THE POTENTIAL FOR REGIONAL VALUE CHAINS IN THE AUTOMOTIVE SECTOR: CAN SADC LEARN FROM THE ASEAN EXPERIENCE?

CHELSEA MARKOWITZ
SOUTH AFRICAN INSTITUTE OF INTERNATIONAL AFFAIRS

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ABSTRACT

The Association of Southeast Asian Nations (ASEAN) Industrialisation Cooperation (AICO) scheme created an opportunity for both foreign investors in the ASEAN region and member states to benefit from the regional free flow of goods in support of regional industrial development. The scheme played an important role in the development of a strong automotive sector in the ASEAN region, and lessons can be learned from its implementation.

Despite the fact that the middle class in Southern Africa is growing, vehicle ownership is still minimal. It is thus appropriate to examine the prospects for a similar scheme within SADC. South Africa has by far the most developed automotive sector in the region, while Zimbabwe and Botswana are both attempting to build up their industries and Mozambique is beginning to receive foreign direct investment. Due to South Africa’s automotive dominance, regional integration has not expanded much beyond its exporting components and vehicles to other countries in the region. There is also an emerging trend of South African companies’ shifting production of certain components to other Southern African Customs Union (SACU) countries.

Additionally, insufficient regional market demand for new vehicles prevents the realisation of economies of scale in production, and manufacturing in SADC is not very competitive due to infrastructure bottlenecks and labour market constraints. The effective implementation of a regional Common Effective Preferential Tariff and even enforcement of the existing SADC and SACU Rules of Origin are hampered by the low levels of local value addition.

Despite these barriers, there are measures that SADC, South Africa and private investors can take and are taking to enhance the prospects of regional automotive integration. South Africa and interested investors can assist in transferring skills and technology to the region to make labour more competitive, and in capacitating small and medium enterprises to enter potential value chains. Additionally, South Africa can advise other SADC countries on how to develop their own components and assembly operations to be more competitive. As regional automobile demand continues to grow, these initiatives could facilitate the realisation of an AICO-like scheme in SADC. This paper will examine AICO’s utilisation, challenges and successes in order to derive lessons for SADC, as well as the prospects of regional automotive integration.

ABOUT THE AUTHOR

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**ABBREVIATIONS AND ACRONYMS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAAM</td>
<td>African Association of Automotive Manufacturers</td>
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<td>AFTA</td>
<td>ASEAN Free Trade Agreement</td>
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<td>AICO</td>
<td>ASEAN Industrialisation Cooperation</td>
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<td>AIS</td>
<td>Automotive Investment Scheme</td>
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<td>APDP</td>
<td>Automotive Production and Development Programme</td>
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<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<tr>
<td>BLNS</td>
<td>Botswana Lesotho Namibia Swaziland</td>
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<tr>
<td>CBU</td>
<td>Completely Built Unit</td>
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<td>CEPT</td>
<td>Common Effective Preferential Tariff</td>
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<td>CKD</td>
<td>Completely Knocked Down</td>
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<tr>
<td>dti</td>
<td>Department of Trade and Industry</td>
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<td>FDI</td>
<td>foreign direct investment</td>
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<td>MIDP</td>
<td>Motor Industry Development Programme</td>
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<td>NAACAM</td>
<td>National Association of Automotive Component and Allied Manufacturers</td>
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<td>NAAMSA</td>
<td>National Association of Automobile Manufacturers of South Africa</td>
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<td>NAIDP</td>
<td>New Automotive Industry Development Plan</td>
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<td>OEM</td>
<td>original equipment manufacturer</td>
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<td>PRCC</td>
<td>Production Rebate Credit Certificate</td>
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<td>SABF</td>
<td>Southern African Business Forum</td>
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<td>SACU</td>
<td>Southern African Customs Union</td>
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<tr>
<td>SMEs</td>
<td>small and medium enterprises</td>
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<td>WMMI</td>
<td>Willowvale Mazda Motor Industries</td>
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EXAMINING AICO

OVERVIEW

The Association of Southeast Asian Nations (ASEAN) Industrialisation Cooperation (AICO) scheme was initiated in 1996 in order to facilitate the eventual full implementation of a Common Effective Preferential Tariff (CEPT) for the ASEAN Free Trade Area (AFTA), with the ultimate goal of enabling the free movement of goods within the ASEAN region.1

Under the AICO scheme, two different businesses operating in two different ASEAN countries2 could form an ‘AICO arrangement’ by lodging an application with the ASEAN Secretariat. The terms were later amended to allow different divisions of the same company to enter into an arrangement in two different countries. The main advantage of an AICO arrangement was that the participating companies received preferential AFTA tariff rates of 0–5% for raw, intermediate and finished goods (although some products deemed sensitive by the relevant national governments were excluded from the arrangement) before the AFTA rates were fully realised for all trade. The arrangement also required the companies to engage in industrial complementation,3 industrial co-operation and/or resource sharing for the benefit of the host countries. The products enjoying the preferential tariff were required to have at least 40% ASEAN content and the companies were required to have at least 30% national equity.4

The scheme was mainly utilised by Japanese automotive companies, and to a much lesser extent by electronics manufacturers and agro-processors. In total, 129 AICO agreements were formed, 116 of which were in the automotive sector (primarily in the form of Completely Knocked Down [CKD] kits).5 Foreign investors utilising the scheme often produced a particular vehicle model in one country to export to the whole region and, less

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1 The Common Effective Preferential Tariff (CEPT) for the Association of Southeast Asian Nations (ASEAN) Free Trade Area (AFTA), signed in 1992, originally stipulated that from 1 January 1993 the ASEAN member countries would reduce tariffs to 20% within five to eight years (specific timeframes within that span would vary by country). The subsequent tariff reductions to 0% would be completed within an additional span of seven years. AFTA was later amended and became the ASEAN Trade in Goods Agreement (ATIGA) in 2010. The ATIGA stipulated that the ASEAN 6 (Indonesia, Malaysia, Philippines, Brunei, Singapore and Thailand) would eliminate import duties by 2010 and the CMLV (Cambodia, Laos, Myanmar and Vietnam) by 2015.

2 The ASEAN countries at the time of AICO’s signing consisted of Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam. During AICO’s lifespan, Cambodia, Laos and Myanmar also joined ASEAN.

3 Industrial complementation refers to the allocation of the manufacture of products that are complementary in a value chain to different countries of ASEAN.


often, clustered their components production across the region. Eventually countries in the region began to produce for export out of ASEAN, most notably 1 tonne trucks from Thailand. In 2011, the AICO scheme was terminated because most ASEAN countries had reached a 0% tariff level, which was the ultimate goal of AFTA.

Given the sizeable uptake of the AICO scheme by foreign companies and the success in achieving the tariff rate, the scheme has been held up as a successful example of facilitating regional integration. However, there are lessons to be learned from both the challenges and successes of AICO.

**Challenges and successes**

One of the biggest challenges with AICO was getting buy-in from member states, and the willingness to loosen national protections for the benefit of the scheme. For example, while the Thai government welcomed AICO and encouraged multinational investments, the Malaysian government was hesitant and worried about AICO’s effect on the country’s locally produced car models. Thus some countries were more willing to relax the 30% national equity requirement, which was largely unfeasible for foreign investors, while others were initially resistant.

There are different theories as to what eventually pushed the ASEAN countries to buy into the AICO scheme. The private sector drive behind AICO likely played the biggest role in its adoption. Foreign investors claimed that the scheme was essential to their business operations, and thus ASEAN national governments were compelled to adopt it in order to ensure that foreign direct investment (FDI) would continue to flow. Additionally, ASEAN learned lessons from two previous regional industrial initiatives, and thus the adjustment towards regional integration occurred gradually. The 1997 Asian financial crisis also significantly affected individual economies in the region and compelled member states to pool their resources and competitive advantages and look toward regional initiatives. However, it is important to note that ASEAN countries still subsidised and incentivised their own industries even after agreeing to the free regional movement of goods for participating companies.

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9 Ibid.

10 AICO was preceded by the ASEAN Industrial Joint Venture Scheme and the Brand to Brand Complementation Scheme in the 1980s.
The ‘ASEAN way’ of consensus – co-operating, and agreeing on principles first and refining the specifics of agreements later – did lead to challenges in AICO’s implementation. Logistically, there was inconsistency in the way in which applications were processed, with some applications taking almost two years to be approved despite the 60-day requirement. One of the issues that also contributed to delays was the lack of communication with the private sector. The scheme could have provided a better channel for private sector companies interested or involved in the initiative to communicate with the ASEAN Secretariat, member countries and local companies.

Another issue with implementation was the capacity of the automotive industries within the ASEAN countries to utilise the scheme. This was especially the case with small and medium enterprises (SMEs), arguably the key drivers of growth in developing countries, which did not have the capacity or quality standards to collaborate with the Japanese companies involved in the scheme. This initially posed a problem. However, countries such as Thailand eventually developed their own capacity utilisation schemes in co-ordination with the investing foreign companies. This helped to bridge manufacturing capacity deficits within the ASEAN region, although inevitably some local component manufacturers and assemblers were squeezed out as a result of the large amounts of foreign investment.

The success of the scheme is attributed largely to the underlying market size of ASEAN and the prevalence of indigenous industries. In 1996, when the AICO scheme was initiated, combined vehicle sales in the four major markets (Philippines, Thailand, Indonesia and Malaysia) were almost 1.5 million units (as indicated in Figure 1), which created a large enough market to achieve economies of scale in local production for the region. Additionally, all four of these countries had engaged in some prior protection and development of their own industries, which allowed them to achieve value addition in foreign investments.

12 Interview, Gainmore Zanamwe, SADC, 8 February 2016.
13 Ibid.
Given that the AICO scheme was primarily utilised for automotive production, this paper will focus on the prospects for regional automotive integration in SADC. Currently in SADC there is scant evidence of regional automotive integration, or indeed of any flourishing national automotive industries outside of South Africa.

**CURRENT STATE OF THE AUTOMOTIVE INDUSTRY IN SADC**

In South Africa, the automotive sector is well developed, especially compared to the rest of sub-Saharan Africa. In 2015 South Africa’s ZAR\(^{14}\) 151.5 billion ($11.9 billion)\(^{15}\) automotive industry accounted for 64% of total vehicle production in Africa, with Egypt and Morocco in Northern Africa supplying the bulk of the remainder.\(^{16}\) Since the 1920s the South African government has expended much effort on building up and protecting its automotive industry, with local content stipulations dating back to the 1960s. Various pieces of legislation have been implemented to further this aim, such as the Motor Industry

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14 Currency code for the South African rand.
15 Dollar values calculated using Oanda’s average exchange rate for 2015: R12.74834/$.
Development Programme (MIDP), in place from 1995–2012, which provided import duty rebates based on the cost of local material in exported Completely Built Units (CBUs) and components. This has now been succeeded by the Automotive Production and Development Programme (APDP), which, among others, provides import duty rebates based upon local value addition in the supply chain. Additionally, the APDP has put in place stable import tariffs on components and CBUs, an import rebate duty for significant volume of vehicles produced in an assembly plant, and cash grants for vehicle and component manufacturers with the Automotive Investment Scheme (AIS). The AIS marks the first cash-based incentive that South Africa has implemented in the automotive sector. Opponents to such cash incentives are bound to contest its value given the current tight fiscal constraints faced by the South African government.

These programmes have allowed the industry to provide substantial local employment, with 29 715 employed in the manufacturing sector and 82 790 in the components sector in 2014. The South African automotive industry is relatively sizeable, having exported 333 802 CBUs in 2015 at a total value of ZAR 101.9 billion ($7.99 billion). Its components exports, at ZAR 49.6 billion ($3.89 billion) in 2015, are dominated by catalytic converters, with 20 326 catalytic converters having been exported in 2015. It also exports a substantial amount of tyres, leather seats, engines and parts and radiators. However, the country represents less than 1% of global automotive production.

Figure 2 shows that there has been significant FDI into the industry, and therefore a substantial number of original equipment manufacturers (OEMs) spread throughout the country. However, the existing government support is essential for the survival of the industry. Australia is a good example of how quickly this sector can be lost in the absence of suitable levels of state support. A challenge to be addressed in South Africa remains that much of the more complex first-tier drive train components are still imported from outside Africa for use in final local assembly.

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18 Interview, Renai Moothilal, dti (Department of Trade and Industry), Director of Automotives, 14 March 2016.
19 AIEC, op. cit.
20 Ibid.
Zimbabwe has perhaps made the most effort in SADC outside of South Africa to develop an indigenous automotive sector, beginning in the 1960s. Through import substitution, Zimbabwe developed both components and manufacturing industries. These industries reached their peak in the 1990s in the form of one primary plant, Willowvale Mazda Motor Industries (WMMI), capable of assembling 10,000 CBUs per year.  

since this peak the automotive industry has struggled. Political and economic instability in the country has led to decreased government ability to provide support and capital to the industry. Some in the industry have lamented that the production incentives in South Africa’s MIDP (now the APDP) have also hurt local component manufacturers and assemblers by effectively subsidising imports into the region. The market is also flooded with cheap second-hand imports, which have led to intermittent shutdowns of WMMI. The government is currently trying to revive the industry, and tried to curb its import reliance by issuing a directive in 2015 mandating public procurement from local assemblers. However, this mandate will not solve Zimbabwe’s problem, as WMMI does not have the capacity to supply the public sector and the plant only produces a limited range of Mazda vehicles. Furthermore, the local content in WMMI is not as significant as desired, with the plant merely importing and assembling CKD kits without providing much value or cost-effectiveness. Thus the government is still grappling with a protected yet struggling industry.

**Botswana**

Botswana also had a brief stint with a targeted industrial automotive programme, particularly when Hyundai invested in an assembly plant in the country in 1993. The plant benefitted from its proximity to South Africa and the common Southern African Customs Union (SACU) tariff, and initially enjoyed relative success. However, it was closed down in 2000 due to conflict with the South African MIDP rules of origin (to which Botswana was bound through its membership of SACU) and internal management issues.

Botswana does show promise in its demand for vehicles, as the country registered the second-highest number of new vehicles in SADC after South Africa in 2015 (see Figure 3). This number has more than doubled in the past 10 years, indicating the growing market needed to stimulate industry development in the automotive industry. However, vehicle sales in South Africa are still 15 times greater than in Botswana.

**Mozambique**

Mozambique has a small components production industry, and in 2014 the country’s first two assembly plants opened, with the aim of selling vehicles both locally and for export. The Korean Youngsom opened a Hyundai assembly plant and the Chinese Tong Jian Investment Company opened an assembly plant and tyre factory. In early 2016 Tong Jian

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announced plans to expand the assembly plant to manufacture buses, aiming to increase total vehicle production to 100 000 a year by 2017.\textsuperscript{28} Such investments are spurred by the country’s infrastructure improvements, such as its railway infrastructure, and its annual economic growth of around 7\%.\textsuperscript{29} However, it remains to be seen whether these plants will be able to add value and develop beyond low-volume CKD assembly.

\textbf{FIGURE 3}  \textsc{Total vehicle sales in selected African countries, 2015, second quarter}

Note: Data for remaining SADC countries not available


OTHER COUNTRIES

Angola has the advantage of growing market demand, receiving the highest number of vehicle imports in SADC outside South Africa in 2014 and showing the third-highest number of vehicle sales after South Africa and Botswana in 2015 (see Figure 3).\(^\text{30}\)

The Chinese company CGS set up the country’s first assembly plant in Luanda in 2007. China’s GONOW is also in the process of establishing an assembly plant in Zambia.\(^\text{31}\) Namibia has put in place policies to promote the automotive sector\(^\text{32}\) and has the logistics advantage of Walvis Bay Port; however, little automotive development has occurred in the country thus far.

EXISTING SADC REGIONAL INTEGRATION

Overall, regional integration in the automotive sector has been largely one-sided, from South Africa to SADC countries. Aided by the SADC free trade area, in 2015 South Africa exported 80% of its automotive exports in Africa to SADC.\(^\text{33}\) As can be seen in Table 1, South Africa exported automotive goods valued at over ZAR 1 billion ($78.2 million) to seven countries within SADC. However, it does not import automotive goods in significant numbers from any SADC countries, highlighting the lack of industry in other SADC countries and the absence of regional value chains. South Africa imported more from Zambia than from any other country in the rest of Africa; but at an overall value of only ZAR 44.8 million ($3.5 million) the number is still very low.\(^\text{34}\) Given that South Africa boasts a much larger industry, as well as production incentives for both components and CBUs, some countries have indicated that this undermines their local automotive production capability. However, representatives of the National Association of Automobile Manufacturers of South Africa (NAAMSA) and the South African Department of Trade and Industry (dti) counter that the greatest barrier to regional integration is the lack of demand, capacity and industry in other SADC countries.

One notable instance of regional integration in SADC is the relocation of production of certain components to the BLNS (Botswana Lesotho Namibia Swaziland) countries of SACU. Lower labour costs and a seemingly more stable labour relations environment, coupled with government fiscal support to the industry in these countries, have made this...
a viable business decision. However, most significantly, given that the BLNS countries form part of a common customs union with South Africa, they also enjoy the benefits of the APDP. Primarily, these countries produce labour-intensive but technologically simple components such as leather seats and glass products. Botswana in particular has capitalised on the production of wiring harnesses. The recent relocation of Pasdec, an automotive component manufacturer, from South Africa to Botswana is evidence of these advantages. The production of these components does not represent incremental regional value addition, as they would normally be produced in South Africa rather than imported. However, this does represent an important step in developing value chains in the region. As South Africa continues to deepen its production base of components and increase its production of higher value second- and first-tier components as well as number of vehicles assembled, such regional shifts will increase.

Although not a member of SADC, Nigeria is fast developing its own automotive industry and should be recognised as an important emerging African player in this sector. The industry's development is propelled by the country's large population and rapid economic growth, and the resulting increase in market demand. In 2014, Nigeria released its New Automotive Industry Development Plan (NAIDP) to capitalise on these conditions. As a result it is attracting significant FDI into this sector. Thus far Nissan, Peugeot and Hyundai have opened assembly operations in the country, with other big automotive companies beginning to follow suit. Alec Erwin, the former South African trade and industry minister (1996-2004), has taken the lead in advising Nigeria on the NAIDP, and hopes to ensure that South Africa gains preferential access to supply components and sub-assemblies to Nigeria’s growing assembly industry. The dti is therefore working on a framework for South African–Nigerian automotive engagement. Industry bodies such as NAAMSA and the National Association of Automotive Component and Allied Manufacturers are also looking for synergies with Nigeria, more so than with any SADC country.

35 Renai Moothilal, op. cit.; Interview, Norman Lamprecht, Executive Director, NAAMSA (National Association of Automobile Manufacturers of South Africa), 8 February 2016; Interview, Advisor to NAACAM (National Association of Automotive Component and Allied Manufacturers), 7 March 2016.
37 Renai Moothilal, op. cit.
40 Advisor to NAACAM, op. cit.; Renai Moothilal, op. cit.; Norman Lamprecht, op. cit.
The Potential for Regional Value Chains in the Automotive Sector

Table 1: South African Automotive Exports and Imports by Country (2015)

<table>
<thead>
<tr>
<th>Automotive Exports</th>
<th>ZAR (million)</th>
</tr>
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<tbody>
<tr>
<td>Germany</td>
<td>34 992,1</td>
</tr>
<tr>
<td>US</td>
<td>20 946,9</td>
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<tr>
<td>Belgium</td>
<td>13 162,2</td>
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<tr>
<td>Namibia</td>
<td>9 440,0</td>
</tr>
<tr>
<td>Japan</td>
<td>7 809,5</td>
</tr>
<tr>
<td>UK</td>
<td>7 436,0</td>
</tr>
<tr>
<td>Australia</td>
<td>5 257,1</td>
</tr>
<tr>
<td>Botswana</td>
<td>4 815,7</td>
</tr>
<tr>
<td>Spain</td>
<td>4 073,4</td>
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<tr>
<td>France</td>
<td>2 696,2</td>
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<tr>
<td>Mozambique</td>
<td>2 639,2</td>
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<tr>
<td>Zambia</td>
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<tr>
<td>Brazil</td>
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<td>Zimbabwe</td>
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<td>Nigeria</td>
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<td>Swaziland</td>
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<tr>
<td>UAE*</td>
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<td>DRC**</td>
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<tr>
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<table>
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<th>Automotive Imports</th>
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a Oanda's average rand-dollar exchange rate for 2015: ZAR12.74834/$.
* United Arab Emirates
** Democratic Republic of the Congo
(showing countries above ZAR 1 billion)

CONSIDERATIONS FOR REGIONAL AUTOMOTIVE INTEGRATION IN SADC

The lack of indigenous Southern African automotive industries outside South Africa is an important reason why major foreign automotive countries have not yet invested in SADC. However, it is important to delve further into the challenges and opportunities facing foreign investors and an AICO-like scheme in the future. According to Black and McLennan’s analysis of automotive prospects in Africa, three factors are vital to cultivating a thriving automotive industry in developing countries: adequate market growth, competitive manufacturing capability, and supportive policy arrangements. These three benchmarks provide a useful framework to analyse the prospects for integrating the automotive sector in SADC.

Market size

When regional integration in the automotive sector in Africa was first explored in the 1990s, one of the biggest limitations was the small market demand for cars, due to the underdevelopment of the continent. Creating a local automotive industry anchored initially on domestic demand is much more manageable than producing only for export, which requires deep and globally competitive value chains. Thus, relatively lower levels of domestic demand in the region largely explain the minimal automotive industrialisation at a time when global production competitiveness became paramount. However, on the back of significant economic growth in Africa, these dynamics have changed, evidenced by increasing foreign investment in the continent. With 1 billion people and only 1.2 million new passenger cars sold on the continent in 2014, there is tremendous potential for growth. Figure 4 shows that vehicle imports into SADC more than doubled in the past decade, and the middle class in Africa has grown 30% in that time period. Continued economic growth on the continent would augur well for increased demand for cars and is a crucial prerequisite for implementing an AICO-like scheme. However, the recent global commodities downturn will likely cause a slowdown in demand in the interim.

When AICO was implemented in ASEAN, the CEPT signified that its main intent was to serve the regional market. As demonstrated in Figure 1, there was sufficient regional demand to drive foreign investment and regional production at scale. Currently, in SADC, vehicle sales are much lower, as indicated previously in Figure 3. No other SADC country comes close to South Africa, which has similar levels of vehicle sales to Thailand at the time of AICO implementation. Only a couple of countries in Northern Africa demonstrate sufficient levels of demand. Additionally, much of the SADC market is served by imported

... three factors are vital to cultivating a thriving automotive industry in developing countries: adequate market growth, competitive manufacturing capability, and supportive policy arrangements

42 Renai Moothilal, op. cit.
43 AIEC, op. cit.
44 Ibid. The African middle class for this statistic is measured by an income level of between $15–20 a day.
second-hand cars. The used car market partly fills the demand for vehicles in the region, impeding the creation of new industries. South Africa was able to ban imports because of its successful indigenous industry to serve the growing market, albeit with an opportunity cost to the South African consumer, but banning imports is still not yet viable or affordable in most SADC countries.\footnote{Gainmore Zanamwe, \textit{op. cit.}} However, as local industries in SADC countries continue to develop greater demand and capacity they will need to implement such restrictions, which will provide the necessary protection to their local industries. Looking to the ASEAN example, when trying to grow its industry Malaysia implemented a scrappage programme, which allowed consumers to trade in cars that were 10 years or older in exchange for a monetary incentive to purchase Malaysia's national car brand. This could represent an

\begin{figure}
\centering
\includegraphics[width=\textwidth]{vehicle_imports_to_sadc_2004-2014.pdf}
\caption{Vehicle imports to SADC, 2004–2014 (\$ thousand)}
\end{figure}

intermediary step for SADC countries to incentivise the purchase of locally manufactured vehicles before completely banning imported vehicles.46

Although starting from a low base, demand for new cars in the region does show potential for rapid growth, signifying that cost-effective scaled regional operations may not be far off. For example, in Mauritius – one of the SADC countries experiencing the most demand for new cars – demand increased by over 10% from 2013 to 2014 (although the population in Mauritius is very small).47 Nonetheless, a challenge for the region is the lack of accurate data on vehicle sales in many countries, which fails to provide foreign and domestic investors with the necessary information on available market opportunities.

**Manufacturing potential**

The lack of manufacturing competitiveness throughout SADC presents a significant challenge to implementing a successful AICO-like scheme in the region. It is evident throughout the region that infrastructure for water, electricity and transport, which is particularly important for the purposes of regional integration, is either substandard or non-existent.48 For example, inadequate rail systems linking countries within the region and power supply issues greatly diminish the cost advantages of locating component manufacture or vehicle model plants in different countries. This is especially relevant in the automotive sector, where companies prefer links in their value chains to have close geographical proximity, or alternatively have very good transport links, in order to ensure ‘just in time’ production. In the ASEAN region, countries are located much closer together, and developments such as the Indonesian–Malaysian–Singapore Growth Triangle helped to physically facilitate the flow of goods in the region and increase foreign investment.

When comparing Africa’s labour characteristics to those of Asia, labour costs are higher in Africa while efficiencies are lower, creating a disincentive for investment. Additionally, in South Africa in particular, strong labour union opposition to relocating production to cheaper countries in the region strains the development of regional value chains. For example, at the time of writing the National Union of Metal Workers of South Africa was disputing the relocation of subcomponent manufacture to cheaper countries in

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48 Black A & T McLennan, op. cit.
49 ‘Just in time’ manufacturing refers to a production model that creates products to meet demand, avoiding overproduction and waste. Thus efficient logistics is essential to allow production and supply to meet demand in a timely manner.
Thus the cost advantages of regional linkages are being offset by labour disputes. Non-tariff barriers in the region, such as corruption at customs borders and heavy bureaucracy in rules and regulations, also increase the costs of trading in the region.

Similarly to the issues with AICO, SMEs have difficulty integrating into the automotive sector due to the stringent standards and economies of scale required by South Africa. Often South Africa does not deem the quality of components or subcomponents in other SADC countries to be up to standard for international export. For example, a SADC Secretariat representative recalls that at a component plant in Botswana whenever there was a higher-level technical issue workers had to wait for an expert to come from South Africa, which created costly delays. Unlike a lot of other industries, automotive industries do not favour government standards but rather impose their own industry standards, which tend to be very stringent.

Although the lack of manufacturing competitiveness is a challenge, it should not be seen as an absolute barrier. Improved infrastructure, which can greatly decrease manufacturing costs, is rapidly being developed in SADC, and transportation infrastructure is prioritised as one of the six key pillars of the SADC Regional Infrastructure Development Master Programme (RIDMP).

Some examples of regional infrastructure projects are the Nacala Railway from Mozambique to Malawi, the Kazangula Bridge from Botswana to Zambia, and the Walvis Bay transport corridors in Namibia.

**Domestic and regional policies**

As indicated in the AICO overview, one of the biggest challenges AICO faced was maintaining a balance between protecting the infant domestic automotive industry and opening up to regional trade. This is currently also a challenge for SADC. Many countries within SADC that have automotive industries protected as sensitive industries within SADC’s free trade area have indicated that the APDP and South Africa will undercut their own infant industries if they relax domestic protection in favour of a regional tariff scheme. These concerns are justified, as inward-directed programmes were necessary to create an automotive industry in South Africa and ASEAN, and will also be necessary for other countries in SADC. While many countries in SADC have local content requirements in order to export, these are difficult to adhere to given the lack of capacity (especially for the export of CBUs), thus limiting the prospects for the regional free flow of goods.
SADC countries also do not have the capacity or financial support to achieve local content levels similar to those in South Africa. At the same time, local market demand in most SADC countries is not great enough to achieve economies of scale by initially only supplying domestically to avoid local content requirements and stringent quality standards. This poses a major challenge for inter-SADC trade. A CEPT would likely not yet yield regional benefits until other countries in the region have developed their industries and infrastructure further and attracted greater FDI.

Additionally, as a customs union, all countries within SACU must comply with the APDP. Although this creates the potential for countries to utilise APDP support, it also leads to many challenges, as the BLNS countries are not capacitated to comply with the regulations. In order to receive a Production Rebate Credit Certificate (PRCC), which allows a country to export under the APDP, they must achieve a level of local value addition that the BLNS countries currently cannot achieve (unless they export components only to South African OEMs that will apply for the certificate). Companies operating in these countries must also apply for the PRCC in their own country, which issues the certificate. According to industry bodies, this has never been done before and the governments are unlikely to have the know-how to do so. Thus there are significant policy barriers in facilitating free trade in the SADC and SACU region. However, these could fall away over time as countries develop their domestic demand to achieve economies of scale and the capacity to build and support their local industries.

CURRENT DEVELOPMENTS AND RECOMMENDATIONS

A growing middle class in Africa will lead to greater development of the automotive sector as countries’ demand spur economies of scale in both domestic and regional supply. The continuing development of infrastructure to support the regional movement of goods will also lead to more cost-effective regional automotive linkages. However, in SADC’s current state, which is not quite developed to the point where ASEAN was when the AICO scheme was implemented, there are initiatives that governments, private actors and SADC itself can undertake (and are undertaking) to further the prospects of regional automotive integration.

South Africa has an important role to play in capacitating the industries of other SADC countries. According to the dti, South Africa is ‘fully supportive of regional industrialisation as a complement to growth dynamics for the South African industry’. As indicated previously, South Africa is already seeing the movement of some of its components production to other SACU countries. It is hoped that the economic growth thus stimulated in these countries will stimulate similar demand for South African assembled CBUs and other products. However, South Africa can also assist in transferring skills and knowledge capacities to the region. The Automotive Supply Chain

A growing middle class in Africa will lead to greater development of the automotive sector as countries’ demand spur economies of scale in both domestic and regional supply.

57 Norman Lamprecht, *op. cit.*
58 Ibid., Furlonger D, *op. cit.*
59 Renai Moothilal, *op. cit.*
60 Ibid.
Competitiveness Initiative is a non-profit initiative established in South Africa in 2013 that aims to enhance supplier competitiveness, increase localisation and facilitate supportive industrial policies and regulations.\textsuperscript{61} It is also one of the mechanisms that facilitate co-operation between automotive associations, the government and labour unions.\textsuperscript{62} The Automotive Industry Development Centre\textsuperscript{63} has also recently signed an agreement to collaborate with the Japan International Cooperation Agency to dispatch experts to assist in component supplier skills development.\textsuperscript{64} South Africa should look to assist countries in the region in implementing similar capacity development programmes and partnerships. Additionally, South African industry representatives from both the public and private sector are already consulting with counterparts in Zimbabwe and Nigeria to guide appropriate government policies to grow their indigenous automotive sectors. Such assistance can be extended to other countries that are also building assembly and component producing operations. It should be noted that there are various levers open to support automotive production. In countries that may not necessarily have the cash reserves associated with an AIS, different tax and related customs/rebate policies can be used. Rebatable import duties represent a way in which the South African government encourages localisation without additional ‘cash’ spending, and has worked well as one of the core components of the APDP.\textsuperscript{65}

The imperative for South Africa to assist other countries lies in the economies of scale and increased foreign investments that are realised in the long term from specialising in certain models and parts in different countries. Even in the short term, the development of automotive industries outside South Africa gives South African component manufacturers the opportunity to export to infant assembly operations in the region. While South Africa currently struggles to achieve optimal economies of scale in some of the more complex, first-tier components, should these become feasible to export to additional emerging automotive markets in Nigeria and other SADC countries it will be able to advance and deepen its own components production.\textsuperscript{66} NAAMSA has also indicated that South African companies would expect preferential access to these regional markets in return for their assistance.\textsuperscript{67}

One positive development is NAAMSA’s recent institutionalisation of the African Association of Automotive Manufacturers (AAAM). Although the association will be administered from NAAMSA offices, it will be independent, with a view to identifying synergies in automotive industries on the African continent, and especially to assist

\textsuperscript{61} For more information see ASCII (Automotive Supply Chain Competitiveness Initiative), http://ascci.co.za/.
\textsuperscript{62} Renai Moothilal, \textit{op. cit.}
\textsuperscript{63} The AIDC is a provincial agency established in Gauteng and the Eastern Cape to increase the local automotive industry’s global competitiveness.
\textsuperscript{65} Renai Moothilal, \textit{op. cit.}
\textsuperscript{66} \textit{Ibid.}
\textsuperscript{67} Venter I, \textit{op. cit.}
South Africa's further co-operation with and assistance to other countries. This can be a good future resource for foreign investors to learn about opportunities for investment and possible regional linkages, especially given the lack of information on automotive patterns in Africa.68

A strategy that worked well in the ASEAN region, particularly in Thailand, was crowding investment toward specific products. By focusing policies on the production and export of 1 tonne pickup trucks, Thailand began with assembly operations but eventually gained deep levels of expertise and value addition in this model. This allowed it to become a major producer and exporter of 1 tonne pickup trucks – and as it moved up the value chain the benefits and components production spilled over into the rest of the region. This also made Thailand more attractive to foreign investors, encouraging Mitsubishi and Isuzu to relocate their 1 tonne pickup production to Thailand. Other countries in the ASEAN region are also specialising in the production of specific cars, such as Indonesia in sport utility vehicles and Malaysia in passenger cars. South Africa could learn from this example and look toward further segmentation and specialisation (right now the country's production spans a variety of makes and models). This segmentation can benefit the region as well, given that when countries develop global assembly capability of a segment with associated volumes they have the potential to attract associated component manufacture to the region.69

SADC is in the process of identifying, strengthening and/or developing regional centres for specialisation and excellence in member states, dedicated to different areas of technical skills and training for a variety of sectors, including the automotive sector. For example, the SADC Secretariat has already developed criterion for identification of Centres of Excellence and Centres of Specialization in the pharmaceutical sector which was approved by the Ministers of Health in November 2015. This can help to centralise the knowledge base in the region and allow learners and workers from all over the region to receive first-rate skills, thus supportive of collaboration improving labour competitiveness.70

In the AICO scheme, lack of communication between the private sector and state actors was one of the major challenges, and thus communication between different actors is essential. The Southern African Business Forum (SABF) has been developed to create a dialogue between SADC and the private sector in order to address these issues, and in the SABF's April 2016 working groups automotive regional value chains were highlighted as a priority sector.71 Thailand's SME capacity development programmes can also be looked to

68 Norman Lamprecht, op. cit.
70 Gainmore Zanamwe, op. cit.
71 Gainmore Zanamwe, op. cit.
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for guidance in a SADC context, as they fostered better communication between foreign investors and local suppliers.72

The SADC Industrial Development Policy Framework (2014) and the SADC Industrial Upgrading and Modernization Programme (2012) list ‘machinery and equipment’ (which includes automotives) as one of the nine key sectors prioritised for industrialisation.73 It is recommended that SADC further operationalise this objective by developing a framework which outlines the policies, programmes, infrastructure and finances needed to support regional value chains in the automotive sector.74 It is also recommended that SADC develop a protocol to help countries navigate the development of their own rules of origin and incentives for their automotive industries to ensure that protections are measured and breed efficiency, with a view to gradually lessening barriers to the regional flow of goods. This protocol could form part of the SADC protocol on industry and the SADC mandate to review rules of origin to support industrialisation.75 The protocol could look to the industrialisation component of the AICO scheme for assistance (which included sharing manufacturing processes, technology, research and development, marketing and promotion tactics, and joint ventures). It is important for countries in the SADC region that are just beginning to develop assembly operations to get programmes and policies in place to deepen their supply chains early, so that their industries can become competitive and effectively utilise potential government. They can learn from the experience of South Africa, which, some argue, waited too long to shift focus to components suppliers and thus still relies heavily on government support.76 These industrial components, which were evident in AICO, should be adopted ahead of a CEPT, as a CEPT will be more effective with greater indigenous manufacturing capacity and development and consequently greater foreign investment.

Aftermarket production also represents a potential starting point for countries in the region that do not yet have significant demand for new vehicles or the capacity to engage in competitive full-scale production. Certain countries in the SADC region, such as Mozambique, already have a sizeable components production set up specifically for the aftermarket.77 By beginning with simply produced aftermarket components, such as glass components, low-level electrical components, leather and tyres, the capabilities developed could eventually be transferred into OEM assembly supply chains.78

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74 Gainmore Zanamwe, op. cit.
75 Ibid
76 Advisor to NAACAM, op. cit.
77 Black A & T McLennan, op. cit.
78 Renai Moothilal, op. cit.
Currently, the BLNS countries represent the lowest hanging fruit for regional integration because they are beneficiaries under certain parts of the APDP, and this is why component production relocation to these countries has already begun. Outside SACU, South African and foreign investors should look to collaborate with countries that are progressing in their automotive assembly development due to population growth and increasing demand. Although Nigeria is the clear frontrunner, Kenya is beginning to show progress. Countries within SADC remain challenging in terms of deeper co-operation due to some of the constraints mentioned earlier, but opportunities do exist. States such as Tanzania or the Democratic Republic of the Congo may hold the potential for partnership due to growth, equality and population variables. Angola and Botswana are of further interest due to increasing demand for vehicles in these countries.79

CONCLUSION

With such a low number of vehicles per capita in Africa, and the SADC region exhibiting the most development on the continent until the recent commodity downturn, the potential for growth in automobile production in the region is evident. Notable barriers such as low market demand and marginal indigenous industries outside South Africa explain the minimal foreign investment up to this point. However, these dynamics are changing and South Africa is looking to create more regional synergies. South Africa, SADC and foreign investors interested in serving the regional market have a major role to play in providing knowledge and resources, allowing countries to create their own value chains and manufacturing capacity and develop the skills and policy frameworks to enable such growth. If such developments occur, coupled with the continued improvement of logistics within the region, the potential for an AICO-like scheme might not be far off.

79 Ibid.; Advisor to NAACAM, op. cit.
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