

## An Investigation of Sectoral Competitive Advantage of Uganda: A possible procurement source?

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### Abstract

*The authors have investigated sector competitive advantage of Uganda. Vegetable products sector tops in competitiveness and its main products are coffee husks and skins. The second competitive sector in Uganda is metals. In the third place is machinery/electric. The least competitive sector in Uganda is foot wear/head gear and is followed by plastic/rubber sector. Generally, there is fair level competitiveness although not very high. Uganda can be a source of procurement of goods in the sectors and products in which Uganda has demonstrated capabilities and competitiveness. It is recommended that Uganda should strengthen its sectoral policies to improve on competitiveness. It is further recommended that Uganda should continue scouting for foreign direct investment to improve on its competitiveness. Exploring new natural resources would also expand sectors' competitiveness*

**Keywords:** Competitive advantage, international sourcing, international trade, Uganda.

### INTRODUCTION

There has been a general lack of coverage of sectoral competitiveness. Most of the studies have only concentrated on competitiveness in general. This paper fills the gap that exists on sectoral competitiveness. Its objective is to investigate sectoral competitiveness of Uganda as a possible procurement source. The authors' main interest in Uganda arises from the fact that it is a member of the Common Market for Eastern and Southern African States (COMESA). Its export indicators have implication on the whole regional economy hence the need to analyze them.

In terms of literature, a number of authors have written on competitive advantage of countries. There is a need to define what is meant by competitiveness. According to the President's Commission on Industrial Competitiveness (1985) competitiveness refers to the extent a country within unrestricted international trade environment, produce products and render services which meet external or global market standards at the same time ensuring that there is stability and increase in the real incomes of its people. The above definition highlights that the objective of competitiveness is to stabilize and expand the real income of the nation's population, which usually manifest through quality of life of a nation. Taking this into an account competitiveness of a country is not just an end however, it is a process to an end whose specific target is to improve quality of life in unrestricted external trade environment (Taner et al., 2000).

According to Porter (1990) a country's competitive advantage is measured by an existence of uninterrupted flow of exports to a significant number of countries and its outflow of external investment being made on the basis of possessing unique skills and assets which it has developed in its own domestic market. Competitive advantage of a nation is therefore determined by its advantage over other nations in its factor endowments,

demand environment, competitiveness of its companies' strategies and the impact of its fire power and diversity of similar nature and reinforcing industries.

In terms of measurement, the World Economic Forum (1990) has said that competitiveness is measured by local economy through its ability to produce efficiently and the ability of its firms to compete; the openness for external economic activities and expansion of the nation's economic production through export-led hypothesis; minimum government intervention; an integrated financial sector in a nation that encourages external competitiveness; development of infrastructure; competent managerial skills; investment in research and technology; and skills of its people. According to Durand et al (1992) to measure a nation's competitiveness, there are a number of possible approaches which can be used based primarily on the focus of the indicator used. Empirically there are three main areas: it can be restricted to each nation's export markets; to its local market; and the two markets taken together. If the markets have been identified, then the nations that are supposed to be studied in order to measure competitiveness can be analyze based on how the domestic country fairs in the global market. The measurement of international competitiveness depends so much on the availability of data and playing around with various objectives that can be there as well as standard that can be used.

### METHODOLOGY

The technique used in this article is Balassa (1965) revealed comparative advantage (RCA) index. The RCA enables us to assess competitive advantage based on a nation's specialization in exports as compared to some other nations. The Balassa (1965) index is the most commonly used RCA index. Various studies have used the technique to empirically identify a country's strongest industries (Serin & Civan, 2008). The Balassa method takes the form:

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

With:

$X_{ij}$  represents country  $i$ 's exports of product  $j$ ;

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

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

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

advantage and is not specialized in the good (Balassa, 1965; Krugell & Matthee, 2009).

The data is used in this article such as exports for Uganda and the world was sourced from the Trademap run by the International Trade Centre in Switzerland. The data was sourced on 6 digit level and the most disaggregated data.

An  $RCA \geq 1$  shows that the nation has revealed comparative advantage. In other words, the exporting nation of the good is relatively specialized in producing and exporting the good under consideration. An  $RCA \leq 1$  shows that the nation has a lower revealed comparative

RESULTS AND DISCUSSION

The sectoral results on competitive advantage of Uganda are reported in table 2.

Table 2: Sectoral results on competitive advantage of Uganda

Rank	Sector code	Sector description	Number of goods in the sector with $RCA \geq 1$
1	06-15	Vegetable products	75
2	72-83	Metals	52
3	84-85	Machinery/electric	50
4	50-63	Textiles	45
5	01-05	Animal and animal products	36
5	28-38	Chemicals and allied industries	36
6	44-49	Wood and wood products	29
7	90-97	Miscellaneous	25
8	25-27	Mineral products	16
8	86-89	Transportation	16
9	68-71	Stone/glass	15
10	41-43	Raw hides, skins, leather and furs	11
11	39-40	Plastic/rubber	9
12	64-67	Foot wear/head gear	5

Source: From the results.

In table 1, column 1 shows the rank of each sector in terms of competitiveness. Column 2 shows sector code. This code is the first two digits of the product code. It shows in which sector the good falls. Column 3 is the sectoral description. Column 4 shows the number of the products in each sector with competitive advantage.

The sector which is leading in competitive advantage is vegetable products. It has 75 products in which Uganda has competitive advantage. Uganda is the one of the major producers and exporters of coffee and the product falls in this sector. The metals sector is the second with 52 products in which Uganda has competitive advantage in. In the third place is the machinery/electric sector with 50 products in which Uganda has competitive advantage in. In the fourth place are textiles with 45 products in which Uganda has competitive advantage. In the fifth

place there are three sectors namely: animal and animal products; foodstuffs; and chemicals and allied industries. Each of these sectors has 36 products in which Uganda has competitive advantage. In the sixth position is wood and wood products sector with 29 products. It is followed by miscellaneous sector with 25 products. In the eighth place are two sectors namely: mineral products and transportation each with 16 products. In the ninth rank is stone/glass sector with 15 products. In the tenth rank is raw hides, skins, leather and furs with 11 products. In the eleventh position is plastic and rubber sector with 9 products. The least competitive advantage in Uganda is the foot wear/head gear sector and it has only 5 products in which competitive advantage is visible. Table 2 shows top 3 goods in the vegetable products sector in which Uganda has competitive advantage.

Table 2: Top 3 goods in the vegetable products sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	090190	Coffee husks and skins	2777.78	914.7103	1002.645	1565.046
2	060240	Roses	1318.22	1147.6	1182.537	1216.119
3	060210	Cuttings and slips, not rooted	229.03	448.137	537.5822	404.9168

Source: From the results.

In table 2, coffee husks and skins in the vegetable products sector has the highest competitiveness in this sector with an index of 1565. In the second place are roses with an index of 1216. I the third place are cuttings and slips, not rooted with an index of 405. Table 3 shows top 3 goods in the metals sector in which Uganda has competitive advantage.

Table 3: Top 3 goods in the metals sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	730650	Pipes and tubing, alloy steel, welded	145.6298	220.2113	124.8456	163.5622
2	730690	Tube/pipe/hollow profile, iron/steel/, non riveted/open sea	155.6329	119.6254	126.2274	133.8296
3	810520	Cobalt mattes and others intermediate product of cobalt metallurgy, unwrought	4.309702	69.06036	50.09576	41.15527

Source: From the results.

In table 3, pipes and tubing, alloy steel, welded in the metals sector have the highest competitiveness in this sector with an index of 163.6. In the second place is tube/pipe/hollow profile, iron/steel/, non riveted/open sea with an index of 134. In the third place are cobalt mattes and others intermediate product of cobalt metallurgy, unwrought with an index of 41.2. Table 4 shows top 3 goods in the machinery/electric sector in which Uganda has competitive advantage.

Table 4: Top 3 goods in the machinery/electric sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	845929	Drilling machines for metal except number controlled	191.2859	275.6329	42.56274	169.8272
2	854810	Waste and scrap of prim cell	22.75531	8.55802	8.83592	13.38308
3	842919	Bulldozers and angledozers, wheeled	17.39073	3.898033	17.4281	12.90562

Source: From the results.

In table 4, drilling machines for metal except number controlled in the machinery/electric sector have the highest competitiveness in this sector with an index of 170. In the second place is waste and scrap of prim cell

with an index of 13.4. In the third place is bulldozers and angledozers, wheeled with an index of 13. Table 5 shows top 3 goods in the textiles sector in which Uganda has competitive advantage.

Table 5: Top 3 goods in the textiles sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	520300	Cotton carded or combed	416.2315	724.1252	597.2678	579.2082
2	630533	Sacks and bags for packaging	50.71493	36.25983	29.24286	38.73921
3	551349	Wooven fabric >85% synth plus cotton <170/m <sup>2</sup>	37.97475	5.515028	5.015124	16.1683

Source: From the results.

In table 5, cotton carded or combed in the textiles sector has the highest competitiveness in this sector with an index of 579. In the second place are sacks and bags for packaging with an index of 39. In the third place is

wooven fabric >85% synth plus cotton <170/m<sup>2</sup> with an index of 16. Table 6 shows top 3 goods in the animal and animal products sector in which Uganda has competitive advantage.

Table 6: Top 3 goods in the animal and animal products sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	030270	Fish livers and roes, fresh or chilled	232.3565	1232.672	638.1252	701.0813
2	051191	Fish shell fish and crust oceans (non food)	344.6397	105.5853	140.5172	196.9141
3	030219	Salmonidae not trout or salmon fresh or chilled whole	0	1.62165	163.5762	55.06594

Source: From the results.

In table 6, fish livers and roes, fresh or chilled in the animal and animal products has the highest index in this sector with an index of 701. In the second place is fish shell fish and crust oceans (non food) with an index of

197. In the third place is salmonidae not trout or salmon fresh or chilled whole with an index of 55.1. Table 7 shows top 3 goods in the foodstuffs sector in which Uganda has competitive advantage.

Table 7: Top 3 goods in the foodstuffs sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	240120	Tobacco, unmanufactured, stemmed or stripped	80.6606	51.61333	65.42218	65.89871
2	230230	Wheat bran sharps, other residues	28.35759	57.61592	32.01866	39.32872
3	240290	Cigars, cheroots, cigarettes, with tobacco substitutes	13.34337	57.33478	28.40325	33.02713

Source: From the results.

In table 7, tobacco, unmanufactured, stemmed or stripped in the foodstuffs sector has the highest competitiveness in this sector with an index of 65.9. In the second place are wheat bran sharps, other residues with an index of 39. In the third place are cigars,

cheroots, cigarettes, with tobacco substitutes with an index of 33. Table 8 shows top 3 goods in the chemicals and allied industries sector in which Uganda has competitive advantage.

Table 8: Top 3 goods in the chemicals and allied industries sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	340119	Soaps for purposes other than toilet set	90.3395	46.34907	70.0301	68.90622
2	284330	Gold compounds	57.51383	79.74365	0	45.75249
3	300310	Penicillins or streptonycins and derivatives, in bulk	6.299084	0.123524	63.43882	23.28714

Source: From the results.

In table 8, soaps for purposes other than toilet set in the chemicals and allied industries sector has the highest competitiveness in this sector with an index of 69. In the second place is gold compounds with an index of 46. In

the third place are penicillins or streptonycins and derivatives, in bulk with an index of 23.3. Table 9 shows top 3 goods in the wood and wood products sector in which Uganda has competitive advantage.

Table 9: Top 3 goods in the wood and wood products sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	482020	School, etc, exercise books	39.7411	39.93223	46.91505	42.19613
2	481720	Letter or correspondence cards, plain cards	0.149173	0.296492	120.4894	40.31004
3	490700	Documents of title (bonds, etc), unused stamps etc.	111.8973	0	0.002297	37.29985

Source: From the results.

In table 9, school, etc, exercise books in the wood and wood products sector have the highest RCA in this sector with an index of 42.2. In the second place are letter or correspondence cards, plain cards with an index of 40. In the third place are documents of title (bonds, etc), unused stamps etc, with an index of 37.3. Table 10 shows top 3 goods in the miscellaneous sector in which Uganda has competitive advantage.

Table 10: Top 3 goods in the miscellaneous sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	900711	Cinematographic cameras for film <16mm wide	123.5812	54.70713	0	59.42946
2	900719	Cinematographic cameras for film>16mm wide	15.32235	6.020807	112.4849	44.60936
3	901540	Photogrammetrical surveying instruments appliances	0.236617	93.54914	35.25216	43.01264

Source: From the results.

In table 10, cinematographic cameras for film <16mm wide in the miscellaneous sector have the highest competitiveness in this sector with an index of 59. In the second position are cinematographic cameras for film>16mm wide with an index of 45. In the third place are photogrammetrical surveying instruments appliances with an index of 43. Table 11 shows top 3 goods in the mineral products sector in which Uganda has competitive advantage.

Table 11: Top 3 goods in the mineral products sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	252329	Portland cement, other than white cement	97.30245	102.9351	108.502	102.9132
2	260500	Cobalt ores and concentrates	142.4042	120.2684	39.95534	100.5427
3	251120	Natural barium carbonate (witherite)	0	0	169.6827	56.5609

Source: From the results.

In table 11, Portland cement, other than white cement in the mineral products sector has the highest competitiveness in this sector with an index of 103. In the second place are cobalt ores and concentrates with an index of 101. In the third rank is natural barium carbonate (witherite) with an index of 56.6. Table 12 shows top 3 goods in the transportation sector in which Uganda has competitive advantage.



Table 12: Top 3 goods in the transportation sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	870520	Mobile drilling derricks	0	17.04245	30.69109	15.9118
2	871120	Motorcycles, spark ignition engine of 50-250cc	3.771729	15.99846	7.346585	9.038926
3	870990	Work truck parts	4.527991	0	22.28566	8.937884

Source: From the results.

In table 12, mobile drilling derricks in the transportation sector has the highest competitiveness in this sector with an index of 16. In the second place are motorcycles, spark ignition engine of 50-250cc with an index of 9. In

the third rank are work truck parts with an index of 8.9. Table 13 shows top 3 goods in the stone/glass sector in which Uganda has competitive advantage.

Table 13: Top 3 goods in the stone/glass sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	710590	Dust precious, semi-precious stones except diamonds	0	113.5882	0	37.86274
2	691190	Household and toilet articles of porcelain or China	11.20868	2.455505	17.39804	10.35408
3	710813	Gold, semi-manufactured forms non-monetary	14.80313	4.071981	9.260505	9.378539

Source: From the results.

In table 13, dust precious, semi-precious stones except diamonds in the stone/glass sector have the highest competitiveness in this sector with an index of 37.9. In second rank are household and toilet articles of porcelain or China with an index of 10.4. In the third position are

gold, semi-manufactured forms non-monetary with an index of 9.4. Table 14 shows top 3 goods in the raw hides, skins, leather and furs sector in which Uganda has competitive advantage.

Table 14: Top 3 goods in the raw hides, skins, leather and furs sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	410691	Tanned/crust hides and skins without wool/hair on in the wet state	2203.236	1017.985	2502.862	1908.028
2	410621	Tanned/crust hides and skins of goats/kids, kids without wool/hair on in the wet state	41.3058	75.39582	108.9197	75.20711
3	410390	Raw hide/skins except bovine/equine/sheep/goat	63.23677	12.02297	25.37541	33.54505

Source: From the results.

In table 16, tanned/crust hides and skins without wool/hair on in the wet state in the raw hides, skins, leather and furs sector have the highest competitiveness in this sector with an index of 1908. In the second place are tanned/crust hides and skins of goats/kids, kids

without wool/hair on in the wet state with an index of 75. In the third position are raw hide/skins except bovine/equine/sheep/goat with an index of 34. Table 15 shows top 3 goods in the plastic/rubber sector in which Uganda has competitive advantage.

Table 15: Top 3 goods in the plastic/rubber sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	392510	Plastic reservoirs tanks, vats etc capacity <300litres	47.334358	4.334358	3.83356	18.63267
2	391729	Plastic tube, pipe or hose rigid	9.642783	4.362711	9.233475	7.746323
3	392210	Baths, shower-baths and wash basin of plastic	8.025741	6.995471	6.815691	7.278968

Source: From the results.

In table 14, plastic reservoirs tanks, vats etc capacity <300litres in the plastic/rubber sector have the highest competitiveness in this sector with an index of 19. In the second position plastic tube, pipe or hose rigid with an

index of 8. In the third rank are baths, shower-baths and wash basin of plastic with an index 7.3. Table 16 shows top 3 goods in the foot wear/head gear sector in which Uganda has competitive advantage.



Table 16: Top 3 goods in the foot wear/head gear sector in which Uganda has competitive advantage

Rank	Product code	Product description	2008 RCA	2009 RCA	2009 RCA	Average RCA
1	640320	Foot wear , soles/uppers leather, strap in step and big	0.191504	0.12344	173.6116	57.97553
2	640520	Foot wear, upper textile material	0	75.40951	0.108553	25.17269
3	640590	Foot wear	0.346304	17.2871	1.057178	6.230194

Source: From the results.

In table 15, foot wear, soles/uppers leather, strap in step and big in the foot wear/head gear sector has the highest competitiveness with an index of 58. In the second place

is foot wear, upper textile material with an index of 25.2. In the third rank is foot wear with an index of 6.

CONCUSIONS AND RECOMMENDATIONS

In Uganda, vegetable products sector tops in competitiveness and its main products are coffee husks and skins. The second competitive sector in Uganda is metals. In the third place is machinery/electric. The least competitive sector in Uganda is foot wear/head gear and is followed by plastic/rubber sector. Generally, there is fair level competitiveness although not very high.

Uganda can be a source of procurement of goods in the sectors and products in which Uganda has demonstrated capabilities and competitiveness. It is recommended that Uganda should strengthen its sectoral policies to improve on competitiveness. It is further recommended that Uganda should continue scouting for foreign direct investment to improve on its competitiveness. Exploring new natural resources would also expand sectors' competitiveness.

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