Fiscal Policy and Tax Incidence

Mozambique and Regional Integration

Andrea Alfieri and Xavier Cirera

Discussion papers

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Abstract

Using a partial-equilibrium methodology, this chapter estimates the likely impact on imports, prices, tax revenue and welfare in Mozambique of a number of potential trade policy regimes: SADC free trade area, membership of the SACU customs union (with or without an accompanying FTA with the EU), and unilateral MFN liberalization to a flat rate of 5%. Initial findings suggest that liberalization scenarios imply a welfare loss due to the fact that consumer surplus from cheaper imports does not fully compensate revenue loss. However, when suitable adjustments are made to the revenue calculations to account for exemptions, fraud and revenue redistribution from the SACU revenue pool, the MFN and, especially, the SACU scenarios become welfare-improving.

1. Introduction

Mozambique has been implementing a gradual process of trade liberalization since the start of its Economic Rehabilitation Programme in 1987, when market-oriented economic reforms were first introduced. On the import side, duty rates have been lowered and harmonized into five ad-valorem tariff bands from zero to 20%. On the export side, the country is eligible for non-reciprocal duty-free access into most developed country markets for most products (for example through the European Union's Everything but Arms scheme or the United States' AGOA concessions).

During the same period, Mozambique has also demonstrated a commitment to regional integration in Southern Africa by participating in the SADC Trade Protocol, which will lead to the creation of a free trade area among a dozen countries in Southern Africa by 2008 (with certain product-specific exceptions until 2015). The country has separately been invited to join the five-member SACU customs union.[1] Both SADC and SACU include South Africa, which is by far the largest and most advanced economy in sub-Saharan Africa, as well as Mozambique's largest, most diversified and most consistent trade and investment partner.

The government of Mozambique is now presented with strategic options for its trade policy. It can decide to continue implementing only the SADC Trade Protocol, leading to a free trade area in the region; it can advance towards a customs union through SACU; or it can accelerate

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[1] Mozambique is also committed in principle to forming a customs union with other SADC Members by 2010. However, this deadline is unlikely to be met, for the reasons outlined in part 2.3 of this paper. In practice, the SADC customs union, if it happens at all, is likely to come about through the expansion and metamorphosis of SACU, since all SACU members are also members of SADC.

the process of unilateral liberalization on a Most-Favoured Nation basis for all trade partners worldwide.

The purpose of this chapter is to estimate and discuss the expected impact on Mozambique's trade and revenue flows, as well as on welfare, from reforming international trade under these different policy scenarios. A simple static partial equilibrium methodology is used, in order to disentangle the reform impact at the product-specific level. Product-specific estimates show where, and in what way, most of the gains and losses from granting trade preferences are likely to be concentrated, so they can help trade negotiators and policy makers to design trade and fiscal policies to maximize the benefits while minimizing the losses.

The chapter does not focus directly on the impact on exports, mainly due to the fact that Mozambique is already eligible for duty free access for most products in most of its important partner country markets (including South Africa and the European Union), so there are no additional tariff reductions possible. Nevertheless, the chapter does discuss briefly the likelihood that regional integration would have a positive impact on exports through different channels: increased foreign investment, the elimination of non-tariff barriers or the elimination of rules of origin, especially in the case of a customs union.

The chapter is organized as follows. The next section describes the context of trade policy in Mozambique and the existing tariff and tax structure. Section 3 briefly illustrates the partial equilibrium methodology employed in the analysis. Section 4 summarizes the main results from the estimations. Section 5 discuses the revenue implications of the different trade reform scenarios considered. Section 6 analyzes the main implications for trade and tax policy of the

results of the chapter. The last section concludes with policy implications of the results and a list of issues for further research. [2]

2. Context of trade policy

2.1. Mozambique

Mozambique's total recorded imports in 2004 amounted to USD 2.0 billion.[3] South Africa was by far the largest partner (55% of total imports) with all other SACU and SADC countries representing only 5% of imports altogether (2% for SACU Members and 3% for non-SACU SADC Members). The EU was a major source of imports (16%) while the USA, China and India each represented less than 5% of Mozambique's total imports.

FIGURE 1 HERE

In the same year, Mozambique exported a total of USD 1.5 billion.[4] The EU was the major destination with 68% of total exports (due largely to Mozal aluminium, see below). South Africa was the second-largest importing partner, receiving 14% of Mozambique's exports, while exports to the rest of SACU and SADC were marginal (6%).

Mozambique's exports are mostly limited to a small number of industrial "mega-projects" such as the Mozal aluminium smelter, the Cahora Bassa hydroelectric dam and the Sasol natural gas pipeline, as well as certain agricultural/forestry/fishery commodities such as

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[2] A more exhaustive treatment of the methodology and results is included in the working paper version of this chapter (Alfieri, Cirera and Rawlinson, 2006).

[3] National Institute of Statistics (INE) data, CIF values. Subtracting goods of unknown classification (HS Chapter 99), the result is USD 1.7 billion. Comtrade mirror data report imports worth USD 1.8 billion (FOB values), or USD 1.5 billion excluding HS99.

[4] INE data, FOB values. The value of goods of unknown classification is not significant. Comtrade mirror data yields essentially the same results.

prawns, sugar, cotton and wood. Except for Mozal aluminium, there are very few value-added manufacturing exports. Imports are diversified and include fuel, electricity (for Mozal) vehicles, machinery, consumer goods, wheat...

As a result of the implantation of mega-projects, as well as the recovery and development of the agricultural sector since the end of the civil war, exports have grown rapidly over the last few years. Rapid import growth has been driven by the needs of the mega-projects and by the emergence of a class of consumers with disposable income, especially in Maputo. The consistent trade deficit has been made possible by foreign exchange inflows due to foreign aid, mega-project investments, remittances from migrant labour abroad and certain service industries, especially tourism.

TABLE 1 HERE

FIGURE 2 HERE

Mozambique reformed its applied MFN duty structure significantly during the 1990s in agreement with the adjustment programmes proposed by the World Bank and IMF. Overall rates have been reduced, all duties have been converted into ad-valorem tariffs and the number of bands has been harmonized to the existing five. In 2004 the simple average MFN applied tariff was 12.1% while the weighted average tariff amounted to 8.5%. Tariff liberalization has continued since then, with the highest duties falling from 25% to 20% in 2006 and set to fall further in future years.

TABLE 2 HERE

High duties are used mainly for the purpose of revenue collection rather than for the protection of import-competing industries. These higher rates fall mostly on consumer goods, while inputs – raw materials, capital goods and intermediate goods – are taxed at lower rates.

Special duty exemptions are granted in certain cases:

- About 50 manufacturing firms that are able to demonstrate yearly revenue of more than USD 250,000 and value addition greater than 20% on imported inputs benefit from a special exemption programme, the *Regime Aduaneiro para a Industria Transformadora*;

- Registered investors may claim duty exemptions on 642 tariff lines (11% of all lines) considered to be "capital goods";

- "Mega-project" investments (those exceeding USD 500 million) may benefit from special incentives and exemptions, granted on a case-by-case basis by the Council of Ministers;

- Certain projects with a strong social component (such as those related to health or education) may be granted exemptions on a case-by-case basis;

- Finally, VAT on inputs re-exported after processing or assembly should be reimbursed, although in practice firms are not reimbursed directly but are granted a credit for duties payable on future imports.

There are no specific duties currently being applied, nor are any anti-dumping, countervailing or safeguard measures being implemented. However, there are a small number of fixed and variable surcharges applied on top of normal duties to protect some "sensitive" products (see 3). The most important surcharge is in the case of sugar, where the surcharge was given as an

incentive to foreign investors in the sector. It is currently being debated whether these surcharges should be maintained.[5]

TABLE 3 HERE

In addition to duties and duty surcharges, goods imported to Mozambique may also be subject to excise taxes and VAT. These taxes are calculated cumulatively. That is, customs duties are calculated as a percentage of CIF import values, excise (where applicable) is a percentage of CIF plus duties, and VAT is a percentage of CIF plus duties plus excise.

Excise taxes on specific luxury products such as cars and alcoholic drinks range from 15 to 65%. However, few products (2.7% of tariff lines) are presently covered by such a tax. By contrast, VAT is charged on 97% of tariff lines at a uniform rate of 17%. Exempted products are mostly organic chemicals, pharmaceuticals, fertilizers, mechanical products, cereals and other basic agricultural products. VAT exemptions are also currently granted to specific industries (e.g. sugar, certain mega-projects) and government-supported projects (e.g. in education or health).

Taxes on imports are an important source of government revenue. In 2004, customs duties (including surcharges) represented 14%, excise on imported goods 3% and VAT on imports 21% of total government revenue raised through taxes.[6]

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[5] The sugar surcharge depends on a fixed reference price. Currently, existing high prices in the international market imply that the CIF import price is above the reference price and therefore the surcharge is currently set to 0%.

[6] Calculations based on the General State Accounts for 2004.

Mozambique grants duty preferences to Members of the SADC Trade Protocol. Through this agreement, duties are being progressively lowered and a free trade area will be established in Southern Africa by 2008, although certain "sensitive" goods are exempted until 2012 or even 2015 in some cases. In 2004 SADC countries benefited from duty-free access into Mozambique on 30% of tariff lines, equivalent to 53% of total SADC imports. South Africa benefits from preferential access on roughly the same amount of lines (28.1%), 21.7% of imports originated in South Africa.

TABLE 4 HERE

On the export side, Mozambique is eligible for duty-free access into most of its major markets (the EU through the Cotonou Convention and Everything but Arms, the USA through AGOA, South Africa through the accelerated implementation of the SADC Trade Protocol). However, in practice preference utilization rates are low, due in part to the cost of complying with restrictive rules of origin but mostly because of the limited supply capacity of Mozambican producers.

2.2 SACU

The Southern Africa Customs Union (SACU) is the oldest customs union in the world, dating from 1910. The agreement was modified in 1969 and most recently in 2002. Botswana, Lesotho, Namibia, South Africa and Swaziland are equal Members, although traditionally South Africa has dominated decision-making.[7]

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[7] With the new SACU agreement, decisions about the CET need to be agreed among all members. This is expected to water down South Africa's dominance of decision making.

SACU Members have a common external tariff with 6690 product-specific lines. Customs duties are charged on the basis of the FOB transaction price, in contrast with international standard practice which is based on the CIF value of goods. Duties are calculated in a variety of ways depending on the product, including ad valorem, specific, mixed and compound tariffs and formula duties based on reference prices. Around 97% of tariff lines have one of the 39 different ad valorem rates. The simple average tariff is 8% and the maximum applied tariff is 55%. Over half the tariff lines are duty free; the highest ad-valorem rates are concentrated mostly among textile and clothing products. Specific and mixed duties are imposed almost exclusively on agricultural products.

TABLE 5 HERE

In addition to customs duties, goods imported into the SACU area may be subject to excise taxes, levies and VAT (or sales tax). Customs duties, customs valuation, trade remedies and excise taxes have been harmonised between SACU Members, but this is not true of all rebates and exemptions or of VAT.

Regarding excise taxes, SACU countries levy ad valorem, specific and formula excise taxes on a total of 149 tariff lines. Excises are calculated on the basis of the FOB reference price plus 15% and any non-rebated customs duties. Ad valorem excise rates range from 5 to 7% and are levied mainly on manufactured products. Specific excise taxes are levied on prepared foodstuffs; beverages and spirits; tobacco; mineral products; and products of the chemical industries. The excise duty on certain categories of tractors, motor vehicles and chassis, are calculated on the basis of a formula, with a maximum rate of 20%. Specific levies are also charged on fuel.

Each SACU country applies a different VAT regime. Botswana charges a VAT rate of 10%, Lesotho and South Africa 14%, and Namibia 15%, while Swaziland levies a sales tax at a rate of 14%. All rates are lower than Mozambique's 17%. The lack of harmonisation of VAT is an obstacle to the free circulation of goods inside the union, since monitoring and control of trade flows within SACU are required in order to administer the diverging VAT regimes.

Import duties and excise taxes are collected in the common customs area through a common revenue pool distributed according to a sharing formula. The revenue sharing formula is made of two separate pools: the customs pool and the excise pool, this latter further split into an excise component and a development component. The customs pool is distributed among member states according to their share of intra-SACU imports (providing an additional incentive for member states to monitor closely trade flows within SACU) while the excise component (85% of the excise pool) is distributed according to the country's share of SACU GDP and the development component (15%) is assigned inversely to GDP per capita.

Prior to 2002, individual SACU Members could enter into bilateral trade agreements with countries outside the customs union. Under the 2002 agreement this is expressly prohibited (Article 31) but existing arrangements can be maintained. This is problematic since in 2000 South Africa signed a Trade, Development and Cooperation Agreement (TDCA) with the EU establishing reciprocal duty-free access into each other's market for substantially all products by the end of a 12-year transitional period. Botswana, Lesotho, Namibia and Swaziland (the BLNS countries) found EU products entering their markets duty-free via South Africa. Furthermore, Namibian ports were losing business to competing South African ports because of the differences in duties for European cargo shipments. Thus the BLNS have found

themselves obliged to apply the TDCA preferences, and it is likely that they will formally adhere to a modified version of the TDCA as an outcome of the Economic Partnership Agreement (EPA) negotiations with the EU.

2.3 The SADC Trade Protocol

The SADC Trade Protocol is being implemented by 11 countries in Southern Africa, including Mozambique and all SACU countries.[8] Although a fully-fledged free trade area will only be achieved in 2008 (or 2015 in the case of all "sensitive" products), many goods already enjoy duty-free or preferential treatment. For example, Mozambique has duty-free access to the South African market for almost all goods and provides duty-free access to other SADC members on about a third of its tariff lines.

Two sectors have special arrangements within SADC. Sugar will be liberalised only by 2013, subject to suitable economic conditions within the region. In the meantime preferential trade is limited by a quota system.[9] For textiles and clothing, access to SACU countries under favourable rules of origin (single transformation) is limited by a quota for the LDCs within SADC, all other members being required to demonstrate that products have undergone double transformation in order to benefit from preferential treatment. The time-limited derogation for LDCs will lapse in July 2006 unless it is renewed.

The regional integration process should continue, and the mid-term review process of the protocol suggests the creation of a customs union by 2010 and a monetary union by 2012.

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[8] The Members of the SADC Trade Protocol are: Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Angola and Madagascar are in the process of acceding to the Protocol.
9 Non-SACU sugar-producing countries with a surplus (defined as domestic production minus preferential deliveries to the EU and USA minus domestic consumption) obtain a duty-free quota into the SACU market. This quota is based on an initial level of 138,000 tonnes adjusted upwards yearly according to market growth in SACU.

Both targets are overly optimistic due to implementation delays[10] and double membership in other regional agreements. [11]

Until recently, Mozambique's regional integration strategy was premised on the existence of a common sense of purpose among all countries of Southern Africa. Since recent developments in regional trade negotiations are suggesting otherwise, there is a growing perception within the government of Mozambique that it is time to re-evaluate a number of other strategic trade policy options, including increased collaboration with SACU and unilateral liberalization. It is in this context that this chapter has been prepared.

3. Methodology

The methodology used in the chapter is based on that developed by Panagariya (2000) and extended by Milner et al (2005). The methodology has all the caveats associated with static partial equilibrium analysis; however, it allows the estimation of revenue loss and welfare effects at the specific product level with a relatively low data requirement.

3.1. Main assumptions

It is a *static partial equilibrium* model. This implies that any dynamic gains or the path of adjustment from trade reform cannot be analyzed and these dynamic gains are often substantially large and important. Furthermore the partial equilibrium nature of the model

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[10] Malawi, Zambia and Zimbabwe have in recent years experienced significant delays in implementing their tariff cuts as agreed under the Trade Protocol, and Malawi remains behind schedule; meanwhile non-tariff issues such as restrictive rules of origin and escalating non-tariff barriers remain unresolved.

[11] Angola, DR Congo, Madagascar, Malawi, Mauritius, Swaziland, Zimbabwe and Zambia are all members of COMESA as well as of SADC, and COMESA too has been in the process of creating a free trade area and designing a customs union; meanwhile, Tanzania is a member of the EAC customs union with Uganda and Kenya.

implies that linkages between sectors and impacts on the labour market and main macroeconomic variables cannot be analyzed.

Markets are *perfectly competitive* and *constant returns* are assumed, ruling out the possibility of economies of scale and market power, which may vary the potential impact of preferential integration by affecting prices and therefore the terms of trade between countries.

Imported products are *perfect substitutes* between different import sources and between foreign and domestic products. Since the analysis is carried out at the most disaggregated level possible (8-digit national tariff lines, or 6-digit Harmonized System tariff lines in the scenarios involving the SACU tariff book due to incompatibility with Mozambique's trade data at 8-digit national tariff lines), in the case of agricultural and primary products it is reasonable to assume that the elasticity of substitution between products sourced in different countries is very high. But this may not be the case for manufactured products.

Perfect transmission of tariff reform. It may be the case that tariff reductions in some products will not be translated into price reductions. This is related to the possibility of market power by exporters in the source country or importers in the destination country and/or of products not being perfect substitutes. Furthermore, trade reform may be transmitted quite unevenly across space. Cirera and Arndt (2006) show lack of integration in maize markets in Mozambique between the different provinces of the country. This implies that the estimates of the impact of the different reform scenarios quite likely will indicate the impact in the Southern provinces neighbouring the South African border, but will over-estimate the impact further north.

Price elasticities. Lack of data availability implies that data on import demand own price elasticity needs to be assumed based on other empirical work (see Milner et al (2005)). Regarding export price elasticity, it is assumed that for the rest of the world and the EU it is very high or infinity, while for South Africa, following the small country assumption, it is assumed that it is positive and equals one for simplicity.

Trade data limitations. It is assumed that 2004 trade data is accurate on the whole, although some adjustments are made (e.g. customs evasion is considered when computing revenue implications – see below). Furthermore, it is assumed that 2004 is an appropriate base year for analyzing reforms which would be completed many years in the future, when the economic situation might be very different.

Lack of production data at the product level implies that it is not possible to incorporate supply data in the analysis. Thus, we will assume that demand refers to the net demand for imports. The demand and supply for home goods is unknown and the impact of the analysis on domestic products depends on the elasticity of substitution between home and foreign goods. Thus, when domestic and imported goods are perfect substitutes, the implication of the analysis on domestic production is that when prices do not change domestic producers keep their market share and only trade is diverted from the rest of the world towards preferential partners. On the other hand when prices decrease (increase), consumption effects occur and imports are increased (reduced). In this case, we would expect a reduction (increase) in domestic producer share, the extent of which will depend on the degree of substitution between imported and domestically produced goods.

It is important to keep in mind the implications of the assumptions described above when interpreting the results. The estimations are rough estimates considering these assumptions; nevertheless, they give a clear orientation of the sign and magnitude of the changes expected in imports and revenue as a result of the different reform scenarios.

3.2. Scenarios

The purpose of the chapter is to analyze the impact of different trade reform scenarios. The fact that a static model is used implies that two periods in time are needed: the situation before the trade policy changes being investigated (i.e. the year with the most recent available data, 2004), and the situation after the trade policy changes, once the reform process is completed. While the initial period is easy to characterize (since the trade policy environment of 2004 is known already), the post-reform period in every scenario is subject to uncertainty.

As far as possible, known changes to trade policy after 2004 (e.g. the reduction of Mozambique's top duty rate from 25% to 20%) are incorporated into the post-reform period in the scenarios. However, there are many problems. For example, how the current SACU institutional arrangements might be modified if Mozambique were to negotiate its entry into the union is open to speculation. Indeed, Mozambique, with a population of about 20 million, could probably exert a great deal more influence over South Africa (with a population of 44 million) than the BLNS countries (none of which has a population exceeding 2 million). Rather than trying to guess what might happen, the SACU scenarios used in this chapter are based on the SACU common external tariff and related institutional arrangements *as they currently stand*. This makes the post-reform results "unrealistic" but it allows trade negotiators and policy-makers to see what aspects of the current arrangements are most favourable and which are most unfavourable to Mozambique.

The scenarios and their implications are described in Table 6 below.

TABLE 6 HERE

The FTA scenario represents a successful implementation of the SADC protocol or, in case of problems during the implementation of the SADC protocol, and since South Africa is Mozambique's main trade partner, a free trade agreement between Mozambique and SACU. This scenario implies that Mozambique keeps its planned MFN tariff structure.[12]

There are two SACU scenarios. As highlighted in part 2.2 of this chapter, the BLNS are *de facto* applying TDCA preferences due to the problems associated with tariff-jumping through South Africa. Mozambique might be able to avoid similar problems, but equally it might not. For this reason, SACU membership with and without EU preferences are considered as two separate scenarios.

For a significant proportion of product lines (28%), South Africa already had duty-free access to the Mozambican market in 2004. This implies that these cases are already in the FTA scenario. Therefore, the only change that applies to these product lines are an MFN change to 20% in the FTA scenario, and the adoption of the SACU common external tariff in the two SACU scenarios.

Finally, we assess the impact of a scenario ("MFN") envisaging a reduction of all duties on a MFN basis to a flat 5% for all products.

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[12] This implies, however, a reduction from 25% to 20% of the rate for final goods as planned for 2006.

The results of the different reform scenarios need to be compared with the present situation and with each other. When doing so, however, an important problem arises. The level of revenue effectively collected does not correspond to the level of imports. This is due to several factors:

- As mentioned in part 2.1, some imports are exempted from paying duties or other taxes at the border. However, it is difficult to compile all information on project exemptions. For this reason, an adjustment factor is calculated. This is based on the difference between the "theoretical" initial revenue level (calculated by applying the 2004 tariff and tax structure to the actual 2004 imports), and the actual level of revenue collected in the same year.

- Due to smuggling and evasion, some imports are not registered. The likelihood of fraud at the border decreases when duties are lower because the margin from smuggling the good is narrower. Van Dunem (2005) provides an estimate of 1.4 for "fraud elasticity" in Mozambique. This is applied to the results of the different scenarios.

3.3. The model

The model used here is extensively described in Alfieri, Cirera and Rawlinson (2006). It has three regions: Mozambique, SADC (including South Africa) and the rest of the world (ROW).[13] For each product line, the total demand for imports, *M*, is equal to the sum of exports, *X*, from all sources. For a given level of income, the total demand for imports depends negatively on the price of the good in the market, while the export supply from each source depends positively on the existing price in the market. The equilibrium price in the market equals the international price at the border, p^*, plus an *ad valorem* tariff τ_n (and other applicable taxes). The tariff may be equal for all *n* sources of imports or different, depending

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[13] For the SACU scenario where the TDCA is included, there are three regions: SADC, the EU and the ROW. Because non-SACU SADC trade with Mozambique is marginal, the SADC and SACU regions are considered to be equivalent for data purposes.

on whether the tariff structure gives preference to this good under the SADC protocol. The model is represented by the following two equations:

$$M(P, \bar{y}) = \sum X_n(P, \bar{y}) \qquad (1)$$

$$P = (1 + \tau_n) P^* \qquad (2)$$

This corresponds to the diagram shown in Figure 3:

FIGURE 3 HERE

In order to estimate the effects of the trade reform scenarios we benchmark the initial export supply and import demand functions for each product line, using information on the initial total value of imports from each source and ad valorem tariffs for the product. The initial observed prices can be normalized to one (i.e. import quantities are taken to be equivalent to import values in the base year), dispensing with the need to obtain data on imported unit quantities.[14]

Finally, in order to complete the benchmarking exercise the different import demand and export supply price elasticities need to be identified. Import demand elasticities are not available for Mozambique, and therefore are taken from those sector-specific import demand elasticities calculated in Stern et al.(1976).[15] Export supply elasticity is initially assumed to be 1 for SADC and very high or infinity for the ROW.

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[14] This means, in effect, that a hypothetical unit of quantity is created for this exercise. If prices are affected as a result of the trade reform scenarios, then values and quantities are no longer equivalent post-reform and new import values need to be calculated using the new prices and the new hypothetical quantities.

[15] The assumption on import demand elasticties, as well as export price elasticities, impact importantly the quantity and price estimates. However, to our knowledge Stern et al. (1976) is the best source of price elasticities, better than any guesstimate.

Once the equations are benchmarked, different reform scenarios can be simulated by changing the import tariffs. This gives the new vector of import quantities for every source and the new price in the market. The new import quantities and prices can then be used to estimate the levels and changes of revenue associated to duties, excise and VAT, and also measures of consumer surplus and welfare, for every scenario.

4. Results

This section describes the results from the estimations. Nevertheless, the results related to revenue only indicative of potential levels of revenue due to the fact that they need to be adjusted to take account of tax exemptions, as well as misclassified and unregistered (smuggled) imports. These adjustments are carried out in section 5.

4.1. Scenario comparison

The main results of the estimations can be summarized as follows:

- The greatest overall increase in imports takes place under the scenario in which Mozambique enters SACU and implements the TDCA, followed by the MFN liberalisation scenario and then by a free trade area in Southern Africa (i.e. the SADC Trade Protocol). By contrast, SACU membership without the TDCA implies the lowest increase in the value of imports (Table 7)

- The weighted average price reduction is close to 18% for the SACU TDCA scenario, 15.4% for the MFN scenario and 14.9% for SACU without the TDCA and 13.3% for the SADC FTA. This implies that in all scenarios, the increase in the *value* of imports is smaller than the increase in the *volume* of imports.

- The scenarios that imply more liberalization are clearly associated with larger revenue loss. However, these results need to be adjusted for existing exemptions and, in the SACU scenarios, for the transfer of revenue from the revenue pool (see part 5 of this chapter).

- An interesting result is the fact that despite the increase in imports for most of the scenarios, VAT revenue only increases slightly. This is due to the fact that VAT is applied in cascade to the other taxes and the tax base is reduced because of reductions in prices and duties.

- Greater liberalization is associated with higher consumer surplus. However, we have to bear in mind that, in practice, this also depends on the degree of price transmission from the border to consumers.[16]

- The revenue losses are larger than the consumer gains in almost all scenarios, implying overall national welfare losses as compared to 2004. However, in the SACU with TDCA scenario the welfare change is positive due to the large reduction in prices. We need to remind though that for both SACU scenarios these results change when adjusted for revenue transfer from the common pool.

TABLE 7 HERE

TABLE 8 HERE

The results from the estimation are, of course, partial equilibrium results. These ignore general equilibrium effects such as terms of trade changes, cheaper inputs, reallocation of resources, and the impact on domestic production or income changes, which the partial

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[16] Traders may have market power and may be able to absorb some or all of the change in prices, reducing the benefits of liberalization for consumers. Moreover, the evidence on incomplete spatial market integration in maize markets suggests that consumers in central and northern parts of Mozambique will not benefit as much as implied by the estimations (Cirera and Arndt, 2006).

equilibrium setting used here does not capture. Therefore, these results should be interpreted as a first order approximation of the impact of different reform scenarios on imports and revenue at the product level. The following sub-sections describe in greater detail the results of the different reform scenarios.

4.2. FTA scenario

This scenario involves the complete implementation of the SADC Trade Protocol, with all other policy arrangements taken as they stand for Mozambique in 2006.[17] It is important to point out that in the base (pre-reform) year, 2004, Mozambique was already partially implementing the free trade agreement, with 1509 product lines duty free for South Africa, corresponding to 21% of imports by value.

The estimations imply an increase in the value of imports by 6.79% and a weighted average decrease in prices of 13.3%. However, the increase in consumer surplus due to cheaper imports does not compensate revenue losses.

The product groups where there is a larger loss of revenue and larger increase in consumer surplus are those with a greater value of imports (such as Ch.87, vehicles, or Ch.27, fuel), or higher taxes (such as Ch.17, sugar).

4.3. MFN scenario

This scenario corresponds to the case of unilateral liberalization and the reduction of tariffs and duty surcharges to 5%, while keeping existing VAT and excise taxes. In this case, the

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[17] This implies the reduction of the tariff for final products from 25% to 20%. In addition, the variable duty surcharges on sugar have been taken at their average rates in 2004.

level of imports increases by 8.91%. Also, consumer surplus significantly improves by 99 millions USD due to a reduction in prices amounting to 15.4% (weighted average).

Those chapters with greater imports and with higher taxes such as vehicles (87), fuel (27) and sugar (17) experience the largest loss of revenue, even though the former two also experience large increase in consumer surplus. The net impact on welfare, even though slightly negative overall, shows a mixed pattern across chapters. For fuel (27) and medical appliances (90) it is overall negative, while for other chapters like machinery (87) and clothing (63) shows a positive sign.

4.4. SACU without TDCA scenario

Regarding the SACU scenario when the TDCA agreement with the EU is not considered, it is interesting to notice that the resulting weighted average tariff (4%) is nearly a half of the one currently being implemented. Consumer surplus increase on aggregate by 7.7%, and particularly for sugar (17), medical appliances (90) and machineries (84&85). Conversely, the new SACU CET implies a decrease in CS for chapters such as vehicles (87), rubber products (40 – including tyres) and textiles (63). Revenue change and net welfare effects depend on the application of the SACU revenue sharing mechanism, which is examined in part 5 of this chapter.

4.5. SACU with TDCA scenario

This scenario is similar in terms of liberalization to the unilateral MFN liberalization due to the fact that there is liberalization for the two main sources of imports, Southern Africa (i.e. South Africa) and the EU. This scenario is the one achieving the highest increase in imports (9.7%) and decrease in prices (-18.3% weighted average). The resulting weighted average

tariff is down to a mere 1.15%. Regarding consumer surplus, the sectors with the largest increases in consumer surplus are sugar (17) and electrical (85) and mechanical machinery (84). The final impact on revenue and welfare depends on the transfer from the SACU revenue pool. Interestingly, for vehicles, the TDCA implies a positive shift in consumer welfare compared to the previous scenario.

5. Implications of revenue adjustments

Before drawing any conclusions from the results in the estimations in part 4 of this chapter, it is fundamental to adjust expected revenue flows to take account of tax exemptions, as well as misclassified and unregistered (smuggled) imports. Indeed, as demonstrated below, the model used in this chapter heavily over-estimates expected revenue for the 2004 base year, as compared to actual collected revenue in 2004. This implies that the potential for revenue losses arising from the trade reforms modelled in the scenarios is in reality much lower than estimated in part 4 of this chapter. Additionally, in the case of the SACU scenarios, it has to be taken into account that customs revenue is pooled and redistributed according to a formula. When expected revenue is adjusted for these factors, as seen below, the MFN and SACU scenarios *become welfare improving* (see Tables 11 and 15).

An additional consideration to bear in mind, with respect to the FTA and MFN scenarios, is that one could design a revenue-neutral reform by reducing the average rate of taxation on imports at the same time as removing exemptions and improving the actual collection of taxes due (thus keeping the *effective* average rate of taxation at the same level). This in turn would have the double advantage of leading to greater transparency in the trade policy environment

(with positive implications for good governance) and requiring fewer resources to implement and monitor exemptions schemes.

5.1. Exemptions

The estimations in part 4 of this chapter omit 16% of imports that are misclassified in Chapter 99 as "other products from other countries". For these imports, there is no information about the country of origin or the applicable taxes. In addition, the large number of exemptions granted (as described in part 2.1 of this chapter) implies that revenue collected is always lower than the theoretical revenue that would be obtained from taxing imports as specified in the customs tariff book.[18] The revenue totals obtained in part 4 of this chapter need to be adjusted to reflect these discrepancies.

Table 9 summarizes the adjustments required. The first column reflects actual revenues collected in the national currency, as reported in the State accounts. These are converted to USD in the second column. It should be noted that, when divided by actual imports, these values translate into very low effective taxation rates: a 4.84% average tariff rate, a 1.05% excise rate (across all products) and a 7.27% VAT rate. The fourth column indicates the theoretical level of revenue expected for the 2004 base year, applying tax rates as they appear in the tariff book, without any exemptions, to actual 2004 imports (disaggregated by tariff line and by country of origin). These yield expected average taxation rates of 8.9%, 1.5% and 14.0% respectively for duties, excise and VAT, all of which are significantly higher than the actual effective rates.

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[18] It must be made clear that the term "Exemptions" in this paper does not include the concept of preferential trade: thus, an import from South Africa claiming duty-free status under the SADC Trade Protocol is *not* considered to have been exempted.

In the second-last column, the amount of expected revenue is adjusted upwards to take into account the fact that some 16% of imports are misclassified as Ch.99. The expected taxes for these goods are calculated by applying a linear approximation that assumes the same average effective tax rates as for other goods. Finally, the last column shows the ratio of collected to expected revenue for every type of tax. The ratios are low, implying that around half of imports are effectively exempted from paying duties and VAT.

TABLE 9 HERE

Taking the required revenue adjustments for the 2004 base year as a starting point, and assuming a constant relationship between actual and expected revenue among all scenarios, adjustments can be made to the revenue estimations in all scenarios, as shown in Table 11. The theoretical revenue for the 16% misclassified imports (Chapter 99) is added to the estimated total revenue reported in part 4 of this chapter, and then the effective collection ratios as listed in the last column of Table 10 is applied to this intermediate result, to take exemptions into account.

The values in bold are the total expected revenue, after adjustment: USD 204.5 million in the FTA scenario, USD 200.3 million in the MFN scenario, USD 203.7 million in the SACU (no TDCA) scenario and USD 192.5 million in the SACU (with TDCA) scenario. These values correspond to effective taxation rates (total effective revenue over total imports) very close to 9% for all four scenarios.

TABLE 10 HERE

The revenue adjustments required accounting for exemptions and misclassified imports are highly significant. Once adjusted, expected revenue collection both in the 2004 base year and in the post-reform scenarios is reduced significantly, reducing the expected revenue loss – and thus the negative impact on welfare – from reform. Table 19 recalculates the impact of the FTA and the MFN scenarios with the adjusted level of expected revenue flows. In the FTA scenario, the negative net welfare effect is considerably lower than originally estimated in $37.8 millions, and in the MFN case the net welfare effect actually becomes positive.

TABLE 11 HERE

As with the results in part 4 of this chapter, however, consumer surplus is probably still over-estimated because of the assumption of perfect transmission of price changes to consumers. This probably leads to a positive bias in the net welfare effect of reform.

5.2. Fraud

The reduction in tariff rates reduces the incentives to smuggle goods by decreasing the price spreads between legally and illegally imported goods. Van Dunem (2005), based on Fisman and Wei (2004), calculates the relationship between trade taxes and the level of unregistered imports. He regresses estimated unregistered imports (obtained by observing the ratio between the CIF export value to Mozambique registered by South Africa and the CIF value of imports from South Africa registered in Mozambique for each product line), with respect to the level of import taxes for each product line. He finds a "fraud elasticity" of 1.4, suggesting that for every 1% increase in taxes there is an increase in 1.4% of imports not registered.

This elasticity coefficient can be applied to the results obtained in part 5.1 of this chapter to account for a potential reduction in non-registered imports arising from tariff reduction. Concretely, the following equation is applied to every product line in every scenario:[19]

$Log (X/M) = \beta\ Taxes + \varepsilon$ *where the estimated parameter β=1.38*

Given that M, the expected level of imports registered by Mozambique, is known for each scenario in 2004, we can apply the equation above and solve for X, which can be interpreted as the potential level of imports without smuggling in 2004. Then the different scenarios are re-estimated to obtain the new X^*. Finally, to the new potential registered imports X^* , we apply again the formula to obtain the final expected imports M, which account for both the liberalization exercise and the potential increase in registered imports from reducing taxes at the border.

The following Table shows the results in terms of imports change. Clearly there is a significant increase in the level of imports resulting now from the combined trade and fraud reduction effects when reducing trade taxes. Registered imports increase from 35.9% in the FTA case to 53.1% in the SACU with TDCA scenario.

TABLE 12 HERE

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[19] The intercept originally in the equation is used to adjust imports from re-exports. Since the original model in Van Dunem (2006) is only applied to South Africa's imports, and in our case we estimate imports from all the sources we have only used the slope coefficient as a rough estimate of the elasticity without adjusting for re-exports from one source.

Two important issues should be stressed in this section. As suggested above, it is unlikely that price transmission is complete in the presence of high transport costs and a not very competitive retail sector, which imply the overestimation of the consumer surplus. Nevertheless, the existing level of smuggling may put downward pressure on domestic prices, below the price plus the wedge introduced by taxes, compensating part of the overestimation of the consumer surplus.

The second issue is related to the fact that the level of exemptions and effective taxation do not necessarily have to remain constant. It is possible to combine an effective reduction of trade duties with a reduction in exemptions. This could bring about two positive outcomes. First, it would add more clarity and transparency to the exemptions system, since there would be a very short list of exemptions that could be more easily implemented and monitored. Second, it partially offsets the effective reduction in tax revenue arising from liberalization, and these resources could be used to finance adjustment costs from liberalization.

5.3. Revenue sharing in SACU

In the scenarios involving SACU membership, revenue flows depend on the results of applying the revenue-sharing formula, as introduced in part 2.2 of this chapter. Therefore, once tax revenue collection is calculated, final retained revenue has to be extrapolated from an estimation of revenues collected in all SACU member states. The formula for the revenue pool is described in Box 1.

In the absence of a regional CGE model, it is impossible to calculate the impacts in terms of exports and imports for other SACU countries. For this reason simplified calculations are made, adding the estimated revenue flows obtained in the two SACU scenarios to the pool

contributions in 2004. Despite being a simplification, this helps to approximate the revenue impact of SACU membership in static terms.

BOX 1 HERE

The calculations have been carried out according to information about the revenue pool in 2004.[20][21] For duties, the revenue allocation depends on each country's share of imports from other SACU members. We add the resulting SACU imports from the simulations and the observed exports from Mozambique to SACU in 2004. Adjusting the other countries' shares, to include Mozambique's imports from SACU and exports to SACU in total intra-SACU imports, yields a share of imports approximately at 10% in both scenarios.

TABLE 13 HERE

Clearly, all SACU countries would experience a reduction in the share of the pool as a result of Mozambique's membership. However, and due to the significance of Mozambique's exports of electricity to South Africa, the customs pool share for South Africa would remain constant, while being significantly reduced for the BLNS.[22] This may be a significant element of conflict between SACU countries if considering Mozambique membership. In addition, a controversial element when implementing the formula is the incentive to over-declare higher intra-SACU imports in order to obtain more revenue from the duties pool.

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[20] The official figures of SACU generated revenue in 2004 are 8,479 million rands for custom duties and 12,381 for excise duties.

[21] SACU revenues increased significantly in 2005, mainly due to a consumption boom. Thus, we may expect that if the revenue shares remain, more or less, constant, SACU payments from 2005 may increase significantly. On the other hand, we may also expect in the future the reduction of the customs pool due to the implementation of the TDCA and other MFN liberalization.

[22] Due to the significant increase in Mozambique's exports of gas to South Africa starting in 2005, we should expect that South Africa may even slightly increase its share of the duties pool.

The excise component of the formula (worth 85% of total excise revenue) is based on the relative GDP size of each member. Using GDP at current USD from the WDI (2006), Mozambique's share in SACU GDP in 2004 was 2.4%. Finally, the development component (worth 15% of excise revenues) is more or less equally shared among members; although the SACU formula introduces a very minor bias in favour of those members with lower GDP per capita. Based on 2004 WDI (2006) GNI per capita, Mozambique obtains 16.81% of this component, marginally higher than the average for all members (16.66%).

An important element to consider is the fact that excise taxes on domestic products also have to be transferred to the revenue pool. It is not possible to estimate the total size of excise taxes collected in Mozambique with the model used in this chapter, since domestic production is not modelled. An assumption is made that excise revenue on domestic production in Mozambique would be the same under the SACU scenarios (applying the SACU excise structure) as was actually the case in 2004, namely about USD 34.86 million.[23]

Table 14 shows the results of applying the formula to both scenarios, SACU no TDCA and SACU TDCA – and taking into account the adjustment due to exemptions. Under both scenarios, SACU membership implies generated revenue of more than USD 300 million. Clearly, SACU membership would imply a positive redistribution of revenue to Mozambique, with respect to its contribution; net revenue transfer, of USD 126.18 million for the SACU no TDCA scenario and USD 118.12 million for the SACU TDCA scenario. These figures represent around USD 58-62 million more than the revenue collected in 2004. The fact that SACU membership allows to raise and keep the country's own VAT, implies that revenue is maximized under SACU membership. The figures in terms of total revenue transferred from

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[23] Note that this figure is likely to underestimate the real excise revenue collection applying the SACU excise structure, since SACU excise are higher than current excises in Mozambique.

the SACU revenue pool are very similar under both scenarios due to the fact that Mozambique contributes a very small share to the pool.

TABLE 14 HERE

These results are somewhat different from Kirk and Stern (2004), who indicate a general loss of revenue from implementing SACU. The authors suggest a 3% decrease in government revenue, as opposed to an increase in our scenarios ranging from 19 to 20% compared to the revenue actually collected in 2004 (302.6 million USD). Kirk and Stern (2004) also suggest a positive net transfer from the revenue pool of 12%, while our estimates indicate a ratio between SACU transfer and contribution in the order of 2.45 and 2.88.[24]

Once the impact of the SACU transfer on revenue is accounted for, the picture of the final impact of the reform scenarios changes significantly. As shown in Table 15, the SACU scenarios become welfare improving with a higher level of welfare than the MFN and FTA scenarios. This is due to the fact that the net revenue transfer from SACU more than compensates for the higher MFN consumer surplus.

TABLE 15 HERE

An important implication of these results is that if regional integration is an important goal of Mozambique's external trade policy, SACU membership seems a better option than the

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[24] Kirk and Stern (2004) use 2002 as the base year, while the base year in this paper is 2004, and the simulation methodologies for the impact of the liberalization scenario under SACU are different.

current SADC process.[25] This is mainly due to the extent of revenue transfer in the SACU scenarios as they have been set up.

Despite the importance of this result, it is important to point out that with the process of MFN liberalization being carried out in South Africa, it is expected that the customs component, which is the main source of redistributed revenue, will decrease significantly in coming years. The size of the pool, of course, will also depend on the trend on consumption and import growth in SACU countries[26]. In addition, lack of data on the impact of applying SACU excises domestically imply that the revenue transfer figure is likely to be overestimated because of higher average excise tax under SACU. Therefore, the figures reported should be taken as upper limits of the transfer.

6. Conclusions

This chapter has estimated the likely impact of four trade policy reform scenarios, SADC integration, SACU membership with and without the TDCA, and MFN unilateral liberalization[27], on imports and revenue at the product-specific level. We should keep in mind, however, the important limitations of the analysis. First, we do not account for general equilibrium impacts of trade reform, especially regarding import competing and export sectors. Second, the model is static and, therefore, fails to capture dynamic gains, which may be substantial. Despite these problems, the results are indicative of the size and directions of the impacts expected under the four scenarios and are informative at the product level.

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[25] This result is highly dependent on whether SADC will effectively be a customs union, the type of revenue redistribution that will be established and the timing and costs of adjustment for both scenarios.

[26] The size of the revenue pool increased significantly in 2005.

[27] Setting the MFN tariff uniformly at 5%.

The main results indicate that the SACU TDCA scenario and MFN liberalisation yield the larger increase in imports. Price effects are significant in all scenarios and ranging from 9% to close to 50% for almost all chapters excluding fertilizers and pharmaceutical products. This suggests a substantial increase of competition from regional and international suppliers for the local industry across the board.

In all four scenarios the increase in consumption surplus does not fully compensate the loss of revenue, when no revenue adjustments are made to the model. VAT and excise slightly increase due to the increase in imports and despite the fact that the tax base is being reduced through tariff and price reductions.

The revenue (and hence also welfare) effects, however, need to be adjusted considerably. First, due to the large number of tax exemptions granted, actual trade revenue collected is around 50% of its potential level for duties and VAT and around 70% for excise. Effective tax rates are thus lower than the nominal rates, at 4.8% for duties, 1.1% for excise and 7.3% for VAT. When the calculations are adjusted to account for exemptions, the revenue loss decreases significantly and the MFN scenario becomes welfare improving while the FTA scenario still shows negative welfare change. SACU scenarios need a further adjustment to take into account the SACU redistribution mechanism.

A second type of adjustment is required due to the fact that lower trade taxes reduce the incentive for smuggling and therefore increase the level of registered and taxed imports. Using Van Dunem (2006) estimates, the data is adjusted to account for the reduction of fraud and re-estimate the scenarios. In this manner, the anticipated trade effect is compounded by an additional fraud reduction effect. The results indicate a much larger increase in registered

imports, ranging from 53% in the SACU TDCA case to 35% in the FTA case. This implies a lower revenue loss and more favourable welfare impact for all reform scenarios.

A final adjustment required concerns the SACU scenarios. The revenue related to these scenarios is transferred to the SACU revenue pool, after which it is redistributed to the member countries according to a formula. When the formula is applied, the results indicate that the levels of redistribution in favour of Mozambique, the difference between contribution and transfer, is high, and ranging from 118 to 126 million USD according to the SACU scenario; although this figure is likely to be reduced by larger revenue collected by higher SACU excise taxes on domestic production and the future reduction of the pool as a result of ongoing MFN and preferential liberalization by South Africa. This, in addition to VAT revenue (the main source of trade-related tax revenue), which is not shared, leads to the largest welfare gain for the SACU with TDCA scenario, when compared to all other scenarios.

These results suggest that, given Mozambique's intention to pursue a path of regional integration, SACU membership may be an attractive option – or at least that its costs are unlikely to be unreasonably high, and are likely to be accompanied by significant benefits, especially if accompanied by additional liberalization. SACU, however, is not free of problems and has substantial issues that need to be addressed, such as having a complex tax structure, predominance of South African trade policy interests, problems in the implementation of the revenue sharing formula, the TDCA or VAT tax coordination.

It is important to point out, however, that SACU membership alone would not be sufficient to attract investment, and would only be useful for this purpose as one supporting element

among others in a coherent and credible strategy for the improvement of the business environment. Most importantly, without policies to foster exports and to enhance competitiveness, investment gains might not materialize and the trade balance would become difficult to sustain.

From a tax policy perspective, the estimations illustrate that with the exception of SACU scenarios, any liberalization will bring about a significant reduction in tax revenue. This implies the need to diversify the tax structure and reducing the dependency on trade related taxes. In order to maximize the benefits of trade reform, tax reform must complement trade liberalization.
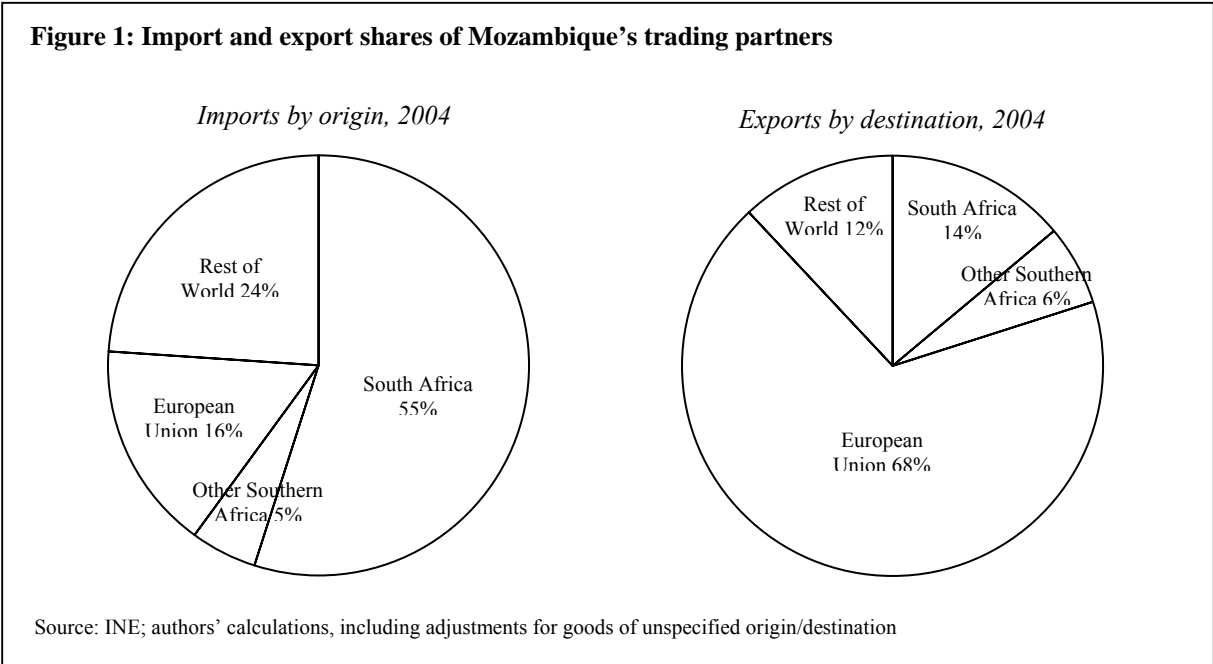
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FIGURES

Figure 1: Import and export shares of Mozambique's trading partners

Imports by origin, 2004

Rest of World 24%

European Union 16%

Other Southern Africa 5%

South Africa 55%

Exports by destination, 2004

Rest of World 12%

South Africa 14%

Other Southern Africa 6%

European Union 68%

Source: INE; authors' calculations, including adjustments for goods of unspecified origin/destination

Figure 2: Mozambique's evolution of trade, 2001-2005, USD million
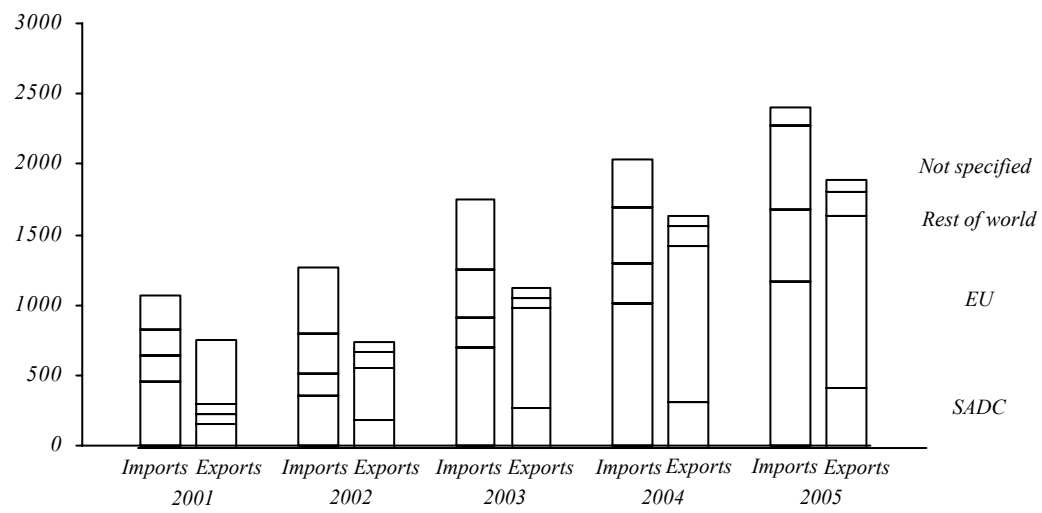
Source: INE; authors' calculations

Figure 3: Impact of tariff on import quantities and prices

Figure 3: Impact of tariff on import quantities and prices
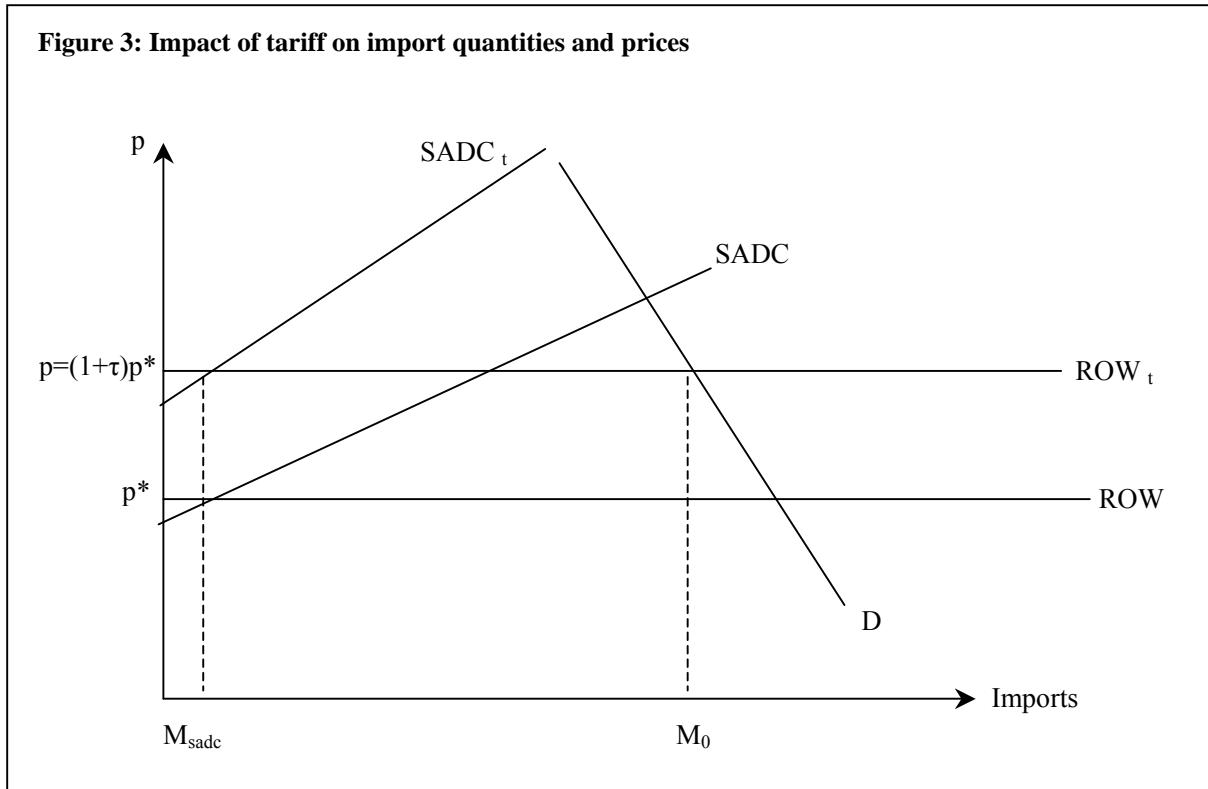
Box 1: The SACU revenue-sharing formula

The revenue sharing formula of the 2002 SACU Agreement, for a given financial year, is:

$$R_i = C (A_i/A) + (0.85) E (GDP_i/GDP) + (0.15) (1/n) E (1-((Y_i/Y)-1))$$

where:
R_i = revenue share of SACU country i;
i = Botswana, Lesotho, Namibia, South Africa or Swaziland;
C = all customs duties actually collected on goods imported into SACU, less the cost of financing the Secretariat, the Tariff Board, and the Tribunal, less the customs duties rebated or refunded;
A_i = CIF value (at the border) of imports of SACU country i from all other SACU members, less re-exports;
A = total CIF value (at the border) of intra-SACU imports, less re-exports;
E = all excise duties actually collected on goods produced in the SACU area, less the cost of financing the Secretariat, the Tariff Board, and the Tribunal, less the excise duties rebated or refunded;
GDP_i = Gross domestic product of SACU country i;
GDP = total gross Domestic product of SACU members;
n = number of countries in SACU
Y_i = Gross domestic product per capita of SACU country i;
Y = average gross domestic product per capita of all SACU members.

After some algebraic manipulations, R_i becomes:

$$R_i = C (A_i/A) + (0.85) E (GDP_i/GDP) + (0.3) E (11 - Y_i/Y)$$

The customs component: C (Ai/A)

The pooled customs revenue will be distributed according to intra-SACU imports, excluding re-exports and net of rebates . Even though country shares are expected to remain stable over time, the size of the customs pool (C) will depend upon the value of imports and changes to the SACU tariff regime.

The excise component: (0.85) E (GDPi/GDP)

The size of the excise component has been set initially at 85% of the excise pool, and will be distributed on the basis of the GDP of each of the SACU countries.

The development component: (0.15) (1/n) E (1-((Yi/Y)-1))

The size of the development component has been set initially at 15% of the excise pool, and will be distributed inversely to each country's GDP per capita: the smaller the GDP per capita, the greater the share of the development pool.

The data for the calculation of the income shares accruing to each country is obviously a source of conflict among member states. Discrepancies to track intra-SACU imports between SARS (SA) data and National Statistics from BLNS countries are quite significant, leading to prolonged discussions.

Source: SACU Trade Policy Review 2003 (WTO)

Tables

Table 1: Mozambique's top imported and exported product groups, 2004

		Imports							*Exports*			
HS	*USD Million*	*From SADC*	*From EU*	*From rest of world*	*% of all imports*		*HS*	*USD Million*	*To SADC*	*To EU*	*To rest of world*	*% of all exports*
99	332	--	--	--	16.3%		76	915	0%	100%	0%	60.8%
27	308	98.9%	0.1%	0.9%	15.1%		27	136	100%	0%	0%	9.0%
87	171	64.6%	9.9%	25.6%	8.4%		03	107	12.1%	72.0%	15.9%	7.1%
85	167	41.0%	41.9%	17.1%	8.2%		84	58	93.2%	0.4%	6.4%	3.9%
10	145	5.8%	4.7%	89.5%	7.1%		17	48	0%	62.6%	37.4%	3.2%
84	134	48.0%	36.9%	15.1%	6.6%		24	41	100%	0%	0%	2.7%
90	68	76.1%	18.5%	5.4%	3.3%		52	34	12.3%	21.4%	66.3%	2.3%
40	53	21.4%	66.5%	12.1%	2.6%		44	30	14.6%	6.9%	78.5%	2.0%
73	52	66.4%	9.7%	24.0%	2.6%		08	30	3.7%	4.7%	91.5%	2.0%
48	39	83.1%	4.9%	12.1%	1.9%		12	12	10.5%	17.9%	71.6%	0.8%

Source: INE; authors' calculations, including adjustments for goods of unspecified origin/destination

Table 2: Mozambique's MFN tariff structure, 2004 [28]

MFN duty (%)	Number of lines	% total lines	Imports ($1,000)	% total imports[29]	Average imports ($1,000)
0	116	2.16%	83,871.6	12.19%	723.03
2.5	1,151	21.46%	94,101.6	13.68%	81.76
5	662	12.34%	134,269.1	19.52%	202.82
7.5	1,564	29.16%	253,812.3	36.89%	162.28
25	1,871	34.88%	121,912.6	17.72%	64.95
All lines	5,364		687,967.2		
Average MFN tariff			12.10%		
Weighted average MFN tariff			8.50%		
Standard deviation			9.67		

Source: Mozambique tariff book; INE; authors' calculations

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[28] The calculation referred to MFN excludes imports originated in South Africa and SADC.
[29] Figures calculated using the total volume of trade net of good classified under Ch.99.

Table 3: Mozambique's applied tariff surcharges

Tariff line code	Product description	Surcharge
17011100	Raw cane sugar	Variable duty (average 2004: 77%)
17011200	Raw beetroot sugar	Variable duty (average 2004: 77%)
17019100	White sugar with flavourings or colourings	Variable duty (average 2004: 54%)
17019900	Other white sugar	Variable duty (average 2004: 54%)
25232900	Portland cement	10.5%
72104100	Corrugated iron or steel sheets	20%
73063000	Round tubes of iron or steel	10.5%
73066000	Other tubes of iron or steel	10.5%

Source: Mozambique tariff book and National Sugar Institute

Table 4: SADC and South African market access into Mozambique, 2004

South Africa					
MFN duty (%)	Number of lines	% Total lines	Imports ($1,000)	% Total imports [30]	Average imports ($1,000)
0	1509	28.10%	202,068.7	21.67%	133.91
2.5	10	0.19%	8,224.0	0.88%	822.40
5	554	10.32%	337,892.9	36.23%	609.92
7.5	1437	26.76%	230,140.6	24.68%	160.15
25	1860	34.64%	154,312.7	16.55%	82.96
All lines	5370		932,638.9		
Average tariff			11.19%		
Weighted Average tariff			7.80%		
Standard deviation			9.01		
SADC					
MFN duty (%)	Number of lines	% Total lines	Imports ($1,000)	% Total imports [31]	Average imports ($1,000)
0	1613	30.04%	43,651.8	53.22%	27.06
2.5	6	0.11%	0.1	0.00%	0.02
5	548	10.20%	5,455.4	6.65%	9.96
7.5	1405	26.16%	18,472.3	22.52%	13.15
25	1798	33.48%	14,440.5	17.61%	8.03
All lines	5370		82,020.1		
Average tariff			10.85		
Weighted Average tariff			6.42%		
Standard deviation			10.44		

Source: Mozambique tariff book; Comtrade; authors' calculations

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[30] Figures calculated using the total volume of trade net of good classified under Ch.99
[31] Figures calculated using the total volume of trade net of good classified under Ch.99

Table 5: SACU MFN tariff structure, 2004

Type of duty	Number of lines	%
Ad valorem	6491	97.0%
Specific	103	1.5%
Compound	1	0.0%
Mixed Total	90	1.4%
Type 1 (25% or 70c/kg)	66	1.0%
Type 2 (325c/kg with a maximum of 39%)	24	0.4%
Formula	5	0.1%
Total lines	6690	

Source: SACU tariff book, authors' own calculations.

Table 6: Trade reform scenarios

Scenario	Description
2004	This is not a scenario as such but the starting-point for the simulations in each of the scenarios. The base year is 2004. Thus: • The institutional and policy environment is as described in part 2.1 of this chapter.
FTA	This scenario is characterized by the formation of a free trade area between Mozambique and SADC countries. The end result is equivalent to the SADC Trade Protocol once fully implemented (i.e. after 2015). The scenario is characterized by the following policies: • SADC countries have duty free access to the Mozambican market for all products. • MFN rates for those products taxed at 25%, final goods, are reduced to 20% as planned for 2006. • Consumption tax and VAT structure stays the same.
SACU 1	In this scenario, Mozambique joins SACU under existing SACU arrangements, thus liberalizing trade with SACU countries and adopting the SACU CET. This means that: • SACU countries have duty free access to the Mozambican market for all products. • Mozambique adopts the existing SACU MFN tariff structure. • Mozambique adopts the SACU excise structure, but keeps its own existing VAT structure. • Mozambique participates in the existing SACU revenue-sharing mechanism.
SACU 2	This scenario is the same as SACU 1 except that it includes the Trade, Development and Cooperation Agreement (TDCA) liberalization schedule with the EU. Therefore Mozambique also gives duty free access to all imports from the EU to the same extent as South Africa does by the end of the implementation period.
MFN	This scenario is characterized by the reduction of tariffs on all imported goods to 5%, keeping the existing consumption tax and VAT structure.

Table 7: Estimated aggregate impact on value of imports

Scenario	% change in value of imports from			
	Southern Africa	European Union	Rest of the world	Total
FTA	14.07%	Included in "Rest of the world", see right	-3.86%	6.82%
MFN	8.79%	Included in "Rest of the world", see right	9.10%	8.91%
SACU no TDCA	10.66%	Included in "Rest of the world", see right	0.40%	6.19%
SACU with TDCA	4.64%	84.46%	-27.39%	9.73%

Source: authors' own calculations

Table 8: Estimated aggregate impact on revenue and welfare, before adjustment

Scenario	Change in USD millions (% change)					
	Duty revenue	Excise revenue	VAT revenue	Total revenue	Consumer surplus	Net welfare
FTA	-100.3 (-66.6%)	0.6 (2%)	2.92 (1.2%)	-96.8 (-23.3%)	38.3	-58.42
MFN	-113.1 (-75%)	1.76 (6.9%)	8.04 (3.3%)	-103.3 (-24.4%)	99.86	-3.47
SACU no TDCA	-113.5 (-75%)	7.43 (29%)	3.98 (1.16%)	-102 (-24.4%)	57.28	-44.81
SACU with TDCA	-139.95 (-92.7%)	9.12 (35%)	11.35 (4.7%)	-119.4 (-28%)	130.65	11.18

Source: authors' own calculations

Table 9: Actual and expected trade-related revenue in 2004

Trade-related revenue	2004 actual revenue (MZM billion)	2004 actual revenue (USD million)	Effective average rate of taxation	Theoretical revenue expected for 2004 (USD million)	Expected average rate of taxation	Theoretical revenue expected for 2004 incl. Ch.99 (USD million)	Actual revenue as % of expected revenue in 2004
Duties & surcharges	2,223	98.4	4.8%	150.9	8.9%	180.25	54.60%
Excise on imports	485	21.5	1.1%	25.4	1.5%	30.37	70.65%
VAT on imports	3,340	147.9	7.3%	238.4	14.0%	284.84	51.92%
Cumulative total	6,047	267.8	13.2%	414.7	24.4%	495.46	

Source: General State accounts; INE; authors' own calculations

Table 10: Adjusted aggregate revenue estimations for each scenario

Trade-related revenue	FTA			MFN		
	Estimated theoretical revenue (USD Million)	Estimated theoretical revenue incl Ch.99 (USD Million)	Anticipated effective revenue (USD Million)	Estimated theoretical revenue (USD Million)	Estimated theoretical revenue incl Ch.99 (USD Million)	Anticipated effective revenue (USD Million)
Duties & surcharges	241.30	288.30	149.71	246.4166	294.41	152.88
Excise on imports	26.03	31.10	21.97	27.18416	32.48	22.95
VAT on imports	50.32	60.12	32.87	37.52993	44.84	24.52
Cumulative total	317.65	379.51	**204.55**	311.13	371.72	**200.35**
	SACU no TDCA			SACU with TDCA		
Duties & surcharges	244.37	291.96	151.61	251.71	300.73	156.17
Excise on imports	32.86	39.26	27.74	34.55	41.28	29.16
VAT on imports	37.41	44.70	24.44	10.98	13.11	7.17
Cumulative total	314.64	375.92	**203.79**	297.23	355.12	**192.50**

Source: Authors' calculations

Table 11: Estimated aggregate impact on revenue and welfare, after adjusting for exemptions (million USD)

Scenario	Change in				Consumer surplus	Net welfare
	Duty revenue	Excise revenue	VAT revenue	Total revenue		
FTA	-65.55	0.51	1.82	-63.22		
	-66.60%	2.39%	1.23%	-23.61%	25.40	-37.82
MFN (5%)	-73.91	1.49	4.99	-67.43		
	-75.09%	-314.25%	3.37%	-25.18%	99.86	32.43

Source: authors' own calculations

Table 12: Estimated aggregate impact on value of imports after adjusting for fraud

| Scenario | % change in value of imports from | | | |
	Southern Africa	European Union	Rest of the world	Total
FTA	48.13%	Included in "Rest of the world", see right	17.92%	35.92%
MFN	52.74%	Included in "Rest of the world", see right	51.15%	52.10%
SACU with TDCA	69.14%	Included in "Rest of the world", see right	29.46%	53.11%
SACU no TDCA	53.70%	190.65%	-8.03%	38.44%

Source: authors' own calculations

Table 13: SACU Revenue Shares with Mozambique's membership

	Botswana	Lesotho	Namibia	Swaziland	South Africa	Mozambique		Total
Customs Pool shares						Imports from SACU	% Pool share	Intra-sacu imports
SACU 2004	2,404.69	1,153.93	2,414.37	1,592.06	1,906.76			9,471.81
	25.39%	12.18%	25.49%	16.81%	20.13%			
SACU 2004 incl Moz exports	2,405.49	1,154.07	2,414.57	1,595.01	2,139.46			9,708.60
SACU no TDCA	22.21%	10.65%	22.29%	14.73%	19.75%	1,122.85	10.37%	10,831.45
SACU TDCA	22.33%	10.72%	22.42%	14.81%	19.86%	1,061.76	9.86%	10,770.36
SACU no TDCA (fraud adj)	22.08%	10.59%	22.17%	14.64%	19.64%	1,184.90	10.88%	10,893.50
SACU TDCA (fraud adj)	22.26%	10.68%	22.35%	14.76%	19.80%	1,096.10	10.14%	10,804.70
Excise pool shares	3.67%	0.58%	2.31%	1.02%	90.07%		2.35%	
Development pool shares	16.49%	16.77%	16.64%	16.70%	16.55%		16.81%	

Source: authors' own calculations

Table 14: SACU revenue pool calculations adjusted for exemptions (million USD)

Revenue Component	Revenue Pool 2004		Mozambique.	SACU no TDCA		SACU with TDCA	
	Rand Million	USD Million	Share	Revenue pool incl. Moz	Revenue transfer	Revenue pool incl. Moz	Revenue transfer
Duties	8,479.00	1,234.21	10.37%/9.86%	1258.65	130.52	1241.38	122.40
Excise	10,523.85	1,531.86	2.35%	1555.43	36.55	1556.64	36.58
Development	1,857.15	270.33	16.81%	274.49	46.14	274.70	46.18
Total	20,860.00	3,036.39		3088.57	*213.22*	3072.72	*205.16*
VAT					151.61		156.17
Total Revenue after SACU transfer					*364.83*		*361.32*
Net transfer (SACU transfer - overall contribution)[32]					126.18		118.12
Change with respect to actual revenue collected in 2004 (base year)[33]					62.17		58.67

Source: Authors' calculations based on Kirk and Stern (2005) and WDI (2005)

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[32] Overall contribution includes duties and excises collected on domestic and imported products
[33] Including domestic excises

Table 15: Estimated aggregate impact on revenue and welfare, after adjustment and SACU transfer (million USD)

	Change in Total revenue	Consumer surplus	Net welfare
SACU no TDCA	62.17	57.28	119.45
SACU with TDCA	58.67	130.65	189.32

Source: authors' own calculations