

Module-10

Critical Reading of Some Empirical Works

Selim Raihan*

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* Associate Professor, Department of Economics, University of Dhaka, Bangladesh, and the Executive Director of the South Asian Network on Economic Modeling (SANEM); Email: sraihan_duecon@yahoo.com

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Acronyms

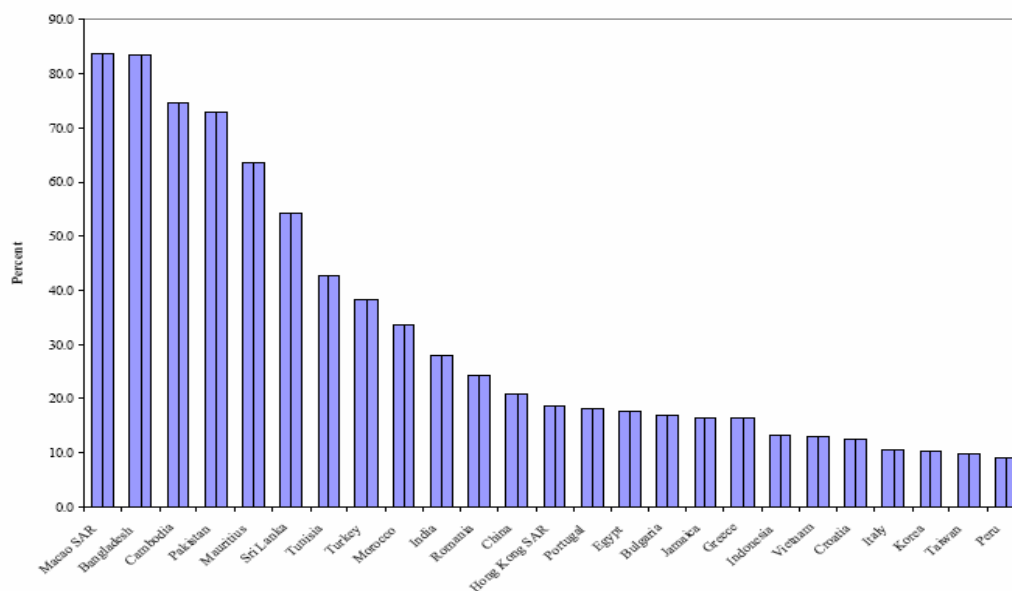
ACP	African, Caribbean Pacific
ACT	Agreement on Textile and Clothing
ASEAN	Association of Southeast Nations
BAU	Business As Usual
CGE	Computable General Equilibrium
CPI	Consumer Price Index
DFQF	Duty Free Quota Free
EBA	Everything But Arms
EEC	European Economic Commission
EU	European Union
EV	Equivalent Variation
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GSP	Generalised System of Preferences
GTAP	Global Trade Analysis Project
LDCs	Least Developed Countries
MFA	Multi-fibre Agreement
NAFTA	North American Free Trade Agreement
NTBs	Non-tariff Barriers
RMG	Readymade Garments
RoO	Rules of Origin
RTAs	Regional Trade Agreements
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Agreement
SAPTA	SAARC Preferential Trading Arrangement
T&C	Textile & Clothing
TLP	Tariff Liberalisation Programme

1. The End of Textiles Quotas: A Case Study of the Impact on Bangladesh

Under the WTO Agreement on Textiles and Clothing (ATC), all textile and clothing (T&C) quotas maintained by industrial countries under the now defunct Multi-fibre Arrangement (MFA) would be removed over the period 1995-2005. Because these quotas are bilateral and the extent of their restrictiveness varies from country to country, their removal will alter the competitiveness of individual exporting countries. The intensity of these shifts in competitiveness will be amplified by the effective back loading of the quota phase-out under the ATC. Bangladesh depends heavily on the exports of T&C, or ready-made garments (RMG), and is potentially vulnerable to the large shock of the final stage of the quota phase-out.

Bangladesh's RMG exports have grown rapidly over the past two decades, following extensive trade and other economic reforms in the early 1990s. The value of exports in US dollars increased more than six fold during the period 1990-2002, or about 16 percent per year, considerably faster than the growth of the country's other merchandise exports. The knitwear sector has performed particularly well over time. The sector's share in total RMG exports has grown from about 17 percent in 1995 to almost 40 percent in 2003.

Figure 1. Proportion of T&C Exports in Total Exports, 2002



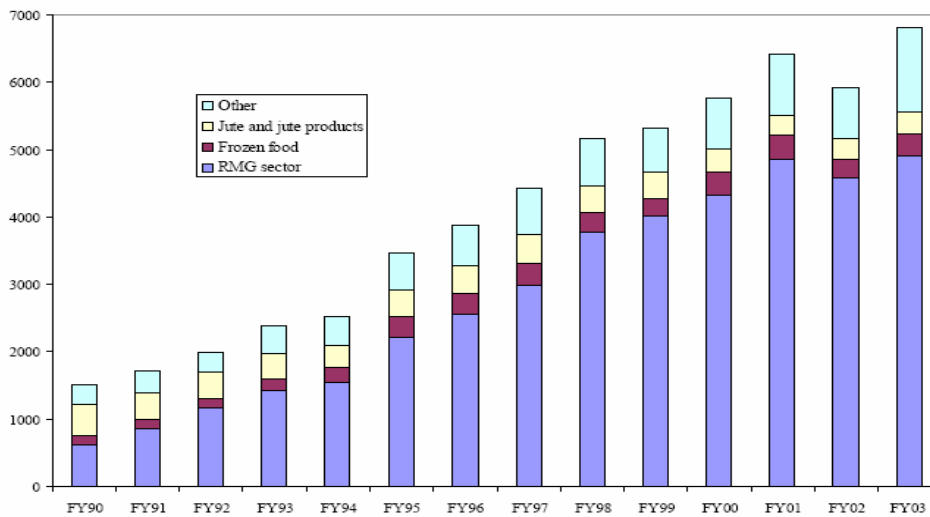
Source: WTO and IMF staff estimates.

Table 1. Bangladesh: Growth of the RMG Sector

Year	Export volume ('000 doz)	Export (US\$ million)	Share in total exports (percent)	Employment (millions)	Number of garment factories
1985–86	4,763	131	16.0	0.2	594
1990–91	30,567	867	50.5	0.4	834
1995–96	72,005	2,547	65.6	1.3	2,353
1999–2000	111,906	4,349	75.6	1.6	3,200
2001–2002	140,445	4,583	76.6	1.8	3,618

Source: Ahmed and Sattar (2003).

Figure 2. Bangladesh: Export Performance, 1990–2003
(in millions of U.S. dollars)



Sources: Bangladeshi authorities and IMF staff estimates.

Table 2. Import Tariffs Applied to Textiles and Clothing 1/
(in percent of c.i.f. values)

Countries	Vegetable fibers		Man-made filaments yarn		Products made of fabric		Clothing	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
Canada	10.5	19.0	14.3	19.0	15.5	23.6	22.4	24.5
EU	6.4	14.3	8.8	10.1	8.6	21.1	12.4	13.4
Japan	5.8	16.0	7.8	10.9	7.0	17.9	11.3	14.5
Norway	8.8	18.4	11.1	21.0	9.6	21.0	16.8	22.7
U.S.	7.9	20.5	13.1	18.9	9.2	22.4	12.8	29.7

Source: European Union (2003).

1/ Applied ad valorem tariff rates in 1996.

Table 3. Bangladesh: Direction of Trade for T&C Exports
(in percent)

	Woven Garments				Knit Garments				Total			
	1999/00	2000/01	2001/02	2002/03	1999/00	2000/01	2001/02	2002/03	1999/00	2000/01	2001/02	2002/03
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
European Union	41.8	41.8	44.5	47.7	69.6	70.1	69.8	73.0	49.9	50.5	52.6	56.2
United States	54.2	54.3	47.2	46.6	25.4	24.9	24.9	21.2	45.8	45.2	40.1	38.0
Canada	2.1	2.1	2.0	2.9	2.8	2.4	2.4	2.9	2.3	2.2	2.1	2.9
Norway	0.5	0.3	0.4	0.5	0.6	0.4	0.6	0.7	0.5	0.4	0.5	0.6
Switzerland	0.3	0.3	0.4	0.5	0.6	0.7	0.6	0.6	0.4	0.4	0.5	0.6
Korea	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Japan	0.2	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3
Australia	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Other	0.8	0.9	5.0	1.3	0.8	1.2	1.3	1.1	0.8	1.0	3.8	1.2
Memorandum item												
EU and US	96.0	96.0	91.7	94.2 ##	94.9	95.0	94.7	94.2	95.7	95.7	92.7	94.2

Source: Bangladesh Bank and staff calculations.

1.1 Impact and Key Competitive Advantage

In the US market, Bangladesh's exports are more concentrated in quota-restrained products than most of its competitors. Bangladesh faces quotas in 30 categories of products. Although this is low compared to 90 categories for China, it is similar to most other exporting countries. In value terms, however, Bangladesh does have higher quota coverage than most other exporters. This can indicate either more comprehensive restrictions on Bangladeshi exports or more generous access to quotas. In either case, the impact on Bangladesh (positive in the former case and negative in the latter case) would tend to be larger than on other countries when quotas are removed.

Bangladesh's relatively low quota prices result partly from the generous quota allocation it receives in the US market. In the EU market, the fact that Bangladesh does not face any quotas there means that the shock to its exports could be even larger when quotas on other countries are removed. Unlike in the US market, where Bangladesh has a 7.6 percent quota

rent to cushion price declines when remaining quotas are removed, any price falls in the EU market would directly cut into profits and hence exert pressure on exports.

In addition to generous quota access to major export markets, Bangladesh's key competitive advantage is low wages. Unit labour costs are about 20-30 percent and 30-40 percent lower than in India and China, respectively, although labour productivity, as measured by value added per worker, is also lower. This lower productivity is a result of a number of supply constraints that need to be overcome if Bangladesh is to improve its competitiveness. Structural rigidities have made it difficult for Bangladesh to fully exploit its labour cost advantage. In addition to structural weaknesses, there are a number of policy-induced rigidities that have reduced the competitiveness of the T&C sector. Various schemes and measures have been instituted over the years to mitigate the effects of the supply constraints on the export sector. The RMG sector, in particular, enjoys considerable policy preferences.

Several studies have attempted to assess the impact of quota removal on Bangladesh's economy, especially on RMG exports. It is difficult to draw reliable conclusions from these studies that: (i) some are based on past experience; (ii) some are not quantified; and (iii) some are really based on conjecture. This notwithstanding, most studies agree that the impact is likely to be negative if the Bangladeshi government and industry do little to address key impediments to export expansion. The Global Trade Analysis Project (GTAP) global general equilibrium model is used in this paper to estimate the impact of the quota phase-out on the Bangladeshi economy. To more accurately reflect the current extent of quota restrictions, data on quota premiums are updated based on the latest estimates for Bangladesh.

The simulations focus on the static, medium term effects of quota removal. For this reason, the database of the model is updated to 2007 through a projection exercise, which involves augmenting gross domestic product (GDP), population and factor (land, labour, capital and natural resources) endowments with productivity accounting for any slack in GDP growth. GDP and employment projections are based on IMF *World Economic Outlook* (September 2003), while population projections are based on the World Bank *World Development Indicators* (2002). Capital accumulation projections are guided by projected GDP growth and historical data provided in Hertel and others (1996). Changes in arable land are based on Anderson and others (1996). For natural resources, constant prices are assumed over time and the level of resource use is determined endogenously.

In simulating the impact of the quota phase-out, quotas on exports from *all* other developing countries are also removed together with those on Bangladeshi exports (which face restrictions only in the US market, as noted earlier). No other policy changes are introduced. The removal of Canadian and EU quotas on Bangladeshi exports is incorporated in the baseline projections. The simulation does not take account of any dynamic or non-price effects of the quota phase-out, such as improvements in product quality and transport facilities. Whether an exporting country experiences an export expansion or contraction after quota removal depends primarily on whether its production cost (net of quota premiums) is lower or higher than its main competitors'. All results are reported as deviations from the 2007 baseline.

1.2 Different Scenarios

A number of scenarios, based on different assumptions on elasticities of substitution and factor markets, are examined. It is assumed in most of the simulations that in exporting developing countries nominal wages remain constant, while employment responds to changes in demand. Labour and capital are assumed to be perfectly mobile across industries, but completely immobile internationally. Domestic investment is determined by the expected rate of return, which is equalised (net of risk premium) across countries through international movement of savings in search for higher returns. Saving is a linear function of national income. Land is confined to the use in agriculture, while natural resource use is associated with only mining activities.

Simulation results confirm the consensus that Bangladesh is likely to be adversely affected by the phase out of T&C quotas. Under the first scenario, in which standard GTAP elasticities are applied and nominal wages are assumed to be fixed, clothing exports fall substantially, while textile exports contract only moderately. However, because of the great weight of clothing in total exports, overall exports fall considerably. The extent of the impact on clothing exports is not surprising given their heavy concentration in the restricted markets. Overall imports also fall, largely as a result of declines in textile imports. On balance, the trade account deteriorates by 1.2 percent of GDP. Despite the relatively weak backward linkages of the garments industry with the domestic textile industry and the rest of the economy, the effects of quota removal on GDP and employment are large – and perhaps larger than the current share of T&C in GDP would suggest. For example, GDP contracts by 2.3 percent, while employment declines by 4.5 percent.

The simulation results are very sensitive to the elasticities of substitution between products from different countries of origin. Intuitively, the greater the substitutability between Bangladeshi and its competitors' products, the larger is the impact on Bangladesh's exports when quotas are removed. Lower elasticities (half the values of the central elasticities) would significantly reduce the impact on Bangladesh, while higher elasticities (double the values of the central elasticities) would imply a dramatic impact on Bangladesh. The central elasticities represent the best judgment on available estimates in the literature, but the true values of these elasticities could be anywhere between the lower and higher bounds. It is important to note that within this wide range of elasticities, the direction of the impact remains unchanged. Factor market assumptions are critical in determining the impact of the quota phase-out on macroeconomic aggregates.

The contractions in T&C exports lead to a decline in the consumer price index and the GDP deflator. This leads to increases in real wages under the assumption of constant nominal wages. The impact of quota removal is considerably smaller when real wages are assumed to be fixed through indexation to the Consumer Price Index (CPI). The impact is even smaller if wages are perfectly flexible so that there will be no contraction in employment. The balance of trade in fact improves slightly because of a considerable real exchange rate appreciation. Another important assumption is how investment will be affected by quota removal. If investors believe that Bangladesh will be adversely affected by quota removal, there could be a demand for a higher expected rate of return on investment in Bangladesh. Such a possibility is assumed that investors perceive a rise in the risk premium of one percentage point in

Bangladesh. This would exacerbate GDP and employment contractions, but reduce the impact on the trade balance by further reducing investment.

Given the recent pressure in US and EU to re-impose quotas on Chinese T&C exports after 2004, a simulation of restrained Chinese exports is also carried out. It is assumed that as a result of a newly negotiated arrangement, Chinese T&C exports would increase by only half what they would have if quotas were completely phased out. The results indicate that the adverse impact on Bangladesh's GDP, employment and exports would be about 30 percent less than under the first scenario. The dampened expansion of China's exports is partially offset by increases in exports from Bangladesh's other competitors, such as India and Association of Southeast Asian Nations (ASEAN). An increase in productivity would help offset the adverse effects of the quota phase-out. Simulations indicate that to maintain the baseline level GDP, Bangladesh would need to increase its total input productivity in the T&C sector (relative to its competitors) by 4-5 percent (cumulatively) in 2007. To ensure baseline level employment, the sector needs to achieve a 5-6 percent increase in productivity. Such productivity improvements, though not particularly large, would also substantially reduce the potential deterioration of the trade balance.

2. LDCs' Duty-free and Quota-free (DFQF) Access to Developed Countries' Markets: Implications for the Bangladesh Economy

The least developed countries (LDCs), for their deficiencies in trade related infrastructure and production and cost effectiveness, are in a disadvantageous position in international trade integration process. To be competitive, they are in need of special and differential provisions in terms of quota facilities and/or preferential (lower) tariff rates that ensure market access in the developed and the developing countries for the products of their export interest. At the same time, they require these facilities to be non-reciprocal to protect their industries, secure the government revenue from import duties and to exercise control over the economy during the crisis periods. Under the Generalised System of Preferences (GSP) facilities, provided by the developed countries since 1970s to the developing country products, there had been improved market accesses for the developing countries which were then extended for the LDCs gradually over time.

2.1 Different DFQF Scenarios

Study findings suggest that the enhanced market access for the LDCs in the developed countries in terms of DFQF market access provisions will benefit LDCs substantially with both improved terms of trade and allocative efficiency (UNCTAD, 2001). Potential benefits for LDCs in terms of export diversification come out as of important consideration. However, there are concerns about the possible losses for the developed and developing countries in terms of the losses *vis-à-vis* of trade and preference erosion. Against the backdrop of the aforementioned discussion the purpose of this section is to explore the impact of different DFQF scenarios on the economies of the LDCs and the developing countries, and to address the concerns which have been mentioned earlier.

Table 4: DFQF Scenarios

Name	Explanation	Australia	Japan	Korea	USA	Canada	EU	China	India	Brazil	Thailand	Other Developing Countries
DFQF1	LDCs' Duty-Free-Quota-Free Market Access on all products only in the developed countries	100%	100%	100%	100%	100%	100%	NA	NA	NA	NA	NA
DFQF2	LDCs' Duty-Free-Quota-Free Market Access on all products in the developed and advanced developing countries	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
DFQF3	LDCs' Duty-Free-Quota-Free Market Access on all products only in the US	No change in existing DFQF access	No change in existing DFQF access	No change in existing DFQF access	100%	No change in existing DFQF access	No change in existing DFQF access	NA	NA	NA	NA	NA

Note: NA indicates 'Not Applicable'.

To examine the impacts of providing DFQF access of LDCs products in the developed and developing countries markets, five simulation experiments in the GTAP model have been carried out. Table 4 shows the simulations experiments. The welfare effects of different DFQF scenarios for some selected countries and regions are presented in Table 5.

Table 5: Welfare Effects of DFQF Scenarios on Selected Countries and Regions

Countries	DFQF1	DFQF2	DFQF3
Bangladesh	548.6	590.2	498.5
Other LDCs	477.2	654.2	90.2
India	8.8	-70.9	10.3
Sri Lanka	-3.2	-2.7	3.5
Other Developing Countries	-30.4	-57.8	-29.9

It appears from Table 5 that under the scenarios DFQF1, where only the developed countries provide DFQF market access to all LDCs (including Bangladesh) the total welfare gain for the LDCs is US\$1.02bn where alone Bangladesh accounts for US\$548.6m (almost 53 percent of the total gains of the LDCs). It also appears that under DFQF1 India registers a small welfare gain, and Sri Lanka, on the other hand, experience very small welfare loss. All other developing countries as a whole face a welfare loss of only US\$30m. It thus appears that compared to the huge welfare gains of the LDCs (including Bangladesh) losses of the developing countries, which are mainly driven by their preference erosion in the developed countries markets, are very low. It can thus be argued that, the concern of the developing countries regarding the possibility of their welfare loss, if LDCs are given the DFQF access to developed countries markets, is valid, though the magnitude of the welfare loss is very low.

We also explore the welfare impacts of the scenario where not only the developed countries, but also the advanced developing countries also provide DFQF market access to the LDCs under DFQF2 scenario (see Table 4). It appears from Table 5 that the welfare gain for the LDCs (including Bangladesh) from the DFQF2 scenario is the highest among all the three scenarios. The welfare gain for Bangladesh also increases to US\$590mn and the welfare gain for all other LDCs is increased to US\$65mn. However, the developing countries suffer from welfare loss from this scenario. The welfare loss for India is around US\$71mn, whereas Sri Lanka registers very low welfare loss as in scenario DFQF1. The total welfare loss for all other developing countries is increased to around US\$58mn.

Under DFQF3, the welfare impacts of the scenario, where only the US provides DFQF market access to the LDCs, are explored. The welfare gain for Bangladesh in DFQF3 scenario is US\$498mn, and for all other LDCs is US\$90mn. All other South Asian countries do not suffer from any welfare loss. However, all other developing countries experience a total welfare loss of US\$30mn. Comparing the figures of the three scenarios in Table 5, it appears that Bangladesh's welfare gain is mainly driven by its DFQF market access to the US market. However, for other LDCs, apart from the US market DFQF market accesses to other developed countries are very important.

The GTAP simulation results also provide information on the changes in the volume of exports from Bangladesh to different countries. Table 6 presents the estimated percent share of different destination countries for Bangladesh's total RMG exports. It appears that in the base year the EU is the main destination for RMG exports from Bangladesh, and the share of the EU is 55 percent. For US, the share is 22 percent. Together the EU and US markets constitute 77 percent of the total RMG exports from Bangladesh. But the DFQF market access scenarios are likely to change this picture. Under all three DFQF scenarios, US becomes the leading export destination as this market's share increases to 42-45 percent, while the share of the EU market falls to around 40 percent. However, the combined market share of these two destinations increases under all three scenarios and market shares of almost all other destinations decline. Therefore, it is very much likely that Bangladesh's RMG export markets will be more concentrated if DFQF markets access scenarios are implemented.

Table 6: More Concentration of Bangladesh's RMG Exports Market (percent share)

	Base year Share	DFQF1	DFQF2	DFQF3
Australia and New Zealand	0.82	0.62	0.62	0.53
China	0.19	0.11	0.23	0.12
Japan	0.97	0.57	0.57	0.58
South Korea	0.15	0.19	0.19	0.08
India	0.26	0.16	0.31	0.16
Sri Lanka	0.11	0.07	0.07	0.07
Rest of South Asia	0.03	0.01	0.01	0.01
Canada	6.70	8.07	8.05	4.46
US	22.28	42.96	42.36	45.46
Brazil	0.06	0.03	0.14	0.03
Other LDCs	0.33	0.22	0.22	0.22
EU	55.04	39.44	39.73	40.39
Other Developing Countries	4.51	2.52	2.50	2.64
Rest of the World	8.56	5.03	5.00	5.24
Total	100.00	100.00	100.00	100.00
US + EU Market Share	77.32	82.4	82.49	86.36

Source: GTAP Simulation Results.

The Bangladesh Dynamic Computable General Equilibrium (CGE) model has been applied to explore the impact of different DFQF scenarios *vis-à-vis* on the Bangladesh economy. In brief, the export and import price shocks and the export volume shocks from the GTAP model are introduced in the Bangladesh dynamic model to examine the macro, sectoral, and welfare and poverty effects.

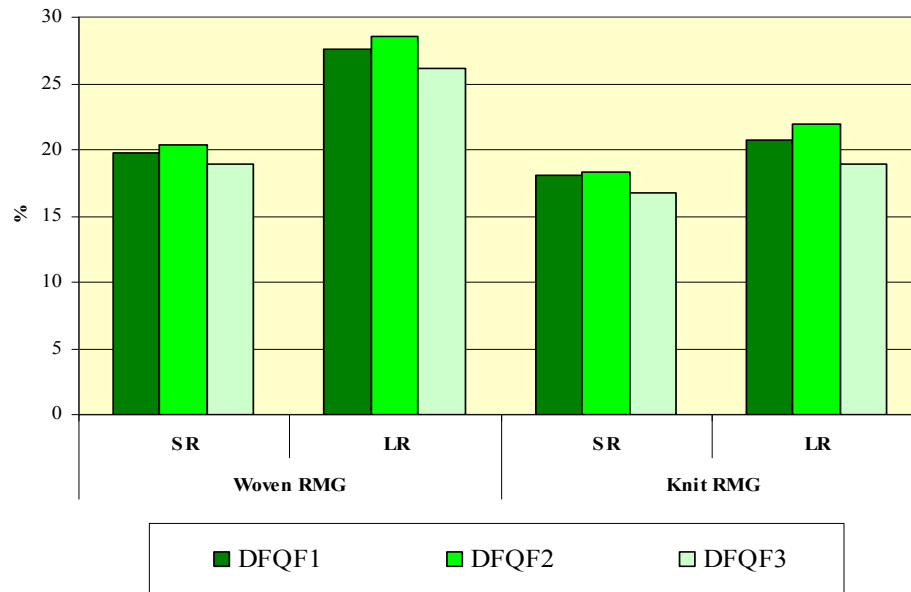
Table 7: Macroeconomic Impacts of different DFQF Scenarios (percentage deviation from the BAU path)

Variable	DFQF1		DFQF2		DFQF3	
	SR	LR	SR	LR	SR	LR
Real GDP	0.89	1.02	0.91	1.09	0.75	0.98
Aggregate welfare	0.95	1.18	1.01	1.32	0.87	1.09
Head-count Poverty	-0.50	-0.61	-0.54	-0.68	-0.40	-0.51
Imports	6.95	7.76	7.31	8.22	6.42	7.17
Exports	16.8	18.8	17.9	19.1	16.2	17.1
Urban CPI	4.65	4.92	5.11	5.42	4.31	4.57
Rural CPI	4.58	4.83	5.01	5.33	4.25	4.49
Skilled wage rate	5.90	6.54	6.42	7.11	5.45	6.03
Unskilled wage rate	6.04	6.66	6.61	7.23	5.57	6.15
Agricultural capital rental rate	5.07	5.23	5.48	5.70	4.65	4.85
Non-agricultural capital rental rate	5.55	5.89	5.91	6.15	5.01	5.45

The GTAP price and volume shocks suggest that the DFQF1 scenario generates a favourable shock for the RMG sectors (for both woven and knit RMG) in Bangladesh as both the export prices and export demand of these sectors increase substantially (see annex Table A3). Given the fact that these two export-oriented RMG sectors have important contributions to the economy in terms of export earnings, employment generation and other indirect effects, the overall economy is likely to be benefited from this scenario.

The impacts of the DFQF1 scenario on the macro economy of Bangladesh are reported in Table 7. It appears that the impacts on real GDP and aggregate welfare are positive in the short run, and these two variables increase further in the long run. The head-count poverty also declines by 0.50 percentage point compared to the business as usual (BAU) scenario in the short run and it declines further by 0.61 percentage point in the long run. Both imports and exports have positive growth and the particularly the growth of exports is quite high both in the short and long run. Consumer price indices both in the rural and urban areas increase, but the magnitudes are less than the increases in the skilled and unskilled wage rates. The increase in the unskilled wage rate is higher than the skilled wage rate. Finally, the capital rental rate in the non-agricultural sector increases more than that in the agricultural sector.

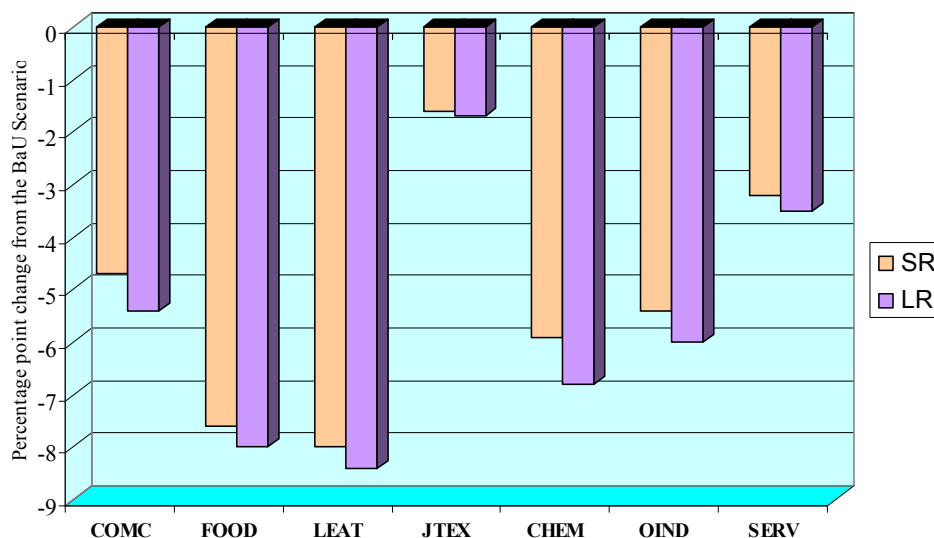
**Figure 3: RMG Export Growth under DFQF Scenarios
(percentage point change from the BAU scenario)**



Source: Simulation Results

Note: SR and LR refer to years 2006 and 2020 respectively.

Figure 4: More Concentration of the Export Basket? (export growth of other sectors under DFQF1)



Source: Simulation Results

Note: COMC = Commercial Crops; FOOD = Other food; LEAT = Leather; JTEX = Jute textile; CHEM= chemicals and fertilizer; OIND= other industries; SERV= services. SR and LR refer to years 2006 and 2020 respectively.

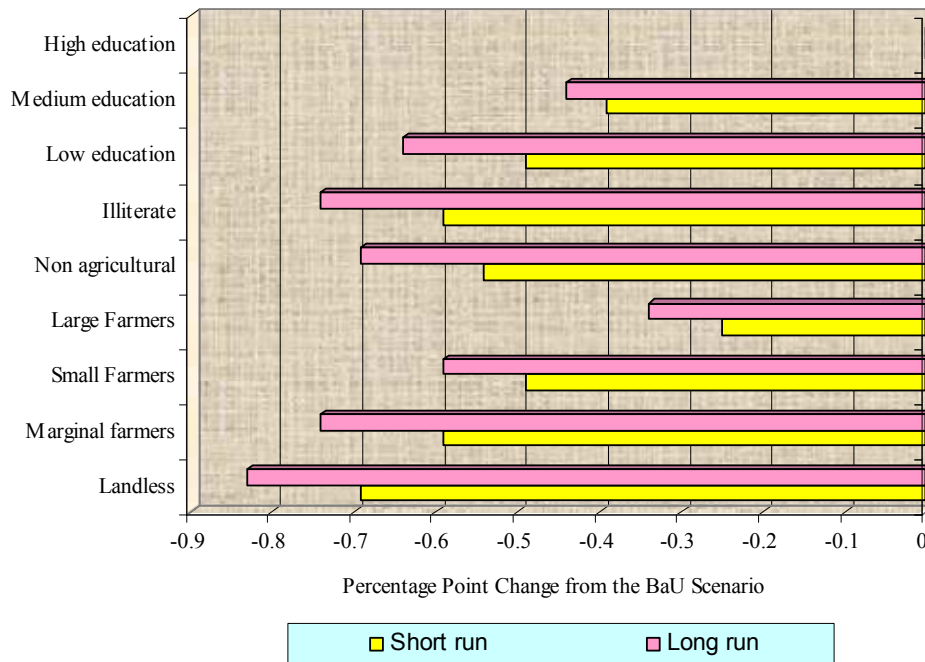
The sectoral price and volume effects are presented in annex Tables A5 and A6 and in Figures 1 and 2. The expansions of the woven and knit RMG sectors are quite remarkable. Figure 1 suggests that the exports of the woven RMG sector increases by 19 percentage points and 27 percentage points in the short and long runs respectively. The knit RMG exports also increases by 17 percentage points and 21 percentage points in the short and long run respectively. It is also evident from annex Table A6 that all the agricultural, most industrial sectors and service sector contract. However, as a result of the expansion of the woven and knit RMG sectors the textile sector expands as the demand for the raw materials for the two RMG sectors increases. Because of the expansion of the woven and knit RMG sectors and the textile sector, resources move from other agricultural, industrial and service sectors to these expanding sectors.

It is also induced by the fact that, in the short run, the rates of return to capital in these sectors are also high compared to other sectors in the economy. As Bangladesh dynamic model takes into account the both the efficiency and accumulation effects, the expansions of the woven and knit RMG sectors and the textile sector are more prominent in the long run. One important outcome of the DFQF1 scenario is that, apart from the knit and woven RMG sectors, all other export-oriented sectors suffer from negative growth (see Figure 2). It thus follows that because of the DFQF1 scenario the export basket in Bangladesh is likely to be more concentrated as the share of woven and knit RMG sectors increase and the shares of other export items fall in total exports.

The impacts on households' income, consumer prices and welfare are reported in Annex Table A12. It appears that all the households experience increase in income and the rise in incomes are more prominent for the poorer households as the wage rate of the unskilled labour increases more than the skilled wage rate and the capital rental rates. Also, the expansion of the unskilled labour-intensive export oriented woven and knit RMG sectors contributes to the relatively higher rise in incomes of the poorer households. All households enjoy increase in real consumption and thus welfare measured in Equivalent Variation (EV). It also appears that the poorer households enjoy higher welfare gains than the richer households.

Table 8 and Figure 3 show the impact of DFQF scenarios on the poverty profile of the households. Poverty measures show decline in poverty for all household categories both in the short and long run. The long run declines in poverty measures are more prominent than those under the short run. Head-count poverty in the rural area fall by 0.51 and 0.64 percentage points in the short and long run respectively. In the urban area the corresponding figures are 0.49 and 0.61 percentage points. Also, the poverty depth and poverty severity are reduced in the rural and urban areas under both the short and long run. Figure 3 suggests that the fall in head-count poverty is the highest for the landless households in the rural area and for the illiterate households in the urban area.

Figure 5: Short and Long Run Impacts of DFQF1 Scenario on Households' Head-count Poverty



Source: Simulation Results.

Using the information from Table 7 and taking into account the population projection of Bangladesh, the numbers of new households in the rural and urban areas, who are likely to graduate from poverty under the DFQF scenarios, are estimated (see Table 8). It appears that DFQF1 scenario can lead to a situation where significant numbers of rural and urban households can get rid of poverty.

Table 8: Impact of the DFQF Scenarios on Poverty Numbers

Scenario	Year	Percentage point reduction in Rural Head-count Poverty Rate	Reduction in the number of Rural Poor households	Percentage Point Reduction in Urban Head-count Poverty Rate	Reduction in the number of Urban Poor households
DFQF1	SR	-0.51	114,240	-0.49	27,440
	LR	-0.64	204,800	-0.61	48,800
DFQF2	SR	-0.56	125,440	-0.53	29,680
	LR	-0.70	224,000	-0.66	52,800
DFQF3	SR	-0.41	91,840	-0.40	22,400
	LR	-0.52	166,400	-0.49	39,200

Source: Authors' calculation based on the simulation results.

The macroeconomic impacts of the DFQF2 scenario are very much similar to those under the DFQF1 scenario (see Table 7 and 8). However, the impacts are more favourable to the economy. The magnitudes of the increases in real GDP and aggregate welfare are higher than those under DFQF1. Also, the growth of imports and exports are more profound under DFQF2 scenario. The fall in the head-count poverty – both in the short and long run – are more prominent in this scenario. The pattern of the changes in the CPIs, wage rates and the capital rental rates are the same as in DFQF1 but the magnitudes are higher.

The sectoral impacts are much similar to those under the scenario DFQF1 (see Annex Tables A7 and A8 and Figure 1). However, the expansions of the woven and knit RMG sectors and the textile sector are more prominent under the current scenario. On the other hand, most of the other export-oriented sectors suffer from negative export growth. The resources are reallocated from the agricultural and other manufacturing and service sectors to the expanding woven and knit RMG sectors and textile sectors.

The income and welfare impacts on the households under this scenario are also very much comparable to those under DFQF1 (see Annex Table A12). Again, the poorer households, who depend mostly on unskilled labour income, benefit more than the other households as the wage of unskilled labour increases and there is an expansion of the unskilled labour-intensive export oriented RMG sectors. Poverty impacts of this scenario indicate a better picture compared to those under DFQF1 scenario (see Table 8 and Figure 3). It appears that the poverty of the poorer households decline more as Bangladesh gain DFQF market access not only to the developed countries but also to the advanced developing countries.

The pattern of the macroeconomic impacts under DFQF3 scenario are also similar to those under the previous two scenarios, however the magnitudes of the impacts are the smallest among the three scenarios (see Table 7). However, it appears that even under DFQF3 scenario the positive impacts on real GDP, aggregate welfare, and poverty reduction are noticeable.

At the sectoral level, the DFQF3 scenario also generates high export growth of the woven and knit RMG sectors and the associated expansion of the textile sector (see Annex Table A6, A7 and Figure 2). It appears that even a DFQF market access in the US can lead to an export growth of the RMG sectors almost as high as the growth under the DFQF1 and DFQF2 scenarios. The income and welfare effects are also similar as under the DFQF1 and DFQF2 scenarios, though the impacts are smallest in magnitudes (see Table 8). Again the poorer households turn out to be largest gainers.

The impacts on poverty measures are also prominent under this scenario, and the pattern is the same as in DFQF1 and DFQF2 scenarios (see Table 7 and Annex Table A12). The numbers of households in the rural and urban areas, who can get out of poverty, are very significant (though lower than under DFQF1 or DFQF2 scenarios). It thus can be argued that a DFQF market access only the US can lead to important poverty reduction in Bangladesh.

3. SAFTA: Living in a World of Regional Trade Agreements

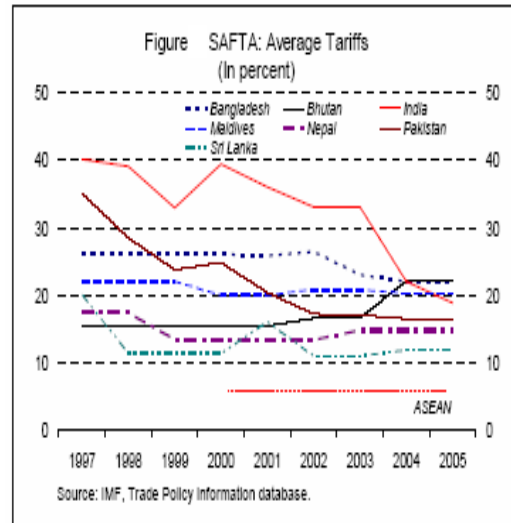
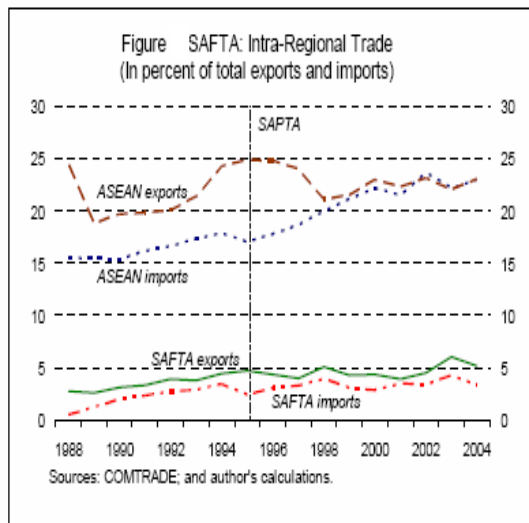
Regional trade agreements (RTAs) have emerged as an alternative to achieve trade liberalisation as multilateral efforts have faced political and economic obstacles. The difficulties of reaching agreements on sensitive issues like agriculture and services have been evident in the Doha Round. The previous rounds were also marked by complex and slow negotiation processes. For one, as the number of participants increase, it has been more difficult to address each country's demands for special considerations.

RTAs convey advantages as well as limitations. By reducing the number of participants in the negotiation they can help expand the discussion to include more dimensions of economic integration. Compared with unilateral liberalisation, political support for RTAs also seems to be greater given the perception of reciprocity from other member countries. However, since the early work of Viner (1950), these benefits have been weighted against distortions that RTAs can create. By *de facto* discriminating against non-members, RTAs distort resource allocation, favouring regional producers to the potential detriment of local consumers. Recent research also emphasises the global consequences of multiple and overlapping RTAs in terms of the transaction costs they impose (Feridhanusetyawan, 2005).

Although RTAs have varied components, these agreements include some or all of the following eight elements (Bhagwati and Panagariya, 1996): (i) a tariff liberalisation programme (TLP) and transformation of non-tariff barriers (NTBs), e.g. quotas, to their tariff equivalent and the sequential reduction of tariffs; special considerations to LDCs are not uncommon; (ii) sensitive lists (goods or services to be exempt from the tariff reduction programme); (iii) rules of origin (RoO), i.e. prevention of the application of the preferential tariffs to non regional goods or services as defined by the agreement; (iv) institutional arrangements, i.e. establishment of a council or administrative committee responsible for the administration and implementation of the agreement; (v) trade facilitation policies, i.e. collection of instruments to reduce transaction costs of importing and exporting, including homogenisation of customs practices and technical assistance specially to the LDC members; (vi) dispute settlement mechanism, i.e. procedures to report and deal with violations to the agreement; (vii) safeguards measures, i.e. suspension of preferential treatment on grounds

that imports are causing or threatening to cause serious injury to the domestic industrial base; and (viii) parallel reduction in foreign investment barriers and/or trade in services.

South Asia (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) has been involved in setting up its own RTA. The South Asian Association for Regional Cooperation (SAARC) was formed in 1985 with the objective of exploiting “accelerated economic growth, social progress and cultural development in the region” for the welfare of the peoples of South Asia (SAARC Secretariat, 2006). In 1995, its corresponding RTA SAARC Preferential Trading Arrangement (SAPTA) came into force. South Asian Free Trade Agreement (SAFTA) has been ratified and entered into force in mid-2006. At present, South Asia combines a low level of regional integration—especially among its largest members.



3.1 Welfare Gains from SAFTA

SAFTA is expected to increase regional trade (trade creation) but may do so at the expense of trade flows from more efficient non regional suppliers (trade diversion). Baysan and others (2006) argue that it is unlikely that the most efficient suppliers of the member countries are within the region. Based on that and on the restrictiveness of SAFTA’s sensitive lists and RoO, it concludes the economic merits of SAFTA are “quite weak.” Using the static general equilibrium methodology, Bandara and Yu (2003) find that the full elimination of trade barriers between South Asian countries would increase the welfare level of India (by 0.2 percent) and Sri Lanka (by 0.03), but decrease the welfare level of Bangladesh (by 0.1 percent). Extending the agreement to ASEAN would decrease welfare of all South Asian countries, but would increase it for an extension to North American Free Trade Agreement (NAFTA) or EU (except for the rest of South Asia, which loses if it is extended toward EU).

Srinivasan (1994) also forecasts the effects of SAFTA. He uses total (exports plus imports) bilateral trade flows as the dependent variable. Given data restrictions, the analysis is limited to Bangladesh, India, Nepal, Pakistan, and Sri Lanka. It concludes that Bangladesh and Nepal would gain the most from the full elimination of tariffs among South Asian members. India, Pakistan, and Sri Lanka would have only marginal benefits but would enjoy larger gains if there were a liberalisation agreement with the European Economic Community (EEC).

Evaluating the cost and benefits of an RTA requires a quantitative framework incorporating avenues through which the agreement affects variables of interest. The literature on RTAs and trade agreements has focused on two main variables: welfare and trade flows (exports and/or imports). To establish the welfare consequences of an RTA, static general equilibrium models have been used. These models offer a clear and specific mapping of economic variables (e.g., welfare, GDP, employment) from the decisions of representative consumer and producer of each sector.

However, their forecasting power is somewhat limited given that they use actual data from a single year called the base year (Baysan and others, 2006). To study the effects of RTAs on trade flows, typically the gravity equation approach is used. In its simplest version, it postulates a relationship between the “mass” (GDP) of two countries and their trade flows. In practical terms, the approach offers a “conditional general equilibrium” relation (Anderson and van Wincoop, 2004) in which bilateral trade is modeled as independent of trade flows with third party countries.

3.2 Measuring Trade Effects

Gravity equations have also been used to measure unobserved trade barriers, to discriminate between theoretical trade models, and to analyse the effects of trade policies (either in an ex-post or ex-ante fashion). The latter has been subject to critiques and refinements (e.g., Carrère, 2006) among the most important being that for the gravity equation analysis to be appropriate one needs to assume (or “condition on”) that the policy changes being considered do not modify the basic relation between countries’ masses and their trade flows. Given the relative small size of South Asian countries in the world markets such an assumption appears not to be problematic for the scenarios considered here. In summary, the general equilibrium approach offers the possibility of answering a richer set of questions but demands data not readily accessible for some of the countries we are interested in. Although the evaluation of the benefits and limitations of each methodology is beyond the scope of this paper it can be argued that they are complementary rather than substitutes.

This paper uses a gravity equation approach and builds on Srinivasan (1994). In particular, it allows the response to trade barriers to differ by source of the goods; treats independently imports and exports of each country pair; and includes all seven members of SAFTA in the analysis. Two versions of the gravity equation were estimated in which: (i) the responsiveness of imports to changes in tariffs was allowed to vary by sources; and (ii) the responsiveness of imports to changes in tariffs was restricted to be the same cross sources. Both model specifications confirm the overall success of the gravity equation in explaining trade patterns. The standard gravity equation variables, distance and the mass of the countries, have the expected signs and are significant.

Using the estimated modified gravity model, two sets of scenarios were simulated. These scenarios examine: (i) the impact of SAFTA tariff rates; and (ii) the extension of SAFTA to trade agreements with other RTAs. In the first set, all tariffs between South Asian countries are bounded above by five percent, the upper limit of the goal of SAFTA’s TLP. In the second set, South Asia and the corresponding block (NAFTA, ASEAN EU or Plus 3) grant

each other a 50 percent reduction in tariffs on a preferential basis. These scenarios are meant to be illustrative. They illustrate the potential impact of the implementation of SAFTA's TLP and of other RTAs. While the final composition of each RTA would be outcome of an extensive negotiation process, the simulations shed light on the *relative* impact of a similar tariff reduction programme across different groups of countries. The 50 percent reduction is a useful benchmark in that SAFTA's TLP has an almost identical quantitative effect as a 50 percent tariff reduction among SAFTA members (labeled SA+). As the *status quo*, the latest trade and tariffs data available for each country pair were used.

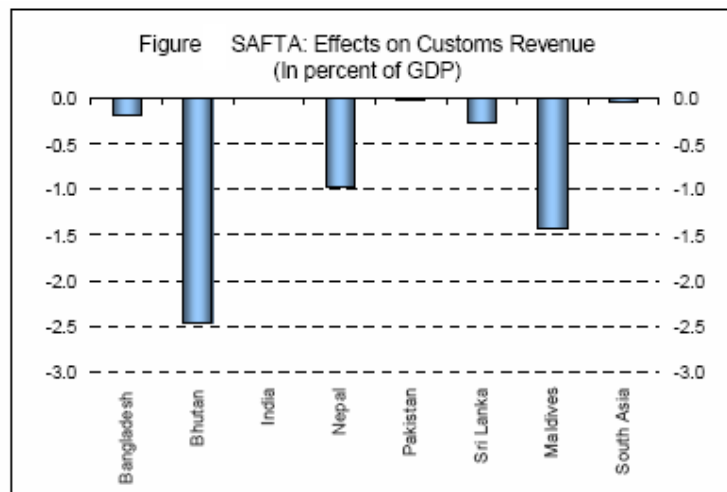
	New Exports	New Imports	New Trade Flow
Bangladesh	0.66	18.64	19.31
Bhutan	0.84	3.58	4.41
India	38.89	7.54	46.43
Nepal	4.69	11.23	15.91
Pakistan	3.26	1.51	4.77
Sri Lanka	1.71	5.27	6.98
Maldives	0.09	2.10	2.19
South Asia	50.15	49.85	100.00

Source: Author's simulations.

In the simulations (see Table 9), the SAFTA TLP influences regional trade flows mainly by increasing India's exports, and imports from Bangladesh and Nepal. Of every US\$100 of new trade flows (exports + imports), less than US\$20 originates within the other four members (Bhutan, Maldives, Sri Lanka, and Pakistan). As in Srinivasan (1994), for trade flows generated by SAFTA as a share of individual country's GDP, only the smallest countries obtain significant increases: Bhutan and Maldives experience increases in trade flows equivalent to two and one percent of GDP, respectively; India, Bangladesh, Pakistan and Sri Lanka see trade flows increases of less than 0.25 percent of GDP.

Two points deserve mention. First, Bhutan and Maldives currently impose the highest average tariff on their neighbors so that the imposing a five percent upper bound represent a large adjustment in their trade policies. Secondly, the current trade structure of South Asian countries varies considerably. Bhutan, Bangladesh and, to a lesser extent, Maldives depend on their neighbours both as source of imports and as markets for their exports. These results illustrate the role of the existing distribution of trade flows and current levels of trade barriers as determinants of the effects of tariff reductions proposed by the TLP.

SAFTA would affect customs revenue in a similar fashion. Small countries could find their tariff collection decrease by up to 2.5 percent of GDP (for Bhutan), while India and Pakistan may experience no significant change. It is important to note that these estimates ignore possible gains from trade facilitation such as homogenisation and simplification of customs administration and incentives to promote formal trading. Recent tax reforms in the region as well as in other developing countries illustrate that difficulties in adjusting the tax system to compensate for tariffs losses can be significantly eased if technical changes are matched by strong political commitment (IMF, 2006). Thus, India which has progressively dismantled trade barriers since 1991-92, has recouped a significant portion of the tariff loses via improvements in overall tax productivity (Poirson, 2006).



Two features of South Asian countries' trade pattern generate the result that looking outside the region to form RTAs would be beneficial. First, except for Bhutan and Nepal, South Asian countries rely more heavily on non regional partners for their trade relations. Second, on average, South Asian countries have a more restrictive trade policy toward non-regional partners. In fact, three out of the seven countries apply lower tariffs to SAFTA members than to any other bloc. The results of the simulation are provided for three indicators (trade flows, trade balance and customs revenue) for South Asia as an aggregate and for individual countries in South Asia. The relative attractiveness of each hypothetical RTA varies across individual countries.

4. Economic Partnership Agreements: Assessing Potential Implication from Some Alternative Scenarios

Since the establishment of the EEC in 1957 and the decolonisation process, the EU, and the group of the African, Caribbean and Pacific (ACP) countries have established a privileged relationship among themselves. Under the Yaoundé agreements (1963-1969; and 1969-1975), and four successive Lomé Conventions (1975-2000), such a relationship has been further fostered. Under these agreements, the EU has granted, on a non-reciprocal basis, a preferential market access to ACP imports (almost free market access on most of the imports into EU from ACP countries).

This has also been accompanied by a substantial development aid component. In 2000, with the signing of the Cotonou Agreement – the successor to Lomé IV Convention – the ACP countries (six ACP regions: Central Africa, East and Southern Africa, Southern Africa, West Africa, the Caribbean and the Pacific) and the EU agreed to enter into a new phase of negotiations, namely economic partnership agreements (EPAs). In principle, EPAs are envisaged to establish free trade agreements (FTAs) between the EU and ACP regions. EPA negotiations started in September 2002 and should come into force by January 01, 2008. One of the major objectives of the EPAs is to harmonise the trade integration process of the region with replacing the non-reciprocity rules of the Lomé Agreement by reciprocal arrangements in compliance with the WTO rules.

Concerns have, however, been raised whether EPA would be beneficial for the ACP countries on grounds of several reasons. Firstly, since the ACP countries were already enjoying trade preferences to the EU, reciprocal arrangements under the EPA could imply surges in EU exports into the region triggering adjustment costs for a range of local industries. Many ACP members are also critically dependent on trade taxes for government revenues. Since ‘reciprocity’ is intended to be a feature of an EPA, requiring ACP countries to remove their tariffs on ‘substantially all’ imports from the EU, the new arrangement could result in considerable loss in government revenues in the absence of any new fiscal measure thereby jeopardising the provisioning some critical public services.

Secondly, an important issue in the on-going EPA negotiations is the need for addressing the concerns of the LDCs. There are concerns that EPA outcomes would reduce the current preferences enjoyed by these countries on the one hand, and result in their reciprocating with trade preferences to EU suppliers on the other. At present under the *Everything But Arms* (EBA) arrangement all LDCs are eligible to DFQF market access to EU market without needing them to reciprocate. Therefore, if, under the EPA, the participating countries are required to reciprocate, in terms of market access, LDCs will likely to be better-off with the existing mechanism of EBA, since Commission negotiators have not confirmed that the EPA will provide at least the benefits of EBA. That is why some suggest that additional benefits must be provided to make EPAs attractive to LDCs. The issue of additional incentives is often linked to the demand for introducing the development dimensions into the EPAs, which would be beneficial to LDC and non-LDC participating members.

Furthermore, there are concerns about the impact of EPA on the currently existing regional integration schemes, particularly in Africa. Both parties negotiating EPAs – the EU and the ACP – appear to agree that regional integration in ACP is desirable. Currently, the ACP countries give a lot of emphasis on their regional schemes as these are sometimes viewed as ‘stepping stones’ towards a successful global integration process. The negotiating arrangements and views subscribed by the EU negotiators seem to suggest that EPA outcomes are being foreseen as beneficial to internal trade amongst the African countries (see Annex Table A10) within the regional trading blocs. However, there are concerns about EPA’s impact on regional trade.

In the above backdrop, the present study assesses economic impacts of the trade liberalisation aspects of the proposed EPAs between the EU and ACP countries. While a number of issues make the task of impact assessment of any kind of partnership arrangement very complicated, a quantitative assessment of the likely implications of EPAs establishing FTAs between the EU and the ACP countries would be very useful. In this context, the present study, using a global database and a global general equilibrium modeling technique, explores the possible outcomes of different scenarios of EPAs, and analyses relevant policy implications of the EPA negotiations.

4.1 Simulation Design

This study explores the impacts of the following four scenarios:

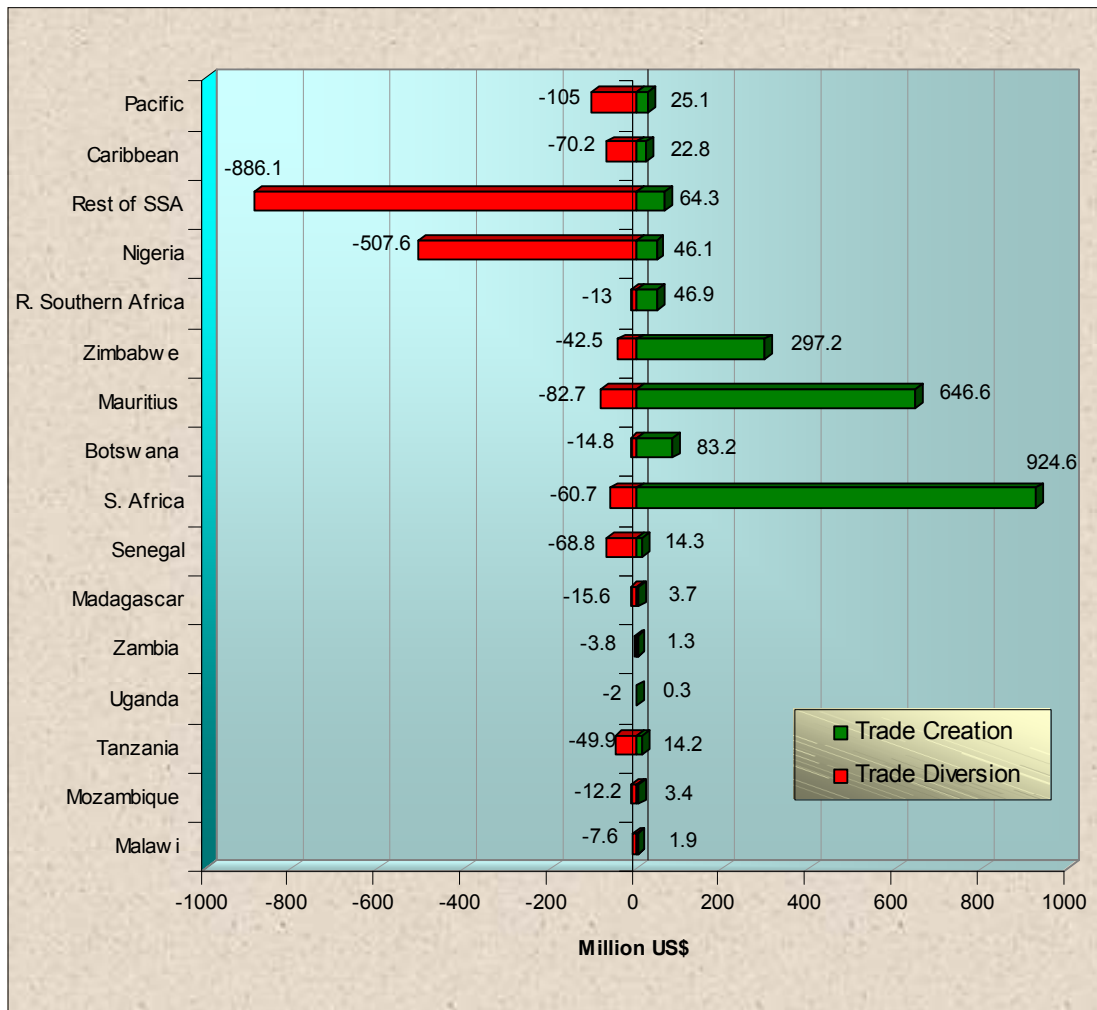
Simulation 1: A full FTA between the EU and the ACP countries – all tariffs on the EU-ACP trade are eliminated (see Figure 9).

Simulation 2: ACP countries eliminate their tariff by 75 percent on all imports from the EU, while the EU grants 100 percent duty-free access to ACP products to its market.

Simulation 3: This is similar to simulation 2 except that ACP countries now reciprocate tariff elimination by only 50 percent on all imports from the EU.

Simulation 4: GSP Option – The ACP countries leave their tariffs unchanged, while the EU increases its tariffs on imports from the ACP non-LDC countries to the level of the GSP.

Figure 9: Trade Creation and Trade Diversion Effects of Simulation 1 (in US\$ Million)



Source: Authors' estimates based on simulation results.

4.2 Policy Implications

- The issue of development dimension in the EPA
- Alternatives to EPAs?
- Argument for increased investment flows into the ACP countries
- Can mode 4 - type of arrangement be considered to increase welfare?
- Adjustment costs of EPAs
- WTO negotiations on NAMA and Agricultural Liberalisation

4.3 Summary and Conclusions

This paper has evaluated the possible effects of the EPAs using a global general equilibrium modeling framework, namely the GTAP model. The latest version of the GTAP database (version 6.22) has been employed as a benchmark database. The study has explored the implications of different EPA scenarios (in terms of changes in GDP, exports, and other measures for welfare) for ACP countries (both developing and LDCs), based on the sample of countries in the database. The major findings of the research are as follows:

- Full FTA between EU and the ACP countries (simulation 1) will generate significant welfare losses for a number of ACP countries. Especially the ACP LDCs will suffer from preference erosion in the EU market. There are also significant trade diversion effects for many of the ACP countries. Many ACP countries also suffer from negative terms of trade shock and decline in their real GDP. However, a few ACP non-LDCs stand to welfare gains.
- Most of the ACP countries seem to be better off with the scenarios depicting less than full reciprocity (simulation 2 and 3) as these two scenarios lead to less welfare losses compared to those under full FTA scenario (simulation1). Although, these two scenarios result in unfavourable effects on terms of trade and on real GDP for many ACP countries, such effects are less prominent compared to those under full FTA scenario.
- The GSP option (simulation 4) favours the ACP LDCs as it increases their preference margins in the EU market, but generates some negative welfare effects for the ACP non-LDCs.

The upshots of the aforementioned discussion point us to the fact that, in comparison to simulation 1 (the full FTA scenario), simulations 2 and 3 (the scenarios depicting less than full reciprocity) generate favourable outcomes for most of ACP countries in terms of the effects on their welfare, real GDP and terms of trade. These findings support the case of less than full reciprocity as opposed to full FTA under the EPA negotiations. Therefore, full FTA scenario under EPA may not be the best option for many ACP countries.

Several areas of the negotiations of trade liberalisation under EPAs demand careful consideration with respect to the development concerns of many of the ACP countries. As full reciprocity of tariff liberalisation may have negative welfare implications for many LDCs and developing countries in the ACP region, and as EPA has not been able to be envisaged as

a better option than the existing GSP or EBA facilities, there is a need for further negotiations.

There is no denying that incorporation of the development dimensions in the EPA negotiations, further promotion of intra-ACP trade, providing market access in the EU by liberalising the service sector in the categories which are of export interests of the ACP countries (especially Mode 4 liberalisation), providing effective technical and financial assistance under the programme of 'aid for trade' to compensate the possible large adjustment costs and allowing a reasonably longer time span for the ACP countries for the full implementation of EPA should be considered with high priorities in order to subside the possible welfare reducing impacts of the ongoing EPA negotiations.

Annexure

Data Aggregation and Armington Elasticities

Table A1. Country/Region and Industry Aggregations Used in the Model

Country/region	Industry
Bangladesh	Agriculture and food
United States	Mining
European Union	Textiles
Other advanced countries	Clothing
Asian newly industrialized	Other manufacturing
ASEAN	Services
China	
South Asia	
Middle East and North Africa	
Latin America	
Sub-Saharan Africa	
Rest of the world	

Table A2. Central Scenario Elasticities of Substitution in Demand for Goods

Commodity	Elasticity of substitution between domestic goods and imports	Elasticity of substitution between imports by country of origin
Agriculture and food	2.4	4.7
Mining	2.8	5.6
Textiles	2.2	4.4
Clothing	4.4	8.8
Other manufactures	2.9	6.0
Services	1.9	3.9

Source: Based GTAP database version 5.

Table A3: Commodity Aggregation in the GTAP model

Constructed broad sectors	Commodities included
Cereal	Paddy rice; Wheat; Cereal grains nec.
Vegetables	Vegetables, fruit, nuts.
Oil seeds	Oil seeds.
Sugar	Sugar cane, sugar beet.
Cotton	Plant-based fibers.
Other crops	Crops nec.
Livestock	Cattle, sheep, goats, horses; Animal products nec; Raw milk; Wool, silk-worm cocoons.
Natural resources	Forestry; Fishing; Coal; Oil; Gas; Minerals nec.
Agro processing	Meat: cattle, sheep, goats, horse; Meat products nec; Vegetable oils and fats; Dairy products; Processed rice; Sugar; Food products nec; Beverages and tobacco products.
Textile	Textiles.
Wearing apparels	Wearing apparel.
Light manufacturing	Leather products; Wood products; Paper products, publishing.
Industry	Petroleum, coal products; Chemical, rubber, plastic prods; Mineral products nec; Ferrous metals; Metals nec; Metal products; Motor vehicles and parts; Transport equipment nec; Electronic equipment; Machinery and equipment nec; Manufactures nec.
Services	Electricity; Gas manufacture, distribution; Water; Construction; Communication; Financial services nec; Insurance; Business services nec; Recreation and other services; PubAdmin/Defence/Health/Educat; Dwellings.
Trade	Trade; Transport nec; Sea transport; Air transport.

Table A4: Region Aggregation in the GTAP Model

Aggregated regions	Comprising regions
EU	Austria; Belgium; Denmark; Finland; France; Germany; United Kingdom; Greece; Ireland; Italy; Luxembourg; Netherlands; Portugal; Spain; Sweden, Croatia; Cyprus; Czech Republic; Hungary; Malta; Poland; Romania; Slovakia; Slovenia; Estonia; Latvia; Lithuania
Malawi	Malawi.
Mozambique	Mozambique.
Tanzania	Tanzania.
Uganda	Uganda.
Zambia	Zambia.
Madagascar	Madagascar.
Senegal	Senegal.
South Africa and Rest of South African Customs	South Africa; Rest of South African Customs
Botswana	Botswana.
Mauritius	Mauritius.
Zimbabwe	Zimbabwe.
Rest of Southern Africa	Rest of Southern African Devel.
Nigeria	Nigeria.
Rest of SSA	Rest of Sub-Saharan Africa.

Aggregated regions	Comprising regions
Caribbean	Rest of the Caribbean.
Pacific	Rest of Oceania.
All other regions	Australia; New Zealand; China; Hong Kong; Japan; Korea; Taiwan; Rest of East Asia; Cambodia; Indonesia; Malaysia; Philippines; Singapore; Thailand; Viet Nam; Rest of Southeast Asia; Bangladesh; India; Pakistan; Sri Lanka; Rest of South Asia; Canada; United States of America; Mexico; Rest of North America; Bolivia; Colombia; Ecuador; Peru; Venezuela; Argentina; Brazil; Chile; Paraguay; Uruguay; Rest of South America; Central America; Rest of Free Trade Area of Ame; Switzerland; Rest of EFTA; Rest of Europe; Albania; Bulgaria; Russian Federation; Rest of Former Soviet Union; Turkey; Iran, Islamic Republic of; Rest of Middle East; Egypt; Morocco; Tunisia; Rest of North Africa.

Table A5: Structure of Production (Sectoral Shares in Total Production)

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.06	0.03	0.09	0.04	0.03	0.05	0.03	0.01	0.01	0.00	0.01	0.02	0.02	0.04	0.0	0.0
Vegetables	0.02	0.03	0.03	0.20	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.10	0.03	0.0	0.0
Oil seeds	0.01	0.00	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0	0.0
Sugar	0.00	0.00	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.01	0.0	0.0
Cotton	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.0	0.0
Other crops	0.20	0.04	0.07	0.03	0.04	0.04	0.00	0.01	0.00	0.00	0.07	0.02	0.00	0.05	0.0	0.0
Livestock	0.01	0.01	0.02	0.05	0.02	0.08	0.04	0.02	0.02	0.01	0.04	0.03	0.02	0.03	0.0	0.0
Nat resources	0.03	0.03	0.06	0.04	0.05	0.10	0.04	0.06	0.01	0.02	0.04	0.23	0.32	0.09	0.0	0.10
Agro processing	0.10	0.07	0.16	0.07	0.10	0.22	0.16	0.07	0.11	0.11	0.14	0.10	0.01	0.12	0.1	0.10
Sub total: Agri and Agro-processing	0.43	0.21	0.48	0.45	0.27	0.51	0.31	0.18	0.16	0.19	0.34	0.41	0.47	0.39	0.10	0.20
Textile	0.01	0.00	0.01	0.00	0.02	0.04	0.00	0.02	0.00	0.09	0.04	0.02	0.01	0.01	0.0	0.0
Wearing apparels	0.02	0.00	0.02	0.00	0.01	0.03	0.01	0.00	0.00	0.08	0.01	0.00	0.01	0.01	0.0	0.0
Light manufacturing	0.03	0.01	0.02	0.01	0.02	0.04	0.02	0.04	0.02	0.02	0.02	0.02	0.02	0.03	0.0	0.0
Industry	0.09	0.10	0.07	0.03	0.21	0.10	0.09	0.26	0.32	0.12	0.14	0.17	0.09	0.10	0.2	0.10
Sub total: Industries	0.15	0.11	0.12	0.04	0.26	0.21	0.12	0.32	0.34	0.31	0.21	0.21	0.13	0.15	0.20	0.10
Services	0.18	0.44	0.20	0.33	0.30	0.23	0.32	0.33	0.37	0.37	0.32	0.21	0.24	0.28	0.4	0.50
Trade	0.24	0.24	0.20	0.17	0.19	0.05	0.24	0.18	0.13	0.14	0.16	0.16	0.17	0.19	0.2	0.20
Sub total: Services and Trade	0.42	0.68	0.40	0.50	0.49	0.28	0.56	0.51	0.50	0.51	0.48	0.37	0.41	0.47	0.60	0.70
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs

Table A6: Structure of Exports (Sectoral Shares in Total Exports)

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0
Vegetables	0.02	0.01	0.05	0.02	0.01	0.03	0.02	0.03	0.00	0.00	0.02	0.00	0.00	0.0	0.0	0.0
Oil seeds	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0
Sugar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0
Cotton	0.01	0.01	0.03	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.07	0.00	0.00	0.0	0.0	0.0
Other crops	0.64	0.03	0.15	0.34	0.04	0.13	0.01	0.01	0.00	0.00	0.32	0.00	0.01	0.10	0.0	0.0
Livestock	0.00	0.00	0.02	0.03	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.0	0.0	0.0
Nat resources	0.03	0.03	0.04	0.10	0.00	0.06	0.08	0.11	0.02	0.02	0.04	0.65	0.87	0.30	0.0	0.20
Agro processing	0.09	0.10	0.14	0.12	0.04	0.18	0.30	0.06	0.03	0.16	0.07	0.04	0.01	0.10	0.10	0.10
Sub total: Agri and Agro-processing	0.79	0.18	0.45	0.67	0.10	0.42	0.43	0.23	0.05	0.19	0.53	0.69	0.89	0.50	0.10	0.30
Textile	0.01	0.00	0.03	0.01	0.03	0.24	0.01	0.02	0.01	0.17	0.02	0.00	0.00	0.0	0.0	0.0
Wearing apparels	0.05	0.00	0.02	0.00	0.00	0.24	0.00	0.01	0.01	0.19	0.02	0.00	0.00	0.0	0.10	0.0
Light manufacturing	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.06	0.01	0.01	0.03	0.00	0.01	0.10	0.0	0.0
Industry	0.03	0.37	0.25	0.11	0.75	0.06	0.21	0.59	0.85	0.10	0.23	0.21	0.02	0.20	0.40	0.30
Sub total: Industries	0.10	0.37	0.31	0.13	0.79	0.55	0.24	0.68	0.88	0.47	0.30	0.21	0.03	0.30	0.50	0.30
Services	0.06	0.38	0.07	0.09	0.10	0.03	0.20	0.04	0.04	0.14	0.10	0.06	0.05	0.10	0.20	0.20
Trade	0.05	0.07	0.17	0.12	0.02	0.02	0.13	0.07	0.04	0.22	0.08	0.04	0.02	0.10	0.10	0.10
Sub total: Services and Trade	0.11	0.45	0.24	0.21	0.12	0.05	0.33	0.11	0.08	0.36	0.18	0.10	0.07	0.20	0.30	0.30
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs

Table A7: Structure of Imports (Sectoral Shares in Total Imports)

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.02	0.02	0.03	0.02	0.02	0.00	0.02	0.00	0.01	0.01	0.00	0.0	0.0	0.0	0.0	0.0
Vegetables	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.0	0.0	0.0	0.0	0.0
Oil seeds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Sugar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Cotton	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.0	0.0	0.0	0.0	0.0
Other crops	0.04	0.02	0.01	0.00	0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.0	0.0	0.0	0.0	0.0
Livestock	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.0	0.0	0.0	0.0	0.0
Nat resources	0.01	0.00	0.00	0.02	0.05	0.01	0.07	0.07	0.01	0.01	0.01	0.0	0.0	0.0	0.0	0.0
Agro processing	0.09	0.14	0.09	0.07	0.07	0.08	0.19	0.05	0.10	0.10	0.04	0.1	0.1	0.1	0.1	0.1
Sub total: Agri and Agro-processing	0.16	0.19	0.13	0.11	0.16	0.09	0.32	0.14	0.14	0.15	0.06	0.10	0.10	0.10	0.10	0.10
Textile	0.06	0.03	0.04	0.02	0.02	0.19	0.04	0.03	0.02	0.15	0.04	0.0	0.1	0.0	0.0	0.0
Wearing apparels	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.00	0.0	0.0	0.0	0.0	0.0
Light manufacturing	0.07	0.04	0.04	0.05	0.05	0.04	0.05	0.05	0.09	0.05	0.04	0.0	0.0	0.0	0.1	0.1
Industry	0.60	0.48	0.54	0.48	0.63	0.43	0.47	0.63	0.59	0.45	0.56	0.4	0.6	0.6	0.6	0.6
Sub total: Industries	0.74	0.56	0.63	0.57	0.71	0.67	0.57	0.73	0.72	0.66	0.64	0.40	0.70	0.60	0.70	0.70
Services	0.07	0.18	0.13	0.23	0.05	0.16	0.06	0.07	0.10	0.13	0.23	0.3	0.1	0.1	0.1	0.1
Trade	0.04	0.08	0.11	0.10	0.09	0.08	0.05	0.06	0.04	0.08	0.07	0.1	0.1	0.1	0.1	0.0
Sub total: Services and Trade	0.11	0.26	0.24	0.33	0.14	0.24	0.11	0.13	0.14	0.21	0.30	0.40	0.20	0.20	0.20	0.10
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs.

Table A8: Ad Valorem Tariff Rates (%) on EU Imports into ACP Countries

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.0	2.3	20.0	2.6	5.0	0.2	5.0	16.1	0.0	0.0	15.0	0.0	5.0	6.3	0.6	0.0
Vegetables	0.0	21.9	14.1	14.6	14.0	8.7	19.5	6.7	0.0	4.3	16.3	2.8	77.0	21.2	19.4	0.9
Oil seeds	0.0	0.0	24.9	7.0	0.0	0.0	0.0	6.7	0.0	0.0	5.0	7.3	19.6	10.7	9.5	0.0
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4	0.0	0.0
Cotton	10.0	2.3	3.8	0.0	14.6	0.0	5.0	12.4	0.0	0.0	0.0	0.0	12.3	7.3	0.0	0.0
Other crops	13.4	2.8	4.9	9.2	9.6	5.5	5.6	3.7	0.7	11.5	21.2	18.9	23.2	9.0	8.7	27.2
Livestock	8.9	0.0	19.0	6.7	6.7	1.6	9.3	0.5	0.6	6.0	7.3	92.0	24.1	13.1	11.4	0.0
Nat resources	4.1	5.2	5.4	4.1	4.3	0.1	5.0	0.1	0.0	0.6	4.4	4.7	13.4	7.0	5.8	0.2
Agro processing	13.6	17.5	22.1	13.0	16.2	4.2	13.2	14.5	6.3	20.2	41.5	44.8	35.9	19.0	20.5	35.0
Textile	20.9	17.1	20.1	12.3	17.6	6.0	19.0	14.0	17.1	2.4	16.8	23.3	40.1	19.7	5.7	15.2
Wearing apparels	23.6	24.0	20.5	13.8	24.5	16.3	20.0	37.4	26.4	72.3	55.4	21.5	52.1	27.5	21.1	14.1
Light manufacturing	3.8	15.6	14.8	8.1	14.2	4.2	11.7	7.6	4.9	30.4	12.8	12.6	24.6	17.9	11.4	10.4
Industry	9.9	8.6	12.7	4.7	7.8	4.1	9.2	6.7	7.9	18.3	13.8	17.6	19.6	11.7	9.1	11.6
Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Av. Excluding Trade and services	8.3	9.0	14.0	7.4	10.3	3.9	9.4	9.7	4.9	12.8	16.1	18.9	26.7	14.8	9.5	8.8
Av. Including Trade and services	7.2	7.8	12.1	6.4	9.0	3.4	8.2	8.4	4.3	11.1	14.0	16.4	23.1	12.9	8.2	7.6

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs.

Table A9: Ad Valorem Tariff Rates (%) on Imports from ACP into EU

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African custom	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	12.7	0.1	0.0	1.5	2.4	0.0
Vegetables	0.0	0.0	0.0	2.6	0.0	0.3	0.0	10.6	1.4	4.2	4.0	7.6	1.6	13.6	30.5	4.8
Oil seeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.0	6.4	2.3	17.1	0.0
Cotton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other crops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Livestock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	1.1	0.0
Nat resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agro processing	91.6	0.3	4.7	0.0	85.4	1.2	0.0	31.8	71.7	77.4	96.5	0.0	0.1	2.0	44.4	77.4
Textile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
Wearing apparels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Light manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs.

Table A10: Average Ad Valorem Tariffs on Intra-ACP Trade (%)

		TO															
		Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African custom	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
FROM	Malawi	0.0	5.9	10.0	0.6	0.0	0.0	0.3	9.2	8.5	0.0	0.0	0.0	10.4	3.1	1.9	1.1
	Mozambique	5.2	0.0	0.5	0.0	2.8	0.0	0.0	7.5	0.2	9.3	9.8	0.0	0.0	3.0	1.5	0.0
	Tanzania	7.8	6.4	0.0	7.5	10.7	1.1	0.6	3.6	3.5	2.5	13.5	7.0	0.6	13.2	5.3	0.0
	Uganda	0.7	1.4	10.5	0.0	0.8	0.0	0.9	6.4	0.3	0.7	0.5	0.2	2.6	4.1	5.1	4.0
	Zambia	0.0	2.0	13.7	0.9	0.0	0.0	1.6	5.6	8.3	0.0	0.0	0.0	0.0	15.6	0.0	0.2
	Madagascar	0.0	1.1	0.4	0.0	0.0	0.0	1.8	7.0	0.0	0.0	0.0	11.8	0.0	3.1	4.3	0.0
	Senegal	3.3	0.9	5.2	0.5	1.5	0.6	0.0	5.8	0.0	1.0	1.0	0.0	7.6	7.1	0.3	0.0
	S. Afr. & rest of S. Afr.	8.1	9.6	13.6	7.7	10.0	3.6	6.7	0.0	0.0	5.8	19.0	19.1	23.4	14.3	9.6	5.7
	Botswana	5.9	0.3	3.8	0.9	11.6	0.0	0.0	0.0	0.0	1.4	12.7	0.0	0.7	2.9	0.8	0.0
	Mauritius	0.0	3.8	4.5	0.5	0.0	0.0	2.8	5.0	3.8	0.0	0.0	18.5	7.2	0.6	3.3	0.0
	Zimbabwe	0.0	6.1	13.4	0.9	0.0	0.0	2.8	8.1	10.2	0.0	0.0	13.3	0.3	4.4	12.0	0.0
	Rest of Soutn Afri	0.7	6.5	3.7	1.7	1.7	0.0	0.3	3.4	0.0	3.8	3.0	0.0	0.0	7.4	0.9	0.0
	Nigeria	7.1	1.1	5.4	3.1	4.7	0.0	5.7	4.3	3.6	6.2	6.7	0.0	0.0	12.2	2.9	0.0
	Rest of SSA	0.3	2.4	15.4	1.6	1.5	1.7	1.6	6.7	6.6	0.8	0.8	9.4	31.7	6.4	7.0	1.0
Caribbean	1.5	2.0	4.3	0.9	8.6	0.1	3.4	4.9	0.0	4.2	4.0	0.5	2.8	13.1	0.4	14.0	
Pacific	1.9	0.6	5.1	0.2	0.2	0.2	0.1	5.9	0.0	5.3	0.0	0.0	0.0	8.8	6.1	15.5	

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs.

Table A11: Average Commodity Tariffs in ACP Countries (%)

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African custom	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.0	1.2	7.2	1.2	2.1	0.4	0.8	3.7	2.3	0.0	1.8	2.2	2.5	7.0	0.4	0.7
Vegetables	3.0	4.5	6.3	3.1	5.4	0.8	4.0	2.5	1.9	1.7	5.9	3.1	15.5	12.8	8.9	6.7
Oil seeds	0.0	0.7	9.2	1.5	2.7	0.1	0.4	0.9	0.0	0.0	2.1	1.1	2.6	5.4	1.8	0.5
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	2.2	1.4	0.0
Cotton	1.1	0.1	0.8	0.6	2.1	0.0	0.5	4.8	0.0	0.0	0.4	0.3	1.1	2.2	0.0	0.0
Other crops	5.5	2.5	3.6	1.9	5.0	0.3	4.4	5.6	4.3	6.1	10.1	30.3	6.7	8.5	8.5	7.9
Livestock	1.5	0.9	9.7	2.1	2.3	0.7	1.0	0.1	0.0	0.6	2.8	7.0	5.7	6.3	1.6	2.4
Nat resources	0.4	0.9	3.5	1.0	1.1	0.0	1.1	0.6	0.0	0.3	1.7	3.1	2.8	6.6	1.0	0.1
Agro processing	5.9	6.2	14.4	4.0	6.5	1.0	3.5	11.3	14.1	9.1	10.5	11.3	16.1	12.9	14.9	9.3
Textile	6.8	7.7	12.3	3.6	6.2	1.2	7.5	16.0	9.5	4.7	9.8	6.4	14.3	13.5	2.8	6.3
Wearing apparels	8.8	12.7	15.6	4.2	10.0	3.9	4.3	31.8	13.8	11.2	20.2	10.6	13.9	19.1	11.8	7.2
Light manufacturing	7.6	7.5	12.3	3.9	10.5	1.5	4.3	6.3	2.0	7.5	8.2	6.6	11.8	13.4	5.9	6.0
Industry	7.4	8.0	12.4	4.3	5.4	1.5	6.6	3.2	2.5	10.8	7.1	8.2	14.9	9.4	8.6	2.6
Services	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs.

Table A12: Comparison of Welfare Effects of four Simulations (EV in Million US\$)

	Sim1	Sim2	Sim3	Sim 4
EU	2325.5	1681.4	738.6	-213.2
Malawi	-5.7	-4.4	-3.3	21.3
Mozambique	-8.8	-5.1	-4.2	23.4
Tanzania	-35.7	-20.7	-5.6	33.6
Uganda	-1.7	-1.1	-0.8	51.7
Zambia	-2.5	-1.8	-1.3	30.9
Madagascar	-11.9	-9.3	-7.3	26.9
Senegal	-54.5	-63.5	-40.1	39.4
South Africa and Rest of South African Customs	863.9	487.0	571.7	-43.2
Botswana	68.4	71.7	65.9	-9.2
Mauritius	563.9	575.0	578.2	-33.7
Zimbabwe	254.7	242.5	247.6	-3.2
Rest of Southern Africa	33.9	11.4	28.1	-1.1
Nigeria	-461.5	-232.0	-86.8	7.6
Rest of SSA	-821.8	-417.2	-138.4	19.8
Caribbean	-47.4	-85.7	-64.1	23.5
Pacific	-79.9	-74.9	-44.3	17.2

Source: Authors' estimates based on simulation results.

Table A13: Real GDP (% change from the base run)

	Sim1	Sim2	Sim3	Sim 4
Malawi	-0.1	0.0	0.1	0.0
Mozambique	-0.1	0.0	0.1	0.0
Tanzania	-0.1	0.0	0.0	0.0
Uganda	0.0	0.1	0.0	0.0
Zambia	-0.2	0.0	0.1	0.1
Madagascar	0.0	0.0	0.0	0.0
Senegal	-0.1	0.0	0.0	0.0
South Africa and Rest of South African Customs	0.2	0.2	0.3	-0.1
Botswana	0.3	0.5	0.7	-0.1
Mauritius	0.2	0.2	1.6	0.0
Zimbabwe	0.3	0.4	0.3	-0.1
Rest of Southern Africa	1.0	1.2	1.4	-0.2
Nigeria	-0.7	0.0	0.1	0.0
Rest of SSA	0.0	0.1	0.1	0.1
Caribbean	0.0	0.1	0.1	0.1
Pacific	0.5	0.0	1.7	0.0

Source: Authors' estimates based on simulation results.

Table A14: Imports (% change from the base run)

	Sim1	Sim2	Sim3	Sim 4
Malawi	9.5	7.5	6.7	0.2
Mozambique	5.2	0.4	-0.1	0.1
Tanzania	8.6	2.8	1.9	-0.1
Uganda	2.0	0.1	0.1	0.2
Zambia	9.8	1.3	0.6	0.3
Madagascar	1.4	0.3	-0.3	1.2
Senegal	4.5	0.9	0.4	0.6
South Africa and Rest of South African Customs	10.9	6.1	5.0	2.3
Botswana	3.6	2.5	2.0	1.1
Mauritius	27.1	23.2	20.9	3.6
Zimbabwe	40.8	25.0	23.4	2.9
Rest of Southern Africa	12.6	6.3	3.6	1.7
Nigeria	8.5	4.8	2.8	1.9
Rest of SSA	9.5	4.7	3.1	0.3
Caribbean	6.0	4.6	3.8	0.0
Pacific	24.2	20.5	19.1	0.4

Source: Authors' estimates based on simulation results.

Table A15: Exports (% change from the base run)

	Sim1	Sim2	Sim3	Sim 4
Malawi	4.7	3.7	3.3	3.8
Mozambique	4.2	0.2	-0.1	3.3
Tanzania	12.0	4.0	2.3	6.2
Uganda	2.3	1.1	0.6	1.5
Zambia	5.6	0.1	-0.3	3.9
Madagascar	2.7	1.3	0.4	1.8
Senegal	8.5	5.5	3.4	4.3
South Africa and Rest of South African Customs	2.6	1.3	0.7	-2.3
Botswana	1.7	0.6	0.5	-1.9
Mauritius	3.8	2.0	0.9	-2.9
Zimbabwe	8.6	2.0	1.0	-5.2
Rest of Southern Africa	9.1	4.5	2.5	-5.9
Nigeria	4.3	2.5	1.4	-1.7
Rest of SSA	9.4	5.0	3.0	6.2
Caribbean	3.9	2.7	1.8	1.5
Pacific	8.7	4.9	3.0	2.6

Source: Authors' estimates based on simulation results.

Table A16: Terms of Trade (% change from the base run)

	Sim1	Sim2	Sim3	Sim 4
Malawi	-0.8	-0.1	0.0	0.5
Mozambique	-0.7	-0.2	-0.2	1.2
Tanzania	-0.4	-0.3	0.0	1.1
Uganda	0.4	-0.3	-0.1	0.9
Zambia	0.4	0.9	0.9	1.3
Madagascar	-0.9	-0.7	-0.6	1.5
Senegal	-1.4	-2.1	-1.4	0.8
South Africa and Rest of South African Customs	1.6	0.7	1.0	-0.5
Botswana	1.6	2.3	2.2	-1.3
Mauritius	17.4	17.8	18.1	-3.2
Zimbabwe	10.0	10.8	10.9	-2.3
Rest of Southern Africa	-1.7	-0.8	-0.5	-0.2
Nigeria	-0.7	-0.5	-0.2	-0.2
Rest of SSA	-0.7	-0.7	-0.2	1.3
Caribbean	-0.3	-0.2	-0.1	0.1
Pacific	-0.1	-0.1	0.0	0.3

Source: Authors' estimates based on simulation results

Table A17: Change in the Balance of Trade (Million US\$)

	Sim1	Sim2	Sim3	Sim 4
Malawi	-143.1	-117.1	-115.1	-2.1
Mozambique	-31.0	-6.5	-3.8	-1.3
Tanzania	-28.0	-9.6	-8.4	0.2
Uganda	-8.4	4.6	2.5	0.7
Zambia	-43.3	-2.2	1.7	1.3
Madagascar	-2.7	-1.0	0.0	-1.8
Senegal	-20.1	18.2	13.4	0.9
South Africa and Rest of South African Customs	-1772.1	-1121.0	-907.2	-20.5
Botswana	9.7	11.9	15.5	-2.3
Mauritius	-71.2	-21.7	10.2	-1.2
Zimbabwe	-388.0	-289.4	-279.8	-0.5
Rest of Southern Africa	-343.3	-170.6	-99.9	0.9
Nigeria	-655.2	-383.4	-219.8	0.6
Rest of SSA	-1018.6	-490.4	-357.0	-11.9
Caribbean	-471.4	-358.0	-288.5	-0.9
Pacific	-778.0	-709.7	-697.5	-0.3

Source: Authors' estimates based on simulation results

Table A18: Sources of Imports in the Base year and under different Simulations

		Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	Southern Africa and rest of S. Africa	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Base Year	EU	0.15	0.23	0.29	0.32	0.17	0.43	0.49	0.37	0.15	0.36	0.18	0.40	0.42	0.43	0.22	0.33
	ACP	0.54	0.46	0.12	0.21	0.56	0.16	0.11	0.18	0.70	0.11	0.56	0.09	0.03	0.08	0.04	0.02
	ROW	0.31	0.30	0.56	0.47	0.28	0.41	0.39	0.45	0.15	0.53	0.28	0.50	0.55	0.47	0.74	0.65
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 1	EU	0.16	0.24	0.35	0.33	0.18	0.48	0.58	0.45	0.20	0.50	0.19	0.49	0.57	0.53	0.28	0.43
	ACP	0.61	0.50	0.20	0.22	0.60	0.12	0.10	0.15	0.63	0.11	0.59	0.16	0.07	0.10	0.03	0.03
	ROW	0.25	0.25	0.43	0.43	0.22	0.39	0.31	0.39	0.15	0.38	0.20	0.34	0.33	0.34	0.67	0.51
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 2	EU	0.18	0.27	0.36	0.34	0.21	0.47	0.56	0.43	0.18	0.48	0.24	0.52	0.56	0.52	0.26	0.41
	ACP	0.49	0.42	0.11	0.19	0.52	0.12	0.10	0.15	0.66	0.09	0.50	0.07	0.02	0.08	0.03	0.01
	ROW	0.31	0.29	0.50	0.45	0.27	0.40	0.33	0.41	0.15	0.42	0.26	0.40	0.40	0.39	0.70	0.57
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 3	EU	0.17	0.25	0.33	0.33	0.19	0.46	0.54	0.41	0.17	0.44	0.22	0.48	0.50	0.48	0.24	0.37
	ACP	0.50	0.43	0.11	0.20	0.53	0.12	0.10	0.15	0.67	0.10	0.51	0.08	0.02	0.08	0.03	0.01
	ROW	0.32	0.29	0.53	0.46	0.28	0.41	0.35	0.43	0.15	0.45	0.27	0.43	0.46	0.42	0.72	0.60
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 4	EU	0.14	0.23	0.29	0.31	0.17	0.43	0.49	0.37	0.15	0.36	0.18	0.40	0.42	0.43	0.21	0.33
	ACP	0.55	0.46	0.12	0.22	0.56	0.16	0.11	0.18	0.69	0.11	0.56	0.10	0.03	0.08	0.04	0.02
	ROW	0.31	0.30	0.56	0.47	0.27	0.41	0.39	0.45	0.16	0.53	0.28	0.50	0.55	0.47	0.75	0.65
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Authors' estimates based on simulation results.

Table A19: Change in Import Revenue (US\$ million)

	Sim 1	Sim 2	Sim 3	Sim 4
Malawi	-0.8	-0.5	0.2	0.0
Mozambique	-4.6	-2.2	-0.9	0.1
Tanzania	-13.4	-4.3	-0.1	0.3
Uganda	-2.3	-1.2	-0.5	0.1
Zambia	0.6	2.4	3.3	-0.2
Madagascar	0.9	1.5	1.7	0.0
Senegal	-7.4	-2.6	-0.1	-0.1
South Africa and Rest of South African Customs	33.5	81.2	101.2	-1.2
Botswana	1.4	1.8	1.6	-2.3
Mauritius	35.1	51.7	59.1	-0.2
Zimbabwe	27.2	37.7	42.7	1.1
Rest of Southern Africa	25.5	54.8	53.5	0.0
Nigeria	-431.8	-221.1	-85.7	-0.3
Rest of SSA	-179.7	-34.5	44.9	0.0
Caribbean	-22.43	-18.4	-13.7	1.0
Pacific	-15.17	-11.1	-9.9	0.6

Source: Authors' estimates based on simulation results.

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