



Supporting Investment and Trade in Africa

The African Continental Free Trade Area and the Automotive Value Chain

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Briefing Report

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Key messages

Africa plays a very limited role in the global automotive industry and many of its small national markets are mainly supplied by imports of used cars. However, with a rapidly expanding middle class, the market is growing rapidly. Closer integration could expand the market and attract both regional and foreign investment.

The automotive industry in the African continent in 2021 was valued at US\$ 30.44 billion and predicted to grow to US\$ 42.06 billion by 2027. South Africa and Morocco were the two largest exporters accounting for over 80% of exports. But the continent as a whole is a major net importer of vehicles and parts.

The AfCFTA Rules of Origin (RoO) aim to deepen market integration at both regional and continental levels, boost intra-African trade while promoting regional and continent-wide value chains.



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Acronyms

AAAM	African Association of Automotive Manufacturers
AfCFTA	African Continental Free Trade Area
APDP	Automotive Production and Development Programme
ASEAN	Association of Southeast Asian Nations
CAN	Andean Community
CKD	Completely Knocked-Down
DRC	Democratic Republic of Congo
ECOWAS	Economic Community of West African States
EV	Electric Vehicle
EU	European Union
FIA	Federation Internationale de l'Automobile
ICE	Internal Combustion Engine
LAIA	Latin American Integration Association
LDC	Least Developed Country
Mercosur	Southern Common Market
MIDP	Motor Industry Development Programme
NAFTA	North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
OICA	International Organization of Motor Vehicle Manufacturers
PTA	Preferential trade agreement
REC	Regional Economic Community
RoO	Rules of Origin
SADC	Southern African Development Community
SKD	Semi-Knocked-Down
TRIMs	Trade-Related Investment Measures
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WITS	World Integrated Trade Solution

Executive Summary

Overview of regional integration, the African Continental Free Trade Area (AfCFTA) and importance to the automotive industry

Africa plays a very limited role in the global automotive industry and many of its small national markets are mainly supplied by imports of used cars. However, with a rapidly expanding middle class, the market is growing rapidly. Closer integration could expand the market and attract both regional and foreign investment. These gains are unlikely to be shared evenly.

AfCFTA provisions for the automotive sector

The AfCFTA Rules of Origin (RoO) aim to deepen market integration at both regional and continental levels, boost intra-African trade while promoting regional and continent-wide value chains.

In the standard automotive global value chain (GVC), assemblers account for 20% of value addition, with Tier 1 suppliers at 30% and the remaining Tier 2 and 3 suppliers at 50%.

There are arguments for RoO regimes in the AfCFTA to be less restrictive and more flexible than those that apply in the more developed RECs.

The African Association of Automotive Manufacturers (AAAM) is working with governments including in Egypt, Ghana and South Africa. It argues that a simple RoO based system is not sufficient and favours a separate plurilateral agreement for the automotive sector.

Overview of the automotive industry in Africa

The African market is very limited. Moreover, it is divided into over 50 mainly very small economies and is therefore unattractive to investors in a sector where optimal scale is very large in relation to average national market size.

South Africa and Morocco dominate production and there is small scale assembly and component production in Algeria, Egypt, Ethiopia, Ghana, Kenya, Nigeria and Tunisia. All other countries are primarily importers although some do have aspirations in assembly. Most countries rely on used car imports for a supply of cheap transport. This brings a number of complications from a policy perspective.

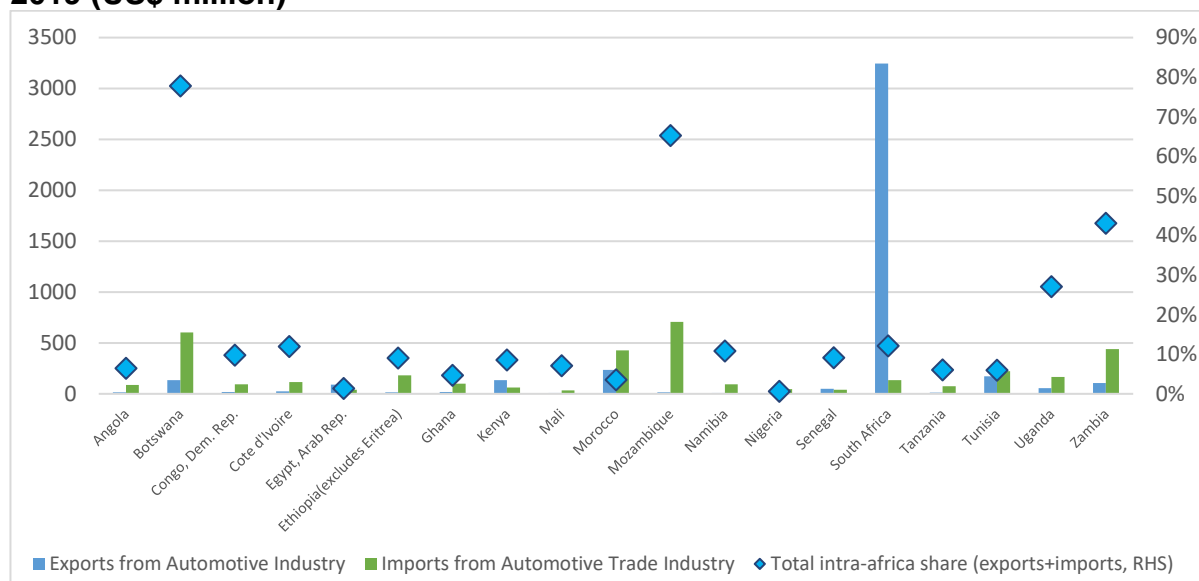
Scale is of critical importance in the automotive industry. Policy, including the parameters of regional integration arrangements, needs to encourage assembly, at reasonable scale. This is the only way to enable supplier development without excessive protection.

Trade in the automotive industry in Africa

In 2021, the automotive industry in the African continent was valued at US\$ 30.44 billion and predicted to grow to US\$ 42.06 billion by 2027. South Africa and Morocco were the two largest exporters accounting for over 80% of exports. But the continent as a whole is a major net importer of vehicles and parts.

US\$4.5 billion or about 15% of total trade in the automotive industry was destined for other African countries (termed as intra-Africa trade). This is heavily dominated by South Africa, which runs a large trade surplus with the region. Of the intra-African trade that occurred in 2019, US\$2.6 billion (around 60%) can be attributed to intermediate products and the remaining US\$1.9 billion (40%) was finished products.

Intra-African automotive industry exports and imports for selected countries, 2019 (US\$ million)



Source: Author's compilation based on WITS

Constraints to production and export capacity

Market size poses a major constraint and is exacerbated by the ubiquitous importation of used cars. Infrastructure, including transport and utilities, are a significant barrier to trade across Africa. The road transport infrastructure is relatively limited and is often geared towards the extractive industries, whereas water and electricity provision continue to suffer from interruptions and high costs. There is also a significant skills constraint that needs to be overcome to enable at-scale production of vehicles in Africa.

As in all regional integration arrangements, there is the problem that new activity tends to cluster in defined locations leading to winners and losers. It may be counter-productive, to try and make a case that the continental gains in automotive production can somehow be widely spread. Regional integration requires regional sectoral specialisation and intraregional trade.

Using AfCFTA provisions to develop RVCs

Developing the automotive industry means attracting investment in assembly. The AfCFTA potentially offers an expanded regional market to attract such investment. It would also be important that RoO limit the importation of semi-knocked down (SKD) vehicles.

The heart of the industry lies in the component sector. In turn this requires large scale assembly plants to justify investment in significant domestic content. The AfCFTA creates the possibility for this to happen through expanded assembly across the continent.

Many parts of Africa have large markets for motorcycles. This may represent an important development opportunity within the broader automotive sector. Demand for electric vehicles (EVs) globally, is growing exponentially and may offer opportunities as they also have lower scale requirements. This could extend to two wheelers which already dominate the market in China and are being rapidly adopted in parts of Asia.

Policy implications and the way ahead

Regional integration in the automotive sector offers both huge gains but also major challenges as it is likely to result in wide regional disparities in investment within the sector.

Overly strict rules of origin hinder access to inputs and productive capacities in the long term and may hamper the creation of value chains. Building regional value chains and attracting additional investment require robust cooperation and harmonized investment policies. For automotive value chains, issues such as the import of used cars, tax agreements and investment incentives will need to be addressed at the regional level.

There is clearly ample potential for automotive sector value-chain driven industrialisation under the AfCFTA and within a policy regime that takes into account the need for an appropriate RoO policy, (external) tariff policy and regional industrial policy. Industrialisation will also depend on infrastructure, investment, human capital and skills and the general policy environment.

1 Introduction: Overview of regional integration, the AfCFTA and importance to the automotive industry

Africa plays a very limited role in the global automotive industry accounting for less than 1% of global production. This output is produced mainly by just two countries, Morocco and South Africa. The small markets in most countries are mainly supplied by imports of used cars. However, with a rapidly expanding middle class, the market is growing rapidly. Moves towards regional integration are consolidating dozens of very small markets into a single market of some significance (Barnes et al, 2021). The African Continental Free Trade Area (AfCFTA) is taking this to a new level. The third factor is a greater push by a number of national governments as well as regional formations (SADC, 2017) to develop the sector. These considerations create the conditions which are necessary, albeit not sufficient, to develop the industry on the continent (African Union Commission and OECD, 2022).

For the industry to develop, it needs a viable 'automotive space' (Sturgeon and Florida, 1999). This could be in the form of a large national market such as China or India. But even as Africa's largest market, South Africa does not qualify. A second possible 'automotive space' is being on the periphery of a large market for example, Mexico in relation to the North American Free Trade Agreement (NAFTA), or Turkey in relation to the EU. Morocco falls into this category and integration into this large market could be an option for other countries in north Africa. A third option is the regional market where regional integration creates a viable 'automotive space' as in the case of Mercosur or ASEAN. This option comes into view with closer regional integration in Africa.

The focus of this briefing report is on closer regional integration, especially in terms of the AfCFTA, the prospects it offers in the automotive sector and how these can be maximised. Closer integration could expand the market and attract both regional and foreign investment. This would also improve production capabilities and specialisation. The resulting increase in economies of scale and efficiency could expand exports outside of the region and reduce imports from outside the continent. It is also important to note that these gains are unlikely to be shared evenly. In a working regional

integration arrangement, the automotive industry is likely to cluster in a few national locations, and this raises political complexities for the integration process.

As is well known, levels of intraregional trade in Africa are low. But intraregional trade contains a much higher level of processed goods (41%) than exports to the rest of the world (17%). In terms of products, intraregional trade is also more diversified. Untapped static and dynamic export potential is considerable. According to a recent by the United Nations Conference on Trade and Development (UNCTAD) study, it amounts to \$21.9 billion (UNCTAD, 2021). UNCTAD estimates that partial tariff liberalisation could increase intra-African exports by as much as \$9.2 billion by 2025. This is dominated by the auto sector, with an estimated increase of close to \$2 billion, more than four times that for the next largest sector, sugar. But, as indicated below, these gains will be difficult to realise, given the complexity of the issues at stake.

2 AfCFTA provisions for the automotive sector

The AfCFTA is the culmination of a process initiated ten years ago by the African Union Assembly, to establish a single continental market for goods and services and the free flow of investment. Among the key components of the agreement are the regimes to monitor and eliminate tariff barriers and that for rules of origin (Ro). While trade has already started ‘under the agreement’, trade is yet to start under the AfCFTA’s regimes.

2.1 AfCFTA Phase 1: Rules of Origin

The AfCFTA has been negotiated and implemented in three phases: Phase I covers trade in goods and services and dispute settlement. Phase II covers intellectual property rights, investment, and competition policy. Phase III has been recently added and will cover E-Commerce. Phase I represents the launch of the operational phase, which is characterised by the adoption of five key instruments, including the AfCFTA RoO. The RoO determine the conditions for applying the Agreement’s tariff preferences. The AfCFTA RoO aim to deepen market integration at both regional and continental levels, boost intra-African trade while promoting regional and continent-wide value chains, and fostering industrialisation (Tsowou & Davis, 2021). Therefore, under the AfCFTA, the RoO are expected to serve as an instrument that boosts trade among African economies.

The AfCFTA RoO adopt a hybrid approach combining main origin criteria—that is, wholly obtained and substantial transformation (Articles 4–7 of the AfCFTA Annex on RoO)—and provisions anchored in the regime-based RoO, such as the minimal operations rule (Article 7), cumulation (Articles 8 and 31), the principle of territoriality (Article 6), certification (Articles 17 and 21), and direct transportation (Article 30), among others (Tsowou & Davis, 2021). Additionally, Annex II on RoO also makes provisions in Article 40 for dispute settlement, stating that issues among AfCFTA members arising from RoO implementation shall be settled following the AfCFTA Protocols on Rules and Procedures on the Settlement of Disputes. The Annex further requests the drafting of several additional RoO-related documents, including product-specific RoO and regulations for goods produced under Special Economic Zones.

The main RoO provisions in the RoO Protocol (Annex II) apply equally to all products; however, the AfCFTA RoO are being negotiated on a sector-by-sector level, resulting in product-specific origin rules. This type of approach is beneficial in that specific RoO

criteria can be designed that better consider the specific dynamics of each sector. Additionally, this approach does not apply a uniform percentage to the value content criterion, as this would make the RoO restrictive (Tsowou & Davis, 2021). However, this approach also means that negotiations are more complex and presents compliance challenges for the private sector due to the complexities of navigating product-specific rules.

In December 2020, the Heads of State of the African Union made a decision that trade under the AfCFTA would officially commence on 1 January 2021. However, as of March 2022, the RoO negotiations and final tariff schedules have not been fully agreed on despite the start of trading at the beginning of 2021. Therefore, preferential trade outside of the established Regional Economic Communities (RECs) can only happen in those tariff lines where both the RoO and preferential tariffs have already been agreed upon. It is anticipated that the RoO negotiations and outstanding tariff lines will be completed in 2022.

In late January 2022, the AfCFTA Council of Ministers met to agree on steps to initiate 'commercially meaningful trade under the AfCFTA'¹. This comes as phase 1 of the AfCFTA negotiations draws to its end. This phase deals with trade in goods and services and the issues that concern them – tariff barriers on goods, non-tariff barriers on both goods and services, and the progressive liberalisation of services trade². Phase 1 includes RoO, which have been agreed upon for 87.7% of total tariff lines. Phase 2 negotiations, which are currently underway, are expected to be concluded by September 2022 and cover investment, competition policy, intellectual property rights, digital trade and women and youth in trade³.

2.2 Rules of origin and the automotive sector

The 'value added' RoO consider the degree of manufacturing or processing carried out in a country by calculating the value it adds to the products. If the value-added meets a certain threshold, denoted as a percentage, the manufacturing or processing shall be considered substantial or sufficient, thereby allowing the goods to acquire originating status in the country where such manufacturing or processing occurs. Therefore, it is also essential to understand value addition in the African automotive sector, where it lies, and how it is currently distributed across the stages of the value chain. Table 1 illustrates the various stages of a simple automotive value chain.

¹ <https://www.tralac.org/documents/resources/cfta/4450-8th-meeting-of-the-afcfta-council-of-ministers-press-release-29-january-2022/file.html>

² The AfCFTA Protocol on Trade in Services is still under negotiation but the Minister's Council expects the completion of the submission of member's commitments by the end of June 2022.

³ <https://www.tralac.org/documents/resources/cfta/4450-8th-meeting-of-the-afcfta-council-of-ministers-press-release-29-january-2022/file.html>

Table 1 The Automotive Value Chain

The Automotive VC Production stages	Raw materials and components produced
Stage 1: Tier 3 Suppliers	basic materials (steel, aluminium, leather, rubber, plastic, glass)
Stage 2: Tier 2 Suppliers	Sub-components (bodies welding, fabrication, shearing, bending, stamping))
Stage 3: Tier 1 Suppliers	Major components (drive train, gearboxes, steering, electronics)
Stage 4: Assemblers	Assembly and production of vehicles

Source: Adapted from UNDP (2021)

In the standard automotive global value chain (GVC), assemblers account for 20% of value addition, with Tier 1 suppliers at 30% and the remaining Tier 2 and 3 suppliers at 50%. In comparison, in South Africa's automotive value chain - the most developed automotive sector in Africa – assemblers account for 40% of value addition, with Tier 1 suppliers at 40%, while Tier 2 and 3 only account for 20% of value addition (Barnes et al, 2021).

RoO for the automotive sector fall into the category of those products that have not yet been finalised in the phase 1 negotiations, but they are expected to be finalised by late 2022. Other sectors for which negotiations are more fraught are sugar, tobacco and textiles & apparel. Along with the automotive sector, these sectors typically enjoy more protection and are subject to more policy intervention than sectors falling within the set for which RoO have already been agreed. They are also the sectors that face a highly competitive global market environment and in the case of the automotive sector require economies of scale to be competitive. This factor makes the automotive sector a prime candidate for the focus of a continental industrial policy given that a continental free trade area could unlock a large market and attract considerable FDI inflows (UNCTAD, 2021).

There are a range of possible scenarios for the formulation of the RoO for the automotive sector under the AfCFTA. In other regional economic communities (RECs), the RoO for automotives and other manufactured products that rely on imported inputs are often differentially applied in order to benefit the less developed members. For example, in the Andean Community, less developed members, Bolivia and Ecuador, are allowed to use non-originating components to the extent of 60% of the value of the final good, whereas the other members are limited to 40% (Estevadeordal and Suominen, 2003). The Latin American Integration Association (LAIA) – a community of 12 Latin American countries - applies a similar arrangement. In the North American

Free Trade Agreement (NAFTA)⁴, Mexico was allowed to use ‘drawback’⁵ for the first seven years while the United States and Canada were not, and in Mercosur⁶, larger more developed members, Argentina and Brazil, are not allowed drawback whereas Paraguay and Uruguay are (Estevadeordal and Suominen, 2003).

A similar regime could potentially be applied in the AfCFTA. Thirty three of the world’s 46 least developed countries (LDCs) are located in Africa. In order to extend the automotive value chain by taking advantage of free trade under the AfCFTA, a differential RoO and drawback system could be adopted, allowing less developed members a higher ex- preferential trade arrangement (PTA) imported content and/or drawback rights that are not available to more developed countries on the continent. This could possibly incentivise relocation of some value chains to LDC neighbours, but there would need to be an economic rationale for this given the tendency of the automotive industry to cluster in specific locations. Given the large numbers of countries (including low income countries) involved, this may create considerable complexity and moves in this direction would require careful consideration.

When it comes to the stringency of RoO for the automotive sector, there are arguments for RoO regimes in the AfCFTA to be less restrictive and more flexible than those that apply in the more developed RECs. The existing African RECs apply value-added threshold levels of 25-35% for products to be classified as locally originating. South Africa, which is the continent’s leading automotive manufacturer, achieves a local content of 30-35%⁷ so this could be considered as an upper threshold for local value addition.

There is also a trade-enhancing case for RoO to be made flexible and non-restrictive. Evidence from the EU’s Everything but Arms (EBA) agreement with LDCs, as opposed to the United States’ African Growth and Opportunity Act (AGOA) concession, suggests that flexible and non-restrictive RoO certainly encourage trade, whereas complex and restrictive regimes cause trade to stagnate (Signe and Madden, 2021).

2.3 Other initiatives

The African Association of Automotive Manufacturers (AAAM)⁸ was established in 2015 by multinational car companies, many of which have their regional (or continental) headquarters in South Africa. Apart from the car companies, its membership includes component firms and automotive federations and it has well established links to Afreximbank and private sector financial institutions. The AAAM is working with governments including in Egypt, Ghana and South Africa as well as the

⁴ NAFTA was re-negotiated as the USMCA FTA under the Trump Presidency and comprises of three members- Canada, Mexico and the United States.

⁵ ‘Duty drawback’ is a form of subsidy whereby an importer-producer is allowed to claim back duties paid on inputs imported from outside the PTA and subsequently exported. See <https://wits.worldbank.org/glossary.html>

⁶ Mercado Comun de Sur.

⁷ See UNCTAD (2019).

⁸ See www.aaamafrica.com

AfCFTA Secretariat and has developed a Pan-African Auto Pact Vision.⁹ The Vision includes five million vehicles being built and sold in Africa by 2035.

The AAAM argues that a simple RoO based system is not sufficient and favours a separate plurilateral agreement for the automotive sector. It has worked on bilateral arrangements, for example between Ghana and South Africa, as building blocks towards a broader Auto Pact which would be based on trade-related investment measures (TRIMs) based with participant countries specialising in a few models and importing other requirements. It argues for a 60:40 (40% African content) RoO arrangement for auto sector.

⁹ See Barnes et al (2019) for the initial proposal.

3 Overview of the automotive industry Africa

3.1 Africa in the global industry

The automotive industry is one of the world's largest industrial sectors and has played a key role in both national and regional development. It incorporates a wide range of industrial processes including metals, plastics and electronics and is frequently perceived as being emblematic of national industrialisation. As a result, the sector has frequently received strong government support. In some countries and regions, it has played a positive development role but in others, outcomes have been negative and the sector has been a costly drag on development. Most of the value added is contained in the production of the thousands of parts that go into a modern motor vehicle. However, the sector is a producer-driven value chain, with vehicle assemblers controlling the supply chain and frequently determining the location of component production.

Africa is a marginal player in the global automotive industry, both as a source of production and as a market. As mentioned above, it accounts for a tiny share of global output and with the bulk of imported vehicles being used cars, its share of the new car market is not much higher. Only Morocco and South Africa are significant producers and exporters of vehicles and components.

A continental market divided into over 50 mainly small economies is unattractive to investors in an industry where optimal scale is very large in relation to average national market size. Also, for the most part, countries do not offer competitive locations as export platforms in this sector. While wages may be low, skills are in short supply and infrastructure is poor in many countries. With very few exceptions there is a little in the way of a supplier base. Morocco has established itself as a viable export base and integration into the EU market may be a route for other countries in north Africa, in particular. Even though growth has been slow for over a decade, South Africa, with Covid-19 affected new vehicle sales of 464,122 units in 2021, has the largest market on the continent. With a century of experience in vehicle assembly and supportive policies, it has been successful in growing exports both within Africa and globally.

Prospects for the continental industry are now much improved. There is growing interest by multinational car firms and by policy makers in a range of countries. Most importantly, closer regional integration could create a new dynamic for the industry.

3.2 Market

The African market is very limited accounting for just 1.3% of global vehicle sales in 2019. However, at a certain stage of development, as the middle class expands the automotive market can grow far more rapidly than GDP. One indication is the expansion of light vehicle imports (new and used) into sub-Saharan Africa (excluding South Africa), which provides a good proxy of market size. These expanded at 14% per annum from 2003 to 2013 to reach 1.5 million. After that the market slumped as the end of the commodity boom impacted Nigeria and other countries. More recently, continental expansion has not been helped by the fact that growth in the continent's three largest economies, South Africa, Nigeria and Egypt, has been slow. But with growth rebounding after the Covid-19 pandemic, prospects for market expansion are very favourable.

3.3 Production

In 2021, the entire continent produced less than one million vehicles. Output is dominated by South Africa and Morocco. Egypt and Algeria are the next largest industries (Table 2) and in a number of countries including Ethiopia, Ghana, Kenya and Nigeria there is some small scale assembly which mainly takes place on a semi-knocked down (SKD)¹⁰ basis.

Output has shown a rising trend, mainly because of a rapid expansion in production output in Morocco over the period. South Africa remains the largest producer with an output of 499,087 vehicles in 2021, a sharp reduction as the economy recovers from the impact of Covid-19.

Table 2 Vehicle production by major African producer countries, 2000-2021 (units)

	2000	2003	2006	2009	2012	2015	2018	2021
South Africa	345,297	404,441	587,719	373,923	539,424	615,658	610,854	499,087
Morocco	19,432	25,500	28,600	46,679	108,743	288,329	402,085	403,007
Egypt	59,213	45,173	91,573	92,339	56,480	36,000	68,007	23,754
Algeria	na	na	na	na	na	124,590	70,597	5,208
Total						106,4577	1,080,946	931, 056

Note: Small-scale SKD type operations are excluded. Algeria's output virtually came to a halt from 2020 due to plant closures resulting from changed regulations and a corruption controversy (<https://theArabweekly.com/algeria-finds-no-way-out-car-manufacturing-fiasco>).

Sources: OICA (various years), <https://www.oica.net/>

¹⁰ SKD assembly involves very minor industrial activity. For example, the partly assembled vehicle is imported with minor assembly taking place, such as the installation of the engine.

3.4 Established and emerging producer countries

South Africa has a long-established industry and is the largest producer on the continent. The industry dates back to the 1920s and was established behind tariff walls. From the 1960s, there was a series of local content programmes which required increasingly higher levels of local content. Starting with Phase VI of the local content programme, there was some liberalisation of the industry. This was followed by the Motor Industry Development Programme (MIDP) in 1995, which enabled exporters of vehicles and components to earn rebates on import duties. The 2013 Automotive Production and Development Programme (APDP) allowed for rebates to be earned on the basis of production. There are seven manufacturers of light vehicles. There are also a number of assemblers of medium and heavy commercial vehicles which are mainly assembled on an SKD basis. The industry is highly export oriented, with (Covid-affected) exports of \$10.7 billion in 2020. Europe is the largest market for these exports. Since 2007, the domestic market has been subdued due to low growth. Exports to the rest of Africa are significant but have grown little over the past decade. In 2021, South Africa introduced the South African Automotive Masterplan (SAAM) with ambitious targets to increase production, local content and employment.

Morocco has rapidly emerged as the second largest African producer and its exports of passenger cars overtook those of South Africa in 2018. Renault and more recently Peugeot have established plants in the country and BYD and Hyundai are reportedly following suit. Multinational component suppliers such as Valeo, Yazaki and Sumitomo have also invested in Morocco and there is a growing base of foreign and locally owned suppliers (Pilling, 2021). The industry is highly export oriented and benefits from free trade agreements with the EU and north Africa. In addition to providing purpose-built infrastructure (e.g. Tangier Med port and industrial zone), Morocco has made use of tax incentives (including zero corporate tax for five years) and paid for training programmes run by vehicle assemblers. The National Training Plan set out to train 70,000 people from management to operator level from 2009 to 2015. The sector employs 90 000 people.

Egypt has a long history in the industry with production starting in 1961 under the state-run El Nasr Automotive Manufacturing Company (NASCO). The industry developed under high levels of protection to supply Egypt's small domestic market (Black et al, 2020). The outcome was inefficient, low volume assembly with a certain level of local content being achieved via protectionist measures. Exports have been minimal and the industry has declined since the establishment of the free trade area with the EU.

Nigeria, with the largest economy on the continent, has huge potential and is actively promoting the sector. In 2013, the National Automotive Industry Development Plan (NAIDP) was introduced imposing a 35% duty and 35% levy on imports. With minimal investments, local SKD assemblers can import cars without the levy. The result has been as many as 35 SKD 'plants' being established usually as joint ventures between multinational and local firms (Ugwueze et al, 2020). While these are supposed to

upgrade to completely knocked-down (CKD) assembly the SKD assemblers have been successful in lobbying government to postpone these requirements.

Ghana is another country in west Africa with ambitions in the industry. Currently the market is only 110,000 units per year and is estimated to reach 230,000 units by 2030 (Boston Consulting Group, 2022). But the Economic Community of West African States (ECOWAS) market is significant and growing rapidly. Ghana already has three SKD plants (VW, Kantanka and Sinotruck) with annual production of approximately 5,000 vehicles per annum. Toyota, Nissan and others are establishing or planning SKD production (Boston Consulting Group, 2021). Duties for SKD imports are minimal (1.7%) compared to 31.95% for vehicle imports currently. These will rise to 56.95% under the Ghana Automotive Development Policy (GADP) (Boston Consulting Group, 2021). With its strong natural resource endowment and relatively low-cost labour force, Ghana has been recognized as having great potential to serve the ECOWAS as a manufacturer of vehicles and components.¹¹

Kenya is the leading automotive producer in east Africa with three very small assembly plants mainly operating on an SKD basis with little in the way of local content. There is also some small-scale component manufacture and assembly of motorcycles (Black et al, 2017).

Ethiopia has a large population and has been growing rapidly from a low base. It has ambitions in the automotive industry. If it can overcome its political difficulties, the potential is considerable.

3.5 Issues and automotive policies

Africa is a large net importer of vehicles and parts. An ideal scenario for the AfCFTA may be to create a unified market with free internal trade, a moderate common external tariff and RoO that require at the minimum CKD assembly with say 40% African content. There would also be some restriction of used car imports, for example via an import duty on new models and a high flat tax on imported used cars older than, say 8 years. This could lead to significant inward investment and a reduction of the trade deficit in the sector. It would also lead to a reasonable scale of production with associated development of the parts industry. But the continent is a long way from such a position.

Africa has a range of producing and non-producing countries, which can be grouped into three categories:

- Large scale producers and exporters – Morocco, South Africa
- Small scale and aspiring producers - Algeria, Egypt, Ethiopia, Ghana, Kenya, Nigeria, Tunisia

¹¹ Ghana JET – Overview of Automotive Value Chain Opportunity in Ghana

- Importers – all other countries (some of these have small scale component production and some have aspirations in assembly e.g. Namibia, Zimbabwe)

Production is, therefore, not only very limited but highly concentrated in a few countries. Importantly, most countries rely on used car imports for a supply of cheap transport. This brings a number of complications.

- The outcome of the above scenario would be a high level of concentration in a handful of countries. This would include parts production which would tend to cluster in a few locations in close proximity to major assembly locations. Within the sector there would be a few ‘winners’ and many ‘losers’.
- Excluded countries would oppose the restriction of used car imports, which provide a source of low-cost mobility. Restrictions would be strongly opposed by consumers. Also, there are a large number of firms engaged in the used car importing sector.
- Significant numbers of SKD plants have been established in several countries. The policy intention, in most cases, is that these transition to full assembly. But this is unlikely to happen and will be strongly opposed by most firms, because of the large investments required in the context of small markets.
- There would be complications with regard to major existing policies e.g. South Africa’s APDP.

There are, of course, complex issues regarding existing RECs (e.g. ECOWAS, Southern African Development Community (SADC)) and free trade agreements with the EU (e.g. Egypt, Morocco, South Africa).

3.6 The importance of scale

Scale is of critical importance in the automotive industry. Large scale assembly is important to facilitate investment in the supplier base, where in major components such as engines, economies of scale are even greater than in assembly. CKD assembly can and does take place at lower volumes where there is some tariff protection and low duties on components resulting in high effective rates of protection for assembly.

Semi knocked down assembly can take place in very low volumes but entails only minor assembly with virtually no value addition or employment. It is important that policy makers avoid policies, which encourage SKD assembly. It could be argued that SKD offers a stepping stone to CKD assembly and eventually to full manufacturing. But it may in fact provide a stumbling block as SKD assemblers, reluctant to make major investments, seek to stall requirements to move to full assembly, as in the case of Nigeria.

There is a world of difference between Africa’s largest assembly plant (Renault in Tangier, Morocco) with an investment of approximately \$1 billion and a small scale

SKD facility, which can be established at minimal cost (Table 3). A world scale assembly plant is likely to have capacity to produce at least 80,000 vehicles per annum in one or perhaps two models. A 50,000 units a year CKD plant would have the possibility of attracting some component supply. This places the small size of the African market in sharp relief.

It is on the other hand easy to attract SKD type of investments by offering tariff protection and/or rebates on other automotive imports. SKD assembly requires virtually no value added – for example just the fitment of an (imported) engine and wheels. The result is exceptionally high effective rates of protection on SKD assembly leading to excessive entry, as in Nigeria.

But SKD operations carry strong support with countries arguing that they should be allowed to trade under the AfCFTA and be permitted sufficient time of between 10 to 20 years to move to a higher level of value addition. During the Eighth Meeting of The AfCFTA Council of Ministers Responsible for Trade, for instance, Namibia proposed consideration of a sufficient transitional arrangement for those members states preparing for relatively lower value addition that they are given sufficient time to migrate to higher levels. Namibia has taken the stance that this agreement should not disrupt new industries but enhance trade.

Table 3 Typologies of vehicle assembly

	SKD Assembly	CKD Assembly	Full manufacturing
Target Market	Domestic	Domestic	Domestic and export
Output level (units p/a)	< 3,000	10,000 – 50,000	> 50,000
Investment	\$1 million	\$50-\$300 million	> \$500 million
Employment in assembly	< 50	1,000-3,000	1,500-4,000
Employment in OE component supply	Virtually zero	Medium	High
Level of integration with parent company	Low; import of SKD vehicles	Low; import of CKD packs	High
Model line up	Many models	Many models	One or two
Local content	Virtually none	Generally low but may be quite high due to local content requirements	Medium to high
Quality	Good – content all imported	Below source plant	Equal to source plant

Production cost	Low – very little production	High	Low
Domestic design	None	Local adaptations	None - may do global R&D in niche areas
Example countries	Ghana, Kenya, Nigeria,	Egypt, South Africa	Morocco, South Africa

Note: Figures for output, investment and employment are indicative.

Source: Adapted from Black (2009)

To summarise, policy, including the parameters of regional integration arrangements, needs to encourage assembly, at least at the CKD stage. This is the only way to enable supplier development without excessive protection. The argument can be illustrated by the case of the world scale plants established in Morocco, which have 60% local content and have attracted significant investment by multinational and local suppliers as indicated above. SKD plants in Nigeria, Kenya and other countries on the other hand, add minimal value (or employment) in assembly and have virtually no local componentry.

4 Trade in the Automotive industry in Africa

In 2021, the automotive industry in the African continent was valued at US\$ 30.44 billion and predicted to grow to US\$ 42.06 billion by 2027.¹² Currently the continent has low automotive vehicle ownership rates as well as low levels of production, however multinational vehicle manufacturers are beginning to set up production plants across the continent.¹³ Additionally, consumer spending has been steadily increasing suggesting there is untapped demand within the continent.

4.1 Africa in global automotive trade

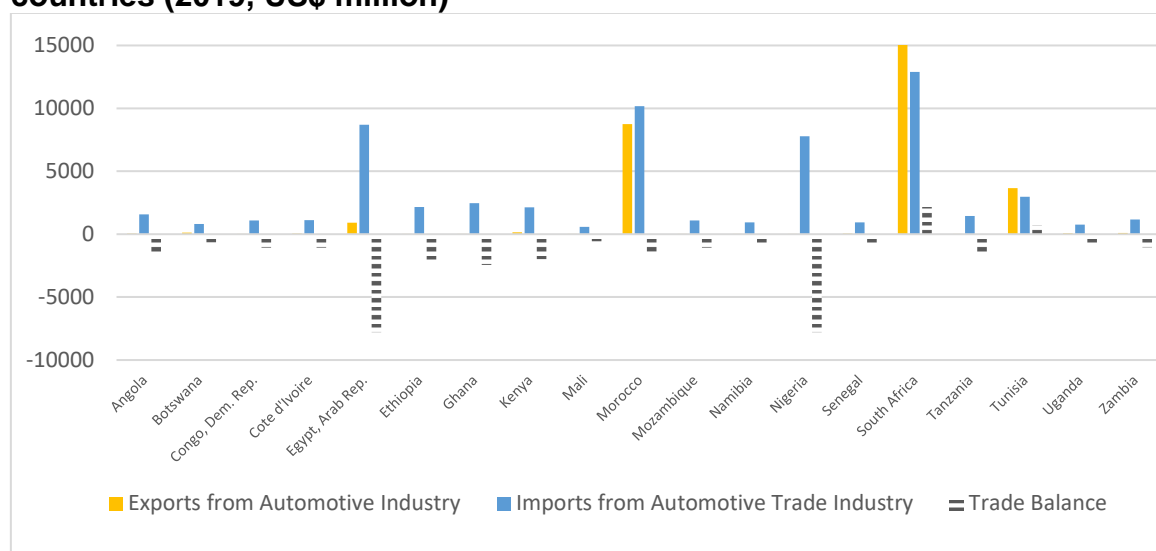
South Africa and Morocco were the two largest exporters and importers. In fact, over 80% of exports in the industry in our sample came from Morocco and South Africa in 2019.¹⁴ On the other hand, Morocco and South Africa only accounted for about 30% of total imports. In terms of balance of trade, South Africa and Tunisia were the only countries in the sample to display a trade surplus within the sector. Others like Egypt, and Nigeria ran considerable trade deficits in 2019 both valued at US\$7.79 billion (Figure 1).

¹² <https://www.mordorintelligence.com/industry-reports/africa-automotive-industry-outlook>

¹³ <https://oecd-development-matters.org/2022/02/28/can-the-african-continental-free-trade-area-afcfta-drive-africas-automotive-industry/>

¹⁴ Data for the year 2019 was chosen because it is the last year before the pandemic for which data were available.

Figure 1 Global automotive exports and imports for selected African countries (2019, US\$ million)

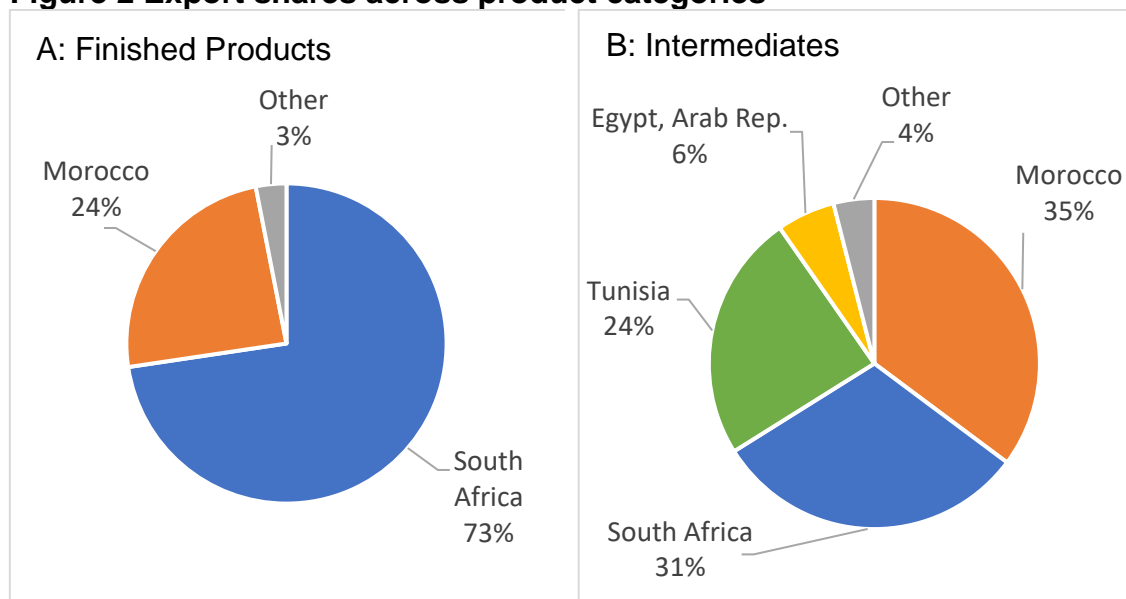


Source: WITS database

HS-4 2012 codes included in automotive industry in this report (note these codes only include intermediate and finished products): 7007, 7009, 8301, 8302, 8707, 8708, 9401, 4009, 6813, 7318, 7320, 8421, 8482, 8708, 8414, 8415, 8501, 8507, 8511, 8512, 8519, 8525, 8527, 8531, 8536, 8539, 8544, 9029, 9104, 4010, 4016, 8407, 8408, 8409, 8413, 8414, 8421, 8483, 3819, 3820, 4016, 7315, 8301, 8425, 8426, 8708, 8716, 4011, 4012, 4013, 8701, 8702, 8703, 8704, 8705, 8711

Trading intermediate products generally leads to a lower trade value than trading finished automotive products, however exports of both finished products and intermediates from the African continent are dominated by Morocco and South Africa. In total, exports of finished products were valued at US\$14.8 billion, while intermediate products were valued at US\$15 billion. Figure 2 shows the source of exports of these two product groups, highlighting the dominance of Morocco and South Africa, particularly in the export of finished automotive products. The export of intermediates is more diversified.

Figure 2 Export shares across product categories



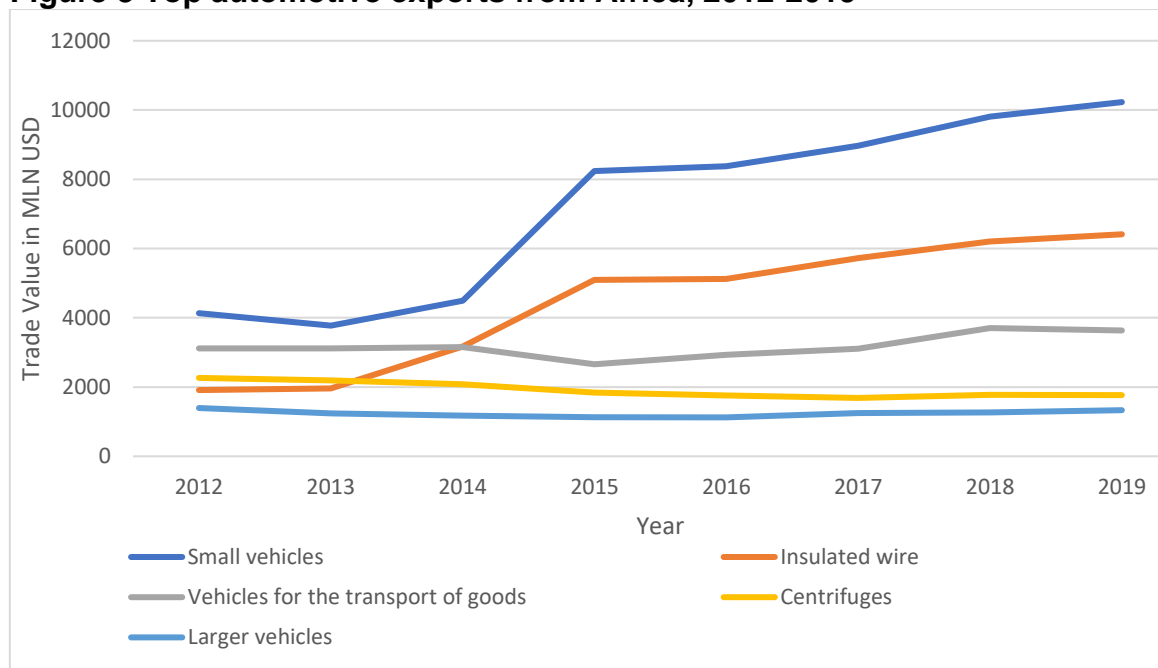
Note: Finished Product HS-4 2012 codes: 8701, 8702, 8703, 8704, 8705, 8711
 Intermediate Product HS-4 2012 codes: 7007, 7009, 8301, 8302, 8707, 8708, 9401, 4009, 6813, 7318, 7320, 8421, 8482, 8708, 8414, 8415, 8501, 8507, 8511, 8512, 8519, 8525, 8527, 8531, 8536, 8539, 8544, 9029, 9104, 4010, 4016, 8407, 8408, 8409, 8413, 8414, 8421, 8483, 3819, 3820, 4016, 7315, 8301, 8425, 8426, 8708, 8716, 4011, 4012, 4013.
 Source: Authors' compilation based on WITS.

Overall, the pandemic decreased global automotive exports from the African continent by approximately 25%, to US\$21.8 billion in 2020 with major declines in both finished products and intermediates.

Before the pandemic in 2019, the top export products were vehicles (for less than 10 people - product group 8703), insulated wire (product group 8544)¹⁵, vehicles for the transport of goods (product group 8704), centrifuges (product group 8421)¹⁶ and larger vehicles for ten or more people (product group 8708). Together these five product groups accounted for exports of US\$23.4 billion. Figure 3 shows how the export value of these products has changed since 2012. While the export value of vehicles for the transport of goods, centrifuges and larger vehicles has remained relatively stable, the export value of insulated wire increased by over 300% since 2012 to US\$6.4 billion in 2019. Similarly, the export value of small motor vehicles increased by almost 250% from 2012 to US\$10.2 billion in 2019. Over the past year, exports of insulated wire had a growth rate of 3.3% while small vehicles (vehicles for less than 10 people) grew at 4.2%. These values are for African exports to the global market, further analysis that distinguishes between intra- and extra-African imports and exports follows below.

¹⁵ This refers mainly to wiring harnesses.
¹⁶ This refers mainly to catalytic converters.

Figure 3 Top automotive exports from Africa, 2012-2019



Source: Author's compilation based on WITS

As Figure 3 indicates, over the past years many product groups have gone through significant changes in terms of their trade patterns. At the product level, a number of other features are worth noting. Imports of motorcycles into Africa increased by 738% from 2012 to 2019, with Africa being a major global importer. Trade within Africa in motorcycles also grew rapidly with imports rising by 316% over the period but this was from a low base.

Extra-African exports of large motor vehicles grew very rapidly from 2012-2019 as did bodies for motor vehicles which grew by 805% over the period. Although not among the current top exports, motorcycles have been identified as a potential opportunity for emerging African automotive producers as they are significantly easier to assemble than larger motor vehicles and the market is already substantial (Barnes et al, 2021).

Import values across the value chain were much higher than exports throughout the period of 2017-2019 for all the countries in the sample except South Africa and Tunisia (Figure 1). According to the latest data available before the pandemic, the largest importers were South Africa (US\$12.9 billion), Morocco (US\$10.2 billion), Egypt (US\$8.7 billion) and Nigeria (US\$7.8 billion). Unsurprisingly, finished motor vehicles, including vehicles for less than 10 people (product group 8703), vehicles for the transport of goods (product group 8704) and larger vehicles for ten or more people (product group 8708) were consistently the largest imports since 2014. Together these product groups were valued at US\$27.8 billion in 2014 and US\$27.1 billion in 2019. Continuing down the value chain, insulated wire (product group 8544) and rubber tyres

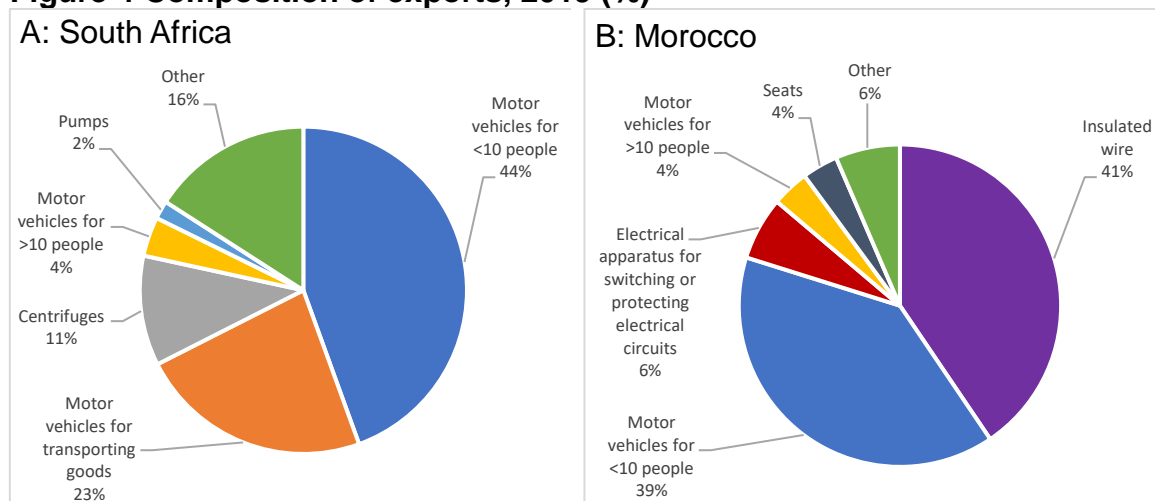
(product group 4011) were the largest intermediate imports, valued together at US\$5.7 billion in 2014 growing to US\$7.1 billion in 2019.

In 2019, South Africa, Nigeria, Egypt and Morocco imported US\$11.1 billion worth of motor vehicles for less than 10 people. Additionally, Morocco, South Africa, and Egypt jointly imported US\$2.1 billion worth insulated wire and US\$1.5 billion worth rubber tyres.

As previously mentioned, South Africa and Morocco are the two largest exporters from the African continent. Both countries restrict used car imports, while in most other countries in Africa, importing used cars is well accepted. South Africa’s MIDP and APDP have proved successful due to their consistency and long-term vision to increase export competitiveness. On the other hand, Morocco has succeeded as an automotive exporter, by integrating into the European Union and attracting large scale investments in modern assembly plants.¹⁷

Figure 4a and 4b below show the composition of exports from South Africa and Morocco. Insulated wire and Motor vehicles for less than 10 people accounted for 80% of Moroccan exports, while the South African export basket was slightly more diversified, with motor vehicles for less than 10 people and motor vehicles for transporting goods comprising only 67% of total automotive exports. As seen in Figure 4a centrifuges and motor vehicles for more than 10 people account for an additional 15% of the South African export basket.

Figure 4 Composition of exports, 2019 (%)



Source: Author’s compilation based on WITS

In 2019, the 10 largest destinations for automotive exports from the African continent were Germany, France, Spain, the United Kingdom, Belgium, Italy, the United States, Namibia, Botswana and Japan. In total US\$6.6 billion worth of automotive products (both finished and intermediate) were exported by African countries to Germany, led

¹⁷ <https://oecd-development-matters.org/2022/02/28/can-the-african-continental-free-trade-area-afcfta-drive-africas-automotive-industry/>

by exports from South Africa (75%). Of the US\$6.6 billion exported to Germany, US\$4.4 billion (two thirds) was finished automotive products while only US\$2.2 billion (one third) consisted of intermediates. Automotive exports to France were valued at US\$4.3 billion and were led by Morocco (64%). Table 4 describes the top exporting destinations (globally and within the African continent) as well as the top exported automobile product for selected countries from the sample. For over half of the selected countries, the top export destination is within the African continent.

Table 4 Top export destinations and product in the automotive industry (2019)

Country	Main export destination globally	Main export destination in Africa	Main exported product globally (and Africa)
Angola	Norway	Congo, Dem. Rep.	Insulated wire
Botswana	South Africa	South Africa	Insulated wire
Congo, Dem. Rep.	Uganda	Uganda	Small motor vehicles ¹
Cote d'Ivoire	France	Burkina Faso	Motor vehicles for goods
Egypt	United Kingdom	Morocco	Insulated wire
Ethiopia	Djibouti	Djibouti	Motor vehicles for goods
Ghana	Egypt	Egypt	Ball or roller bearings
Kenya	Tanzania	Tanzania	Electric accumulator
Mali	United States	Burkina Faso	Motor vehicles for goods
Morocco	France	Egypt	Insulated wire
Mozambique	South Africa	South Africa	Tractors
Namibia	South Africa	South Africa	Piston engine ²
Nigeria	United Kingdom	Ghana	Pulley tackle and hoists
Senegal	Burkina Faso	Burkina Faso	Motor vehicles for goods
South Africa	Germany	Namibia	Small motor vehicles ¹
Tanzania	Kenya	Kenya	Vehicle bodies
Tunisia	France	Algeria	Insulated wire
Uganda	South Sudan	South Sudan	Small motor vehicles ¹
Zambia	Congo, Dem. Rep.	Congo, Dem. Rep.	Insulated wire

Note: Export volumes are very low except from South Africa, Morocco and Tunisia

1. Small motor vehicle = motor vehicle for less than 10 people.

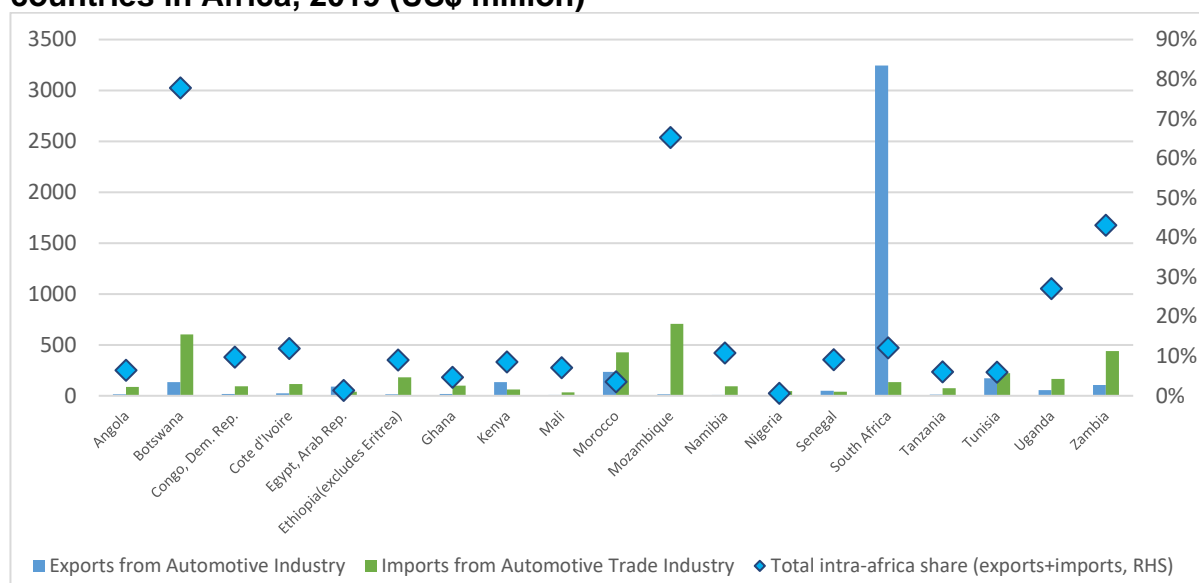
2. Piston engine = Compression-ignition internal combustion piston engine "diesel or semi-diesel engine"

Source: Authors' compilation using WITS

4.2 Regional trade and regional value chains

On the continent, US\$4.5 billion or about 15% of total trade in the automotive industry was destined for other African countries (termed as intra-Africa trade). However, as seen in Figure 5, intra- Africa trade shares were variable across countries. For instance, it was the highest for Botswana (78%), Mozambique (65%), Zambia (43%) and Uganda (27%), all of which, primarily traded with South Africa, explaining the latter's large regional exports of US\$3.2 billion. South Africa, Kenya, Egypt and Senegal displayed a trade surplus of US\$3.1 billion, US\$72 million, US\$49 million and US\$ 12 million, respectively. All other selected countries displayed a trade deficit, the largest of which were experienced by Mozambique, Botswana and Zambia, amounting to US\$694 million, US\$467 million and US\$333 million respectively.

Figure 5 Intra-African exports and imports in automotive industry for selected countries in Africa, 2019 (US\$ million)

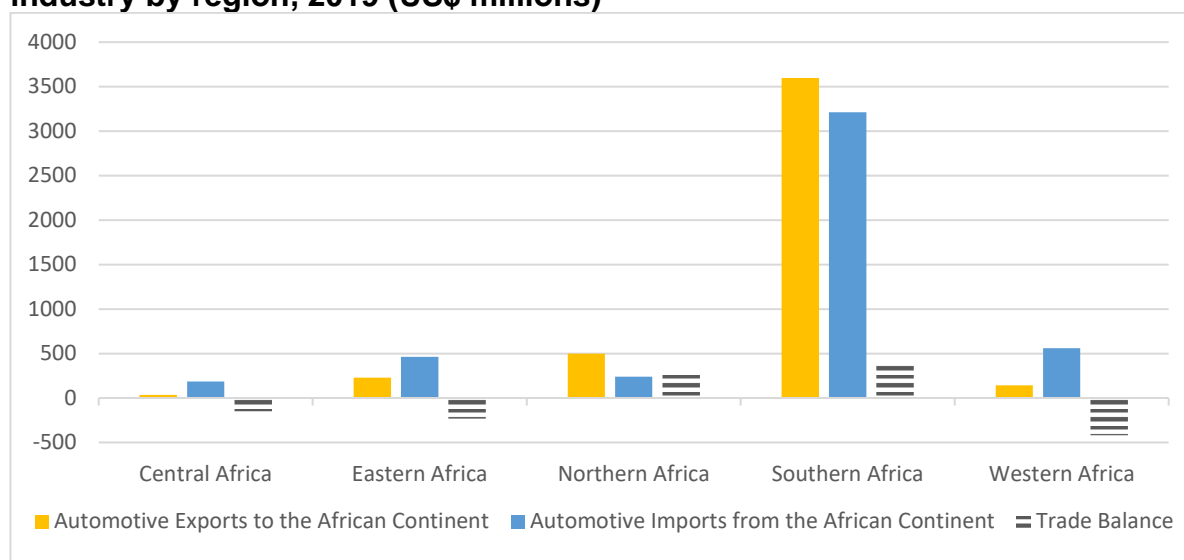


Source: Author's compilation based on WITS

Of the US\$4.5 billion exports of intra-African trade that occurred in 2019, US\$2.6 billion (around 60%) can be attributed to intermediate products and the remaining US\$1.9 billion (40%) was finished products. While global exports from the African continent were split almost equally between intermediates and finished products, we see that intra-African trade is dominated slightly by intermediate products. In 2019, the top products for intra-African trade were vehicles for the transport of goods (product group 8704) at US\$981 million, vehicles for less than 10 people (product group 8703) at US\$618 million and insulated wire (product group 8544) at US\$394 million. All three of these product groups are also top global trade products.

Within the continent there are also further differences by region. Here we consider five different regions as defined by the AU: Central, Eastern, Northern, Southern and Western. Figure 6 indicates the amount exported to and imported from the African continent by each region in the automotive industry in 2019. It shows how Southern Africa was the largest importer and exporter by a very large margin, exporting US\$3.6 billion and importing US\$3.2 billion. Additionally, we see that only Southern Africa and North Africa ran trade surpluses, while Central, Eastern and Western Africa had trade deficits with the continent.

Figure 6 Exports and imports with the African Continent in Automotive industry by region, 2019 (US\$ millions)



Source: WITS database

Table 5 indicates the largest exporters and importers of automotive goods within each region as well as the top exported product and top imported product to or from the African continent. In central Africa the Democratic Republic of Congo is both the largest importer and exporter. In eastern Africa, Kenya is the largest exporter, while Tanzania is the largest importer. Kenya’s export dominance can be explained by the fact that the country is the most industrialised in the region and has provided supportive policies. Additionally, the Kenyan government has imposed tariffs on imported auto components in order to stimulate local manufacturing. Despite the fact that the Tanzanian government has imposed tariffs on cars assembled in Kenya, Tanzania is the main importer in eastern Africa.¹⁸ Unsurprisingly, Morocco is the dominant northern Africa exporter and South Africa is the dominant southern Africa exporter. Recalling that western Africa had a trade deficit of US\$ 418 million, we see that Senegal is the largest exporter, while Ghana is the largest importer.

¹⁸ [Exporting automobiles to Africa: Incentives & Challenges - Africa Business Pages \(africa-business.com\)](https://africa-business.com)

Table 5 Top importer, exporter and products in the automotive industry by region (2019)

Region	Main exporter	Main importer	Main exported product	Main imported product
Central	DR Congo	DR Congo	Small motor vehicles ¹	Pumps for liquids ²
Eastern	Kenya	Tanzania	Motor vehicles for goods	Motor vehicles for goods
Northern	Morocco	Egypt	Insulated wire	Small motor vehicles ¹
Southern	South Africa	Namibia	Motor vehicles for goods	Motor vehicles for goods
Western	Senegal	Ghana	Motor vehicles for goods	Motor vehicles for goods

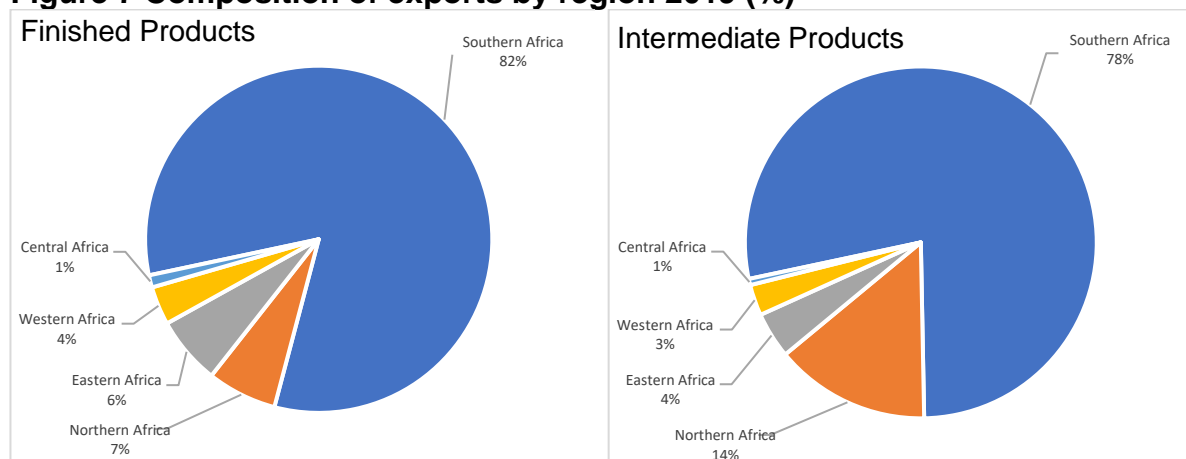
Note: 1. Motor vehicle for less than 10 people.

2. Pumps for liquids, whether or not fitted with a measuring device; liquid elevators.

Source: Author’s compilation using WITS

Figure 7 displays the breakdown of exports of both finished and intermediate products by region. It shows that, dominated by South African trade, southern Africa is the dominant region for exports of both finished products and intermediate products. In 2019 southern Africa exported US\$1.5 billion worth of finished automotive products and US\$2.0 billion worth of intermediate products. North Africa is the second largest exporter of both product groups, with a moderately larger stake in the export of intermediate products. North Africa exported US\$120 million worth of finished products and US\$379 million worth of intermediate products in 2019.

Figure 7 Composition of exports by region 2019 (%)



Source: Author’s compilation based on WITS

5 Constraints to production and export capacity

5.1 Market size

Market size poses a major constraint for three reasons. Firstly, the market is simply too small due to low income levels across the continent. But if continental growth rates of 5% are achieved, vehicles sales growth of 7-8% per annum could be expected due to the rapid expansion of the middle class. Secondly the division of the continental market into very small national markets is a binding constraint. Regional integration could change this. The third issue, that of used car imports presents a particularly intractable challenge (see section 5.3).

Vehicle finance is a constraint on market expansion. Lending rates are very high. For example, the commercial bank prime lending rate in Ghana in 2018 was 29.3% resulting in only 5% of new car sales being financed by banks. This compares to 90% in South Africa. Measures to promote market expansion can include new car bonus schemes, credit guarantees or lower than market interest rates (Boston Consulting Group, 2021). There is, however, little rationale to use regulation or state resources directly or indirectly to boost car ownership in low or middle income countries especially for products which, if not imported, have high imported content.

5.2 Trade Infrastructure and cross border issues

Infrastructure, including transport and utilities, remains a significant barrier to trade across Africa. Apart from the most developed automotive industries in the continent¹⁹, the automotive sector across the remainder of the continent is relatively small and isolated. A large number of countries are landlocked and not well connected to either neighbours or larger automotive purchasing hubs (Barnes et al. 2021) which means that exports will likely face additional transaction costs for vehicle transportation (Industriall, 2021) as well as additional time for vehicles to reach their consumer markets. The road transport infrastructure is relatively limited and is often geared towards the extractive industries, whereas water and electricity provision continue to suffer from interruptions and high costs (Markowitz & Black, 2019).

5.3 Used cars

A significant roadblock towards scaling up production and trade of cars across Africa is the used car market. This is a complex policy issue which applies not only to vehicles

¹⁹ Morocco, Algeria, Tunisia, Egypt and South Africa

but to a host of other products such as clothing and consumer electronics. As a late industrialising region, Africa faces difficult choices between local industrialisation and cheap used imports.

Africa is the largest global destination for exported used cars, with estimates suggesting that the value of used vehicle exports to Africa was approximately US\$ 19 billion in 2019 (Ayetor et al. 2021). UNEP (2020) estimates suggest that 70% of exported used light vehicles head to developing countries, of these 40% are destined for Africa. The continent, therefore, is estimated to import just under a third of all globally exported used cars. Whilst there are significant variations across countries, for example used cars account for 97% of all new vehicle registrations in Kenya but 0% in South Africa, on average used cars account for 60% of new registrations on the continent. In terms of magnitude of imports from the three largest used car exporters²⁰, UNEP (2020) identifies Nigeria as the largest import market accounting for 16% of total African used vehicle imports, followed by Libya (11%), Tanzania (9%), Guinea (6%) and Ghana (5%).

Given limited personal income and the higher cost of new vehicles, used cars are a cheaper (and more attractive) solution for African consumers pricing out new vehicles (Deloitte, 2018). As a result, it might be viable for an average person to own a car that was unthinkable before due to high costs. In a way, importing used cars is pro-poor and any restrictions to ban their imports would reduce this access. For instance, importing a new vehicle from the USA would cost, on average, US\$ 24,000 whereas the average cost of a second-hand vehicle imported from the USA is US\$ 11,000 (Coffin et al., 2016). On the other hand, vehicle ownership, even of used cars, is mainly restricted to the middle class in low or even middle income countries. Similar issues apply in the case of commercial vehicles. The increasing demand for used minibuses and vans imported from abroad are “changing people’s lives in Africa” (UNEP, 2020a). The case for the import of used commercial vehicles may be stronger because this could help bring down transport costs for low income commuters as well as reduce the costs of doing business. Lower labour costs in Africa mean that repairing used vehicles is relatively cheap, which significantly extends the life of used vehicles (Coffin et al, 2016).

Legislation on the import of used vehicles in Africa varies (Table 6), most countries (47%) have opted for placing no restriction on the import of used vehicles, 43% have placed age restrictions, whilst 10% have imposed a total ban on importing used vehicles.

²⁰ USA, EU and Japan

Table 6 Restrictions to import of used vehicles across Africa, by region

Region	Complete Ban	Age Restriction (years)	No Restriction
North Africa	Algeria, Egypt, Morocco Sudan	Tunisia (5 years)	
East Africa		Eritrea (10 years) Kenya (8 years) Mauritius (3 years) Seychelles (3 years)	Djibouti, Burundi, Comoros, Ethiopia Madagascar Rwanda, Somalia South Sudan Tanzania, Uganda
West Africa		Benin (10 years) Guinea (8 years) Liberia (12 years) Mauritania (8 years) Nigeria (15 years) Senegal (8 years)	Burkina Faso Cape Verde Gambia, Ghana Guinea Bissau Ivory Coast, Mali Sierra Leone, Togo
C. Africa		Cameroon (7 years) Chad (3 years) DRC (10 years) Gabon (4 years) Rep. Congo (7 years)	Central African Rep. Equatorial Guinea
Southern Africa	South Africa	Angola (3 years) Botswana (100000 km max) Eswatini (15 years) Lesotho (8 years) Mozambique (5 years) Namibia (8 years)	Malawi Zambia Zimbabwe

Source: FIA (2020)

5.4 Skills, technical and quality standards

There is also a significant skills constraint that needs to be overcome to enable at-scale production of vehicles in Africa. Availability of adequate skills within the automotive industry is limited and unevenly distributed across the working population on the continent (Industrial, 2020).

Markowitz & Black (2019) cite the example of delays caused by a shortage of skills in an automotive component manufacturing plant in Botswana, as problems occurred, experts had to be flown in from South Africa.

5.5 Unbalanced trade – political economy issues

As in all regional integration arrangements, there is the problem that new activity tends to cluster in defined locations leading to winners and losers (Byiers et al, 2018). This is the case for manufacturing as a whole but, of course, applies even more at the

sectoral level. The automotive industry offers a textbook case of these difficulties. In a completely integrated region, the automotive industry is likely to cluster in a few locations across the continent. There is some scope for suppliers to be more dispersed but here too, there is a tendency to locate close to assembly plants. For countries with some SKD assembly, there will be pressure to protect these small-scale assembly operations. For countries with little or no automotive industrial activity, there will be reluctance to forego free importation of automotive products (including used vehicles) from outside the regional bloc.

In some other regional formations, the auto sector played a leading role in driving regional integration. This was the case in ASEAN where foreign multinational firms especially from Japan were strong proponents and special arrangements were made for the auto sector. In Mercosur, the auto industry was also central. Elaborate production sharing arrangements were established with mixed results. The situation in Africa is very different.

The implication is that negotiating an automotive trade deal is very difficult in the African context. While potential hub countries may easily agree, there is little motivation for small countries to give up privileges of importing used vehicles. Even in countries with real assembly prospects, restricting imports has proven very difficult. For example, Ghana adopted policies to restrict used cars but then suspended them due to pressure from importers (Boston Consulting Group, 2021). In fact, it may be counter-productive, to try and make a case that the continental gains in automotive production can somehow be widely spread. Regional integration requires regional sectoral specialisation and intraregional trade.

6 Using AfCFTA provisions to develop Regional Value Chains

6.1 Attracting assembly

Developing the automotive industry in the first place means attracting investment in assembly. Of course, a standalone component supply base can develop but this is likely be much more limited. As pointed out in section 3.6, assembly investments have to be at a reasonable level of scale to attract investment in the supply chain.

The AfCFTA potentially offers an expanded regional market. For the reasons discussed above, it would also be important that RoO limit the importation of close to fully manufactured (SKD) vehicles.

6.1.1 An Auto Pact?

The AAAM has carried out very significant work on the sector and is promoting a pan-African Auto Pact. The proposal has gained considerable traction among a number of leading auto producing countries on the continent. The idea is to encourage specialisation and economies of scale across the continent with TRIMS arrangements enabling participant country industries to rebate duties on product imported from other participant countries²¹. It does allow for SKD in the initial stages but this would be under strict conditions with upgrading to CKD required within specified time frames.

6.2. Deepening the supply chain

As mentioned previously, the heart of the industry lies in the component sector. In turn, this requires large scale assembly plants to justify investment in significant domestic content. The AfCFTA creates the possibility for this to happen through expanded assembly across the continent (Stuart, 2022). The continuing proliferation of SKD plants, as is happening in some countries, would on the other hand, represent a retrogressive development. These plants use little or no domestic content and require minimal value addition in assembly either.

The 'hub and spoke' model developed by the AAAM argues that assembly in 'hub' economies could be supplied by 'spoke' economies i.e. surrounding countries. The advantage is that the gains of the automotive industry would be spread. However, in the short term this is not really a feasible proposition given the tendency of the industry to cluster in closely defined locations. Even Lesotho, which is well located in relation

²¹ Interview, Alec Erwin, AAAM.

to South Africa's three assembly hubs (Gauteng, KwaZulu-Natal and the Eastern Cape) has battled to attract investment by suppliers (Black, 2017).

6.3 Aftermarket parts

Aftermarket (or replacement) parts are produced in a large number of countries albeit in limited volumes, in most cases. Clusters have developed even in countries without major assembly but with large imported used vehicle populations. Examples include the Suame cluster in Ghana (Adeya, 2008) and Nnewi in Nigeria (Abiola, 2008). A constraint is that the wide variety of imported vehicles means that there is a very large range of parts required apart from standard, generic parts. This limits the possibilities for achieving economic scale in production. This industry does provide a basis for original equipment (OE) component supply and would, of course, benefit from expanded assembly on the continent.

6.4 Motorcycles

Parts of Africa (mainly west, east and north Africa) have large markets for motorcycles. This may represent an important development opportunity within the broader automotive sector. Currently there is some small-scale assembly of motorcycles with minimal use of domestically produced parts. The sector has three potential advantages with respect to vehicle production. First, the market is already quite large in relation to optimal scale. In 2015, Africa imported motorcycles to the value of \$1.86 billion representing 9.9% of global imports. Nigeria alone imported motorcycles to the value of motorcycles worth \$447 million, equivalent to 2.4% of total global imports. A second factor is that the technology requirements are relatively low in comparison to vehicles. Motorcycles provided a starting point for the automotive industry in a number of Asian countries. Third, used imports are much less of a factor. This greatly facilitates the possibilities and limits the costs of providing some protection to local industry. But there is no doubt that protection would be required in order to enable new producers to compete with low-cost Asian imports. Internal free trade within the continent, a fairly low common external tariff and some protection for parts could lay the ground for large scale assembly and, even more importantly, for the development of a regional supply base under the AfCFTA. The potential exists to attract a large scale investment in motor cycle production as Morocco has done in the case of passenger vehicles. This may require modest but well-designed incentives. The benefits of large scale production lie in the associated possibilities for extensive localisation of the supply chain.

6.5 Electric Vehicles

Demand for electric vehicles (EVs) is growing exponentially. A number of developed countries plan to ban internal combustion engine (ICE) vehicle sales by as early as 2035. In Africa, the level of penetration for electric vehicles is very low. In South Africa, for instance, EV sales make up less than 1% of sales. The advent of electric vehicles may offer opportunities as well with lower scale requirements. Optimal scale production for EVs appears to be lower than for ICE vehicles and this partly accounts

for the large number of new entrants into the industry, especially in China but also in other developing countries. In Africa, there are also lower sunk investments in ICE drive train production so the continent can avoid the huge restructuring costs facing large scale producer countries.

Policies are being developed in major markets such as South Africa but there is understandably a reluctance to provide incentives for products which are going to be bought by higher income consumers. Major producer countries face important decisions around managing the transition. In Morocco, decisions will be made by multinational producers with an eye on their major market, the EU. But the secondary north African and Middle Eastern market are lagging with EV uptake which creates a potential problem. The same issue arises in South Africa whose main export market is also Europe, albeit with a higher percentage of domestic, rest of Africa and rest of world sales. In most other countries where ownership rates are low and there is reliance on high levels of importation, there is little pressure on policy makers to rapidly develop policy for this sector.

The sector could benefit from an uptake in electric vehicles by the public transportation network. For instance, the Government of India has sanctioned approximately six thousand e-buses to promote faster, early adoption and manufacturing of EVs under the FAME I (2015) and FAME II (2019) schemes. The central government has also approved a subsidy of US\$486 million to support their further adoption (Laemel, 2021). The government stepped in to fill the gap in demand left by the private sector due to high upfront costs, poor financing resources, and lack of charging infrastructure. This early stage domestic adoption and electrification of public transport network is likely to boost local manufacturing of battery cells and packs, electric motors, and other components along the EV supply chain. It will also provide an opportunity to move to low-carbon urban development, create jobs, and increase acceptance of EVs by the public. Another successful example can be seen in the city of Shenzhen in China with the world's first and largest fully electric bus and taxi fleets (World Bank, 2021).

Motorcycles are discussed in section 6.4 above. In parts of Asia, most notably China, there is a huge and growing market for electric two wheelers. In fact, in China with 250-300 million electric two wheelers on the road, the electric transition has already happened. This has been driven by strong supportive policies not least the prohibition of ICE two wheelers in many Chinese cities. India and other Asian countries are now promoting the sector as well. Electric three wheelers are increasingly being used as a low cost means of public transport in Asian countries. There are three key considerations for policy makers here – reducing urban air pollution and CO₂ emissions, limiting oil imports and also developing electric vehicle technology. But electric two wheelers are very competitive in any event. Many of Africa's large cities are highly polluted and electric two wheelers may offer an opportunity to leapfrog to new technology, where the technology is simpler than for ICE based vehicles. A further advantage is that Africa lacks large scale investment in ICE technology and therefore can avoid the costs associated with stranded assets.

7 Policy Implications and the way ahead

When it comes to regional integration, the automotive sector is an extreme case, offering both huge gains but also posing major challenges. These relate to the need for some protection for assembly and parts manufacture and the associated costs of protection. Growth on the basis of regional integration is likely to result in wide regional disparities in investment and industrial development.

Simple, transparent, predictable, and trade-facilitating rules are critical features of cost-effective AfCFTA RoO (UNCTAD, 2019, Tsowou & Davis, 2021). Additionally, no matter how low tariffs are under the AfCFTA, if RoO compliance costs are excessively high, manufacturers will likely import inputs from non-AfCFTA markets. The high trade-facilitation burdens across Africa often amplify these costs.

RoO partly reflect the protectionist influence of domestic industrial concerns in the larger economies. RoO approaches need to consider the level of development of all economies participating in the African automotive industry and accommodate various levels of industrial development of member states involved in the manufacturing and assembling of automobiles. A complex issue is that of SKD assembly and transitional arrangements to CKD.

As current productive capacities seem insufficient to build a regional vehicles industry, overly strict rules of origin will hinder access to inputs and productive capacities in the long term, especially for emerging markets, and may hamper the creation of value chains (UNCTAD, 2019). Building regional value chains and attracting additional investment require robust cooperation and harmonized investment policies. For automotive value chains, issues such as the import of used cars, tax agreements and investment incentives will need to be addressed at the regional level. (UNCTAD, 2021)

RoO are there to ensure that a good is eligible for preferential treatment, and to avoid exports from third countries entering the region through the country with the lowest tariff (trade deflection). Policy makers must find a balance between minimising trade deflection (by maintaining barriers to, unfair, competition) and promoting trade through ease of compliance and use. RoO need to be kept simple, flexible and at 'reasonable' levels. Such levels must take into account the typical value-added to this sector by African producers, which in South Africa, home to one of the two most advanced industries, is at 35%.

A two-tier differential RoO regime could be considered for Africa but the large number of countries complicates this option. Following the example of other developing-country PTAs such as MERCOSUR, the Andean Community and LAIA, lesser developed countries could be allowed more leniency in terms of a lower level of originating content and the allowance of incentives such as duty drawbacks. Regional blocs such as the EU have successfully used such differential regimes to assist former relatively less developed members such as Ireland and Portugal.

Adopting such an approach could lead to economic gains for existing producers and those wishing to enter the sector. The reigning level of tariffs in this sector in Africa are quite high. This implies that, under the AfCFTA's free trade regime, meaningful preference margins could be established for PTA members, giving their intra-African exports a competitive advantage over those originating in the rest of the world. This could also incentivise vehicle producers to establish local assembly operations in African countries, to take advantage of these preference margins. It would be necessary to ensure that the effective rate of protection in the sector is positive but not excessive. Since the AfCFTA is a free trade area and not a customs union with a common external tariff, this would be achieved through the RoO regime.

Finally, the relationship between the RoO, tariff regime and industrial policy is very important. The AfCFTA has been touted not just as a preferential trade arrangement, but also as a potential vehicle for continental re-industrialisation. Indeed, at the AfCFTA Council of Ministers meeting on the 28-29 January 2022, the delegates specifically addressed the automotive sector and its potential for value-chain driven industrialisation on the continent²². Furthermore, the council noted that a \$1 billion financial facility had been made available by Afreximbank, dedicated to the automotive sector value chain.

There is clearly ample potential for automotive sector value-chain driven industrialisation under the AfCFTA and within a policy regime that takes into account the need for an appropriate RoO policy, (external) tariff policy and regional industrial policy. Getting this regime right is not enough however, because industrialisation will also depend on infrastructure, investment, human capital and skills and the general policy environment. These areas should therefore not be neglected in designing holistic policies at the national and regional level, to actuate intra-African trade and integration.

²² <https://www.tralac.org/blog/article/15550-what-needs-to-be-done-to-begin-commercially-meaningful-trade-under-the-afcfta.html>

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