

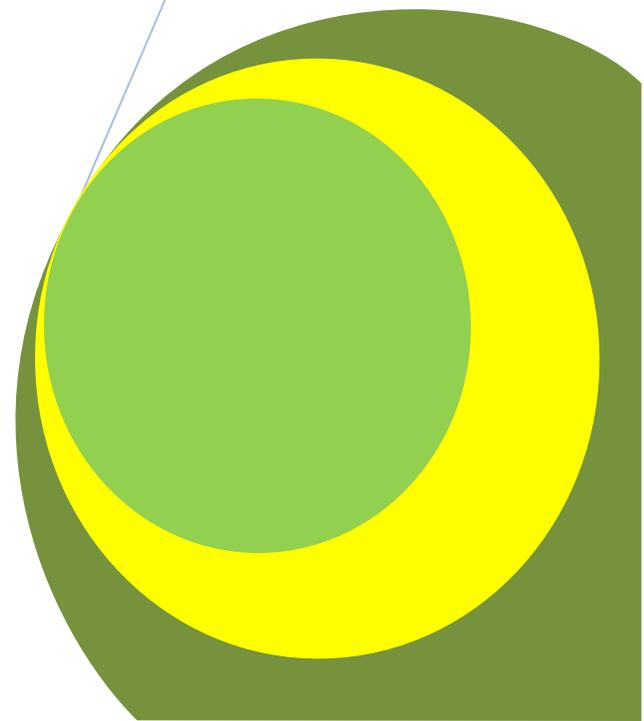
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## Malawi's Intra- Industry Competitive Advantage

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*Research Article*

# Malawi's Intra-Industry Competitive Advantage

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**ABSTRACT**

The paper investigated Malawi's intra-industry competitive advantage. Using Balassa (1965) methodology, industries in which Malawi has competitive advantage were identified. Malawi has significant competitive advantage in textiles, vegetable products, machinery/ electricals, foodstuffs and miscellaneous industries. In other industries, there is very little evidence of competitive advantage. Most of Malawi's exports are in primary form. It is recommended that Malawi should strive to add value to its exports as well as attract foreign direct investment in order to improve efficiency.

**Keywords:** Competitive advantage, intra-industry, international trade, Malawi

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**INTRODUCTION**

A country can participate meaningfully in international markets if it is able to produce its products efficiently. Theory tells us that every nation has potential to gain in participating in international trade. However, the gains are dependant on competitive advantage. This paper investigates Malawi's intra-industry competitive advantage.

**Competitive Advantage**

Competitiveness is the ability of a country to produce a product or a service and sell it in the global market at a profit on its resources (Scott & Lodge, 1985). Competitiveness refers to the degree a country under a trade without hindrances is able to produce products or render services in such a manner that they meet the standards of external or global markets and in so doing, it increases real incomes for its nationals (President's Commission on Industrial Competitiveness, 1985). The definition of the President's Commission on Industrial Competitiveness captures all the ingredients in competitiveness. Perhaps it is the main reason why this definition is preferred over other definitions. Many researchers prefer to use this definition. Porter (1990) alludes that competitiveness is measured in two ways. The first avenue is that they ought to be substantial evidence of the ability to export a variety of goods to a wide range of external/global markets. The second avenue involves the country under consideration to invest in other countries on the basis of the strength of its human resource and other assets which have been created in the home market (economy).

The World Economic Forum (1990) has highlighted factors which determine competitiveness. These factors are listed as: domestic economy; internationalization; government, finance, infrastructure; management; science and technology; and skills available. Domestic economy comes in on the grounds that in the domestic market, there exists stiff competition which leads the domestic firms to produce efficiently if they are to compete in so doing they will also explore in exporting to international markets. Export led competitiveness helps the domestic economy to expand and efficiently allocate its resources. It is derived from internationalization. Governments must not intervene often and must promote policies which create a good environment that enables firms to produce efficiently and export their products without many hindrances. Integrated financial system promotes competitiveness. In terms of infrastructure, its development plays a crucial role in addition to possessing natural endowments. Management is important when it responds to the changes taking place in the global market. Innovations through science and technology, lead to greater efficiency of production with minimum costs. Availability of skills means the work force of a nation should be productive.

According to Durand et al (1992), competitiveness can be measured through international cost differential of endowments and relative competitive positions. OECD computes means when measuring the nation's competitive

positions in its domestic market as well as in its external market initiatives. Other measures use bilateral or multilateral export weighting patterns. The assumption being that in each market the competitors of a respective nation are in fact its domestic producers in the domestic market and that competitiveness across nations is determined by their domestic markets.

Competitiveness of a nation is determined by price and non-price issues. Price competitiveness can be achieved in the short run through currency devaluation. Productivity provides a solution to issues relating to non-price competitiveness (Fanelli & Medhora, 2002).

## METHODOLOGY

This paper has used Balassa (1965) to measure competitive advantage. According to Lipsey et al (1991), studies that look at measuring competitive advantage ought to use the index. Balassa index has been widely used and found to be very useful and consistent. The Balassa (1965) formula is as follows:

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

With:

RCA denoting revealed comparative advantage;

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

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

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

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

An  $RCA \geq 1$  demonstrates that a country has competitive advantage in the production of the same product. An  $RCA < 1$  demonstrates that a country has no competitive advantage or lacks competitiveness in the production of the same product. According to Wu and Chen (2004) a higher RCA is evidence that a country possesses a greater competitive advantage in the production of the product.

Malawi's export data and the world export data used in the paper were obtained from International Trade Centre for 2008, 2009 and 2010. The data was on 6-digit level the most acceptable and disaggregated international classification of products.

## RESULTS AND ANALYSIS

Intra-industry competitive advantage results are reported in table 1

**Table 1: Intra –industry competitive advantage**

Rank of industry in competitiveness	Industry code	Industry Description	Number of product lines which are competitive in the industry
1	50-63	Textiles	48
2	06-15	Vegetable products	45
3	84-85	Machinery/Electrical	25
4	16-24	Foodstuffs	20
5	90-97	Miscellaneous	19
6	44-49	Wood and wood products	16
7	28-38	Chemicals and allied industries	15
8	01-05	Animal and animal products	9
8	25-27	Mineral products	9
9	86-89	Transportation	8
10	41-43	Raw hides, skins, leather and furs	7
10	72-83	Metals	7

11	39-40	Plastics/Rubber	6
12	68-71	Stone/Glass	3
13	64-67	Foot wear/Head gear	1

Source: From the results

In table 1, column 1 shows ranking of individual industry based on the number of product lines falling in the industry as deemed as competitive. The product lines have  $RCA \geq 1$  which demonstrates competitiveness. Column 2 is the industry code. Column 3 is the description of the industry. Column 4 shows the product lines in each cell in a particular industry.

The most competitive industry in Malawi is textiles. In it, there are 48 product lines. The industry ranks number one in terms of competitiveness in Malawi. It is followed by vegetable products industry with 45 product lines. The products falling in these industries have each  $RCA \geq 1$ . In the third place is machinery/electrical with 25 product lines. The fourth industry is foodstuffs industry with 20 product lines. Miscellaneous industry has 19 product lines and ranks number fifth. Wood and wood products industry has a total of 16 product lines and ranks number sixth. In the seventh place is chemicals and allied industries with 15 product lines. In the eighth position are animal products and mineral products industries both having 9 product lines respectively. In the ninth place is transportation industry with 8 product lines in it. In the tenth position is raw hides, skins, leather and furs industry and metals industry and both have each 7 product lines. In the eleventh competitive position is plastic/rubber industry. It has 6 product lines. In the twelfth position in terms of competitiveness is stone/glass industry. The least competitive industry is foot wear/head gear with only one product line.

**Table 2: Top 5 product lines in competitiveness in the textile industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	520210	Cotton yarn waste (including thread waste)	0	385.1164	196.1206	193.7457
2	520299	Cotton waste, except garneted stock	14.86068	11.02668	163.2299	96.11911
3	520419	Cotton sewing thread, <85% cotton, not retail	236.1919	35.43842	0	90.54344
4	621132	Men's, boys' garments of cotton not knit	79.55252	81.8894	24.64203	62.02798
5	620690	Women's, girls' blouses and shirts, material knitted	0.682799	0.352071	159.2325	53.42244

Source: From results

Cotton yarn waste product line in table 2 is the most competitive in the textile industry with an average index of 193.7. It is followed by cotton waste, except garneted stock product line with an average index of 96.1. In the third place is cotton sewing thread, <85% cotton, not retail product line with an average index of 90.5. In the fourth place is men's, boys' garments of cotton not knit product line with an average index of 62. The fifth position is occupied by women's, girls' blouses and shirts, material knitted product line with an average index of 53.4. Textile industry has the largest product lines which are competitive in Malawi. It accounts for 48 product lines. This represents 20% of all product lines in which Malawi has competitive advantage.

**Table 3: Top 5 product lines in competitiveness in vegetable products industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	090240	Tea, black (fermented or partly) in packages >3kg	224.0718	279.03	336.4431	279.8483
2	090190	Coffee husks and skins	162.77	98.18719	181.5254	147.4942
3	071390	Leguminous vegetables dried, shelled	30.44893	5.771287	373.306	136.5088
4	071310	Peas dried, shelled	138.3716	87.62301	123.3331	116.4426
5	090412	Pepper of the genus piper, crushed or ground	101.5788	55.21125	62.17685	72.98896

Source: From the results.

In table 3, tea, black (fermented or partly) in packages >3kg product lines is the most competitive in the vegetable products industry with an average index of 279.8. It is followed by coffee husks and skins product line with an average index of 147.5. In the third place is leguminous vegetables dried, shelled product line with an average index of 136.5. Peas dried, shelled product line is in the fourth rank with an average 116.4. In the fifth position is pepper of the genus piper, crushed or ground product line with an average index of 73. In the vegetable products industry, there are 45 products which have demonstrated competitiveness. It accounts for 18.9% of the total competitive product lines in the whole economy.

**Table 4: Top 5 product lines in competitiveness in machinery/electrical industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	842389	Weighing machinery	0	0.382685	374.1333	124.8386
2	843221	Disc harrows	2.686605	75.82202	0	26.16954
3	842920	Graders and levelers, self propelled	0.990786	33.9647	1.191883	12.05122
4	845290	Parts of sewing machines	26.91041	0	0.817365	9.242592
5	843830	Machinery for sugar refining and manufacture	2.527206	7.558815	5.29778	5.127934

Source: From the results.

Weighing machinery product line is the most competitive in the machinery/electrical industry with an average index of 124.8 as shown in table 4. It is followed by disc harrows product line with an average index of 26.2. In the third place is graders and levelers, self-propelled product line with an average index of 12.1. Parts of sewing machines product line has an average index of 9.2 and is ranked fourth. In the fifth place is machinery for sugar refining and manufacture with an average index of 5.1. In the machinery /electrical industry, there are 25 product lines that are competitive. This represents 10.5% of all competitive product lines in Malawi.

**Table 5: Top 5 product lines in competitiveness in foodstuffs industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	240110	Tobacco, unmanufactured, not stemmed or stripped	3077.992	1791.92	1458.912	2109.608
2	240120	Tobacco, unmanufactured, stemmed or stripped	391.4215	334.8229	553.6727	426.639
3	240130	Tobacco refuse	2.310561	629.3295	488.3106	373.3169
4	170111	Raw sugar, cane	114.4952	71.95584	67.71818	84.72308
5	220850	Gin and Geneva	92.42459	17.80875	39.98373	50.07236

Source: From the results.

In table 5, tobacco, unmanufactured, not stemmed or stripped product line is the most competitive in the whole foodstuffs industry in Malawi. It has an average index of 2109. It shows that Malawi is highly specialized in this product line. Although in terms of number of product lines, it ranks fourth with a share of 8.4%, in terms of export earnings it is the most lucrative industry. Malawi depends on this industry for its foreign exchange lifeline. In the second position in this industry is tobacco, unmanufactured, stemmed or stripped product line with an average index of 426.7. In the third rank is tobacco refuse with an average index of 373.3. Raw sugar, cane product line ranks fourth with an average index of 84.7. In the fifth place is gin and Geneva product line with an index of 50.

**Table 6: Top 5 product lines in competitiveness in miscellaneous industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	930610	Cartridges for rivet etc tools humane killers	34.43524	31110.5	189.3025	10444.75
2	950310	Electric trains, train sets	31.89791	576.1204	119.0059	242.3414
3	920890	Musical instruments	0.246259	65.55566	83.07563	49.62585
4	940370	Furniture, plastic	1.193776	33.83439	5.86553	13.63123
5	901120	Microscopes, for photomicrography	25.00119	0	0	8.333731

Source: From the results.

In table 6, cartridges for rivet etc tools humane killers product line is the most competitive in the miscellaneous industry. It has an average index of 10444.8. In the second rank is electric trains, train sets product line with an average index of 242.3. Musical instruments product line is ranked the third with an average index of 49.6. In the fourth position is furniture, plastic product line with an average index of 13.6. Microscopes, for photomicrography product line with an average index of 8.3. In all, there are 19 product lines which meet the criteria of competitiveness in this industry. This is equivalent of 8% of all competitive product lines in the whole economy.

**Table 7: Top 3 product lines in competitiveness in wood and wood products industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	441299	Panels, laminated wood	57.96693	23.09482	39.37789	40.14655
2	440799	Lumber non-coniferous	9.289405	25.98785	18.11634	17.79786
3	440729	Lumber, tropical wood	3.930734	7.721392	32.63238	14.7615

Source: From the results.

In table 7, panels, laminated wood product line is the most competitive in the wood and wood products industry with an average index of 40.1. It is followed by lumber non-coniferous product line with an average index of 17.8. In the third place is lumber, tropical wood product line with an average index of 14.8. The industry accounts for 6.7% of all competitive product lines in Malawi.

**Table 8: Top 3 product lines in competitiveness in chemicals and allied industries**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	381300	Preparations and charges for fire extinguishers	0	0	167.7167	55.90558
2	340111	Soaps, for toilet use, solid	25.4449	2.619218	5.562836	11.20899
3	291212	Ethanol (acetaldehyde)	0	0	11.62204	3.874012

Source: From the results.

Preparations and charges for fire extinguishers product line in table 8 is the most competitive in the chemicals and allied industries with an average index of 55.9. It is followed by soaps, for toilet use, solid product line with an average index of 11.2. In the third place is ethanol (acetaldehyde) product line with an average index of 3.9. In all, there are a total of 15 product lines in this industry which are competitive. The number represents 6.3% of competitive product lines in the whole economy.

**Table 9: Top 3 product lines in competitiveness in animal and animal products industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	040229	Milk and cream powder sweetened <1.5% fat	0.664629	0.050544	49.42347	16.71288
2	030110	Ornamental fish, live	15.56504	6.273218	10.94979	10.92935
3	010519	Poultry, live except domestic fowl, <185 grams	2.739296	0.649475	17.44206	6.94361

Source: From the results

In table 9, milk and cream powder sweetened <1.5% fat product line is the most competitive in the animal and animal products industry with an average index of 16.7. It is followed by ornamental fish, live product line with an average index of 10.9. In the third place is poultry, live except domestic fowl, <185 grams product line with an average index of 6.9. In total, there are only 9 product lines which are competitive in the animal and animal industry. It is equivalent to 3.8% of all products in Malawi which are competitive. This industry shares the same number of product lines which are competitive with mineral products industry.

**Table 10: Top 3 product lines in competitiveness in mineral products industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	251320	Emery, natural corundum	4.233376	27.0698	1.550962	10.95138
2	250100	Salt (sodium chloride) including solution salt water	0.057981	0	16.92385	5.660611
3	250840	Other clays (except expanded clay for insulation)	5.617503	7.178156	0.972188	4.589282

Source: From the results.

In table 10, emery, natural corundum product line is the most competitive in the mineral products industry with an average index of 11. It is followed by salt (sodium chloride) including solution salt water product line with an average index of 5.7. In the third place is other clays (except expanded clay for insulation) product line with an average index of 4.6. In all, there are 9 product lines in this industry which are competitive. This is an equivalent of 3.8% of all

product lines in which Malawi has competitive advantage. Mineral products industry and animal and animal products industry have the same number product lines in which they have competitive advantage.

**Table 11: Top 3 product lines I competitiveness in transportation industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	870432	Spark ignition engine truck weighing >5 tones	22.91354	15.23782	10.49046	16.21394
2	870520	Mobile drilling derricks	41.59252	0.679792	0	14.09077
3	871631	Tanker trailers and semi trailers	9.370252	20.58666	7.162714	12.37321

Source: From the results.

Spark ignition engine truck weighing >5 tones product line in table 11, has the most competitive advantage in the transportation industry with an average index of 16.2. It is followed by mobile drilling derricks with an average index of 14.1. In the third rank are tanker trailers and semi trailers with an index of 12.4. In all, there are 8 product lines in this industry in which Malawi has competitive advantage. The number accounts for 3.4% of the total product lines in which Malawi has demonstrated competitive advantage.

**Table 12: Top 3 product lines in competitiveness in raw hides, skins, leather and furs industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	410390	Raw hide/skins except bovine/equine/sheep/goat/reptile	41.46644	49.49078	27.9174	39.62487
2	410640	Tanned/crust hides and skins of reptiles, whether or not split	28.51303	0	0	9.504342
3	410229	Sheep or lamb skins, raw, except pickled, not wool	0	19.96944	4.860866	8.276768

Source: From the results.

Raw hide/skins except bovine/equine/sheep/goat/reptile product line in table 12 have the highest competitive advantage in the raw, hides, skins, leather and furs industry. It has an average index of 39.6. It is followed by tanned/crust hides and skins of reptiles, whether or not split product line with an index of 9.5. In the third place is a sheep or lamb skin, raw, except pickled, not wool product line with an average index 8.3. The industry has a total of 7 product lines with competitive advantage. It represents 2.9% of Malawi's product lines in which it has competitive advantage. The industry shares the same number of product lines with metals industry.

**Table 13: Top 3 product lines in competitiveness in metals industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	720990	Cold rolled iron or non-alloy steel, flat, width>600mm	0	138.2031	0	46.06769
2	722860	Bar/rod, alloy steel	3.6706	12.03499	9.658607	8.454886
3	730120	Angles, shapes and sections welded, iron or steel	0	2.14977	15.49258	5.880783

Source: From the results.

Cold rolled iron or non-alloy steel, flat, width>600mm product lie in table 13 has the most competitive advantage in metals industry with an average index of 46.1. It is followed by bar/rod, alloy steel product line with an average index of 8.5. In the third place are angles, shapes and sections welded, iron or steel product line with an average index of 5.9. This industry accounts 2.9% of the total product lines in which Malawi has competitive advantage. It has the same number of product lines as raw hides, skins, leather and furs industry.

**Table 14: Top 3 product lines in competitiveness in plastic/rubber industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	400129	Natural rubber in other forms	62.28774	30.57109	69.39991	54.08625
2	392490	Plastic household, toilet articles, not table, kitchen	3.015606	12.11251	23.79555	12.97456
3	392119	Sheet etc, cellular of plastics	3.450799	2.948772	20.97027	9.12338

Source: From the results.

Natural rubber in other forms product line I table 14 has the most competitive advantage in plastic/rubber industry with an average index of 54.1. It is followed by plastic household, toilet articles, not table, kitchen product line with an average index of 13. In the third rank is sheet etc, cellular of plastics product line with an average index of 9.1. The industry accounts for 2.5% of total product lines in which Malawi has competitive advantage. Table 15 shows all 3 product lines in competitiveness in stone/glass industry.

**Table 15: All 3 product lines in competitiveness in stone/glass industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	691190	Household and toilet articles of porcelain or China	19.82794	5.026155	5.026155	11.28473
2	710310	Precious, semi-precious stones unworked, partly worked	3.857679	2.815494	6.742453	4.471875
3	691390	Ceramic statuettes, ornamental articles	3.146084	0.438176	0.046204	1.210155

Source: From the results

Household and toilet articles of porcelain or China product lines in table 15 have the most competitive advantage in stone/glass industry with an average index of 11.3. It is followed by precious, semi-precious stones unworked, partly worked product line with an average index of 4.5. In the third place is a ceramic statuette, ornamental articles product line with an average index of 1.2. Product lines in this industry represent 1.3% of total product lines in which Malawi has demonstrated comparative advantage.

**Table 16: A single product line with competitiveness in the foot wear/head gear industry**

Product line rank	Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
1	640420	Footwear, sole leather and uppers textile material	0	0.025615	3.260986	1.095534

Source: From the results.

Footwear, sole leather and uppers textile material is the only product line in table 16 in the foot wear/head gear industry which has competitive advantage with an average index of 1.1. This is 0.4% of the total product lines in which Malawi has comparative advantage.

Malawi's competitive advantage is demonstrated significantly in the textile industry. It accounts for 20% of total product lines in which Malawi has competitive advantage. The industry has product lines which are both primary and manufactured products. The industry has potential in that it produces raw material as well as manufacturing using some of the raw material it produces. The country will greatly benefit if there is an emphasis on exporting value added products instead of primary products. However, this industry is the most vulnerable to cheap imports which have characterized domestic markets whose source mainly is China. In the vegetable products industry, most of the products are primary products hence there is a need to add value to them so they can be exported after adding value. The foodstuffs industry is not very competitive compared to textiles, vegetable products and machinery/electrical industries. However, in terms of exporting earnings, it is the biggest foreign exchange earner for Malawi. It also suffers from lack of value addition.

## CONCLUSIONS AND RECOMMENDATIONS

Malawi has significant competitive advantage in textiles, vegetable products, machinery/electrical, foodstuffs and miscellaneous industries. In other industries, there is very little evidence of competitive advantage. The least competitive industry is the foot wear/head gear which has only a single product line in which Malawi has competitive advantage. Although there is evidence that Malawi has competitive advantage in some value added products, most of its exports are in primary form. It is recommended that Malawi should not rely very much on export of primary products instead should strive to add value before exporting its products. Attracting foreign direct investment would also help Malawi improve its efficiency as well as add value on its primary product offerings.

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