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# SADC Integration and the EU's Economic Partnership Agreements

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## 1. Introduction

Since gaining independence many African states have sought to develop mutually beneficial bilateral and multi lateral trade relations with other African states. These processes have produced a large number of regional trade agreements, e.g., COMESA, SADC, ECOWAS, etc., although all too often these agreements have apparently produced few economic benefits for their members. To a large extent this is not surprising given the limited trade flows between African states and the dominance of trade with the former colonial powers – a consequence exacerbated by the high costs associated with intra-African trade – and a lack of political stability in all too many African states.

Over the last decade SADC has sought to consolidate the agreements between its members with a view to creating an economic block sufficiently large as to allow SADC members to reduce their dependence on trade with non-African partners. One reason to believe this may be possible is the inclusion of South Africa – Africa's economic powerhouse - in SADC, which has become viable due to the changed political realities of southern Africa with the advent of majority rule in South Africa. Even with the inclusion of South Africa doubts have been cast upon the viability of successful economic integration along the lines of a hub-and-spoke model because the economy of South Africa is not big enough to act as a catalytic hub (See Lewis, Robinson and Thierfelder, 2001).

Nevertheless SADC has committed itself to the achievement of a SADC Free Trade Area and a SADC Customs Union – notionally by 2010. At the same time however the EU is seeking to establish two EPAs in eastern and southern Africa that include both members and non-members of SADC. Since these EPAs cut across the membership of SADC they pose potential difficulties for the members of SADC, who in one extreme will be required to choose between membership of a SADC economic union and an EPA with the EU.

The analysis reported in this paper seeks to evaluate the extent to which a SADC economic union is a viable economic proposal and the impacts upon the viability of a SADC union in the presence of EPAs.

## 2. SADC Integration

### 2.1 Africa and Economic Integration

The last 20 or so years has seen a worldwide blossoming of bilateral trade agreements. While in the main these agreements have been dominated by the presence of one, or more, rich countries there have also been substantial numbers of agreements that solely include developing and/or least developed countries. African nations have been active participants in these processes, which have seen the emergence of a number of African bilateral agreements, e.g., COMESA, EAC, ECOWAS.

Opinion is divided about the development of bilateral agreements. While some authorities argue that the development of bilateral agreements constitutes a 'stepping stone' towards some form of global/multilateral trade agreement others argue that bilateral agreements inhibit the achievement of global agreements. For many nations the combination of the slow pace of progress of GATT/WTO negotiations and the emergence of bilateral agreements elsewhere make it easy to understand why nations feel compelled to pursue bilateral agreements. In the African context, and because of the importance of African trade links with the EU, it is also arguable that the replacing of the Lomé convention with Cotonou and the emphasis placed on economic partnership agreements (EPA) has encouraged the development of bilateral agreements in Africa.

This section briefly reviews the conditions for beneficial integration, the overlapping agreements involving SADC members and empirical evidence. The overview is not exhaustive.

SADC's integration objectives are the achievement of a free trade agreement (FTA) and a customs union (CU), with some limited aspirations towards some coordination of trade policies and mutual development assistance.[1] In the context of this study, and the specific policy environment within which SADC is operating, these objectives point up a number of issues that will need to be addressed.

First, both preferential and free trade agreements require consideration of issues associated with indirect market access by third parties; unless appropriate RoO are specified third parties and producers in member countries can exploit differences in the

[1] Bhagwati's taxonomy of integration defines five stages: (i) Preferential Trade Agreement (PTA), (ii) Free Trade Agreement (FTA), (iii) Customs Unions (CU), (iv) Common Market, and (v) Economic Union. Thus SADC's objectives involve stages 2 and 3 with some elements of stage 4.

trade barriers imposed by members of the agreement. Hence there is a complication for the SADC FTA through cross-cutting memberships of multiple FTA, particularly SADC and COMESA.

Second, membership of a SADC Customs Union is incompatible with members retaining bilateral agreements with non-members. This implies the preclusion of membership of both a SADC Customs Union and COMESA and the need for all SADC members to renegotiate existing bilateral agreements, e.g., the South Africa EU FTA.

And third, the formation of cross cutting EPAs with the European Union are inconsistent with a SADC wide CU, although South Africa's membership of SACU did not stop the formation of the South Africa EU FTA.

## 2.2 Conditions for Beneficial Regionalisation

The potential for successful regionalisation programmes depends critically upon the ability of the members to take profitable advantage of the opportunities offered by preferential market access. A convenient summary of factors that might advance and/or constrain regional integration has been provided by NEPRU (2005) and is summarised in Table 2.1.

**Table 2.1 Factors that Advance and/or Constrain Regional Integration**

| Factors that advance regional integration | Factors that constrain regional integration |
|---|---|
| • A similar production structure and a high level of intra-industrial trade among partners or dissimilar factor endowments<br>• Large, prosperous markets with high consumer purchasing power and a high income equality<br>• High factor mobility: equal distribution of trade benefits<br>• Competitive environment: increased quality of goods and innovation stimuli<br>• Open trading regime: low adjustment costs<br>• Economically and politically stable member Countries<br>• Geographical closeness and proper infrastructure: low transaction costs<br>• Cooperation in trade-related areas: facilitation of intra-regional trade<br>• Compensation mechanism: anticipation of regional disparities<br>• Creation of common regional institutions: reduction of political and economic uncertainties<br>• Political will to integrate<br>• Cultural homogeneity and common political values: consensus on common policies | • A different production structure and a high level of inter-industrial trade among trading partners or a very similar factor endowment and a low level of industrialisation among trading partners<br>• Small economies with low purchasing power<br>• High economic disparities among member countries: trade imbalances and dissimilar gains and losses<br>• Low factor mobility and protectionist policies among member countries<br>• Economically and politically instable member countries<br>• Protectionist trading regime: high adjustment costs (such as fiscal losses)<br>• Geographical disparities and a weak infrastructure: high transaction costs<br>• Lack of intra-regional trade coordination and unclear mandate of regional integration scheme<br>• Missing political will to integrate<br>• Overlapping memberships in different integration schemes with rival goals |

Source: NEPRU Yearbook Vol. 5-2005

In the context of African integration it is noticeable how few of the factors that constrain the potential for successful integration are present in southern Africa. Economically the most important factors are the low levels of industrialisation and incomes, low levels of trade between African economies, high transport costs associated

with weak transport infrastructures[2], high degrees of dependence on trade taxes and limited flexibility. Similarly political uncertainties and instabilities, associated with the development of modern nation states, make it difficult to sustain the political will and cultural homogeneity needed for integration. These are compounded by relatively weak institutional structures, associated with small pools of highly skilled administrators, that are required to develop the national and supra national bodies required to sustain economic integration.

## 2.3 Regional Groupings in the SADC Region

Much has been written about the overlapping membership between SADC, COMESA, SACU, and the East African Community. Indeed several trade analysts, e.g., Kalenga (2003), Khandelwal (2004); and Gibb (2006), have argued that the overlapping memberships of trade agreements and customs unions are geographically, economically and politically unsustainable.

All five members of SACU belong to SADC, while four SADC countries - Malawi, Mauritius, Swaziland, Zambia, and Zimbabwe - are part of the COMESA FTA process and are working towards a COMESA customs union, and one SADC member – Tanzania - is a member of the EAC (see Table 2.2).

[2] In part these are geographic and legacies of history and in part they are reflections of trade patterns that emphasise trade with countries on other continents.

**Table 2.2 SADC Country Membership to Regional Groupings**

| | SADC | COMESA | EAC | SACU | ESA-EU EPA | SADC-EU EPA |
|---|---|---|---|---|---|---|
| Angola | X | | | | | X |
| Botswana | X | | | X | | X |
| DRC | X | X | | | X | |
| Lesotho | X | | | X | | X |
| Madagascar | X | X | | | X | |
| Malawi | X | X | | | X | |
| Mauritius | X | X | | | X | |
| Mozambique | X | | | | | X |
| Namibia | X | | | X | | X |
| South Africa | X | | | X | | |
| Swaziland | X | X | | X | | X |
| Tanzania | X | | X | | | X |
| Zambia | X | X | | | X | |
| Zimbabwe | X | X | | | X | |
| Aim | FTA 2008 | | | | EPA 2008 | EPA 2008 |

Source: Author

Thus although both SADC and COMESA have gradually converged towards a market driven agenda, the cross cutting pattern of relationships does generate issues that will need to be addressed. While the current FTAs of SADC and COMESA can co-exist with appropriate RoO – stage 2 of the sequence of integration mentioned above; memberships of multiple Customs Unions are not (in theory) possible. A partial list of the technical difficulties illustrates the magnitudes of the political task involved[3].

- Zimbabwe belongs to both SADC and COMESA. Under the SADC Protocol on Trade, Zimbabwe should provide duty-free access to South African products conforming to the rules of origin by at the least 2012. However, Zimbabwe is due to implement a COMESA CET by 2008 that excludes South Africa.
- Kenya, a COMESA member state has a CU with Tanzania a SADC member state. South African goods can therefore enter Uganda and Kenya markets duty-free through Tanzania by virtue of the SADC Trade Protocol.
- Seven countries (Angola, DR Congo, Malawi, Mauritius, Swaziland, Zambia and Zimbabwe) are members of both SADC and COMESA.

[3] The list is adapted from Gibb (2006).

COMESA is negotiating an Economic Partnership Agreement (EPA) with the EU.

- Egypt has its own trade agreement with the EU but is also a member of COMESA.
- SACU is already a customs union and includes South Africa, which has unilateral agreements with the EU.
- Botswana, Namibia, Lesotho have joined Angola, Mozambique and Tanzania in negotiating an EPA with the EU.

## 2.4 Empirical Evidence on African Integration

The empirical evidence on the potential benefits of bilateral and multilateral trade agreements within Africa and between African and other regions suggests that a number of general conclusions can be drawn.

1. The economic/welfare gains are small, although generally positive.
2. Agreements between African economies and OECD countries, especially the EU,
    - yield far greater benefits than those between African countries;
    - require substantially greater structural adjustments in the African partner economies than the OECD countries;
    - involve a redirection of resources towards agriculture and natural resource intensity activities in African economies;
    - there is some evidence to indicate 'beggar thy neighbour' consequences, whereby other African economies are disadvantaged.
3. A substantial proportion of the gains realised by African countries derive from the reduction of trade distortions that result from domestic/African policies.
4. Distortions associated with the domestic policies, especially agricultural policies, of the OECD countries negatively impact upon African economies.
5. Agreements that involve substantial reductions in trade taxes can generate fiscal problems for governments.

6. Agreements between African economies appear to offer limited efficiency and resource allocation gains.
7. High trade, transport and transaction costs are impediments to African integration.

Thus while bilateral and multilateral trade reforms offer potential benefits to African economies the absolute magnitudes of the benefits in the short run appear to be limited and may require non trivial structural adjustments. However the benefits are nearly always positive while the costs of not engaging more closely with the global economy are likely to be large, e.g., a preferential agreement with the EU or US may allow access to their agricultural markets that may otherwise not be available.

## 2.5 Economic Integration and SADC

The Southern African Development Community (SADC) grew out of the Southern African Development Coordination Conference (SADCC), whose main aim of was to coordinate development projects in order to lessen economic dependence on the then apartheid South Africa. Since the establishment of the legal charter in 1992, SADC's integrative strategy has, in the main, concentrated on the relaxation of supply-side constraints to trade; this strategy incorporates the basic elements of a free trade area (FTA). Subsequently member countries have agreed to liberalize 85% of intra-SADC trade by 2008 and liberalize all sensitive sectors, including textiles, clothing and motor vehicles, by 2012 although some exclusions remain. In 2004 SADC has unveiled a plan for the establishment of a Customs Union (CU), with a Common External Tariff (CET), by 2010, a Common Market pact by 2015 and establishment of a SADC Central Bank and preparation for a single currency by 2016. SADC thereby indicated its intention to move beyond trade integration with tentative steps towards an economic union.

However SADC countries have generally displayed cautious approaches to intra-regional trade liberalisation in the construction of their tariff liberalisation offers and schedules. These can be attributed to the concerns with sensitivity considerations stemming from the desire to offer continued protection to domestic industries as well as fears of foregoing tariff revenues. One manifestation of this has been the evolution of Rules of Origin (RoO). The RoO first agreed by SADC were simple, general and consistent with those in other developing country PTAs. Goods would qualify for SADC tariff preferences if they underwent a single change of tariff heading, contained a minimum of 35 percent regional value-added, or included non-SADC imported materials

worth no more than 60 percent of the value of total inputs used. But for a range reasons, mostly protection of domestic markets, exceptions have developed to the extent that the current RoO regime differs greatly from that first agreed. Consequently the current RoO regime is complex and restrictive.

It is argued (see Flatters 2001) that there are two quite different visions of SADC, namely

1. SADC as a 'fortress' within which Member States can develop through privileged access to an enlarged market area that remains protected, and relatively isolated, from external markets. Seen in this way, the purpose of the SADC Trade Protocol is to extend the boundaries of protected domestic markets, while continuing to protect the region's underdeveloped sectors and industries from external competition.
2. SADC as a platform for directly improving the competitiveness of individual Members in international markets. Regional integration is seen as part of a more general strategy for full and meaningful participation in global markets.

This line of argument suggests that the main issue to hand is the development of a common vision across SADC members, and unless such a vision can be achieved the process of developing a Customs Union will be difficult. The policies adopted by SACU members, and in particular South Africa, indicate that SACU may have a common vision of full and active participation in global markets. It is less obvious that all other SADC members share such a vision.

## 2.6 SADC Economies

SADC is notable as much for the differences between countries as for their similarities. The membership ranges from low-income countries - Democratic Republic of Congo, Madagascar, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe – lower-middle income countries – Angola, Lesotho and Swaziland - to upper middle-income countries – Botswana, Mauritius, Namibia and South Africa.[4] In addition 6 countries are classified as experiencing low human development - Angola, Democratic Republic of Congo, Malawi, Mozambique, Tanzania and Zambia - 7 countries with medium human development – Botswana, Madagascar, Lesotho, Namibia, South Africa, Swaziland and Zimbabwe – and

[4] Using the World Bank's classification scheme based on GNI per capita.

only Mauritius makes it into the high human development category.[5] Consequently not only are the members of SADC very different they are on average poor and short of skilled manpower.

Table 2.6 reports selected indicators of macroeconomic performance. The wide differences in the level of economic development and population size are evident. The average GDP per capita in Botswana, Mauritius and South Africa (US$11,000 to 12,700) is roughly 16-18 times that of DRC, Malawi and Tanzania (Development Network Africa, 2007). Most SADC economies have grown relatively slowly over the past 10 years; while SACU economies have shown convergence in GDP per capita since 1995 there is no such evidence for SADC as a whole. The disparity in overall economic size is also evident; South Africa contributed nearly 70 percent of the region's total income in 2005 and SACU nearly 75 percent. Such vast differences in economic development and economic size pose challenges to the formation of both and FTA and CU. However it is arguable that disparities in the availability of skilled manpower may be a bigger concern since the successful operation of an FTA and, especially, a Customs Union require considerable management skill.

**Table 2.3 Selected Macroeconomic Indicators in SADC Countries, 2006**

| | Population (m) | GDP Growth (% real) | Aid (% of GNI) | GDP per Capita (US $m PPP) | GDP (US $m, year 2000 prices | Domestic Investment /GDP (%) |
|---|---|---|---|---|---|---|
| Angola | 15.9 | 19.5 | 1.5 | 2,335 | 14,935 | 11.3 |
| Botswana | 1.8 | 4.1 | 0.7 | 12,387 | 8,204 | 27.5 |
| DRC | 57.5 | 5.1 | 26.9 | 714 | 5,236 | 17.7 |
| Lesotho | 1.8 | 6.2 | 3.9 | 3,335 | 988 | 31.4 |
| Madagascar | 18.6 | 4.9 | 18.7 | 923 | 4,340 | 24.8 |
| Malawi | 12.9 | 8.5 | 28.4 | 667 | 1,986 | 16.3 |
| Mauritius | 1.2 | 5.0 | 0.5 | 12,715 | 5,475 | 23.8 |
| Mozambique | 19.8 | 8.5 | 20.7 | 1,242 | 5,773 | 21.3 |
| Namibia | 2.0 | 4.6 | 2.0 | 7,586 | 4,231 | 23.7 |
| RSA | 46.9 | 5.0 | 0.3 | 11,110 | 159,695 | 17.3 |
| Swaziland | 1.1 | 2.8 | 1.7 | 4,824 | 1,548 | 17.8 |
| Tanzania | 38.3 | 6.2 | 12.5 | 744 | 12,646 | 18.9 |
| Zambia | 11.7 | 5.8 | 13.9 | 1,023 | 4,090 | 22.9 |
| Zimbabwe | 13.0 | -1.8 | 11.4 | 2,038 | 5,547 | 7.3 |

Source: World Bank World Development Indicator

It is also important to note the degree of so-called 'aid dependency' within SADC. Outside of SACU, without Leostho, only Mauritius and Angola had aid inflows of less

[5] Source: UNDP (2007). It is notable that Mauritius is ranked 65 and South Africa 121 out of 177 countries ranked by the UNDP.

than 2 percent of GNI in 2006, and Lesotho received only 3.9 percent of GNI as aid. But for the other SADC countries the aid flows were between 11 and 28 percent of GNI. A considerable proportion of those aid flows will have provided budgetary support for the governments and the sources of those aid flows will inevitably have some degree of influence, implicit or explicit, over the policy priorities of the recipient nations.

The disparities in aggregate indicators are carried down to the production structures of the economies, see Table 2.4. Not only is there evidence of a high degree of heterogeneity, more detailed analysis indicates that in many countries there are high concentrations of economic activity in limited activities and, often, the degree of value added is limited to relatively simple processes. Thus there is evidence that SADC is not characterised by the production structures that are classically considered desirable for beneficial integration.

**Table 2.4 GDP Structure in SADC Countries, 2005 (%)**

| | Agriculture | Industry | Manufacturing | Services |
|---|---|---|---|---|
| Angola | 7.2 | 74.0 | 3.6 | 18.7 |
| Botswana | 2.3 | 53.3 | 3.9 | 44.4 |
| Congo DR | 46.0 | 25.3 | 5.5 | 28.7 |
| Lesotho | 17.3 | 41.4 | 18.5 | 41.3 |
| Madagascar | 27.9 | 15.8 | 14.0 | 56.4 |
| Malawi | 34.7 | 19.4 | 12.5 | 45.9 |
| Mauritius | 6.1 | 28.2 | 20.2 | 65.7 |
| Mozambique | 22.3 | 29.8 | 14.2 | 47.9 |
| Namibia | 9.9 | 31.7 | 13.5 | 58.4 |
| South Africa | 2.5 | 30.3 | 18.6 | 67.1 |
| Swaziland | 11.5 | 47.6 | 36.9 | 40.9 |
| Tanzania | 44.5 | 17.8 | 7.5 | 37.6 |
| Zambia | 18.5 | 25.1 | 11.7 | 56.3 |
| Zimbabwe | 18.1 | 22.6 | 12.8 | 59.3 |

Sources: SADC, Country Reports, World Development Indicators

## 2.7 SADC Trade Policy Instruments and Practices

There are great disparities in the tariff structures of the SADC countries; these pose a significant challenge to any harmonisation initiative outside SACU. For some countries, e.g., Malawi and Zambia, tariff rates are low, either as a result of reforms embarked on unilaterally or under the auspices of IMF or World Bank structural adjustment programmes. In other countries, e.g., SACU, Mauritius and Zimbabwe, the tariff structures are highly complex, e.g., SACU has some 6,420 tariff lines and 100 tariff bands that comprise compound, specific and *ad valorem* tariffs, and/or involve high tariff

rates, e.g., maximum tariff rates in Mauritius and Zimbabwe are, respectively, 80 and 100 percent.

This indicates that the harmonisation process will be extended and that, unless members agree that all CET rates should equal the maximum in any SADC member, some tariff lines will rise while some fall. Moreover the harmonisation process will be subject to binding at the WTO. The various proposals for a CET may result in violations of these bindings thereby necessitating the need to enter into Article XXVIII renegotiations, which will further extend the process of harmonisation.

The distribution of tariff rates is well illustrated in Table 2.5, which reports distribution of tariff lines by country and commodity groups. While some countries have more than 50 percent of their MFN tariffs zero rated, i.e., duty free – Botswana Mauritius, Namibia and South Africa - other countries have no zero-rated lines. And while some countries have relatively low tariff rates, including having fifty percent or more of commodity lines zero rated, all countries have some commodities that attract high tariff rates. This heterogeneity is compounded by the fact that all members subject imports to further charges, besides tariffs, for protective and/or revenue generation purposes. For some members there is evidence that the revenue purpose is critical, and hence that government revenue concerns will be a major factor in SADC negotiations, especially when it comes to the CETs.

**Table 2.5 Tariffs Summary: Final Bound and Applied MFN Averages (2006)**

| | Simple Average Final Bound | | | Simple Average MFN Applied | | | Maximum Duty (all products) | | No. of Distinct Duty Rates(all products) | | No. of MFN Applied Tariff Lines(all products) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Ag | Non-Ag | Total | Ag | Non-Ag | Bound | MFN Applied | Bound | MFN Applied | |
| Angola | 59.2 | 52.8 | 60.1 | 7.2 | 9.6 | 6.8 | 80 | 30 | 5 | 50 | 5,385 |
| Botswana | 18.8 | 38.4 | 15.7 | 8 | 9.3 | 7.8 | 597 | 504 | 56 | 237 | 6,664 |
| DRC | 96.2 | 98.2 | 95.9 | 12 | 12.8 | 11.9 | 100 | 30 | 8 | 18 | 5,794 |
| Lesotho | 78.5 | 200 | 60 | 7.9 | 9 | 7.8 | 200 | 96 | 2 | 237 | 6,664 |
| Madagascar | 27.4 | 30 | 25.3 | 13.3 | 14.7 | 13.1 | 30 | 20 | 13 | 4 | 6,145 |
| Malawi | 75.9 | 121.3 | 42.4 | 13.5 | 14.7 | 13.3 | 125 | >1000 | 10 | 7 | 5,596 |
| Mauritius | 93.7 | 119.6 | 19.1 | 3.5 | 7.1 | 3 | 122 | 219 | 5 | 418 | 6,485 |
| Mozambique | 97.4 | 100 | 6.6 | 12.1 | 16.4 | 11.4 | 100 | 25 | 3 | 5 | 5,377 |
| Namibia | 19.1 | 40.8 | 15.7 | 8 | 9.2 | 7.8 | 597 | 343 | 57 | 237 | 6,664 |
| S. Africa | 19.1 | 40.8 | 15.7 | 8 | 9 | 7.9 | 597 | >1000 | 57 | 237 | 6,664 |
| Swaziland | 19.1 | 40.8 | 15.7 | 8 | 9.3 | 7.8 | 597 | 504 | 57 | 237 | 6,664 |
| Tanzania | 120 | 120 | 120 | 12.7 | 19 | 11.7 | 120 | 100 | 1 | 20 | 5,425 |
| Zambia | 106.4 | 123.3 | 42.2 | 13.9 | 18.8 | 13.2 | 125 | 25 | 7 | 4 | 6,203 |
| Zimbabwe | 91.9 | 139.6 | 10.8 | na | na | na | 150 | na | 46 | na | na |

Source: World Tariff Profile 2006; ITC and UNCTAD

## 3. Econmic Partnership Agreements

The origins of the developing emphasis on the development of economic partnership agreements between the EU and African Caribbean and Pacific (ACP) states lies in the need to revise the Lomé convention, in part becase it was running foul of the provision of GATT and in part because the distribution of benefits from Lomé was skewed towards relatively richer members of the ACP through the operation of preferential commoddity arrangements. This resulted in the signing of the Cotonou Agreement in 2002 that committed the EU and the ACP states to a partnership: "[T]he partnership shall be centred on the objective of reducing and eventually eradicating poverty consistent with the objectives of sustainable development and the gradual integration of the ACP countries into the world economy" (Cotonou Agreement, p 7). Among the means identified for achieving this objective were a series of provisions with respect to trade (see Cotonou Agreement, Part 3 Title II).

In the current context it is relevant to highlight Article 35(2) of the Cotonou Agreement which states that "Economic and trade cooperation shall build on regional integration initiatives of ACP States, bearing in mind that regional integration is a key instrument for the integration of ACP countries into the world economy". This suggests that EPAs should not be sought between the EU and groups of ACP countries that cut across membership of groups seeking regional integration. And yet the trade groups identified by the EU, Table 3.1, clearly cut across existing trade grouping for which there are on-going negotiations.

Admittedly the identification of coherent trade groups across countries on the same continent is often difficult and nowhere more so than in Africa. But consider the group the EU identify as 'Southern Africa "SADC Group"'; this only includes 8 of the 15 members of SADC with the remaining 7 allocated to the 'East South Africa ESA' group. While the ESA group may have been formed around membership of COMESA it clearly sidesteps the matter of joint membership of COMESA and SADC and the development of the SADC FTA that is due to be completed in 2010.

Another feature of the Cotonou Agreements is the recognition of the adjustment costs associated with the development of EPAs. As the ACP negotiating guidelines for EPAs state "[A]s a result of the implementation of EPAs, ACP countries will face a new set of adjustment difficulties and challenges such as revenue loss, unemployment, the upgrading of productive structures and human resources and the building of the requisite institutional capacity. Additional resources will have to be provided to the ACP to assist them in meeting the inevitable adjustment costs." ACP, 2002, p 8)

**Table 3.1 'Preliminary' EU Listing of Trade Groups (2006)**

| West Africa CEDEAO+ Mauritania | Central Africa CEMAC+STP | East South Africa ESA | Southern Africa "SADC group" | Caribbean | Pacific |
|---|---|---|---|---|---|
| Benin | Cameroon | Burundi | Angola | Antigua, Barb | Cook Is. |
| Burkina Faso | Centr. Africa | Comoros | Botswana | Bahamas | Fed. Micron. |
| Cape Verde | Chad | Djibouti | Lesotho | Barbados | Fiji |
| Gambia | Congo (Brazzaville) | Eritrea | Mozambique | Belize | Kiribati |
| Ghana | Congo (Dem. Rep.- Kinshasa) | Ethiopia | Namibia | Dominica | Marshall Is. |
| Guinea | Equat. Guinea | Kenya | Swaziland | Dominican Rep. | Nauru |
| Guinea Biss. | Gabon | Malawi | Tanzania | Grenada | Niue |
| Ivory Coast | S. Tome, Princ | Mauritius | South Africa | Guyana | Palau |
| Liberia | | Madagascar | | Haiti | Papua N. G. |
| Mali | | Rwanda | | Jamaica | Samoa |
| Mauritania | | Seychelles | | St Lucia | Solomon Is. |
| Niger | | Sudan | | St Vincent | Tonga |
| Nigeria | | Uganda | | St. Ch. & Nevis | Tuvalu |
| Senegal | | Zambia | | Surinam | Vanuatu |
| Sierra Leone | | Zimbabwe | | Trinidad & Tobago | |
| Togo | | | | | |

Source: http://ec.europa.eu/trade/issues/bilateral/regions/acp/plcg_en.htm (April 2009).

## 4. Data and Model

The data used for the global computable general equilibrium (CGE) model are drawn from the Global Trade Analysis Project (GTAP) database version 7, which is benchmarked to the year 2004 (see Badri and Walmsley, 2008). The GTAP project produces the most complete and widely available database for use in global computable general equilibrium (CGE) modelling; and the database has become generally accepted for global trade policy analysis. It is used by nearly all the major international institutions and many national governments. Hertel (1997) provides an introduction to both the GTAP database and its companion CGE model. The form of the database used for this study is a Social Accounting Matrix (SAM) representation of the GTAP database (see McDonald and Thierfelder, 2004, for a detailed description of the core database). The precise version of the database used as the starting point for this study is a reduced form global SAM representation of the GTAP database (see McDonald, 2009); the most distinctive characteristic of this adaptation of the database is the treatment of sales taxes.

For many regions in the GTAP database there are systematic differences in the sales tax rates reported for purchases by private households compared to those paid by activities, government and investment. Typically the sales tax rates on final households are appreciably greater than those paid by other sources of domestic demand that typically face broadly the same tax rates. Thus the sales taxes paid by private households are split into two categories; a general sales tax (GST) charged at a rate equal to the average rate paid by other domestic purchasers and a value added tax (VAT) that accounts for the otherwise unaccounted for tax revenues. Thus private household are assumed to pay two separate taxes on consumption commodities; VAT plus a residual GST that serves to capture the features of all other indirect taxes levied on consumption by private households, e.g., excise taxes, specific taxes on fuel use, etc.

Since many countries operate VAT systems it is suggested that this is a potentially more realistic representation of indirect tax systems. In addition to being a more realistic representation of actual tax systems a particular benefit of the identification of a VAT system is that it provides an indirect tax instrument that is arguably less distortionary than a GST and therefore allows the use of an indirect tax instrument (VAT) as a tax replacement instrument that has similar properties to a direct tax instrument.

**Table 4.1 SAM and Model Accounts**

| Sectors | Factors | Regions |
|---|---|---|
| Grain agriculture | Land | South Africa |
| Crop agriculture | Unskilled labour | Rest of SACU |
| Livestock agriculture | Skilled labour | Mozambique Angola and Tanzania |
| Coal | Capital | SADC COMESA group |
| Oil and Gas | Natural resources | European Union |
| Other minerals | | USA and Canada |
| Meat products | | Rest of Americas |
| Other food products | | China and Hong Kong |
| Textiles | | India |
| Wood and paper | | Developed Asia |
| Petroleum and coal products | | Rest of East Asia |
| Chemicals rubber plastci products | | Rest of South Asia |
| Basic products | | Middle East |
| Vehicles and Transport | | Rest of sub Saharan Africa |
| Other manufacturing | | Rest of the World |
| Utilities | | GLOBE |
| Construction | | |
| Trade and transport | | |
| Services | | |

The aggregation used for this application of the model includes 15 sectors (commodities and activities), 14 regions, and 4 factors of production. The accounts in the SAM, which are detailed

in Table 4.1, and the aggregation mapping from the GTAP data were designed to provided a balanced set of regions and activities. Details of the mappings used are reported in Appendix 1.

## 3.2 GLOBE 2 CGE Model

The GLOBE model is a member of the class of multi-country, computable general equilibrium (CGE) models that are descendants of the approach to CGE modeling described by Dervis *et al*., (1982). The model is a SAM-based CGE model, wherein the SAM serves to identify the agents in the economy and provides the database with which the model is calibrated. The SAM also serves an important organisational role since the groups of agents identified in the SAM structure are also used to define sub-matrices of the SAM for which behavioural relationships need to be defined.[6] The implementation of this model, using the GAMS (General Algebraic Modeling System) software, is a direct descendant and extension of the single-country and multi-country CGE models developed in the late 1980s and early 1990s.[7]

*International Trade*

Trade is modeled using a treatment derived from the Armington "insight"; namely domestically produced commodities are assumed to be imperfect substitutes for traded goods, both imports and exports. Import demand is modeled via a series of nested constant elasticity of substitution (CES) functions; imported commodities from different source regions to a destination region are assumed to be imperfect substitutes for each other and are aggregated to form composite import commodities that are assumed to be imperfect substitutes for their counterpart domestic commodities The composite imported commodities and their counterpart domestic commodities are then combined to produce composite consumption commodities, which are the commodities demanded by domestic agents as intermediate inputs and final demand (private consumption, government, and investment). The presumption of imperfect substitutability between imports from different sources is relaxed where the imports of a commodity from a source region account for a 'small' (value) share of imports of that commodity by the destination region.[8] In such cases the destination region is assumed to import the commodity from the source region in fixed shares: this is a novel feature of the model introduced to ameliorate the terms of trade effects associated with small trade shares.

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6 As such the modelling approach has been influenced by Pyatt's "SAM Approach to Modeling" (Pyatt, 1987).

7 The GLOBE model is described in more detail in McDonald, *et al*., (2006). For examples of earlier models, see Robinson *et al*., (1993), and Lewis *et al*. (1995). The World Bank global CGE model described in van der Mensbrugghe (2006) has a common heritage.

8 The import shares defined as small are cases specific and defined by the model user.

Export supply is modeled via a series of nested constant elasticity of transformation (CET) functions; the composite export commodities are assumed to be imperfect substitutes for domestically consumed commodities, while the exported commodities from a source region to different destination regions are assumed to be imperfect substitutes for each other. The composite exported commodities and their counterpart domestic commodities are then combined as composite production commodities; properties of models using the Armington insight are well known.[9] The use of nested CET functions for export supply implies that domestic producers adjust their export supply decisions in response to changes in the relative prices of exports and domestic commodities. This specification is desirable in a global model with a mix of developing and developed countries that produce different kinds of traded goods with the same aggregate commodity classification, and yields more realistic behaviour of international prices than models assuming perfect substitution on the export side.[10]

Agents are assumed to determine their optimal demand for and supply of commodities as functions of relative prices, and the model simulates the operation of national commodity and factor markets and international commodity markets. Each source region exports commodities to destination regions at prices that are valued free on board (*fob*). Fixed quantities of trade services are incurred for each unit of a commodity exported between each and every source and destination, yielding import prices at each destination that include carriage, insurance and freight charges (*cif*).[11] The *cif* prices are the 'landed' prices expressed in global currency units. To these are added any import duties and other taxes, and the resultant price converted into domestic currency units using the exchange rate to get the source region specific import price. The price of the composite import commodity is a weighted aggregate of the region-specific import prices, while the domestic supply price of the composite commodity is a weighted aggregate of the import commodity price and the price of domestically produced commodities sold on the domestic market.

The prices received by domestic producers for their output are weighted aggregates of the domestic price and the aggregate export prices, which are themselves weighted aggregates of the prices received for exports to each region in domestic currency units. The fob export prices are then the determined by the subtraction of any export taxes and converted into global currency units using the regional exchange rate.

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9 See de Melo and Robinson (1989) and Devarajan *et al*., (1990).

10 While the nested CET specification is widely used in both single and multi-country trade-focused CGE models, it is not used in the GTAP model.

11 Bilateral data on trade margins are not available in the GTAP database. Instead, trade margin services are assumed to be a homogeneous good; they are not differentiated by country of origin.

There are two important features of the price system in this model that deserve special mention. First, each region has its own numéraire such that all prices within a region are defined relative to the region's numéraire. We specify a fixed aggregate consumer price index to define the regional numéraire. For each region, the real exchange rate variable ensures that the regional trade-balance constraint is satisfied when the regional trade balances are fixed. Second, in addition, there is a global numéraire such that all exchange rates are expressed relative to this numéraire. The global numéraire is defined as a weighted average of the exchange rates for a user defined region or group of regions. In this implementation of GLOBE the basket of regions approximates the OECD economies.

Fixed country trade balances are specified in "real" terms defined by the global numéraire. If the global numéraire is the US exchange rate and it is fixed to one, then the trade balances are "real" variables defined in terms of the value of US exports. If global numéraire is a weighted exchange rate for a group of regions, as in this case, and it is fixed to one, then the trade balances are "claims" against the weighted average of exports by the group of regions in the numéraire.

*Production and Demand*

The production structure is a three stage nest. Intermediate inputs are aggregated - in fixed proportions per unit of output (Leontief technology) - in a one stage nest to produce aggregate intermediate inputs that are then combined with aggregate value added to produce activity outputs. Primary inputs are combined as imperfect substitutes in a two stage nest using CES functions to produce value added. At the bottom (third) level skilled and unskilled labour are aggregated to form an aggregate labour composite that is then combined at the second level to produce aggregate value added. Producers are assumed to maximize profits, which determines product supply and factor demand. Product markets are assumed to be competitive, and the model solves for equilibrium prices that clear the markets. All factor markets are modelled to allow for unemployment of each factor. For each factor while there is a pool of the factor that is unemployed the real wage of unskilled labour is fixed and that the supply of unskilled labour is infinitely elastic at that wage. Once the factor is fully employed factor supplies are fixed and the model solves for equilibrium wages that clear the markets. Typically the calibration of the model defines most factors as being fully employed except for unskilled labour in some less developed economics.

Final demand by the government and for investment is modeled under the assumption that the relative quantities of each commodity demand by these two institutions is fixed—this treatment reflects the absence of a clear theory that defines an appropriate behavioural response by these agents to changes in relative prices. For the household there is a well developed behavioural

theory; and the model contains the assumption that households are utility maximisers who respond to changes in relative prices and incomes; changes in relative prices are driven both by changes in supply and demand and changes in VAT rates. The utility functions for private households are assumed to be Stone Geary functions.

*Macro Closure*

For this exercise a "neutral" set of macro closure rules is specified. [12] Current account balances are assumed to be fixed for each region (and must sum to zero for the world), with regional real exchange rates adjusting to achieve equilibrium. The underlying assumption is that any changes in aggregate trade balances are determined by macroeconomic forces working mostly in asset markets, which are not included in the model, and these balances are treated as exogenous. This assumption ensures that there are no changes in future 'claims' on exports across the regions in the model, i.e., the net asset positions are fixed.

Real government consumption is assumed fixed in real terms while the share of domestic absorption accounted for by investment is fixed, which means real investment can increase, decrease or stay constant according to how total domestic absorption (value) changes and investment good prices change. Government savings are held constant and the savings-investment equilibrium is achieved by household savings rates adjusting to match changes in investment. Given the simulations involve changes in trade tax rates equality of government revenue and spending (including savings) is achieved by varying direct income tax rates on households. The changes in direct taxes on households are likely to be less distorting than the trade taxes they replace but there are reasons to be skeptical about its appropriateness in the context of many least developed economies (see Greenaway and Milner, 1991); this is evaluated by examining the impact of using alternative tax replacement instruments.

## 5. Analysis

### 5.1 Simulations

To explore the effects of SADC integration and the implications for SADC integration of EPAs with the EU seven scenarios are considered.[13] The first 2 scenarios consider SADC integration in isolation, the next two scenarios consider the potential benefits from the EPAs in isolation while the last 3 scenarios consider how the EPAs interact with SADC integration.

12 Other alternatives were explored but are not discussed in this paper.

13 Multiple other scenarios were explored and while the results are of interest and influence the development of discussion of the results presented in this paper they are not detailed here.

1. A SADC wide RTA that completely liberalises trade between SADC members.
2. A SADC wide CU that completely liberalises trade between SADC members and imposes a common external tariff set at 25% of the maximum rate imposed on traded commodities by SADC members.[14]
3. An EPA between the EU and Mozambique and Tanzania that involves 90% bilateral liberalization of all trade barriers.
4. An EPA between the EU and Madagascar, Malawi, Mauritius, Zambia and Zimbabwe that involves 90% bilateral liberalization of all trade barriers.
5. A SADC wide CU that completely liberalises trade between SADC members and imposes a common external tariff combined with An EPA between the EU and Mozambique and Tanzania.
6. A SADC wide CU that completely liberalises trade between SADC members and imposes a common external tariff combined with an EPA between the EU and Madagascar, Malawi, Mauritius, Zambia and Zimbabwe.
7. A SADC wide CU that completely liberalises trade between SADC members and imposes a common external tariff combined with an EPA between the EU and Mozambique and Tanzania and an EPA between the EU and Madagascar, Malawi, Mauritius, Zambia and Zimbabwe.

Clearly strong assumptions have been made about the level at which SADC would set any common external tariff and the degrees of liberalisation involved in the EPAs. Additional simulations for SADC common external tariffs were implemented and various permutations on the degrees of liberalisation associated with the EPAs were also explored; these alter the magnitude of the results but appear to make no substantive difference to the conclusions.

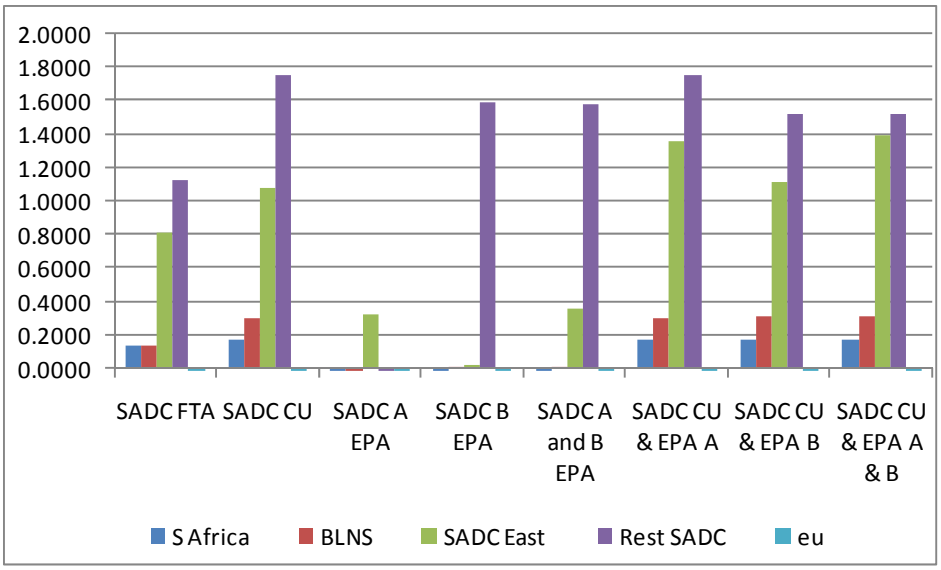
## 5.2 Results

For all simulations the summary macroeconomic measures (Figures 5.1, 5.2 and 5.3) all indicate that all members of SADC can (a) benefit more from a CU than an FTA and (b) that the adoption of two EPAs with the EU, which both exclude SACU, do not apparently render the realisation of a SADC CU unprofitable. However while the measures of welfare – real absorption (Figure 5.2)

[14] The welfare implications for SADC of a CU depend heavily upon the rates for the common external tariffs; broadly SACU prefers a low common external tariff, which reflects the currently low tariff rates they operate, while the rest of SADC prefers a somewhat higher CET. Setting the CET at 25% is a compromise that allows all members to gain, although SACU would do appreciably better at lower common rates.

and equivalent variation (Figure 5.3) – tell very similar stories they do not provide the story as provided by real GDP (Figure 5.1).

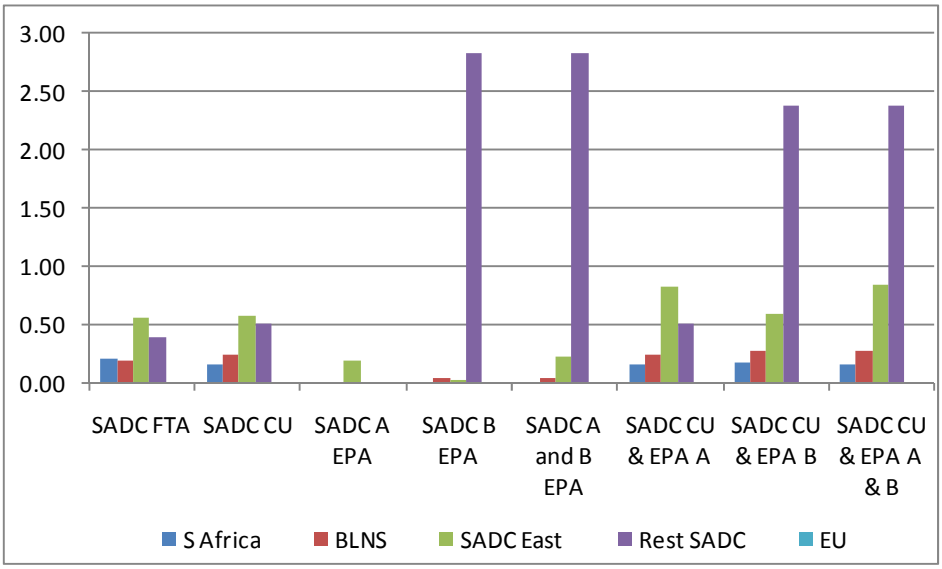
**Figure 5.1 Changes in Real GDP (%)**




Source: Simulation results.

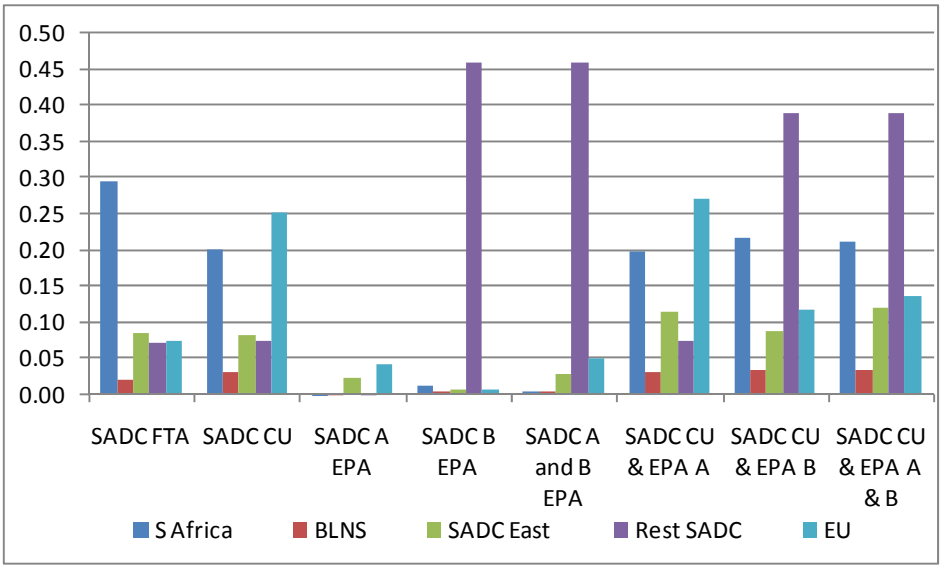
The real GDP results suggest that the east SADC group – Mozambique and Tanzania – have reason to prefer the SADC CU (or FTA) over the EPA but that the SADC CU and EPA combined are the preferred option. On the other hand the rest of SADC - Madagascar, Malawi, Mauritius, Zambia and Zimbabwe – may be broadly indifferent between SADC integration and an EPA with EU, but that the combination of SADC integration and an EPA may in fact be marginally less preferable that either in isolation. The welfare measures are suggestive of a situation in which the east SADC group would be a moderately strong supported of both SADC integration and an EPA, while the rest of SADC would have reason to be largely indifferent about SADC integration and strong supporters of an EPA with the EU.

**Figure 5.2 Changes in Real Absorption (%)**




Source: Simulation results.

**Figure 5.3 Changes in Welfare (EV on household consumption $USD bn)**




Source: Simulation results.

The summary results are supported by the impacts upon factor incomes in the SADC countries Table 5.1.[15] In virtually all cases factor incomes increase and where they do not increase the declines are very small. The changes in factor incomes for South Africa and the BLNS countries are all relatively small and where they do this overwhelmingly for land and

15 Note that for fully employed factors the percentage changes in factor incomes are the percentage changes in real factor prices and for factors that can experience unemployment – unskilled labour in this case – the increase is a the combined effect of level of employment and, if full employment is achieved, the increase in wage rate.

natural resources and thus reflects the relative abundance of land and natural resource in the other members of SADC.

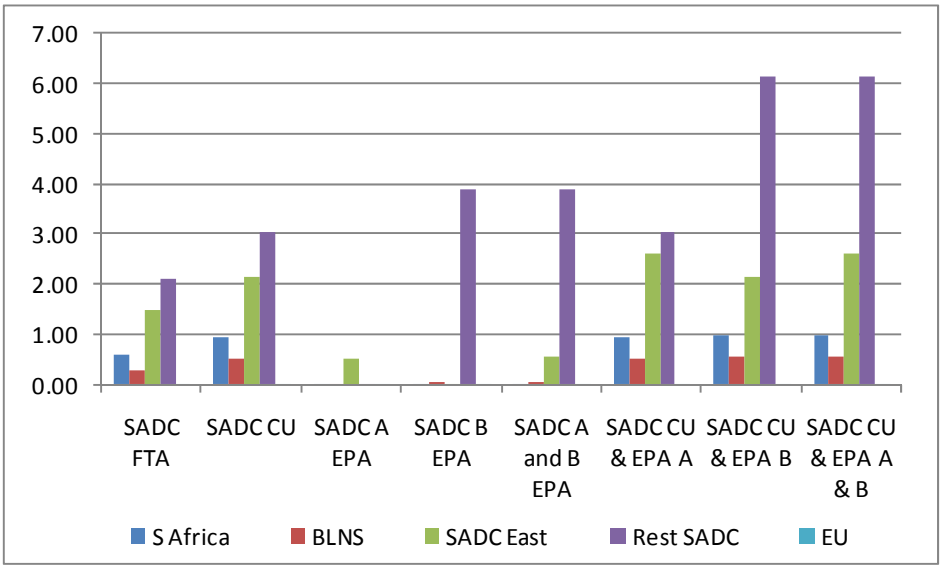
**Table 5.1 Changes in Factor Incomes (%)**

| | SADC FTA | SADC CU | SADC A EPA | SADC B EPA | SADC A and B EPA | SADC CU & EPA A | SADC CU & EPA B | SADC CU & EPA A & B |
|---|---|---|---|---|---|---|---|---|
| | | | | **Land** | | | | |
| **S Africa** | 0.44 | 0.73 | 0.00 | 0.08 | 0.08 | 0.73 | 0.86 | 0.86 |
| **BLNS** | 0.44 | 1.00 | -0.01 | 0.00 | -0.02 | 0.99 | 1.01 | 1.00 |
| **SADC East** | 0.98 | 1.26 | 0.45 | 0.06 | 0.50 | 1.69 | 1.35 | 1.78 |
| **Rest SADC** | 1.42 | 2.42 | 0.00 | 6.13 | 6.13 | 2.42 | 7.85 | 7.85 |
| **EU** | 0.00 | -0.01 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | | | **Unskilled Labour** | | | | |
| **S Africa** | 0.42 | 0.60 | -0.01 | 0.01 | 0.00 | 0.60 | 0.61 | 0.61 |
| **BLNS** | 0.45 | 0.98 | -0.01 | 0.06 | 0.05 | 0.97 | 1.03 | 1.02 |
| **SADC East** | 1.89 | 2.53 | 0.78 | 0.07 | 0.84 | 3.20 | 2.61 | 3.29 |
| **Rest SADC** | 3.00 | 4.65 | 0.00 | 6.10 | 6.10 | 4.65 | 8.20 | 8.20 |
| **EU** | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 |
| | | | | **Skilled Labour** | | | | |
| **S Africa** | 0.21 | 0.27 | 0.00 | 0.00 | 0.00 | 0.27 | 0.28 | 0.28 |
| **BLNS** | 0.21 | 0.46 | 0.00 | 0.03 | 0.02 | 0.46 | 0.48 | 0.48 |
| **SADC East** | 1.16 | 1.58 | 0.42 | 0.03 | 0.45 | 1.91 | 1.60 | 1.93 |
| **Rest SADC** | 1.50 | 2.25 | 0.00 | 2.83 | 2.84 | 2.25 | 4.75 | 4.75 |
| **EU** | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 |
| | | | | **Capital** | | | | |
| **S Africa** | 0.26 | 0.42 | 0.00 | 0.01 | 0.00 | 0.42 | 0.43 | 0.43 |
| **BLNS** | 0.14 | 0.68 | 0.00 | 0.03 | 0.03 | 0.68 | 0.69 | 0.69 |
| **SADC East** | 1.38 | 1.87 | 0.52 | 0.03 | 0.55 | 2.29 | 1.90 | 2.32 |
| **Rest SADC** | 2.16 | 3.28 | 0.00 | 3.45 | 3.45 | 3.28 | 5.73 | 5.73 |
| **EU** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | | | **Natural Resources** | | | | |
| **S Africa** | -0.09 | 0.70 | 0.01 | -0.02 | -0.01 | 0.71 | 0.65 | 0.66 |
| **BLNS** | -0.15 | 0.79 | 0.02 | 0.02 | 0.03 | 0.79 | 0.78 | 0.78 |
| **SADC East** | 1.10 | 1.47 | 0.39 | 0.03 | 0.42 | 1.79 | 1.51 | 1.84 |
| **Rest SADC** | 3.50 | 5.69 | 0.02 | -0.97 | -0.95 | 5.70 | 2.81 | 2.82 |
| **EU** | 0.01 | -0.02 | 0.00 | 0.04 | 0.03 | -0.02 | 0.03 | 0.03 |

Source: Simulation results.

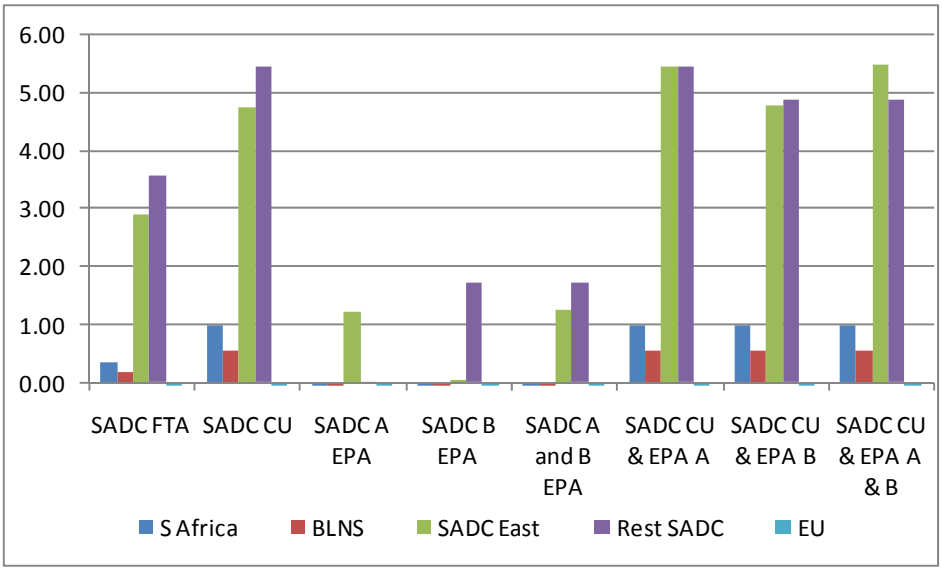
These aggregate welfare gains are associated with relatively large increases in the total volume of trade. While the welfare gains are in the order of two plus percent for the rest of SADC group and half of one percent for the rest of SADC the increases in import (Figure 5.4) and export volumes (Figure 5.5) are several multiples greater – 1.5 to 6%. These changes indicate that the SADC economies would be induced to become even more open to trade and the susceptibilities of the members of SADC to the vagaries of international trade would increase.

**Figure 5.4 Changes in Aggregate Import Demand (%)**




Source: Simulation results.

**Figure 5.4 Changes in Aggregate Export Supply (%)**




Source: Simulation results.

There is some evidence of both trade creation and trade diversion in the results. Intra SADC trade increases with SADC integration at the expense of trade with other partners, while the EPAs increase import and export volumes between the signatories. But in both cases the increase in trade between the signatories is somewhat greater than the total increase in trade volumes which indicates a degree of trade diversion. The combinations of SADC integration with the EPAs indicates both increased trade volumes between SADC member and between SADC

members and the EU and that these volume increases are greater than the total increase in trade volumes, which indicate both trade creation and trade diversion.

On the basis of the summary results it is difficult to make a case against SADC countries signing up for both SADC integration and EPA's with the EU. There are seemingly small welfare gains to be realised and, assuming the 'legal' issues can be resolved, it appears that SADC integration and EPAs with the EU may be viable.

**Table 5.2 Changes in Price of Value Added (%)**

| | | SADC FTA | SADC CU | SADC A EPA | SADC B EPA | SADC A and B EPA | SADC CU & EPA A | SADC CU & EPA B | SADC CU & EPA A & B |
|---|---|---|---|---|---|---|---|---|---|
| **Grains** | S Africa | 0.20 | 0.32 | 0.00 | 0.01 | 0.01 | 0.32 | 0.34 | 0.34 |
| | Other SADC | 0.43 | 0.73 | 0.07 | 0.77 | 0.84 | 0.79 | 1.83 | 1.89 |
| **Crops** | S Africa | 0.19 | 0.34 | 0.00 | 0.01 | 0.01 | 0.34 | 0.36 | 0.36 |
| | Other SADC | 0.50 | 0.84 | 0.06 | 0.81 | 0.87 | 0.89 | 1.86 | 1.91 |
| **Livestock** | S Africa | 0.19 | 0.33 | 0.00 | 0.01 | 0.01 | 0.33 | 0.35 | 0.35 |
| | Other SADC | 0.60 | 1.01 | 0.07 | 0.64 | 0.71 | 1.06 | 1.80 | 1.86 |
| **Coal** | S Africa | 0.06 | 0.48 | 0.00 | -0.01 | 0.00 | 0.49 | 0.46 | 0.47 |
| | Other SADC | 1.07 | 1.77 | 0.12 | 0.28 | 0.40 | 1.86 | 1.81 | 1.90 |
| **Oil & Gas** | S Africa | 0.05 | 0.49 | 0.01 | -0.01 | 0.00 | 0.49 | 0.47 | 0.47 |
| | Other SADC | 1.09 | 1.85 | 0.12 | 0.40 | 0.51 | 1.95 | 1.96 | 2.05 |
| **Minerals** | S Africa | 0.09 | 0.26 | 0.00 | 0.00 | 0.00 | 0.26 | 0.26 | 0.26 |
| | Other SADC | 0.86 | 1.44 | 0.07 | 0.75 | 0.82 | 1.50 | 2.03 | 2.09 |
| **Meat** | S Africa | 0.12 | 0.19 | 0.00 | 0.00 | 0.00 | 0.19 | 0.19 | 0.19 |
| | Other SADC | 0.68 | 1.05 | 0.10 | 0.80 | 0.90 | 1.13 | 1.97 | 2.04 |
| **Other food** | S Africa | 0.16 | 0.25 | 0.00 | 0.00 | 0.00 | 0.25 | 0.26 | 0.26 |
| | Other SADC | 0.68 | 1.06 | 0.09 | 0.82 | 0.91 | 1.13 | 1.97 | 2.04 |
| **Textiles** | S Africa | 0.09 | 0.13 | 0.00 | 0.00 | 0.00 | 0.13 | 0.13 | 0.13 |
| | Other SADC | 0.71 | 1.07 | 0.11 | 0.80 | 0.91 | 1.15 | 1.98 | 2.07 |
| **Wood & paper** | S Africa | 0.12 | 0.19 | 0.00 | 0.00 | 0.00 | 0.19 | 0.19 | 0.19 |
| | Other SADC | 0.68 | 1.05 | 0.11 | 0.77 | 0.88 | 1.14 | 1.97 | 2.06 |
| **Petrol & coal** | S Africa | 0.20 | 0.32 | 0.00 | 0.00 | 0.00 | 0.31 | 0.32 | 0.32 |
| | Other SADC | 0.73 | 1.14 | 0.06 | 0.97 | 1.03 | 1.19 | 2.01 | 2.06 |
| **Chemicals** | S Africa | 0.18 | 0.27 | 0.00 | 0.00 | 0.00 | 0.27 | 0.28 | 0.28 |
| | Other SADC | 0.78 | 1.21 | 0.13 | 0.82 | 0.95 | 1.31 | 2.12 | 2.23 |
| **Basic products** | S Africa | 0.18 | 0.28 | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.28 |
| | Other SADC | 0.89 | 1.35 | 0.13 | 0.93 | 1.06 | 1.46 | 2.24 | 2.35 |
| **Vehicles** | S Africa | 0.16 | 0.24 | 0.00 | 0.00 | 0.00 | 0.24 | 0.25 | 0.25 |
| | Other SADC | 0.90 | 1.38 | 0.14 | 0.92 | 1.06 | 1.49 | 2.27 | 2.38 |
| **Other manufacturing** | S Africa | 0.17 | 0.26 | 0.00 | 0.00 | 0.00 | 0.26 | 0.27 | 0.27 |
| | Other SADC | 0.81 | 1.26 | 0.11 | 0.90 | 1.02 | 1.35 | 2.15 | 2.24 |
| **Utilities** | S Africa | 0.19 | 0.29 | 0.00 | 0.00 | 0.00 | 0.29 | 0.30 | 0.30 |
| | Other SADC | 0.89 | 1.40 | 0.10 | 1.02 | 1.12 | 1.48 | 2.27 | 2.35 |
| **Construction** | S Africa | 0.13 | 0.20 | 0.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 |
| | Other SADC | 0.68 | 1.04 | 0.12 | 0.73 | 0.85 | 1.14 | 1.98 | 2.07 |
| **Trade & transport** | S Africa | 0.17 | 0.26 | 0.00 | 0.00 | 0.00 | 0.26 | 0.26 | 0.26 |
| | Other SADC | 0.72 | 1.13 | 0.11 | 0.80 | 0.91 | 1.22 | 2.05 | 2.14 |
| **Services** | S Africa | 0.18 | 0.27 | 0.00 | 0.00 | 0.00 | 0.27 | 0.27 | 0.27 |
| | Other SADC | 0.79 | 1.21 | 0.12 | 0.85 | 0.97 | 1.31 | 2.11 | 2.21 |

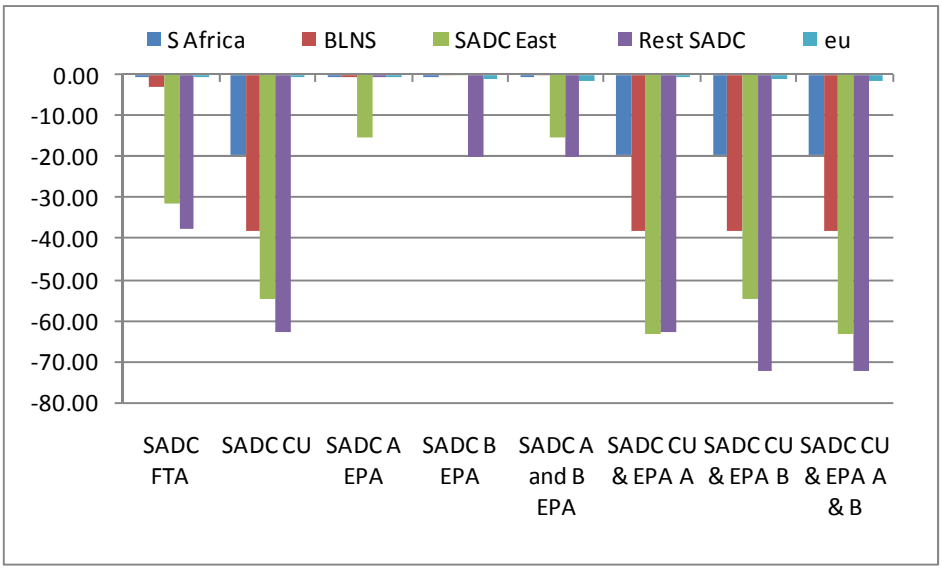
Source: Simulation results.

However there are some reasons for caution. Table 5.2 reports the percentage changes in the price of value added, i.e., the amount available to activities to disburse through factor payments, for South Africa and a simple, unweighted, mean for all other SADC countries. These are positive for all scenarios, with the single exceptions of coal and oil & gas for South Africa in the case of the EPA with the Rest of SADC group. Again this is a general good indicator since it

suggests that no sectors loose out appreciably and that overall they should be real increase in factor incomes overall.

However there are clear reasons to be concerned about the impacts of SADC integration and, to a lesser extent, the EPAs for government revenues. SADC integration generates very substantial falls in import duty revenues (see Figure 5.5) and that these are very large for non SACU members of SADC. These revenue declines are straightforward consequences of the importance of SACU – primarily South Africa – as a source of imports to other SADC regions. On the other hand the declines in import duty revenue associated with the EPAs are very much smaller, which indicates the small requirement for increasing other tax instrument to replace lost revenues.

**Figure 5.5 Changes in Import Duty Revenues (%)**




Source: Simulation results.

The transition to a new equilibrium requires the reallocation of resources across sectors of the regions. If these adjustments are small then the costs may be relatively low and the speed of adjustment may be relatively rapid. But if the adjustments are relatively large then it is likely that the costs will be relatively large and the speed of adjustment is likely to be slow. Hence it is reasonable to conclude that results that suggest small welfare gains without including allowances for the costs of adjustment may prove less supportive for a programme than at first seems to be the case.

Table 5.3 reports measures of the degree of factor reallocation required in SADC regions relative to those required in South Africa, for SADC integration, and the EU for scenarios with EPAs. The results indicate that the degrees of structural adjustment required for SADC

integration are much lower than those for the EPAs, which suggests that integration with EU may require very substantial adjustments within many SADC economies for relatively small gains.

**Table 5.3 Factor Adjustment (Relative to EU)**

| | SADC FTA | SADC CU | SADC A EPA | SADC B EPA | SADC A and B EPA | SADC CU & EPA A | SADC CU & EPA B | SADC CU & EPA A & B |
|---|---|---|---|---|---|---|---|---|
| | Relative to South Africa | | Relative to EU | | | | | |
| | | | | **Land** | | | | |
| **S Africa** | 1.0 | 1.0 | 11 | 27 | 28 | 69 | 430 | 407 |
| **BLNS** | 0.1 | 0.3 | 26 | 9 | 10 | 20 | 52 | 47 |
| **SADC East** | 0.7 | 0.7 | 852 | 9 | 28 | 25 | 259 | 154 |
| **Rest SADC** | 1.9 | 2.1 | 10 | 434 | 452 | 148 | 929 | 880 |
| | | | | **Unskilled Labour** | | | | |
| **S Africa** | 1.0 | 1.0 | 31 | 3 | 2 | 183 | 126 | 123 |
| **BLNS** | 1.0 | 1.4 | 43 | 11 | 10 | 252 | 180 | 175 |
| **SADC East** | 4.0 | 3.2 | 2,591 | 12 | 138 | 747 | 413 | 508 |
| **Rest SADC** | 6.3 | 5.9 | 38 | 1,003 | 965 | 1,088 | 882 | 862 |
| | | | | **Skilled Labour** | | | | |
| **S Africa** | 1.0 | 1.0 | 6 | 1 | 1 | 73 | 47 | 45 |
| **BLNS** | 1.8 | 0.9 | 17 | 4 | 4 | 67 | 46 | 44 |
| **SADC East** | 10.1 | 6.4 | 918 | 13 | 61 | 452 | 307 | 283 |
| **Rest SADC** | 13.3 | 6.7 | 39 | 501 | 478 | 493 | 567 | 542 |
| | | | | **Capital** | | | | |
| **S Africa** | 1.0 | 1.0 | 11 | 2 | 2 | 96 | 63 | 62 |
| **BLNS** | 2.8 | 0.9 | 69 | 6 | 4 | 88 | 53 | 53 |
| **SADC East** | 3.5 | 3.0 | 784 | 7 | 40 | 284 | 185 | 177 |
| **Rest SADC** | 9.1 | 6.3 | 81 | 882 | 860 | 605 | 851 | 833 |
| | | | | **Natural Resources** | | | | |
| **S Africa** | 1.0 | 1.0 | 6 | 1 | 0 | 26 | 7 | 7 |
| **BLNS** | 2.8 | 0.9 | 7 | 1 | 0 | 7 | 1 | 1 |
| **SADC East** | 3.5 | 3.0 | 88 | 1 | 5 | 86 | 20 | 20 |
| **Rest SADC** | 9.1 | 6.3 | 20 | 163 | 168 | 271 | 109 | 108 |

Source: Simulation results.

## 6. Closing Comments

Whether the pursuit of bilateral is a 'building or stumbling block' remains an open question that perhaps owes as much to politics as it does to economics. However in a world with an increasing number of bilateral agreements that are being driven largely by the interests of the most developed economies – EU, USA, Japan, etc., - some of the implications of cross cutting bilateral agreements are questions about which economists can seek to provide meaningful information. This study has sought to do this in the context of the implications of EPAs between African regions and the EU that are primarily driven by the interests of the EU.

The results suggest that given the segmented patterns of trade relations in southern Africa and between SADC members and the EU, that EPAs may not altogether inhibit African economic integration. But they the EPAs will impact upon relative prices within SADC regions that will stimulate large scale structural adjustments and that these adjustments will be very much greater than those associated with SADC integration.

## References

ACP (2002). ACP Guidelines for the Negotiations ff Economic Partnership Agreements', ACP/61/056/02 [FINAL], ACP Sustainable Economic Development Department, Brussels.

Badri N.G. and Walmsley, T.L., (eds) (2008). *Global Trade, Assistance, and Production: The GTAP 7 Data Base*, Center for Global Trade Analysis, Purdue University.

Dervis, K., de Melo, J. and Robinson, S., (1982). *General Equilibrium Models for Development Policy*. Washington: World Bank.

Dimaranan, B. V., (ed) (2006). *Global Trade, Assistance, and Production: The GTAP 6 Data Base*. Center for Global Trade Analysis, Purdue University.

Hertel, T.W., (1997). *Global Trade Analysis: Modeling and Applications*. Cambridge: Cambridge University Press.

Keck and Piermartini, (2007), 'The impact of Economic Partnership Agreements in Countries of the Southern African Development Community', *Journal of African Economies*, May, 2007.

McDonald, S, and Thierfelder, K., (2004). 'Deriving a Global Social Accounting Matrix from GTAP version 5 Data', *GTAP Technical Paper 23*. Global Trade Analysis Project: Purdue University.

McDonald, S. and Thierfelder, K.., (2009). 'GLOBE 2: A SAM Based Global CGE Model using GTAP Data'', *mimeo*.

McDonald, S., (2007). ''Prices, Social Accounts and Economic Models', 10th *Annual Conference on Global Economic Analysis*, Purdue University, June.

McDonald, S., Thierfelder, K. and Robinson, S., (2007). 'GLOBE: A SAM Based Global CGE Model using GTAP Data', *Department of Economics Working Paper 14*, United States Naval Academy. http://ideas.repec.org/s/usn/usnawp.html

Milner, Morrissey and McKay, (2007), 'Some Simple Analytics of the Trade and Welfare effects of Economic Partnership Agreements', *Journal of African economies*, Volume 14, No. 3, pp.327-358.

Perez, (2006), 'Are the Economic Partnership Agreements a first-best optimum for the ACP countries?', *Journal of World Trade*, Vol 41(1).