

**SADC EPAs with the EU:  
The Right Way or a Blight for Development?**

Rehab O. M. Osman  
DPhil Candidate  
Institute of Development Studies  
University of Sussex

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## **I. Introduction**

Helping Southern African Development Community (SADC) members to effectively integrate into the world economy as well as maintaining sustainable development is a main objective of the Economic Partnership Agreements (EPAs) between SADC and the European Union (EU). Nevertheless, the negotiation outcomes are still limited and are surrounded by sceptical concerns about adverse impacts of the proposed trade liberalization on SADC economies. The planned shift from a preferential to a reciprocal modality for SADC trade with the EU might undermine the intra-regional SADC trade and its trade with the non-EU partners. This is attributed to two effects: the potential trade displacement from the existing exporters to their corresponding European suppliers who face lower tariff protection and the expected replacement of domestic production by the European imports that may deteriorate the region's domestic production capacity and, consequently, its exporting ability. Some other reasons for caution are based on the adjustment costs associated with trade liberalization policy. The questions are, thus, whether the envisaged EPAs facilitate SADC integration both within the region and with the world as a whole and how the agreements structure should be formulated in a way that enhance the development process in the region.

As a heterogeneous group as SADC is, it is reasonably expected that the EPAs' implications would vary considerably across its members. In addition, SADC states are involved in different and intertwined regional integration arrangements (RIAs) inside and outside Africa. Therefore, any examination for the envisaged EPAs' implications should consider the trade agreements in force and their impacts not only on SADC members but on their trade partners as well. It is thus appropriate to conduct thorough country-specific analyses within a general equilibrium framework. The study aims at quantifying the potential implications of the proposed EPAs on SADC economies by employing a comparative static version of the multi-sector multi-region computable general equilibrium (CGE) GLOBE model. Within this framework, the analysis focuses on the changes induced by different liberalization scenarios in welfare, trade and industrial structures, prices, and fiscal revenues.

As such, the study starts by presenting the status quo of the integration process in the region. The ongoing EPA negotiations, challenges and outcomes are dealt with in the next section. The fourth section provides empirical analysis for SADC economies, paying special attention to their trade relations inside the region and with the EU. The fifth section is dedicated to illustrating the model specification, simulations design and findings interpretation. Finally, conclusions and policy implications are provided.

## **II. SADC Regional Integration Arrangements**

SADC is one of the oldest regional trade agreements (RTAs) in Africa. The region, however, is notable by its poor integration performance and limited intra-trade flows. This section attempts to shed light on the various trade arrangements for SADC members within and outside the region.

### **II.1. The SADC-FTA**

The SADC region is a mixture of diversified economies encompassing fifteen members, with South Africa dominating. The Southern African Development Coordination Conference (SADCC) was launched in 1980 by nine countries: Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. In the 1990s, the membership of SADC increased to fourteen members; Namibia (1990), South Africa (1994), Mauritius (1995) and the Democratic Republic of Congo (1997). After joining SADC in 1997, Seychelles ceased its membership in 2004 and was then readmitted in 2008. Madagascar was granted full membership in 2005, but its membership is currently suspended from all community institutions and organs until its return to constitutional order.<sup>1</sup>

The implementation of the Trade Protocol took place in 2000 when the majority of SADC members approved the free trade accord. In August 2008, twelve SADC members attained a FTA, while Angola and D. R. Congo intend to join later in the near future, and Seychelles, which rejoined the community very recently, is considering the FTA-formalities. As a step towards deeper regional integration, in March 2004 SADC announced its plan for unifying the external tariffs and establishing a SADC customs union by 2010, launching a common market with free movements of commodities, services, capital and labour by 2012 and instituting a SADC central bank and issuing a single SADC currency by 2016.<sup>2</sup> Empirical evidence reveals that the liberalization process fell behind its planned schedule with some arguments that tariff reductions within SADC have been back-loaded (Niekerk and Moreira: 2002). Furthermore, the removal of non-tariff barriers (NTBs) has proved to be challenging in SADC – a region in which many countries are landlocked and their trade have to cross several borders.

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<sup>1</sup> The coup d'etat and the army-backed takeover lead by the former mayor Andry Rajoelina has been faced by strong international condemnation. The US cut off non-humanitarian aid, the African Union (AU) suspended Madagascar's membership. At its extraordinary summit in March 2009, the SADC decided not to recognize Mr. Rajoelina declaring that "... his appointment did not only violate the Constitution of Madagascar and democratic principles, but also violated the core principles and values of the SADC Treaty, the African Union Constitutive Act and the United Nations Charter" (Extraordinary Summit of the SADC Heads of State and Government: 30 March 2009, Swaziland). The EU has considered suspending the Malagasy access to the EU markets granted under the Cotonou agreement. In May 2010, the council of the EU decided to apply "appropriate" measures for a year and to continue its negotiation with Madagascar on Cotonou arrangement (The Council of the EU, Brussels, 28<sup>th</sup> May 2010).

<sup>2</sup> For more details, review Chauvin, Sophie and Gaulier, Guillaume (2002) and Khandelwal, Padamja (2005).

## II.2. Other African Regional Groups

SADC overlaps with many bilateral and multilateral RTAs, some are in conjunction with other African states; either outside the region or entirely situated inside SADC itself, and others with non-African states. All SADC members, except Mozambique, are engaged in more than one regional integration schemes. Moreover, they participate in a number of bilateral and multilateral agreements. The SADC region encloses all the Southern African Customs Union (SACU)<sup>3</sup> members (Botswana, Lesotho, Namibia, Swaziland and South Africa). SADC is also overlapping with the Common Market for Eastern and Southern Africa (COMESA); eight SADC members are part of the COMESA-FTA.<sup>4</sup> Tanzania, which terminated its COMESA membership in 1999, is currently part of the East African Community (EAC)-CU.<sup>5</sup> Madagascar, Mauritius and Seychelles are involved in the Indian Ocean Commission (IOC)<sup>6</sup>.

Overlapping membership is a major challenge for performing a distinct analysis of the implications of each integration scheme on its members' economic performance. This is a common issue in international trade literature, however. Notionally, overlapping memberships of customs unions are unsustainable. In the SADC context, two customs unions (SACU and EAC) are already operating and one (COMESA) was supposed to enter into force in 2008. This, in one extreme, might require some countries to choose between their SADC membership and the other regional arrangement/s. The only resolution to this dilemma is applying identical CETs, rules of origin (RoO) and other provisions in the cross-cutting CUs. Many concerns surround this option in light of poor integration performance and coordination level within and among the different African regional groups.

Tanzania is eligible for duty-free imports originating in the SADC states, under the SADC-FTA. At the same time, it holds a CET with its EAC-CU partners. This poses a contradiction for Tanzania in dealing with its imports from the SADC states. As a compromise to this conflict, the EAC partners agreed to temporarily exempt the tariff preferences that have been granted to third countries prior to announcing the EAC-CU protocol from their CET.<sup>7</sup> By the time SADC-CU enters into force, Tanzania would have to consider terminating one of its two CUs-memberships. In a study on different pathways for the EAC members, Stahl (2005) argues that the differences between EAC's and COMESA's configurations, in terms of CETs and RoOs, are less than those between EAC's and SADC. With this in mind, it may be more beneficial for Tanzania to reconsider joining COMESA and terminating its SADC membership. By doing so, all EAC members will be actively involved in COMESA which will sustain the integration process in the latter.

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<sup>3</sup> SACU is the oldest customs union in the world, dating back to 1910.

<sup>4</sup> COMESA, which was supposed to establish a customs union in 2008, encloses nineteen members - Burundi, Comoros, DRC Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe.

<sup>5</sup> Tanzania, Uganda and Kenya announced the EAC-CU on 1st January 2005, and Rwanda, Burundi accessed later in 2007. The five members are working towards the establishment of a common market by 2010, then a monetary union by 2012 and a political federation of the east African states.

<sup>6</sup> The Commission de l'Océan Indien is an inter-governmental organization that encompasses also Comoros and France as a representative for Réunion Islands.

<sup>7</sup> This exemption is valid also for the tariff preferences granted for Kenya's and Uganda's COMESA-FTA partners.

### **III. The EU-SADC Regional Trade Agreements**

#### **III.1. The EU-South Africa FTA**

The EU and South Africa had started negotiations on a bilateral trade arrangement in 1995 and reached their final FTA, called “Trade, Development and Co-operation Agreement” (TDCA), in 1999 which came into operation in 2004.<sup>8</sup> According to the agreement, 95 percent of the South African exports should enter the European markets duty free after ten years and 86 percent of the European exports to South Africa should be liberalized after a transition period of twelve years. The agreement provisions are applicable for “substantially” all trade between the EU and South Africa, albeit some sensitive products, including beef and sugar, are retained protected and others are partially liberalized.<sup>9</sup>

#### **III.2. The EU-SADC/LDCs EBA**

In 2000, the EU Trade Commissioner, Pascal Lamy, announced the granting of duty-free quota-free access for all goods (with the exception of arms and munitions) originated in LDCs; termed the EBA initiative.<sup>10</sup> The EBA that has been incorporated into the Generalized System of Preferences (GSP) Regulation<sup>11</sup> covers all non-military goods with transition periods for three sensitive products: sugar, rice and bananas. The EBA is a non-reciprocity trade agreement in the sense that the beneficiary countries export duty/quota free to the European markets without obligation to open their markets to the European exports in return. Eight SADC members (Angola, DR of Congo, Lesotho, Madagascar, Malawi, Mozambique, Tanzania and Zambia) are eligible for the EBA provisions. However, their actual utilisation rates of EBA preferences are quite weak due to the agreement’s tight RoO and complicated administrative constraints.<sup>12</sup>

#### **III.3. The EU-SADC EPAs**

According to the Cotonou Partnership Agreement between the EU and ACP states (2000), non-reciprocal preferences are supposed to be replaced by reciprocal trade commitments in conformity with the WTO procedures. Consequently, the EU has started negotiations on EPAs with 77 ACP states in 2002 with an ultimate goal to establish reciprocal FTAs with the EU in January 2008, a goal that has already proved to be too ambitious.

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<sup>8</sup> Some of the agreement provisions were operating since January 2000 and ratified by the South Africa SACU’s trade partners in 2002.

<sup>9</sup> These exemptions accounted for 3.4 percent (mainly agricultural products) of South Africa exports to the EU and 10.9 percent of the EU exports to South Africa, in particular motor vehicles and some textile and clothing products. However, starting from late 2006 some liberalization provisions are operating for motor vehicles, Thurlow and Holden (2002).

<sup>10</sup> A similar initiative was offered to all SADC countries, except Zimbabwe, as part of the US African Growth and Opportunities Act (AGOA) for sub-Saharan African countries.

<sup>11</sup> GSP is a preferential tariff treatment granted by Australia, Canada, the EU, Japan, New Zealand, and the United States.

<sup>12</sup> For further details, review Candau and Jean (2009).

### **III.3.1. Objectives and Instruments**

The EPAs' vision goes beyond improving the conventional free trade relations and lies in helping the SADC countries to integrate into the world economy and to maintain sustainable development as well as poverty reduction. From this perspective, the EPAs aim to facilitate an economic area between the EU and SADC region where goods, services and financial flows could move freely. These arrangements are, thus, an inclusive framework for a wide set of trade/development related issues. Based on this vision, provisions for trade on goods and services, competition and investment policies and other "pro-development" measures are planned to be included in the EPAs' final agenda. Though the EPA objectives are defined by both parties, there is no clear consensus about the appropriate instruments to achieve these objectives. The on-going negotiations involve a great deal of dispute over these aspects.

### **III.3.2. Negotiation Configuration and Process**

The EPA procedures allow the ACP states to choose the appropriate configuration to pursue the negotiations. Geographical configurations were originally identified to organize the EU negotiations with six ACP groups; the Caribbean, Pacific, West African, Central African, Eastern and Southern African (ESA), and SADC EPA groups. Many challenges and options confront the SADC states as they negotiate with the EU. Both SADC and COMESA are intending to establish customs unions; this imposes fundamental conflict for the eight countries involved in both regional communities. As a compromise to resolve their conflicting interests, two EPA-related configurations were established in 2004; SADC and the ESA EPA groups. The SADC EPA group includes Botswana, Lesotho, Namibia and Swaziland (BLNS); and Mozambique, Angola and Tanzania (MAT) along with South Africa.<sup>13</sup> The other seven SADC members (DR Congo, Madagascar, Malawi, Mauritius, Seychelles, Zambia and Zimbabwe) participate in the negotiations as part of ESA EPA Group.<sup>14</sup> BLNS already have reciprocal access to the European markets through SACU, which means that they could have followed South Africa to its TDCA-FTA with the EU. Their position, however, would have been worse owing to the EPA, which contradicts the Cotonou principles and imposes challenges for the negotiation process. On the other hand, MAT had an option to separately negotiate either market access or FTA with the EU. As their bargaining position versus the EU is extremely weak, they considered joining the SACU or the ESA group in their negotiations. Within the MAT, Tanzania and Angola had options to negotiate as members of the EAC and COMESA respectively. As such, Mozambique, which as a LDC is able to sustain its non-reciprocal trade relations under the EBA, would have had to negotiate on its own with the EU.

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<sup>13</sup> After initial participation as an observer and on request from the SADC group, South Africa was joined the negotiations as a full member in February 2007.

<sup>14</sup> Participating in the SADC EPA group is exclusive for the SADC states, while the ESA EPA is an amalgamation of several RI groups including members of COMESA, SADC, EAC (before disengaged as a separate group), ECCAS and the Intergovernmental Authority on Development (IGAD)/ Autorité intergouvernementale pour le développement.

In the course of the negotiations, the EAC EPA group has deserted the ESA/COMESA region leaving the latter to be mainly confined to LDCs. Being a member of a customs union, Tanzania has eventually opted to negotiate and provide a common offer with its trade partners in the EAC. DR Congo, as a member of Economic Community of Central African States (ECCAS),<sup>15</sup> is negotiating in the Central African EPA group and, concurrently, is part of the ESA EPA group.

Some points come out of a close reading of the negotiations process. The SADC states have aligned themselves with four different configurations. In addition, the specific SADC members who are negotiating outside the SADC umbrella are mainly LDCs. In the course of the negotiations, the SADC EPA group has been shrinking to be centred on SACU and Mozambique only.<sup>16</sup> Such situation imposes serious challenges to the integration process in the region, given that different tariff schedules are in use and, most importantly, that some countries are gradually eliminating tariff barriers for the EU trade while their neighbouring countries maintain them. This also raises concerns about the SADC members' bargaining power with the EU and the importance of the community's common interests on its members' agendas. Bearing these complexities in mind and drawing on the current challenges the negotiations' process face, it is very likely that there will be untold problems at the implementation stage.

### **III.3.3. Liberalization Programmes**

At the end of 2007, the EU initialled interim EPAs (hereinafter referred to as IEPAs) with SADC, EAC and ESA EPA groups.<sup>17</sup> These IEPAs provide mainly WTO-compatible market access for both parties' trade while many trade related issues are still under consideration. Eleven out of the eighteen African countries that have agreed on interim region-to-region EPAs with the EU are SADC members - five countries in the SADC EPA group (Botswana, Lesotho, Swaziland, Mozambique and Namibia<sup>18</sup>), Tanzania in the EAC group and another five countries in the ESA group (Madagascar, Mauritius, Seychelles, Zambia<sup>19</sup> and Zimbabwe). Table 1 portrays the liberalization schedules, timeframes and other features of the IEPAs for different SADC states.

Under these IEPAs, commodity trade from the signatory countries were eligible for duty and quota free access to the EU markets as of 1 January 2008 with transition periods for rice and sugar. While the transition period of rice is quite short, it lasts until 2015 for sugar. On their turns, these specific SADC states are gradually opening their markets to the EU trade. Different products are excluded from their

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<sup>15</sup> Angola is also a member in ECCAS which is known as Communauté Économique des États d'Afrique Centrale in French.

<sup>16</sup> It is reported that Mozambique might consider joining SACU.

<sup>17</sup> Further IEPAs have initialled with key trade partners in the Pacific. At the most recent, only the CARIFORUM countries (except Haiti) have reached a comprehensive EPA covering trade in goods and services, investment as well as other trade-related areas (European Commission: 2009).

<sup>18</sup> The agreement was initialled by four SADC countries on 23rd November 2007 in Brussels. Namibia joined it later on 11<sup>th</sup> December 2007.

<sup>19</sup> The Zambian tariff schedule was not initialled until September 2008 and, hence, its exports to the EU were treated according to the EBA provisions until December 2008.

liberalization schedules based on the infant industry argument of protecting sensitive sectors. Both the IEPA's signatories agreed to resume negotiations over an inclusive EPA formula that accommodates all SADC states in different EPA groups and covers services, investment and trade-related issues (e.g. export taxes, free flow of goods and people, MFN clause, sustainable development and RoO).<sup>20</sup>

South Africa, together with Angola<sup>21</sup> and Namibia, has voiced concerns over key provisions of the IEPAs' text "... that profoundly impede prospects for deepening the processes of sustainable integration and development within and between the countries of Southern Africa" (United Nations: 2009). The three countries jointly call for a more comprehensive EPA encompasses all SADC members, with emphasis on inclusion of South Africa, in one common arrangement to access the European markets.

Consequently, South Africa has not signed an EPA and, together with Namibia, has not shown full commitment regarding to trade in services. To keep South Africa at the negotiating table, the EU grants it more advanced market access provisions, especially for agricultural products, compared to its current market access under TDCA. Nevertheless, this would not be expanded to a full duty/quota free treatment as South Africa is one of the competitors for the EU's exports, particularly the agricultural products. In its turn, South Africa is negotiating some tariff reductions with the EU.

Having preferential access to the EU markets under EBA, the LDCs face less pressure to sign the agreements. While five LDCs had voluntarily initialled the IEPAs, the non-signatories SADC members are all LDCs.<sup>22</sup> Furthermore, all non-LDCs, with the exception of South Africa, had initialled the IEPAs and some (Mauritius and Seychelles) have offered even more than 90 percent trade liberalization. The non-LDCs' exports would have suffered significant preferences erosion after the Contonou agreement deadline, if they had not come to conclusion over their EPA negotiations. The Overseas Development Institute (2007) quantifies the potential losses for the non-LDC ACP countries if they were exporting to the EU under the GSP. The report concludes that "At the very least, it would result in the EU taxing ACP exports, generating revenue that compares unfavourably with aspects of Union-level aid. At worst, it is likely to result in the complete cessation of some ACP exports to the EU with significant adverse economic effects".

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<sup>20</sup> European Commission (2009)

<sup>21</sup> By the time the IEPAs signed, Angola enjoys duty free market access to the EU under the EBA initiative. Angola expressed its intention to join a full EPA after finalising its tariff offer and reaching a compromise regarding to its concerns.

<sup>22</sup> Many of the ACP countries that initialled agreements are the relatively better-off developing countries that would have suffered significant economic harm from a reduction in preferential access for their key exports to the EU. Lui and Bilal (2009)

### III.3.4. Challenges and Contentions

The EPA was supposed to take place by the beginning of 2008 - the deadline of the EU non-reciprocal trade preferences under the Cotonou agreement. Though the EU/SADC regional negotiations have taken place since 2004,<sup>23</sup> no significant progress has been achieved over the four years. This was reflected by failing to agree on principle points of the agreement - most notably the required level of tariff reduction by the SADC side was only determined in September 2007. The conflicting interests among SADC members and overlapping membership, amongst other reasons, have so far hindered the negotiation progress. However, this study does not aim to provide account of these issues, but to shed some light on the main issues and concerns arise in the course of the negotiation process.

The on-going negotiations reveal a great deal of dispute among SADC representatives on one hand and between them and their European counterparts on the other. This dispute lies, *inter alia*, on their different visions regarding the agreement's provisions and its development component in particular. In the words of Meyn (2008: 516), "different readings of the 'development component' of EPAs are symptomatic of an increasing division between the EU and the ACP as a result of the EPA negotiating process". SADC states push for more effective financial compensation for their tariff revenue loss, whereas the European Commission (EC) insists on keeping the related aid-for-trade out of the formal bindings as voluntary packages. Besides, SADC members focus mainly on ensuring market access for their commodity trade with the EU. This is clearly at odds with the EC approach of negotiating for comprehensive FTAs that encompass not only trade in goods and services, but also beyond the border measures, such as competition policy and public procurement, as tools for structural reform. Surprisingly, the EU's EPA agenda goes even beyond the requirements to comply with the WTO rules. Other contentious issues include reducing subsidies on agricultural exports and production and achieving more liberal RoOs compared to the current ones employed under the EBA framework.<sup>24</sup>

Many concerns of serious impacts of the EPA on SADC states have been raised either on the negotiation table or in the relevant literature. First, a genuine trade liberalization scenario that covers "substantially" all trade would expose domestic industries to the highly competitive European substitutable products. This concern has a special importance for agricultural producers who could face strong competition with the subsidized European farmers. Second, liberalizing trade with the EU, a main importer for SADC, means substantial loss of government revenues for many SADC countries. The EPA implies asymmetrical liberalization that allows SADC states to maintain protection for some sensitive sectors. However, the criteria for determining sensitive products and the associated transition periods are unclear and vary across countries. Besides, the EPAs provide free-access for SADC products into the European markets. The questions to raise here are whether SADC exports

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<sup>23</sup> The second phase of negotiations for SADC and ESA groups were launched in 2004. The last negotiation round to date was in November 2008 at which concerns on the IEPA text have been raised by some SADC negotiators. The EC and South Africa agreed to provide modified market access offer by December 2008 (European Commission: 2009).

<sup>24</sup> For more detailed discussion on these issues, see Lui and Bilal (2009).

are really able to compete in the European markets and whether the EPAs enhance SADC trade and integration.

On the other side, EPAs might benefit SADC consumers by offering more alternatives with better quality and lower prices. Furthermore, EPAs aim at deepening SADC regional integration, which means, if happens, enhancing SADC competitiveness in the international markets and encouraging investment and technology transfer to the region. Moreover, implementing the EPAs provides opportunities to SADC members to reform their economies and eliminate non-tariff barriers to intra- and extra-SADC trade.

#### **IV. SADC Economies: Empirical Evidence**

For a given economy, the structural features as well as the initial protection levels are among major determinants of its response to trade policy shocks. From this perspective, this section is dedicated to analysing the industrial and trade structures of SADC members as captured in the GTAP7 database. After a brief presentation of the GTAP7 database and the employed aggregation system, the main structural characteristics for the SADC members are provided. The next section illustrates the nature of their trade relations focusing on the intra-SADC trade and its trade flows with the EU. Trade protection at the base year is eventually represented.

##### **IV.1. The GTAP7 Database**

The data used for this study are derived from the GTAP7 database which is referenced to 2004.<sup>25</sup> GTAP7 is a highly disaggregated database that includes 113 regions and 57 sectors. For the purposes of this study, I keep the individual regions that represent SADC members in as much detail as is provided in the GTAP7 database. This detailed representation of SADC states allows for undertaking country- and sector- specific analyses for the results induced by trade shocks. I aggregate the GTAP database into 17 regions (11 SADC sub-regions, European Union, USA, East Asia, Southeast and South Asia, rest of Sub-Saharan Africa and rest of the world), 20 sectors (10 agricultural, 7 industrial and 3 services sectors) while maintaining the factors of production at their disaggregated level in the database (natural resources, land, unskilled labour, skilled labour and capital). The adopted level of aggregation for regions and commodities together with the associated mappings from the GTAP7 database are listed in Tables 2 and 3.

##### **IV.2. Structural Characteristics**

The SADC region is a mixture of diversified economies in terms of economic size and structure and level of development. According to the World Bank, SADC members are classified in three income groups: only four countries, Botswana, Mauritius, Seychelles and South Africa, are in the upper-middle income group; and four, Angola, Lesotho, Namibia and Swaziland, are in the lower-middle income group; the remaining seven members are in the low income group. In addition, the latter seven countries, except Zimbabwe, as well as Angola and Lesotho are least developed

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<sup>25</sup> For detailed description, review Narayanan and Walmsley (eds.) 2008

countries (LDCs), according to the United Nations.<sup>26</sup> Low-income countries account for more than 70 percent of total population in the region. No clear evidence exists, however, on how this diversity might affect SADC integration process. Some argue that structural differences among economies could lead to their complementarity, while others view it as a serious challenge to any integration programme in the region. Pratt and Xinshen (2006: 3), for example, conclude that: “Southern Africa’s economic diversity is generally viewed as a key reason for promoting greater regional integration for stimulating growth and poverty reduction”.

Table 4 provide selected macroeconomic and trade indicators for the region. Seychelles, Lesotho, Swaziland and Malawi are the smallest economies with a GDP of less than US\$ 4 billion. South Africa dominates the region by contributing more than two-thirds of the SADC total GDP, and nearly 90 percent of the SACU GDP in 2004.

The heterogeneity among SADC economies is not limited to size; the World Bank statistics indicate outstanding differences in their GDP per capita. The composition of value added shows that labour is its main component, which is mainly unskilled in most cases. The unskilled labour is highest in Madagascar, Tanzania and Malawi.

Labour intensity is reflected in the SADC production structures which are mainly concentrated in primary activities. A close up view of the SADC’s industrial structures, shown in Table 5, supports their macro-level disparities, albeit revealing a range of similarities. Some low-income SADC members (Madagascar, Malawi and Tanzania) are mainly agricultural-based economies where the highest share of unskilled labour is occupied. Service sectors are the major source of GDP in the rest of the low-income economies (Mozambique, Zambia and Zimbabwe) and they absorb more skilled labour force. The production structures in the middle-income economies are more diversified; some are relatively more advanced and depend on manufacturing activities (South Africa, Mauritius, Seychelles and the other SACU members), while others have rich mining resources; Angola and Botswana in particular. SADC structural variations are attributed, to a great extent, to their differences in natural resources.

### **IV.3. Trade Structures and Partners**

It is worth noting that trade openness is relatively high in many SADC economies. As shown in Table 4, trade intensity measure exceeds 100 percent in countries like rest of SACU, Mauritius, Malawi and Zimbabwe. With high dependency on trade, the vulnerability of the economy to external trade shocks is high. This high trade dependency is also reflected in the compositions of public revenue in which trade taxes form a major share.

Not only is there evidence of a high dependency on trade, SADC exports data reveal high concentration in few commodities that are, basically, primary commodities. As portrayed in Table 6, the export structures in most of the SADC/LDCs remain largely confined to mining and agricultural products. South Africa as well as rest of SACU region has relatively diversified export structures in which more advanced

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<sup>26</sup> Botswana has graduated from the LDCs in 1994. The UN Committee for Development Policy (CDP) has identified Zimbabwe to be downgraded to the status of a LDC in 2006. Since Zimbabwe does not give its consent, the committee recommendation cannot be implemented (United Nations: 2006).

processing industries compose large shares. Imports structures are featured by a great deal of similarities across SADC members. Machinery, motor vehicles and textile are the main imported commodities for all SADC members.

The EU, the US and, increasingly, China are the main export markets for SADC countries, as shown in Table 7. The US is the second exporting market for most of the SADC members. South Africa accounts for the main bulk of SADC's exports to the US, succeeded by the rest of SADC and SACU regions. The major import share for most of SADC members come from inside the region; South Africa in particular.

Close examination of the *intra-SADC trade*, as shown in Table 8, reveals that South Africa is the main source of intra-SADC imports. It is worth remarking that although trade data reveal low EU shares in Botswana's and rest of SACU's total imports, evidence on imports from third countries supports that European goods flow through South Africa to its SACU-CU partners.<sup>27</sup> Zambia's and Zimbabwe's imports originating in South Africa are worth highlighting. According to the SADC trade protocol, South Africa exports duty-free to both countries who are, concurrently, COMESA members. As such, they are assumed to follow the COMESA CET, by the time COMESA-CU is launched, from which South Africa is excluded. The SADC region accounts for virtually 14 percent of Tanzania's total imports, 68 percent of which flows from South Africa. The importance of the SADC share in Tanzania's imports calls attention to monitoring possible indirect trade flows; that are eligible for preferential SADC tariff, to the other EAC states. Thorough implementation of precise RoO and considering a FTA with the SADC, at a later stage, are, thus, indispensable for the EAC.

*The EU is the SADC's main trade partner and largest export market for almost all SADC members, as shown in Table 9. Even for the countries which are relatively less dependent on the EU, the European markets absorb the highest percentage of certain commodity exports. The EU is the main market for many SADC exported commodities, confined mainly to agricultural and primary goods. SADC is a main source of certain commodities for the EU, which includes coal (South Africa), mining and quarrying (South Africa and Botswana), sugar (Mauritius and Tanzania) vegetables and fruits (South Africa) and raw animal material used in textile (South Africa). In 2004, the EU imported nearly \$35 billion worth of goods and services from SADC and exported \$33 billion to the region, yielding an overall trade deficit for the EU with SADC. This EU deficit holds in many agricultural products balances, whereas almost all the manufactured products reveal trade surpluses for the EU.*

#### **IV.4. Trade Protection**

Based on the benchmark data, tables 10 and 11 portray the levels and structures of trade protection between SADC and the EU. These figures reflect the bottom line for assessing different trade liberalization scenarios. Tariff structures within SADC are highly heterogeneous. Some countries have fairly low protection rates and harmonized structures (SACU regions) whereas tariff structures are complex with high level of protection in other countries like Mozambique and Tanzania. The

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<sup>27</sup> Lack of adequate capacity and operative RoO to monitor such indirect trade prove to be serious challenges in SADC context.

highest protection levels are imposed against imports from Mozambique, South Africa, Tanzania and rest of SACU. Barriers imposed by the EU against SADC trade are fairly low. However, data indicate extreme peaks for specific imports from the region; namely rice, sugar and milk, meat and dairy products. These high protection rates reflect import quotas imposed by the EU for these products. SADC imposes high protection rates on almost all the agro-processing and light manufactured imports from the EU.

## V. Model Specification and Findings

The study aims at quantifying the impacts of the proposed EPAs on SADC members; including those negotiations are not being spearheaded by the SADC EPA group. From a general equilibrium perspective, the analysis focuses on the changes in welfare trade, industrial structures and prices, and fiscal revenues.

### V.1. GLOBE Model

The study uses a comparative static version of the multi-sector multi-country GLOBE model. The literature on GLOBE model has been extensively surveyed.<sup>28</sup> This section is, therefore, confined to the main behavioural relationships, numéraire/s and closure rules used in this study.

The model is calibrated to a global Social Accounting Matrix (SAM) for 2004 derived from the GTAP7 database.<sup>29</sup> Within this global SAM, international markets are linked through bilateral trade flows only, which implies no factor mobility across borders. Due to lack of information, some inter regional transactions, i.e. data on trade and transportation margins and remittances, are defined by either their sources or destinations. To represent these data, the model distinctively identifies a dummy region, known as globe, where these transactions are recorded.

#### V.1.1. Behavioural Relationships

Following common practice in most of the international trade CGE models, nested constant elasticity of substitution (CES) functions are specified to represent *import demand*. For each commodity, imports from different sources are imperfect substitutes and their aggregated composite commodity is an imperfect substitute for its domestic equivalent.<sup>30</sup> Likewise, *export supply* is represented by nested constant elasticity of transformation (CET) functions. For each export commodity, exports to different destinations are imperfect substitutes and that exact composite

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<sup>28</sup> A complete exposition of the model is documented in McDonald, Thierfelder and Robinson (2007). The model is used to examine the impacts of the recent financial crisis on developing countries in Willenbockel and Robinson (2009).

<sup>29</sup> For detailed explanation on how to derive a SAM from GTAP database, see McDonald and Thierfelder (2004).

<sup>30</sup> This approach to modelling import demand was first developed by Paul Armington (1969). Armington specification is commonly used in trade-focused CGE models. "It is a theoretically consistent generalization of the "standard" trade model with nontraded goods, introducing degrees of substitutability and transformability rather than assuming a rigid dichotomy between tradable and nontradable goods" (Robinson: 2006, p. 211). However, this treatment of trade has been subject to criticism in the literature because of its restrictive assumptions. For more on the critiques directed to the Armington specification, review Winters (1984), Alston et al. (1990) and Hertel et al. (2003).

export commodity is an imperfect substitute to its counterpart supplied in the domestic market.

*Output* in each activity is specified as a nested CSE function. At the top level of the function, aggregated intermediate inputs and aggregated primary inputs are compound through a CES function<sup>31</sup>. At the second level, the composite intermediate inputs are specified as a Leontief aggregate of their individual intermediate inputs, whereas a CES production technology specifies aggregated value added as a function of the primary inputs demanded by each activity. By maximizing profit, producers determine the optimal levels of input demanded and, hence, output supplied in each activity.

*Private demand behaviour* is determined by a representative household in each region which maximizes a Stone-Geary utility function subject to its budget constraint. The resulting linear expenditure system (LES) demand equations consist of two components; subsistence and discretionary consumption of different commodities.

### **V.1.2. Model Numéraire/s**

As common practice, CGE models specify one nominal price variable as exogenous and all other prices are measured relative to this chosen numéraire. While this treatment of relative prices is commonly accepted by modellers, the required numbers of numéraires is still an unresolved issue. The majority of CGE models specify one numéraire whereas some identify multiple numéraires.

The standard version of GLOBE model identifies two alternative numéraires for each region; consumer price indices (CPI) or producer price indices (PPI).<sup>32</sup> In addition, the model identifies a global numéraire to which regional exchange rates are calculated in relative terms. This global numéraire is specified as the exchange rate index for a reference region in the model.<sup>33</sup> This version of the model identifies CPIs as the regions' numéraires and considers USA as its reference region. As such, all results are expressed in real terms: relative to either the CPIs in each region (for domestic transactions) or the constant global numéraire (for foreign transactions and external accounts).

### **V.1.3. Closure Rules**

At this stage of the methodology development, a set of closure rules are specified to ensure the mathematical consistency between equations and variables in the model. These constraints "... need to be satisfied by the economic system but are not directly considered in the decisions of micro agents" (Robinson: 1989).

For the purposes of this study, neoclassical macro closures are set in a way that prices, as well as exchange rates, adjust to clear the markets, including factor and

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<sup>31</sup> This is applied for all regions except the GLOBE region that does not produce by itself. The model allows for using a Leontief function at this top level.

<sup>32</sup> CPIs are calculated as a weighted sum of commodities prices, where weights are the commodities' value shares in final demand. Similarly, PPIs are calculated by summing the weighted domestic producer prices according to the value shares of each commodity in the total domestic output.

<sup>33</sup> Practical experiences show some evidence of better performance for the models that identify a group of countries as a reference region.

foreign exchange markets. The model adopts a “balanced” closure rule that implies constant shares in total absorption. Private consumption, government expenditure and investment are initialised to their baseline proportions in total absorption. In other words, changes in total absorption are proportionally distributed among its components to maintain their benchmark shares. This closure rule has important implications in the context of this study. Trade policies, and more specifically tariff reductions, by no means affects government expenditure. *Government saving* is endogenously determined as the residual difference between government income and government expenditure. The model allows for modifying tax rates by altering values of different scaling factors.

This version of the model adopts *investment-driven closure* in the sense that saving rates, with the exception of foreign saving, adjust to generate the required savings to finance the base year investment/total absorption share.

To clear *the external balances*, real exchange rates<sup>34</sup> (for non-reference regions) are allowed to adjust. As such, current account balances for all non-Globe regions are fixed at their initial benchmark levels<sup>35</sup>. Foreign savings is specified as exogenous which implies that capital flows are not affected by trade policy.

In the basic set of closure rules, all *production factors* are assumed to be fully employed. The model also assumes that production factors, except natural resources, are mobile across activities. It is believed that natural resources are not flexible to be reallocated to alternative production activities. Therefore, natural resources are specified to be sector-specific.

## V.2. Simulation Scenarios

The study carries out a series of three sets of simulations; each consists of three liberalization scenarios, as portrayed in Table 12.<sup>36</sup> The first scenario “*Symmetric Liberalization, SADC-EPA Group*” represents the case in which the negotiations are contracted to the SADC-EPA group only.<sup>37</sup> It simulates 90 percent elimination of the applied tariffs on imports from the EU by SACU members<sup>38</sup> and Mozambique. This is implemented simultaneously with a full elimination of the applied tariffs on the EU imports from these specific regions. Secondly, a more comprehensive scenario that covers all SADC members simulates asymmetric trade liberalization with the EU; “*Asymmetric Liberalisation, All SADC*”. SADC members remove 60 percent of the applied tariffs on imports from the EU whereas full tariff elimination is supposed to be undertaken by the EU. The last scenario “*Symmetric Liberalization, All SADC*”

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<sup>34</sup> Exchange rates here are valued as the domestic currencies’ values per world units.

<sup>35</sup> These levels, which are evaluated in terms of the global numéraire as described before, must sum to zero for the whole world in order to equilibrate the model.

<sup>36</sup> Each simulation experiment is tagged by two digits; the first represents its liberalization scenario regarding trade with the EU and the second refers to the simulation set under which the experiment is conducted.

<sup>37</sup> Due to data restrictions, Angola is not represented as a separate region in the GTAP7 database. Instead, Angola and DR Congo form the “Rest of SADC” region. Therefore, this scenario does not include Angola in the SADC-EPA group. This is not an issue as Angola has not signed an IEPA with the EU and might opt, alongside with other SADC members, to maintain the EBA provisions.

<sup>38</sup> The underlying assumption here is that BLNS countries adapt their TDCA tariffs on the European imports in light of the IEPA’s commitments.

represents the ultimate goal of the EU-SADC EPAs; launching a FTA between the EU and SADC. Presuming that this is implemented through a once-off reduction in trade barriers, a uniform 90 percent reduction in the applied tariffs is undertaken by all SADC members simultaneously with full tariff removal by the EU. These three scenarios are firstly implemented without applying any other trade measures. The first set (*Set1*) maintains the “*Current Intra-SADC Protection*” level as represented in GTAP7.

As we will see later, intra-SADC trade might be affected by liberalizing trade with the EU. Therefore, it is plausible to examine the EU-SADC EPA implications assuming that intra-SADC trade barriers are removed. The intuition behind this assumption is to measure the extent to which shifts of intra-SADC trade towards trade with the EU can be avoided by liberalizing intra-SADC trade alongside with SADC-EU trade. In spite of the static comparative nature of this version of the model, the results give indications of the required transition period for each SADC member before launching the EU-EPAs. The second set of simulation (*Set 2*) represents the case in which SADC liberalizes its trade with the EU according to the previous three scenarios and simultaneously complete its regional trade liberalization. In other words, each of the three liberalization scenarios is run presuming “*Full Intra-SADC Tariff Liberalization*.”<sup>39</sup>

It is expected that the EPAs will induce considerable decreases in public revenues. In light of the negotiation contentions, regarding the compensation programs in particular, it seems more reasonable for SADC to consider implementing domestic compensation instruments to mitigate the associated tariff losses.<sup>40</sup> By measuring tariff losses, policy makers can have indication, albeit not sufficient, for the required financial compensation under each liberalization scenario. The next set of simulation (*Set3*) is, therefore, sought to compensate the induced tariff revenue losses for SADC members through raising domestic sales tax under the three liberalization scenarios.<sup>41</sup> It is worth keeping in mind that sales tax levy on domestic absorption, including the imported component. Therefore, the increases in sales tax in this general equilibrium framework influence import demand.

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<sup>39</sup> To better reflect a deeper SADC integration scenario, reductions in domestic marketing margins should have been considered here. This, however, might require large scale government investments to improve trade and transportation infrastructure within the region. Given the short-run perspective of the study, such investments do not seem to be feasible.

<sup>40</sup> Further work on modelling aid-for-trade clause by allowing for external inflow from the EU to SADC members is under progress.

<sup>41</sup> Removing tariffs on intra-SADC trade is expected to generate revenue losses for SADC member as well. This kind of fiscal impact, though, is not tested here as the study concerns fiscal implications of liberalizing SADC trade with the EU only and the required compensation rates and measures.

### V.3. Comparative Analysis of the Results

The analysis is undertaken at two stages: macroeconomic and sector-specific results. To facilitate discussion, macroeconomic analysis is undertaken firstly for the results of the three liberalization scenarios under the baseline intra-SADC protection level (Set1). And then comparisons are done with the corresponding scenarios findings assuming full intra-SADC trade liberalization (Set2). Subsequently, the findings from the third set of simulation are analysed to identify the required compensation for tariff losses associated with each of the liberalization scenarios. Sector-specific analysis is set to be more selective for results under certain scenarios in the most affected regions. It is worth keeping in mind that the study carries out a comparative static analysis that does not address the dynamic impacts or sequencing adjustments associated with the simulated liberalization scenarios.

#### V.3.1. Macroeconomic Analysis

##### V.3.1.1. Welfare Impact

Welfare indicators, measured by *equivalent variation* and *real absorption*<sup>42</sup>, reveal that only a few SADC regions (rest of SACU, Zimbabwe and Mauritius) benefits from the liberalization scenarios, Table 13. These welfare gains are broadly induced by the two liberalization scenarios that include all SADC members. The only exception is the “rest of SACU” region that might have reasons to prefer liberalizing trade with the EU as a member of the SADC-EPA group (Sim11) over any of the other two liberalization scenarios.

By decomposing each scenario into two components: the SADC side (that represents removing tariffs imposed by SADC regions, which are involved in each scenario, on imports from the EU) and the EU side (that implies the EU removal of tariffs on imports from the same SADC regions) it is clear that the accrued welfare gains (and losses) are associated with the EU side. In other words, eliminating tariffs on imports from the EU does not seem to have significant welfare impacts on SADC under each of the three scenarios.

It is worth noting that the results for all SADC countries, excluding South Africa, do not seem to improve under the intra-SADC liberalization exercise. Using the equivalent variation welfare measure (Table 13) South Africa is outstandingly better off following any of the three liberalization scenarios accompanied by SADC integration compared to the same scenario in isolation. Considering the central position of South Africa as the main source of imports for the majority of SADC members, this does not seem to be a surprising conclusion.

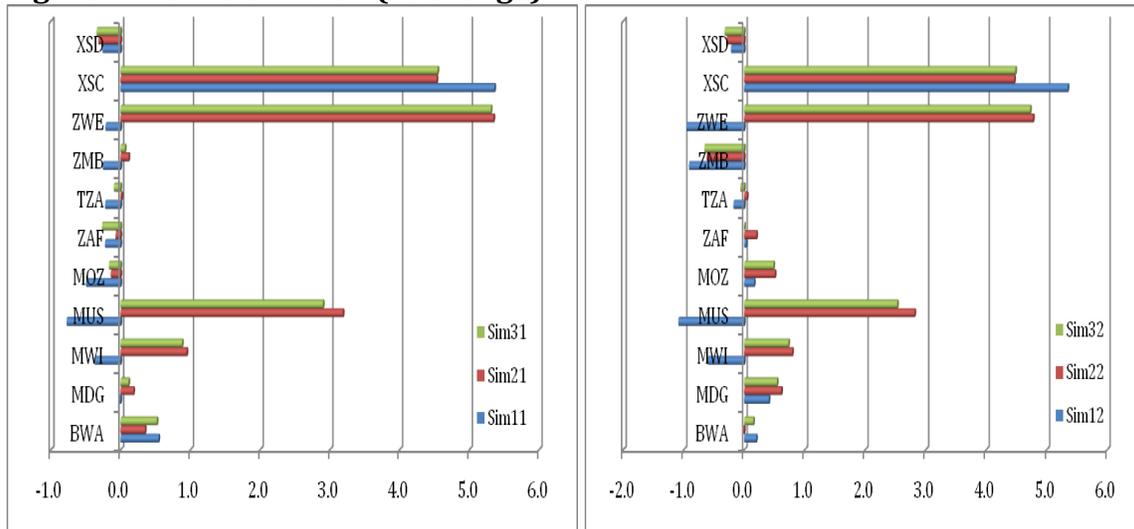
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<sup>42</sup> The employed formulas for IC and equivalent variation in the GLOBE model are from Blonigen, Flynn and Reinert (1997). Changes in total absorption generated by GLOBE are a good proxy for changes in the Hicksian measure for consumer welfare. Robinson and Willenbockel (2009: 26) estimate the correlation coefficient between changes in real absorption and the equivalent variation in percent of baseline consumption by country to be 0.9946.

### V.3.1.2. Terms of Trade and Exchange Rate

Results on *terms of trade* and *exchange rate* support the welfare findings. Almost the same SADC regions (rest of SACU, Zimbabwe Mauritius and Malawi) benefit from favourable changes in terms of trade (Figure 1) and appreciations in domestic currency, Table 14. Furthermore, these gains are associated with the two liberalization scenarios that include all SADC members, except the case of “rest of SACU” region that is better off under Sim11.

**Figure 1: Terms of Trade (% change)**



Source: Simulation results; Set 1 (Current Intra-SADC Protection), Set2 (Full Intra-SADC Trade Liberalization).

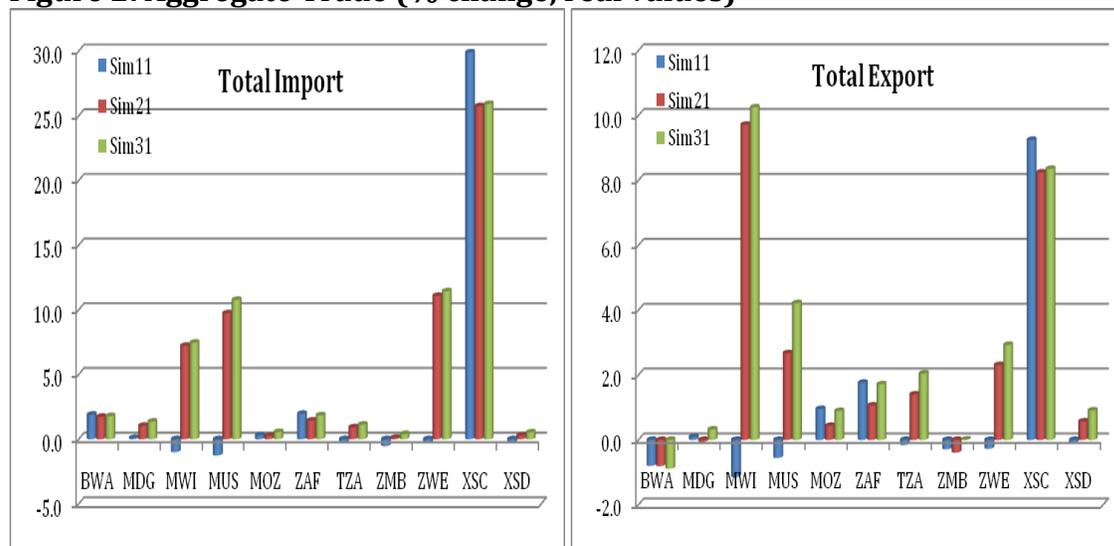
Taking Sim31 as an example shows that these favourable changes are associated with the EU side of the scenario (Sim31-EU) whereas the SADC side (Sim31-SADC) generates negative, albeit slight, effects. Eliminating tariffs on SADC imports from the EU leads to deterioration in terms of trade and depreciation in domestic currency for almost all SADC members. In contrary, eliminating tariffs on the EU imports from SADC boosts world prices of exports from these four regions only whereas world prices of their imports increase proportionally less, the price changes that lead to improvements in their terms of trade. In light of the external balance closure rule, their exchange rates have to drop in order to keep current account balances fixed at their baseline levels. As such, Sim31 results reflect the net effect of Sim31-SADC (towards terms of trade deterioration and domestic currency depreciation) and Sim31-EU (towards terms of trade improvement and domestic currency appreciation). For the beneficiary regions, the favourable effects induced by Sim31-EU outweigh the adverse effects induced by Sim31-SADC.

### V.3.1.3. Aggregated Trade Effects

As shown in Figure 2, the simulated liberalization shocks boost trade for many SADC countries with the highest increases take place in the same beneficiary regions (rest of SACU, Zimbabwe, Mauritius and Malawi). In the baseline scenario, trade intensity measure for these four regions indicates high dependency on external trade which explains their vulnerability to the simulated trade liberalization shocks.

Recalling that the model maintains trade balances fixed, changes in terms of trade reflect changes in trade measured in real terms. For instance, the adverse effects on terms of trade induced by Sim31-SADC imply less affordable imports (for the same amount of exports) and, thus, the increases in import are proportionally less than the increases in export for virtually all SADC members.<sup>43</sup> In other words, exports have to increase proportionally higher compared to the increases in imports to pay for imports that not only increase but also become relatively more expensive. Results generated by Sim31-EU reflect more affordable imports for XSC, ZWE and MUS, the regions that experience the highest improvements in terms of trade. The additive results for Sim31 show that the biggest shifts in imports occur in the same beneficiary regions where increases in import are proportionally higher than the increases in exports. The conclusion is, thus, reducing tariffs on imports from the EU does not simulate SADC exports by itself.

**Figure 2: Aggregate Trade (% change, real values)**



Source: Simulation results; Set 1 (Current Intra-SADC Protection).

Trade figures increase significantly for many SADC countries under the intra-SADC liberalization exercise (Table 14) the result that highlights the importance of removing barriers to intra-SADC trade. The inclusion of intra-SADC integration allows other members (i.e. Zambia, Mozambique and Tanzania) to achieve export expansions that would not have been achieved under the liberalization scenarios in isolation. However, exports from other regions (e.g. rest of SACU) hardly change.

#### V.3.1.4. Trade with the EU

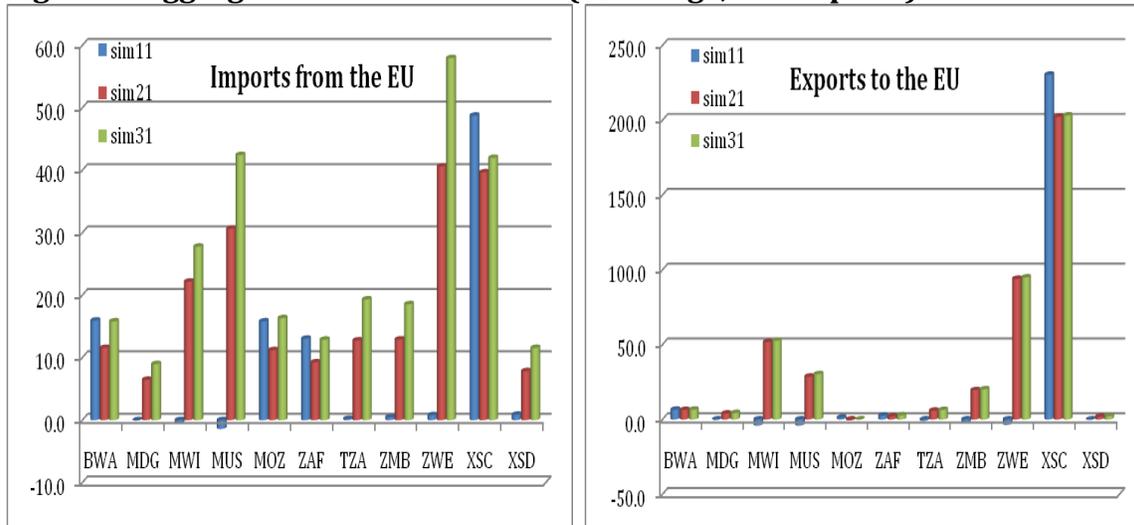
Unlike the aggregate trade balances, bilateral trade balances for each pair of trade partners are allowed to vary. In this sense, changes in bilateral trade are not entirely explained by changes in terms of trade and require more denotative analyses for trade flows and price changes at the sectoral level. The general observation that can be drawn here is that all SADC regions experience import increases whereas the

<sup>43</sup> Botswana, whose terms-of-trade improves under Sim31, is the only region that is able to fund more imports by selling proportionally less exports.

generated expansions in exports take place in a few regions only; the same beneficiary regions, Figure 3.<sup>44</sup>

It has been argued that the higher the initial tariffs, the greater the potential trade effects. These four regions face protection peaks that exceed 100% on their sugar (rest of SACU and Zimbabwe) and rice (Malawi and Mauritius) exports to the European markets. On the other hand, they impose high protection rates on specific commodity imports from the EU. These rates exceed 50% in the case of “milk, meat and dairy and meat products” (rest of SACU) and sugar and “beverages and tobacco products” (Mauritius) imports.

**Figure 3: Aggregate Trade with the EU (% change, world price)**



Source: Simulation results; Set 1 (Current Intra-SADC Protection).

### V.3.1.5. Fiscal Revenues

*Tariff revenues* substantially drop for all SADC, except rest of SACU, under all trade scenarios and their losses are far worse under Sim31, Figure 4. These losses reflect SADC high dependency on trade taxes as a major source of public revenue. The final impact of these tariff losses on the individual SADC economies will depend on the fiscal structure and on the possible compensatory instruments.

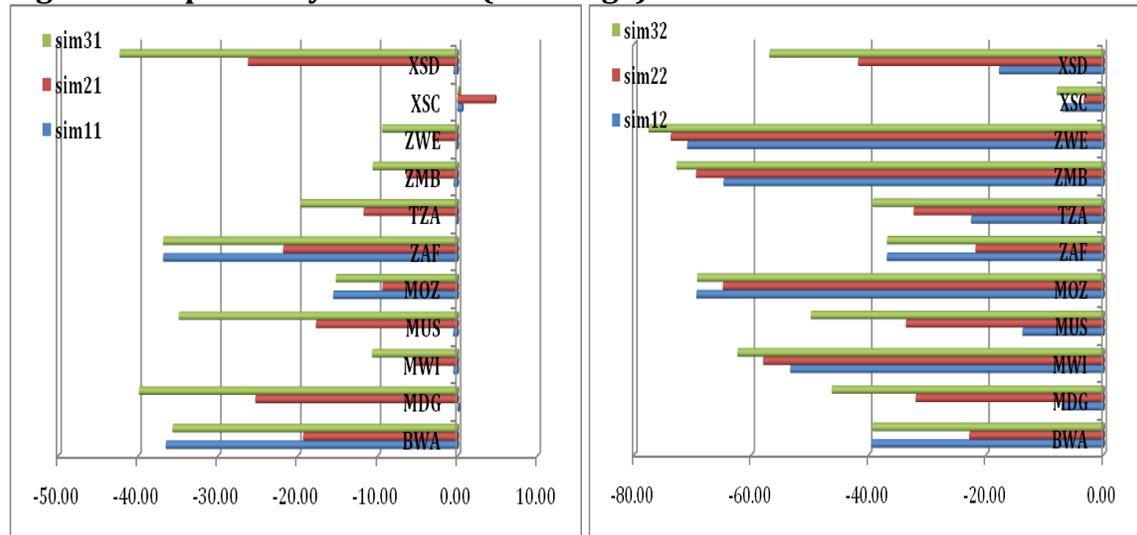
The point to highlight here is that SACU members pursue special fiscal arrangements to pool and distribute their tariff revenues according to a revenue-sharing formula which is not entirely based on trade. Therefore, their public revenues do not deteriorate so much under the SADC integration exercise compared with different liberalization scenarios in isolation.

On the basis of these remarkable tariff losses, SADC shows clear concerns about liberalization’s immediate impacts and its adjustment costs. These revenue losses also highlight the requirement for pursuing fiscal reform with various tax bases. SADC reform experiences suggest that they have achieved limited success in reforming their public budgets and have failed to replace trade taxes with other revenue sources. In order to domestically compensate these tariff losses, high

<sup>44</sup> These outstanding expansions in exports to the EU are calculated based on small baseline levels.

increases in sales tax, ranging from 15 to 35%, are required in cases like Mauritius, Tanzania and Zambia and more than 40% in rest of SADC, as shown in Table 14.

**Figure 4: Import Duty Revenues (% change)**



Source: Simulation results; Set 1 (Current Intra-SADC Protection), Set2 (Full Intra-SADC Trade Liberalization).

### V.3.2. Sector-specific Analysis

#### V.3.2.1. Trade Structure

The results at the macro level show increases in total trade and trade with the EU for rest of SACU, Zimbabwe, Mauritius and Malawi under the two liberalization scenarios that include all SADC members; Sim21 and Sim31. Tables 15 and 16 portray these findings at the sectoral level for Sim21. Almost all sectoral imports by the four regions rise. The agricultural sectors are the most affected with the highest import growth rates in sugar, other crops, “vegetables, fruit and nuts” and “fishing, forestry and other livestock products” sectors.<sup>45</sup> The four regions’ imports from the EU show significant increases in all agricultural sub-sectors. Besides, imports in specific manufacturing sectors (e.g. “textiles, wearing apparel and leather products”, “other manufactures” and “vehicle and transport equipment”) rise by more than 50 percent.

Export expansions are concentrated in a few sectors; namely sugar, rice and “milk, meat and dairy and meat products”, Table 16. All other sectoral exports drop, the agricultural sub-sectors in particular. Corresponding sectoral changes in exports to the European markets are revealed by the data. These changes are mainly attributed to removing barriers on these specific sectors exports to the EU that is a main exporting market. This highlights the importance of removing barriers to trade in the sectors of interests for different SADC countries.

Some interesting findings are generated by the “Symmetric Liberalization, SADC-EPA Group” scenario; Sim11. Sugar output in “rest of SACU” region, which is mainly an export-oriented activity, expands by more than ten times. Its sugar exports also

<sup>45</sup> The detailed sectoral findings show further import expansions by other SADC members that are not revealed at the aggregated level. These include “fishing, forestry and other livestock products” imports by Botswana and sugar imports by Madagascar, South Africa and Zambia.

expand and this expansion is entirely directed to the European market. Although the increases in “rest of SACU” sugar exports to third countries, their shares in its total sugar exports drop whereas the EU share raises. “Rest of SACU” region gains 59 percentage points of share in the EU sugar market at the expense of other European and SADC exporters, in particular Mauritius that loses 5 percentage points of its shares. The point to be noting here is that within SADC members, Mauritius is the main sugar supplier in the European markets followed by rest of SACU and both are net exporter. The results are, thus, suggestive of a situation in which rest of SACU under the “SADC-EPA group liberalization” scenario threatens the Mauritian trade position as the main sugar supplier in the European market that might lessen welfare gains for SADC region as a whole. It is, therefore, important for SADC members to collectively negotiate with the EU on multilateral liberalization programmes.

### **V.3.2.2. Industrial Structure**

Results under Sim21 scenario reveal expansions in output of sugar in almost all SADC members, Table 17. The output growth rates are the highest in rest of SACU, Zimbabwe, Malawi and Mauritius. Other sectors grow, i.e. “meat and dairy products” (rest of SACU and Botswana) and “vegetables, fruit and nuts” (rest of SACU). These results provide indications of the sectors of interests for different SADC members.<sup>46</sup> There is some evidence on potential falls in output in some sectors that will face greater competition from the European exporters. These sectors include rice and other crops (Mauritius) cotton (rest of SACU and Zimbabwe). Almost all the manufacturing sectors contract in the four beneficiary regions.<sup>47</sup>

These warning results suggest that producers in these specific sectors might lose their shares in domestic (and/or foreign) markets to the benefit of other domestic (and/or European) counterparts. Results show that the expansions in sugar output come at the expense of the manufacturing sectors’ shares in the production structures of the beneficiary regions. For example, “textiles, wearing apparel and leather products” share drops by 4 percentage points (rest of SACU and Mauritius) and “metals and metal products” share fall by 3 percentage points (Zimbabwe).

## **VI. Conclusions and Policy Implications**

This study examines the potential welfare, trade and structural effects of the proposed EU-SADC EPAs on the individual SADC members at a highly disaggregated sectoral level. The country- sector-specific analyses carried out by the study allow for considering different trade patterns and structures that are the benchmark for assessing and interpreting the liberalization impacts on the SADC economies.

On the basis of the model findings, welfare gains expected from the different liberalization scenarios are small and concentrated in a few SADC members. Results, however, suggest that it is for the benefit of SADC as a regional group to jointly

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<sup>46</sup> The “Symmetric Liberalization, All SADC” scenario (Sim31) generates the same results with slight differences in magnitude.

<sup>47</sup> It is worth keeping in mind that any production reallocation according to the basic closure rule should be attributed to factor (except natural resources) movements across sectors.

liberalize trade with the EU since the “SADC-EPA group liberalization” scenario generates favourable impact in a few regions while many SADC members lose. In light of revenues losses, structural and fiscal reforms for SADC economies are pre-requisite for any liberalization scenario with the EU.

The results at the sector level highlight the importance of removing barriers on SADC exports of sugar, rice and dairy products to the European markets. Moreover, the findings provide indications of the sensitive sectors that will face greater competition from their European substitutes. This is particularly of interests to the SADC negotiators who have opportunities to exclude specific sectors from the immediate reductions of tariff on imports from the EU.

**Appendix**  
**Table 1 Liberalization Program**

Configuration	Countries	Liberalization Coverage	Future Schedule	Goods Excluded	Other Features
SADC EPA Group	Botswana, Lesotho, Swaziland, Namibia	86% over four years	44 sensitive tariff lines by 2015 3 lines by 2018	agricultural, processed agricultural and textile products	cooperation on trade in goods, supply-side competitiveness, business enhancing infrastructure, trade in services, trade-related issues, Institutional capacity building, fiscal adjustments
	Mozambique	80.5% (or 81%) by 2023	100 tariff lines by 2018		
	Angola	EBA agreement			
	South Africa	TDCA agreement			
EAC EPA Group	Tanzania	82%; covers 74% of EAC tariff lines	64% in 2 years, 80% in 15 years, 82% in 25 years	agricultural products, wines and spirits, chemicals, plastics, wood-based paper, textiles and clothing, footwear, glassware	cooperation on sustainable use of resources in the fisheries sector
ESA EPA Group	Madagascar	over 80%	37% after 5 years, the remaining 43.7% progressively liberalized by 2022	meat, fish, products of animal origin, vegetables, cereals, beverages, plastics and rubber, articles of leather and fur-skins, paper and metals	regional integration and development strategies, mobilize resources, financial framework of the EU and other donors, expanding aid for trade commitments relating to EPA support requirements and adjustment costs, cooperation on sustainable use of resources in the fisheries sector
	Mauritius	95.6%	24.5 % in 2008, 53.6% by 2017, the remaining 42% in 2022	live animals and meat, edible products of animal origin, fats, edible preparations and beverages, chemicals, plastics and rubber articles of leather and fur skins, iron and steel, consumer electronic	
	Seychelles	97.5% by 2022	62% after 5 years, 77% by 2017 the remaining 20.5% by 2022	meat, fisheries, beverages, tobacco, leather articles, glass and ceramics, vehicles	
	Zambia	80%		Meat, milk and cheese vegetables, cereals, oils and fats, edible preparations, sugar, chemicals, plastic and rubber articles, scratch cards, textile, ceramic products, metal articles, machinery, vehicles and furniture	
	Zimbabwe	80% by 2022	45% by 2012 the remaining 35% liberalized progressively until 2022	products of animal origin, cereals, beverages paper, plastics and rubber, textiles and clothing, footwear, glass and ceramics, consumer electronics, vehicles	
	Malawi	EBA agreement			
ECCAS EPA Group	DR Congo	EBA agreement			

Source: constructed by the author from different resources.

**Table 2**  
**Region Aggregation**

Model No.	Model Code	Model Regions Description	GTAP No.	GTAP Code	GTAP Regions
1	BWA	Botswana	111	BWA	Botswana
2	MDG	Madagascar	102	MDG	Madagascar
3	MWI	Malawi	103	MWI	Malawi
4	MUS	Mauritius	104	MUS	Mauritius
5	MOZ	Mozambique	105	MOZ	Mozambique
6	ZAF	South Africa	112	ZAF	South Africa
7	TZA	Tanzania	106	TZA	Tanzania
8	ZMB	Zambia	108	ZMB	Zambia
9	ZWE	Zimbabwe	109	ZWE	Zimbabwe
10	XSC	Rest of SACU	113	XSC	Rest of South African Customs Union (Lesotho, Namibia, Swaziland)
11	XSD	Rest of SADC	100	XAC	Rest of South Central Africa (Angola, DR Congo)
12	EU	European Union-27	46	AUT	Austria
			47	BEL	Belgium
			48	CYP	Cyprus
			49	CZE	Czech Republic
			50	DNK	Denmark
			51	EST	Estonia
			52	FIN	Finland
			53	FRA	France
			54	DEU	Germany
			55	GRC	Greece
			56	HUN	Hungary
			57	IRL	Ireland
			58	ITA	Italy
			59	LVA	Latvia
			60	LTU	Lithuania
			61	LUX	Luxembourg
			62	MLT	Malta
			63	NLD	Netherlands
			64	POL	Poland
			65	PRT	Portugal
			66	SVN	Slovenia
			67	SVK	Slovakia
			68	ESP	Spain
			69	SWE	Sweden
			70	GBR	United Kingdom
			75	BGR	Bulgaria
			78	ROU	Romania
46	AUT	Austria			

**Table 2 (cont.)**

Model No.	Model Code	Model Regions Description	GTAP No.	GTAP Code	GTAP Regions
13	USA	United States of America	26	USA	United States of America
14	EAS	East Asia	4	CHN	China
			5	HKG	Hong Kong
			6	JPN	Japan
			7	KOR	Korea
			8	TWN	Taiwan
15	SAS	Southeast and South Asia	9	XEA	Rest of East Asia
			10	KHM	Cambodia
			11	IDN	Indonesia
			12	LAO	Lao People's Democratic Republic
			13	MMR	Myanmar
			14	MYS	Malaysia
			15	PHL	Philippines
			16	SGP	Singapore
			17	THA	Thailand
			18	VNM	Viet Nam
			19	XSE	Rest of Southeast Asia
			20	BGD	Bangladesh
			21	IND	India
			22	PAK	Pakistan
23	LKA	Sri Lanka			
16	SSA	Rest of Sub-Saharan Africa	24	XSA	Rest of South Asia
			96	NGA	Nigeria
			97	SEN	Senegal
			98	XWF	Rest of West Africa
			99	XCF	Rest of Central Africa
			101	ETH	Ethiopia
16	SSA	Rest of Sub-Saharan Africa	107	UGA	Uganda
			110	XEC	Rest of Eastern Africa
17	ROW	Rest of the World	All other GTAP Regions not included above		

Source: constructed by the author.

**Table 3**  
**Sector Aggregation**

Model No.	Model Code	Model Sectors Description	GTAP No.	GTAP Code	Sector Description
1	Ric	Paddy and processed rice	1	Pdr	Paddy rice
			23	Pcr	Processed rice
2	Wgr	Wheat and other cereal grains	2	Wht	Wheat
			3	Gro	Cereal grains nec
3	Vfr	Vegetables, fruit and nuts	4	v_f	Vegetables, fruit, nuts
4	Cot	Cotton	7	Pfb	Plant-based fibbers
5	Xcr	Other Crops	8	Ocr	Crops nec
6	Sgr	Sugar and sugar cane	24	Sgr	Sugar
			6	c_b	Sugar cane, sugar beet
7	Bvt	Beverages and tobacco products	26	b_t	Beverages and tobacco products
8	Xfp	Oil seeds, vegetables oils, fats and Other food products	5	Osd	Oil seeds
			21	Vol	Vegetable oils and fats
			25	Ofd	Food products nec
9	Mmp	Milk, Meat and dairy and meat products	11	Rmk	Raw milk
			19	Cmt	Meat: cattle, sheep, goats, horse
			20	Omt	Meat products nec
			22	Mil	Dairy products
10	Ffp	Fishing, forestry and other livestock products	9	Ctl	Cattle, sheep, goats, horses
			10	Oap	Animal products nec
			12	Wol	Wool, silk-worm cocoons
			13	Frs	Forestry
			14	Fsh	Fishing
11	Cog	Coal, oil, gas and other minerals	15	Coa	Coal
			16	Oil	Oil
			17	Gas	Gas
			18	Omn	Minerals nec
12	Twl	Textiles, wearing apparel and leather products	27	Tex	Textiles
			28	Wap	Wearing apparel
			29	Lea	Leather products
13	Pch	Petroleum, chemical and other mineral products	32	p_c	Petroleum, coal products
			33	Crp	Chemical, rubber, plastic prods
			34	Nmm	Mineral products nec
14	Mtp	Metals and metal products	35	i_s	Ferrous metals
			36	Nfm	Metals nec
			37	Fmp	Metal products
15	Veq	Vehicle and transport equipment	38	Mvh	Motor vehicles and parts
			39	Otn	Transport equipment nec
16	Emq	Electronic, machinery and other equipments	40	Ele	Electronic equipment
			41	Ome	Machinery and equipment nec
17	Xmn	Other manufactures	30	Lum	Wood products
			31	Ppp	Paper products, publishing
			42	Omf	Manufactures nec

**Table 3 (cont.)**

Model No.	Model Code	Model Sectors Description	GTAP No.	GTAP Code	Sector Description
18	Utc	Public Utilities and Construction	43	Ely	Electricity
			44	Gdt	Gas manufacture, distribution
			45	Wtr	Water
			46	Cns	Construction
19	Tcm	Trade, Transport and Communication	47	Trd	Trade
			48	Otp	Transport nec
			49	Wtp	Sea transport
			50	Atp	Air transport
			51	Cmn	Communication
20	Xsr	Other Services	52	Ofi	Financial services nec
			53	Isr	Insurance
			54	Obs	Business services nec
			55	Ros	Recreation and other services
			56	Osg	Public Administration /Defence/Health/Education
			57	Dwe	Dwellings

n.e.c. Not elsewhere classified

Source: constructed by the author.

**Table 4**  
**Macroeconomic and Trade Characteristics in SADC Economies, 2004**

	BWA	MDG	MWI	MUS	MOZ	ZAF	TZA	ZMB	ZWE	XSC	XSD
GDP (million US\$)											
GDP	8,722	4,352	1,792	5,920	6,086	213,934	11,473	5,402	4,080	9,062	23,886
Trade Flows (at world prices, million US\$)											
Exports	4202.2	2078.3	734.6	3937.8	2084.9	62132.0	2265.3	2058.3	2281.9	6728.7	13374.5
Imports	3543.3	1774.3	1110.0	3817.2	2329.6	56575.5	3915.9	2074.5	2290.7	5763.2	13090.6
Trade Dependency (% GDP)											
Exports	48.2	47.8	41.0	66.5	34.3	29.0	19.7	38.1	55.9	74.3	56.0
Imports	40.6	40.8	61.9	64.5	38.3	26.5	34.1	38.4	56.1	63.6	54.8
Public Revenue (%)											
Tariff	5.7	27.8	15.1	37.9	14.7	5.0	14.3	14.7	25.8	10.6	12.2
Direct Taxes	95.3	42.2	34.1	12.8	54.3	53.5	55.8	34.5	47.2	28.8	50.7
Factor Shares (% total value added, agents' prices)											
Land	0.4	3.2	3.9	1.2	3.5	0.4	5.1	3.1	3.9	0.6	1.4
Unskilled Labour	27.6	44.9	43.7	33.6	40.3	31.5	44.2	40.4	34.5	34.4	26.6
Skilled Labour	16.9	9.6	9.6	16.0	10.6	17.8	6.1	10.7	14.8	16.1	9.7
Capital	52.8	37.7	39.3	46.5	44.9	49.4	43.1	44.4	45.4	46.9	47.1
Natural Resources	2.4	4.7	3.6	2.8	0.8	1.0	1.4	1.3	1.5	1.9	15.3

Source: Own calculations based on GTAP7 Database

**Table 5**  
**Production Structures in SADC Economies, 2004** (% of total output)

Sectors	BWA	MDG	MWI	MUS	MOZ	ZAF	TZA	ZMB	ZWE	XSC	XSD
<b>Agriculture</b>	<b>8.3</b>	<b>44.3</b>	<b>39.9</b>	<b>16.1</b>	<b>24.7</b>	<b>9.5</b>	<b>44.3</b>	<b>25.8</b>	<b>26.3</b>	<b>13.5</b>	<b>17.3</b>
Ric	0.0	7.1	0.2	0.0	0.6	0.0	2.0	0.3	0.1	0.0	0.2
Wgr	0.6	0.1	6.2	0.0	2.7	0.3	6.7	3.2	0.8	0.6	2.5
Vfr	0.3	1.8	2.6	1.5	4.0	1.0	3.2	1.1	0.9	0.7	0.7
Cot	0.0	0.2	0.8	0.0	0.3	0.0	0.6	1.3	2.5	0.1	0.1
Xcr	0.0	4.1	14.4	0.1	5.0	0.1	6.3	4.3	7.2	0.4	2.6
Sgr	0.0	4.2	2.7	7.0	0.3	0.4	3.4	0.8	2.2	1.5	0.2
Bvt	1.2	7.8	3.9	0.9	0.5	1.7	4.0	1.9	4.5	1.4	1.6
Xfp	1.0	4.2	3.6	3.9	6.2	2.7	9.8	6.4	4.2	5.0	4.1
<b>Industry</b>	<b>30.0</b>	<b>27.0</b>	<b>21.8</b>	<b>33.9</b>	<b>14.5</b>	<b>34.5</b>	<b>12.6</b>	<b>27.0</b>	<b>31.1</b>	<b>38.2</b>	<b>40.7</b>
Mmp	20.6	5.6	6.4	6.5	0.8	2.5	2.2	2.2	7.1	4.9	30.0
Ffp	1.0	8.7	3.5	14.8	0.6	2.7	2.5	2.6	3.7	6.9	1.5
Cog	1.3	4.5	5.5	3.9	1.3	9.0	3.3	5.5	7.3	10.9	4.5
Twl	3.4	1.2	1.0	1.1	10.8	6.8	2.2	12.4	8.3	4.1	0.8
Pch	1.0	0.1	0.1	1.4	0.0	4.3	0.4	0.5	0.2	2.5	0.3
Mtp	0.4	0.1	0.4	2.8	0.1	4.3	0.4	1.1	0.6	3.7	0.9
Veq	2.3	6.7	4.9	3.5	0.9	4.8	1.7	2.7	3.8	5.1	2.6
Emq	20.6	5.6	6.4	6.5	0.8	2.5	2.2	2.2	7.1	4.9	30.0
Xmn	1.0	8.7	3.5	14.8	0.6	2.7	2.5	2.6	3.7	6.9	1.5
<b>Services</b>	<b>61.8</b>	<b>28.7</b>	<b>38.2</b>	<b>50.1</b>	<b>60.8</b>	<b>56.0</b>	<b>43.1</b>	<b>47.2</b>	<b>42.6</b>	<b>48.2</b>	<b>42.0</b>
Utc	13.1	7.5	2.6	6.2	16.9	6.1	6.4	11.3	11.8	5.4	7.0
Tcm	12.7	7.8	23.2	17.5	27.8	18.0	22.1	20.2	13.3	18.0	16.7
Xsr	36.0	13.4	12.5	26.3	16.1	31.9	14.6	15.7	17.5	24.8	18.4

Source: Own calculations based on GTAP7 Database

**Table 6**  
**Trade Compositions for SADC Economies**  
(World prices, %)

	Share of Total Exports					First Five Exported Goods	Share of Total Imports					First Five Imported Goods
	Cog	Xsr	Mtp	Tcm	Veq		Cog	Xsr	Mtp	Tcm	Veq	
BWA	65.78	7.99	6.91	6.66	3.07	90.41	65.30	7.90	7.11	6.59	3.10	90.00
MDG	26.43	22.18	12.14	10.19	8.76	79.70	26.67	21.45	12.30	9.79	8.77	78.97
MWI	39.21	24.61	9.36	7.86	4.54	85.56	40.08	23.33	9.76	7.83	4.30	85.30
MUS	27.08	22.46	15.22	9.35	8.67	82.78	27.59	21.80	14.77	9.84	8.41	82.42
MOZ	52.49	19.48	6.83	6.78	3.72	89.30	52.30	18.91	7.03	6.63	3.85	88.73
ZAF	26.60	13.43	11.07	8.89	8.20	68.19	25.91	14.31	11.20	8.65	7.94	68.01
TZA	20.57	13.59	10.58	10.17	9.37	64.28	19.47	14.91	10.94	9.95	8.87	64.14
ZMB	66.91	5.53	4.48	3.60	2.69	83.21	65.15	5.75	4.80	3.74	3.23	82.67
ZWE	24.31	20.39	12.79	7.72	5.68	70.88	23.66	20.96	12.51	7.75	5.80	70.68
XSC	17.64	16.76	16.45	9.98	7.98	68.80	17.44	16.84	16.29	10.26	7.60	68.42
XSD	91.86	1.62	1.54	1.52	0.60	97.14	91.91	1.64	1.54	1.45	0.76	97.31

Source: Own calculations based on GTAP7 Database

**Table 7**  
**Main Trade Partners for SADC Economies**

(World prices, %)

	Export Shares							Import Shares						
	SADC	EU	USA	EAS	SAS	SSA	ROW	SADC	EU	USA	EAS	SAS	SSA	ROW
BWA	10.07	71.81	5.35	2.72	0.81	0.13	9.11	73.79	12.20	3.17	3.70	1.40	0.10	5.63
MDG	1.17	47.21	29.47	9.07	5.12	0.31	7.64	11.72	38.08	8.06	20.81	9.77	0.64	10.92
MWI	15.60	34.91	17.99	8.80	5.16	4.97	12.58	46.02	19.94	5.37	9.07	8.09	2.14	9.38
MUS	3.21	55.08	16.06	8.84	4.98	1.52	10.30	9.55	33.58	5.12	13.24	15.50	0.90	22.12
MOZ	11.52	66.57	3.26	4.68	2.84	0.23	10.90	39.57	21.81	7.17	7.82	10.70	0.33	12.60
ZAF	16.18	35.61	9.50	15.60	6.71	3.37	13.02	6.85	39.69	7.85	16.00	6.11	2.49	21.02
TZA	7.63	35.57	9.65	12.11	11.80	6.00	17.25	13.88	24.98	7.35	12.43	13.62	4.15	23.59
ZMB	22.22	11.05	2.23	24.05	11.25	5.08	24.12	50.15	15.06	5.45	7.36	4.18	2.48	15.33
ZWE	31.93	29.72	5.97	13.59	5.62	1.64	11.54	59.57	12.06	5.54	7.51	3.69	0.86	10.76
XSC	37.80	26.40	19.01	5.54	2.24	2.01	7.01	66.19	13.83	4.69	7.72	2.43	0.66	4.48
XSD	2.02	11.01	35.10	43.79	2.34	0.29	5.44	6.95	39.08	10.70	24.51	5.46	1.21	12.08

Source: Own calculations based on GTAP7 Database

**Table 8**  
**Intra-SADC Trade Shares**

(World prices, %)

Exporters <sup>s</sup>	Imports Shares of Total Imports from SADC										
	BWA	MDG	MWI	MUS	MOZ	ZAF	TZA	ZMB	ZWE	XSC	XSD
BWA	0.0	0.1	0.7	0.3	0.1	8.5	0.2	1.0	6.9	0.2	0.1
MDG	0.0	0.0	0.0	4.3	0.0	0.2	0.1	0.0	0.0	0.0	0.1
MWI	0.1	0.1	0.0	0.2	1.9	1.8	1.2	0.8	0.8	0.1	0.2
MUS	0.1	33.0	0.4	0.0	0.4	1.1	1.4	0.4	0.3	0.0	0.3
MOZ	0.2	0.3	13.7	0.1	0.0	1.2	0.3	0.2	8.1	0.4	0.1
ZAF	96.9	62.0	62.2	86.4	86.3	0.0	67.9	83.4	76.4	98.1	68.4
TZA	0.0	1.7	5.3	0.3	0.4	3.3	0.0	1.1	0.1	0.1	0.2
ZMB	0.1	0.0	6.1	2.6	0.1	5.5	22.6	0.0	6.4	0.3	0.1
ZWE	2.3	0.1	10.5	1.0	1.8	13.3	1.0	10.3	0.0	0.6	0.5
XSC	0.3	2.8	1.1	4.6	8.7	58.1	5.2	2.7	1.0	0.2	30.1
XSD	0.0	0.0	0.0	0.3	0.2	7.1	0.1	0.0	0.0	0.1	0.0

Source: Own calculations based on GTAP7 Database

**Table 9**  
**SADC Trade with the EU and South Africa**

	Exports to the EU (at world prices)			Imports from South Africa (at world prices)		
	% of Total Exports	% of Total SADC Exports to the EU	Main Exported Goods	% of Total Imports	% of Total SADC Imports from South Africa	Main Imported Goods
BWA	71.8	8.7	Coal, oil, gas and other minerals	71.5	23.6	Petroleum, chemical and other mineral products; Electronic, machinery and other equipments; Metals and metal products
MDG	47.2	2.8	Oil seeds, vegetables oils, fats and Other food products; Textiles, wearing apparel and leather products	7.3	1.2	
MWI	34.9	0.7	Other Crops	28.6	3.0	
MUS	55.1	6.2	Textiles, wearing apparel and leather products	8.3	2.9	
MOZ	66.6	4.0	Metals and metal products	34.2	7.4	
ZAF	35.6	63.4	Coal, oil, gas and other minerals; Metals and metal products	0.0	0.0	
TZA	35.6	2.3	Trade, Transport and Communication; Oil seeds, vegetables oils, fats and Other food products	9.4	3.4	
ZMB	11.1	0.7	Metals and metal products;	41.8	8.1	
ZWE	29.7	1.9	Other Crops	45.5	9.7	
XSC	26.4	5.1	Coal, oil, gas and other minerals	64.9	34.9	
XSD	11.0	4.2		4.8	5.8	
All SADC	34.3	100.00		11.2	100.00	

Source: Own calculations based on GTAP7 Database.

**Table 10**  
**Applied Tariff Rates on SADC**  
**Imports from the EU by Commodity\***

(Imports-weighted 2004, %)

<b>Sectors</b>	<b>BWA</b>	<b>MDG</b>	<b>MWI</b>	<b>MUS</b>	<b>MOZ</b>	<b>ZAF</b>	<b>TZA</b>	<b>ZMB</b>	<b>ZWE</b>	<b>XSC</b>	<b>XSD</b>
<b>Ric</b>	0.0	0.0		0.0	0.0	0.0	0.0			0.0	1.7
<b>Wgr</b>	0.0	0.0	0.0	0.0	0.0	1.3	7.0	0.0	0.0	0.0	4.4
<b>Vfr</b>	0.0	8.9	0.0	12.1	17.1	1.0	12.1	13.2	17.0	7.1	7.8
<b>Cot</b>	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
<b>Xcr</b>	0.0	3.9	6.7	13.6	3.8	6.6	1.3	5.3	4.4	2.3	14.7
<b>Sgr</b>	0.0	13.0	0.0	50.0	16.7	4.1	22.7	0.0	0.0	0.0	5.7
<b>Bvt</b>	3.9	3.4	13.5	70.6	17.2	5.9	18.0	20.8	23.9	2.8	27.4
<b>Xfp</b>	1.3	2.7	16.6	10.4	19.1	7.4	20.5	21.7	24.1	5.0	10.6
<b>Mmp</b>	0.0	5.1	11.5	12.6	19.2	37.1	18.7	11.9	25.7	67.8	11.5
<b>Ffp</b>	0.0	0.0	0.0	4.0	8.6	0.9	10.3	6.3	10.7	1.3	10.9
<b>Cog</b>	0.0	0.0	0.0	0.0	7.7	0.0	2.6	4.8	12.5	0.0	9.5
<b>Twl</b>	11.4	6.8	17.3	16.5	19.1	12.3	19.9	18.5	28.3	16.6	14.5
<b>Pch</b>	1.5	2.0	1.9	23.3	4.7	2.8	7.2	6.4	8.2	2.9	10.5
<b>Mtp</b>	2.8	3.6	13.8	16.6	8.5	3.1	15.2	9.7	14.4	1.2	7.0
<b>Ve</b>	20.4	6.3	11.8	9.0	7.8	13.6	6.6	11.8	30.6	5.3	6.8
<b>Emq</b>	0.8	4.6	7.7	12.1	7.7	1.1	6.5	5.0	10.2	0.7	4.7
<b>Xmn</b>	3.1	3.7	7.9	35.7	14.8	4.4	11.8	13.0	19.6	7.0	11.1

\* Data covers all import distortions; ad valorem tariff rates (including tariff rate quotas) and the ad valorem equivalents (AVEs) of specific tariffs.

Source: Own calculations based on GTAP7 Database.

**Table 11**  
**Ad valorem Applied Tariff Rates**  
**on the EU Commodity Imports from SADC**

(Imports-weighted 2004, %)

<b>Sectors</b>	<b>BWA</b>	<b>MDG</b>	<b>MWI</b>	<b>MUS</b>	<b>MOZ</b>	<b>ZAF</b>	<b>TZA</b>	<b>ZMB</b>	<b>ZWE</b>	<b>XSC</b>	<b>XSD</b>
<b>Ric</b>	0.0	37.2	137.5	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
<b>Wgr</b>	0.0	0.0	0.0	0.0	0.0	10.1	0.1	0.0	0.0	0.0	0.0
<b>Vfr</b>	0.0	0.3	0.0	7.7	0.0	1.0	0.0	0.0	1.1	0.6	0.0
<b>Cot</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Xcr</b>	0.0	0.0	0.2	0.0	0.0	2.1	0.4	0.0	1.0	0.0	0.1
<b>Sgr</b>	0.0	112.0	87.3	79.2	48.1	60.7	82.0	90.1	146.3	242.2	67.4
<b>Bvt</b>	0.0	0.0	0.0	3.7	0.0	10.4	0.2	0.0	0.4	0.4	0.0
<b>Xfp</b>	3.9	0.0	0.0	1.0	0.0	10.9	0.0	0.0	0.3	0.3	0.1
<b>Mmp</b>	70.0	0.0	0.0	16.9	0.0	34.8	0.0	0.0	10.5	97.9	0.0
<b>Ffp</b>	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0
<b>Cog</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Twl</b>	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.3	0.0
<b>Pch</b>	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
<b>Mtp</b>	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
<b>Ve</b>	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
<b>Emq</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.4	0.0
<b>Xmn</b>	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

\* Data covers all import distortions; ad valorem tariff rates (including tariff rate quotas) and the ad valorem equivalents (AVEs) of specific tariffs.

Source: Own calculations based on GTAP7 Database.

**Table 12**  
**The Simulation Scenarios**

<b>Simulation Code</b>	<b>Scenario Description</b>	<b>SADC Side</b>	<b>EU Side</b>
<b>Set1: Current Intra-SADC Protection</b>			
Sim11	Symmetric Liberalization, SADC-EPA Group	Eliminating 90% of the applied tariffs on imports from the EU by the SADC-EPA Group (SACU & Mozambique) only	Eliminating 100% of the applied tariffs on imports from the SADC-EPA Group (SACU & Mozambique) only
Sim21	Asymmetric Liberalisation, All SADC	Eliminating 60% of the applied tariffs on imports from the EU by all SADC members	Eliminating 100% of the applied tariffs on imports from all SADC members
Sim31	Symmetric Liberalization, All SADC	Eliminating 90% of the applied tariffs on imports from the EU by all SADC members	Eliminating 100% of the applied tariffs on imports from all SADC members
<b>Set2: Full Intra-SADC Trade Liberalization</b>			
Sim12	Symmetric Liberalization, SADC-EPA Group	Sim11 & eliminating 100% of the applied tariffs on intra-SADC trade	Sim11
Sim22	Asymmetric Liberalisation, All SADC	Sim21 & eliminating 100% of the applied tariffs on intra-SADC trade	Sim21
Sim32	Symmetric Liberalization, All SADC	Sim31 & eliminating 100% of the applied tariffs on intra-SADC trade	Sim31
<b>Set3: Tariff Compensation</b>			
Sim13	Symmetric Liberalization, SADC-EPA Group	Sim11 & compensating tariff losses by raising domestic sales taxes in the SADC-EPA Group (SACU & Mozambique) only	Sim11
Sim23	Asymmetric Liberalisation, All SADC	Sim21 & compensating tariff losses by raising domestic sales taxes in all SADC members	Sim21
Sim33	Symmetric Liberalization, All SADC	Sim31 & compensating tariff losses by raising domestic sales taxes in all SADC members	Sim31

Source: constructed by the author.

**Table 13**  
**Impact on Real Macro Aggregates**

	BWA	MDG	MWI	MUS	MOZ	ZAF	TZA	ZMB	ZWE	XSC	XSD
	<b>Total Absorption (% change)</b>										
Sim11	0.77	-0.01	-0.18	-0.64	-0.20	0.05	-0.06	-0.11	-0.05	9.47	-0.14
Sim21	0.70	0.31	0.63	4.65	-0.04	0.11	0.00	0.09	5.06	8.05	-0.19
Sim31	0.77	0.26	0.58	4.30	-0.07	0.03	-0.05	0.05	4.93	8.06	-0.27
Sim12	0.63	0.20	-0.10	-0.86	0.37	0.18	-0.04	-0.33	-0.17	9.44	-0.15
Sim22	0.56	0.52	0.71	4.31	0.50	0.25	0.04	-0.16	5.18	7.96	-0.18
Sim32	0.62	0.47	0.70	4.02	0.51	0.16	0.00	-0.18	5.18	7.97	-0.23
	<b>Equivalent Variation on Household Consumption (\$USD Billions)</b>										
Sim11	0.023	0.000	-0.003	-0.019	-0.015	0.033	-0.006	-0.004	-0.003	0.380	-0.021
Sim21	0.021	0.009	0.006	0.131	-0.009	0.122	-0.005	-0.004	0.113	0.320	-0.002
Sim31	0.023	0.007	0.005	0.118	-0.011	0.003	-0.012	-0.006	0.109	0.321	0.004
Sim12	0.019	0.005	-0.004	-0.026	0.016	0.210	-0.015	-0.016	0.005	0.381	-0.004
Sim22	0.016	0.014	0.005	0.120	0.020	0.314	-0.011	-0.017	0.128	0.319	0.018
Sim32	0.019	0.012	0.005	0.108	0.020	0.191	-0.017	-0.018	0.127	0.320	0.025

Source: Simulation results; Set 1 (Current Intra-SADC Protection), Set2 (Full Intra-SADC Trade Liberalization).

**Table 14**  
**Aggregate Trade Impacts (% change)**

	BWA	MDG	MWI	MUS	MOZ	ZAF	TZA	ZMB	ZWE	XSC	XSD
<b>Real Exchange Rate</b>											
Sim11	-1.78	0.09	0.38	0.92	-0.29	0.10	0.01	-0.02	-0.38	-15.92	-0.23
Sim21	-1.94	-0.56	-4.74	-4.75	-0.69	-0.23	0.05	-1.27	-8.29	-14.27	1.06
Sim31	-1.71	-0.45	-4.53	-3.75	-0.54	0.16	0.41	-1.07	-7.87	-14.11	1.87
Sim12	-1.94	0.27	2.51	1.79	1.27	-0.41	0.54	1.35	5.05	-16.07	0.72
Sim22	-2.12	-0.38	-2.72	-4.08	0.86	-0.76	0.51	0.11	-3.09	-14.36	1.95
Sim32	-1.88	-0.27	-2.54	-3.13	0.99	-0.36	0.84	0.29	-2.78	-14.19	2.72
<b>Imports Value (World prices)*</b>											
Sim11	1.9	0.1	-1.0	-1.2	0.3	2.0	-0.3	-0.5	-0.3	29.9	-0.3
Sim21	1.7	1.0	7.2	9.7	0.3	1.4	0.9	0.1	11.1	25.7	0.3
Sim31	1.8	1.4	7.5	10.8	0.6	1.8	1.1	0.4	11.4	25.9	0.5
Sim12	1.7	1.4	3.4	0.2	5.8	3.0	1.5	6.7	9.5	30.1	0.1
Sim22	1.5	2.4	11.8	12.3	5.8	2.5	2.7	7.2	21.3	25.8	0.7
Sim32	1.5	2.7	12.0	13.4	6.1	2.9	2.9	7.5	21.7	25.9	1.0
<b>Exports Value (World prices)*</b>											
Sim11	-0.8	0.1	-1.1	-0.6	1.0	1.8	-0.2	-0.3	-0.3	9.2	-0.1
Sim21	-0.8	-0.1	9.7	2.7	0.4	1.1	1.4	-0.4	2.3	8.2	0.6
Sim31	-0.9	0.3	10.2	4.2	0.9	1.7	2.0	0.0	2.9	8.4	0.9
Sim12	-0.7	0.8	5.7	1.2	5.7	2.4	2.8	7.5	10.7	9.6	0.3
Sim22	-0.7	0.7	16.6	5.3	5.3	1.7	4.2	7.4	12.5	8.5	0.9
Sim32	-0.8	1.1	17.1	6.8	5.6	2.3	4.8	7.7	12.9	8.6	1.3
<b>Sales Tax Revenue (% change)</b>											
Sim13			2.0	1.1	12.1	7.5	1.1	2.2		4.5	2.1
Sim23			-4.3	15.9	7.2	4.2	16.5	26.8		3.6	40.6
Sim33			0.2	34.1	11.5	7.6	28.2	37.4		5.0	65.0

Note: \* Note: percentage changes are calculated based on figures valued at baseline world prices.

Source: Simulation results; Set 1 (Current Intra-SADC Protection), Set2 (Full Intra-SADC Trade Liberalization), Set 3 (Tariff Compensation).

**Table 15**  
**Sectoral Imports by Selected SADC Members**

(% change, Volume Terms)

	BWA	MWI	MUS	ZWE	XSC	BWA	MWI	MUS	ZWE	XSC
	<b>Total Imports</b>					<b>Imports from the EU</b>				
cRic	6	6	1	22	29	3	7	9	46	26
cWgr	10	4	0	13	34	16	9	0	18	40
cVfr	12	6	35	16	155	14	13	56	42	173
cCot	3	-1	3	26	-11	40	4	4	24	1
cXcr	11	3	53	60	130	13	21	87	85	135
cSgr	7	92	142	427	251	-12	37	355	222	140
cBvt	1	3	21	12	17	6	16	36	30	22
cXfp	1	5	8	17	34	8	33	20	67	46
cMmp	-7	11	18	46	24	10	53	50	179	314
cFfp	52	-4	14	43	74	62	12	21	56	78
cCog	3	-2	13	4	-17	4	13	13	17	-18
cTwl	-1	8	-5	22	10	27	54	26	100	56
cPch	1	7	10	11	16	6	13	47	29	23
cMtp	-1	7	2	-7	17	9	45	34	32	22
cVeq	2	2	12	9	21	32	22	25	58	34
cEmq	1	7	12	5	31	5	24	26	27	36
cXmn	3	13	12	26	30	12	26	57	65	50
cUtc	3	9	10	20	32	4	9	10	21	33
cTcm	3	12	14	11	45	3	12	14	11	45
cXsr	3	9	11	16	29	3	9	11	16	29

Source: Simulation results; Sim21 (Asymmetric Liberalisation, All SADC).

**Table 16**  
**Sectoral Exports by Selected SADC Members**

(% change, Volume Terms)

	BWA	MWI	MUS	ZWE	XSC	BWA	MWI	MUS	ZWE	XSC
	Total Exports					Exports to the EU				
cRic	-31	378	-59	-17	-36	-40	750	-1	-25	-46
cWgr	-21	-3	-9	-26	-48	-23	-11	0	0	-50
cVfr	-17	-5	-44	-27	-7	-30	-8	-41	-28	-7
cCot	-15	-7	-5	-48	-63	-27	-14	-1	-50	-65
cXcr	-15	-19	-67	-52	-59	-1	-19	-68	-51	-61
cSgr	63	226	164	853	1091	82	427	170	1282	3276
cBvt	-3	-4	-4	-10	-18	-3	-4	-3	-11	-18
cXfp	-3	-4	-21	-14	-39	4	0	-21	-14	-38
cMmp	265	-1	-25	-34	311	396	1	10	-16	649
cFfp	0	-6	-29	-17	-21	-2	-6	-29	-23	-22
cCog	-4	-3	-4	-10	-34	-4	-3	-4	-11	-35
cTwl	-8	-24	-20	-31	-58	-9	0	-20	-32	-58
cPch	-4	-9	-20	-13	-44	0	0	-21	0	-45
cMtp	-15	-17	-5	-31	-55	0	0	-5	-32	-55
cVeq	-23	-11	-16	-27	-31	0	0	-16	0	-27
cEmq	-13	-10	-29	-25	-48	-15	0	-29	0	-48
cXmn	-5	-14	-22	-24	-43	-7	0	-22	-26	-44
cUtc	-2	-5	0	-7	-14	-2	0	0	-7	-14
cTcm	-3	-6	-9	-7	-8	-3	-6	-9	-8	-9
cXsr	-3	-2	-7	-9	-20	-3	0	-7	-9	-20

Source: Simulation results; Sim21 (Asymmetric Liberalisation, All SADC).

**Table 17**

**Domestic Production by Activities**

	BWA	MWI	MUS	ZWE	XSC	BWA	MWI	MUS	ZWE	XSC
	<b>Changes in Activity Size</b> (Percentage change)					<b>Change in Activity Share</b> (Percentage points)				
<b>aRic</b>	-28	12	-57	-4	-22	0	0	0	0	0
<b>aWgr</b>	-9	-1	-9	-17	-23	0	0	0	0	0
<b>aVfr</b>	-13	-2	-26	-22	55	0	0	0	0	1
<b>aCot</b>	-6	-7	-4	-46	-57	0	0	0	-1	0
<b>aXcr</b>	-23	-16	-53	-44	-14	0	-3	0	-3	0
<b>aSgr</b>	-6	215	147	700	923	0	5	12	15	13
<b>aBvt</b>	-1	0	-2	-2	-8	0	0	0	0	0
<b>aXfp</b>	-1	-4	-16	-1	-28	0	0	-1	0	-2
<b>aMmp</b>	56	-2	-21	-13	123	2	0	0	0	2
<b>aFfp</b>	39	-1	-16	4	13	1	0	0	0	0
<b>aCog</b>	-4	-3	-4	-7	-34	-1	-1	-1	-1	-2
<b>aTwr</b>	-8	-20	-20	-19	-54	0	-1	-4	-1	-4
<b>aPch</b>	-3	-6	-15	-7	-36	0	0	-1	-1	-4
<b>aMtp</b>	-13	-9	-4	-31	-45	0	0	0	-3	-2
<b>aVeq</b>	-23	-10	-9	-23	-14	0	0	0	0	-1
<b>aEmq</b>	-13	-9	-26	-24	-32	0	0	-1	0	-1
<b>aXmn</b>	-2	-7	-21	-15	-28	0	0	-1	-1	-2
<b>aUtc</b>	1	2	7	9	10	0	0	0	0	0
<b>aTcm</b>	-1	4	-4	1	22	0	1	-2	-1	3
<b>aXsr</b>	0	0	1	4	0	0	0	-1	-1	-1

Source: Simulation results; Sim21 (Asymmetric Liberalisation, All SADC).

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