The Potential Implications of Agricultural Trade Liberalisation on the Southern Africa Customs Union (SACU) Smaller (BNLS) Economies: An ATPSM Model Analysis

Botswiri Oupa Tsheko

Abstract

Botswana, Namibia, Lesotho and Swaziland's (BNLS) trade relations in the region have been shaped largely by its membership of SACU; The trade regime in the BNLS has been defined by SACU for 80 years. SACU is a free trade arrangement between a group of five countries with close geographical ties, and economic links. Four of the member economies-Botswana, Lesotho, Namibia and Swaziland (BNLS)-are small in terms of market size, level of development and national income, relative to South Africa, the fifth member.

The existing SACU agreement contains two provisions, that allow the BNLS to promote industrial development within their territories. Under infant industry protection agreement BLNS members are allowed to seek a change in the common external tariff in order to permit an industry to be established in its territory to serve the entire SACU market. Such protection would only be granted by the common external tariff if the industry could be expected to supply a substantial portion of the SACU market. This arrangement has been used by Botswana to launch the soda ash project at Sua Pan, to serve the South African market for this industrial chemical. Generally, the BNLS countries depend heavily on SACU revenue. It is clear, therefore, that any changes to the SACU agreement, due to say, the WTO agreements, will impact significantly on the BNLS economies, and the ATPSM results attest to this.

The ATPSM results indicate that to achieve domestic economic diversification and enhance food security which results from the rise in the importation of cheaper agricultural goods (especially cereals) from the rest of the world, BLNS countries need improved export market access to generate foreign exchange to import food, raw materials and technology. Consequently, tariff liberalization coupled with some preferential market access in the medium to long-term, is necessary for these countries to generate export earnings.

However the ATPSM results point to the fact that trade liberalisation, especially using the Swiss formula will lead to adverse decline in Government revenues to the BNLS countries. For the BLNS countries, a loss in government revenue means a decline in the provision of public goods and that could have serious social implications.

Introduction

The global environment has changed dramatically since the 1980s. The proliferation of regional trading agreements, the increased role of the World Trade Organisation (WTO) and the IMF/World Bank imposed structural adjustment programs have accelerated the process of opening developing countries' domestic markets to imports and reducing tariffs.

This membership of the WTO means that BNLS are affected by globalisation through a number of mechanisms, including international trade, international flows of finance, and the impact of globalisation in neighbouring economies to which the BNLS economies are strongly linked.

A major policy question facing BNLS's policy makers, is whether and to what extent they should pursue trade liberalisation to conform to the WTO rules. In the context of this paper, the question that BNLS policy makers need to answer is the potential implication of trade liberalisation through the SACU-USA Free Trade Agreement on the BNLS economies. While the aggregate impact of such a carefully formulated program of trade liberalisation may be positive, it is likely to have very different effects on different sectors of the economy and population. Given that BNLS's agriculture and textile industries currently enjoy substantial protection and special dispensation through European Union-African Caribbean and Pacific group (EU-ACP) agreement and African Growth and Opportunity Act (AGOA), additional broad-based trade liberalisation may have a detrimental impact on households, especially rural households where poverty is concentrated, as this exposes the sectors to more international competition. To capture the potential implications of trade liberalisation on the agricultural sector of the BNLS countries we will use the Agricultural Trade Policy and Simulation Model (ATPSM), discussed in details in section 5. Given its importance in the BLNS economies and manufacturing industries, tariff liberalization by SACU has major implications for the agricultural sector, producers, consumers and government revenue. ATPSM will theefore be applied to assess the effects of tariff liberalization in the BLNS agricultural trade flows, government revenue and the welfare of consumers and producers.

Background about SACU

The Southern African Customs Union(SACU) is the oldest in the world as it was established in 1910 by then three protectorates(Bechuanaland, Basothuland and Swaziland)under British rule together with the Union of South Africa. Upon their political independence, Botswana, Lesotho and Swaziland re-negotiated the SACU Agreement in 1969 in order to help develop their economies and primarily mobilize tariff revenue for social transformation (Guma, X.P.; 1990).

Despite the 1969 SACU agreement, tariff protection mainly benefited the highly developed agricultural sector and industries of South Africa. Of course the BLS countries received customs revenue for use by their respective governments and the tariff protection insulated

small agricultural sectors and industries in these countries. Before Namibia joined SACU in 1990, there were already concerns about the SACU Agreement as it gave powers under Article 4 to determine duties to South Africa with very limited consultation among members. Consequently, after 1990 and the establishment of a democratic South Africa in 1994, the momentum to review the Agreement became stronger. SACU renegotiations started in 1994 till 2002 when a democratic and transparent agreement was signed and ratified.

Like its predecessors, the 2002 SACU Agreement still maintains one common external tariff for regulating trade with third parties and that all members apply the same import duties for imported agricultural and industrial goods (WTO Trade Policy Review, 2003). Further, an independent secretariat with a tariff board and tribunal have been created in the new Agreement with the head quarters of the Secretariat in Windhoek, Namibia. The Secretariat administers the new agreement while the tariff board considers proposals on duties for consideration by the Council of Ministers, the decision making body of SACU. All member countries are represented in the Council. Prior to 2002, tariff decisions and proposals were done unilaterally by South Africa. In addition to customs tariffs, imports are also subject to excise duties (for a group of products), levies, and value added tax (VAT) or sales tax. Each SACU country sets its own VAT or sales tax. Botswana, Namibia, and South Africa levy VAT at different rates; whereas Lesotho, and Swaziland still impose sales taxes at different rates too(WTO Trade Policy Review, 2003, p 10).

The current Agreement has also revised the revenue formula which now has a development component to assist the least developed members of SACU. In addition, the various sectors(agriculture, textiles, clothing and motor manufacturing) including institutional aspects of the Agreement were subject to consultative meetings based on country position papers. The country papers were then consolidated into SACU policy documents, which are annexed to the 2002 SACU Agreement.

SACU in Multilateral and Regional Trade Agreements
All members of SACU belong to the World Trade Organization (WTO). As WTO members almost all them except for Lesotho as the least developed country, have commitments to global trade liberalization. Specifically, these countries are obliged to improve market access into the SACU territory by gradually reducing tariff and non-tariff barriers to trade. Further, SACU countries maintain a non-discriminatory most favoured nation (MFN) tariff policy. Although Lesotho is classified as least developed country, as a member of SACU she is bound to implement the same tariff duties on imports like other members, as there is a relatively free movement of goods within the customs union. SACU countries actively participate in WTO meetings and most of the members have permanent offices in Geneva, Switzerland.

Besides membership to WTO, SACU countries are also members of SADC and are preparing themselves towards regional integration by 2008 at which time about 85 percent on intra-SADC trade will be duty free. Further, as SADC members, SACU countries are about to enter into free trade negotiations with the European Union (EU) under the Economic Partnership Agreement (EPA) with the view to establishing a reciprocal trade agreement. Currently, except for South Africa, all Southern African Development Community (SADC) countries trade with the EU through the Continuo Agreement under non-reciprocal arrangements. South Africa has a reciprocal trade agreement with the EU which defector is a SACU-EU free trade agreement/area (FTA) as goods in South Africa easily find their way into other SACU countries. SACU countries are also negotiating an FTA with the United States of America. Other planned FTAs are in the process. Membership to these organizations and the need to open up the SACU market for other competitive agricultural and industrial suppliers globally will have profound effects on the livelihood of the subregion's people.

Economic Characteristics of SACU

Table 1 shows some of the selected characteristics of SACU. About 86 percent of the population is in South Africa with about 50 percent of the people still living in rural areas where infrastructure and social services are still underdeveloped. As expected the industrial, agricultural, service and investment base of SACU is again located in South Africa. Except for Botswana where the agricultural contribution to GDP is almost similar to South Africa, in other SACU countries, the sector's share is still very high (above 10 percent). The service sector has greatly increased its GDP share in all SACU countries while manufacturing is dominated by light industries (food, textiles, clothing, etc) in almost all SACU countries except for South Africa. Poverty, unemployment and the HIV/AIDS scourge are however still very serious in all the SACU countries.

It is therefore expected that global trade liberalization will not just improve market access but also bring with it investment to create jobs, diversify SACU's economy but over time contribute towards poverty alleviation and trade competitiveness in the agricultural, manufacturing and service sectors.

On monetary and exchange rate policy, SACU has two policy regime. While South Africa, Namibia, Lesotho and Swaziland operate under the common monetary policy by basically using the Rand, the South African currency, Botswana administers its own monetary policy based on the Pula, the country's currency pegged to different currencies of major markets including the Rand. Whereas in other SACU countries, the South Africa rand circulates freely and is used for normal financial transactions, in Botswana the currency is not allowed. This means for Namibia, Lesotho and Swaziland, the exchange rate policy to conduct foreign trade and investment is highly dependent on South Africa's policy.

Table 1: SACU's selected socio-economic indicators, 1997-01

	1997	1998	1999	2000	2001
Area ('000 km)	2674.8	2674.8	2674.8	2674.8	2674.8
Population (million)	47.3	48.3	49.4	50.2	50.8
Urban (%)	47.4	47.7	47.9	..	..
Density (per cent per km)	17.7	18.1	18.5	18.8	19.0
Population growth rate (per cent per year)	2.4	2.2	2.2	1.7	1.1
Life expectancy	51.6	50.0	48.6	..	..
GDP (US$ million)	159,770.0	144,082.3	141,386.6	138,583.5	124,323.3
GDP per capita (US$)	3,377.8	2,980.6	2,862.7	2,759.0	2,447.3
Share of real GDP (per cent)					
Agriculture	4.8	4.5	4.6	4.7	4.5
Mining and quarrying	7.8	7.9	7.6	7.4	7.6
Manufacturing	20.0	19.5	19.0	19.1	19.1
Water, electricity and construction	6.8	6.8	6.7	6.8	6.8
Services	60.5	61.3	62.1	62.0	62.0
Exports of goods and non-factor services (US$ million)	42,344.1	39,979.8	38,655.0	42,396.6	40,800.1
Imports of goods and non-factor services (US$ million)	41,306.9	39,221.7	36,413.5	38,848.2	36,248.2
(Exports + imports) /GDP (per cent)	52.4	55.0	53.1	58.6	62.0

.. Not available.

Source: IMF (2003), IFS, January; IMF Staff Country Report N°00/13; Reserve Bank, online www.reservebank.co.za; Bank of Namibia, Quarterly bulletin, p.45; Bank of Namibia online information; Central Bank of Lesotho, online information ; and Republic of Botswana (2002), Annual Economic Report.

SACU External Tariff Structure

While in general SACU bound tariffs are the same for all parts of the world, Lesotho has slightly higher bound rates than other customs members. Lesotho is the only least developed country within SACU. Bound ad valorem duties for agricultural goods are 200 % while non-

agricultural products are bound at 60 % in Lesotho while those for other SACU members are lower (WTO Trade Policy Review, 2003).

Besides bound tariffs, SACU has a three-tier tariff structure on applied duties for agricultural and industrial goods. There are applied tariffs for imports from SADC countries which are lower than those of the EU and the rest of the world (ROW). Lower import duties for SADC are intended to contribute towards regional integration by improving market access for goods from other non-SACU SADC member countries. In essence, SADC goods from agricultural and industrial sectors enjoy preferential treatment within SACU. According to the SADC Trade Protocol, by 2008 all members should enjoy an 85 % duty-free intra-regional trade. Some SADC countries enjoy free duties on selected commodities from certain SACU countries because of existing bilateral trade agreements (e.g. Botswana-Zimbabwe trade agreement). After the tariffs for SADC, SACU has applied import duties for EU goods that in still higher than those for SADC countries, in some cases, the duties are lower than those from the rest of the world. This is evident in some agricultural goods. Tariff rates for goods imported from the rest of the world other than SADC and the EU are generally the highest in SACU.

Further, SACU applied tariffs are very complex. Specifically, there are ad valorem, specific, mixed, compound, and formula duties based on reference prices (WTO Trade Policy Review, 2003). Of the total 7909 tariff lines at internationally harmonised system (HS) eight –digit level in SACU, about 75 percent(5933) are based on ad valorem duties while the remaining lines are specific, mixed, compound and formula tariffs on imported goods. About 22 percent of the tariff lines at HS eight-digit level attract mixed duties. Mixed duties mostly apply to fish, beverages, sugar, wool and apparel products. Table 2 shows the distribution of types of duties in SACU. Most of the tariff lines are in non-agricultural products. SACU continues to reform the tariff structure to simplify and facilitate an efficient trade flow and administration.

Table 2: Types of Duties in SACU

Type of duty Number of lines (8-digit HS)	
Ad valorem	5,933
Specific	195
Compound	2
Mixed	1,774
Type 1 (25% or 70c/kg.)	65
Type 2 (325c/kg with a maximum of 39%.)	114
Type 3 (22% or 27% with a maximum of 2880c/kg.)	1,595
Formula	5
Total lines	7,909

Source: WTO Trade Policy Review, 2003.

Tariff and Trade preferences

SACU countries grant tariff preferences on a reciprocal basis under trade agreements in which they participate individually. Consequently, tariff preferences may differ from one SACU country to another (WTO Trade Policy Review, 2003, p.28). SACU, has tariff and trade preferences both regionally and globally. SADC and the EU enjoy some of the tariff preferences.

BLNS members as part of SACU are also eligible for non-reciprocal preferential treatment under the Generalized System of Preferences (GSP) from industrialized countries. GSPs provide BLNS countries with additional markets for their agricultural and industrial goods at zero or very low import duties. BLNS countries currently enjoy GSP schemes for their exports in the USA, Canada, Japan, EU, Norway and Switzerland. Most prominent among the GSP schemes for the BLNS countries are those with the EU and the US. These countries benefit from non-reciprocal trade agreements with the EU through the Cotonou Agreement and the U.S. African Growth and Opportunity Act (AGOA). Under AGOA, the BLNS receive "Lesser developed beneficiary" status allowing them, at least in the short run, to source textile and clothing inputs from anywhere in the world. As an LDC, Lesotho is eligible for the "Everything but Arms" initiative of the EU and participates in the Integrated Framework for Trade-related Technical Assistance" (WTO Trade Policy Review, 2003, p.ix) .

However, with possible implementation of reciprocal SACU-EU/SADC-EU EPA and SACU-US Free trade Area, it is likely that the benefits to BLNS could be affected as some of their small industries and firms may not efficiently compete with large scale companies from the two dominant global trade players. Evidently some effective safeguard measures will be required in the transition period to protect small BLNS industries. Currently, the BLNS countries apply the anti-dumping, countervailing, and safeguard measures administered by South Africa (McDonald, S., and Wemsley T; 2001). As South Africa is a developed country, some of the adopted safeguard measures may not necessarily meet the specific circumstances of BLNS countries.

BLNS Trade Flows

Table 3 shows the BNLS trade flows by country and group from 2002 to 2003. Total exports for the BLNS countries increased from US$3987 million in 2002 to US$5661 million or an increase of about 42%. Exports are dominated by diamonds, clothing, other manufactures and sugar while imports are mainly food, fuel and machinery. Most of the exports go to preferential markets in the EU and the USA. South Africa is also a major destination for exports from the BLNS. While exports for Botswana and Namibia are mainly minerals (diamonds), Lesotho and Swaziland specialise in clothing and sugar exports respectively.

Total imports for all the BLNS countries increased from US$4521 million in 2002 to US$5247 million in 2003 or an increase of about 16%. For all the BLNS countries food and fuel imports

dominate and these are mostly sourced from South Africa. It is expected that the trend of BLNS exports especially to preferential developed markets will continue while their food and fuel imports will still be mainly obtained from South Africa.

Table 3: Total Trade for BNLS in US $ million

		2002	2003
BOTSWANA TRADE	EXPORTS	2375	3038
	IMPORTS	1612	2039
LESOTHO TRADE	EXPORTS	393	472
	IMPORTS	718	812
NAMIBIA TRADE	EXPORTS	1205	1360
	IMPORTS	1368	1559
SWAZILAND TRADE	EXPORTS	800	791
	IMPORTS	823	837
TOTAL BLNS	EXPORTS	3987	5661
	IMPORTS	4521	5247
Source: World Bank, 2004			
Notes:			
and capital goods			
energy, and capital goods			
while imports are mainly food, fuel and capital goods			

Description of the ATPSM

The Agricultural Trade Policy and Simulation Model (ATPSM) is a deterministic, comparative static, partial equilibrium model. This means that there are no stochastic shocks or other uncertainties, and there is no specific time dimension to the implementation of the policy measures or to the maturing of their economic effects. The comparative static nature of the model doesn't imply that the policies take effect instantaneously. Rather, we are comparing two states at a similar point in time, one with the policy change, the other without. Finally, whereas the model aims at estimating far-reaching details of the agricultural economy, it does

not deal with the repercussions of barrier reductions on other parts of the national economy. Thus, neither effects on the government budget (except for tariff revenues and subsidies to exports and domestic production) nor on the industrial nor service parts of the economy or the labour market are the subject of analysis. Simplifying the model in these respects allows for detailed specifications of policies in a large number of countries for numerous commodities.

Equation system

After a trade policy change, like a change in tariffs, export subsidies and / or domestic support, is specified, the model calculates the new equilibrium. The equation system for all countries has four equations:

1) $\hat{D}_{ir} = \eta_{i,i,r}\hat{P}_{ci} + \sum_{\substack{j=1 \\ j\neq 1}}^{j}\eta_{i,j,r}\hat{P}_{c,j}$;

2) $\hat{S}_{i,r} = \varepsilon_{i,j,r}\hat{P}_{pi} + \sum_{\substack{j=1 \\ j\neq 1}}^{j}\varepsilon_{i,j,r}\hat{P}_{p,j}$;

3) $\Delta X_{i,r} = \Delta M_{i,r} - D_{i,r}\hat{D}_{i,r} + S_{i,r}\hat{S}_{i,r}$;

4) $\Delta M_{i,r} = \dfrac{A_{new}}{1+A_{new}}D_i\hat{D}_{i,r} - \left(\dfrac{A_{init}}{1+A_{init}} - \dfrac{A_{new}}{1+A_{new}}\right)D_{i,r}$, where $A_y = \left(\dfrac{\alpha_m}{\alpha_d}\left(\dfrac{P_d}{P_m}\right)_y\right)^{\sigma}_{i,r}$

where: D,S,X and M denote demand, supply, exports and imports, respectively;

^ denotes relative changes and Δ absolute changes;

P_c denotes consumer price, P_p producer price, P_d price for domestic supply, P_m price for imports (see below);

ε denotes supply elasticity, η denotes demand elasticity;

I and j are commodities indexes, r is a country index;

y = init indicates initial values and y = new indicates values after the policy changes;

σ denotes the Armington elasticity between imports and domestically produced goods.

Equations 1 and 2 specify that the new demand and supply are determined by the price changes, trade policy changes and the corresponding elasticities and cross-price elasticities.

Equation 4 ensures that the relation of imports and domestic supply are determined by the price ratio of domestic supply and imports.

$$\frac{M}{D-M} = \left(\frac{\alpha_m}{\alpha_d}\frac{P_d}{P_m}\right)^{\sigma}$$

Equation 3 clears the market, so that production plus imports equals domestic consumption and exports.

These equations can be transformed into matrix notation and the equation solved arithmetically for world prices by matrix inversion. A market equilibrium requires that, globally, the sum of the change in exports equals the total change in imports for each commodity.

5) $$\sum_{n=1}^{N}\left(\Delta X_n - \Delta M_n\right) = 0;$$

Prices

Domestic prices are all functions of the world market price and the border protection or special domestic support measures. Thus, domestic price data is not required and transaction costs (such as wholesale and retail margins) are not taken into account. All protection measures are expressed in tariff equivalents.

The relationship between world and domestic prices is complicated by the existence of two-way trade of the one (aggregated) good. To accommodate heterogeneous goods with one price, the approach taken here is to estimate a composite price and a composite tariff for determining the domestic consumption and production price, respectively. To derive a composite price products are divided into three groups: imports; exports; and production supplied to the domestic market (S_d).

First, a domestic market price wedge (t_d) is computed as the weighted average of two tariffs, the export tariff (t_x) and import tariff (t_m), where the weights are exports (X) and imports (M):

$$t_d = \left(Xt_x + Mt_m\right)/\left(M+X\right).$$

The price for domestic supply is $P_d = P_w\left(1+t_d\right)$, where P_w is the world price, and the price for imports is $P_m = P_w\left(1+t_m\right)$. Then, a composite consumer price is computed as $P_c = \left(\alpha_m^{\sigma}P_m^{1-\sigma} + \alpha_d^{\sigma}P_d^{1-\sigma}\right)^{1-1/p}$. The producer price wedge is computed as the weighted

average of the export tariff (t_x) and the domestic market price wedge (t_d), where the weights are exports (X) and domestic supply (S_d) plus the domestic

support tariff (t_p): $t_s = (Xt_x + S_d t_d)/S + t_p$. The producer price is $P_s = P_w(1+t_s)$. The calculations of consumer and producer prices are applied both to baseline and the final tariffs.

A feature of this structure is that if there are no exports, domestic producer prices are determined by the tariff plus the domestic support. If there are no imports the export subsidy effectively determines the producer price. Finally, if there is two-way trade the share of total production or consumption influences the importance of each tariff.

The need for a composite price such as this is the requirement for one price with essentially two goods. The heterogeneous nature of imports and exports also requires a means of specifying the volume of either imports or exports. In this model imports are specified so that the relation of imports and domestic supply are determined by the price ratio of domestic supply and imports (equation 4). This is the so-called Armington specification. Exports are determined as the residual of production, consumption and imports.

Trade revenue

Once changes in world prices and hence domestic prices are determined from the model solution, volume changes can be derived from equations 1-4. Given the volume responses ΔX, ΔM, ΔS, and ΔD, the trade revenue and welfare effects can be computed. The trade revenue effect of the policy changes is computed for each country and each commodity from:

$$\Delta R_1 = (P_w + \Delta P_w)[(X + \Delta X) - (M + \Delta M)] - P_w(X - M)$$

Secondly, there is a change in quota rents ΔU, which generates a further trade revenue effect (in each country and each commodity):

$$\Delta R_2 = (U + \Delta U)[X + \Delta X] - UX.$$

The total trade revenue effect is the sum of these components: $\Delta R = \Delta R_1 + \Delta R_2$.

Welfare

The welfare change has three components. The first two are changes in producer surplus (ΔPS) and consumer surplus ΔCS. These changes depend on the domestic market price changes and the own price domestic demand and supply volume responses. The change in producer surplus is also dependent on the change in quota rent. For each country and commodity:

$$\Delta PS = \Delta P_p[S + 0.5(\Delta S_d)] + \Delta R_2 ; \qquad \Delta CS = -\Delta P_c[D + 0.5(\Delta D_d)];$$

The third part is the change in net government revenue (ΔNGR), consisting of change in tariff revenue, change in export subsidy expenditure and change in domestic support expenditure. For each country and commodity:

$$\Delta NGR = \Delta TR - \Delta ES - \Delta DS$$

$$= \underbrace{(t_w + \Delta t_w)(Q + \Delta Q) - t_w Q}_{Change-in-within-quota-revenue} + \underbrace{(t_o + \Delta t_o)[(M + \Delta M) - (Q + \Delta Q)] - t_o(M - Q)}_{Change-in-out-of-quota-revenue}$$

$$- \underbrace{[(t_x + \Delta t_x)(X + \Delta X) - t_x X]}_{Change-in-export-subsidy-expenditure} - \underbrace{[(t_d + \Delta t_d)(S + \Delta S) - t_d S]}_{Change-in-domestic-support-expenditure}$$

The sum is the total welfare effect: $\Delta W = \Delta PS + \Delta CS + \Delta NGR$

APTSM is able to estimate the economic effects of changes in within-quota and out-of-quota tariffs, import, export and production quotas; export subsidies and domestic support on production, consumption, prices, trade flows, trade revenues, quota rents, producer surplus and welfare. The assumption of filled quotas made here imply that changes in within-quota tariffs and import quotas will not have price and quantity effects, as these instruments are not binding. (They do however change the distribution of rents).

The Applications of the ATPSM on the BLNS Countries

Whilst the contribution of the agricultural sector to the BLNS economies is relatively low compared to other developing countries, the sector is till very important as almost half of these countries' population still depends on farming and several light industries benefit from raw materials and demand from the agricultural sector. In general, the contribution of the agricultural sector to the GDP ranges from just under 3 percent in Botswana to about 16 percent in Lesotho and Swaziland. Given its importance in the BLNS economies and manufacturing industries, tariff liberalization by SACU has major implications for the agricultural sector, producers, consumers and government revenue. ATPSM will be applied to assess the effects of tariff liberalization in the BLNS agricultural trade flows, government revenue and the welfare of consumers and producers. ATPSM is widely used by UNCTAD to assist developing countries to evaluate the likely effects on global trade liberalization of the agricultural sector on their economies.

According to the WTO-Agreement on Agriculture, bound agricultural tariffs are to be reduced to improve trade flows among countries. Bound tariffs are ceiling duties that a country is allowed to impose on agricultural imports from other trading partners. In general all the 146 WTO members are expected to have submitted their bound agricultural tariffs/duties, which upon consideration and approval by other members constitute maximum allowable duties that a country can impose to regulate trade inflows.

Over the years, the United Nations Conference on Trade and Development (UNCTAD) developed a robust, partial and static model, the ATPSM as described earlier to evaluate the

effects of agricultural trade liberalization by both developed and developing countries on trade flows (exports and imports) producer and consumer welfare, government revenue, etc using the proposed tariff reduction proposals. The proposals still under consideration by WTO members before one is adopted are basically three. There is the original Uruguay tariff reduction model where developed countries are to reduce both bound agricultural tariffs and agricultural export subsidies by 36 per cent over 6 years since 1995 when the WTO was formed. Similarly, domestic support which covers the green box provisions (public goods like infrastructure, training, disease and pest control, etc), amber box measures (direct farmer market price and input support) and the blue box provisions (output reduction through hectarage or herd size limits) is also to be reduced by 21 percent over the same period in developed countries. To date very little has been achieved to open up agricultural markets for developing countries hence the frequent breakdown of WTO Ministerial Conferences in Seattle, USA in 1999 and Cancun, Mexico in 2003.

According to the Uruguay formula, developing countries as a more vulnerable group, are to reduce bound agricultural tariffs and export subsidies over ten years by 24 per cent while their domestic support to farmers is to be cut by 14 per cent over ten years since 1995. Developing countries have also not improved market access in particular for agricultural exports from their fellow group members. The Uruguay formula has special provisions for developing countries as they are mostly poor and face serious technological, economic and institutional constraints.

Besides the Uruguay formula, there is the Swiss tariff reduction formula. According to the Swiss formula, the maximum agricultural tariff for both developed and developing countries should be 25 per cent. Unlike the Uruguay formula, the Swiss formula is to be administered on applied agricultural duties, which form the day to day commercial trade transactions between and among WTO members. Applied tariffs are significantly lower than bound agricultural duties. If applied tariffs were to be adopted, market access for agricultural exports from developing countries would increase but equally small industries in these countries could easily be destroyed large-scale firms from industrialized nations. In this study, however, the Swiss formula will be imposed like the Uruguay proposal on bound agricultural tariffs.

Further, under the Swiss formula, export subsidies and domestic support are to be eliminated in both developed and developing countries and that no special differential treatment (SDT) is accorded to developing countries. Considered as very radical or ambitious, the Swiss formula can indeed open up markets as tariffs can only reach a maximum of 25 per cent whereas currently some applied tariffs are above 100 per cent. Of course, for developing countries that heavily depend on tariff revenue, the Swiss formula at least in the short to medium term could be very costly as governments from these countries could suffer from identifying sustainable alternative funding sources.

In addition to the two tariff reduction formulas, there is a third proposal, which also has provisions for special products or sometimes described as sensitive agricultural products for developing countries. This third tariff reduction proposal has several band cuts for both developed and developing countries but for agricultural products of special economic interest to developing countries, the proposal advocates for a standard 10 percent tariff reduction over ten years.

Whilst currently the WTO is considering basically three tariff reduction proposals namely, the Uruguay, Swiss and the last one with provisions for special products, in this study only the first two formulas will be used to evaluate the effects of agricultural trade liberalization. Secondly, the two tariff reduction proposals or models will be administered on bound agricultural duties. The "special products" proposal will be left out as there is a likely a protracted debate about what constitutes them as exporters and importers of these products may not agree even among developing countries themselves. Consequently, this study will analyse agricultural trade liberalization using the Uruguay and Swiss tariff reduction formulas that are fully covered by the UNCTAD's ATPSM.

Results of the TPSM Analysis for BLNS Countries

As indicated earlier, the analysis will examine the results on trade flows, government revenue, producer, consumer and total welfare in the four BLNS countries, which like South Africa, administer jointly one common external tariff under SACU. The current SACU agreement was signed in 2002 after years of negotiations. In order to facilitate, the analysis of 36 agricultural product groups in the ATPSM, commodities have been grouped into seven broad categories. These are namely:

❖ Meat (beef, pork, sheep/goat and poultry products).
❖ Dairy (fresh, concentrated/powdered, butter, cheese)
❖ Cereals (wheat, maize, rice, barley and sorghum)
❖ Vegetables and fruits (tomatoes, tubers, roots, fruits, etc)
❖ Sugar
❖ Oilseeds (pulses, cotton lint, vegetable oils, etc)

Others (coffee, cocoa, chocolate, tobacco, tea, cigarettes, etc).

Agricultural imports by BLNS Countries

As the figure 1 shows Lesotho as a country witnesses the largest imports under the Swiss formula followed by Botswana and Swaziland through the same tariff reduction formula. The high import flow for Lesotho could be partly due to limited natural resource endowment of the country compared to others. Namibia experiences very small import increases under both tariff reduction formulas. Both country and total imports (for all BLNS) are dominated by cereals, dairy and oilseeds. Currently, these are most imported food commodities by BLNS countries due to their limited natural resource endowment. Detailed individual country imports by category of products is provided in the annex of this study.

Whereas an increase in agricultural import flows is important for food security as this could reduce domestic prices subject to a competitive economic regime in the BLNS countries, certain sensitive small-scale and agro-based industries might be threatened by an influx of agricultural imports. Processed products of cereals, oilseeds, dairy including meat could adversely affect BLNS countries. Safeguard measures will be necessary in the transition period to protect small-scale agro-processing industries in particular.

Figure 1: Agricultural Imports by BNLS

AGRIC IMPORTS BY BLNS
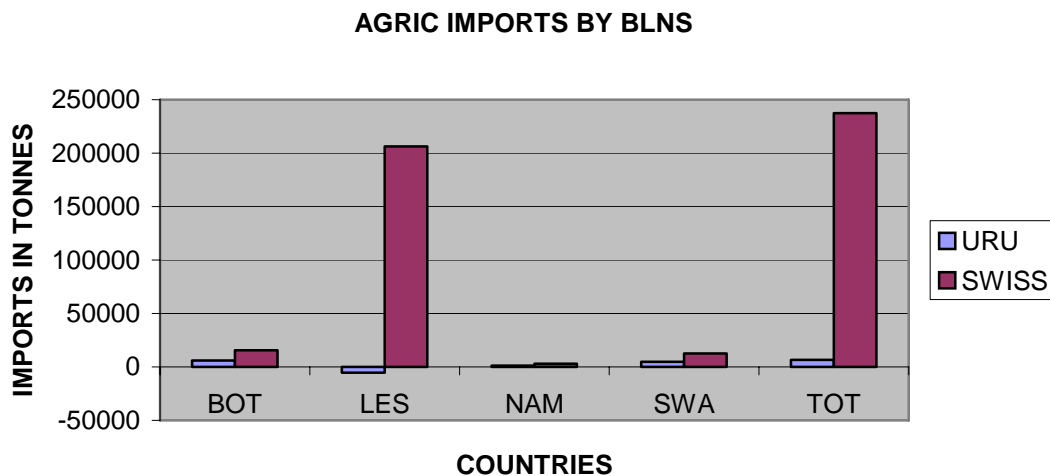
Agricultural Export Revenue

Evidently, BLNS countries would require competitive sources of imports to improve per capita consumption and also help develop potential agro-based manufacturing industries for economic diversification through cheaper agricultural imports from many parts of the world. To achieve domestic economic diversification and enhance food security, BLNS countries equally need improved export market access to generate foreign exchange to import food, raw materials and

technology. Consequently, tariff liberalization coupled with some preferential market access in the medium to long-term, is necessary for these countries to generate export earnings. Figure 2 shows the ATPSM results on potential agricultural export revenue for BLNS countries if export market access in developed markets is improved.

Figure 2: BNLS Agricultural Export Revenue

BLNS AGRIC EXPORT REVENUE
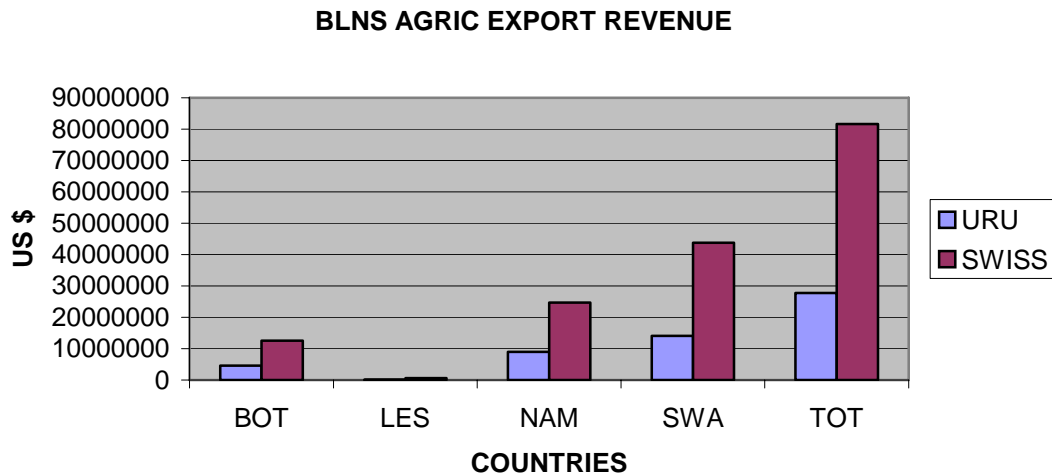
As figure 2 shows almost all BLNS countries witness an increase in agricultural export revenue which is given in US dollars under both tariff reduction formulas. Lesotho does not witness much improvement in agricultural revenue compared to other countries primarily because of the country's land resource constraint. Swaziland registers the largest agricultural export revenue(about US $ 43 million) largely from sugar followed by Namibia and Botswana whose export earnings are mainly from beef. In essence the results on export revenue confirm the comparative advantage of these countries in agriculture and therefore their global competitiveness.

Figure 3:   Change in BLNS Government Revenue
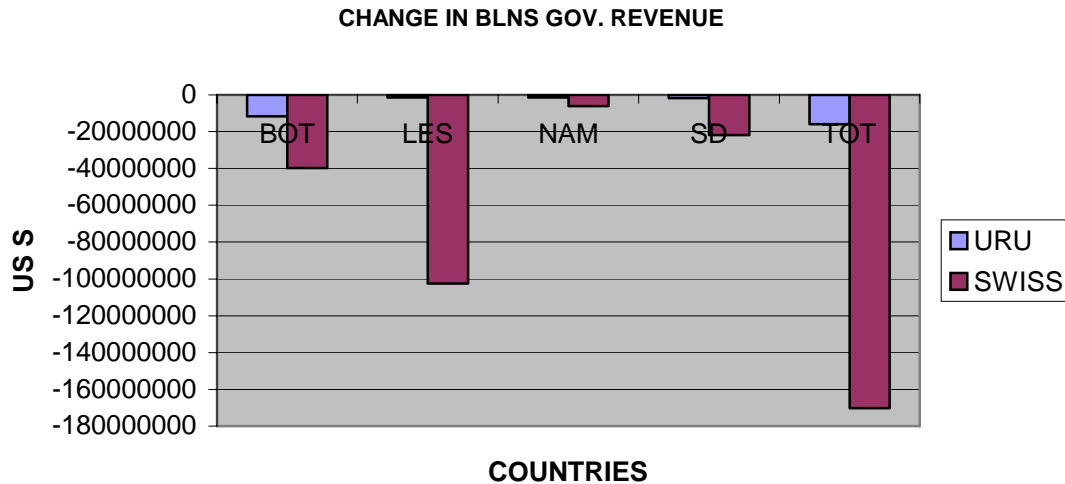
CHANGE IN BLNS GOV. REVENUE

Figure 3 shows the potential loss in government revenue following SACU tariff liberalization. Lesotho followed by Botswana witness the largest loss in government revenue through the implementation of the Swiss tariff reduction formula. While records a potential government revenue loss of about US $ 102 million, Botswana follows with about US $ 40 million under the Swiss formula. Swaziland also follows with about US $ 22 million loss in government revenue through the same formula. Namibia experiences a very low government revenue loss. The combined BLNS government revenue loss is also very high under the Swiss formula unlike the conservative Uruguay formula.

Whilst the Swiss tariff reduction formula enhances export revenue including agricultural imports for BLNS to improve their food security, it is equally evident from the ATPSM results that, this formula has very adverse effects on government revenue. For the BLNS countries, a loss in government revenue means a decline in the provision of public goods like health, education, water, research as well as programmes designed to alleviate poverty. Evidently, a tariff reduction formula that adversely reduces government revenue in poor developing countries requires very careful scrutiny lest political and social instability prevails.

The Limitations of the ATPSM

Whilst the model is robust and indeed shows quantitatively the effects of global agricultural trade liberalization on welfare and trade flows the model does not indicate which BLNS producers or consumers benefit/lose in the process. In particular since most poor households spend much of their disposable income on food, the model does not directly show how these households benefit save from indirect increase in aggregate food import flows. Similarly among producers, most of

them especially in the developing world like in the BLNS countries are net-buyers of food and therefore increase in export market access may not necessarily benefit them if among other markets are not competitive. Further, the ATPSM tool does not cover non-agricultural goods such as fish and timber which are very important for Namibia and Swaziland respectively while clothing and textiles exports which are very pivotal for Lesotho are also not covered by the model. Further, as partial equilibrium model, the approach does not indicate how other equally important sectors of the BLNS economies are affected by tariff reduction and removal of subsidies.

Conclusion

Despite its limitations, ATPSM has assisted many developing countries to analyse the trade flow and welfare implications of global trade liberalization. This approach has improved the capacity of trade negotiators to identify critical policy issues that in particular developing countries should raise in order to address some of their developmental concerns which trade alone cannot cover.

The ATPSM results indicate that to achieve domestic economic diversification and enhance food security which results from the rise in the importation of cheaper agricultural goods (especially cereals) from the rest of the world, BLNS countries need improved export market access to generate foreign exchange to import food, raw materials and technology. Consequently, tariff liberalization coupled with some preferential market access in the medium to long-term, is necessary for these countries to generate export earnings.

However the ATPSM results point to the fact that trade liberalisation, especially using the Swiss formula will lead to adverse decline in Government revenues to the BNLS countries. For the BLNS countries, a loss in government revenue means a decline in the provision of public goods and that could have serious social implications.

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