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UGANDA'S REVEALED COMPARATIVE ADVANTAGE: THE EVIDENCE WITH THE EAC AND CHINA



By:

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ABSTRACT

The paper examines the comparative advantage of Uganda's exports to the East African Community (EAC) partner states, and how it has evolved during the implementation of the EAC treaty. In addition, the paper seeks to identify commodities that Uganda should specialize in as a basis to enhance the ability to benefit from the special preferential treatment extended to Uganda by China. The paper applies various indices in the measurement of Uganda's Revealed Comparative Advantage (RCA) on all products at Harmonised System (HS4)-digit product levels. The HS4-digit product level data was obtained from World Integrated Trade Solution (WITS) UNCTAD COMTRADE database. The empirical evidence of Uganda's comparative advantage in this context is largely dependent on the individual country under consideration. However, it is evident that Uganda's list of commodities for exports to the EAC partner states is rapidly expanding and the RCA has increased especially during the implementation of the Customs Union. This is plausibly explained by the removal of internal tariffs along Uganda's borders with the EAC partner countries and the adoption of a common external tariff. The paper therefore recommends that the identified list of commodities with RCA should be the basis for strategically informing the Uganda industrialization strategy within the context of further EAC integration. Uganda has RCA in only 234 product lines from the list of 4,401 HS 6-digit level disaggregation, suggesting that Uganda will minimally benefit on the basis of revealed comparative advantage. As an alternative, Uganda should explore policy options that could address supply constraints in a bid to increase the range of products Uganda could export to China, as well as the regional Partner States.

Key words

Revealed comparative advantage, partner states, trade flows, customs union, product lines, desegregation, and Harmonised System.

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1. INTRODUCTION

Trade flows among the East African Community (EAC) Partner States have grown steadily since the commencement of the implementation of the regional integration. This is a fulfilment of Article 25 of the EAC Customs Union (CU) protocol that commits Partner States to supporting exports within the Community in order to accelerate economic development. With regards to Uganda, there is little rigorous empirical analysis, if any, to establish the comparative advantage the country holds towards each of its EAC Partner States. The development of the EAC industrialization strategy has so far not benefited much from such analysis. This is because the literature on the subject is grossly limited necessitating more evidence. In addition, China has extended special preferential treatment to Uganda on a range of products which requires empirical analysis to identify those where Uganda holds a comparative advantage in order to optimise the country's gains.

It is against this background that this paper seeks to identify the commodities exported by Uganda to the rest of the EAC countries, and China in which Uganda has Revealed Comparative and Competitive Advantage. It analyses the competitiveness of Uganda in the EAC market and assesses Uganda's chances to benefit from the special preferential treatment offered on 4,401 product lines by China. It is expected that this will improve the formulation of strategic investment interventions in Uganda's export sectors.

The empirical evidence of Uganda's competitiveness is largely dependent on the individual country under consideration. However, what is true for all the EAC countries is that the list of products where Uganda has RCA is increasing. This is plausibly explained by the removal of internal tariffs along Uganda's borders with the EAC countries and adoption of a common external tariff by EAC member states. The findings shed light on the sectors/products which Uganda should specialise in strategically. The paper raises pertinent policy issues: in the spirit of the EAC regional integration, the identified list of commodities provides a basis for specialisation on the Ugandan side. This would inform the country's input into the EAC industrialization strategy. The identified products can inform the Development Strategy and Investment Plan and the National Export Strategy.

With specific focus on Uganda's exports to Rwanda and Burundi being re-exports, policymakers and the business community could make use of Uganda's strategic location to supply these partner states. This is because a sizeable amount of the exports are actually re-exported to these countries. The strategic location argument should look beyond Rwanda and Burundi to include South Sudan and Democratic Republic of Congo (DRC). With Uganda supplying less than 5 percent of the total list of products under the special preferential treatment offered by China, it the country should explore policy options that address supply constraints in order to increase the range of products exported to China.

1.1 Regional context and motivation

The three East African Countries of Uganda, Kenya and Tanzania have a strong historical background of co-operation which dates back to the early twentieth century. The latest attempt has its origins in the Agreement for the Establishment of a Permanent Tripartite Commission for East African Co-operation that was signed in Arusha on 30th November, 1993. The Agreement kick started the

process of reviving the defunct East African Community (EAC) that previously existed between 1967 and 1977. The Agreement was followed by the Memorandum on the Establishment of a Secretariat of the Permanent Tripartite Commission that was signed in Kampala on 26th November, 1994. The Cooperation Agreement was transformed into the East African Treaty that established the EAC. The Treaty signed on 30th November, 1999, came into force in July 2000 following ratification by the initial three partner states of Uganda, Kenya and Tanzania. Article 5 (2) of the EAC Treaty which provides for the integration has now been actualized with the formation of the Customs Union (2005) and the Common Market which now includes the additional partner states of Rwanda and Burundi.

The mission of EAC is to widen and deepen economic, political, social and cultural integration in order to improve the quality of life of the people of East Africa through increased competitiveness, value added production, trade and investment. Article 25 of the East African Community Customs Union (EACU) Protocol highlights the commitment of partner states to support export promotion schemes in the Community for the purposes of accelerating development, promoting and facilitating export oriented investments, producing export competitive goods, developing an enabling environment for export promotion schemes and attracting foreign direct investment.

However, in spite of these provisions, little has been done to empirically establish the comparative advantage and competitive positions of the EAC partner states and in this particular case Uganda. The need to establish the countries' comparative advantage is imperative towards guiding the EAC partners in making their strategic investment plans. Due to the fact that there is scanty literature on the subject, there is need for more comprehensive research to be conducted. The EAC partner states are currently developing the regional industrialization strategy for 2010-2030, which aims at identifying areas (sectors) of strength which each partner state should specialize in. A grounded study of the RCA could inform the process of developing the industrial strategy.

The proposed main flagship industries identified for Uganda in the draft East African Industrialization strategy are petrochemicals and pharmaceuticals. Other industries include hydro-power generation, sugar, steel production, food processing, small-scale beverages, cement, tobacco, natural gas production, textiles and copper mining. Perhaps worth noting is that the level of product aggregation is high and the list is extremely short. This requires more rigorous empirical analysis of respective partner state's comparative advantages in order to implement such an industrialization strategy that will not only be complimentary but also increase the region's overall competitive advantage in its trade with global industrial powers such as China. This study focuses on Uganda.

Review of the related literature suggests that attempts were made in the past to measure Uganda's comparative advantage, for example, Eckhard and Ssemogerere (2004). This study was limited to only two countries of the EAC and was conducted in 2004 before the establishment of the EACU. It also limited itself to few firms without looking at the broad spectrum of Uganda's exports. Odhiambo (2010) focused on sensitive commodities at HS-2 digits and the analysis considered only Kenya yet the EAC is made of 5 countries. Sebagala (2008) was done at HS-1 digits level, which is an extremely high aggregation level and the data used was up to 2005. A common limitation of these two studies is the Harmonised System (HS) digit disaggregation level used as they stop at level 2, which is very narrow to give a better reflection. The ideal level should be at least 4 digits as it gives more details of the product lines.

There is mention of Uganda having a comparative advantage in agriculture and therefore agro-processing at policy level, but this claim lacks empirical evidence. For example, the Budget speech (MoFPED 2010a) and background to the budget (MoFPED 2010b) indicate that policymakers are of the view that Uganda's immediate comparative advantage lies in developing agriculture into a modern, efficient and highly productive sector. Accordingly, Uganda has a comparative advantage in food production and has the potential of becoming the food basket of the region. These claims lack the empirical analysis and evidence that should form the basis for the argument. Besides, Uganda's comparative advantage regionally may not be limited to only agriculture. It is against this background of limited empirical research that Uganda's comparative advantage within the EAC that this study seeks to provide empirical data.

China has offered special preferential tariff treatment to a number of African countries to export goods to the Chinese market at zero tariff line. Uganda is one of the beneficiaries. Specifically, China has offered preferential tariff treatment for 4,401 products from Uganda (at HS digit-6). The requirements of the preferential treatment are that the origin of goods eligible and imported directly to China from the beneficiary country are: goods wholly obtained or produced entirely in the beneficiary country; and goods not wholly obtained or produced entirely in the beneficiary country but whose 'last substantial transformation' is performed in that country. At the continental level, the implementation of zero tariff measures is intended to expand exports of African countries to China. Although the zero-tariff treatment of goods from Uganda is expected to improve the trade balance between China and Uganda, there are prerequisite for this to happen. Furthermore, even when 4,401 (HS digit-6) products can be exported to China at zero tariff line under this arrangement, the commodities where Uganda has RCA over China are not known. There are thus questions related to the capacity of Uganda to diversify production in order to export to China and the identification of commodities where Uganda has comparative advantage.

The current study sought to establish the commodities that Uganda has RCA over the EAC partner states and China.

1.2 Objectives

The overall objective of this study is to identify the commodities exported by Uganda to the rest of the EAC partner countries, and to China in which Uganda has RCA, with a view to improving the making of strategic investment interventions in Uganda's export goods sector. While for the case of the EAC, the study will identify commodities where Uganda should specialize in regionally; for China, it will seek to highlight commodities that Uganda could specialize in order to enhance its ability to benefit from the special preferential treatment extended by China. Specifically the paper seeks to:

- Identify the commodities where Uganda has RCA over each of the EAC partner states commodities at HS-4-digit level disaggregation; and
- Identify the commodities where Uganda has RCA over China at HS-4-digit and HS-6-digit level disaggregation.

The rest of the paper is organised as follows: Section two presents and discusses the pattern of trade between Uganda and EAC partner states, as well as with China. Section three presents a critical review of the related literature. The theoretical underpinning of the method used is discussed in section four and the discussion of the data used to achieve the objective of the study is presented in section five. Section six presents and discusses the empirical results prior to the concluding remarks in section 7.

2. TRADE FLOWS BETWEEN UGANDA AND THE EAC PARTNER STATES

Following the implementation of the EAC CU, the total volume of trade between the EAC partner countries registered a significant increase as demonstrated in Table 1. The presentation hereafter analyses trade flows between Uganda and the rest of the EAC partner states from 2000 to 2008. The analysis particularly covered the period 2000 to 2004 before the CU and 2005 to 2008 when the CU was under implementation, as well as the period of entry of new partner states - Rwanda and Burundi.

2.1 Trade flows between Uganda and EAC partner states

Kenya is Uganda's major trading partner among EAC countries. Trade between Uganda and Kenya steadily increased from 2000 although there was a more marked increase after 2006 following the progressive reduction in the internal tariffs. To illustrate this point, Uganda's export value to Kenya more than doubled from US\$ 60million in 2000 to US\$ 150million in 2008. On the other hand, Uganda's imports from Kenya grew from US\$ 296million in 2000 to US\$ 511million in 2008. There was a slight drop between 2005 and 2006 which is plausibly explained by the implementation of the principle of asymmetry where tariff lines on imports from Kenya were higher than the Most Favoured Nations (MFN) tariff lines. However, the period thereafter exhibits increase in Kenya's imports. Table 2 shows Uganda's export and import products where the country is likely to have a comparative advantage and comparative disadvantage with Kenya and Tanzania, respectively by looking at the value of trade.

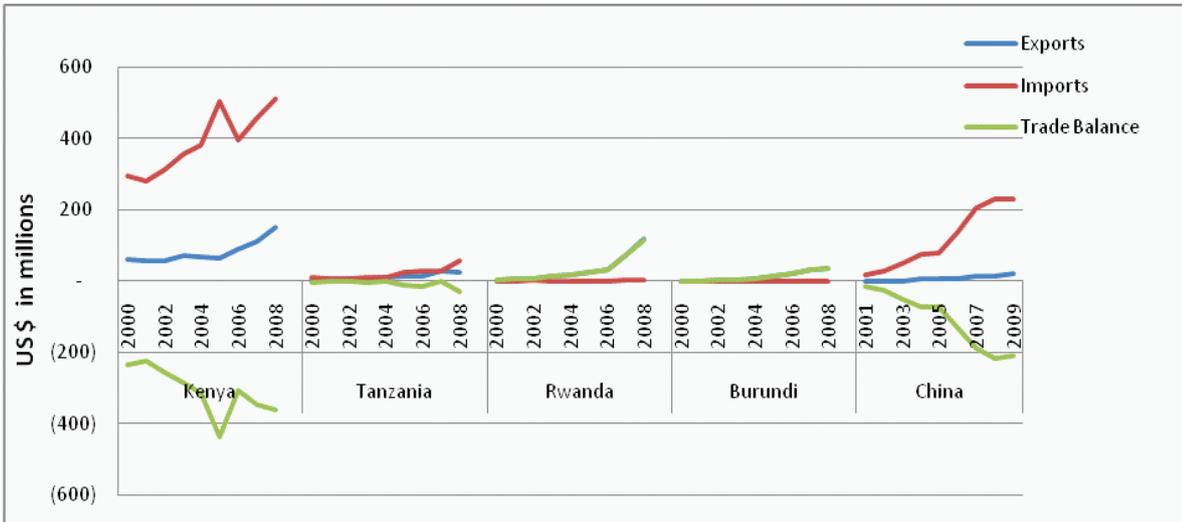
Table 1: Uganda's trade with EAC Partner States, ('000US\$)

Year	Kenya			Tanzania			Rwanda			Burundi		
	Exports	Imports	Trade Balance	Exports	Imports	Trade Balance	Exports	Imports	Trade Balance	Exports	Imports	Trade Balance
2000	60,2450	295,731	-235,481	4,182	8,845	-4,663	3,919	694	3,225	298	48	251
2001	56,909	281,275	-224,366	5,809	6,619	-811	5,173	352	4,821	572	1.4	570
2002	58,054	312,871	-254,818	5,095	7,510	-2,415	7,418	1,367	6,050	1,886	56	1,830
2003	71,967	357,327	-285,359	5,168	10,789	-5,622	14,180	536	13,644	3,102	26	3,076
2004	68,139	381,212	-313,073	11,507	10,590	917	17,556	120	17,436	8,051	29	8,021
2005	64,928	502,141	-437,213	12,842	25,563	-12,721	26,005	85	25,920	14,028	15	14,013
2006	88,002	396,493	-308,491	13,749	28,709	-14,960	30,524	377	30,148	20,554	17	20,536
2007	110,470	457,773	-347,304	27,335.8	29,197	-1,861	72,455	1,497	70,958	31,937	774	31,163
2008	150,477	511,236	-360,7589	26,247	55,483	-29,236	117,632	2,879	114,753	35,773	909	34,864

Source: Author's calculations based on ITC data collected by UBos.

It emerges that Uganda imported goods worth four to five times what it exported to Kenya. This is reflected in the large negative trade balance with Kenya as illustrated in Figure 1. The outcome of this pattern of trade between the two partner states has resulted into a huge negative trade balance for Uganda that grew from US\$ 235million in 2000 to US\$ 437 million in 2005 before declining to US\$ 360million in 2008.

Figure 1: Uganda's trade with EAC Partner States and China, (mill US\$)



In terms of the value of trade flows, Tanzania is one of Uganda's major EAC partner states although Rwanda has now overtaken it. Uganda's exports to Tanzania grew steadily from US\$ 4.2million in 2000 to US\$ 26million in 2008. The imports during the same period grew from US\$ 8.8million in 2000 to US\$55million in 2008. This pattern of trade between the two partner states resulted into a negative trade balance for Uganda for all the years except in 2004. Although the trade balance is persistently negative, it is small compared to that between Uganda and Kenya as shown in Figure 1. Table 2 gives a summary of export and import commodities between Uganda and Tanzania where Uganda is likely to have comparative advantage and comparative disadvantage, respectively when the value trade flows is considered.

Rwanda joined the EAC in 2007 during the implementation of the CU. Trade flows between Uganda and Rwanda reflect an increase in trade between the two countries over the years. The value of Uganda's exports to Rwanda grew from US\$ 3.9million in 2000 to US\$ 30million in 2006. Interestingly, after joining the EAC region, the value of exports more than doubled to US\$ 72million in 2007 and subsequently to US\$ 117 million in 2008. Imports from Rwanda into Uganda on the other hand grew from US\$ 0.7million in 2000 to US\$ 2.8million in 2008. This suggests that Rwanda heavily relies on Uganda for imports within the region to the extent that the value of her imports from Uganda is more than 50 times that of her exports to Uganda!

Table 2: Export and import products whose flow value has potential of comparative advantage/ disadvantage

Exports		Imports	
Code	Products	Code	Products
Kenya			
3	Fish and crustacean, mollusc and other aquatic invertebrate	22	Beverages, spirits and vinegar
6	live trees and other plants, bulbs, roots and cut flowers	25	Salt, sulphur, earth stone, plastering materials, lime and cement
7	Edible vegetables and certain roots and tubers	27	Mineral fuels, oils and products of their distillation
8	Edible fruits and nuts, peel of citrus fruit or melons	31	Fertilizers
8	Coffee, tea, matī and spices	34	Soap, organic surface-active agents and washing preparations
10	Cereals	48	Paper and paperboard, articles of paper pulp and paper/paperboard
12	Oil seed, oleaginous fruits, miscellaneous grain, seed and fruit	63	Articles made up of textile materials, and clothing
23	Residues and waste from the food industrial, preps of animal fodder	32	Iron and steel
24	Tobacco and manufactured tobacco substitutes	76	Aluminium and articles thereof
41	Raw hides and skins (other than fur skins) and leather	83	Miscellaneous articles of base metal
52	Cotton	84	Nuclear reactors, boilers, machinery and mechanical appliance/ parts
		85	Electrical machinery equipment parts thereof and sound recorder
		90	Optical, photography, cine, measures, checking and precision equip
		94	Furniture, bedding, mattress, mattress support and cushions
Tanzania			
1	Live animals	10	Cereals
2	Meat and edible meat offal	22	Beverages, spirits and vinegar
4	Dairy products birds' eggs, natural Honey and edible product	61	Articles of apparel and clothing access and knitted or crocheted
5	products of animal origin	62	Articles of apparel and clothing access, not knitted or crocheted
9	Coffee, tea, matī and spices	63	Articles made up of textile and worn clothing
24	Tobacco and manufactured tobacco substitutes	72	Iron and steel
27	Mineral fuels, oils and products of their distillation	84	Nuclear reactors, boilers, machinery and mechanical appliance
33	Essential oils and resinoids, perfumes, cosmetic/ toilet preparations	85	Electrical machinery equipment parts and sound recorders
34	Soap, organic surface-active agents and washing preparations (
39	Plastics and articles thereof		

Source: Own calculations based on ITC data collected by the Uganda Bureau of Statistics

Burundi is the one EAC partner state that has had the least trade flows with the rest of the partners especially with regard to exports. This has however been changing, more so after Burundi joined the EAC in 2007. Uganda's exports to Burundi amounted to about US\$ 0.3million in 2000 and increased to US\$ 1.9million in 2002. By 2005 the exports increased to US\$ 14 million, further increasing to US\$ 35 million in 2008 after joining the EAC region. Uganda's imports from Burundi increased during the same period although the value remained below US\$ 1million. For almost all commodities, export values outweigh the import values suggesting that Uganda has an absolute advantage over many commodities that are traded between the two countries.

2.2 Trade flows between Uganda and China

China and Uganda established trade relations during the early 1960s and trade between the two countries has continued to grow over the years. Table 3 presents the trends in trade between Uganda and China. The trade volume between the two countries rose from US\$16.5 million in 2001 to over US\$ 251.2 million in 2009. During the same period, Uganda's exports to China increased from US\$ 0.234million to US\$ 20million, a very significantly small amount compared to China's exports to Uganda that increased steadily from US\$ 16million in 2001 to over US\$ 231million in 2009. This demonstrates a very large trade imbalance between China and Uganda in the latter's disfavour. The trade imbalance has grown from US\$16 million in 2001 to over US\$ 228.7million in 2009. Thus, while Uganda's imports from China are growing steadily, Uganda's exports to China are growing but at a slower rate. Uganda mainly exports to China; cotton, coffee, leather, fish, oil seeds, timber and minerals and imports; textile and garments, mechanical and electronic appliances, pharmaceutical products, porcelain, electrical goods, furniture and enamel, and footwear.

Table 3: Uganda's trade with EAC Partner States and China ('000US\$)

Year	Exports	Imports	Trade Balance
2001	237	16,240	-16,003
2002	756	28,059	-27,303
2003	819	51,389	-50,570
2004	4,741	76,427	-71,686
2005	5,709	79,366	-73,657
2006	6,890	137,802	-130,912
2007	14,407	202,945	-188,538
2008	12,788	230,100	-217,312
2009	20,000	231,172	-228,694

Source: Own calculations based on ITC data collected by UBoS

3. REVIEW OF RELATED STUDIES

Comparative advantage is such an important concept in international economics theory. Its empirical measure can help identify the overall direction which a country's investment and trade should take in order to exploit international differences in product and factor supply demand (Vollrath 1991). The disaggregated measures of comparative advantage stand high chances of evaluating socially desirable specialization patterns along the narrowest product lines that exist. In this context the revealed comparative advantage for Uganda within the EAC will enhance the process of identifying the commodities that Uganda should specialize in regionally.

The body of literature on comparative advantage is as old as when trade shifted from autarky to international trade. What has however changed and developed over time are the analytical approaches used to measure the comparative advantage of countries over other countries in the production and sale of commodities. There are two prominent theories of trade based on comparative advantage, namely the Ricardian theory and the Heckscher-Ohlin (H-O) theory (Simsek et al. 2004). Ricardo argues that even if a country is able to produce everything more efficiently than another country, it stands to gain more from specializing in what it produces and trades best with other nations. Ricardo believed that wages should be left to free competition. At the centre of the Ricardian theory is the assumption that comparative advantage arises from differences in technology across countries.

On the other hand, the H-O theory suggests that technologies are the same for all countries and attributes comparative advantage to cost differences that arise from differences in factor prices across countries. In this case the H-O theory argues that a country's comparative advantage is determined by its relative factor scarcity, in this case factor endowment ratios, relative to the rest of the world or a set of countries being analysed.

The H-O has however had difficulties in explaining the measures in practice since relative prices under autarky are not observable. In addition, the price of a commodity is a function of other trade costs like taxes, transport and insurance among others. This means that the price of a commodity could be artificially high when factor prices are relatively low leading to affected commodities to lose their comparative advantage. For that matter Vollrath (1991) noted that comparative advantage appears to be the outcome of a number of factors of which some are measurable and others are not, some easily pinned down and others less so. His argument was premised on the work done by Balassa (1965) to explore the possibility of relying on various theoretical explanations of international trade to determine comparative advantage. Following from this argument, comparative advantage can be 'revealed' through the examination of real-world country commodity patterns given that actual exchange reflects relative costs and differences in non-price factors. Therefore the process of inferring comparative advantage from observed data is what has come to be known as RCA. Overtime different authors have contributed to the development of the different measures of RCA demonstrated in the subsequent sections.

The principle of comparative advantage is one of the oldest and most important concepts in economics; however, there is no consensus in the literature on its precise meaning, scope and measurement (Eckhart, 2007). Often times the concepts of competitiveness and comparative

advantage are used interchangeably which generates ambiguity leading to a wide range of interpretations. The literature identifies (see for example Dornbusch and Samuelson, 1977) market prices and equilibrium prices as the major source of the difference between competitiveness and comparative advantage. Accordingly, when costs are measured in terms of market prices, then one is dealing with competitiveness. On the other hand, when equilibrium prices are used, then the measurement is a comparative advantage.

This line of argument suggests that a producer has comparative advantage if their production costs in terms of equilibrium factor prices are lower than those of an international competitor, irrespective of what the sources of the cost advantage are. Eckhard (2007) identifies a number of sources of that advantage which include: abundance of either primary or intermediate inputs; use of better technology; and production on larger scale. For that matter, it is common in empirical trade literature to measure comparative advantage using the Balassa (1965) index of RCA.

3.1 Empirical literature

A number of studies have applied the theory of comparative advantage to estimate RCA using indicators derived from real post-trade observations (see for example Hillman, 1980; Bowen, 1983; 1985; 1986; Balance et. al. 1985; 1986 and Yeats, 1985). Given the various contributions by a number of authors, the consistency of the alternative RCA has come up as an issue. Balance et al.,(1987) examined the consistency of alternative RCA measures and found considerable incoherence and cautions on their use. Moenius (2006) derives and compares several production and export-based measures of comparative advantage within the Ricardian framework and finds that theoretically, correct production and export based indicators are equivalent when there are no trade costs such as transport fees, insurance and tariffs. However, when these costs are present, most of the measures perform poorly and the higher the costs, the poorer the measures. Hoen and Oosterhaven (2001) analyzed the properties of the standard RCA which runs from zero to infinity and established that there are problems with their properties. Accordingly, due to its multiplicative specification, it has a moving mean without a useful interpretation and its distribution depends on the number of countries and commodities/industries. Given this weakness, it is proposed that an alternative additive RCA, running from -1 to +1 with a bell shaped distribution that centres on a mean equal to zero be used as it is more stable empirically.

Palit and Nawani (2009) use indicators of comparative advantage to examine the relative competitiveness of Indian exports in the China market as a key factor in explaining the imbalance in bilateral trade. The study assesses the competitiveness of Indian exports against those from Southern Asia where the latter is taken as a major competitor of India's exports to China. The study established that India is more competitive in the China market vis-à-vis Southern Asian selected product categories.

Simsek et al. (2004) explore the competitiveness of Turkish firms in the European Union (EU) market by employing different trade measures of comparative advantage. The results reveal that at aggregate level, Turkey has comparative advantage in raw materials and labour intensive goods, a relative export advantage in capital goods, and comparative disadvantage in the research intensive goods. The results thus identify the sectors that Turkey should specialize in its efforts to increase exports to the EU. This kind of analysis can be instrumental in guiding Uganda to expand exports regionally.

Odhiambo (2010) used the RCA to analyse the impact of the Principle of Asymmetry on Uganda's export performance and competitiveness, with reference to the selected products. These commodities were considered and categorized as sensitive during the implementation of the EAC CU where Uganda had to levy a phased duty on goods entering Uganda from Kenya from 2005 to 2010. Odhiambo (2010) noted that the asymmetry policy did not have a significant impact in addressing the imbalances in competitiveness between Uganda and Kenya, during the implementation of the EAC CU. It is affirmed that Kenya's competitiveness is still higher than that of Uganda in the EAC. Although this is the case, Uganda still had a comparative advantage in some few sectors. The limitation of this study is that it focused on sensitive commodities and considered only Kenya and not the entire EAC region. The analysis was done at HS-2 digit level, which does not give a disaggregated reflection of the impact on individual product level. The ideal level for the analysis should have been at least at HS-4 digit level.

Another attempt to examine Uganda's competitive advantage was done by Sebagala (2008). The study looked at the competitiveness of Uganda's exports to the rest of the world between the 2000 and 2005. The study revealed that Uganda has a comparative advantage in indigenous sectors like food and live animals, beverages and tobacco and crude materials, vegetable oils and animal fats. On the other hand, Uganda has a comparative disadvantage in construction, manufacturing sectors, chemicals, manufactured goods, machinery and transport equipment, among others. The study used data between 2000 and 2005 and time has passed since then, in which case events in the region have overtaken the findings. Finally, like in the previous study, the analysis was done at HS-1 digit level, which does not give a disaggregated reflection of the impact on individual product level. The outstanding limitation of these studies conducted on Uganda mainly centres on their inability at 1-digit and 2-digit levels to robustly and accurately inform policy due to high level of disaggregation. The current study endeavours to analyse RCA at digit level 4 to overcome the identified shortfalls.

4. THEORETICAL UNDERPINNINGS

The measuring of comparative and competitive advantage has been done over decades using the RCA. The literature on this pertinent subject was initiated by Liesner (1958) and has since undergone remarkable influential contributions by several scholars (for example Balassa 1965; 1977; and Laaser and Schrader, 2002). There are however, difficulties with this approach in measuring comparative advantage as explained by (Balassa 1989: pp 42-44). Accordingly, the relative prices under autarky are not observable. The constituents of a final price go beyond what is observed and therefore a country's comparative advantage is a composition of many factors some of which are difficult to capture for example transport costs, tariffs and insurance costs. Based on this limitation, empirically it is proposed that comparative advantage is "revealed" by observed trade patterns.

The practice over the years has been the use of the Balassa (1965) index to analyse trade data to measure a country's comparative advantage. In a sense, the Balassa index attempts to identify whether a country has a "revealed" comparative advantage rather than to determine the underlying sources of comparative advantage. As earlier noted, the Balassa index has undergone modifications over the years to the extent that the variants shed more light on the subject matter and prominent among these is the Vollrath (1991) indices. The following section gives the details of the different

measures for comparative advantage developed over time following the work of Liesner (1958) shown in equation 1 as suggested by Simsek et al. (2004). Equation (1) presents the revealed comparative advantage index (RCA) as the ratio of exports (X) of the jth commodity from the ith country to the nth country (to include the EAC countries and China).

$$(1) \quad RCA_1 = \frac{X_{ij}}{X_{nj}}$$

Balassa (1965) come up with a more comprehensive and advanced measure of the RCA which has been widely accepted and modified in the literature to increase the robustness of the measure. The Balassa (1965) index is specified as expressed in equation 2:

$$(2) \quad RCA_2 = \frac{X_{ij}}{X_{it}} / \frac{X_{nj}}{X_{nt}} = \frac{X_{ij}}{X_{nj}} / \frac{X_{it}}{X_{nt}}$$

Where X represents exports; *i* is a country (Uganda); *j* is a commodity (or industry); *t* is a set of commodities (or industries); *n* is a country or a set of countries.

The RCA_2 measures Uganda's exports (a commodity or industry) relative to her total exports, and to the corresponding exports of a country or set of countries, and in this case the EAC or China. The interpretation of the index is such that when $RCA_2 > 1$, there is a revealed comparative advantage for Uganda for that commodity or industry. On the other hand, if $RCA_2 < 1$, Uganda has a comparative disadvantage in the commodity or industry. However, the RCA_2 is criticized for omitting imports especially in its analysis (see for example, Greenaway and Milner 1993; Hoen and Oosterhaven 2001). To be able to simultaneously measure RCA for both exports and imports another index is proposed, which measures a country's trade performance as expressed in equation 3:

$$(3) \quad RCA_3 = \left(\frac{X_{ij} - M_{ij}}{X_{ij} + M_{ij}} \right)$$

Where, M is imports. The RCA_3 index ranges from -1 to 1. When it is $-1 < 0$ ($X_{ij} = 0$), then a country is said to experience a comparative disadvantage and when it is $0 < 1$ ($M_{ij} = 0$), a country is said to have a comparative advantage. The problem with the index is the ambiguity around zero. If the indices turn out to be zero, then it is difficult to tell whether it is a revealed comparative advantage or disadvantage. Another version of the RCA version is derived as in equation 4 to overcome the ambiguities around zero.

$$(4) \quad RCA_4 = \left(\frac{X_{ij}}{X_{it}} \right) / \left(\frac{M_{ij}}{M_{it}} \right) = \left(\frac{X_{ij}}{M_{ij}} \right) / \left(\frac{X_{it}}{M_{it}} \right)$$

Simsek et al. (2004) derives another version of equation 4 from Balassa (1965) and notes that equations 3, 4 and 5 can be calculated either in global or bilateral/regional levels.

¹This is because there has been tariff restructuring under the EAC custom union (common external tariff) and the asymmetry tariff liberalization.

$$(5) \quad RCA_5 = \ln\left(\frac{X_{ij}}{X_{it}}\right) / \ln\left(\frac{M_{ij}}{M_{it}}\right) * 100 = \ln\left(\frac{X_{ij}}{M_{ij}}\right) / \ln\left(\frac{X_{it}}{M_{it}}\right) * 100$$

As earlier noted, the fact that there are a number of indices proposed to measure comparative advantage, there are possibilities of inconsistencies. Scholars have questioned the stability and consistency of the alternative RCA measures (for example, Yeats 1985; Hinloopen and Van Marrewijk, 2001). This implies that results of the different indices should be interpreted cautiously by making comparisons between the indices to gauge the degree of consistency.

5. DATA SOURCE

This study applied various indices in the measurement of Uganda's revealed comparative advantage and competitiveness on all products at HS 4-digit product levels. The HS 4-digit product level data was obtained from World Integrated Trade Solution (WITS)-UNCTAD COMTRADE data base. The analysis captured the period 2001 to 2009, that is, four years before the inception of the EAC CU and the period thereafter. The period 2005 to 2009 was also the timeframe under which Uganda and Tanzania were enjoying the EAC CU Principle of Asymmetry on Category B products from Kenya before the coming into effect of the Common Market on 1st July 2010 where all products meeting the rules of origin criteria from the partner countries faced a zero tariff. Similar data source was used for China's analysis.

6. RESULTS

The RCA was comparably computed using all the five Indices. Overall, the results from all the five indices tend to converge on similar product levels for Uganda across all EAC partner state. Comparisons were made based on the robustness of the results and equation 4 produced the most plausible results. The choice of the results in equation 4 was based on the fact that it incorporates Uganda imports, the exports of the competing country and the non ambiguity around zero. The discussion of results hereinafter is based on Eq. (4) - RCA_4 index. The presentation is done to reflect the period before the EAC CU - 2001 to 2004; and during the implementation of the CU from 2005 to 2009. This is intended to highlight the role of the EAC integration in determining the trends in Uganda's comparative advantage. Furthermore, the analysis highlights the commodities where Uganda has consistently had comparative advantage over the other EAC partner states before and after the CU. On the other hand, for China the presentation mainly identifies products that have had comparative advantage at least once during the period of analysis.

6.1 The commodities revealing RCA between 2001 and 2009

The commodities that consistently had RCA before and after the formation of the EAC CU are discussed first. This gives a firm basis for the identified products for specialization by Uganda for exports to the EAC partner states. With regard to Kenya, all the RCA indices, analysed at the 4-digit disaggregation level reveal that Uganda consistently had comparative advantage in a number of commodities over Kenya from 2001 to 2009 (Table 4). It is observed that most of the commodities where Uganda had RCA over Kenya are agricultural products, with limited processing for a few.

The process of increasing the share of processed products to Kenya needs to be cultivated. Whereas in the short run Uganda should explore increasing production of these commodities to increase export revenue returns from Kenya, in the long run, the country should promote processing to add value to some of these commodities to fetch higher export revenue.

Rwanda joined the EAC in 2007 and has since then become a major trading partner of Uganda. The commodities analysed at 4-digit disaggregation level for all the indices show that Uganda had RCA over Rwanda for a range of commodities (Table 4), which include fresh and processed agricultural products, chemical products, industrial products made out of steel and iron, and petroleum by-products. It should be noted that some of these commodities, may not be made in Uganda but are imported from elsewhere in the world, which Rwanda conveniently imports from Uganda. This is premised on the fact that Uganda is a strategic inland location regarding imports to countries in the Lake Victoria basin region beyond Kenya and Tanzania of which Rwanda is one. The fact that the list of commodities where Uganda has RCA is long, demonstrates Rwanda's dependence on Uganda.

The 4-digit disaggregated level indices for trade between Uganda and Tanzania reveals that Uganda had comparative advantage over Tanzania in a number of sectors which include foods and livestock, tobacco, petroleum products, chemical products, a range of plastic products, and some products of iron and steel. The products largely consist of agricultural products, processed products and industrial products (Table 4). Uganda could specialise in these commodities for purposes of increasing the country's exports to Tanzania. However the list is rather short confirming the slow growth of Uganda's exports to Tanzania in comparison to Rwanda and Burundi.

Burundi relies on Uganda for a wide range of commodities and in turn exports a limited number of commodities to Uganda. This heavily influences the outcome of the computed RCA between the two countries. The commodities that consistently maintain RCA for Uganda over Burundi are listed in Table 4 and they include foods, cement, chemical products, a limited range of petroleum products, plastic products, wood products, stationery, articles of steel and iron, among others. Although most of these products are made in Uganda, some are imported into Uganda and then re-exported to Burundi where Uganda takes advantage of being strategically located to supply the region (Rwanda, Democratic Republic of Congo and Southern Sudan).

Table 4: HS4-digit level sectors with RCA for all the EAC Partner States, 2001-2009

Code	Commodities	K	R	T	B	A	Code	Commodities	K	R	T	B	A
105	Live poultry			x		1	2929	Compounds with other nitrogen function					2
302	Fish, fresh, whole	x				1	3002	Human & animal blood; antisera, vaccines, toxins, micro-organism culture	x				1
304	Fish filets and pieces, fresh, chilled or frozen	x				1	3204	Synthetic organic coloring matter & preparations	x				1
305	Fish, cured/smoked and fish meal fit for human consumption	x				1	3208	Nonaqueous solution of paint & varnish	x				1
402	Milk and cream, concentrated or sweetened	x		x		1	3304	Beauty, make-up and skin-care preparations, sunscreens, mani-pedi-cure	x	x	x	x	4
708	Leguminous vegetables, shelled or unshelled, fresh or chilled	x				1	3306	Oral & dental hygiene preparations	x				2
713	Dried vegetables, shelled	x	x	x	x	4	3401	Soap: organic surface-active preparations for soap use	x	x	x	x	2
804	Pineapples, mangoes, avocados, guavas	x				1	3402	Organic surface-active agents, washing & clean preparations, nes	x	x	x	x	3
901	Coffee	x				1	3405	Polishes & creams for footwear, furniture, floors, glass, metal etc	x				1
902	Tea	x	x			2	3406	Candles, tapers & the like					1
1005	Maize (corn)	x	x	x	x	4	3602	Prepared explosives, other than propellant powders					1
1006	Rice		x			1	3905	Polymers of vinyl acetate/o vinyl esters & vinyl poly, in primary forms	x				1
1008	Buckwheat, millet and canary seed	x				1	3907	Polyacetal, polyether, epoxide resin, polycarbonate, etc, in primary form	x				1
1101	Wheat or meslin flour		x		x	2	3917	Tubes, pipes & hoses & fittings thereof plastics	x	x	x	x	3
1102	Cereal flours other than of wheat or meslin		x		x	2	3922	Baths, shower-baths, wash-basins, bidet etc of plastic	x	x	x		2
1104	Cereal grain, worked post hulling, excluding rice	x			x	2	3923	Plastic packing goods or closures stoppers, lids, caps, closures, plastics	x	x	x	x	3
1108	Starches and inulin	x				1	3924	Tableware, kitchenware, toiletry articles, of plastic				x	2
1207	Oil seeds	x				1	3925	Builders' ware of plastics, nes					1
1208	Flour and meals of oil seeds	x				1	4011	New pneumatic tires, of rubber		x			1
1511	Palm oil & its fraction		x	x		2	4412	Plywood, veneered panels and similar laminated wood		x			2
1516	Animal or vegetable fats, oils and fract, hydrogenated		x		x	2	4420	Wood marquetry & inlaid wood; caskets & cases or cutlery of wood			x		1
1517	Margarine		x		x	2	4802	Uncoated paper for writing, printing etc.					1
1701	Cane or beet sugar and chemically pure sucrose, in solid form		x			1	4819	Packing containers, of paper, paperboard, cellulose wadding, webs	x	x	x	x	3
1704	Sugar confectionery (incl white choc), not containing cocoa		x			1	4820	Registers, acct, note, order books etc; other stationary articles of paper		x			2
1905	Bread, biscuits, wafers, cakes and pastries		x			1	5201	Cotton, not carded or combed					1
1905	Bread, biscuits, wafers, cakes and pastries				x	1	5203	Cotton, carded or combed	x				1
2008	Preserved fruits nes	x				1	6305	Sacks and bags of a kind used for the packing of goods		x	x	x	3
2009	Fruit and vegetable juices, unfermented	x	x		x	3	6309	Worn clothing and articles					1
2203	Beer made from malt		x			1	7208	Flat-rolled products of iron/non-al/s width>=600mm, hr, not clad	x				1
2208	Spirits, liqueurs, other spirit beverages, alcoholic preparations		x			1	7210	Flat-rolled prod of iron or non-al/s wd>=600mm, clad, plated or coated	x				1
2306	Oil-cake nes	x				1	7214	Bars & rods of iron/non-al/s, nfw than forged, hr, hd, /hot-extruded	x	x	x	x	3
2309	Animal feed preparations, nes	x				1	7215	Bars & rods of iron or non-alloy steel nes					1
2401	Tobacco unmanufactured; tobacco refuse	x				2	7216	Angles, shapes and sections of iron or non-alloy steel		x	x	x	3
2523	Cements, Portland, aluminous, slag, super sulfate & hydraulic		x	x	x	3	7217	Wire of iron or non-alloy steel					2
2712	Petroleum jelly; mineral waxes & similar products		x			2	7306	Tubes, pipes and hollow profiles of iron or steel, nes		x	x	x	3
2804	Hydrogen, rare gases & other non-metals			x		1	7317	Nails, staples & sim art, iron & steel		x			2
2823	Titanium oxides		x			1	7606	Aluminum plates, sheets and strip, of a thickness exceeding 0.2mm		x			1
2903	Halogenated derivatives of hydrocarbons				x	1	7610	Aluminum structure nes&part of structures					1

Notes: K=Kenya, T=Tanzania, R=Rwanda, Burundi=Burundi and A= Totals. Source: Author's calculations.

6.2 The sectors revealing RCA between 2001 and 2004

There are sectors or commodities that had RCA during the implementation of the EAC FTA and upon furthering the cooperation into a CU, lost the advantage. This could be explained by the likely switching within the EAC of imports to the other partner states other than Uganda hence losing the RCA following the tariff reduction phase. Results in Table 5, indicate the commodities where Uganda no longer has RCA over the EAC partner states. These commodities are quite few compared to those that gained advantage, suggesting that the implementation of the EAC has had an overall positive impact on intra regional trade as far as Uganda is concerned. In this case, although Uganda has continued exporting these commodities to the EAC partner states, the latter have a RCA over the former and thus, these commodities may not form areas of specialization for Uganda.

Table 5: HS4 –digit level sectors with RCA for all the EAC partner states before EAC CU, 2001-2004

Code	Commodities	Kenya	Rwanda	Tanzania	Burundi
201	Meat of bovine animals, fresh or chilled				x
407	Birds' eggs in shell			x	
603	Cut flowers and flower buds for bouquets, fresh or dried	x			
710	Frozen vegetables	x			
807	Melons (including watermelons) & papayas, fresh	x			
1105	Flour, meal and flakes of potatoes	x			
2104	Soups, broths & preparations thereof				x
2530	Mineral substances, nes	x			
2828	Hypochlorite; commercial calcium hypochlorite; chlorites; hypobromides		x		
2922	Oxygen-function amino-compounds		x		
2923	Quaternary ammonium salts & hydroxides; lecithin		x		
5201	Cotton, not carded or combed		x		
7228	Bars and rods other alloy steel; hollow drill bars, etc.			x	
7301	Sheet piling, etc of iron/steel				x
9603	Brooms/brushes (tooth, toilet, painting);squeegee				x

Source: Author's calculations

6.3 The commodities with RCA during the Post CU period (2005-2009)

Following the implementation of the EAC CU that started in 2005, a number of commodities listed in Table 6 which previously never exhibited RCA changed in favour of Uganda. As earlier noted this implies that the implementation of the CU improved Uganda's RCA with the EAC partner states over a number of commodities. This could partly be attributed to the elimination of tariffs that eventually boosted trade among the EAC partner states. Note that these commodities should be added to the first list in Table 6 to give a complete current list of commodities where Uganda has RCA over the EAC partner states. The current list thus consists of the commodities that have remained with comparative advantage since 2001 and the new commodities where Uganda exhibited RCA after 2005 (Appendix A 1).

For Kenya, although most of the new commodities are agricultural commodities, a number of them are processed industrial products demonstrating a shift during the implementation of the CU. The Kenyan example reveals the transformation of the commodities where Uganda has RCA. This suggests that there is room for building a dynamic comparative advantage in additional product levels by promoting innovation and technological transformation.

Uganda's exports to Rwanda with RCA tremendously increased after the latter joined the EAC. Notable among the new categories of commodities are food, livestock and livestock products, and miscellaneous manufactured products in addition to expanding commodities in the previous categories. As alluded to, this list is long and clearly demonstrates the reliance of Rwanda on commodities from Uganda. Uganda should exploit this trend while it exists as Rwanda may invest in a range of similar commodities in the long run which will tilt the comparative advantage in Uganda's disfavour. In the mean time, for the EAC regional integration, this list of commodities provides a basis for specialization on the side of Uganda.

The number of commodities where Uganda has advantage over Tanzania increased during the implementation of the CU. This confirms that the implementation of the EAC integration has increased trade between the two partner states. The major categories of the commodities include food and livestock, electrical energy, processed products and preparations, a limited range of steel products, stationery and coffee. The post EAC CU era shows that Uganda increased the number of commodities where it has RCA over Burundi.

The broad categories of these commodities even expanded and include: live animals, fish, animal products, foods and food preparations, unmanufactured tobacco and tobacco refuse, plastic articles, wood and paper products, foot ware and tents, ceramics, iron and steel articles of, aluminium articles and machinery, among others. These are similar to those traded with Rwanda and they are composed of goods produced in Uganda and goods imported into Uganda and then re-exported. These include tools, machinery and high technology products which Uganda imports and re-exports mainly to Rwanda and Burundi. Although these products may not form the basis for regional specialization, Uganda may use them to take advantage of the regional strategic location to re-export to Rwanda, Burundi, Democratic republic of Congo and Sudan.

Table 6 : HS4-digit level sectors with RCA for all the EAC Partner States after EAC CU, 2005-2009

Code	Commodities	K	R	T	B	A	Code	Commodities	K	R	T	B	A
0102	Live bovine animals		x		x	2	2302	Bran, sharps and other residues	x				1
0105	Live poultry		x		x	2	2306	Oil-cake nes			x		1
0303	Fish, frozen, whole	x				1	2401	Tobacco unmanufactured; tobacco refuse				x	1
0305	Fish, cured/smoked and fish meal fit for human consumption		x		x	2	2508	Clay nes					1
0401	Milk and cream, not concentrated nor sweetened	x	x	x	x	4	2510	Calcium and aluminum phosphates, natural & phosphatic chalk		x			1
0402	Milk and cream, concentrated or sweetened	x	x			1	2516	Granite, porphyry, basalt, sandstone & other monumental or building st		x			1
0405	Butter and other fats and oils derived from milk	x	x			2	2617	Ores and concentrates, nes		x			1
0407	Birds' eggs in shell			x		1	2712	Petroleum jelly; mineral waxes & similar products					1
0408	Birds' eggs dried			x		1	2716	Electrical energy	x		x		2
0710	Frozen vegetables			x		1	2803	Carbon (carbon blacks & other forms of carbon, nes)		x		x	2
0714	Manioc, arrowroot salem (yams) etc		x		x	2	2809	Diphosphorus pentoxide; phosphoric acid and polyphosphoric acids					1
0901	Coffee			x		1	2821	Iron oxides & hydroxides		x			1
0904	Pepper, peppers and capsicum	x				1	2826	Fluorides; fluorosilicate, fluoroluminates & other complex fluorine salt		x			2
1102	Cereal flours other than of wheat or meslin			x		1	3002	Human & animal blood; antisera, vaccines, toxins, micro-organism cultu					1
1106	Flour and meal of vegetables, roots and tubers or fruits		x		x	2	3005	Dressings packaged for medical use		x			1
1108	Starches; inulin					1	3204	Synthetic organic colouring matter & preparations					1
1206	Sunflower seeds, whether or not broken	x		x		2	3208	Non-aqueous solution of paint & varnish					1
1208	Flour and meals of oil seeds			x		2	3209	Aqueous solution of paint & varnish					2
1211	Medicinal plants	x		x		2	3215	Printing, writing or drawing inks & inks nes			x		2
1512	Safflower, sunflower/cotton-seed oil & fractions	x	x	x		4	3402	Organic surface-active agents; washing & clean preparations, nes	x				2
1515	Fixed vegetable fats and oils & their fractions	x	x			2	3603	Safety fuses; detonating fuse; percussion or detonating caps, igniters		x			1
1516	Animal or vegetable fats, oils & fract, hydrogenated	x		x		2	3605	Matches o/t pyrotechnic articles of hd no 36.04		x			2
1520	Glycerol (glycerine)		x			1	3701	Photographic plates & film, flat, sensitized, unexposed					1
1701	Cane or beet sugar and chemically pure sucrose, in solid form				x	2	3814	Organic composite solvents & thinners nes; prepaint/varnish removers		x			2
1704	Sugar confectionery (incl white choc), not containing cocoa				x	1	3815	Reaction initiators & accelerators, catalytic preparations, nes	x				1
1801	Cocoa beans, whole or broken, raw or roasted	x				1	3901	Polymers of ethylene, in primary forms					1
1901	Malt extract; food preps of flour, meal, starch or malt extract				x	1	3910	Silicones in primary forms					1
2002	Tomatoes prepared or preserved		x			1	3915	Waste, parings and scrap, of plastics	x				1
2009	Fruit & vegetable juices, unfermented			x		1	3922	Baths, shower-baths, wash-basins, bidet etc of plastic					1
2106	Food preparations, nes			x		1	3925	Builders' ware of plastics, nes					1
2201	Mineral & aerated waters		x	x	x	3	3926	Article of plastic nes.					1
2207	Ethyl alcohol & other spirits (if indented, higher than 80%		x			1	4005	Compounded rubber, unvulcanized, in primary forms			x		1
2208	Spirits, liqueurs, other spirit beverages, alcoholic preparations				x	1	4011	New pneumatic tires, of rubber	x				2

Code	Commodities	K	R	T	B	A	Code	Commodities	K	R	T	B	A
4103	Raw hides and skins nes	x				1	7304	Tubes, pipes and hollow profiles, seamless, or iron or steel					1
4115	Composition leather with a basis of leather/leather fibre sheets			x		1	7309	Iron & steel reservoirs, tanks, vats (cap >300l)		x			1
4410	Particle board and similar board of wood/other ligneous materials		x			1	7310	Iron & steel tank, cask, drum can, boxes (cap <= 300l)		x			1
4413	Densified wood, in blocks, plates, strips or profile shapes		x			1	7311	Containers for compressed or liquefied gas, of iron or steel				x	1
4415	Packaging materials of wood		x			1	7314	Cloth, grill, netting and fencing, of iron & steel wire					1
4418	Builders' joinery & carpentry of wood		x			1	7317	Nails, staples & sim art, iron & steel			x		1
4419	Tableware and kitchenware of wood		x			1	7326	Articles of iron or steel nes					1
4420	Wood marquetry & inlaid wood; caskets & cases or cutlery of wood		x			1	7403	Refined copper and copper alloys, unwrought		x			1
4504	Agglomerated cork & articles of agglomerated cork		x			1	7602	Aluminum waste and scrap					1
4801	Newsprint, in rolls or sheets				x	1	7606	Aluminum plates, sheets and strip, of a thickness exceeding 0.2mm				x	1
4803	Paper, household/sanitary, rolls of a width > 36 cm		x			1	7607	Aluminum foil of a thickness not exceeding 0.2mm		x			1
4806	Vegetable parch, greaseproof, tracing, glassine paper etc in rolls		x			1	7610	Aluminum structure nes & part of structures					1
4810	Paper & paperboard, coated with kaolin/other inorganic substanc				x	1	7612	Aluminum container (cap <= 300l)		x			1
4817	Card, envelope, letter/corr, plain postcard, stat of pp; box, wallet,		x			1	7613	Aluminum containers for compressed or liquefied gas					1
4818	Toilet paper, handkerchiefs, tissues, napkins, table cloths, diapers,		x			1	7616	Articles of aluminum nes					1
4820	Registers, acct, note, order books ; other stationary articles of pap		x			1	7802	Lead waste and scrap			x		1
4821	Paper or paperboard labels of all kinds				x	1	8212	Razors and razor blades		x			1
5203	Cotton, carded or combed		x			1	8214	Article of cutlery, nes, cleavers, pedicure sets		x			1
5204	Cotton sewing thread		x			1	8413	Pumps for liquids; liquid elevators					1
5208	Woven cotton fabrics, 85% or more cotton, weight less than 200		x			1	8419	Machinery, plant/lab , involving a change of temp ex heating, cooki					1
5601	Wadding of tex mat & art thereof tex fib<=/=5mm l(flock)				x	1	8438	Machinery, nes, for the ind preparation or mfr of food or drink					1
6210	Garment made up of fabric of heading no 56.02,56.03,59.03,59.06				x	1	8456	Mach-tool for removal of material by laser ,photon beam, plasma		x			1
6306	Tents & camping goods, tarpaulins, sails for boats, etc				x	2	8459	Machine-tool for drill/boring/milling, threading/tapping (o/t hd			x		1
6402	Footwear nes, outer soles and uppers of rubber or plastics				x	1	8460	Machine-tool for debarring/grinding, etc		x			1
6403	Footwear, upper of leather			x		1	8461	Machine-tool -planning/shaping, sawing & other mach-tool - metal		x			1
6404	Footwear, upper of textile mat				x	1	8468	Machinery and appliances for solderg, brazg (o/t those of hd 85.15)		x			1
6811	Articles of asbestos-cement, of cellulose fiber-cement		x			1	8705	Special purpose motor vehicles (fire fight vehicle ,crane lorry)			x		1
6904	Ceramic building bricks, flooring blocks support/filler tiles				x	1	8907	Floating structure, nes (raft/tank/ coffer-dam / landing stage)		x			1
6912	Ceramic tableware, kitchenware, other than porcelain/china				x	1	9202	Other string musical instruments (e.g. guitars, violins, harps)		x			1
7006	Glass of 70.03, 70.04, 70.05 bent, edge worked etc not framed etc		x			1	9403	Other furniture and parts thereof			x		1
7223	Wire of stainless steel				x	1	9404	Mattress supports; mattresses, quilts, etc			x		1
7227	Bars & rods, hot-rolled, in irregularly wound coils, other alloy steel		x			1	9404	Mattress supports; mattresses, quilts, etc					1
7303	Tubes, pipes and hollow profiles, of cast iron		x			1							

Source: Author's computations

6.4 The commodities revealing weak RCA

There are commodities that exhibited rather weak indices of RCA. The weakness is characterised by comparative advantage (CA) in some years and comparative disadvantages in other years, and in some instances very low ratios of CA throughout the period of analysis.

The commodities in this category largely consist of both agricultural and processed products with the latter being more than the former. Some of these commodities are imported and re-exported to Kenya, for instance; tableware, kitchenware, toiletry articles among others. Although exhibiting weak indices, these commodities form a sizeable proportion of Uganda's exports to Kenya (Table 7). There are a few commodities where Uganda's RCA over Burundi is weak. These commodities consist of rice, a few chemical products, some aluminium products and agricultural goods. Uganda should therefore increase exports of these commodities.

Table 7: Commodities with weak RCA

Code	Commodities	Kenya	Burundi
0602	Plants, live, nes (including their roots), cuttings and slips; mushroom spawn	x	
0910	Ginger, saffron, turmeric, thyme, bay leaves & curry	x	
1006	Rice	x	X
1007	Grain sorghum	x	
1101	Wheat or meslin flour	x	
1102	Cereal flours other than of wheat or meslin	x	
1103	Cereal grouts, meal and pellets	x	
1202	Ground-nuts, not roasted	x	
2201	Mineral and aerated waters	x	
2402	Cigars, cheroots, cigarillos & cigarettes	x	
2501	Salt		x
2712	Petroleum jelly; mineral waxes & similar products	x	
3003	Medicament mixtures (not 3002, 3005, 3006) not in dosage	x	
3307	Personal toilet preparations shaving preparations, deodorants etc.	x	
3401	Soap; organic surface-active preparations for soap use	x	
3907	Polyacetal, polyether, epoxide resin, polycarbonate, etc, in primary form		x
3924	Tableware, kitchenware, toiletry articles, of plastic	x	
4404	Hoop wood; split poles; piles, pickets, stakes; chip wood	x	
4407	Wood sawn/chipped lengthwise, sliced/peeled	x	
4410	Particle board and similar board of wood or other ligneous materials	x	
4823	Other paper, paperboard, cellulose wadding cut to size & adhesive paper	x	
4910	Calendars of any kind, printed, including calendar blocks		x
5608	Knotted netting of twine, cordage/rope made up fishing nets	x	
6110	Jerseys, pullovers, cardigans, etc, knitted or crocheted	x	
6305	Sacks and bags of a kind used for the packing of goods	x	
6309	Worn clothing and articles	x	
7615	Aluminum table, kitchen, household articles		x
8201	Hand tools of a kind used in agriculture horticulture or forestry		x
9609	Pencil (o/t ballpoint & pencil of hd no 96.08), pencil leads, chalks &t		x

Source: Author's calculations

Note: The question remains whether a re-export would qualify as a commodity of comparative advantage to a given country.

6.5 Comparative analysis of products with RCA and products from other initiatives

In this section, the final list of Uganda's products with RCA in Appendix A1 is compared to the lists in Table 8. This is partly to assess how comprehensive the lists are with regard to targets of these policy documents.

Table 8: Commodities identified by different initiatives

The MAAIF DSIP 2010/11 2014/15	The UEPB NES 2008 – 2012	The EAC draft regional Industrialization Strategy
1. Coffee	1. Coffee	Main flagship industries for Uganda
2. Fish	2. Fish	1. Petrochemicals
3. Cotton	3. Cotton	2. Pharmaceuticals
4. Tea	4. Tea	Other industries include
5. Dairy cattle	5. Dairy	1. Hydro-power production
6. Beef cattle	6. Fruits	2. Sugar
7. Fruits	7. Vegetable	3. Steel production
8. Maize	8. Textiles and garments	4. Food processing
9. Beans	9. Floriculture	5. Small scale beverages
10. Cassava	10. Services	6. Tobacco
11. Poultry	11. Cereals	7. Natural gas production
12. Bananas	12. Pulses	8. Textiles
13. Goat	13. Oil seeds	9. Copper production
14. Irish potatoes	14. Commercial handicrafts	10. Cement
15. Rice	15. Manufacturing	
	16. Natural ingredients for food, pharmaceutical & cosmetic industries	

Source: The DSIP (2010), NES (2008) and Draft EAC Industrialization (2001) reports

The Ministry of Agriculture, Animal Industry and Fisheries formulated the Development Strategy and Investment Plan (DSIP) 2010/11 – 2014/15 for the Agricultural Sector which prioritises a number of commodities using varied criteria. These commodities are listed in column 1 in Table 8. The Uganda Export Promotion Board (UEPB) under the Ministry of Tourism, Trade and Industry (MAAIF) produced the Uganda National Export Strategy (NES) 2008 – 2012 to promote and guide expansion of Uganda's exports. The strategy identifies the commodities listed in column 2 in Table 8. The EAC is in the process of developing a regional Industrialization Strategy. Although a number of commodities/sector were proposed, reaching a consensus is rather taking longer than anticipated due to limited empirical evidence for specialization. The proposed main flagship industries for Uganda in the EAC draft industrialization strategy are listed in column 3 in Table 8.

The above lists are at a high level of aggregation (HS-1 digit and HS-2 digit) and are extremely short compared to the disaggregated level of analysis undertaken in the paper. This study provides analysis to a relatively detailed level of disaggregation of commodities (HS-4 digit). The DSIP list particularly lacks the agro-processing form of the commodities. A product like cotton has several products especially after processing which is useful for strategic planning. Likewise, the National Export Strategy lacks details especially with regard to the manufacturing sector. The EAC Industrialization

Strategy list is especially general in identifying the different forms of the products. As an example steel production could have as many as 100 different products of which some have comparative advantage and others have comparative disadvantage. These levels of detail are extremely useful for Uganda for strategic planning. This study is thus timely and adds value to past and ongoing initiatives.

6.6 Uganda's RCA with China

Reducing the current imbalance in the Uganda-China trade would require Uganda's exports to increase their market share given the special preferential treatment. The relative competitiveness of a few of Uganda's exports is a critical determinant of such access. Therefore, the starting point is to establish which products Uganda has RCA among the products under the preferential treatment extended by China. This would form a list of the products for exports that Uganda should put emphasis on and promote for such strategic reasons.

Uganda has RCA in a very limited range of products which she exports to China in comparison to the imports. Table 9 presents products where Uganda at one time between 2001 and 2009 has had RCA at the 4-digit disaggregation level. Results suggest that most of the products do not consistently maintain RCA for more than a period of four years. In some cases where this happens, there are gaps with some years exhibiting comparative disadvantage. This illustrates the limited competitiveness of Uganda regarding trade with China. This is expected given that China is at present a major world economic power penetrating different markets in Europe, America, Africa and Asia. Uganda's RCA is mainly in agricultural and other products which are broadly categorized as foods and industrial raw materials, for example minerals; and industrial recycled inputs like scrap and waste plastics. This is explained by the technology gap that exists between Uganda and China which makes it impossible for Uganda to favourably compete with China in processed products, chemical products, heavy industrial products and high technology electronics products.

The list of products at HS6-digit level disaggregation on which China extended special preferential treatment to Uganda has 4,401 product lines. These products have Most Favoured Nations (MFN) tariff lines ranging from 5 to 35 percent and a few rated at zero: At zero preferential rate, Uganda is expected to greatly expand her exports, earn more revenue and at the same time improve on its trade balance with China.

However, the extension of special preferential treatment may not necessarily translate into the expansion of exports. Uganda may not have the capacity to increase her exports to China due to the various supply constraints in the economy. Empirical evidence establishes that Uganda has a RCA in only 234 products lines from the complete list of 4,401 6-digit level disaggregation. Uganda has a very small proportion (less than 5 percent) of the total list of products under the special preferential treatment which have RCA. The analysis shows that Uganda needs deliberate policy actions geared at increasing the productivity of its exports to China in order to optimally benefit from the special preferential treatment. The scope for expanding exports in other product lines exists especially in agricultural commodities.

Table 9: Uganda's RCA in exports to China

Code	Product level	2001	2002	2003	2004	2005	2006	2007	2008	2009
0303	Fish, frozen, whole								245.6	
0304	Fish filets and pieces, fresh, chilled or frozen	505.1	419.4		363.3		394.4	339.4	400.5	307
0305	Fish, cured or smoked and fish meal fit for human consumption			412.2	333.8		291.6	208.8		
0504	Guts, bladders and stomachs of animals other than fish									421
0511	Animal products nes;	338.2			189.3	197.7				
0802	Nuts nes								211.3	
0901	Coffee	357.6	210.0		267.6		185.0	261.6	256.9	297
0905	Vanilla						168.8			
1008	Buckwheat, millet and canary seed									118
1207	Oil seeds					268.3	309.9	191.5		266
1404	Vegetable products, nes			532.5	338.7	159.0	284.9	252.9		142
1604	Prepared/preserved fish & caviar					175.1	290.2			
1801	Cocoa beans, whole or broken, raw or roasted									540
2002	Tomatoes prepared or preserved								12.1	
2203	Beer made from malt					47.8				
2401	Tobacco unmanufactured; tobacco refuse				124.7					
2402	Cigars, cheroots, cigarillos & cigarettes	156.5								
2605	Cobalt ores and concentrates						601.6		503.3	483
2825	Hydrazine & hydroxylamine & their inorganic salts; other inorganic bas									339
3003	Medicament mixtures (not 3002, 3005, 3006) not in dosage	137.9				39.2				
3006	Pharmaceutical goods, specified sterile products sutures, lamina, b					5.2				
3915	Waste, parings and scrap, of plastics							285.1	386.6	388
4015	Articles of apparel&clothing accessories of vulcanised rubber									86
4101	Raw hides&skins of bovine/equme animals					388.4	405.5			
4103	Raw hides&skins nes				186.1	247.7	386.5	342.9	321.2	
4106	Goat/kid skin leather, other than leather of hd no 41.08/41.09					179.6		609.7		
4203	Articles of apparel&clothing access, of leather or composition leather					90.7				
4407	Wood sawn/chipped lengthwise, sliced/peeled					129.3	249.4		93.7	
4413	Densified wood, in blocks, plates, strips or profile shapes				225.4	212.6				
4803	Paper, household/sanitary, rolls of a width > 36 cm		51.9							

7. CONCLUSION AND POLICY RECOMMENDATIONS

Using the World Integrated Trade Solution (WITS)-UNCTAD COMTRADE data base at HS4-digit disaggregation level of commodity classification, the paper has provided insights into Uganda's competitive list of exportable products within the EAC market. It has also provided insights into Uganda's chances to benefit from the special preferential treatment offered on 4,401 product lines by China. The computation of the RCA was done before and after the creation of the EAC CU. Despite their shortcomings, RCA indices provide a useful tool to detect comparative advantage. More specifically, the results have shed light on the strategic sectors Uganda should specialize. However, Uganda's competitiveness as demonstrated by the analysis above varies across countries in the region.

For Kenya, results have demonstrated that most of the commodities where Uganda has consistently had RCA are agricultural products, with limited processing for some of them. During the implementation of the EACCU, more commodities which previously never exhibited RCA changed in favour of Uganda revealing the growing comparative advantage Uganda is gaining in the region and this offsets the negligible products that lost RCA. Notable is the fact that many of the new products are processed products demonstrating a shift during the implementation of the CU. The overall list of commodities where Uganda has RCA over Kenya has grown longer during the implementation of the EAC CU with a shift from predominantly agriculture to limited processed products. This suggests that there has been a positive effect of the EAC CU on intra regional trade. This is a positive trend given that Kenya is Uganda's main trading both in trade flows and values.

Tanzania has a rather short list of commodities with RCA confirming the limited exports of Uganda to Tanzania in comparison to Rwanda and Kenya. Whereas a negligible number of Uganda's commodities lost their RCA during the implementation of the EACCU, a large number gained advantage over Tanzania which can be attributed to the elimination of tariffs that eventually boosted trade between the two countries. The major categories of the new commodities include food and livestock, electrical energy, processed products and preparations, a limited range of steel products, stationery, and coffee.

Notably, Uganda enjoys RCA over Rwanda in a range of commodities analyzed at four-digit disaggregation level which include fresh and processed agricultural products, chemical products, and industrial products made out of steel and iron, and petroleum by-products. The post EAC CU period shows an extraordinary expansion of products where Uganda has RCA over Rwanda in products like: food, livestock and livestock products, and miscellaneous manufactured products in addition to expanding commodities in the previous categories. The growing list of products is an illustration of Rwanda's reliance on commodities from Uganda further emphasising the role of the EAC CU in increasing trade within the region. Given that some of the products where Uganda has RCA are re-exports, it is inferred that Uganda has an inland strategic location that can be used for supplying the region.

Uganda enjoys competitive access in the Burundi market. The commodities that consistently maintain RCA for Uganda over Burundi include foods, cement, chemical products, a limited range of petroleum products, plastic products, wood products, stationery, articles of steel and iron among others. Given that some of these commodities are not manufactured in Uganda, policymakers and the business community could make use of Uganda's strategic location to supply the region. The post EAC CU era shows that Uganda increased the number of commodities where it has RCA over Burundi in the broad categories of live animals, fish, animal products, foods and food preparations, unmanufactured tobacco and tobacco refuse, plastic article, wood and paper products, foot ware

and tents, ceramics, iron and steel articles thereof, aluminium articles and machinery, among others. Trade between Uganda and Burundi is rapidly expanding.

Reducing the current imbalance in the Uganda-China trade would require Uganda's exports to increase their market shares in the China market given the special preferential treatment to Uganda. The relative competitiveness of a few of Uganda's exports is a critical determinant of such access. Results suggest that Uganda has RCA in a very limited range of products exported to China in comparison to the imports which shows the limited competitiveness in the Chinese markets. The advantage is not even sustained over the years, further downplaying Uganda's competitiveness. Uganda will not in the short run reduce the trade imbalance currently experienced with China. Uganda's RCA lies mainly in a few agricultural products which are broadly categorized as foods and raw materials; and industrial recycled inputs like scrap and waste plastics.

The extension of special preferential treatment will not necessarily translate into the expansion of exports. Empirical evidence reveals that Uganda has RCA in only 234 products lines from the complete list of 4,401 HS 6-digit level disaggregation, suggesting that the country will minimally benefit from the special preferential treatment extended by China based in comparative advantage. With less than 5 percent of the total list of products under the special preferential treatment, Uganda should explore other policy options that address supply constraints to increase the range of products it could export to China. The scope for expanding exports in other product lines exists especially in agricultural, raw materials and recycled inputs like scrap and waste plastics.

The comparative analysis of the list of products that Uganda has RCA over the EAC partner states and other lists, for example the EAC Industrialization Strategy list, reveals the significant contribution the current study could make to improve the process. The EAC Industrialization Strategy list for Uganda's case will be more complete and relevant with a detailed analysis of commodities Uganda should specialize in.

Based on the empirical analysis it is recommended that:

- Uganda should not only specialize in exporting food products and agricultural raw materials to the region, but should strategically increase productivity into agro-processing and manufacture, chemical products, wood products, foot wear and tents, ceramics, plastic products, electrical energy, aluminium products, and iron and steel products within the regional market. This implies that industrialization is not just an option but the option;
- Uganda should adopt the identified list of commodities for the EAC industrialization strategy. This list should further strategically inform the Development Strategy and Investment Plan in boosting agricultural exports. The National Export Strategy can benefit from the analysis to update its list of strategic sectors with regard to exports to the EAC region;
- With limited benefits likely to be gained from the special preferential treatment based on RCA results, Uganda should explore policy options that address supply constraints to increase productivity in a limited range of products the country could export to China. It is evident that this is possible in products such as agro-processing, raw materials and recycled inputs like scrap and waste plastics;
- Uganda should consider using the country's inland strategic location to re-export imported products to Rwanda, Burundi, South Sudan and Democratic republic of Congo and where necessary make value addition. The range of products in this category may include heavy industrial manufactures, goods of electronic nature, heavy machinery among others.

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9. APPENDIX A1

Table 1: Complete current list of products where Uganda has RCA over the EAC Partner States

Code	Products	Ken	Rwa	Tanz	Bur	Total
102	Live bovine animals		x		x	2
105	Live poultry		x	x	x	3
302	Fish, fresh, whole	x				1
303	Fish, frozen, whole	x				1
304	Fish fillets and pieces, fresh, chilled or frozen	x				1
305	Fish, cured or smoked and fish meal fit for human consumption	x	x		x	3
401	Milk and cream, not concentrated nor sweetened	x	x	x	x	4
402	Milk and cream, concentrated or sweetened	x		x		1
405	Butter and other fats and oils derived from milk	x	x			2
407	Birds eggs in shell			x		1
408	Birds eggs dried			x		1
708	Leguminous vegetables, shelled or unshelled, fresh or chilled	x				1
710	Frozen vegetables			x		1
713	Dried vegetables, shelled	x	x	x	x	4
714	Manioc, arrowroot salem (yams) etc		x		x	2
804	Pineapples, mangoes, avocados, guavas	x				1
901	Coffee			x		1
902	Tea	x	x			2
904	Pepper, peppers and capsicum	x				1
1005	Maize (corn)	x	x	x	x	4
1006	Rice		x			1
1008	Buckwheat, millet and canary seed	x				1
1101	Wheat or meslin flour		x		x	2
1102	Cereal flours other than of wheat or meslin			x		1
1102	Cereal flours other than of wheat or meslin		x		x	2
1104	Cereal grain, worked post hulling, excluding rice	x			x	2
1106	Flour and meal of vegetables, roots and tubers or fruits		x		x	2
1108	Starches; inulin	x			x	2
1206	Sunflower seeds, whether or not broken	x		x		2
1207	Oil seeds	x				1
1208	Flour and meals of oil seeds	x		x	x	3
1211	Medicinal plants	x		x		2
1511	Palm oil & its fraction		x	x		2
1512	Safflower, sunflower/cotton-seed oil & fractions	x	x	x	x	4
1515	Fixed vegetable fats and oils & their fractions	x	x			2
1516	Animal or vegetable fats, oils & fracture, hydrogenated	x	x	x	x	4
1517	Margarine		x		x	2
1520	Glycerol (glycerine)		x			1
1701	Cane or beet sugar and chemically pure sucrose, in solid form		x		x	2
1704	Sugar confectionery (incl white choc), not containing cocoa		x		x	1
1801	Cocoa beans, whole or broken, raw or roasted	x				1
1901	Malt extract; food preparations of flour, meal, starch or malt extract				x	1
1905	Bread, biscuits, wafers, cakes and pastries		x		x	2
2002	Tomatoes prepared or preserved		x			1
2008	Preserved fruits nes	x				1
2009	Fruit and vegetable juices, unfermented	x	x	x	x	4
2106	Food preparations, nes			x		1
2201	Mineral & aerated waters		x	x	x	3
2203	Beer made from malt		x			1
2207	Ethyl alcohol & other spirits (if indented then higher than 80% by		x			1
2208	Spirits, liqueurs, other spirit beverages, alcoholic preparations		x		x	2
2302	Bran, sharps and other residues	x				1
2306	Oil-cake nes	x		x		1
2309	Animal feed preparations, nes	x				1
2401	Tobacco unmanufactured; tobacco refuse	x		x	x	3
2508	Clay nes		x			1
2510	Calcium and aluminium calcium phosphates, natural & phosphatic chalk		x			1

2516	Granite, porphyry, basalt, sandstone & other monumental or buildings		x			1
2523	Cements, portland, aluminous, slag, supersulfate & similar hydraulic		x	x	x	3
2617	Ores and concentrates, nes		x			1
2712	Petroleum jelly; mineral waxes & similar products		x	x	x	3
2716	Electrical energy	x		x		2
2803	Carbon (carbon blacks & other forms of carbon, nes)		x		x	2
2804	Hydrogen, rare gases & other non-metals			x		1
2809	Diphosphorus pentaoxide; phosphoric acid and polyphosphoric acids				x	1
2821	Iron oxides & hydroxides		x			1
2823	Titanium oxides		x			1
2826	Fluorides; fluorosilicate, fluoraluminates & other complex fluorine salt		x		x	2
2903	Halogenated derivatives of hydrocarbons				x	1
2929	Compounds with other nitrogen function		x		x	2
3002	Human & animal blood; antisera, vaccines, toxins, micro-organism cultu		x		x	2
3005	Dressings packaged for medical use		x			1
3204	Synthetic organic coloring matter & preparations		x		x	2
3208	Non-aqueous solution of paint & varnish		x		x	2
3209	Aqueous solution of paint & varnish		x		x	2
3215	Printing, writing or drawing inks & inks nes			x	x	2
3304	Beauty, make-up and skin-care preparations, sunscreens, manicure or pedicure	x	x	x	x	4
3306	Oral & dental hygiene preparations		x		x	2
3401	Soap; organic surface-active preparations for soap use		x	x		2
3402	Organic surface-active agents, washing & clean preparations, nes	x	x	x	x	4
3405	Polishes & creams for footwear, furn, floors, glass, metal etc		x		x	1
3406	Candles, tapers & the like				x	1
3602	Prepared explosives, other than propellant powders				x	1
3603	Safety fuses; detonating fuse; percussion or detonating caps, igniters		x			1
3605	Matches o/t pyrotechnic articles of hd no 36.04		x		x	2
3701	Photographic plates & film, flat, sensitized, unexposed				x	1
3814	Organic composite solvents & thinners nes; preparations paint/varnish removers		x		x	2
3815	Reaction initiators & accelerators, catalytic preparations, nes	x				1
3901	Polymers of ethylene, in primary forms				x	1
3905	Polymers of vinyl acetate/o vinyl esters&o vinyl poly, in primary forms		x			1
3907	Polyacetal, o polyether, epoxide resin, polycarbonate, etc, in primary form		x			1
3910	Silicones in primary forms		x			1
3915	Waste, parings and scrap, of plastics	x				1
3917	Tubes, pipes & hoses & fittings therefor of plastics		x	x	x	3
3922	Baths, shower-baths, wash-basins, bidet etc of plastic		x	x	x	3
3923	Plastic packing goods or closures stoppers, lids, caps, closures, plas		x	x	x	3
3924	Tableware, kitchenware, toiletery articles, of plastic			x	x	2
3925	Builders ware of plastics, nes		x		x	2
3926	Article of plastic nes.				x	1
4005	Compounded rubber, un vulcanised, in primary forms			x		1
4011	New pneumatic tires, of rubber	x	x		x	3
4103	Raw hides and skins nes	x				1
4115	Composition leather with a basis of leather or leather fibre, in slabs, sheets			x		1
4202	Trunks, suit-cases, camera cases, handbags etc, of leather, plas, tex etc				x	1
4410	Particle board and similar board of wood or other ligneous materials		x			1
4412	Plywood, veneered panels and similar laminated wood		x		x	2
4413	Densified wood, in blocks, plates, strips or profile shapes		x			1
4415	Packaging materials of wood		x			1
4418	Builders joinery & carpentry of wood		x			1
4419	Tableware and kitchenware of wood		x			1
4420	Wood marquetry & inlaid wood; caskets & cases or cutlery of wood		x	x		2
4504	Agglomerated cork & articles of agglomerated cork		x			1
4801	Newsprint, in rolls or sheets				x	1
4802	Uncoated paper for writing, printing etc.				x	1
4803	Paper, household/sanitary, rolls of a width > 36 cm		x			1
4806	Vegetable parch, greaseproof, tracing, glassine paper etc in rolls/sheets		x			1
4810	Paper & paperboard, coated with kaolin or other inorganic substances				x	1

4817	Card, envelopes, letter/corre, plain postcard, stat of paper; box, wallet, paper		x			1
4818	Toilet paper, handkerchiefs, tissues, napkins, table cloths, diapers,		x			1
4819	Packing containers, of paper, paperboard, cellulose wadding, webs		x	x	x	3
4820	Registers, acct, note, order books etc; other stationary articles of paper		x		x	2
4821	Paper or paperboard labels of all kinds				x	1
5201	Cotton, not carded or combed	x				1
5203	Cotton, carded or combed	x	x			2
5204	Cotton sewing thread		x			1
5208	Woven cotton fabrics, 85% or more cotton, weight less than 200 g/m2		x			1
5601	Wadding of tex mat & art thereof; tex fib</=5mm le(flock)				x	1
6210	Garment made up of fabric of heading no 56.02,56.03,59.03,59.06/59.07				x	1
6305	Sacks and bags of a kind used for the packing of goods		x	x	x	3
6306	Tents & camping goods, tarpaulins, sails for boats, etc				x	1
6309	Worn clothing and articles			x		1
6402	Footwear nes, outer soles and uppers of rubber or plastics				x	1
6403	Footwear, upper of leather			x	x	2
6404	Footwear, upper of textile mat			x	x	2
6811	Articles of asbestos-cement, of cellulose fibre-cement		x			1
6904	Ceramic building bricks, flooring blocks support/filler tiles				x	1
6912	Ceramic tableware, kitchenware, other than porcelain/china				x	1
7006	Glass of 70.03, 70.04, 70.05 bent, edge worked etc not framed etc		x			1
7208	Flat-rolld products of iron/non-al/s wdth>/=600mm,hr,not clad		x			1
7210	Flat-rolled prod of iron or non-al/s wd>/=600mm,clad, plated or coated		x			3
7214	Bars & rods of iron/non-al/s, nfw than forged, hr, hd,/hot-extruded		x	x	x	3
7215	Bars & rods of iron or non-alloy steel nes		x			1
7216	Angles, shapes and sections of iron or non-alloy steel		x	x	x	3
7217	Wire of iron or non-alloy steel		x		x	2
7223	Wire of stainless steel				x	1
7227	Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel		x			1
7303	Tubes, pipes and hollow profiles, of cast iron		x			1
7304	Tubes, pipes and hollow profiles, seamless, or iron or steel				x	1
7306	Tubes, pipes and hollow profiles of iron or steel, nes		x	x	x	3
7309	Iron & steel reservoirs, tanks, vats (cap >300l)		x			1
7310	Iron & steel tank, cask, drum can, boxes (cap </=300l)		x			1
7310	Iron & steel tank, cask, drum can, boxes (cap </=300l)		x			
7311	Containers for compressed or liquefied gas, of iron or steel	x				1
7314	Cloth, grill, netting and fencing, of iron & steel wire				x	1
7317	Nails, staples & sim art, iron & steel		x	x	x	3
7326	Articles of iron or steel nes				x	1
7403	Refined copper and copper alloys, unwrought		x			1
7602	Aluminium waste and scrap	x				1
7606	Aluminium plates, sheets and strip, of a thickness exceeding 0.2mm		x		x	2
7607	Aluminium foil of a thickness not exceeding 0.2mm		x			1
7610	Aluminium structure nes & part of structures		x		x	2
7612	Aluminium container (cap <= 300l)		x			1
7613	Aluminium containers for compressed or liquefied gas				x	1
7616	Articles of aluminum nes				x	1
7802	Lead waste and scrap			x		1
8212	Razors and razor blades		x			1
8214	Article of cutlery, nes, cleavers, pedicure sets		x			1
8413	Pumps for liquids; liquid elevators				x	1
8438	Machinery, nes, for the ind preparation or mfr of food or drink				x	1
8461	Machine-tool for planing/shaping, etc sawing and other mach-tool for metal		x			1
8461	Machine-tool for planing/shaping, etc sawing and other mach-tool for metal		x			1
8468	Machinery and appliances for solderg, brazg (o/t those of hd 85.15)		x			1
9403	Other furniture and parts thereof			x		1
9404	Mattress supports; mattresses, quilts, etc			x	x	2

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