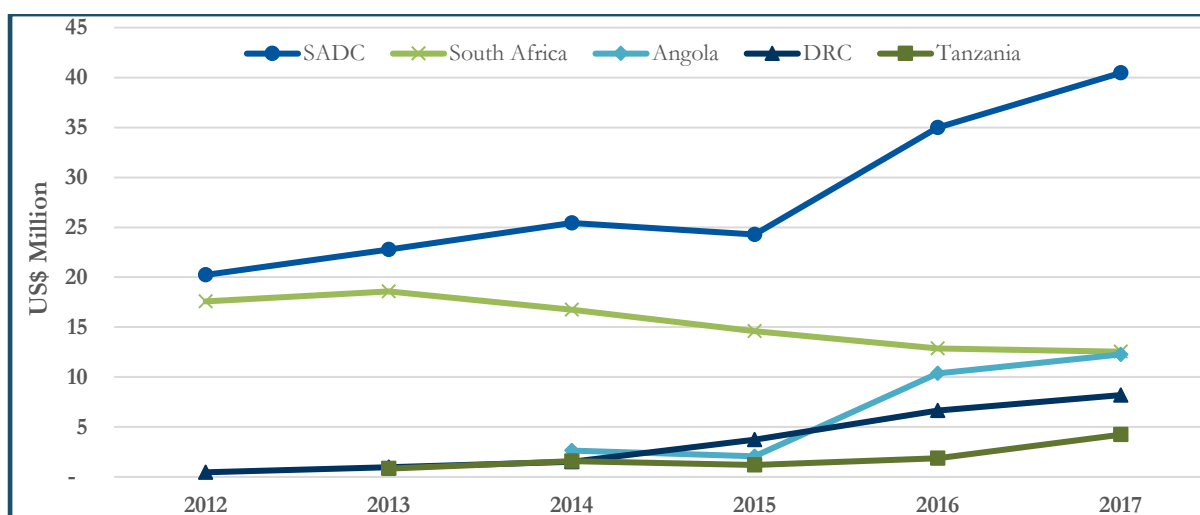
Source: ITC calculations based on UN Comtrade statistics, 2019 (www.trademap.org/Index.aspx).

Imports of motorcycle parts into the SADC region more than doubled, from US\$20.2 million 2012 to US\$40.4 million in 2017, mainly due to the increase in demand in Angola, DRC, and Tanzania (Figure 10). As in South Africa, there is little evidence of manufacturing or assembly of motorcycle parts in the rest of the SADC region. Therefore, all of the regional demand for motorcycle parts is supplied by offshore suppliers, predominantly in China (Box 3, Table 4).

³ A combination of Classes B, C, and D.

⁴ See Figure A1 in the appendix for correlation results.

Figure 2: Imports of motorcycle parts by the main markets in the SADC region (US\$ million)⁵



Source: ITC calculations based on UN Comtrade statistics, 2019 (www.trademap.org/Index.aspx).

Box 3: China's dominance of motorcycle and parts production

China began its motorcycle industry by producing copies or slightly modified imitations of popular Japanese models, which were produced by local manufacturers and sold at about 30–70 per cent of the price of the originals.

Currently, the output of China's motorcycle industry exceeds that of any country in the world, reaching 22.6 million units in 2015, with over 40 per cent of total production exported (Statista 2019). It is reported that over 50 per cent of the world's motorcycles are now manufactured in China, and in 2017, China recorded in excess of 17 million domestic sales of motorcycles—indicating that the development of the motorcycle industry has been driven by high domestic and international motorcycle demand (Statista 2019). China has more than 200 individual companies producing motorcycles nationally. China's leading motorcycle manufacturers include Grand River (Haojue brand), Lifan, Loncin, Zongshen, Motorhead, Jialing, Jianshe, Qianjiang, Haojin, Shineray, Bashan, and Jonway (TIPS 2016).

The impact of China's dominance in the SADC region is illustrated in Table 4. China's exports of motorcycles to the SADC region have declined slightly since 2012 but still gained in market share from 47.7 per cent in 2012 to almost 50 per cent in 2017. Another trend is that China's exports of motorcycle parts have accelerated at an annual average rate of 58 per cent since 2012, and it improved its market share in the region from 15.2 per cent in 2012 to 57.4 per cent in 2017.

As in other industries, China has moved from a low production base and systematically built capacity to become a global leader. It has built its industry on technological partnerships with the Japanese and a large domestic market, and has grown its export capabilities.

⁵ See Table A1 in the appendix for selected trade indicators of motorcycles and parts for the main markets in the SADC region.

Table 3: Main markets exporting motorcycles and parts to the SADC region

Motorcycles		2017 (US\$ thousand)	Share 2012	Share 2017	AAGR 2012–17
1	China	148,172	47.7%	49.1%	-1.6%
2	India	44,967	12.6%	14.9%	1.8%
3	Germany	24,832	5.5%	8.2%	-2.8%
4	Japan	22,593	8.4%	7.5%	-12.7%
5	Austria	19,186	2.2%	6.4%	10.7%
6	United States	9,327	5.3%	3.1%	-14.0%
7	South Africa	8,924	4.8%	3.0%	-7.0%
8	United Arab Emirates	5,191	1.2%	1.7%	174.5%
9	Italy	4,835	3.0%	1.6%	-3.4%
10	Taiwan	3,251	0.9%	1.1%	15.5%
Motorcycle parts		2017 (US\$ thousand)	Share 2012	Share 2017	AAGR 2012–17
1	China	23,217	15.2%	57.4%	58.0%
2	Italy	2,697	11.4%	6.7%	5.2%
3	India	2,682	0.8%	6.6%	85.5%
4	United States	2,043	16.9%	5.1%	-9.4%
5	Japan	1,443	14.7%	3.6%	-12.4%
6	United Arab Emirates	1,203	0.1%	3.0%	199.0%
7	Germany	1,159	9.1%	2.9%	-8.3%
8	Taiwan	1,013	7.4%	2.5%	-6.8%
9	South Africa	975	4.9%	2.4%	7.1%
10	United Kingdom	614	4.9%	1.5%	-8.3%

Note: AAGR = average annual growth rate.

Source: ITC calculations based on UN Comtrade statistics, 2019 (www.trademap.org/Index.aspx).

Table 5 outlines some of the challenges and constraints identified by the SADC Secretariat within the three main policy areas of promoting industrialization, deepening regional integration, and improving competitiveness. These challenges, along with their related proposed interventions, have implications for the long-term development of the motorcycle industry and aftermarket services. The initiatives may unlock opportunities for growth in the motorcycle industry if member states make the industry one of the region's priority sectors within the wider development of high-technology industries.

Table 4: Challenges in the SADC region applicable to the motorcycle industry and related policy interventions

Policy area	Challenges	Proposed interventions
Industrialization		
Key drivers of industrialization	<p>Low productivity</p> <p>Limited diversification</p> <p>Constrained factor inputs</p> <p>Limited regional and global value chains</p> <p>Limited support infrastructure</p> <p>Limited legal and institutional capacity for formulating, implementing, and enforcing intellectual property rights</p> <p>Limited compliance with international environmental principles and practices</p> <p>Limited involvement of women in national and regional value chains</p>	<p>Intensive modernization of industry and support structures</p> <p>Improving resource use efficiency (e.g. energy, water, raw materials)</p> <p>Technology development, acquisition, and diffusion</p> <p>Upgrading of science, technology, engineering, and research capabilities</p> <p>Skills development</p> <p>Institutional reforms</p> <p>Macroeconomic policy on industrial development</p> <p>Selective and targeted investments</p> <p>Strengthening of services infrastructure</p> <p>Building of legal and institutional capacity for formulating, implementing, and enforcing intellectual property rights</p> <p>Identifying existing productive capacity in priority sectors</p> <p>Value chain mapping</p> <p>Engaging the private sector and development finance institutions</p> <p>Identifying specific challenges affecting the viability of regional value chains</p> <p>Identifying 'behind the border' issues</p> <p>Identifying infrastructure requirements to make regional value chains viable and using the SADC Regional Infrastructure Development Master Plan (RIDMP) to address those requirements</p> <p>Providing intermediary support and capacity development for women in industries, SMEs, agriculture and extractives</p> <p>Developing the information and communications technology (ICT) skills of women in enterprise</p> <p>Targeted investments in women in STEMs (science, technology, engineering, and mathematics) education</p>
Transformation of manufacturing SMEs	<p>Lack of formality and technical capacity</p> <p>Low-quality products</p> <p>High cost of finance</p> <p>Lack of standardization</p> <p>Limited innovation and technological literacy</p> <p>Insufficient knowledge of manufacturing processes</p> <p>Poor linkages between SMEs and large companies</p>	<p>Development of regional framework for SME promotion</p> <p>Promoting linkages between SMEs and large companies</p> <p>Helping SMEs to acquire knowledge of manufacturing processes</p> <p>Including gender components in regional framework for SMEs</p> <p>Establishing institutions and intermediaries that define modalities and provide support for women in the private sector</p> <p>Addressing other constraints, e.g. gender disparities in terms of access to resources</p>
Regional integration		
Deepening regional integration	<p>Slow progress towards regional integration</p>	<p>Implementing agreed programmes on deepening regional integration</p>
Intra-SADC trade	<p>Limited regional market penetration</p> <p>Limited range of products</p> <p>Disjointed markets</p>	<p>Widening the SADC market through implementation of SADC Treaty and a Free Trade Area</p> <p>Removing non-tariff barriers</p> <p>Facilitating access to trade finance</p>

Policy area	Challenges	Proposed interventions
Competitiveness		
Skills and factor mobility	Inadequate and limited range of industrial skills Restrictions on skilled labour mobility Inadequate number of qualified women with specialized skills for inclusion in productive industrial sectors of the economy	Expediting implementation of Protocol on Facilitation of Movement of Persons Undertaking needs assessment for skilled labour Developing region-wide skills for industry Establishing regional accreditation framework Conducting a needs assessment to identify the skills required to improve industrialization in the region. Identifying ways to increase women's participation in business and industry and to minimize gender inequality
Improvement of microeconomic environment for firms and enterprises	Limited quality of factor inputs Introduction of standards Limited access to capital Inadequate market information Lack of sophistication of products and markets Inadequate incentive systems Red tape associated with the formalization of SMEs Limited women and youth access to capital and markets	Developing skills Enhancing quality standards Removing business constraints on enterprises Offering special incentives for service input costs (e.g. electricity) Establishing a conducive macroeconomic environment in support of industry Promoting industry-academia interaction Removing constraints on women in economic enterprise Targeted incentives to address women's needs in enterprise
Enhancing capacity of the private sector in strategy development, innovation, management, and technology use	Limited capacity of business entrepreneurs to perceive and develop competitive enterprises Limited strategic planning and marketing skills Limited knowledge of modern business practices Limited capacity and engagement of women and youth in enterprises Limited management skills of women and youth in business	Developing dedicated multi-dimensional training and information access mechanisms Providing equitable access to information as well as enhancing women's capacity in ICT and innovation for business

Source: SADC (2015).

5 Policy considerations

Hausmann and Klinger (2009) argue that to promote the structural transformation of industry, three strategies should be considered:

- **Competitiveness policies:** Strategies that will expand and improve the country/region's existing activity, including creating a dialogue between businesses and government in order to solve coordination problems within industry sectors or between related activities;
- **Encouragement of new ventures:** Entrepreneurs should be encouraged to explore new areas and supported in overcoming the lack of public and private inputs, which may in turn reveal valuable information about relevant opportunities and obstacles.
- **Taking strategic bets:** These are activities that cannot happen without major public involvement because they require many large inputs that cannot be provided or coordinated by the market; therefore, major government involvement is critical.

South Africa has considerable capabilities and manufactures a range of original equipment components and aftermarket parts for different industries, including the automotive industry. The bulk of the domestically manufactured automotive components are sold as original equipment components to OEMs as part of their assembly operations or for replacement parts. Automotive

component manufacturers are also active in the export market. However, the South African government's policy framework to support the automotive sector's competitiveness through the Automotive Production and Development Programme (APDP) makes no reference to the motorcycle industry. It is crucial that the APDP should also provide support to the ailing motorcycle industry in South Africa.

In the context of the global value chain dynamics that dominate the motorcycle industry, Southern Africa faces a challenge to becoming an attractive destination for such investment. While South Africa has existing capabilities in the automotive sector, it has a small domestic market for motorcycles; and while the region as a whole has some potential for economies of scale, there is a limited manufacturing base and no comprehensive incentive structure outside of South Africa.

Could the SADC member states initiate an integrated network comprising motorcycle assembly, parts manufacturers, and distributors to leverage existing automotive assembly capacity in South Africa and establish a regional motorcycle value chain?

Lessons to be learned from looking at China's development of its motorcycle industry are: (a) having a long-term vision of industrial development supported by the state; (b) generating market demand; (c) realizing export market potential; (d) facilitating technology transfer from existing players in the industry; and (e) ensuring domestic learning and integration into a global value chain. Kenya has replicated these lessons in building its motorcycle industry.

In the SADC region the status quo will remain unless a concerted effort is taken to develop motorcycles as an industry. Institutional capabilities are required as well as partnerships with established global players.

Key requirements for attracting global OEMs in the motorcycle industry are:

- Addressing demand-side constraints and regulatory blockages that inhibit motorcycles being a mode of mass transportation in SADC countries so as to allow economies of scale in investment decisions;
- Ensuring supply-side support in terms of cost competitiveness, particularly in the context of high electricity prices; product standards in the supply chain; workforce skills; and access to technology;
- More broadly, addressing infrastructure challenges and policy gaps that have constrained trade across the region, and fostering trade harmonization on issues such as tax, roadworthiness, and supporting infrastructure (e.g. ICT).

There is also potential to grow the demand for motorcycles among poorer households as a low-cost and time-saving means of transport. One of the policy proposals and considerations to this end is to promote the importation and local assembly of electric motorcycles, which are not subject to the homologation standards that have led to the decline of conventional motorcycle imports. Electric motorcycles have a lower purchase price and in many countries have no licence or insurance requirements. Therefore, the barriers to entry for assemblers of electric motorcycles are considerably lower than for firms who currently trade in conventional motorcycles and seek access to the South African market.

6 Conclusion

The importance of the motorcycle industry will continue to increase worldwide as demand grows as a consequence of more and more people living in cities and looking for affordable and flexible mobility options. The Kenyan experience has shown that demand exists for motorcycles in Africa and that demand is not limited to urban areas, with increasing motorcycle use in rural areas.

The policy framework for African cities needs to consider urbanization trends, population densities, and the possibility of motorcycles as a response to traffic congestion and air pollution. Motorcycle policy should be consistent with, and constitute an integral part of, an overall transportation plan as well as an overall industrial plan to support industrial development.

A further benefit of growing the motorcycle sector is building capacity and employment in aftermarket services and motorcycle parts. As motorcycle numbers increase, the demand for replacements parts and for technicians to undertake repairs also increases.

The motorcycle industry is closely related to other successful industries within the automotive sector, such as the production of passenger and commercial vehicles, and has potential for growth should it receive support in industrial and investment policy from the public and private sectors. There is existing capacity in the automotive sector for capital, labour, technologies, and institutional support that is transferable from automobile production to motorcycle production.

Promoting the motorcycle industry and solving the problems associated with motorcycle use to grow demand for motorcycles can be complementary, although they do not necessarily need to be done in concert. From the long-term perspective, addressing the inhibitors to demand for motorcycles is the pre-condition for the healthy growth of an SADC regional motorcycle industry. Explicit recognition of the role of motorcycling in transport policy will encourage economic and social benefits, including reduced transport costs to individuals and businesses, plus increased mobility and—if battery or similar technology is exploited—lower carbon emissions.

OEMs have a crucial role to play in establishing a motorcycle production base in the SADC region. Several OEMs already have a presence in the region in automotive production and in motorcycle distribution, retail, and servicing; any strategy would need to engage with them and persuade them to consider establishing an SADC motorcycle industry as part of their long-term strategy. The rapidly growing Chinese motorcycle manufacturers, which are looking at globalizing their operations, also present an opportunity, since foreign motorcycle manufacturers can expand globally by setting up assembly plants and/or parts manufacturing operations in developing countries (as illustrated by the Kenyan experience) through the provision of incentives and tax breaks. Foreign direct investment will be attracted and job opportunities in the region increased in high value-added production activities.

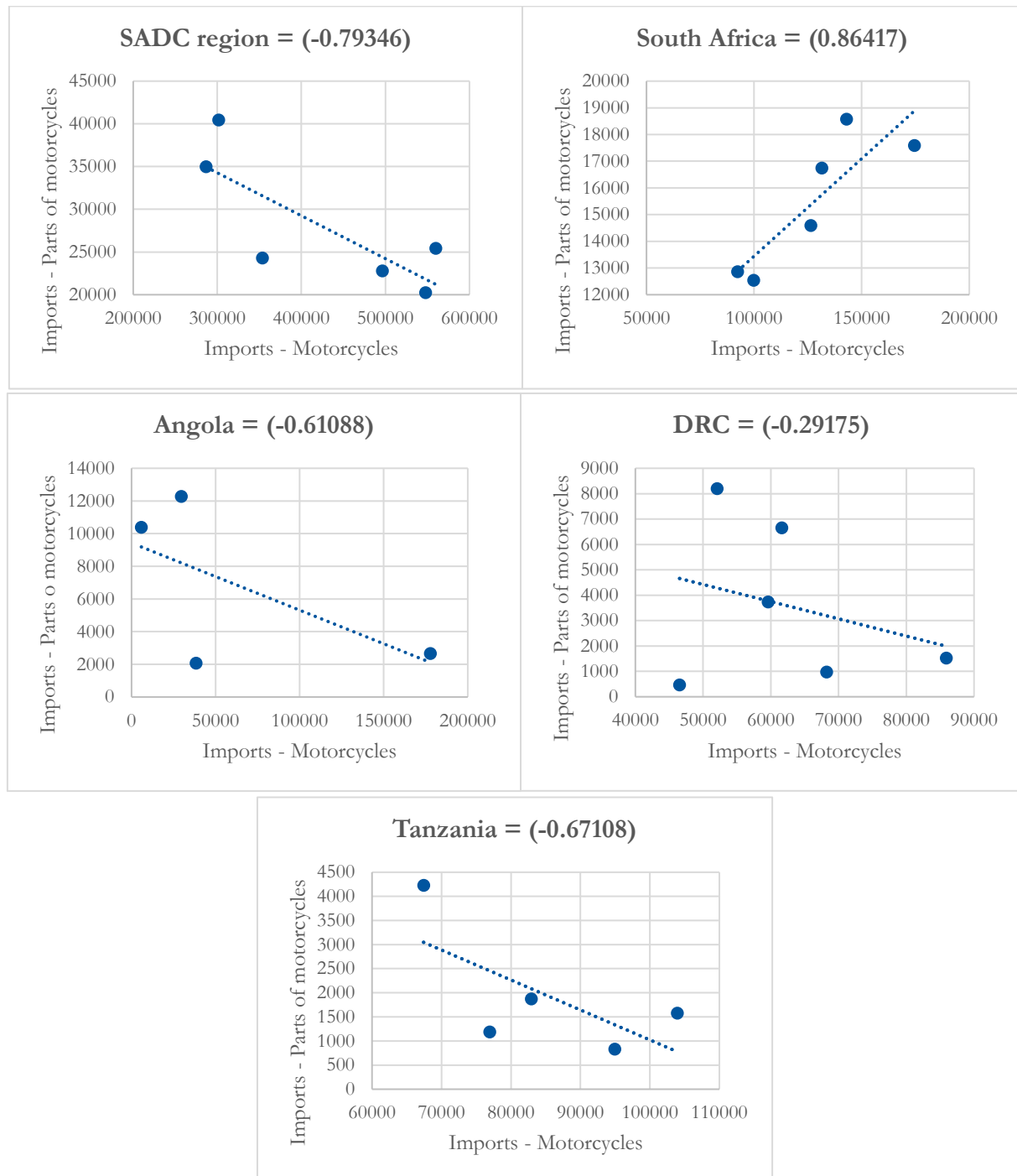
References

- AMID (Association of Motorcycle Importers and Distributors) (2015). 'Compulsory Homologation Standards – VC9098'. Available at: www.amid.co.za/2015/06/27/compulsory-homologation-standards-vc9098/ (accessed 2 April 2019).
- AMID (2017). 'Unit Sales by User Class and Engine Class: 2008–2018'. Excel sheet.
- AMID (online). 'What is AMID and what do we do?' Available at: www.amid.co.za/about-us/ (accessed 2 April 2019).
- Bureau Veritas (2018). 'Republic of Tanzania: Pre-Shipment Verification of Conformity to Standards (PVoC)'. Available at: <https://verigates.bureauveritas.com/wps/wcm/connect/5a74db804d1fd77b96b2bed3ae22b828/GSIT+-+TANZANIA+%28PVoC%29+Rev+13.pdf?MOD=AJPERES> (accessed 10 April 2019).
- Canis, B. (2011). 'The motor vehicle supply chain: Effects of the Japanese earthquake and tsunami'. CRS Report for Congress, prepared for Members and Committees of Congress. Washington, DC: Congressional Research Service.
- Droppa, D. (2018). 'Where to now for SA motorcycle industry?' Available at: <https://www.iol.co.za/motoring/bikes/where-to-now-for-sa-motorcycle-industry-15246872> (accessed 2 April 2019).
- eNaTIS (National Traffic Information System) (2018). 'Live vehicle population as per the National Traffic Information System'. 31 December. Available at: www.enatis.com/index.php/statistics/13-live-vehicle-population (accessed 10 April 2019).
- Export.gov (2018). 'Angola country commercial guide. 2018. Angola – import tariffs'. Available at: <https://www.export.gov/article?id=Angola-Import-Tariffs> (accessed 2 April 2019).
- EY (Ernst & Young) (2018). 'Indirect Tax Alert: The East African Community Amends Customs Duties and Common External Tariffs'. Available at: <http://tiny.cc/5t1y4y> (accessed 10 April 2019).
- Fujita, M. (2013). *Exploiting linkages for building technological capabilities – Vietnam's motorcycle component suppliers under Japanese and Chinese influence*. Tokyo, Heidelberg, New York, Dordrecht, London: Springer.
- Hausmann, R., and B. Klinger (2009). 'Policies for achieving structural transformation in the Caribbean private sector development'. Discussion Paper IDB-DP-163. Washington, DC: Inter-American Development Bank. Available at: <https://publications.iadb.org/bitstream/handle/11319/5672/policiesforachievingstructuraltransformationinthecaribbean.pdf?sequence=1> (accessed 2 April 2019).
- Koskenkylä, H. (2004). 'Financial integration'. Bank of Finland Studies A108. Helsinki: Bank of Finland.
- Lejanos, A. (2015). 'Motorcycle Industry Competitiveness Roadmap'. Available at: <http://industry.gov.ph/wp-content/uploads/2015/05/5th-TID-Mr-Lejanos-presentation-on-motorcycle.pdf> (accessed 16 April 2019).
- Mola, E. (2015). 'Motorcycle assemblers launch new association'. Online article. HapaKenya. Available at: <https://hapakenya.com/2015/05/06/motorcycle-assemblers-launch-new-association/> (accessed 2 April 2019).

- My Thanh, T.T. (2018). 'Parking management strategies for Asian developing countries'. Dissertation. Darmstadt: Technische Universität Darmstadt.
- Ngunjiri, J. (2018). 'Policy on production of motorcycle spares in works'. Online news article. Business Daily. Available at: <https://www.businessdailyafrica.com/news/Policy-on-production-of-motorcycle-spare-in-works/539546-4318760-f5rdehz/index.html> (accessed 2 April 2019).
- Olubomehin, O.O. (2012). 'The development and impact of motorcycles as means of commercial transportation in Nigeria'. *Journal of Research on Humanities and Social Sciences*, 2(6): 231–39.
- Republic of South Africa (2000). 'National Land Transport Act, 2000 (Act 22 of 2000). (Notice 844)'. *Government Gazette*, 21493: 2, 23 August.
- Republic of South Africa (2005). 'National Credit Act, 2005 (Act 35 of 2005) (Notice 230)'. *Government Gazette*, 28619: 2, 10 March.
- Republic of South Africa (2008). 'Consumer Protection Act (Act 68 of 2009) (Notice 230)'. *Government Gazette*, 38557: 2, 24 April.
- Republic of South Africa (2011). 'Revision of Homologation Standards (VC9098) (Notice 443)'. *Government Gazette*, 34308: 2, 27 May.
- Rodrik, D., R. Hausmann, and J. Hwang (2006). 'What you export matters'. CEPR Discussion Paper 5444. London: Centre for Economic Policy Research. Available at: <https://ssrn.com/abstract=897924> (accessed 2 April 2019).
- SADC Secretariat (SADC) (2015). 'SADC Industrialisation Strategy and Roadmap 2015–2063'. Approved by Summit in Harare on 29 April.
- Singh, H.V., K. Gupta, R. Sudan, and R. Singh (2018). 'Product space analysis and industrial policy: Identifying potential products for India's export expansion & diversification'. Brookings India IMPACT Series 082018-2. New Delhi: Brookings Institution India Center.
- Statista (2019). 'Motorcycle industry in China – Statistics & facts'. Available at: <https://www.statista.com/topics/2108/china-motorcycle-industry/> (accessed 2 April 2019).
- TIPS (2016). 'Global view report – Motorcycles industry'. Research report submitted to the Department of Trade and Industry (South Africa). Unpublished.
- Trade Map (2019). Available at www.trademap.org/Index.aspx (accessed 2 April 2019).
- WOW (2016). 'Sale, maintenance and repair of motorcycles and parts. Johannesburg: Who owns whom.' SIC code 63400.
- Xignite (2019). South African Rands (ZAR) per Chinese Yuan Renminbi (CNY). Available at: <https://www.exchange-rates.org/history/ZAR/CNY/T> (accessed 2 April 2019).

Appendix A

Figure A1: Correlation results between motorcycle imports and parts imports for the SADC region, Angola, DRC, Tanzania, and South Africa, 2012–2017



Note: Correlation refers to the degree of relationship (or dependency) between two variables. A correlation can range between -1 (perfect negative relationship) and +1 (perfect positive relationship), with 0 indicating no straight-line relationship.

Source: Author's calculations based on ITC and UN Comtrade statistics, 2019 (www.trademap.org/Index.aspx).

Table A1: Selected trade indicators of motorcycles and parts for the main markets in the SADC region

Motorcycles					
Country	Value imported in 2017 (US\$ million)	Share in SADC imports (%)	Average annual growth rate 2013–2017 (%)	Average tariff (estimated) applied by the country (%)	Ease of doing business ranking
SADC	301.5				
South Africa	99.8	33	-10	0	82
Tanzania	67.4	22	-9	11.9	144
DRC	52.1	17	-8	20	184
Angola	29.6	10	-53	31.9	173
Motorcycle parts					
Country	Value imported in 2017 (US\$ million)	Share in SADC imports (%)	Average annual growth rate 2013–2017 (%)	Average tariff (estimated) applied by the country (%)	Unit value (US\$/unit)
SADC	40.7				
South Africa	12.5	31	-10	0	23,483
Angola	12.3	30	-3	2	4,438
DRC	8.2	20	77	10	2,934
Tanzania	4.2	10	41	9.4	828

Source: Author's calculations based on ITC and UN Comtrade statistics, 2019 (www.trademap.org/Index.aspx).

Appendix B: Abbreviations

APDP	Automotive Production and Development Programme
AMID	Association of Motorcycle Importers and Distributors
DRC	Democratic Republic of the Congo
EAC	East African Community
ICT	Information and Communications Technology
ITC	International Trade Centre
KNBS	Kenya National Bureau of Statistics
MAAK	Motorcycle Assemblers Association of Kenya Limited
MDA	Motorcycle Dealers' Association
OEMs	Original Equipment Manufacturers
RIDMP	Regional Infrastructure Development Master Plan
SABS	South African Bureau of Standards
SAM	Southern African Motorcycles
SADC	Southern African Development Community
SME	Small and Medium Enterprise