Assessing Botswana's Textiles Export Trade Potential Using the Gravity Model

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Abstract

Through the application of the gravity trade model technique, the study investigates countries for which Botswana has unrealized export trade potential in textile products. The estimated results indicate that Canada, Denmark, Finland, Ghana, Mozambique and Switzerland are the export destinations to which Botswana should increase its export of textile products as these countries have untapped market potential for such products. The research also found that existence of unrealized export potential in this sector was as a result of a number of issues including import barriers put by the importing country's major trading partners as well as other problems from Botswana's side. These barriers and hindrances to Botswana's sectoral exports include stringent rules of origin (RoO), low product quality, inadequate international marketing and unrecorded informal trade.

Keywords: Sectoral exports, trade potential, gravity model, Botswana

JEL classification: F43, C13, C14, F10

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1.0 Introduction

International trade has gained prominence as one of the determinants of economic development and prosperity for most countries the world over, and Botswana is no exception. The country's external trading performance, especially the export sector, has increasingly contributed to the growth and development of the economy and this influence is expected to continue in the coming decades. The importance of the export sector to Botswana's development is even reflected in the country's 2008 National Export Strategy (Republic of Botswana, 2008) which sets strategies on how best the country can promote both traditional and non-traditional exports. Textile exports are among the products that the country wishes to promote.

Like most developing countries, Botswana has been involved in a number of regional trade arrangements (RTAs) and multilateral trade arrangements (MTAs) in the last three decades. These RTAs and MTAs include the Southern African Customs Union (SACU), the Southern African Development Community (SADC), European Union's (EU) Lome Conventions/Contonou/Economic Partnership Agreement (EPA) and the World Trade Organization (WTO), among others. All these arrangements have seen the country gradually adopting an export oriented and outward-looking approach in its trade policy relations. As a result of being a signatory and participatory member to these RTAs, the country has largely reduced (removed) most of its import restrictions and at the same time expanded its export endeavours by benefiting from the trade preferences offered by these RTAs and MTAs.

In light of the above, there is, therefore, a lucid need to continuously enhance the volume of Botswana's sectoral trade with its trading partners**.** In this regards, an estimation and analysis of the country's export trade potential with its trading partners is not only appropriate, but also imperative. According to Botswana's National Export Strategy (NES) (2008), the country seeks to promote exports from the textiles sector, among others, in its drive to diversify away from diamond exports. Thus, the main objective of this article is to estimate Botswana's sectoral trade potential in textile products. In pursuit of this objective, the following questions relating to the country's textiles export trade will be answered:

i. With which trading partners has Botswana reached its trade potential?
ii. With which trading countries has Botswana gone beyond its trading potential?
iii. With which partner countries does Botswana still have untapped (or unrealized) trade potential?

This analysis is important, especially at this juncture, because of the following reasons. Firstly, the country is still finalizing its national export strategy policy, which inter *alia*, seeks to promote exports from textiles sector, in its drive to diversify away from diamond exports. As such, the policy implications associated with the presence of unrealized trade potential with relevant trading countries in the textiles sector would, according to Ram and Prasad (2007), "extend from the necessity of country-specific trade promotional campaigns and bilateral integration to the need to anticipate relevant distributional changes due to the effect of the expansion in bilateral flows in the near future". Secondly, the article investigates the extent to which Botswana has unrealized sectoral trade potential with its relevant major (sectoral) trading partners with whom it has a number of operational trade arrangements. Lastly, the paper provides valuable indicators into the on-going negotiations aimed at coming up with a comprehensive (or full) Economic Partnership Agreement (EPA) with the European Union (EU). To date, Botswana has only signed interim EPAs with the EU on 4th June 2009.[13]

The gravity trade model will be employed to achieve the objective of the article. Gravity trade models are some of the most popular empirical tools used for modeling bi-lateral trade flows and have been the main methodology used in investigating unrealized export potentials in trade literature.

[13] Three Southern African Nations Sign Interim EPA with EU. Available at http://ictsd.org/i/news/bridgesweekly/48336/.

The rest of the paper is structured as follows: the next sub-sections provide a brief analysis of the country's textile sector. Section 2 provides literature review while Section 3 contains the methodology of the study. Results are discussed in Section 4, with study conclusions and policy recommendations provided in Section 5.

1.1 Botswana's textile trade structure

The structure of Botswana's textile trade with respect to its major trading partners is presented in Table 1. As shows in the table, the country's global textile exports rose from US$154.8 million in 2006 to US$353 million in 2007 before starting a declining trend which resulted in the country exporting only US$163.2 million in 2010. On the other hand, imports maintained a rising trend during the same period rising from US$117.6 million in 2006 to US$172.4 million in 2010. Trends from both the trade values (Table 1) and trade shares (Table 2) clearly shows that the country's major trading textile partner is the SADC region, and in particular South Africa. For instance, the share of exports destined to South Africa increased from 39.1 percent in 2006 to around 88 percent by end of 2010, while imports from the same country accounted for an annual average of approximately 80 percent of Botswana's textile import requirements.

Table 1: Botswana's textile trade[14]

	Trade with RoW		Trade with SADC		Trade with South Africa		Trade with USA			
	Expo	Impo	Expo	Impo	Expo	Impo	Total Expo	AGOA Expo	Total Impo	AGOA Impo
2006	154.8	117.6	63.4	98.9	60.6	96.6	37.4	na	0.190	na
2007	353.0	147.6	129.1	117.6	125.6	114.0	46.5	na	0.094	na
2008	273.6	161.2	176.3	121.3	171.4	119.4	21.6	15.8	0.159	0.047
2009	201.3	161.7	174.2	134.5	164.6	133.5	15.2	12.4	0.129	0.107
2010	163.2	172.4	148.3	147.8	143.5	145.1	12.3	11.6	0.159	0.018

Source: UNCOMTRADE and AGOA website
Key: Expo = Exports; Impo = Imports; na = data not available

Trade with USA has been declining both in value terms and also in terms of the shares destined and/or sourced from this partner country. Table 1 indicates Botswana's exports destined to USA, though they initially increased from US$37.4 in 2006 to US$46.5 million in 2007, the trend declined to a low value of US$12.3 million in 2010. The same declining trend was also witnessed in terms of the proportion of exports which went to the American market and it declined from 24.2 percent in 2006 to a paltry 7.5 percent in both 2009 and 2010.

Table 2: Textile trade as share of Botswana's world textile trade

	Trade with SADC		Trade with South Africa		Trade with USA			
					Exports		Imports	
	Exports	Imports	Exports	Imports	Share of world	AGOA as share of USA	Share of world	AGOA as share of USA
2006	41.0	84.1	39.1	82.1	24.2	na	0.16	na
2007	36.6	79.7	35.6	77.3	13.2	na	0.06	na
2008	64.4	75.3	62.6	74.1	7.9	73.2	0.10	29.6
2009	86.5	83.2	81.7	82.5	7.5	81.6	0.08	82.7
2010	90.8	85.7	87.9	84.2	7.5	94.1	0.09	11.3

Source: UNCOMTRADE and AGOA website
Key: Expo = Exports; Impo = Imports; na = data not available

14 Textiles data refers to HS 50 to 63 lines

An analysis of Botswana's textile trade with USA shows that the country's exports entered the American market under two trade regimes, namely the African Growth and Opportunity Act (AGOA) and the Generalized System of Preferences (GSP). The USA's African Growth and Opportunity Act (AGOA), active since 2002, provides market access preferences into the USA markets for 37 Sub-Sahara African (SSA) countries, including Botswana, by ensuring duty– and quota–free (DFQF) access on over 7000 product lines until 2015. In the case of Botswana, the textile and apparel sector is one of the three sectors with over 90% of export product lines qualifying for AGOA. Available data indicates that the share of exports which entered the USA market under AGOA rose from 73.2 percent in 2008 to 94.1 percent by 2010. This indicates that the preferences offered under AGOA are more generous to Botswana exports than those prevailing under GSP, and as such the country should continue capitalizing on AGOA for its textile exports.

1.2 Contribution of textile sector to employment

Table 3 shows the contribution of textile sector to total formal employment in Botswana. Tabulated employment figures shows that formal employment in this sector have been hovering above 7,000 in 2007, though the number declined to around 4,000 in June 2008 before the figures improved to above 7,000 again in 2010. The share of textile employment in the national employment, though it declined from 22.3 percent in March 2007 to 11.3 percent in June 2008, it however increased to 19.9 percent by the end of September 2010. Overall, this sector is very important as its contribution to the country's formal employment is significant.

Table 3: Formal textile sector employment

		Numbers			National	As % of national			As % of Textiles	
		Male	**Female**	**Total**	**Overall**	**Male**	**Female**	**Total**	**Male**	**Female**
2007	**March**	2,165	5,676	7,840	35,204	6.1	16.1	22.3	27.6	72.4
	Sept	2,403	4,991	7,394	35,555	6.8	14.0	20.8	32.5	67.5
2008	**March**	2,196	4,437	6,633	35,888	6.1	12.4	18.5	33.1	66.9
	June	1,009	3,058	4,067	36,135	2.8	8.5	11.3	24.8	75.2
2009	**March**	1,417	4,780	6,135	35,704	4.0	13.4	17.2	23.1	77.9
	Sept	1,965	5,759	7,724	35,796	5.5	16.1	21.6	25.4	74.6
2010	**March**	2,036	5,405	7,442	35,932	5.7	15.0	20.7	27.4	72.6
	Sept	1,756	5,471	7,226	36,366	4.8	15.0	19.9	24.3	75.7

Source: CSO (www.cso.gov.bw)

When the analysis of textile sector's contribution to employment is categorised into male and female, tabulated data (Table 3) shows that the textile sector is a generator of low-skill, labour intensive, providing employment avenues for thousands of women. For instance, more than five thousand women have been consistently employed for most of the period shown in Table 3. The share of employed women in this sector has been very high when compared to the proportional share of men labourers. For instance, between 2007 and 2010, more than 72 percent of the formal labour force employed in this sector was women, with the exception of September 2007 and March 2008. This trend shows that this sector is an important source of livelihood to women than men.

2.0 Literature Review

This section reviews some of the articles which have used the gravity trade model to investigate export markets with untapped potential.

Ram and Prasad (2007) investigated trade potential for Fiji using an augmented gravity model in which cross section data for the year 2005 was analyzed using the ordinary least squares (OLS) estimation technique. In terms of Fiji's trade potential, the study revealed that the country had unrealized trade potential, first with the Asia-Pacific region and then with Western Europe and North

America. At partner level, untapped trade potential for the Fiji's prospective trade expansion was highest with countries like Australia, New Zealand, Thailand and the United States.

In an attempt to investigate India's global trade potential, Batra (2004) examined India's bilateral trade with its major trade partners. The article employed an augmented gravity trade model approach. The estimates obtained using the augmented gravity model indicated that, at national level, India had a huge export trade potential with Pakistan amounting to US$6.5 billion, while there was also remarkable untapped export trade potential with the Philippines, Cambodia and China.

Eita and Jordaan (2007) analysed the extent to which there was unexploited trade potential in the exportation of raw hides and skins (other than fur skins) and leather with the South Africa's trade partners. The investigation was done on South Africa's 32 trading partners in hides and skins, and leather products, and for the period covering 1997 to 2004. To achieve its objective, the article employed the gravity trade model. After simulating the results from the estimated gravity trade model, the analysis indicated that South Korea, United Kingdom, USA, Zambia and Zimbabwe were some of the trading partners that had unexploited export potential at least from 2002 to 2004.

3.0 Methodology

3.1 Empirical model

The basic gravity trade model which has been used in empirical work (and which is analogous to Isaac Newton's gravity model from physics) over the years was originally specified by Tinbergen (1962) and Poyhonem (1963) as follows:

$$Trade_{ij} = \alpha \frac{GDP_i^{\beta_1} GDP_j^{\beta_2}}{\left(D_{ij}\right)^{\beta_3}} \quad (1)$$

where $Trade_{ij}$ represents bilateral trade between countries i and j, while GDP_i and GDP_j denote countries i and j's respective gross domestic products. D_{ij} is used as a proxy of bilateral distance between the two trading countries. In the formula above, the α and β's are parameters to be estimated and the signs of β_1 and β_2 are expected to be positive, while that for β_3 will, *a priori* have negative sign.

Rewriting Equation (1) in logarithmic format, a linear version of the model can be represented as follows (Batra, 2004; and Ghosh and Yamarik, 2004):

$$\ln\left(Trade_{ij}\right) = \alpha + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j - \beta_3 \ln\left(D_{ij}\right) + \mu_{ij} \quad (2)$$

where α, β_1, β_2 and β_3 are coefficients to be estimated. The disturbance error term (μ_{ij}) captures random events which may have an impact on bilateral trade between the two trading countries and is assumed to be stationary, with a mean of zero and a constant variance. Thus, Equation (2) is the core gravity equation which has been used in all empirical studies, albeit with additional explanatory variables, with each RHS variable added depending on the particular facet of trade being analyzed, the objectives to be achieved and availability of data. In this basic gravity theory, a positive correlation is expected between trade and GDPs, while a negative relationship will be expected between trade and distance.

This paper adopts a theoretical gravity trade model for sector analysis that was developed by Marques (2004). Formulation of Equation (2) is "modified" to take into account sectoral, as opposed to aggregate or total trade factors, and is given by Equation (3):

$$LnX_{ijk} = \alpha_0 + \alpha_1 \ln Y_{ik} + \alpha_2 \ln\left(K_{ik}/L_{ik}\right) + \alpha_3 PTA_{ijk} + \alpha_4 \ln Y_j + \alpha_5 \ln D_{ij} + \alpha_6 \ln P_j + \alpha_7 \ln \Pi_j + \alpha_8 \ln exr_{i,usa} + \varepsilon_{ij} \quad (3)^{15}$$

where,

X_{ijk} = value of sector k export trade flow from Botswana (country i) to country j,
Y_{ik} = is the GDP of sector k in country i (i.e., Botswana),
(K_{ik}/L_{ik}) = capital per unit of labour (capital labour ratio) in sector k in country i (i.e., Botswana),
PTA_{ijk} = Preferential trade arrangement (PTA) dummy variable between Botswana (i.e., country i) and partner j in sector k. AGOA is our textiles sector specific PTA dummy:
Y_j = GDP of importing country,
D_{ij} = physical distance from the economic centre of country i (i.e., Gaborone, Botswana) to that of country j,
P_j = Population of importing countries,
Π_j = inflation of importing country,
$Exr_{i,usa}$ = real exchange between Botswana Pula and US dollar (US$1 per Pula)
α_0 = a constant.

Following empirical estimations[16] which indicated textile export products as inter-industry trade (INT) driven, an INT variable will be included in the gravity trade model to capture INT trade theories such as Heckscher-Ohlin trade theories. Thus, with introduction of a variable to capture INT, Equation (3) is further augmented to become Equation (4) as shown below:

$$\ln X_{ijk} = \alpha_0 + \alpha_1 \ln Y_{ik} + \alpha_2 \ln\left(K_{ik}/L_{ik}\right) + \alpha_3 PTA_{ijk} + \alpha_4 \ln Y_j + \alpha_5 \ln D_{ij} + \alpha_6 \ln P_j + \alpha_7 \ln \Pi_j + \alpha_8 \ln exr_{i,usa} + \alpha_9 IIT(INT)_{ik} + \varepsilon_{ij} \quad (4)$$

The rationale for including an INT variable in the gravity trade model is to see whether this new variable in Equation (4) can lead the study in concluding that the INT variable is also an important determinant of Botswana's textile exports or not. The revealed comparative advantage index (RCAI) has been one of the possible variables suggested in empirical literature (for instance Kandogan, 2003a) to capture INT trade theories in gravity equations. Thus, two gravity model equations for the textile product exports will be estimated based on Equations (3) and (4). Theoretically, INT variables are expected to be positively related with exports (Hafbauer, 1970; Kandogan, 2003a; and 2003b).

3.2 Selected factors that determine exports in the gravity model framework

With regards to factors that determine exports in the gravity trade model framework, there is a pool of potential variables, besides the three core variables of importer GDP, exporter GDP and distance, which explain direction of exports. In fact, Ghosh and Yamarik (2004) indicate that there are around 48 factors that have been used in gravity trade model literature which seek to explain the direction of exports[17]. Table 4 therefore presents some of the determinants found in literature and especially those that will be used to explain Botswana's sectoral exports.

Table 4: Gravity model explanatory variables

15 Where Variables Yik , Kik/Lik and PTAijk are sector specific

16 Empirical estimations (not presented in this study) were done using the Grubel and Lloyd's (1975) index and the results from those estimations shows that, for the period covering 1999 to 2006, textile products exports were inter-industry trade (INT) driven.

17 This study has experimented with a number of possible variables and the ones presented in this section are the most significant ones.

Variable	Expected sign	Theoretical intuition
Exporter GDP	+	Measures production capacity, more production means more exports
Importer GDP	+	Measures absorption capacity, higher GDP, means higher import demand
Distance	-	Imposes trade costs, greater distance means more costs, hence less trade
Population	?	- Larger population means more diversification and self-sufficient (negative sign) - Larger population allows economies of scale resulting in more exports (positive sign)
Importer Inflation	?	- higher inflation means citizens try to avoid it by importing (positive sign) - higher inflation means consumers scales down their purchases including imports (negative sign)
Capital-labour ratio	+	Characterise the sectoral technologies and their relative factor requirements, with higher capital-labour ratio being expected to affect sectoral exports positively.
Exchange rate	+	Increase in exchange rate (i.e., currency depreciation) makes exports relatively cheaper, thus positively affecting exports
RCA index	+	Captures INT characteristics, with increase in INT associated with increase in exports
RTA dummy	+	Countries enter into RTAs with the objective of increasing export trade

Source: Author compilation

3.3 Estimation procedure

3.3.1 Pooled versus individual fixed effects

In terms of the estimation procedure, one may assume that there are no individual country-specific effects present in the panel, thus assuming all the countries in the panel to be the same. If such a route is chosen, a pooled estimation will be the model implemented. The second possible option is to estimate an equation where individual country-specific effects are assumed to be present in the panel, in which case a fixed effects model will be estimated. Given that Botswana's trading partners in textile sector are heterogeneous, the estimates will therefore be based on the fixed effects model (FEM) estimation procedure. Nevertheless, pooled estimations will be done solemnly for the sake of interpreting dummies and non-changing variables such as distance.

3.3.2 Fixed effects model (FEM) versus random effects model (REM)

There are two different models which can be used to estimate the individual country specific effects, i.e., the FEM or the REM. Given these two possible estimation models, a decision regarding the treatment of these effects, either as fixed or random has to be made. Following Baltagi (2005:15), "the random effects model (REM) is an appropriate specification if we are drawing N individuals from a large population". On the other hand, Egger (2000:26) argues that the FEM model is appropriate when estimating trade flows between a predetermined selection of nations. Since this research is concerned with trade flows between Botswana and its main selected trading partners as opposed to drawing N trade partners from a large population, the FEM will be more appropriate than the REM specification for capturing the country–specific effects.

4.0 Result

4.1 Gravity trade model estimation results

The gravity fixed effects model results shown in Table 5 indicate that most variables used in the gravity trade models are statistically significant and have expected theoretical signs. The textile sector's exports increased as the GDP for the importing countries and the Botswana manufacturing sector's GDP increased. Specifically, textile exports increased by 1.1% and 1.5%, respectively, when both the GDP for Botswana's manufacturing sector and that of importing countries increased by 1%. These results are shown in Table 5. This result is closer to Rojid's (2006) findings where a 1% increase in the GDP of the importing country increased exports by 0.9% while a rise in the GDP of the exporting trading country increased exports by 0.8%.

The estimated coefficient for distance, from the pooled Equation (4), has the expected negative sign and is statistically significant. For instance, a 1% increase in distance will reduce textile exports by approximately 2.3%. This negative finding is in line with most studies, for instance, Marques (2008), Kandogan (2008), and Baier and Bergstrand (2005), to mention just three papers.

Table 5: Textiles regression results (dependent variable: export)

Variable	Pooled Model		Fixed Effects Model	
	Equation (3)	**Equation (4)**	**Equation (3)**	**Equation (4)**
Botswana manufacturing GDP	2.83 (3.89)***	2.56 (2.1)**	1. (2.1)**	1.1 (1.8)**
Importer GDP	0.92 (4.6)***	0.91 (4.58)***	1.6 (1.2)	1.5 (2.4)**
Importer population	0.57 (1.82)*	0.57 (1.83)*	2.1 (2.3)**	2.6 (3.7)***
RCAI for textiles	-------	0.74 (2.7)***	-------	0.50 (2.1)**
Importer Inflation	0.01 (1.83)*	0.01 (1.81)*	0.001 (2.2)**	0.01 (3.8)***
Botswana manuf. K/L ratio	-1.57 (-1.65)*	-1.61 (-1.41)	-0.24 (-0.04)	-0.22 (-0.03)
Exchange rate	0.1 (2.2)**	0.2 (2.9)***	0.12 (1.8*)	0.22 (2.5)**
AGOA dummy	4.04 (2.69)***	2.4 (6.8)***	-------	-------
Distance	-2.4 (-3.83)***	-2.3 (-3.82)***	-------	-------
Adjusted – R^2	0.61	0.66	0.64	0.69
F-Test	15.30	15.61	9.26	9.80
Total observations	192	192	192	192

Notes: [***], [**], [*] significant at 1%, 5%, 10% level
T-statistics in parenthesis

The dummy variable representing Botswana's textile export trade under AGOA is positive and significant. This is in agreement with trade theory which expects trade to increase in the presence of regional trade arrangements. A study by Eita and Jordaan (2007) found that the SADC regional trade arrangement was one of the factors which boosted South Africa's wood exports to other regional member countries.

The coefficient RCAI is positive, and according to theoretical expectations. Given that the textiles sector is inter-industry trade driven, as pointed before, an increase in the RCAI index will result in more textile export, ceteris paribus[18]. Thus, a 1% increase in the RCAI index will result in a 0.5% increase in the proportion of total textile exports which follows the INT model structure.
The positive coefficient on exchange is according to theory. Tabulated results indicate that 1% depreciation increases textile exports by 0.22%. This result is closer to Rahman (2003) findings where a 1% depreciation (or increase in exchange rate) increased exports by 0.34%.

Comparing the performance of the two equations using the adjusted R^2 and F-test, the modified gravity trade model Equation (4) relatively performs better than the traditional or basic gravity trade model Equation (3). Thus, the simulations of export trade potential presented in the next sub-section are based on the fixed effects model, Equation (4).

4.2 Trade potential estimations

After estimating the gravity model for textile export trade flows between Botswana and its respective trading partners, the paper proceeds to estimate the export trade potential for the country. The ratio of sectoral export trade potential (P) as simulated/predicted by the model and actual sectoral export trade (A), i.e., (P/A), will be used to analyze the possible future direction of export trade for the country's textile sector. In terms of interpretation, in a case where the value of the ratio (P/A) exceeds 1, that will indicate existence and evidence of export trade potential between Botswana and the country in

18 Robustness check was done on the results and the results proved to be reliable and consistence

question. Following Batra (2004) and the International Trade Centre (ITC) (2005, 2003), evidence of unrealized export trade in turn implies the potential for Botswana to expand its exports to that country. On the other hand, if the value of (P/A) is less than 1, it indicates that Botswana has exceeded its trade potential with that country. In short, values of (P/A) can either be greater than or less than 1, with the former indicating countries with which Botswana has potential for expansion of export trade in the foreseeable future, while the latter shows trading partners with which Botswana has already exceeded its trade potential.

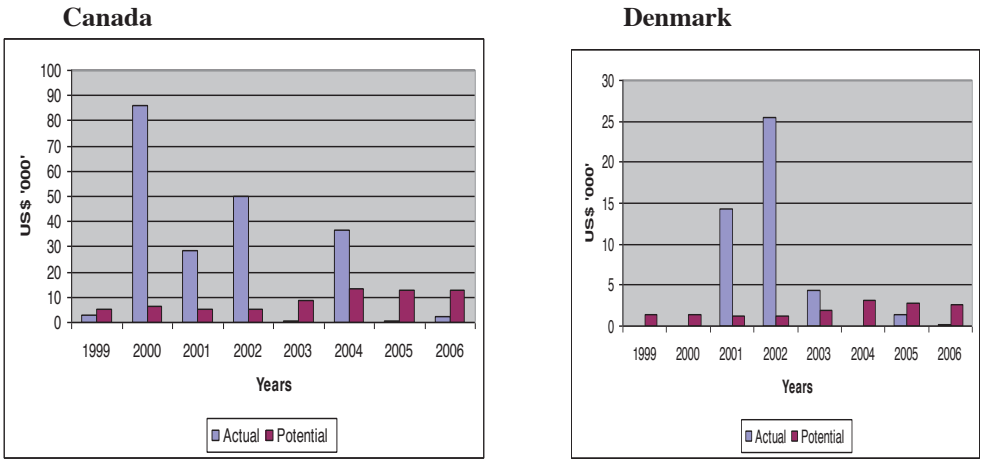
Conversely, the absolute difference between the potential and actual level of export trade, that is, the value of (P-A) can also be used to indicate whether a country has unrealized export trade potential with Botswana or not. In this case, a positive value will indicate unrealized export trade potential, thus the possibility of future export trade expansion into that country while a negative value will indicate that the country's exports have already exceed their trade potential.

4.2.1 Export trade potential estimation results

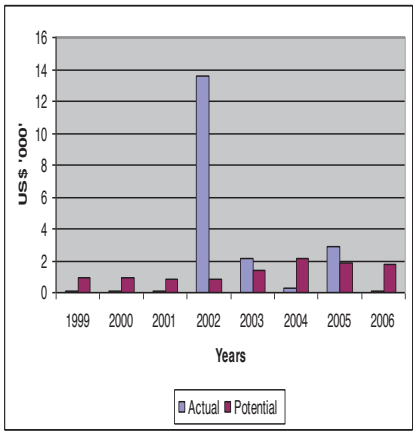
When Botswana's textile export potential is compared among different trading partners, maximum potential is indicated for Ghana and Mozambique. Figure 1 also shows that Canada, Denmark, Finland, Saudi Arabia, Spain, and Switzerland are the other export destinations in which textiles exports from Botswana have recently acquired unexploited trade potential. This suggests that Botswana should promote exportation of more textile products to these countries by instituting relevant export strategies so as to exploit the unrealized trade potential (See also Table A1 in the Appendix).

On the other hand, Botswana has exhausted its textile export market in countries such as France, Germany, South Africa and USA, among others, as shown in Table A2 of the Appendix. For these countries, Botswana should not use more resources in marketing textiles, but should rather try to maintain its share of the market for its exports in these markets.

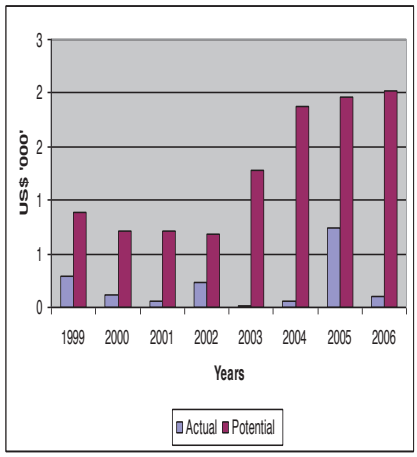
Figure 1: Textile export potential



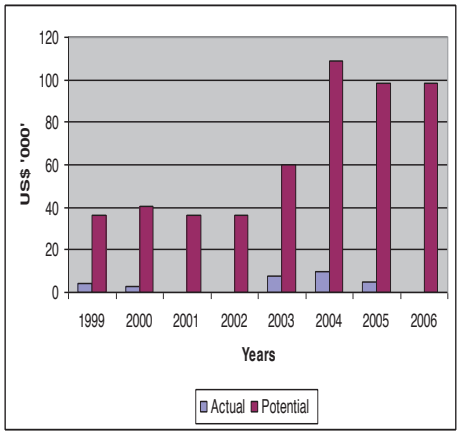
Finland



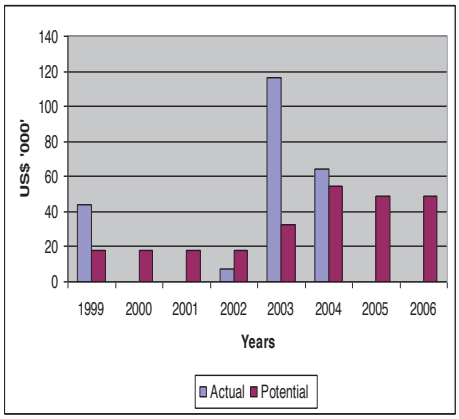
Ghana



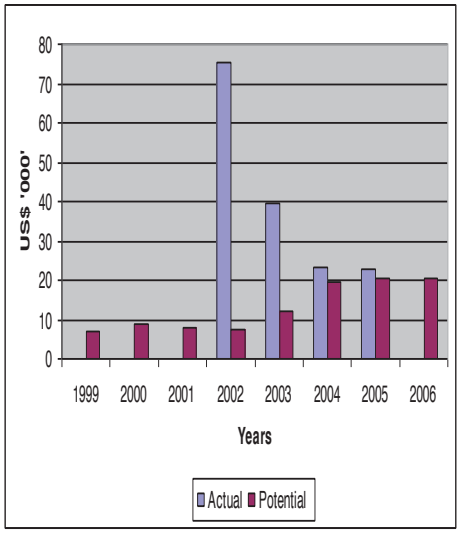
Mozambique



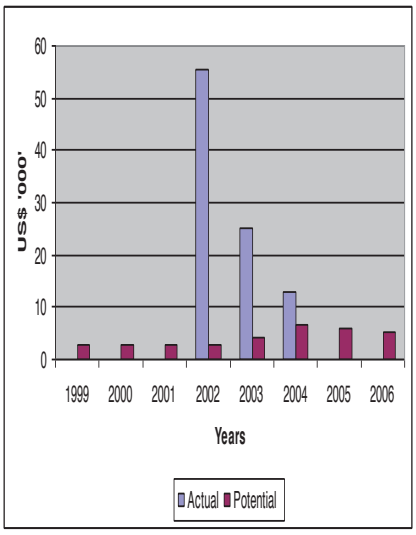
Spain



Saudi Arabia



Switzerland



4.3 Botswana's textile trade potential with regional groupings

In this section the study analyzes Botswana's export trade potential with sets of countries defined by some preferential trading arrangements which are already in existence as well as those to be operationalized in the near future, using estimates from the gravity model. In particular, the paper investigates the group of trading partners constituting the SADC, SACU, USA's AGOA and EU (both under the Cotonou agreement and the envisioned EPA).

Among the trading partners which are members of EU, the highest unrealized trading potential in textile for Botswana, according to the calculations in Table A3 of the Appendix, is shown for Spain, followed by Switzerland and Finland, among other countries. On the other hand for countries in the SADC regional configuration, the highest export textile trade potential according to the magnitude of the trade potential calculation is indicated for Mozambique, followed by Tanzania and lastly by Swaziland. Thus, tabulated information shows that Botswana and its respective trading partners in the EU and SADC are trading much less than what the gravity model predicts and this implies that Botswana has untapped export trade potential in textiles with countries in both the EU and SADC. This scenario suggests that it will be a good strategy move for Botswana to continue making all efforts to implement its free trade area (FTA) commitments under the SADC and the commitments it agreed to in the interim EPA with the EU.

Table A4 shows the trading partners in America, EU and SADC (SACU) regional groups where Botswana has exceeded its export trade potential in textile products. This implies that Botswana and these respective countries in these regional groupings are trading more than the gravity model predicts. This is an indication of a successful partnership among trading countries (International Trade Centre (ITC) (2005, 2003).

4.4 Comparison with other studies

The unrealized export potential results are not unique to the findings of this study, but compare well with other previous studies which also found untapped potential in various trading partners for a given country's exports. For instance, Ram and Prasad's (2007) found that Fiji had untapped trade potential for its aggregate exports with its trading partners such as Australia, New Zealand, Thailand and the United States. A study by Eita and Jordaan (2007) found that South Africa's leather products for the period 1997 to 2004 had unrealized export trade potential to such trading partners as South Korea, UK, USA, and Zimbabwe. Batra's (2004) study on India's global trade indicates that the country, for the year 2000, had the highest unexploited export trade potential with trading partners from the Asia-Pacific region followed by Western Europe and North America. At country level, India had the highest unrealized export potential with countries like China, UK, Italy and France.

4.5 Possible causes of unrealized export trade

The existence of unrealized trade potential with a number of trade partners signifies that there might be some trade barriers still inhibiting export trade to some of these trade partners. The following are some of the possible trade barriers that Botswana's textile exports face in a number of countries.

i. Stringent rules of origin (RoO)

Although tariffs applied by most of Botswana's export partners have generally declined over the years, stringent rules of origin (RoO)[19] continue to present challenges to the country's exports especially in the EU market.

ii. Low product quality

Salm et al. (2004) alludes to the fact that relatively low quality, especially in the textiles sector, has contributed towards reduced textile exports from Botswana.

19 RoO can be simply defined to mean the country of origin from which a given exported product came or was manufactured.

iii. Inadequate international marketing
Botswana's National Export Strategy (NES) (Republic of Botswana, 2008) alludes to the fact that the country's exports have not been vigorously marketed at international fora.

iv. Unrecorded informal trade
Another possible cause of unrealized export trade potential is the fact that informal trade exports figures are not normally recorded, thus resulting in underestimated export figures.

5 Conclusion and Policy Recommedations

5.1 Conclusion

The following are the conclusions that emanated from the empirical evidence of this study:

Gravity trade model

i. The respective Botswana's manufacturing GDP and the GDPs for the importing countries were positive and statistically significant determinants of Botswana's textile exports. This implies that growth in the GDP or economic activities in manufacturing enhanced Botswana's textile exports.
ii. The sectoral gravity estimations indicate that distance retarded exports, and this is expected from theory. The negative correlation implies that, as distance increased from Botswana to any trade partner, the country's export trade from textile sector declined.
iii. Regional trade arrangements contributed positively to the country's exports in the textile sector for the period under review. For instance, the AGOA trade preferences in the form of duty-free-quota-free (DFQF) resulted in Botswana's textiles entering the USA market freely since 2000 than was the case before the arrangement was initiated. This has increased exports of textiles.
iv. The statistically significant positive signs on INT variable in the gravity equation indicate that factor endowments in the textile sector promote exports from this sector.
v. The relationship between exchange rate on one hand, and textile exports on the other hand was found to be positive and statistically significant. This implies that currency devaluation leads to increase in textile exports.

Trade potential

This article presented the countries in which Botswana has unrealized trade potential in textile sectoral exports. The estimated results indicate that Canada, Denmark, Ghana and Mozambique, among others are the export destinations in which Botswana should increase its export of textiles products as these countries have untapped market potential. The article also found that existence of unreleased export potential in textile sector was as a result of a number of issues including import barriers put by the country's major trading partners as well as other problems from Botswana's side. These barriers and hindrances to Botswana's sectoral exports include stringent rules of origin (RoO), low product quality, inadequate international marketing, and unrecorded informal trade.

5.2 Policy recommendations

The following are the policy recommendations emanating from the findings of this article

Gravity trade model

i. Given that higher GDPs for importing partners promote Botswana's export trade, the country needs to continue its engagement especially with those partners with higher GDPs. This can be easily achieved if the country remains committed in such trade arrangements as the envisioned Economic Partnership Agreement (EPA) with the EU, and the AGOA trade arrangements with the USA. Continued engagement with high income countries can also be

enhanced if the country implements the various agreed trade liberalizations promulgated by the WTO so that it can get reciprocal treatment and trade preferences from some of the high income and developed WTO members.

ii. The fact that distance retards exports means that the country should increase its trade as much as possible with proximity countries. Botswana, besides being a full member of the already advanced and highly integrated Southern African Customs Union (SACU), should also move together with other member states of the Southern African Development Community (SADC) in their endeavour to move from the current Free Trade Area (FTA) to higher stages of regional integration such as Customs Union (CU), Common Market (CM), Monetary Union (MU) and Economic Union (EU). These higher stages of integration, especially with geographically close countries will also mean enlarged markets for Botswana's exports, among other benefits.

iii. To continue increasing its exports, the country needs to remain in its current trade arrangements, ranging from bilateral, regional (for instance with SACU and SADC), inter-regional (with EU) and multilateral (at WTO level).

Trade potential

1. *Analyze export barriers*
   There is need to investigate the factors that hinder the country's textiles exports to countries with untapped export potential. Such analysis would then underpin export strategies aimed at capitalizing on those untapped markets.
2. *Increase export promotion activities*
   The country should consider increasing trade promotional activities using its Foreign Service and Consulates; especially in countries where there is untapped export potential and can even consider opening new consulate offices in a trade partner country where there were no such services before.
3. *Negotiate for better trade preferences*
   In all its current and future trade negotiations be it at bilateral, regional or multilateral levels, there is need for the country to negotiate for enhanced trade preferences, especially for textiles products.
4. *Seek technical assistance to meet NTBs*
   The country can consider seeking technical assistance especially from developed trade partners like EU and USA so that it can meet the NTBs prevailing in those markets.
5. *Improve product quality*
   There is need for improved quality standards on the country's products earmarked for exports.

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Appendix

Botswana's Sectoral Trade Potential

This part of the Appendix presents countries and regions with which Botswana has both unrealized and exhausted export potential in textile export products.

Note:
For all Tables in this Appendices section:
UP – means unrealized trade potential
EP – implies exceeded trade potential

Table A1: Countries with unrealized potential for expansion of textile export trade

Country/Year	1999	2000	2001	2002	2003	2004	2005	2006	Overall
Belgium	0.6	0.7	0.8	0.8	1.0	0.6	1.9	1.8	**UP**
Canada	1.1	0.8	0.8	0.8	1.4	0.9	1.5	1.2	**UP**
Denmark	2.0	2.7	0.7	0.7	0.9	2.3	1.1	1.7	**UP**
Finland	1.6	1.5	1.7	0.7	0.9	1.4	0.9	1.7	**UP**
Ghana	1.2	1.4	1.6	1.2	2.5	1.9	1.1	1.7	**UP**
Mozambique	1.2	1.3	2.4	2.5	1.2	1.3	1.4	3.3	**UP**
Saudi Arabia	3.0	2.2	1.9	0.8	0.9	1.0	1.0	2.8	**UP**
Spain	0.9	3.1	2.2	1.1	0.9	1.0	2.1	3.7	**UP**
Swaziland	1.9	1.2	2.0	1.8	2.8	1.5	0.9	0.8	**UP**
Switzerland	1.9	2.0	1.6	0.7	0.8	0.9	2.3	1.7	**UP**
Tanzania	1.9	0.6	0.6	1.3	2.8	2.3	0.7	3.6	**UP**

Table A2: Countries where Botswana's textile has exceeded its export trade potential

Country/Year	1999	2000	2001	2002	2003	2004	2005	2006	Overall
France	1.0	2.3	3.1	0.8	0.9	0.8	2.9	0.8	**EP**
Germany	0.9	0.8	0.7	0.8	0.8	0.8	0.7	0.8	**EP**
Lesotho	0.8	0.8	1.8	1.7	1.0	1.1	0.9	0.8	**EP**
Malawi	0.7	0.8	1.3	0.8	1.1	1.1	0.9	0.8	**EP**
Mauritius	0.4	1.8	1.1	0.6	1.1	0.4	0.4	0.4	**EP**
Namibia	0.6	0.6	2.1	0.9	0.8	0.8	0.8	0.7	**EP**
Netherlands	0.9	3.3	2.1	0.8	0.9	0.8	1.2	0.6	**EP**
Norway	1.4	2.8	0.8	0.7	0.7	2.2	0.7	1.8	**EP**
South Africa	0.97	0.98	0.99	0.96	0.99	0.99	0.98	0.98	**EP**
United Kingdom	0.7	0.7	0.7	0.7	0.9	0.7	0.7	0.6	**EP**
USA	1.00	1.02	1.11	1.00	1.04	0.97	0.92	0.97	**FP**
Zambia	0.9	0.6	0.6	0.9	1.0	1.0	0.9	0.9	**EP**
Zimbabwe	0.6	0.7	0.7	1.0	1.0	0.9	0.8	1.1	**EP**

Table A3: Regional distribution of countries with potential for textile trade expansion

Country/Year	1999	2000	2001	2002	2003	2004	2005	2006	Overall
European Union (EU)									
Belgium	0.6	0.7	0.8	0.8	1.0	0.6	1.9	1.8	**UP**
Denmark	2.0	2.7	0.7	0.7	0.9	2.3	1.1	1.7	**UP**
Finland	1.6	1.5	1.7	0.7	0.9	1.4	0.9	1.7	**UP**
Spain	0.9	3.1	2.2	1.1	0.9	1.0	2.1	3.7	**UP**
Switzerland	1.9	2.0	1.6	0.7	0.8	0.9	2.3	1.7	**UP**
SADC									
Mozambique	1.2	1.3	2.4	2.5	1.2	1.3	1.4	3.3	**UP**
Swaziland[+]	1.9	1.2	2.0	1.8	2.8	1.5	0.9	0.8	**UP**
Tanzania	1.9	0.6	0.6	1.3	2.8	2.3	0.7	3.6	**UP**

Note: "+" Both a SADC and SACU member country

Table A4: Regional distribution of countries with exceeded textile trade potential

Country/Year	1999	2000	2001	2002	2003	2004	2005	2006	Overall
European Union (EU)									
France	1.0	2.3	3.1	0.8	0.9	0.8	2.9	0.8	**EP**
Germany	0.9	0.8	0.7	0.8	0.8	0.8	0.7	0.8	**EP**
United Kingdom	0.7	0.7	0.7	0.7	0.9	0.7	0.7	0.6	**EP**
Netherlands	0.9	3.3	2.1	0.8	0.9	0.8	1.2	0.6	**EP**
SADC									
Lesotho[+]	0.8	0.8	1.8	1.7	1.0	1.1	0.9	0.8	**EP**
Malawi	0.7	0.8	1.3	0.8	1.1	1.1	0.9	0.8	**EP**
Mauritius	0.4	1.8	1.1	0.6	1.1	0.4	0.4	0.4	**EP**
Namibia[+]	0.6	0.6	2.1	0.9	0.8	0.8	0.8	0.7	**EP**
South Africa[+]	0.97	0.98	0.99	0.96	0.99	0.99	0.98	0.98	**FP**
Zambia	0.9	0.6	0.6	0.9	1.0	1.0	0.9	0.9	**EP**
Zimbabwe	0.6	0.7	0.7	1.0	1.0	0.9	0.8	1.1	**EP**
America									
U.S.A	1.00	1.02	1.11	1.00	1.04	0.97	0.92	0.97	**EP**

Note: "+" Both a SADC and SACU member country.

Table A4: Regional distribution of countries with exceeded textile trade potential

Country/Year	1999	2000	2001	2002	2003	2004	2005	2006	Overall
European Union (EU)									
France	1.0	2.3	3.1	0.8	0.9	0.8	2.9	0.8	**EP**
Germany	0.9	0.8	0.7	0.8	0.8	0.8	0.7	0.8	**EP**
United Kingdom	0.7	0.7	0.7	0.7	0.9	0.7	0.7	0.6	**EP**
Netherlands	0.9	3.3	2.1	0.8	0.9	0.8	1.2	0.6	**EP**
SADC									
Lesotho[+]	0.8	0.8	1.8	1.7	1.0	1.1	0.9	0.8	**EP**
Malawi	0.7	0.8	1.3	0.8	1.1	1.1	0.9	0.8	**EP**
Mauritius	0.4	1.8	1.1	0.6	1.1	0.4	0.4	0.4	**EP**
Namibia[+]	0.6	0.6	2.1	0.9	0.8	0.8	0.8	0.7	**EP**
South Africa[+]	0.97	0.98	0.99	0.96	0.99	0.99	0.98	0.98	**FP**
Zambia	0.9	0.6	0.6	0.9	1.0	1.0	0.9	0.9	**EP**
Zimbabwe	0.6	0.7	0.7	1.0	1.0	0.9	0.8	1.1	**EP**
America									
U.S.A	1.00	1.02	1.11	1.00	1.04	0.97	0.92	0.97	**EP**

Note: "+" Both a SADC and SACU member country.