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COMPARATIVE ADVANTAGE IN THE SOUTHERN AFRICA CUSTOMS UNION (SACU)

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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 inter-governmental 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 custom's 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 volorem excise duties and specific customs and ad volorem 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-SEDI-DEDTT (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-Proportion 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 Hescheker-Ohilin 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).

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

With:

$X_{i,j}$ denoting country *i*'s exports of product *j*;

$X_{i,tot}$ denoting country *i*'s total exports;

$X_{w,j}$ denoting the world's (all countries) export of product *j*; and

$X_{w,tot}$ denoting total exports in the world.

An RCA ≥ 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 ≥ 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 ≥ 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 ≥ 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.

Table 1: Top 20 products with highest RCA in South Africa						
Product code	Product description	RCA 2007	RCA 2008	RCA 2009	RCA 2010	Average RCA
711039	Rhodium in semi-manufactured form	204	203	214	193	204
711019	Platinum in semi-manufactured form	115	114	120	127	119
261790	Ores and concentrates	110	18	153	145	107
261400	Titanium ores and concentrates	98	104	126	86	104
720241	Ferro-chromium, >4% carbon	100	95	116	97	102
293991	Cocaine, ecgonine and levometamfetamine	114	111	85	84	99
261590	Niobium, tantalum and vanadium ores	51	73	135	115	94
320120	Wattle tanning extracts	95	87	96	94	93
250850	Andalusite, kyanite and sillimanite	89	79	101	90	90
261000	Chromium ores and concentrates	69	71	92	82	79
720211	Ferro-silicon,>2% carbon	82	72	79	84	79
261510	Zirconium ores and concentrates	69	75	66	72	71
711031	Rhodium unwrought or in powder form	69	60	85	71	71
711029	Palladium in semi-manufactured waste form	76	60	70	56	66
720292	Ferro-vanadium	70	57	67	57	63
10632	Live birds (order psittaciformes)	20	67	97	70	54
262021	Leaded gasoline sludges & leaded anti-knock compound sludges	1	109	97	1	52
21092	Meat & edible meat offal of primates	0	0	163	0	41
271091	Heavy furnace oil (heating or motorfuel) <1% sulphur					
50710	Ivory, unworked or simply prepared powder waste	4	2	71	1	20
Source: Computed using data from Trademap (2013)						

Table 2: Top 20 products with highest RCA in Botswana						
Product code	Product description	RCA 2007	RCA 2008	RCA 2009	RCA 2010	Average RCA
701091	Carboys/bet/flask >1 litre	9	53570	0	0	13395
410110	Bovine skins, whole, raw	70	34500	0	0	8642
262100	Slag and ash, including sea weed	0	12912	0	0	3228
21090	Meat & edible meat offal cured flours, meals	648	8851	0	0	2375
850920	Domestic floor polishers	2	369	324	1849	1365
740110	Copper mates	1853	2285	296	0	1109
810310	Tantalum unwrought, bars, rods simply by sintered scrap	0	3920	0	0	980
50710	Ivory, unworked or simply prepared powder and waste	0	3572	0	2	894
711290	Waste/scrap precious metal except pure gold/platinum	24	3298	0	0	831
920420	Mouth organs (harmonicas)	0	3228	0	0	612
900620	Cameras for recording microfilm etc.	2	391	2228	0	655
611010	Pullovers, cardigans (knit) etc of wool or hair,	523	1923	0	0	612
750110	Nickel mattes	323	437	560	367	422
850820	Saws, hand-held, with self contained electric motor	3	115	0	0	291
710231	Diamonds (jewellery) unworked or simply sawn, cleave	249	285	319	284	284
630639	Sails of materials	0	670	419	0	272
741532	Copper screws, bolts or nuts except wood screws	0	538	0	0	135
850810	Drills, hand-held, with self-contained electric motor	218	245	0	0	116
701093	Carboys/boot/flask <.15>.3	5	428	0	0	108
410439	Bovine and equine leather	6	247	0	0	63
Source: Computed using data from Trademap (2013)						

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.

Table 3: Top 20 products with highest RCA in Swaziland

Product code	Product description	RCA 2007	RCA 2008	RCA 2009	RCA 2010	Average RCA
470411	Chemical wood pulp, sulphite, coniferous unbleached	0	2900	6435	626	2490
470319	Chemical wood pulp, soda/sulphate, non-coniferous unbleached	0	3839	567	3	1102
470311	Chemical wood pulp, soda or sulphate coniferous unbleached	0	621	697	118	359
290351	1,2,34,5,6 – hexachlorocyclohexane	0	917	0	0	229
80540	Grapefruit, fresh or dried	0	273	181	236	173
200830	Citrus fruits, otherwise prepared or preserved	0	249	216	223	172
170111	Raw sugar, cane	0	255	183	171	152
681250	Asbestos clothing, accessories, foot and head gear	4	506	0	0	128
330210	Mixed odoriferous substance-food & drink industries	0	145	139	182	117
293341	Lovor phenol (INN) & salt	0	388	0	0	97
10639	Live birds (excl. of 0106.31 & 0106.32)	0	314	0	0	79
847110	Analogue or hybrid computers	1	281	3	4	72
620722	Men/boys night shirts or pyjamas, cotton not knit	0	150	43	58	63
480429	Paper, sack Kraft, other than unbleached uncoated	0	230	0	0	58
283719	Cyanides and cyanide oxide of metals except sodium	0	207	0	0	52
80510	Oranges, fresh or dried	0	105	37	37	45
901540	Photogrammetrical surveying instruments appliances	4	144	63	0	45
60310	Cut flowers and flower buds for bouquets, etc fresh	0	177	0	0	44
911180	Watch cases	0	109	12	30	3
843780	Machines to mill or work cereals or dried legumes	0	132	0	0	33

Source: Computed using data from Trademap (2013)

Table 4: Top 20 products with highest RCA in Namibia

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

Source: Computed using data from Trademap (2013)

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

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430130	Raw Persian and similar lamb furskins	562	649	1601	897	927
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150300	Lard stearin, oleostearin & oils, natural tallow oil	123	79	8	0	53
510540	Coarse animal hair, carded or combed	125	53	0	0	40
20410	Lamb carcasses and half carcasses, fresh or chilled	92	69	0	0	40
30510	Flours, meals & pellets of fish for human consumption	65	50	27	0	36
50690	Bones and horn-cores unworked or simply worked	69	33	4	2	27
811213	Beryllium waste & scrap	62	8	0	0	18

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.

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