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A Partial Equilibrium Analysis of the Proposed Tripartite Free Trade Area: A Ugandan Perspective

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Abstract

With 44 percent of Uganda's exports destined for Tripartite Member States and only 26 percent originating there, the proposed Tripartite FTA represents an opportunity for Uganda to expand exports to the region. Meanwhile, imports from non-EAC Tripartite Member States in non-zero tariff lines currently account for only 3 percent of Uganda's current imports suggesting only a marginal import effect. The SMART Partial Equilibrium model is used to estimate the effect of eliminating tariffs between Member States. The high degree of openness already present in Uganda limits the welfare gains to only \$2.5million, with a revenue loss of \$23.65 million. This is balanced by a significant expansion of exports, most notably a \$112 million increase in exports to the Democratic Republic of Congo. As trade complementarity is low and Member States already enjoy a preference margin, it is not surprising that the overall trade and welfare effects are modest. This underscores the need for the Tripartite negotiations to fully embrace trade facilitation, trade in complementary services and the removal of non-tariff barriers to amplify the gains from tariff reform.

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I. Introduction

The COMESA-EAC-SADC Tripartite was established in 2005 with the main objective of strengthening and deepening economic integration of the Southern and Eastern Africa region. At the first Tripartite Summit, held in Kampala in October 2008, Heads of State endorsed the Tripartite Free Trade Area (TFTA) Roadmap, envisaging a Free Trade Area of 26 countries and 527 million people stretching from Cairo to Cape Town.

In June 2011 the 2nd Summit of Tripartite Heads of State in Johannesburg officially launched the negotiations for the establishment of the TFTA. Since then, Member States have agreed to ‘substantial liberalisation’ which builds on the *acquis* of existing Regional Economic Community (REC) FTAs in terms of consolidating tariff liberalisation in each REC. Given the advanced levels of liberalisation in the East African Community in particular substantial liberalisation can reasonably be interpreted as complete removal of tariffs on internally traded goods, with exceptions only permitted in instances of ‘flexibility and special and differential treatment’ as catered for in the negotiating principles.

This study employs SMART, a partial equilibrium model developed by the World Bank, to analyse the economic impact of the proposed Tripartite FTA. It models the effects of removing import duties in 24 of the 26 countries taking part in the Tripartite FTA negotiations. The partial equilibrium analysis estimates static annual trade creation of \$1,866 million when all internal tariffs are eliminated based on the most recently available data. \$456 million of additional trade is diverted toward Tripartite Members from more efficient external exporters, leaving a net trade effect of \$1,411 million. Democratic Republic of Congo and Angola account for more than two-thirds of new imports, with South Africa singlehandedly accounting for the same proportion of exports created. Overall revenue losses exceed \$800million and total welfare gains are \$177 million.

The high degree of openness already present in Uganda limits the welfare gains to only \$2.5million, with a revenue loss of \$23.65 million. This is balanced by a significant expansion of exports, most notably a \$112 million increase in exports to Democratic Republic of Congo. Exempting the existing EAC sensitive list from the analysis has a negligible effect on all EAC Partner States with the exception of Kenya, suggesting the list is current dominated by Kenyan interests or comprised of items imported predominantly from outside the Tripartite area.

2. Literature Review

Despite the enormity of the proposed Tripartite FTA, there has been little rigorous analysis of its implications and very little empirical estimation of the prospective impacts.

Several studies have highlighted the challenges envisaged in the negotiation process, include harmonisation of different exclusions of sensitive lists (Fundira, 2011) harmonisation of differing rules of origin regimes (Naumann, 2011) and trade facilitation (Pearson, 2011). Other studies have estimated the impact from the perspective of individual economies including Swaziland (Dlamini and Kongolo, 2012) and Zambia (Cheelo, 2012).

In respect of comprehensive continental studies Jensen and Sandrey (2011) estimate welfare gains for Africa of \$1,202 million in a scenario which accounts for concluded EPA negotiations and a modest reduction in NTBs. Note that South Africa's welfare gains dwarf the rest of the continents to the extent that the continent without South Africa actually experiences a welfare loss. East Africa experiences a welfare loss, largely caused by diminished terms of trade (an unfavourable change in the ratio of export prices to import prices). Note that the GTAP model used aggregates data for all EAC countries preventing analysis at the partner State level.

Karingi and Fekadu (2009), also using the GTAP model, show that the benefits are highly concentrated in SADC, with EAC experiencing a modest gain to GDP and COMESA experiencing a modest loss. EAC's gains come from textile and utilities and construction sectors. East African manufacturing sectors experience deeper imports under all scenarios modelled. Overall the authors note that the effects are small given that the tariff structure is already similar across the three RECs.

Makochekanwa (2012) uses a partial equilibrium model to focus on the food security and welfare implications of the Tripartite FTA. The study found that close to \$2 billion worth of new trade will be created with countries such as Angola and DRC being the main beneficiaries, while around \$454 million trade will be diverted resulting in a positive net trade of \$1.5 billion across the 26 countries. The results also suggest that around \$1 billion revenue will be lost following removal of import duties. In this study Uganda experiences more trade diversion (\$41.8 million) than trade creation (\$16.4 million) leading to a negative net trade effect (-\$25.5 million) and the worst trade outcome of all 26 Tripartite countries. Revenue losses also amount to \$26.3 million, losses only partially offset by a modest welfare gain of \$3 million. This study did not further unpack these findings for Uganda; neither did it consider the origin of the trade creation quantified.

3. Trade and Tariffs between Tripartite Member States

This chapter provides a brief overview of the current depth of trade and tariff levels between Tripartite Member States. It also employs a complementarity index to ascertain the extent to which each Member States exports correspond to the import composition of the remainder of the Tripartite block. Uganda's trade and tariff profile vis-à-vis the rest of the region is subject to closer scrutiny. The heterogeneity of Member States with respect to levels of intra-Tripartite trade, intra-Tripartite tariffs, and export composition will lead to asymmetrical distribution of impacts. Uganda's exports exhibit relatively good compatibility with the composition of Tripartite imports suggesting strong export potential if export levels are scalable while on the import side the tariff lines subject to negotiation account for less than 3 percent of current imports.

3.1 Intra-Tripartite Trade

Table 1 shows the proportion of total imports and exports Tripartite Member States trade with each other – the level of intra-Tripartite Trade – in 2011. It shows that some countries depend quite heavily on the region for exports and imports alike. Zimbabwe, Rwanda, Uganda and Mozambique fall into this category. Others source a significant proportion of imports from the region, including, Botswana, Lesotho and Malawi. A third category is those for which the region is primarily a significant export

market: Djibouti, Kenya and Tanzania. Finally, Libya and Sudan trade very little with the other Member States.

Table 1 – Share of total exports and imports to TFTA members, 2011

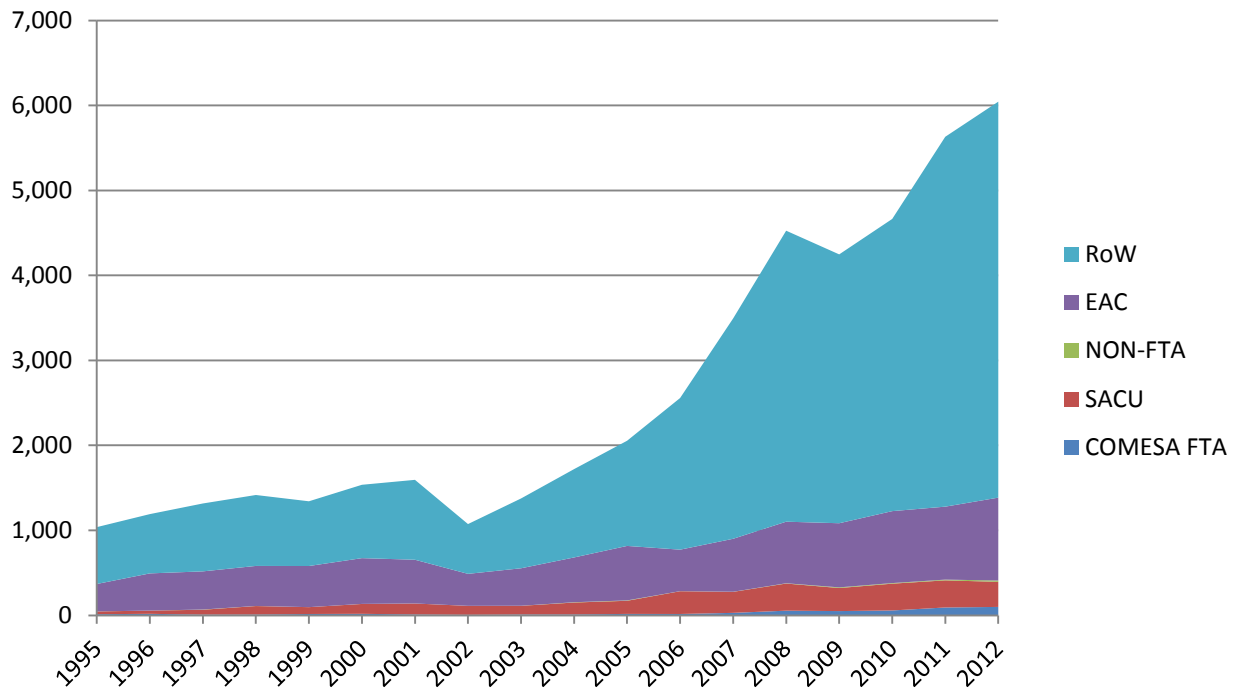
Member State	Share of total exports to TFTA members	Share of total imports from TFTA members	Member State	Share of total exports to TFTA members	Share of total imports from TFTA members
Angola	2.50%	5.90%	Malawi	29.97%	49.51%
Botswana	13.51%	76.85%	Mauritius	14.24%	10.81%
Burundi	18.98%	31.96%	Mozambique	30.61%	38.22%
Comoros	0.71%	19.79%	Namibia	30.85%	4.03%
DRC	0.78%	32.26%	Rwanda	42.90%	46.21%
Djibouti	47.52%	5.00%	Seychelles	7.83%	10.94%
Egypt	8.77%	1.54%	South Africa	12.36%	3.57%
Eritrea	0.65%	16.29%	Sudan	1.78%	8.09%
Ethiopia	12.72%	4.36%	Swaziland	17.21%	11.65%
Kenya	41.24%	13.43%	Tanzania	26.02%	14.16%
Lesotho	17.55%	74.64%	Uganda	44.01%	25.90%
Libya	0.39%	6.21%	Zambia	23.61%	62.33%
Madagascar	4.91%	13.47%	Zimbabwe	46.24%	69.98%
			Total	10.86%	11.43%

Source: author's calculations using UNCTADstat.

Turning to Uganda, its trade with Tripartite Member States is further unpacked in Figures 1 and 2. It shows that 16 percent of imports from TFTA come from the EAC meaning less than 10 percent of current imports are sourced from Tripartite Member States with which Uganda does not currently share a FTA (Annex 1 shows the groupings made in accordance with those groups Uganda will exchange tariff offers with). Virtually none are sourced from Non-FTA member States (those not currently in the COMESA or the SACU FTA).

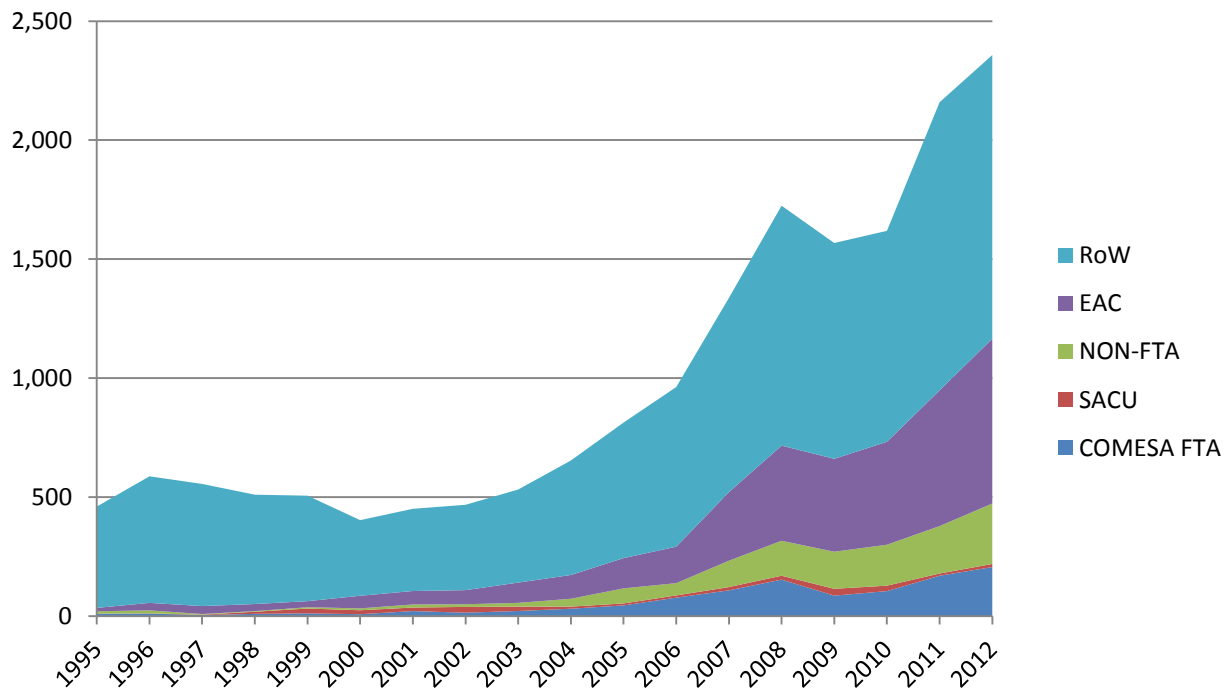
This picture contrasts with exports: non-EAC Tripartite members account for 20 percent of all Uganda's exports. Note that this disparity is in relative terms, but Uganda's substantial trade deficit means that in absolute terms imports and exports to the non-EAC Tripartite members are approximately at parity. Also noteworthy is the rapid acceleration of export growth to the EAC over the period (far more rapid than the increase in imports) perhaps indicating the trade creating effects of regional integration that the Tripartite FTA wishes to emulate.

Figure 1 – Uganda’s imports by Trading Partner, Current US Dollars, Millions, 1995-2012



Source: Authors calculations using UNCTADstat

Figure 2 – Uganda’s exports by Trading Partner, Current US Dollars, Millions, 1995-2012

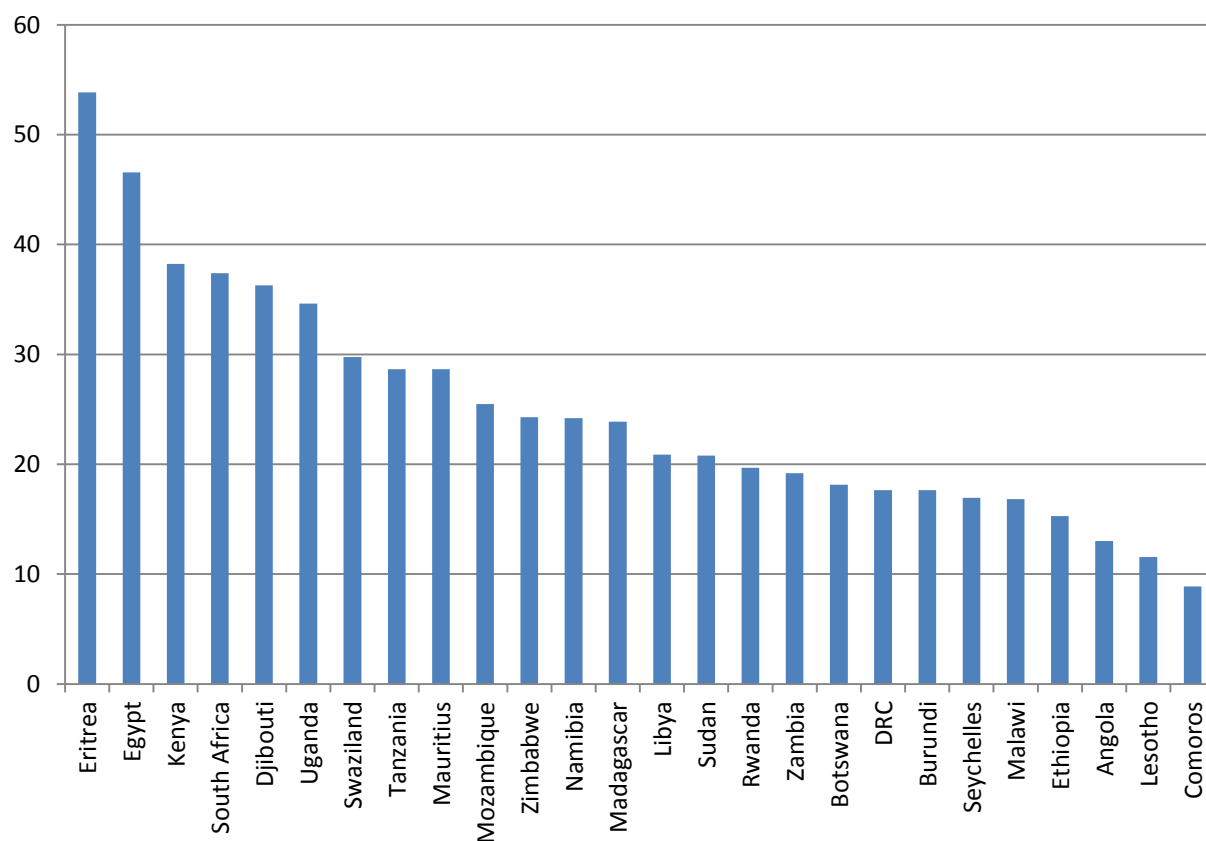


Source: Authors calculations using UNCTADstat

3.2 Trade Complementarity Index

A trade complementarity index provides a simple approximation of the suitability of members of a trading agreement. It captures the correlation between a country's exports to the world and another country's imports from the world, implying that the two countries stand to gain by trading more with each other when one has a comparative advantage in products in which the partner has a comparative disadvantage. A score of 100 indicates that the two countries are ideal trading partners. Figure 3 shows the TCI for the exports of the 26 countries of the Tripartite as measured against the remaining countries' imports calculated using UNCTAD trade data averaged over the three-year period, 2009-2011 (the methodology and data are described further in Annex 2). Generally, the compatibility of Partner/Member States is somewhat low, but there is large heterogeneity across economies. Aside from the transit economies of Eritrea and Djibouti, Egypt, Kenya and South Africa are the economies which enjoy the highest complementarity of exports with the rest of the block (note these economies are also transit hubs for the African interior). Angola, Lesotho and Comoros' exports are least in demand. Uganda is 6th of 26 countries, indicating that it could be a relative 'winner' from the T-FTA. Its score of 35 (from a scale of 100) indicates moderate compatibility between exports and the imports of the block.

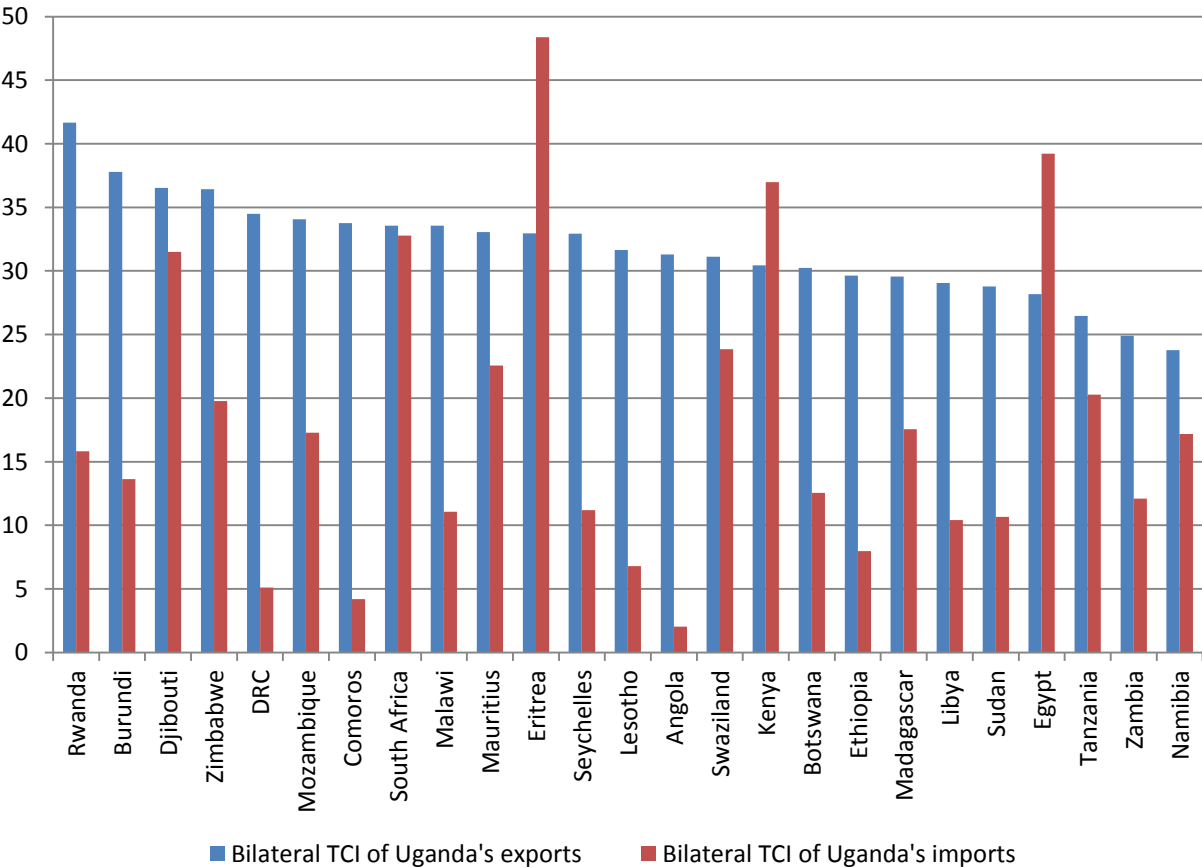
Figure 3 – Intra-Tripartite Trade Complementarity Index



Source: Authors calculations using UNCTADstat. Based on 3yr average of import and export data from 2009-11.

Figure 4 displays the bi-lateral trade complementarity index for Uganda’s exports and imports against the Tripartite Member States. Interestingly, there are only three economies (Eritrea, Egypt and Kenya) which have a more favourable export composition relative to Uganda’s imports than the composition of Uganda’s exports versus their own imports. Uganda’s exports are more compatible with South Africa’s imports than are South Africa’s imports with Uganda’s imports. This strongly suggests that opening to Tripartite states would greatly benefit Uganda, as what is currently exported is consistent with what the rest of the block imports, whereas Uganda’s import composition is significantly less consistent with the exports of most other Member States. Of course, such an analysis is negligent of the capacity of partner states to expand exports in those product lines in high demand within the Tripartite block.

Figure 4 – Bi-lateral Trade Complementarity Index of Uganda’s exports and imports



Source: Authors calculations using UNCTADstat. Based on 3yr average of import and export data from 2009-11.

3.3 Intra-Tripartite Tariffs

Table 2 presents the weighted average tariffs each member state imposes on the other Tripartite members and the world as a whole. The first observation is that there is large heterogeneity across Member States. Some countries have very low weighted average tariffs whereas others exceed 10 percent for imports from Tripartite Member States. This suggests that the economic effects of the FTA will be uneven and most extreme in those countries which currently have a high degree of protection, including Angola, the Democratic Republic of Congo, Djibouti and Ethiopia.

Secondly, in most cases, the weighted average tariff is lower for other Tripartite Member States than that facing the world as a whole. As the standard deviation is broadly similar for both the Tripartite Member States and the World this would suggest that the average tariff facing the world is higher than that facing Tripartite Member States.

Note that for all countries the internal TFTA weighted average tariff is less than 12 percent and the maximum tariff rate is 60 percent, with the exception of the Seychelles and Egypt. SADC has the lowest weighted average tariff facing TFTA members at 2.6 percent, COMESA the next at 3.39 percent and the EAC with 4.17 percent. Of the EAC partner states Rwanda and Burundi have the lowest average for TFTA Members, suggesting that their imports from TFTA members are concentrated in primary products which do not attract tariffs under the EAC Common External Tariffs. All partner states have a weighted average tariff facing the world of between 11 percent and 12 percent.

Of course, weighted average tariffs, while instructive in some regards, condense vast amount of information into a single indicator. For the purposes of the current analysis, it is necessary to further unpack Uganda's tariffs vis-à-vis the rest of the Tripartite block. Figures 5 (a, b and c) breaks down the applied tariffs for the three respective negotiating groupings by country-tariff line-year combinations for 2009-2011. 98 percent of imports from COMESA (Figure 5a) are not charged duty or charged at a rate of 5 percent or less. For SACU and non-FTA economies, the tariff structure broadly reflects the three band structure of the EAC Common External Tariff (0, 10 and 25 percent). For each between 20 and 30 percent of tariff lines are at a rate of zero, equating to roughly half of imports. Given the combination of the low levels of imports currently coming from non-EAC Tripartite members and the high proportion of imports which currently enter tariff free, the Tripartite Free Trade Area negotiations account for less than 3 percent of Uganda's current imports.

Table 2 –Weighted Average Tariffs vs. Tripartite Member States and the World

	Tariff Year	Tripartite		World			
		Weighted Average	Standard Deviation	Weighted Average	Standard Deviation	Min Rate	Max Rate
Angola	2009	10.99	7.25	7.4	7	2	30
Botswana	2011	0.13	5.28	3.62	10.62	0	45
Burundi	2011	0.41	5.01	6.43	11.82	0	60
Comoros	2011	3.03	5.66	6.17	6.87	0	20
DRC	2009	11.59	6.17	11.02	6.17	5	20
Djibouti	2011	11.62	9.74	17.7	9.14	0	33
Egypt	2009	0.99	102.83	7.92	129.86	0	3000
Eritrea	2006	1.93	5.64	5.43	8.98	0.4	25
Ethiopia	2011	11.01	10.84	10.48	11.23	0	35
Kenya	2011	4.52	10.66	5.88	11.24	0	60
Lesotho	2011	0.06	10.46	10.32	10.35	0	45
Libya	NA						
Madagascar	2011	0.15	1.03	6.21	7.88	0	20
Malawi	2011	5.18	8.52	6.08	10.78	0	25
Mauritius	2011	0.63	3.83	0.69	4.8	0	30
Mozambique	2010	1.14	4.06	4.8	7.48	0	20
Namibia	2011	0	2.78	1.03	10.29	0	55
Rwanda	2011	0.73	6.03	6.09	11.49	0	60
Seychelles	2007	8.26	24.8	28.32	24.92	0	225
South Africa	2011	0.56	8.18	4.23	10.74	0	55
Swaziland	2011	0.89	7.31	4.21	11.66	0	55
Sudan	2011	1.49	7.97	14.48	14.29	0	40
Tanzania	2011	6.28	11.36	6.54	11.4	0	60
Uganda	2011	2.36	9.8	7.06	11.58	0	60
Zambia	2011	0.29	2.11	2.84	10.26	0	25
Zimbabwe	NA						
COMESA	2011	3.39	15.41	7.51	48.4	0	3000
EAC	2011	4.17	9.73	6.33	11.47	0	60
SADC	2011	2.6	9.65	4.84	11.41	0	225

Source: WITS-TRAINS database, data for Libya and Zimbabwe unavailable.

Figure 5(a) – Uganda Applied Tariff Rates to COMESA-FTA Imports

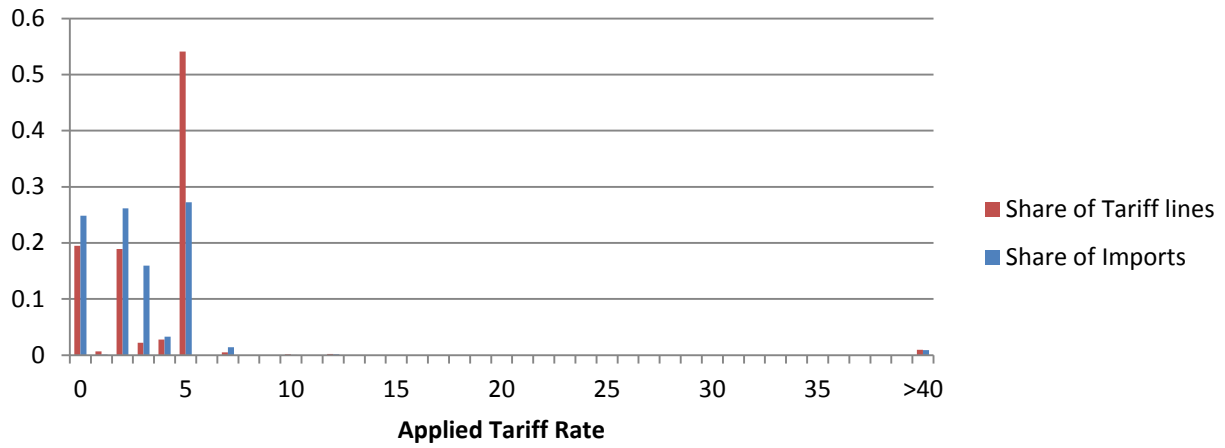


Figure 5(b) – Uganda Applied Tariff Rates to SACU Imports

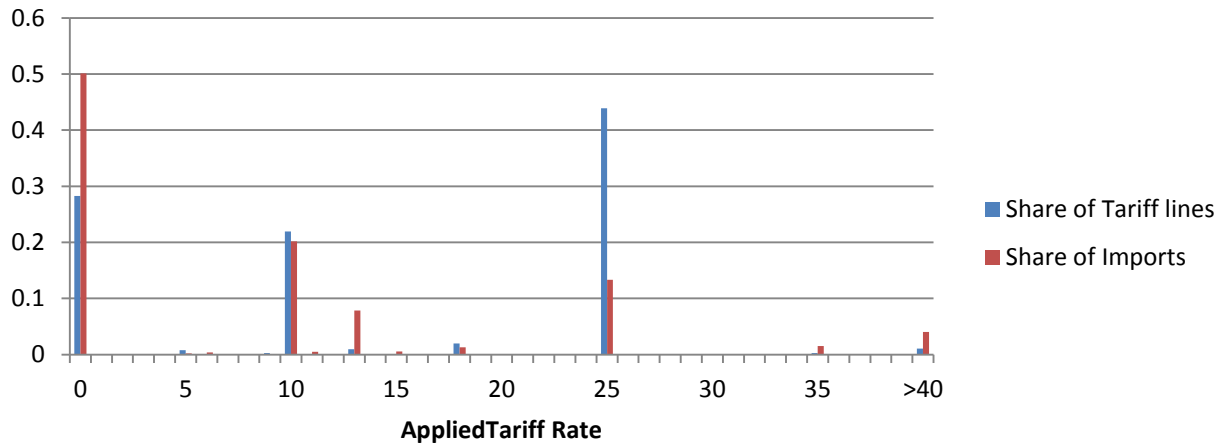
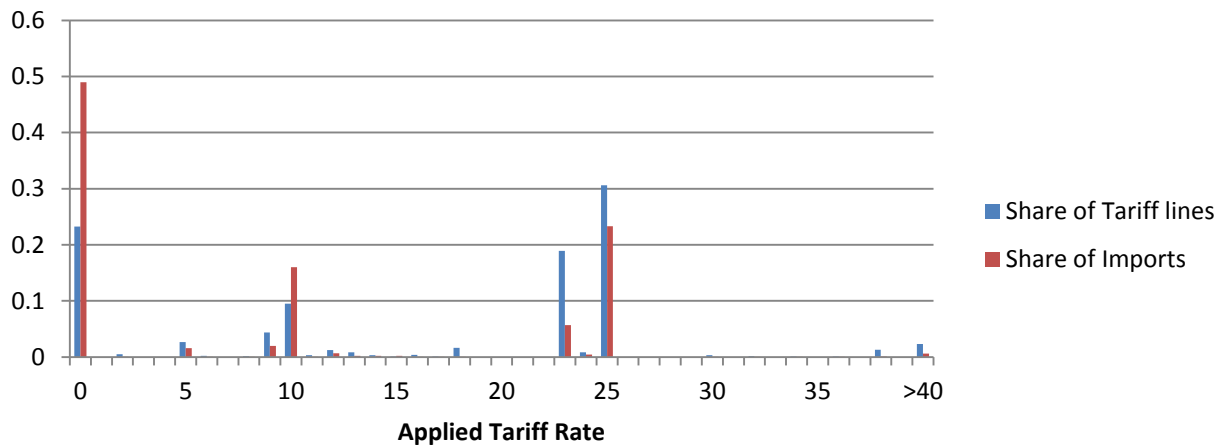


Figure 5(c) – Uganda Applied Tariff Rates to Non-FTA Imports



Source: WITS-TRAINS database. Country-product-year combinations for 2009-2011.

4. Partial Equilibrium Analysis

4.1 The Model

Estimating the likely effects of the FTA on trade, revenue and welfare requires more sophisticated modelling technique of which partial equilibrium modelling and computable general equilibrium modelling are the main variants. First developed by Alfred Marshall, partial equilibrium models capture the effects of a tariff reduction in a single import market. Computable general equilibrium (CGE) models allow for the simulation of removing tariffs in multiple markets simultaneously. Accordingly CGE models reflect how tariff reform affects the market for compliments and substitutes, whereas partial equilibrium models capture considers each market to be independent of others. CGE models can also account for the dynamics between different economies and monopolist competition in certain sectors.

While CGE models are more sophisticated and less restrictive in terms of the range of assumptions incorporated they have some shortcoming relative to partial equilibrium models. CGE models require vast quantities of data and processing power, meaning that data is often aggregated across product and country groups. The vast data demands also mean that the data availability often lags several years. The lesser data demands of partial equilibrium models allow for greater disaggregation of data by country and product. Given the primary focus of this study is to examine the effects of the prospective Tripartite FTA on Uganda, this represents a significant advantage. At present there is no CGE compatible dataset permitting this level of scrutiny of the effects on the Ugandan economy. Both models can provide insightful estimates of the probable effects of tariff reform, but it should be remembered that the models are highly abstracted reflections of theoretical assumptions about an extremely complex and dynamic reality meaning that estimations should be seen as a kind of thought experiment about how changes may occur rather than as the definitive product of the process.

SMART is a Single Market Partial Equilibrium Simulation Tool offered as part of the World Bank's World Integrated Trade Solution (WITS) platform. The partial equilibrium model is a simple means of assessing the elimination of tariffs between Tripartite Member States. The model provides an estimate of the trade, revenue and welfare effects of tariff reform by clearing the market (equating supply and demand) for each product at the new import price (that following the tariff reform). The effect of tariff reform is assessed at the product level and is estimated independently of reductions to other tariffs in the same economy, or tariff reform undertaken in other economies. In other words, the model assumes that everything other than the tariff reduction on that one product is held constant (the *ceteris paribus* assumption). This allows for analysis of reform to individual tariff lines, but means that dynamic interactions in the shape of substitutes or complements, for example, are not captured.

The model allows for the estimation of the follow static gains:

- **Trade creation.** The removal of import tariffs reduces the price of imported goods thereby increasing demand for imports, creating trade as the now cheaper import goods are consumed over less efficient domestic production (Viner, 1950).
- **Trade diversion.** As tariffs between FTA members are removed goods from FTA partners become relatively more attractive than those from outside the FTA which are still charged import tariffs.

Indeed, imports may now be sourced from inside the FTA, even when other countries produce the same goods more efficiently. This is known as trade diversion, and is welfare reducing as it implies the sourcing of imports from a less efficient producer than before the tariff reform.

- **Revenue effects.** Reducing or removing import tariffs affects that amount of revenue generated through import duties. A reduction in the level of the import tariff typically implies a reduction in import revenue, although this can be partially offset by an increase in imports.
- **Welfare effects.** Reducing import duties typically entail increased welfare as consumers are able to consume more at a lower price (an increase in consumer surplus) and any additional revenues raised through increased imports.

4.2 Data Used and Estimation Parameters Set

The SMART simulation tool uses the UNCTAD-TRAINS (Trade Analysis and Information System) database with trade data drawn from the UN-COMTRADE at the HS 6-digit level.¹ Analysis is undertaken using data from 2011, the most recent year currently available.

SMART requires the user to set elasticities to determine the responsiveness of supply and demand to the tariff reforms specified. The import demand elasticity specifies the change in imports demanded. A doubling of the elasticity leads to a doubling of import demand. In SMART the default import demand elasticities are those empirically estimated for each country and every HS 6-digit product by Looi Kee, Nicita and Olarreaga (2008).

The model assumes that the world price is exogenously set and that export supply elasticities are infinite meaning that any shift in demand does not affect the price and the adjustment takes place through the quantity supplied alone. Given that the economies under consideration are marginal in world trade this assumption is consistent with their status as 'price-takers' insufficiently large to influence world prices.

The Arlington assumption means that goods are geographically differentiated and therefore imperfect substitutions. The degree of substitutability is given by the Arlington elasticity. Typically more sophisticated products are more easily differentiated and hence less easy to substitute than less sophisticated goods. Given that many of the Tripartite Member States export primary commodities a higher substitution elasticity may be justified. However, intra-African trade is typically characterised by more sophisticated goods than that traded externally and high trade costs and non-tariff barriers may mean that substitution is less feasible. The SMART default substitution elasticity of 1.5 is therefore used.

The scenario estimated is based on complete removal of internal tariffs, in-keeping with the objective of 'substantial liberation' enshrined in the Tripartite FTA.

4.3 Estimation Results: Imports

Estimation results for import effects are presented below. Removing all internal tariffs creates an addition \$1.9billion of trade in the region and diverts \$456million to Tripartite partner states leaving a

¹The Tripartite negotiations are being undertaken at the 8-digit level, but this data is not available through UNCTAD-TRAINS.

net trade gain of \$1.4billion. Tariff revenues fall by \$836 million in the bloc consumers experience a relative modest welfare gain of \$177million under this scenario.

As expected, these aggregate figures mask significant heterogeneity of outcomes across Tripartite Members. In respect of trade creation, for example, some \$784million of imports is created in the Democratic Republic of Congo alone. This accounts for 42 percent of trade created across all Member States. 10 percent of all trade created by the FTA is in one bilateral flow: exports of oil from South Africa to Democratic Republic of Congo (The DRC is heavily dependent on imports of oil and South Africa, as having one of the best oil refinery infrastructures in the continent, is well placed to fulfil increased demand after the tariff is reduced from 10 percent to zero). In contrast to DRC, trade created does not exceed \$1million for six economies (Botswana, Burundi, Lesotho, Madagascar, Namibia, Swaziland).

Angola, Tanzania, DRC and Kenya suffer the largest trade diversion, all economies in which the weighted average tariff was not significantly lower for intra-Tripartite Trade than for the world as a whole. The net trade effect is positive for virtually all Member States, and in those countries in which it is negative the net loss is small (Egypt, Madagascar, Namibia and Mauritius).

Angola, Tanzania, DRC and Kenya are also the economies which suffer the largest revenue losses, accounting for two thirds of total revenue losses between them, and 70 percent of all consumer welfare gains. Welfare gains are negligible (less than \$1million) in 11 of the 24 countries in the sample.

Focussing on Uganda, it is clear that the import effects of the Tripartite FTA are minimal. Trade creation and diversion of around \$22 million and \$18 million respectively are negligible, less than 1 percent of total imports. The loss of revenue amounts to \$23 million dollars, or a 7 percent change in total customs revenue captured by the model. 20 percent of revenue losses come from motor vehicles, paper, ethyl alcohol and odoriferous mixtures for industry. The welfare gain is a meagre \$2.5 million. These modest impacts can be attributed to the high degree of openness to trade Uganda already extends to African economies as a result of liberalisation programmes of the 1990s.

75 percent of trade created for Uganda comes from South Africa, motor vehicles, construction materials and paper comprising the largest values. A further 10 percent is from Swaziland in ethyl alcohol and other raw materials for making beverages.

Table 3 –Trade, Revenue and Welfare Effects (USD millions) of Full Liberalisation Scenario

Country	Data Year	Trade Effects			Revenue Effect	Welfare Effect
		Trade Creation	Trade Diversion	Net Trade Effect		
Angola	2009	384.48	113.71	270.77	-160.57	45.49
Botswana	2011	0.10	0.08	0.02	-0.13	0.02
Burundi	2011	0.52	0.43	0.10	-0.62	0.05
Comoros	2011	2.92	0.18	2.73	-0.62	0.21
DRC	2009	784.12	59.64	724.49	-215.35	54.21
Djibouti	2011	12.43	3.32	9.11	-6.18	1.95
Egypt	2009	10.20	11.46	-1.27	-18.86	3.39
Eritrea	2006	2.14	0.51	1.63	-0.80	0.11
Ethiopia	2011	52.24	25.28	26.96	-34.47	6.78
Kenya	2011	66.81	40.27	26.54	-69.70	10.11
Lesotho	2011	0.01	0.00	0.00	-0.01	0.00
Libya	N/A	-	-	-	-	-
Madagascar	2011	0.32	0.44	-0.12	-0.49	0.01
Malawi	2011	137.67	18.27	119.40	-36.66	5.01
Mauritius	2011	2.74	3.58	-0.84	-3.76	0.20
Mozambique	2010	52.60	7.59	45.00	-21.66	3.09
Namibia	2011	0.05	0.08	-0.03	-0.06	0.00
Rwanda	2011	7.37	3.19	4.17	-3.87	0.60
Seychelles	2007	4.69	3.11	1.58	-10.33	4.34
South Africa	2011	66.76	34.49	32.26	-40.76	9.66
Sudan	N/A	-	-	-	-	-
Swaziland	2011	0.33	0.04	0.29	-0.43	0.04
Tanzania	2011	153.04	74.50	78.55	-108.28	14.38
Uganda	2011	22.23	17.73	4.50	-23.65	2.53
Zambia	2011	15.30	4.38	10.92	-10.21	0.76
Zimbabwe	2007	87.70	33.71	53.99	-68.26	13.95
Total		1,866.78	456.00	1,410.78	-835.71	176.89

Source: Authors calculations using WITS-SMART, data for Libya and Sudan unavailable.

4.4 Estimation Results: Exports

The SMART partial equilibrium model allows for greater disaggregation of the trade effects described above to identify the exporting economies benefiting most from the trade creation and diversion.

Table 4 shows the change in exports for each Member State. The change in exports is a combination of trade created by the removal of tariffs and the trade diverted to Member States from more efficient producers out with the FTA. As with the import effects there is significant heterogeneity in results. Only five economies experience an increase in exports of more than \$100 millions: Kenya, Namibia, South Africa, Uganda and Zambia. South Africa captures fully two thirds of the \$2.26 billion export increase of the entire block. As discussed above, half of the \$800 million dollar increase in imports experienced by DRC is sourced from South Africa, which also accounts for virtually all of the increased imports of Malawi, Kenya, Tanzania and Zimbabwe (the changes to bilateral trade flows are shown in Annex 3). Meanwhile, 12 of the 24 countries studied fail to expand exports by more than \$10 million dollars.

Uganda's exports experience the fourth largest growth as a result of the FTA, albeit on a scale dwarfed by the export growth of South Africa. Closer scrutiny shows that this growth is driven exclusively by increased exports to the Democratic Republic of Congo. Flat rolled iron or non alloyed steel is that tariff line with the largest gain. Note that the SMART model takes no account of distance or trade transaction costs, so Uganda's proximity to DRC may enable it to capture a larger share of increased exports to DRC than that predicted by the model (Uganda accounts for 13 percent per cent of the exports to DRC created).

Table 4–Sum of Trade Creation and Trade Diversion by Exporting Economy

Country	Change in Exports USD millions	Country	Change in Exports USD millions
Angola	0.08	Malawi	3.76
Botswana	6.22	Mauritius	1.97
Burundi	2.31	Mozambique	-1.67
Comoros	0.00	Namibia	183.86
DRC	10.99	Rwanda	23.88
Djibouti	0.53	Seychelles	-0.04
Egypt	55.79	South Africa	1,512.49
Eritrea	0.02	Swaziland	17.74
Ethiopia	9.72	Tanzania	25.55
Kenya	100.11	Uganda	111.73
Lesotho	0.60	Zambia	141.59
Madagascar	36.50	Zimbabwe	18.37
		Total	2,262.09

Source: Authors calculations using WITS-SMART

Of the \$111million of additional Ugandan exports, \$108million is the creation of new trade and \$4million has been diverted toward Uganda. Note that the net trade effect on intra-EAC trade is negative in the partial equilibrium framework, as the preference margin enjoyed by EAC Partner States in trade with each other is eroded by extending duty-free imports to Tripartite Member States.

4.5 EAC Sensitive Items

One of the outstanding issues for negotiation is the extent to which exemptions for sensitive items will be permitted. It is reasonable to assume that given that sensitive items are justified on grounds of food security, poverty alleviation and protection of domestic producers that a list of sensitive items will be permitted. To estimate the impact of exemptions for sensitive items on EAC Partner States, a scenario was modelled in which the existing EAC list of sensitive items was exempted for tariff reform under the Tripartite FTA. The results, along with those for the full liberalisation scenario, are shown for each member state in Table 5 below.

Table 5 – Estimation Results for EAC Countries: Full liberalisation scenario vs. EAC sensitive list excluded (USD Millions)

	Country	Data Year	Trade creation	Trade diversion	Net Trade effect	revenue effect	Welfare Effect
Full liberalization scenario	Burundi	2011	0.52	0.43	0.10	-0.62	0.05
	Kenya	2011	66.81	40.27	26.54	-69.70	10.11
	Rwanda	2011	7.37	3.19	4.17	-3.87	0.60
	Tanzania	2011	153.04	74.50	78.55	-108.28	14.38
	Uganda	2011	22.23	17.73	4.50	-23.65	2.53
EAC sensitive list excluded	Burundi	2011	0.52	0.43	0.10	-0.62	0.05
	Kenya	2011	51.44	36.47	14.97	-48.56	6.20
	Rwanda	2011	7.37	3.19	4.17	-3.87	0.60
	Tanzania	2011	151.33	72.49	78.85	-105.74	14.06
	Uganda	2011	21.86	17.23	4.63	-22.99	2.42

Source: Authors calculations using WITS-SMART

Excluding sensitive items from tariff reform has virtually no effect on the trade, revenue and welfare effects for Burundi, Rwanda, Tanzania and Uganda. In Kenya, excluding sensitive items reduces the net trade effect by around \$11.5 million (43 percent), reduces revenue losses by \$21.1million (30 percent) and reduces welfare gains by \$4.9 million.

The asymmetry in this result can be explained by the origin of imports of sensitive items. Table 6 shows the proportion of imports of EAC Sensitive Items which come from non-EAC Tripartite Members, which are those members for which tariffs will be removed under the FTA. The table reveals that 46 percent of Burundi's imports of sensitive items are from these economies, but even this large proportion is insufficient to alter the findings given the small effect of the Tripartite FTA as a whole (the net trade

effect is a meagre \$100,000). Thereafter, only Kenya imports a significant amount of sensitive items from the remainder of the Tripartite block.

Table 6 – Proportion of Imports of EAC Sensitive Items originating in non-EAC Tripartite Members

<i>EAC Partner State</i>	<i>Percentage of Imports of EAC Sensitive Items originating in non-EAC Tripartite Members</i>
Burundi	46%
Kenya	29%
Rwanda	10%
Tanzania	5%
Uganda	6%

Source: Authors calculations using UN COMTRADE data. Values reported are average over the 2008-2011 period.

This analysis suggests that those items on the EAC Sensitive List (charged a higher rate of import duty than the three band structure of the common external tariff) are not necessarily those which should be carried forth to the Tripartite negotiations.

5. Conclusions

The preceding analysis employs the SMART partial equilibrium model to estimate the effects of removal tariffs on trade between the 26 countries of the Tripartite block for 24 of the Tripartite Member States. It finds that \$1,866 million of trade is created and a further \$456 million is diverted toward Tripartite Member States from more efficient external trading partners. The Democratic Republic of Congo accounts for more than two-thirds of new imports, and South Africa accounts for the same proportion of new exports. The revenue losses are modest but far exceed the welfare gains arising from cheaper imports, suggesting that the tariffs on trade are not necessarily welfare reducing. The heterogeneity of results is suggestive of the need to apply variable geometry in respect to the pacing of opening and to ensure that other means of protecting domestic industries are preserved.

The impacts on Uganda are relatively modest as only 3 percent of Uganda’s current imports are liberalised in the full liberalisation scenario. Better access to the Democratic Republic of Congo is expected to increase exports to that market, while imports created emanate mostly from South Africa. Maintaining tariffs from the EAC Sensitive Items list has virtually no bearing on the Ugandan market or that of any other EAC Partner State excepting Kenya, implying that any provision for sensitive items should be based on bilateral sensitivities with Tripartite Member States, rather than the sensitive list as currently construed.

These estimates are static one off annual gains based on assessments of each import market in isolation and, as with all economic modelling, the findings reflect the underlying functions and assumptions of the model. The cost in the shape of revenue lost is offset by increased trade and cheaper imports (albeit perhaps causing trade to be diverted toward less efficient producers). The dynamic process of opening

the domestic market to greater competition or shifts in production structures are not captured by the model yet provide one of the largest motivations for pursuing a Tripartite FTA.

Similarly, the analysis is limited to trade in goods only. Commitments in trade of services (and free movement of business persons) should amplify gains, given the importance of networks and complementary services to the expansion of trade. Other areas of cooperation, particularly in respect of non-tariff barriers, customs and transit procedures and trade and transport facilitation should similarly enhance the benefits of the Tripartite FTA.

6. References

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Annex I – Uganda/EAC’s Negotiating Counterpart Groups

The modalities for the Tripartite Tariff Negotiations state as follows:

- (a) Member/Partner States that are already in a REC FTA with each other will not undertake tariff negotiations and exchange of tariff concessions amongst themselves. Such Member/Partner States will consolidate into the Tripartite FTA their existing levels of liberalisation vis a vis one another.
- (b) While individually the combined membership of the three (3) RECs is twenty-six (26), ten (10) countries are expected to negotiate as two (2) blocs of five (5) countries each. These are Partner States of the East African Community (EAC) and Member States of the Southern African Customs Union (SACU). This implies that the countries belonging to these Customs Unions will make common offers and receive common requests during negotiations
- (c) In this regard, three groups of countries can be identified namely:
 - i) **Member/Partner States that are already participating in the REC FTA with each other;**
 - ii) **Member/ Partner States that are participating in the REC FTA but will have to negotiate tariff liberalization with other Tripartite Member / Partners States of the other REC FTAs; and**
 - iii) **Member/Partner States that are not participating in the REC FTA.**

For Uganda this means that it will negotiate as part of the East African Community with the following three groups of counterparts:

COMESA FTA Members	SACU	Non FTA Members
Comoros	Botswana	Angola
Djibouti	Lesotho	Eritrea
Egypt	Namibia	Ethiopia
Libya	South Africa	Mozambique
Madagascar	Swaziland	DR Congo
Malawi		
Mauritius		
Seychelles		
Sudan		
Zambia		
Zimbabwe		

Annex 2 – The Trade Complementarities Index: Methodology and Data

The Trade Complementarities Index (TCI) measures the compatibility of Tripartite Member States' export baskets with the imports of the remainder of the envisaged FTA. First proposed by Michaely (1994) it can be interpreted as the correlation between a country's exports and the imports of a trading partner. An index of 100 implies a perfect match, whereas a low score would suggest little compatibility between trading partners. The TCI between exporter j and importer i is given by:

$$TCI_{ij} = 100 \left[1 - \sum_k \frac{|m_k^i - x_k^j|}{2} \right]$$

Where m_k^i is product k 's share in country i 's imports, and x_k^j is product k 's share in country j 's exports. The TCI is computed for all 26 Tripartite Member States against the import basket of the remaining 25 countries using *UNCTADstat* data at the 3 digit level using average exports and imports over the three years period 2009-2011. Note that the index is biased by the level of aggregation used, but 3-digit level data is quite sufficient for the current purposes of providing an approximate estimate of the complementarities between Member States.

Annex 3 – Bi-lateral Net Trade Effects of the Tripartite Free Trade Area (USD, millions)

		Exporting Economy											
		Angola	Botswana	Burundi	Comoros	DRC	Djibouti	Egypt	Eritrea	Ethiopia	Kenya	Lesotho	Madagascar
Importing Economy	Angola	0.00	0.00	0.00	0.00	0.00	0.00	5.49	0.00	0.03	0.66	0.00	0.00
	Botswana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.11
	Burundi	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.07	-0.10	0.00	0.00
	Comoros	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	-0.06	0.00	-0.02
	DRC	0.00	0.00	2.33	0.00	0.00	0.00	1.75	0.00	0.00	81.41	0.00	0.00
	Djibouti	0.00	0.00	0.00	0.00	0.00	0.00	6.08	0.00	4.82	0.62	0.00	0.01
	Egypt	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	-0.01	0.29	0.00
	Eritrea	0.00	0.00	0.00	0.00	0.00	0.47	0.35	0.00	0.01	0.49	0.00	0.00
	Ethiopia	0.00	0.02	0.01	0.00	0.01	0.02	18.08	0.00	2.43	10.33	0.00	0.00
	Kenya	0.01	0.06	0.00	0.00	1.17	0.00	-1.47	0.00	0.02	0.00	0.18	0.00
	Lesotho	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
	Madagascar	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.07	0.00	0.00	0.00
	Malawi	0.00	0.08	0.00	0.00	0.00	0.00	-0.12	0.00	0.01	-1.35	0.01	0.00
	Mauritius	0.00	0.00	0.00	0.00	0.00	0.00	-0.10	0.00	0.00	-0.02	0.00	0.00
	Mozambique	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	4.30	0.00	0.14
	Namibia	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.02	0.00	0.00
	Rwanda	0.00	0.00	-0.02	0.00	0.00	0.00	-0.05	0.00	0.00	-0.36	0.00	0.00
	Seychelles	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.55	0.00	0.01
	South Africa	-0.02	0.00	0.00	0.00	0.00	0.00	15.80	0.00	0.89	14.64	0.00	36.07
	Swaziland	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.02	0.02	0.00	0.02
Tanzania	0.04	0.50	0.00	0.00	0.14	0.04	5.46	0.00	0.14	-6.68	0.11	0.15	
Uganda	0.00	0.01	0.00	0.00	1.21	0.00	2.70	0.01	0.33	-3.54	0.00	0.00	
Zambia	0.00	0.39	0.00	0.00	0.12	0.00	-0.02	0.00	0.01	-0.38	0.00	0.00	
Zimbabwe	0.03	5.15	0.00	0.00	8.32	0.00	0.00	0.00	0.00	-0.49	0.00	0.00	
Total	0.08	6.22	2.31	0.00	10.99	0.53	55.79	0.02	9.72	100.11	0.60	36.50	

Annex 3 – Bi-lateral Net Trade Effects of the Tripartite Free Trade Area (USD, millions) cont.

		Exporting Economy												
		Malawi	Mauritius	Mozam- bique	Namibia	Rwanda	Seychelles	South Africa	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe	Total
Importing Economy	Angola	0.00	0.15	0.00	138.15	0.00	0.00	351.57	0.00	0.00	0.33	0.29	1.39	498.05
	Botswana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.17
	Burundi	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00	-0.03	-0.02	-0.01	0.00	0.78
	Comoros	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00	1.44	0.00	0.00	0.00	3.02
	DRC	1.10	0.00	0.00	44.10	23.86	0.00	413.66	0.00	0.00	111.63	157.06	6.88	843.76
	Djibouti	0.00	0.00	0.00	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	15.73
	Egypt	0.00	0.00	0.00	0.17	0.00	0.00	20.79	0.14	0.14	0.03	-0.41	0.00	21.24
	Eritrea	0.00	0.00	0.00	0.00	0.01	0.00	0.64	0.00	0.09	0.03	0.00	0.00	2.09
	Ethiopia	0.02	0.01	0.00	0.00	0.03	0.00	34.06	2.12	0.39	0.11	0.12	0.04	67.83
	Kenya	-0.01	-0.13	-0.01	0.67	-0.03	0.00	104.48	0.32	-1.49	-1.69	-0.36	-0.05	101.69
	Lesotho	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Madagascar	-0.01	-0.02	-0.06	0.00	0.00	0.00	0.69	-0.02	0.00	0.01	0.00	0.00	0.65
	Malawi	0.00	-0.03	-1.11	0.23	0.00	0.00	140.23	0.09	15.29	0.00	-4.65	-0.40	148.29
	Mauritius	0.00	0.00	0.00	0.00	0.00	0.00	6.28	0.00	0.00	0.00	0.01	0.00	6.18
	Mozambique	0.39	0.18	0.00	0.00	0.00	0.00	35.85	0.00	6.00	0.01	0.18	10.69	59.21
	Namibia	0.00	0.00	0.00	0.00	0.00	0.00	-0.06	0.00	0.00	0.00	0.01	0.00	0.06
	Rwanda	0.00	0.00	0.00	0.00	0.00	0.00	10.56	0.00	-0.04	-0.21	0.00	0.00	9.88
	Seychelles	0.07	2.04	0.00	0.00	0.00	0.00	5.10	0.00	0.00	0.00	0.00	0.00	7.80
	South Africa	-0.06	-2.12	-0.39	0.00	0.01	0.00	32.07	0.00	-0.05	1.76	-0.14	-0.30	98.16
	Swaziland	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
Tanzania	1.73	1.60	-0.17	0.27	-0.01	0.00	199.06	10.75	0.00	-0.49	7.34	0.17	220.15	
Uganda	0.02	0.40	0.00	0.04	-0.04	0.00	31.05	3.93	-0.24	0.00	0.01	0.02	35.93	
Zambia	-0.03	-0.02	-0.11	0.10	0.00	0.00	18.90	0.01	0.13	0.01	0.00	-0.06	19.06	
Zimbabwe	0.53	-0.09	0.16	0.15	0.00	-0.04	101.60	0.40	3.92	0.21	-17.87	0.00	101.98	
Total	3.76	1.97	-1.67	183.86	23.88	-0.04	1,512.49	17.74	25.55	111.73	141.59	18.37	2,262.09	