COMPARATIVE ADVANTAGE IN THE SOUTHERN AFRICA CUSTOMS UNION (SACU)

MACLEANS MZUMARA¹, BETTY MKWINDA NYASULU², MARGARET MZUMARA³ & ELIAS KAUNDA⁴

Bindura University of Science Education, Bindura, Zimbabwe¹, University of Malawi, Lilongwe, Malawi², Women’s University in Africa, Harare, Zimbabwe³, Malawi Telecommunication, Blantyre, Malawi⁴

ABSTRACT
The authors sought to find out whether the Southern African Customs Union (SACU) possesses comparative advantage. They found that South Africa has comparative advantage in the production of 727 product lines, Botswana in 268 product lines, Swaziland 243 product lines, Namibia 213 product lines and Lesotho 85 product lines. They also found that the highest degree of specialization in a particular product was observed in Lesotho in the production of cartridges for rivet with an average RCA index of 19215. The authors concluded that SACU has comparative advantage although such comparative advantage has a narrow base for a customs union (CU). Further it was concluded that due to imposition of the common external tariff (CET) in SACU and a narrow base of the products in which it has comparative advantage, it may be experiencing trade diversion rather than trade creation by replacing low cost producers outside SACU in favour of intra-SACU high cost producers. That South Africa, although not the least producer, is unfairly benefiting due to the imposition of CET which prevents other countries from exporting their products to Botswana, Swaziland, Namibia and Lesotho under the same conditions. These countries are, therefore, disadvantaged. For this reason, the authors advocate communication at policy level, to facilitate expansion of SACU as means of narrowing trade diversion.

JEL CLASSIFICATION & KEYWORDS
- F13
- TRADE
- COMPARATIVE ADVANTAGE
- COMPETITIVENESS
- EXPORTS

INTRODUCTION
In Sub Saharan Africa there are many regional organizations which group countries in economic cooperation. It is anticipated that the continental economic community of the African Union will be born from these regional trading blocs. These regional trading blocs include: the Common Market for Eastern and Southern Africa (COMESA); Southern African Development Community (SADC); East African Community (EAC); Economic Community of West African States (ECOWAS); and Southern African Customs Union (SACU). This paper investigates whether SACU has comparative advantage.

Background
Southern African Customs Union (SACU) is an intergovernmental economic grouping which comprises Botswana, Lesotho, Namibia, South Africa and Swaziland (SACU, 2012). It was formed in 1910. There were two agreements: one reached in 1910 and the other one in 1969. Both of these agreements were administered by South Africa. Initially the customs union involved levying of duties on domestic production and then collection of customs duties on imports of member states originating outside SACU. The revenue collected was shared by member states according to the agreed formula on quarterly basis (SACU, 2012). According to the South African Institute of International Affairs (2011), there has been remarkable reduction in funds to Botswana, Lesotho, Namibia and Swaziland from the SACU revenue pool. This occurred due to reduction of SACU’s revenues as a result of recession experienced world wide in 2008 and 2009 (South African Institute of International Affairs, 2011). Ceteris paribus, South Africa gets the biggest share of revenue compared to other member states in the customs union because it is the biggest economy and is leading stakeholder in trade in the region (South African Institute of International Affairs, 2011).

The benefit accruing to every member country is computed using three components namely: customs, excise and development. In terms of customs, a member’s share in intra-SACU trade and re-exports are taken into account. In terms of excise, net development is used based on GDP. The development component is pegged at 15% of the total excise revenue pool and is distributed as inverse of each member’s GDP/capita (South African Institute of International Affairs, 2011).

Negotiations to improve on the 1969 agreement began in 1994 and this led into signing of another agreement in 2002. There are no tariffs and other barriers for products originating from any other member states. However, third parties’ products (other countries outside the customs union) face the customs union’s common external tariff (CET) (SACU, 2012).

The SACU agreement of 2002 has a section which deals with trade liberalization. It covers: free movement of products of member states within SACU; products imported from third parties; customs duties on goods imported from third party countries; specific excise and ad valorem excise duties and specific customs and ad valorem customs duties on imported goods of the same product code; legislation in respect to customs and excise duties; customs cooperation; freedom of transit; import and export negative list; protection of infant industries; rail road transport; technical barriers to trade; administration and marketing of agricultural products; and sanitary and phyto-sanitary (SPS) measures (SACU, 2012).

To expand, SACU has entered or is negotiating agreements. According to OAS-SEDIDDT (2012) in December 2004, SACU and Mercosur entered and signed a preferential trade agreement. The European Free Trade Association (EFTA) whose members include Iceland, Liechtenstein, Norway and Switzerland signed an agreement with SACU (EFTA-SACU) which came into force in May 2008. Their two way merchandise trade in 2010 reached US$2.6 billion. The average growth rate of trade between them for the period 2000-2010 was 13% (EFTA, 2011).

Comparative advantage
The Theory of Comparative Advantage focuses on the relative differences in productivity between nations which lead to trade and eventually translate to benefits which are derived from trade. The bigger the difference in the sources of comparative advantage the bigger the benefits accruing from trade for a particular country. The differences between nations which include how policies are enacted as well as how these perform constitute relative differences in productivity. Such differences allow countries to gain from trade. The differences in enacting policy, sometimes, come from the very reason that countries may
be at different levels of economic development. Further, they can be due to strategic policy selections in the form of investment in human as opposed to investment in physical capital (Kowalski, 2011). The classical theory of comparative advantage often makes a prediction that benefits arising from exchanging goods optimize welfare and that free trade would eventually lead to prosperity of the world economy at large (Bender & Li, 2002). There is no common agreement amongst trade economists on what determines comparative advantage. According to Bender and Li (2002), on one hand, the Ricardian Theory attributes comparative advantage to be influenced by technological and costs differences. On the other hand, Heckscher-Ohlin-Samuelson Theory attributes comparative advantage to be coming from factor price differences. In addition, the Neo-Factor-Propotion Theory attributes comparative advantage as arising from factor efficiency. Lastly, technology gap and product cycle theory attributes comparative advantage to originate from soft technological innovations (commonly referred to as learning by practising). According to Mzumara (2006) the Heckscher-Ohlin Theorem is an extension of the principle of comparative advantage and it reinforces that international differences in costs arise from differences in factor endowments. Comparative advantage has been accepted as a major determinant of international output and trade patterns (Neary, 2002). A comparative advantage is what motivates countries to decide whether it is beneficial to produce products or to just import them from other countries (Lee, 2012).

The present treatment and most empirical works evolve around Heckscher-Ohlin model which focuses on that factors of production are not mobile between nations and that further, the factors are employed in different combinations to produce different products (Goldin, 1990). For this reason, according to Widgren (2005), a nation has a comparative advantage in those industries that employ intensively the factors of production that are in large quantity in a particular country. This explanation is similar to Mzumara (2006), who argues that a nation that has abundant labour resources will produce goods which employ labour most intensively and then source from other countries goods which employ scarce factor less intensively. Cross-nations trade patterns are influenced by differences in comparative advantage and that a nation will export products whose output has used factors which are relatively abundant and then buy from other nations products whose output used relatively scarce factors (Widgren, 2005). According to Mzumara (2006) comparative advantage leads countries to specialization. Those with abundant labour then specialize in labour intensive products and those with abundant capital then specializing in capital intensive products.

Methodology
This article has used Balassa (1965) revealed comparative advantage (RCA).

$$RCA = \left( \frac{X_{i,j}}{X_{w,j}} \right) \left( \frac{X_{j,\text{tot}}}{X_{w,\text{tot}}} \right)$$

With:
- $X_{i,j}$ denoting country $i$’s exports of product $j$;
- $X_{j,\text{tot}}$ denoting country $i$’s total exports;
- $X_{w,j}$ denoting the world’s (all countries) export of product $j$; and
- $X_{w,\text{tot}}$ denoting total exports in the world.

An RCA $\geq 1$ shows a country has a revealed comparative advantage in the production of the product concerned. An RCA $< 1$ shows that a country has no revealed comparative advantage in the production of the concerned product.

According to Wu and Chen (2004), in a dynamic competitive market economy, comparative advantage as demonstrated in the export composition is consistent with comparative advantage based on the nation’s economy factor endowment and evolves along with economic development. The RCA shows products in which a nation may have comparative advantage.

The authors used export data for Botswana, Lesotho, Namibia, South Africa and Swaziland obtained from International Trade Centre’s Trademap based in Geneva, Switzerland to compute RCA. The export data used is on 6 digit harmonised level the most disaggregate international classification. The export data used is from 2007 to 2010. This is most available data for many countries. Further, all countries world wide submit their trade data to the International Trade Centre (ITC). An RCA was computed for every country and every product (for countries under study) for each year for the period 2007, 2008, 2009 and 2010. The average RCA for the four years was then obtained for each product code. The data used is the most up-to-date for all the countries under the study. Generally developing countries are behind the developed countries in compiling their data and submitting the same to the International Trade Centre’s Trademap. However, in terms of RCA it does not matter whether the data is current or not as products maintain their RCA for a very long time. This has been proved in Mzumara (2012) in Zimbabwe’s case where products were able to maintain their revealed comparative advantage in all the three periods namely, pre-crisis (1993-1997), crisis period (1998-2008) and post-crisis period (2009-2010).

Results and discussion
South Africa was found to have RCA $\geq 1$ in 727 product lines. The products in which South Africa has revealed comparative advantage include manufactured products, semi-manufactured products and primary products. Table 1 shows top 20 products with highest RCA in South Africa.

In Table 1, rhodium has the highest RCA index of 204. This is followed by platinum with RCA index of 119 then followed by ores and concentrates with an RCA index of 107.

Botswana was found to have RCA $\geq 1$ in 268 product lines. The products in which Botswana has comparative advantage are dominated by primary products with little manufactured products and also some agricultural products such as meat and bovine skin. Table 2 shows the top 20 products with highest RCA in Botswana.

In Table 2, carboys have the highest RCA with an index of 13395. This is followed by bovine skins with an RCA of 8642. The third highest are slag and ash skins with an index of 3228.

Swaziland was found to have RCA $\geq 1$ in 243 product lines. The products in which Swaziland has comparative advantage include primary and manufactured products. Table 3 shows top 20 products with the highest RCA in Swaziland.

In Table 3, the highest three positions are all occupied by various types of chem wood pulp products with an index of 2490, 1102 and 359 respectively.
Namibia was found to have RCA ≥ 1 in 213 product lines. The country has comparative advantage in products mainly dominated by primary products. Table 4 shows top 20 products with highest RCA in Namibia.

In Table 4, the highest RCA was obtained from uranium ores with an index of 1291. This is followed by raw Persian furskins with an index of 927. The third highest is hake with an RCA index of 627.

Lesotho was found to have RCA ≥ 1 in 86 product lines. The country has comparative advantage in products dominated by manufactured products. Table 5 shows top 20 products with highest RCA in Lesotho.

The highest RCA in table 5 is for cartridges for rivet with an RCA index of 19215. It is followed by zinc with RCA of 1479. The third highest is the unrefined copper with RCA of 986.
South Africa leads in the number of the products lines in which it has comparative advantage. South Africa has comparative advantage in 727 product lines. It is followed by Botswana with 268 product lines. The third position is occupied by Swaziland with 243 product lines in which it has comparative advantage. The fourth position is occupied by Namibia with 213 product lines. The last position is occupied by Lesotho with a total of 85 product lines in which it has comparative advantage.

Although Lesotho has a fewer number of products in which it has comparative advantage, the country is highly specialized in such products. It has the highest index in the production of cartridges for rivet with an RCA of 19215. This signifies very high level of specialization. It is followed by Botswana with an RCA index of 13395 in the production of carboys. This also shows very high specialization in this product. Swaziland occupies the third position in specialization of the production of chemical Wood pulp with an index of 2490. Namibia is also highly specialized in the production of uranium with RCA index of 1291, signifying the extent of specialization in this product. Although South Africa, has a very high number of products in which it has comparative advantage, it is the least specialized in such products. It has the highest index in the production of cartridges for rivet with an RCA of 19215. This signifies very high level of specialization. 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South Africa has comparative advantage and the number of products in which it has comparative advantage in a number of products. However, the base of the products in which it has comparative advantage is very narrow for a customs union. Consequently, with a common external tariff (CET) in place, SACU is obviously experiencing trade diversion as the result of replacing low cost producer in favour of high cost producer within its region through the imposition of the said CET. SACU may therefore not be experiencing trade creation. Some countries in SACU that import a lot of products may seriously engage in communication to seek strategies which are crucial to expand the number of its members. In this way, trade diversion can be narrowed by improving its base of products in which it can have comparative advantage.

### Table 5: Top 20 products with highest RCA in Lesotho

<table>
<thead>
<tr>
<th>Product code</th>
<th>Product description</th>
<th>RCA 2007</th>
<th>RCA 2008</th>
<th>RCA 2009</th>
<th>RCA 2010</th>
<th>Average RCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>261210</td>
<td>Uranium ores and concentrates</td>
<td>863</td>
<td>1517</td>
<td>1466</td>
<td>1319</td>
<td>1291</td>
</tr>
<tr>
<td>430130</td>
<td>Raw Persian and similar lamb furskins</td>
<td>562</td>
<td>649</td>
<td>1601</td>
<td>897</td>
<td>927</td>
</tr>
<tr>
<td>30378</td>
<td>Hake, frozen, whole</td>
<td>1108</td>
<td>1056</td>
<td>329</td>
<td>195</td>
<td>627</td>
</tr>
<tr>
<td>710229</td>
<td>Diamonds industrial worked</td>
<td>854</td>
<td>1105</td>
<td>0</td>
<td>0</td>
<td>490</td>
</tr>
<tr>
<td>252922</td>
<td>Fluorspar, &gt;97% calcium fluoride</td>
<td>131</td>
<td>126</td>
<td>896</td>
<td>471</td>
<td>406</td>
</tr>
<tr>
<td>20840</td>
<td>Meat &amp; edible offal of whales, dolphins &amp; porpoises</td>
<td>1373</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>343</td>
</tr>
<tr>
<td>490700</td>
<td>Documents of title (bonds etc) unused stamps</td>
<td>387</td>
<td>534</td>
<td>1</td>
<td>23</td>
<td>236</td>
</tr>
<tr>
<td>790112</td>
<td>Zinc, not alloyed, unwrought, &lt;99% pure</td>
<td>429</td>
<td>379</td>
<td>43</td>
<td>14</td>
<td>216</td>
</tr>
<tr>
<td>740200</td>
<td>Unrefined copper, copper anodes, electrolytic refined</td>
<td>73</td>
<td>77</td>
<td>217</td>
<td>184</td>
<td>138</td>
</tr>
<tr>
<td>30231</td>
<td>Tuna fresh or chilled, whole</td>
<td>141</td>
<td>103</td>
<td>218</td>
<td>299</td>
<td>190</td>
</tr>
<tr>
<td>30375</td>
<td>Dog fish and other shacks, frozen, whole</td>
<td>120</td>
<td>53</td>
<td>97</td>
<td>136</td>
<td>102</td>
</tr>
<tr>
<td>10420</td>
<td>Goats, live</td>
<td>203</td>
<td>146</td>
<td>1</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>30229</td>
<td>Flatfish fresh/chilled not halibut/plaio</td>
<td>149</td>
<td>148</td>
<td>0</td>
<td>0</td>
<td>74</td>
</tr>
<tr>
<td>710231</td>
<td>Diamonds (jewellery) unworked or simply sown</td>
<td>70</td>
<td>77</td>
<td>61</td>
<td>77</td>
<td>71</td>
</tr>
<tr>
<td>150300</td>
<td>Lard stearin, oleostearin &amp; oils, natural tallow oil</td>
<td>123</td>
<td>79</td>
<td>8</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td>510540</td>
<td>Coarse animal hair, carded or combed</td>
<td>125</td>
<td>53</td>
<td>0</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>20410</td>
<td>Lamb carcasses and half carcasses, fresh or chilled</td>
<td>92</td>
<td>69</td>
<td>0</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>30510</td>
<td>Flours, meals &amp; pellets of fish for human consumption</td>
<td>65</td>
<td>50</td>
<td>27</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>50690</td>
<td>Bones and horn-cores unworked or simply worked</td>
<td>69</td>
<td>33</td>
<td>4</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>811213</td>
<td>Beryllium waste &amp; scrap</td>
<td>62</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Computed using data from Trademap (2013)

specialized in them. This is demonstrated by its highest RCA index of 204 in the production of rhodium.

However, it may be noted that a country may be highly specialized in the production of a particular product with very high RCA index but such product may be a low value product. For instance, if the product is office pins, they do not cost much. Consequently, even though the country may be highly specialized and even though there is substantial demand for the product, the country may not be realizing substantial earnings from such exports. This is simply due to the fact that by nature, the product is of low value. Conversely, a country may not demonstrate a very high index in terms of RCA but the product is of high value such as diamonds or aircraft. Such a country may be realizing much more from exporting such products because they are of high value. In view of this, it is profitable and beneficial for countries to specialize in high value products than in low value products. (Brother, is it not better if here we were mentioning the countries included in this study. For instance, which country is producing office pins? I think the credibility of the paper will be enhanced)

### Conclusion

The Southern Africa Customs Union (SACU) has comparative advantage in a number of products. However, the base of the products in which it has comparative advantage is very narrow for a customs union. Consequently, with a common external tariff (CET) in place, SACU is obviously experiencing trade diversion as the result of replacing low cost producer in favour of high cost producer within its region through the imposition of the said CET. SACU may therefore not be experiencing trade creation. Some countries in SACU that import a lot of products may probably be losing out by being forced to source from the high cost supplier due to imposition of CET. A country that has supply capabilities but not necessarily a low producer may be significantly benefiting through the protection of CET in place, thereby disadvantaging the others. Judging from the number of products in which South Africa has comparative advantage and the number of products it is able to produce, it may be unfairly (due to imposition of CET that gives it artificial advantage through this barrier of other suppliers) benefiting more than its peers (other SACU member states) through this protection by shutting off low cost producers such as China, Japan, etc. South Africa may also not be keen to change the status quo as it is to its advantage. The current status favours it much more than other members. It is recommended that SACU seriously engage in communication to seek strategies which are crucial to expand the number of its members. In this way, trade diversion can be narrowed by improving its base of products in which it can have comparative advantage.

### REFERENCES


