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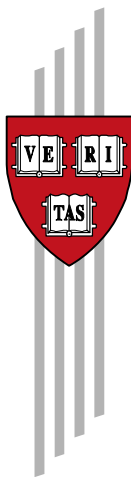
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Lawrence Edwards and Robert Lawrence

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Abstract: This paper characterizes the current South African Customs Union (SACU) tariff structure, considers its rationale, proposes and evaluates some alternatives for reform. While considerable progress was made earlier in liberalizing and simplifying SACU's tariff structure, over the past few years such movement appears to have halted. This is unfortunate because trade performance is a key constraint in attaining South Africa's growth objectives. The tariff structure remains excessively complex and opaque and biased against exports. The differentiation provided to different sectors appears mainly to be the result of historical accident and is not justifiable as efficient job preservation, equitable income distribution or on infant industry grounds.

Using simple tariff structures that have a zero and just one or two tariff bands we show that it is possible simultaneously to provide benefits to consumers, limit employment dislocation by conferring a reasonable degree of effective protection on finished goods, reduce export taxes, improve transparency and provide a norm against which industrial policy priorities can be set. The long run goal would be a globally competitive SACU region that provides producers with access to inputs at world prices.

South Africa's regional trade policies require attention. The African continent plays a key strategic role in South Africa's export diversification strategy and regional development is a vital priority. The current SACU tariff sharing formula is expensive and defective. A major reform of SACU tariffs would make particular sense for the BLNS countries, allowing these nations access to cheaper inputs and final products. It would also provide the opportunity to renegotiate the SACU revenue-sharing formula, more clearly and rationally separating its aid and tariff-revenue sharing components. SACU should avoid unrealistic commitments to customs unions with other African partners. In its other regional arrangements (e.g. with SADC) SACU should place primary reliance on free trade agreements and other projects (e.g. infrastructure) that enhance integration

Keywords: trade policy, regional integration, South Africa, trade simulations

JEL Codes: F13, F15, F17

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SACU Tariff Policies: Where should they go from here?

By

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ABSTRACT

This paper characterizes the current SACU tariff structure, considers its rationale, proposes and evaluates some alternatives for reform. While considerable progress was made earlier in liberalizing and simplifying SACU's tariff structure, over the past few years such movement appears to have halted. This is unfortunate because trade performance is a key constraint in attaining South Africa's growth objectives. The tariff structure remains excessively complex and opaque and biased against exports. The differentiation provided to different sectors appears mainly to be the result of historical accident and is not justifiable as efficient job preservation, equitable income distribution or on infant industry grounds.

Some still continue to defend the complex structure as necessary to provide producers of particular products with precisely the amount of protection they need to become competitive. But their arguments are unconvincing. There may be a case for exceptional temporary safeguards and infant industry protection but a broad complex structure is likely to allocate resources inefficiently: channelling them away from activities in which South Africa is competitive and towards those in which it is less efficient. Protection of inputs is particularly damaging and distorting of the choices of those seeking to benefit and export. In addition, the government simply does not have the requisite information (or instruments) to apply such differentiation appropriately to such a large number of products. Inevitably, therefore the structure encourages and reflects rent seeking.

Using simple tariff structures that have a zero and just one or two tariff bands we show that it is possible simultaneously to provide benefits to consumers, limit employment dislocation by conferring a reasonable degree of effective protection on finished goods, reduce export taxes, improve transparency and provide a norm against which industrial policy priorities can be set. The long run goal would be a globally competitive SACU region that provides producers with access to inputs at world prices.

South Africa's regional trade policies require attention. The African continent plays a key strategic role in South Africa's export diversification strategy and regional development is a vital priority. The current SACU tariff sharing formula is expensive and defective. A major reform of SACU tariffs would make particular sense for the BLNS countries, allowing these nations access to cheaper inputs and final products. It would also provide the opportunity to renegotiate the SACU revenue-sharing formula, more clearly and rationally separating its aid and tariff-revenue sharing components. SACU should avoid unrealistic commitments to customs unions with other African partners. In its other regional arrangements (e.g. with SADC) SACU should place primary reliance on free trade agreements and other projects (e.g. infrastructure) that enhance integration

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The tariff structure that South Africa (and SACU) inherited from the apartheid era was defective on at least five counts. First, reflecting the import – substitution orientation of the government, it was extremely protectionist. This had the effect not only of discouraging imports but also of taxing exports by raising production costs. Second, the structure was both complex and opaque. There were over 200 different rates, and tariffs took a number of forms: *ad valorem*, specific, mixed, compound, and formula duties based on reference prices. This made it very difficult to estimate how much protection was actually being granted. As a result, a World Bank Study (Belli *et al.*, 1993) concluded that by the end of the 1980s compared to a range of developing countries, South Africa had the highest number of tariff rates, the widest range of tariffs and the second highest level of tariff dispersion. Third, SACU decision-making processes were unrepresentative. South Africa unilaterally determined tariffs, while other SACU members were forced to simply fall in line. Fourth, the arrangements for sharing tariff revenues while relatively generous to other SACU members were problematic because they committed South Africa to pay amounts that did not reflect the actual tariff revenue generated and in fact payments could have eventually turned out to be greater than the tariff revenues actually received. And finally, since apartheid South Africa, as a pariah state, was not a feasible partner, the arrangement presented structural problems for SACU in its relationships with other trading partners.

Some progress has been made in ameliorating all of these problems. (a) As summarized in Table 1, the SACU trade regime has undergone considerable liberalization. Between 1990 and 2006, the average applied rate was reduced from 27.5 to 8.2 percent. Although the GEIS subsidy for exporters was eliminated, the anti-export bias of the tariff structure was considerably reduced because of tariff reductions on inputs. (b) The tariff structure has also been simplified. The number of different MFN bands was 209 as recently as 2000, but it has been cut in half - to 100 in

2006. The proportion of duty free MFN tariff lines is up from 44.6 percent to 52.9 percent and non ad-valorem tariffs which were 25.6 percent of all MFN tariffs now comprise just 2.9 percent of all MFN tariffs. (c) In 2002, in a new SACU Agreement, commitments were made for increasing the participation of the BLNS (Botswana, Lesotho, Namibia and Swaziland) in SACU decision-making, (d) At the same time, the 2002 Agreement implemented a new revenue sharing formula (RSF) that prevented South Africa from having to pay out more than its tariff revenues; and finally (e) a number of regional initiatives have been negotiated and implemented, most notably South Africa's accession to the SADC trade protocol and its Trade, Development and Cooperation Agreement (TDCA) with the European Union.

Table 1: Structure of MFN tariffs of SACU, 1990-06

	1990	1997	MFN	MFN	MFN	2006			
			2000	2001	2002	MFN	EU	SADC	Total
1. Number of tariff lines	> 13000		7824		7888	6420	6420	6420	
2. Number of different rates (bands)	200		209		150	100	95	9	150
3. Bound tariff lines (% of all tariff lines) ^a		96.4	96.4	96.4	96.2	96.6			
4. Duty-free tariff lines (% of all tariff lines)		42.4	44.6	44.5	43.6	52.9	65.9	99.4	72.7
5. Non-ad valorem tariffs (% of all tariff lines)		25.6	24.8	24.6	2.9	2.9	2.3	0.1	1.8
6. Tariff quotas (% of all tariff lines)		8.1	7.4	7.2	7.3	
7. Simple average applied rate	27.5	15	12.8	12	11	8.2	4.8	0.1	
8. Import weighted average					6.6	7.4	7.9	0.1	7.3
9. Maximum rate	1389		187		78	108	108	60	108
10. Minimum rate	0		0		0	0	0	0	
11. Agricultural products (HS01-24)		11.4	11.3	11.4	11.5	9.4	5.5	0.0	
12. Non-agricultural products (HS25-97)		15.4	12.9	12	11.4	8.0	4.7	0.1	
13. Domestic tariff "spikes" (% of all tariff lines) ^b		4	5.8	4.5	4.5	8.8	14	0.4	
14. International tariff "spikes" (% of all tariff lines) ^c		39.4	34.4	34.1	34.9	21	8.8	0.2	10
15. Overall standard deviation of applied rates		17.8	15.1	13.9	12.6	11.1	7.9	1.6	0
16. "Nuisance" applied rates (% of all tariff lines) ^d		0.2	0	0	1.4	1.3	0.8	0	0.7

.. Not available.

n.a. Not applicable.

a Refers to Botswana, Namibia, South Africa, and Swaziland. Lesotho bound 100% of its tariff.

b Domestic tariff spikes are defined as those exceeding three times the overall simple average applied rate (indicator 8.).

c International tariff peaks are defined as those exceeding 15%.

d Nuisance rates are those greater than zero, but less than or equal to 2%.

Note: Indicators 3 and 6 are calculated taking into account all tariff lines (i.e. in-quota and out-of-quota lines).

Source: Source: WTO Trade policy report (2003) and own calculations.

Nonetheless, as we will elaborate further, the tariff structure, the revenue sharing formula and South African regional trading arrangements all have scope for improvement.¹ In the first section of this paper, we discuss some desirable characteristics of tariff structures and then characterize the current tariff structure in detail; in particular we provide measures of the nature of current protection, the degree to which exports are taxed and point to its complexity and opaque nature. In the second section we consider possible justifications for the current structure such as the impact on employment, income distribution and infant industry protection. We find that none are convincing. Current tariffs are inefficient in general and particularly inefficient with the respect to their costs in supporting employment. They are regressive in their impact on income distribution and preservationist rather than strategic in their orientation. We also consider and reject the argument that a highly differentiated structure is really necessary to provide producers of each individual product with precisely the protection they need. In our view a case-by-case approach which sets individual tariffs differentially is more likely to be counterproductive, misallocate scarce resources in the economy and reduce South African living standards by giving the most protection to the activities in which South Africa is the least efficient economically and the most organized politically.

In the third section we show how the structure could be improved through a far simpler approach. Our tariff reform proposal is to simplify the tariff structure through the elimination of tariffs on intermediate and capital goods and the reduction of tariffs on final goods by fairly large percentages. This strategy relies heavily on the fact that what counts for any industry is its *effective* rather than *nominal* rate of protection. *What each industry cares about is not the protection that is granted to the products that it produces but to the value that it adds.* Tariff protection on intermediate inputs reduces value added, while protection on final goods increases value added. It is this basic notion that we exploit in our tariff liberalization design. By removing

¹ Originally, for example under the Uruguay Round in contrast to the current 100 band system, South Africa was supposed to reduce the number of tariff rates to just six rates (0, 5,10,15,20, and 30 percent).

tariffs on inputs, we are able to limit the reductions in effective protection represented by the reduction in final tariffs. In addition, import tariffs implicitly tax exports and confer negative rates of protection. So an approach which eliminates input tariffs will also stimulate exports by reducing or eliminating these penalties.

In the simulations we show that it is possible to find a structure that (a) provides a reasonable amount of effective protection for labour-intensive final goods production, (b) confers considerable benefits on SACU consumers thereby making the system less regressive, (c) reduces taxes on exports, (d) improves the transparency of the system, (e) provides a clear norm against which temporary exceptions for industrial policy and safeguard protection could be contrasted and (f) creates incentives for a more rational approach to SACU revenue sharing. In the final section of the paper, we consider a more explicit division of the aid and tariff-revenue sharing components of the SACU revenue sharing formula. We also consider some options for SADC and South Africa's trade relations with other African countries, in particular emphasizing the role of Free Trade Agreements rather than additional customs unions.

In focusing trade policy on these issues, we are aware that we are swimming somewhat against the tide. In recent years, the tariff structure has not continued to be a focus of policy. In part this reflects the view held by some, that the benefits from previous trade liberalization have been disappointing. In particular, that while it stimulated imports; liberalization did little to promote exports and thus contributed to the weak performance of employment growth in tradable goods. It also reflects a belief that liberalization efforts in other developing countries and African countries in particular, have produced disappointing results.² Industrial and other policies designed to improve productive capabilities are seen as necessary for these countries to become competitive exporters of manufactured goods. Accordingly, there are many who argue that before

² Turok, B. (2007) "South Africa: EU agreement has "not been beneficial," www.bilaterals.org [accessed May 2007]. See Also World Bank (2006), Lall and Kraemer-Mbula (2005) and Shafaeddin (2005).

South Africa undertakes further changes in its trade policy it needs to determine its overall industrial policy strategy. The DTI (2006: 11), for example, argues that “Industrial policy must lead trade policy more explicitly”. A further view is that unilateral reform cannot take place until the institutional structures as outlined in the 2002 SACU Agreement are established. Under this agreement changes to SACU tariff policy will be negotiated by *all* SACU members and decisions will be arrived at by consensus. Finally there is a view that whatever liberalization is undertaken should not be unilateral but instead implemented in the context of trade negotiations so that reciprocal concessions can be obtained from trading partners.³

The result is that South African trade policy appears to be in a holding pattern awaiting the development of an industrial policy and the conclusion of the Doha Round. But in our view, even if they do not implement it immediately, it could be helpful if South African trade policymakers had a clear idea of the direction in which trade policy should be moving and the general attributes of the approach that should be adopted. Without an understanding of what an appropriate tariff structure would look like, South Africa could find it difficult to respond to proposals in the Doha Round and in its regional trade negotiations. More importantly perhaps, clear guidelines on the desired structure of the tariff schedule and rules governing tariff changes are actually required for effective implementation of industrial policy. Reform of the current SACU tariff structure is therefore a pre-requisite for the development and implementation of a future industrial policy.

We should add that it is certainly true that for some South African producers, trade liberalization in the 1990s entailed painful adjustments. But two points about this previous experience need to be stressed. First, South Africa was protecting many activities that were

³ This view is reflected in the DTI Industrial Strategy Document (2006: 22): “SA’s negotiating objectives in the WTO and bilaterals are aimed at: enhancing market access for products of export interests; eliminating industrial country subsidies and support to inefficient producers, particularly agriculture; and re-negotiating rules that perpetuate imbalances in the international trade regime.”

simply not viable without that protection – permanent infants -- and thus the previous policies were extremely inefficient and ultimately unsustainable at reasonable cost. Second, as we argued in our earlier paper, (Edwards and Lawrence, 2006) the regime was particularly discriminatory against the development of non-traditional exports. All in all, the evidence appears to indicate that the net impact of the liberalization on employment was actually fairly neutral over the 1990s (Edwards, 2001) and as Edwards and Lawrence demonstrate it did stimulate exports of non-commodity manufactured goods. Thirdly, there is growing empirical evidence that trade liberalisation explains much of the improvement in productivity growth experienced in South Africa during the 1990s (Jonsson and Subramanian, 2001; Harding and Rattsø, 2005). Fourth, we advocate accompanying these measures with specific adjustment programs (see section three).

We believe that a radically simplified tariff structure should be implemented as soon as possible. However, we also believe that political and strategic decisions as to the timing and phasing in of implementation and the use of additional liberalization as a bargaining chip in the context of multilateral and regional negotiations are matters best left up to South African political decision-makers.

We should add three further prefatory remarks. First, by focussing on the tariff structure, we certainly do not mean to imply that it is a panacea, or a substitute for other policies designed to enhance SACU's international competitiveness. Indeed, we advocate it as a complement to other forms of industrial policy, (See the papers by Hausmann, Rodrik and Sabel for this project). While we argue there should be a simple, generally applicable, tariff rule, we would still allow for a few priority sectors to be given exceptional tariff treatment on two grounds. On the one hand, industries that merit some form of infant industry protection; and on the other hand, industries that experience particularly difficult adjustment challenges (“substantial injury due to imports”) and merit protection in the form of temporary safeguards to limit dislocation. In both cases, however, the “rule” whereby these exceptions are granted needs to be defined.

But we would like to eliminate distinctive treatment between industries in the absence of a sound reason for doing so. Our analysis of the current structure, by contrast, suggests that much of it is simply a reflection of the relative strengths of previous sector lobbying efforts. As a result, it is riddled with inconsistencies and arbitrary decisions that have inadvertent effects.⁴ At a minimum, the basis for differential treatment is not explicit and thus, even if protection was justifiable at some time in the past, it is hard to know if the original basis for that protection still prevails. It is inadequate to simply invoke the mantra of “infant industry” protection to justify whatever the existing level of tariffs is. The infant industry rationale must be justified on the grounds that the social costs of protection today will be more than offset by the gains from developing an industry that will be competitive in the long run. But we will show below, that the current tariff structure is not actually designed with a view to developing industries that can eventually become competitive. It appears, instead, as though currently the reason for trade protection is the idea that it is better to make things locally than to import them. But this is a very weak rationale since it ignores the potential gains from trade and the costs of this behaviour need to be taken into account.

Second, it is important to remember that South Africa currently allows its exchange rate to float freely. As a result, protection keeps the exchange rate stronger than it would otherwise be. If protection is applied inefficiently, it imposes additional costs on the economy by hurting other sectors that could benefit from a more competitive exchange rate. By contrast, trade liberalization would weaken the Rand and help spur producers that at the margin are more efficient in exporting and/or competing with imports.

⁴ Consider, for example that in 2004 tariff rates on fish included Salmon, Trout, and smoked fish at 25 percent while Tuna, Sole, Halibut, lobster and crabs were duty free. Rates were 35 percent for mangoes, 20 percent for strawberries, 15 percent for pineapples, 10 percent for dried apricots, 5 percent for bananas, oranges, grapes, pears and kiwi while nuts were duty free. Because black fermented tea was subject to a specific rate of \$647.08 per ton, the *ad valorem* equivalent rate for packings greater than three kilos (kgs) was 29.53 percent but it was just 7.56 percent for packings less than 3 kgs. It is hard to understand why social welfare is enhanced by encouraging tea to be imported in small packings!.

Third, in providing simulations that use specific numbers and classification schemes we do not intend to claim that they are necessarily the best ones. We simply mean to illustrate general approaches. In particular, to show how the principle of effective protection can be exploited to generate improvements and simplification. Ined, it is likely to be the case, that after further investigation and research, those responsible for tariff policies will come up with a different and more appropriate set of rates and classification system. But if, through this analysis, we can stimulate the exploration of such options, we will have achieved our purpose.

Section 1: Features of the current tariff structure

In this section we explore several features of the current SACU tariff structure. In particular, we consider several measures of its restrictiveness, its effects on taxing exports and its complexity.

Table 2: Summary of SACU tariff schedule

	2006			
	2006 MFN AVE	2006 EU AVE	2006 SADC AVE	Total
Simple Average	8.2%	4.8%	0.1%	4.4%
Import weighted averages				
<i>All goods</i>	7.4%	7.9%	0.0%	7.3%
<i>Final goods</i>	20.2%	16.8%	0.3%	18.6%
<i>Inputs</i>	5.8%	8.5%	0.0%	6.5%
Trade Restriction Index				
<i>All goods</i>	14.8%	16.9%	0.8%	15.2%
<i>Final goods</i>	25.8%	26.7%	2.4%	26.0%
<i>Inputs</i>	12.3%	17.7%	0.9%	14.2%
Max	108%	108%	60%	108%
sd	11%	8%	2%	
coeff var	1.36	1.65	15.73	
Frequency				
less than or equal to 0%	53%	66%	99%	73%
0% < #lines ≤ 5%	7%	2%	0%	3%
5% < #lines ≤ 10%	9%	5%	0%	5%
10% < #lines ≤ 15%	10%	18%	0%	9%
15% < #lines ≤ 20%	8%	2%	0%	3%
20% < #lines ≤ 30%	9%	6%	0%	5%
more than 30%	4%	1%	0%	2%
Total lines	6,670	6,673	6,673	20,016

Note: Passenger vehicles are included as both final goods and inputs (intermediate and capital goods). Ad valorem equivalents using 2006 import unit values are calculated for all non ad valorem rates.

Protection. As is evident in Table 2, by the most relevant measures, protection actually remains quite significant in SACU even though a simple average of 2006 tariffs seems to indicate that the economy is quite open. The simple average of tariff lines, for example, is just 4.4 percent. However weighting lines by import shares raises the average rate to 7.3 percent. And, as is well known, simple averages may understate protection for three reasons. They may use the wrong

weights, fail to take account of tariff variability and overlook the interactions within the tariff structure (through tariff escalation for example).

The problem with conventional import- weighted measures is that high tariffs will lead to low import volumes so the weights are biased downwards. In addition, import-weighted averages are poor measures of the welfare effects of tariff protection which, (with linear demand and supply curves) are proportional to the square of the tariff rate. The full extent of tariff distortion (size of the deadweight triangle) will be a function of both the height of the tariff as well as the elasticity of demand and supply. Thus, even if the average level is ten percent in both cases, if all tariffs are ten percent, there will be much less deadweight distortion than if half are zero and the other half are twenty percent.

Trade Restrictiveness Index. To capture these considerations, we follow the work of Anderson and Neary (1994) to construct a trade restrictiveness index (TRI). We use the approach described in Feenstra (2005). The TRI is a measure of the uniform tariff that if applied to imports instead of the current structure of protection would leave home welfare at its current level.⁵ We calculate the TRI using 2006 tariffs for SACU and detailed product import elasticities obtained from Kee et al. (2004).⁶ This calculation indicates that import weighted average tariffs underestimate the restrictiveness of trade as measured by the uniform tariff TRI equivalent by

⁵ The TRI index can be calculated as:

$$TRI = \left[\frac{\sum_n m_n \varepsilon_n T_n^2}{\sum_n m_n \varepsilon_n} \right]^{1/2}$$

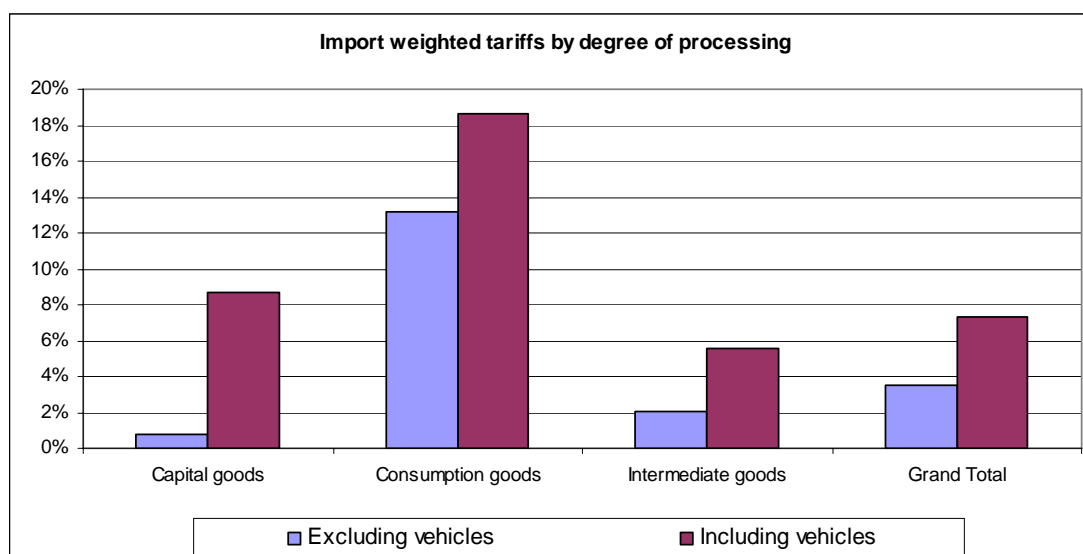
where m is the import value, ε is the elasticity of import demand and T is the tariff. The TRI is therefore the weighted sum of squared protection levels, where weights are given by the elasticity of import demand and imports.

⁶ Hiau Looi Kee, Alessandro Nicita, Marcelo Olarreaga, 2006. Estimating Trade Restrictiveness Indices. The HS6 digit elasticities are applied uniformly to all sub-digits. Where no map was found, the simple average Hs4 digit elasticity was applied.

approximately 50 percent.⁷ The import weighted average tariff for MFN, EU and SADC combined equals 7.3 percent, while the TRI uniform equivalent is 15.2 percent.⁸

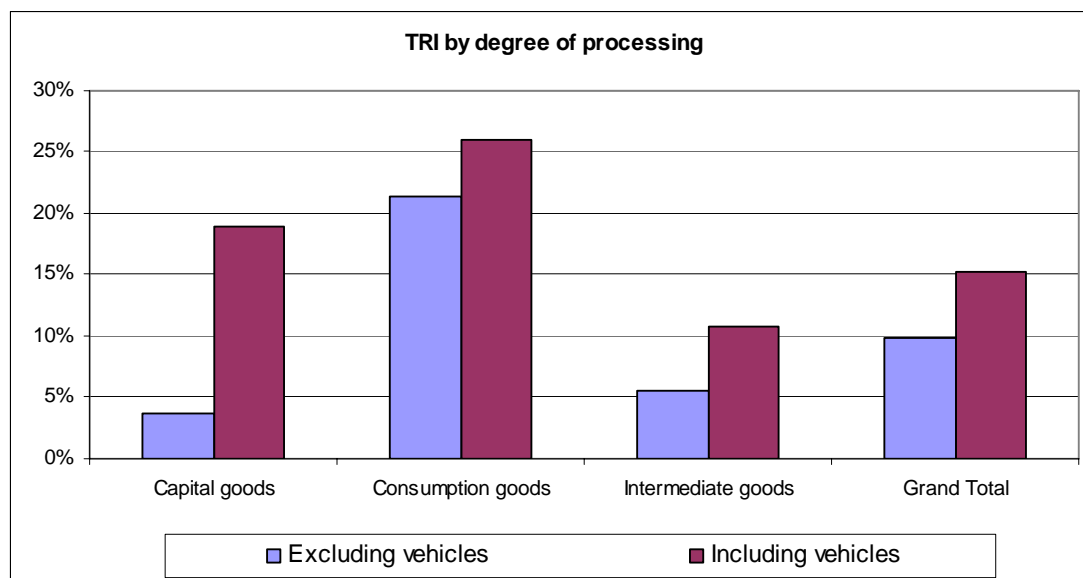
Another important consideration is the difference in tariff levels by end-use classification. We draw upon the Classification by Broad Economic Categories (BEC) maintained by UN Statistics, to identify final consumer goods, intermediate inputs and capital goods. The category “Passenger vehicles (BEC 51)” is both a capital good and a final consumption good and we therefore present measures of protection in Figure 1 and Figure 2 for vehicles (all vehicle products including passenger vehicles) separately.

Figure 1: Import weighted tariffs by end-use classification, 2006



⁷ Kee et al. (2004) estimate a TRI (tariffs only) for South Africa of 13.6 and a TRI (tariffs and non-tariff barriers) of 16.2. However, these underestimate protection as they do not account for tariffs on HS98 Original equipment components, which are specific to South Africa, and have relatively high tariffs (26 percent) and high import volumes.

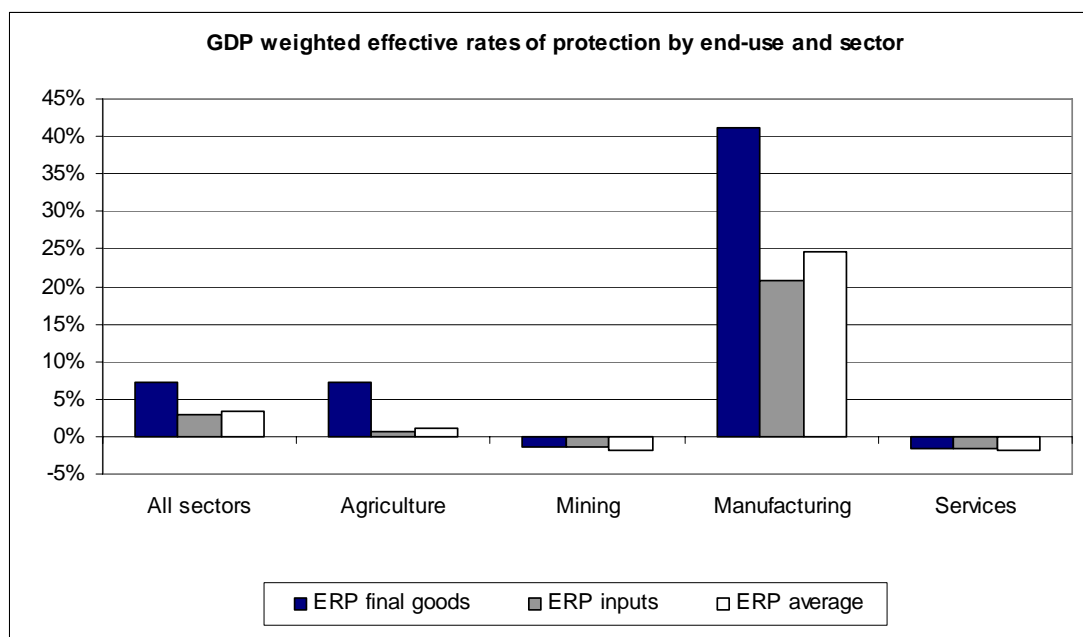
⁸ The extent of under-estimation is similar to that found by Anderson (1998) for 27 other countries.

Figure 2: Trade restrictiveness index by end-use classification, 2006

In 2006, the average tariff on final consumer goods at 18.6 percent is substantially higher than that on capital goods (8.7 percent) and intermediate inputs (5.6 percent). The presence of tariff escalation means that Effective Rates of Protection (ERP) vastly exceed nominal rates, especially for finished goods (Figure 3).⁹ Indeed, input tariffs are generally lower than tariffs on final goods in almost all sectors besides printing, beverages, rubber and glass. Effective rates of protection on final consumption goods are very high (in excess of 100 percent) for clothing, textiles, leather, footwear and vehicles (Table 3).¹⁰ The GDP weighted average ERP in manufacturing for all final consumption goods is 40 percent. Production for the domestic market is thus much more attractive than production for exports – so in essence South Africa’s trade policy continues to heavily favour import substitution rather than exporting.

⁹ $ERP_j = (t_j - \sum_i a_{ij}t_i) / (1 - \sum_i a_{ij})$ where t_j is the tariff on outputs, t_i is the tariff on inputs and a_{ij} is the quantity of intermediate input i used in the production of one unit of j .

¹⁰ Effective protection rates are calculated according to the Balassa method.

Figure 3: GDP weighted effective rates of protection, 2006

Notes: HS 8-digit products are classified as Consumption goods (Final) or inputs (Capital and Intermediate goods) according to the Broad Economic Categories (BEC) classification available from UN Statistics. Passenger vehicles (BEC 51) are treated as both final and intermediate goods. ERP and export tax values are calculated using a SU table for 2002. The supply use table is deflated to world prices using the import weighted average tariff for each sector. In calculating ERP for final goods, we use the final tariff on outputs and the input tariff on intermediate inputs. For ERP input, we use the input tariff on both outputs and inputs and for ERP average we use the import weighted average tariff of all products to deflate final and intermediate goods.

Tariffs include *ad valorem* equivalent for specific and mixed tariffs. *Ad valorem* equivalents for non-*ad valorem* rates are calculated using import prices for 2006.

ERP for motor vehicles and parts include the 27 percent import rebate.

The 2002 GDP as provided by the SU table are used as weights.

Table 3: Measures of protection by sector, 2006

	Final good tariff	Input tariff	ERP final goods	ERP inputs	Export tax	Anti-export bias final goods	Anti-export bias inputs
Agriculture	6%	2%	7%	1%	-3%	1.1	1.0
Coal mining	0%	0%	-2%	-2%	-2%	1.0	1.0
Gold mining	0%	0%	-1%	-1%	-1%	1.0	1.0
Other mining	0%	0%	-1%	-1%	-1%	1.0	1.0
Food	12%	8%	51%	27%	-15%	1.8	1.5
Beverages	3%	5%	0.5%	9%	-6%	1.1	1.2
Tobacco	19%	14%	64%	45%	-5%	1.7	1.5
Textiles	23%	15%	139%	76%	-10%	2.7	2.0
Clothing	37%	20%	176%	75%	4%	2.6	1.7
Leather prods	28%	7%	155%	13%	-29%	3.6	1.6

Footwear	29%	0%	153%	-23%	-18%	3.1	0.9
Wood & prods	21%	3%	61%	5%	-5%	1.7	1.1
Paper & prods	17%	2%	65%	3%	-6%	1.8	1.1
Printing	0%	4%	-3%	7%	-3%	1.0	1.1
Petrol ref	0%	0%	1%	1%	-1%	1.0	1.0
Basic chems	1%	2%	-1%	4%	-3%	1.0	1.1
Other chems	2%	2%	2%	2%	-6%	1.1	1.1
Rubber prods	8%	14%	35%	66%	-7%	1.5	1.8
Plastic prods	16%	11%	50%	31%	-8%	1.6	1.4
Glass & prods	4%	8%	6%	20%	-5%	1.1	1.3
Non-met mins	24%	5%	76%	12%	-3%	1.8	1.2
Bas iron & st	0%	2%	-5%	5%	-4%	1.0	1.1
Bas n-fer met	0%	0%	-1%	1%	-1%	1.0	1.0
Metal prods	17%	5%	58%	14%	-5%	1.7	1.2
Machinery	12%	0%	40%	-4%	-4%	1.5	1.0
Electr mach	11%	5%	39%	11%	-8%	1.5	1.2
Tv & coms eq	9%	1%	24%	0%	-2%	1.3	1.0
Scientific eq	0%	0%	-4%	-4%	-3%	1.0	1.0
Motveh & parts	31%	26%	153%	117%	14%	2.2	1.9
Oth trnsp eq	2%	0%	5%	-2%	0%	1.0	1.0
Furniture	18%	16%	51%	43%	-7%	1.6	1.5
Oth industry	4%	2%	6%	1%	-4%	1.1	
Electricity			-1%	-1%	-1%	1.0	
Water suppl			-1%	-1%	-1%	1.0	
Construct			-8%	-8%	-6%	1.0	
Civil eng			-4%	-4%	-4%	1.0	
Trade			-1%	-1%	-1%	1.0	
Cat & accomm			-4%	-4%	-4%	1.0	
Trnsp & stor			-4%	-4%	-3%	1.0	
Communcat			-2%	-2%	-1%	1.0	
Insurance & banking services			0%	0%	0%	1.0	
Other business services			-1%	-1%	-1%	1.0	
Med serv			-2%	-2%	-2%	1.0	
Oth serv			-2%	-2%	-2%	1.0	
Gen govt			-2%	-2%	-1%	1.0	

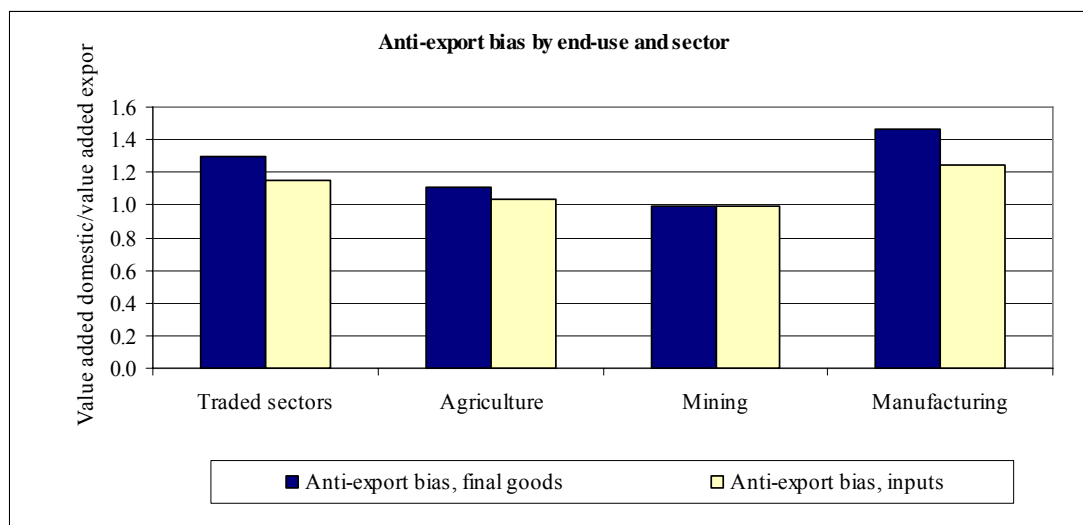
Notes: See figure above. Export taxes include estimates of the DCC, IRCC and 470.03. We use the average import penetration ratio for the sector to identify the domestic content of imports. This may bias our measure of export taxes upwards as exporters may use a more import intensive production structure than the average for the sector.

Export Taxes. The existence of tariffs on inputs also means that exports are inadvertently taxed. South Africa, does however, make provision for duty drawbacks and rebates for exporters under various different schemes such as the 470.03 scheme (under Schedule No. 4) and item 521 (under Schedule No. 5). These rebates and drawbacks are only granted where the inputs are directly used and not where they are embodied in domestic products. Inevitably this gives rise to a process that is both bureaucratic and cumbersome and only partially compensatory for the cost raising impact of tariffs.

SA also offers two major sector specific export incentives. Under the Motor Industry Development Programme (MIDP), exporters of autos and auto components earn an Import Rebate Credit Certificate (IRCC) based on the local value of the exports. This can either be traded or used to rebate duties on imported components or fully assembled vehicles (Kaplan, 2003). Given the high tariffs on components and vehicles, these IRCCs are a significant incentive for auto export production (Flatters, 2002). The second export incentive is provided to clothing and textile exporters under the Duty Credit Certificate Scheme (DCCS), although this has been replaced by the interim Textile and Clothing Industry Development Programme (TCIDP). The DCCS allowed firms to claim a rebate on duty for proven exports. As outlined in Kaplan (2003), the level of support depends on the product exported – with highest support for clothing followed by fabric and then yarn.¹¹

Despite these rebates, our estimates indicate that tariff protection continues to tax export production. Relatively high implicit export taxes (tariff costs as percent of world value added) are found on leather products (29 percent), footwear (18 percent), food (15 percent) and textiles (10 percent) (see table 3 above). The export incentives provided to autos, however, more than compensate for the tariff on inputs leading to a net subsidy of 14 percent of value added (measured at world prices) for that sector. But even in this case, high effective rates of protection mean that production for the domestic market remains more profitable than production for the export market (Figure 4). Indices of the anti-export bias, which measure the profitability of production for the domestic market relative to the export market, exceed 1 for almost all sectors. In manufacturing, production of final consumer goods for the domestic market is on average 46 percent more profitable than production for the export market.

¹¹ Firms that exported more than 15 percent of their turnover received greater support. See Kaplan (2003) for a detailed discussion on the various limitations of the DCCS.

Figure 4: Anti-export bias by end-use classification, 2006

Notes: The anti-export bias is measured as $(1+ERP)/(1+\text{export tax})$. Values greater than 1 indicate that production for the domestic market is more profitable than production for the export market. Export values in 2002, as provided by the SU table, are used as weights.

There are further limitations regarding the use of duty rebates as a mechanism to offset the cost raising effects of tariffs on production. As noted above, high effective rates of protection in most sectors continue to stimulate production for the domestic rather than export market. We found evidence of this in Edwards and Lawrence (2006) where nominal tariffs and effective rates of protection are shown to reduce export orientation in South African manufacturing industries. The 470.03 rebates and 521 drawbacks are also most beneficial to large firms that import a high proportion of their inputs. However, even for these firms the administrative burdens are high as they are required to import the inputs themselves and ensure a clear audit trail which often requires storage in separate warehouses. For firms that are more reliant on domestic inputs or that purchase imported intermediate goods from retail agents, tariffs continue to discourage exports. Rebates also create an incentive not to use domestically produced inputs in exports. The rebates thus inhibit the development of local supply chains linking domestic producers of intermediate inputs to exporters. This is also a problem with export processing zones. The implications of this

are weaker upstream linkages between export producers and their input suppliers and hence lower multiplier effects from export growth.

Table 4: US Imports From Lesotho (1,000 dollars)

	2000	2001	2002	2003	2004	2005	2006 (to 2006 April)	2007 (to April)	
AGOA (excluding GSP)	0	129,523	317,803	372,544	447,622	388,344	384,452	113,268	129,053
No program claimed	140,150	87,573	3,446	20,382	19,244	14,887	23,816	2,593	14,540
Total	140,150	217,096	321,249	392,926	466,866	403,231	408,268	115,861	143,593

If there was ever an experience that demonstrates the importance of input tariffs on inputs in retarding exports it is that of Lesotho responding to the benefits of AGOA. Lesotho is able to sell competitively in the United States, with its exports not only growing rapidly but also showing some resilience in 2007 after adjusting to the end of the MFA (Multi-fiber Arrangement) at the start of 2005. Yet Lesotho has not matched this performance in garment sales to South Africa. What explains the difference? It is not the degree of preference on the products since South Africa's clothing tariffs are higher than those of the United States (which are typically around 17 percent). Instead it is the different treatment of inputs. If Lesotho wants to compete within SACU it has to pay the tariffs in its inputs or buy domestic inputs whose prices are raised by tariffs. But this is not the case for its exports to the USA. Under AGOA conditions, Lesotho is treated as a "lesser developed beneficiary country". In addition to the other preferential terms available under AGOA, Lesotho receives duty-free access for clothing wholly assembled in Lesotho, *regardless of the country of origin of the fabric used*.¹² This has been a considerable benefit to Lesotho which, because of existing investment from South Africa and Asian sources, is well poised to take advantage of these provisions.¹³ This suggests that if garment producers in Lesotho or the

¹² There is a general limitation of the "applicable percentage" of the aggregate square metre equivalents of all apparel articles imported into the United States in the preceding 12-month period for which data are available Under AGOA II legislation, the cap has been doubled; see AGOA online information. Available at: http://www.agoa.gov/About_AGOA/AGOII_summary.pdf.

¹³ All the factories operating in Lesotho are "cut, make and trim" operations; other aspects, from design to finance, are dealt with in the overseas head offices.

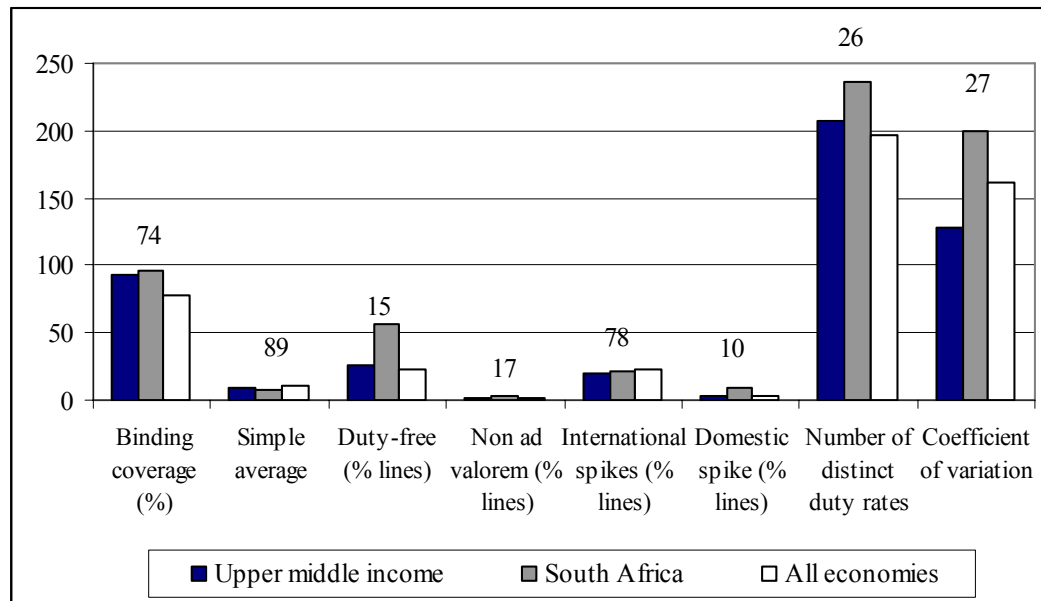
rest of SACU were given similar access to fabric inputs at world prices, they could be far more competitive.

Complexity. The schedule also remains very complex. As of 2007 there were still 78 different ad valorem rates and 119 specific and mixed duties, for a total of 154 different rates. There remain a fairly large number of tariffs (7 percent of all lines) with rates between 0 and 5 percent. These are so-called nuisance tariffs that could surely be eliminated without significantly reducing protection.

Table 5: Indicators of tariff complexity

	2006				2007				
	MFN	EU	SADC	Total	MFN	EU	EFTA	SADC	Total
tariff type									
advalorem	6,478	6,517	6,669	19,664	6,249	6,289	6,261	6,416	25,215
specific	103	65	2	170	85	47	73	2	207
specific max	24	38	0	62	26	28	26	0	80
mixed	63	48	2	113	55	51	55	2	163
formula	5	5	0	10	5	5	5	0	15
TOTAL	6,673	6,673	6,673	20,019	6,420	6,420	6,420	6,420	25,680
Percent									
advalorem	97%	98%	100%	98%	97%	98%	98%	100%	98%
specific	2%	1%	0%	1%	1%	1%	1%	0%	1%
specific max	0%	1%	0%	0%	0%	0%	0%	0%	0%
mixed	1%	1%	0%	1%	1%	1%	1%	0%	1%
formula	0%	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number of rates									
TOTAL	100	95	9	150	90	88	106	8	154
Ad valorem	38	37	6	58	36	43	52	5	78
Other	62	58	3	92	54	45	54	3	76

South Africa's tariff schedule also remains relatively complex compared to other upper middle income economies. Figure 5 below presents various indicators of the 2006 tariff schedule for South Africa, upper middle income economies and the world. The data are sourced from the World Tariff Profiles 2006 report and the simple average for the country groups is calculated. The ascending rank of South Africa in the full sample of countries (147 in most cases) is also presented above the bars.

Figure 5: International comparison of SACU tariffs

Source: World Tariff Profiles 2006.

Notes: International tariff peaks are defined as those exceeding 15 percent. Nuisance rates are those greater than zero, but less than or equal to 2 percent.

SA is similar to other upper middle income economies in terms of its average rate binding coverage. The similar averages, however, hide a considerably larger proportion of duty-free lines in South Africa compared to the average for upper middle income economies (57 percent vs. 26 percent), implying that the average non-zero tariff is relatively high in South Africa. A similar proportion of tariff lines have tariffs in excess of 15 percent (international tariff peaks), but South Africa has double the proportion of domestic spikes (percentage lines with tariffs greater than 3 times the average rate). Compared to the full sample of 147 countries, South Africa has the 10th highest proportion of domestic spikes. In addition, South Africa tends to have a relatively large number of distinct duty rates (including ad valorem equivalent rates).¹⁴ Overall, this leads to a relatively large coefficient of variation for the South African tariff schedule in 2006.

¹⁴ Equivalent specific duties (e.g. 5c/kg) will have different ad valorem rates if the international price differs across products.

Section 2: Is the current tariff structure justifiable?

As we have shown, the current tariff structure continues to provide considerable protection for some sectors. It also discourages exports, is still complex and quite opaque. But perhaps the structure can be rationalized and the protection and complexity justified. For example, tariffs might provide job protection in a reasonably efficient manner or they could nurture infant industries, alleviate poverty, or provide income support for less-skilled workers. If one or more of these goals were being accomplished, then the protection and complexity we have found might still be merited. In fact, we come to precisely the opposite conclusion. While the current structure does support some jobs at relatively low costs, many tariffs preserve jobs at a considerable cost to consumers. This is significant because as we will show the incidence of tariffs is regressive. We also find that infant industry considerations cannot explain the current tariff structure which for the most part appears to reflect a preservationist rather than a strategic orientation.

In order to consider the costs and potential benefits of current protection, we develop a partial equilibrium framework. This should be born in mind since it means we are actually measuring the initial *impact* effects of tariff reductions on employment rather than long run, general equilibrium effects. Since liberalization would induce a decline in the trade balance it would also be likely to induce a weaker exchange rate. That in turn would stimulate exports and reduce imports, thereby providing an offsetting increase to employment. Similarly, the job loss numbers we estimate are upper bounds of the number of workers who would actually be rendered unemployed, since to some degree employment could be reduced through normal voluntary attrition. On the other side of the ledger though is the consideration that the adjustment costs of dislocation and unemployment are not explicitly accounted for in the net social welfare

calculations. In the US literature (.e.g. Magee (1972) and Baldwin & Richardson)(1980)) these have been found to be far less than the net welfare gains, but given the current South African rate of unemployment such costs could be significantly higher.¹⁵

On the import side we use disaggregated import demand elasticities for South Africa that are derived from Kee et al. (2006). Since we assume goods are homogeneous, we know that the import demand elasticity measure is actually an *excess* demand elasticity reflecting both domestic demand and supply. We therefore decompose the import elasticities into demand and supply responses. We ensure consistency with these import demand elasticities by assuming that the elasticity of supply = -0.5 elasticity of demand.

We make another innovation. Most similar studies of the costs of protection ignore the effects on exports. However, we make some effort to include this effect. Exports are modelled as a function of value added. Hence changes in exports are estimated by calculating the reduction in the tariffs on intermediate inputs arising from tariff liberalisation. Assumed export supply responses are -0.4 per unit change in export tax for manufacturing and agriculture and -0.1 for mining.¹⁶

Finally, we also include non-government services. To model the effect of liberalisation on services, we impose the assumption that output prices are fixed (the Balassa assumption in calculating ERP) and assume a supply elasticity equal to two thirds of the average for all traded sectors. We are purposefully conservative in our treatment of services as we do not wish this

¹⁵ Magee (1972) found that the (static) benefits from removing all US trade restrictions in 1971 over a five year period would be 100 times greater than the wages that would be lost during the transitional unemployment required for displaced workers to find new jobs. Baldwin, Mutti and Richardson (1980) undertook a similar, but more inclusive analysis that took account of capital adjustment costs and found that the gains from trade liberalization were some 20 times greater than adjustment costs. In South Africa, the low employment rate implies that a large number of individuals are supported by each worker. At the same time, poor households are primarily dependent on government transfers and income from services sectors and not income from protected sectors. The poor may therefore derive greater proportionate benefits from cheaper goods.

¹⁶ The -0.4 coefficient is taken from Edwards and Lawrence (2006).

sector to dominate results. The implication is that we under-estimate the positive impact of liberalisation on employment and output in these sectors. Our estimates are reported in Table 6.

Table 6: Estimated welfare effect of liberalising protected sectors

	Change in imports (%)	Change in exports (%)	Change in domestic supply (import competing) (%)	Change in employment (number)	Consumer surplus gain/job (R'000)	Tariff revenue loss (Rm)	Net national welfare gain (Rm)	Net national welfare gain/output (%)
Agriculture	3.2%	1.3%	-0.1%	921	1	101	4	0.0%
Coal mining	-0.3%	0.2%	0.0%	57	0	0	0	0.0%
Gold & Plat	0.0%	0.1%	0.0%	167	0	0	0	0.0%
Other mining	0.0%	0.1%	0.0%	93	0	1	0	0.0%
Food	12.7%	6.6%	-1.0%	-987	75	1,228	115	0.1%
Beverages	1.7%	2.6%	0.0%	94	21	56	2	0.0%
Tobacco	64.2%	1.9%	-0.8%	-13	664	29	13	0.1%
Textiles	20.5%	4.3%	-5.1%	-2,056	31	705	92	0.5%
Clothing	36.2%	-1.7%	-13.0%	-9,395	78	1,548	556	4.3%
Leather prods	7.3%	14.4%	-2.0%	222	35	250	16	0.4%
Footwear	19.7%	8.5%	-12.2%	-1,262	162	1,196	132	4.3%
Wood & prods	3.4%	2.1%	-0.2%	11	1	80	1	0.0%
Paper & prods	2.7%	2.5%	-0.2%	50	9	176	7	0.0%
Printing	2.2%	1.3%	-0.2%	-104	0	40	1	0.0%
Petrol ref	0.5%	0.3%	0.0%	0	8	1	0	0.0%
Basic chems	1.1%	1.3%	-0.2%	23	1	290	1	0.0%
Other chems	0.9%	2.7%	-0.1%	52	12	401	2	0.0%
Rubber prods	7.8%	2.9%	-2.7%	-281	21	508	15	0.2%
Plastic prods	8.5%	3.3%	-0.8%	-222	2	499	9	0.0%
Glass & prods	7.0%	2.0%	-1.0%	-79	1	90	2	0.0%
Non-met mins	6.9%	1.0%	-0.9%	-447	2	288	7	0.0%
Bas iron & st	1.5%	1.6%	-0.1%	350	0	33	3	0.0%
Bas n-fer met	0.0%	0.3%	0.0%	24	0	51	0	0.0%
Metal prods	5.4%	2.2%	-0.7%	-382	1	491	9	0.0%
Machinery	0.2%	1.8%	0.7%	996	3	726	15	0.0%
Electr mach	4.5%	3.2%	-1.1%	-302	14	637	15	0.0%
Tv & coms eq	1.8%	1.0%	-0.9%	-61	56	183	15	0.2%
Scientific eq	-0.2%	1.4%	1.3%	122	0	15	0	0.0%
Motveh & parts	23.6%	-5.0%	-10.2%	-12,458	89	7,572	1,546	1.2%
Oth trnsp eq	-0.1%	0.2%	0.3%	39	2	45	0	0.0%
Furniture	10.7%	3.0%	-2.2%	-395	30	354	28	0.2%
Other manufacturing	2.7%	1.6%	-0.3%	0	12	256	8	0.0%
All sectors (excl gov)	6.5%	0.6%	-0.5%	-20,426	6	17,850	2,625	0.1%
Traded sectors	6.5%	0.6%	-1.5%	-25,223	17	17,850	2,613	0.2%
Manufacturing	7.8%	0.9%	-1.8%	-26,461	31	17,748	2,609	0.2%
excl vehicles	3.7%	2.0%	-0.7%	-14,003	25	10,176	1,063	0.1%

Notes:

- All data are for 2006. Output and employment data are sourced from Quantec.
- The 27% import rebate granted to producers of vehicles is included in estimates of the ERP. The DCC and IRCC are included in estimates of the export tax for vehicles and clothing & textiles. The rebates granted under 470.02 and 521 are calculated assuming a zero tariff on imported content of exports. Imported content is estimated using the average import penetration ratio for each sector

The overall distortion to the economy as share of domestic production of traded goods (agriculture, mining and manufacturing) is 0.2 percent. Given the ratio of GDP/Gross output for these sectors is approx 31 percent, this implies that the deadweight loss is approx 0.65 percent of GDP in agriculture, mining and manufacturing or approximately 0.22 percent of total GDP. Taking this perspective suggests that trade protection does have significant effects but these do not appear to be sufficiently large enough for the static (efficiency) effects of liberalization to provide a very strong boost to incomes. Nonetheless, looking more closely at the individual industry estimates indicates some distortions that are relatively large. In particular, the largest deadweight distortions are in the clothing (4.3 percent of output) footwear (4.3 percent) and motor vehicles (1.2 percent) sectors.

Table 7: Estimated direct employment effects of liberalisation

	Change in Domestic production (Rm)	Total change in employment	Due to: Household consumption	Due to: Intermediate and capital goods	Due to: Exports	Total change employment (%)	Gain/loss	Revealed Comparative Advantage, 2006
Agriculture	108	921	-340	-130	1,391	0.1%	Gain	0.3
Coal mining	41	57	0	8	49	0.1%	Gain	0.8
Gold & Plat	38	167	0	0	167	0.1%	Gain	1.0
Other mining	62	93	0	0	93	0.0%	Gain	0.2
Food	-771	-987	-1,361	-233	607	-0.6%	Loss	-0.3
Beverages	97	94	-2	-7	104	0.2%	Gain	0.3
Tobacco	-52	-13	-20	0	7	-0.5%	Loss	0.7
Textiles	-770	-2,056	-940	-1,293	178	-4.3%	Loss	-0.5
Clothing	-1,598	-9,395	-8,488	-829	-77	-12.3%	Loss	-0.8
Leather prods	120	222	-87	-26	335	2.8%	Gain	0.0
Footwear	-365	-1,262	-1,318	41	15	-11.9%	Loss	-1.0
Wood & prods	4	11	-7	-97	115	0.0%	Gain	-0.1
Paper & prods	60	50	-31	-33	114	0.1%	Gain	0.0
Printing	-42	-104	14	-134	16	-0.2%	Loss	-0.8
Petrol ref	0	0	-2	-3	5	0.0%	Gain	-0.1
Basic chems	77	23	0	-38	61	0.1%	Gain	-0.1
Other chems	85	52	-11	-23	85	0.1%	Gain	-0.6
Rubber prods	-184	-281	-64	-273	56	-2.0%	Loss	-0.5
Plastic prods	-154	-222	-8	-282	68	-0.6%	Loss	-0.5
Glass & prods	-51	-79	-1	-91	13	-0.8%	Loss	-0.5
Non-met mins	-183	-447	-33	-454	40	-0.7%	Loss	-0.5
Bas iron & st	627	350	0	-44	393	0.7%	Gain	0.7
Bas n-fer met	36	24	0	0	24	0.1%	Gain	0.2
Metal prods	-153	-382	-55	-684	357	-0.3%	Loss	-0.1
Machinery	412	996	-165	740	422	0.9%	Gain	-0.5
Electr mach	-235	-302	-126	-286	110	-0.7%	Loss	-0.6
Tv & coms eq	-55	-61	-75	6	8	-0.7%	Loss	-0.8
Scientific eq	51	122	45	62	14	1.3%	Gain	-0.8
Motveh & parts	-11,986	-12,458	-2,996	-8,153	-1,309	-9.2%	Loss	-0.4
Oth trnsp eq	36	39	-7	43	3	0.3%	Gain	-0.7
Furniture	-114	-395	-409	-259	273	-1.0%	Loss	0.0
Other manuf	0	0	-141	-34	175	0.0%	Gain	-0.3

All sectors (excl gov)	-12,933	-20,426				-0.3%
Traded sectors	-14,856	-25,223	-16,628	-12,504	3,909	-1.0%
Manufacturing	-15,105	-26,461	-16,289	-12,381	2,209	-2.0%
excl vehicles	-3,119	-14,003	-13,293	-4,229	3,518	-1.2%

Note: Exports declined in the case of motor vehicles as lower tariffs reduce the implicit export subsidy provided under the MIDP in the form of IRCC. Similarly, growth in exports of clothing and textiles are tempered by the lower value of the Duty Credits when tariffs are reduced to zero. Revealed comparative advantage is calculated as $(\text{exports} - \text{imports}) / (\text{exports} + \text{imports})$, i.e. a value greater than zero identifies a comparative advantage.

What about employment? As would be expected, the overall impact effect of removing tariffs on employment in traded sectors is negative. This is primarily attributed to the declines in employment in Motor vehicles and parts (12,458 jobs), clothing (9,395) textiles (2,056) and footwear (1,262). The net overall effect is a decline in employment in traded sectors of 1 percent, i.e. 25 thousand jobs.

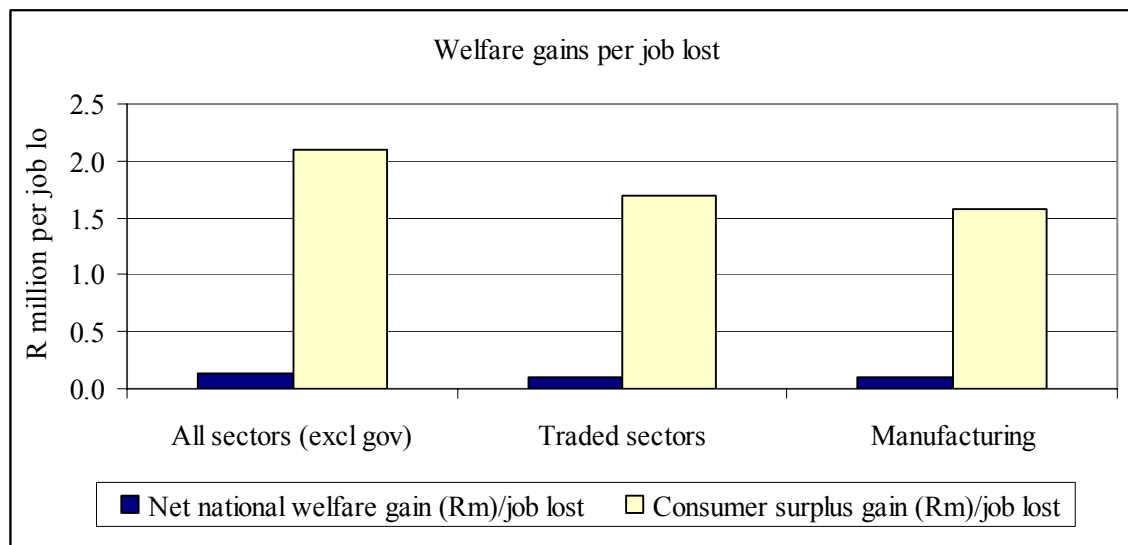
At the sector level, however, liberalization can also increase employment by raising output via three avenues: Firstly, through improving profitability and raising output in sectors in which effective rates of protection are increased. And secondly, through improving export profitability and boosting exports through a reduction in anti-export bias. The third avenue is through growth in services in response to lower input costs. We find that employment does increase in 15 of the 32 traded sectors in our sample, most of which are export oriented sectors. In addition to an increase in employment in agriculture and mining there are gains, amongst others, in beverages, leather products, iron and steel and scientific equipment. Interestingly exports are boosted strongly in leather products, (14.4 percent) footwear (8.5 percent) and food (6.6 percent). Finally, we estimate a rise in employment in non-governmental services of around 5,000.

Another way of looking at this issue is to focus on the redistribution from consumers to producers. In this regard an illuminating perspective is how much consumers pay per job under current protection. The answer, in some sectors is a very large amount, particularly when compared to the average take home pay of workers in manufacturing of 95 thousand rand. The

most startling are the costs paid by consumers to for each and every job in Tobacco (R664 thousand) and footwear (R162 thousand). Note that these values reflect the consumer surplus transferred per job in the entire industry, i.e. in the production of inputs, final goods and exports. The transfers close to triple if we look at the transfer per employee in the final goods sector. There are also very high costs for consumers per job in Motor vehicles (R89,000), TV and communications equipment (R56,000), Clothing (R78,000) and Food (R75,000). Also striking is the variance in these costs. Even though on average consumers pay R31,000 per manufacturing job, it is clearly not the case that trying to save jobs in a relatively efficient manner is something that is achieved by the current tariff structure.

The cost to society is starker if we focus on the net national welfare gains and consumer gains per job lost (Figure 6). If we focus on the results for all sectors (excluding government services), the current tariff structure reduces national welfare by R129 thousand per job saved. The cost per consumer is an astounding R2 million per job saved.

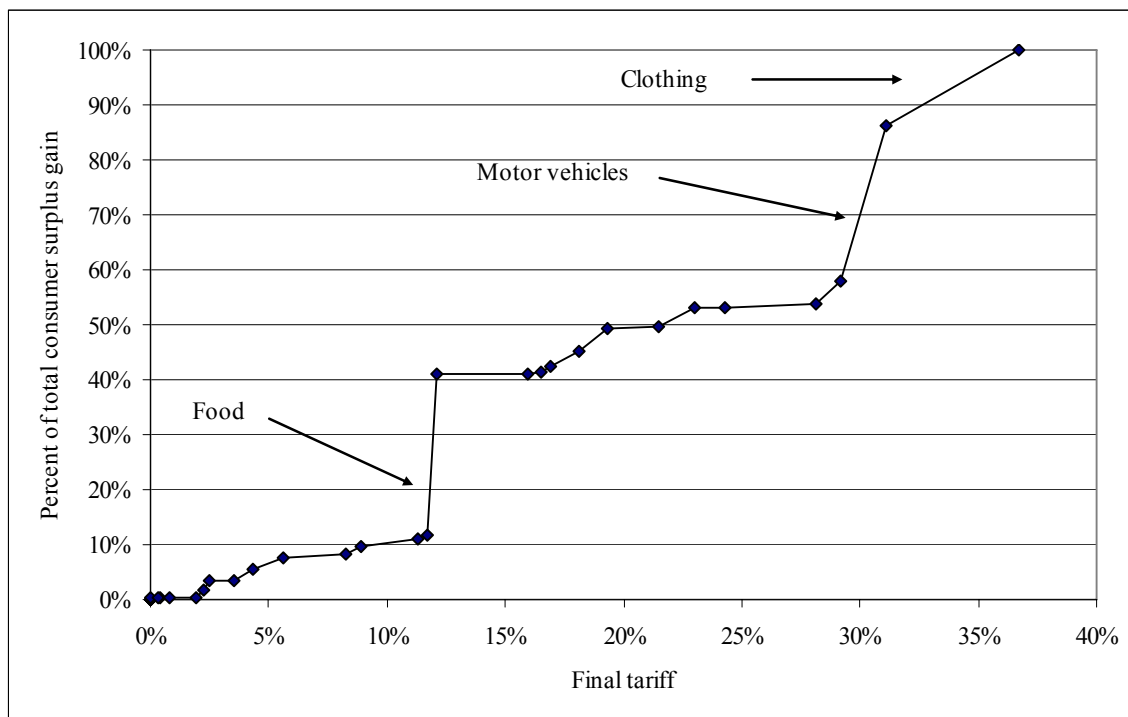
Figure 6: Welfare gains per job lost from elimination of tariff protection



If there was to be complete liberalization, the largest Rand value boost to consumer welfare would occur from liberalizing motor vehicles and food products. Indeed, the results in Figure 7 which present the distribution of consumer surplus gain from eliminating tariff barriers,

clearly show that the bulk of the distortions to consumers are located in a few sectors. In the figure, the cumulative gain in consumer surplus is presented on the Y-axis, while the level of protection on final consumer goods is provided on the X-axis. Removal of tariffs on motor vehicles and food products have the largest impact on consumer welfare and each sector accounts for 28 percent of the overall consumer surplus gain. This is followed by clothing (14 percent). 71 percent of the consumer surplus gain from the elimination of tariff barriers is accounted for by these three sectors alone.

Figure 7: Distribution of consumer surplus gain from eliminating tariff barriers



In sum, the current tariffs serve to preserve some jobs in particular sectors, but they do so at a cost to society at large and at a considerable cost to consumers. It is also of interest to consider who those consumers are. There are two factors that need to be taken into account. First, what share of their overall incomes do consumers at different income levels spend on tradable goods? and second, what tariff rates are charged on the particular goods bought by consumers at different income levels? It turns out that the dominant effects of the tariff structure on income

distribution operate through the first effect. That is, the poor spend the majority of their income on tradable goods, while those in wealthier deciles spend proportionately more on services that are not subject to tariffs. In particular, tradable goods such as food, alcohol and tobacco account for over 40 percent of household expenditure for households in the lowest three deciles and if we include primary agriculture, this share rises to just over 50 percent (Table 8). In general, this also means that tariffs on tradable products and particularly food products fall disproportionately on poor households.

A second effect occurs through differences in the tariff rates charged on goods consumed at different income levels. In 2004 the weighted average tariff ranged from 8 percent to 9 percent for the top (richest) 5 deciles, but then fell to less than 5 percent for the bottom. Wealthy households tend to consume relatively highly protected products, particularly motor vehicles for which the tariff averages 31 percent. The relatively low average tariff on traded goods consumed by poor households arises from the relatively low tariffs on agricultural products and grain mills products, which account for close to 20 percent of expenditure by poor households. The key consumption products maize flour and poultry have zero or close to zero tariffs. The two effects are illustrated in Figure 8 below: The average tariff on traded goods rises with each decile, but tariffs account for higher shares of spending on all products (i.e. both goods and services) for the poor.

Figure 8: Expenditure weighted average tariff by decile

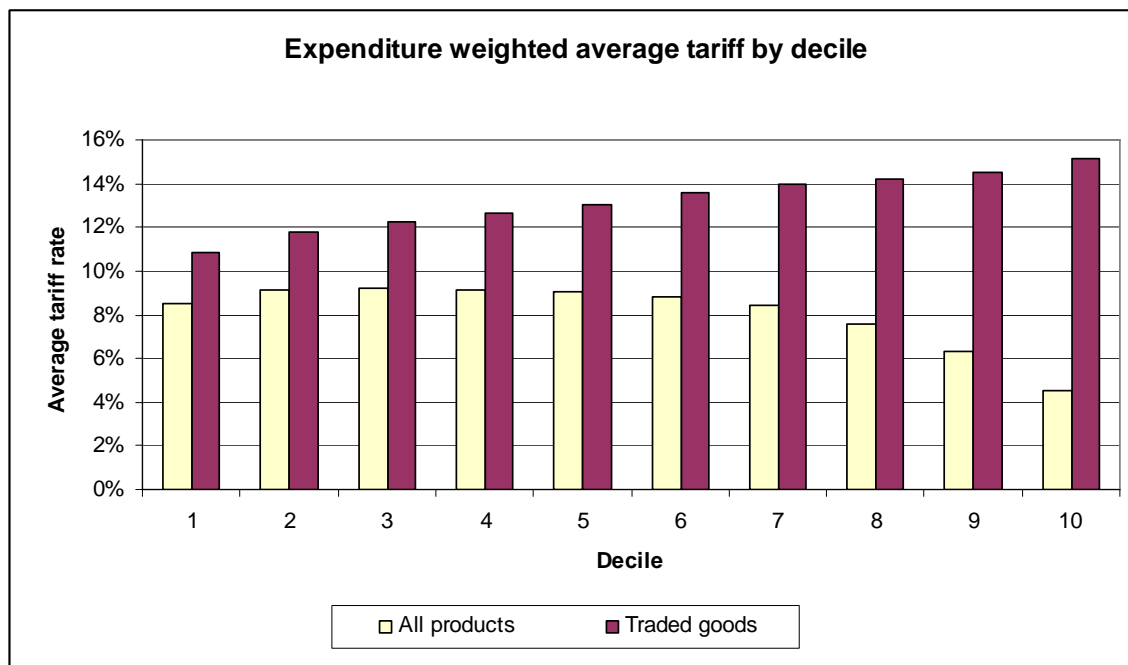


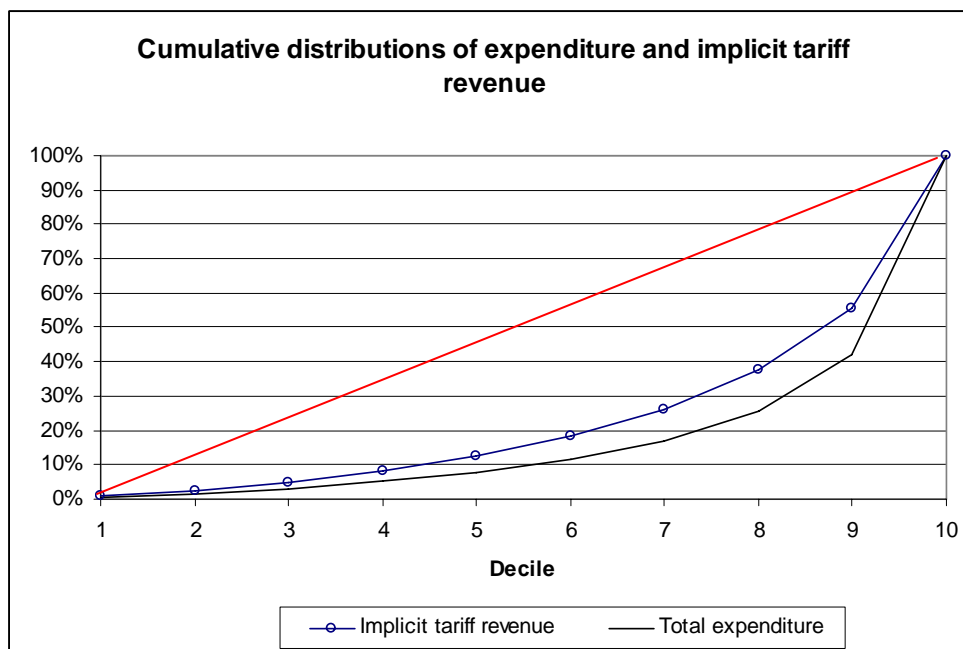
Table 8: Top consumption products of poor households (Decile 1 & 2) and wealthy households (Decile 9 & 10)

Sector	Poor households			Sector	Wealthy households		
	Share expenditure	Tariff	Max tariff		Share expenditure	Tariff	Max tariff
Agricultural products	10%	6%	44%	Motor vehicles	4%	31%	32%
Meat products	9%	22%	108%	Petroleum products	3%	0%	20%
Grain mill products	9%	0%	25%	Meat products	3%	22%	108%
Soap products	8%	14%	20%	Beverages & tobacco	2%	4%	25%
Bakery products	6%	13%	25%	Soap products	2%	14%	20%
Sugar products	5%	0%	0%	Wearing apparel	2%	37%	40%
Other food products	4%	14%	30%	Agricultural products	2%	6%	44%
Wearing apparel	3%	37%	40%	Dairy products	1%	21%	42%
Petroleum products	3%	0%	20%	Other food products	1%	14%	30%
Dairy products	3%	21%	42%	Bakery products	1%	13%	25%
Beverages & tobacco	3%	4%	25%	Furniture	1%	18%	20%
Oils & fats products	2%	8%	10%	Footwear	1%	29%	32%
Footwear	2%	29%	32%	Publish & print prods	1%	1%	15%
Other manufacturing	2%	5%	30%	Grain mill products	1%	0%	25%
Other paper products	1%	17%	20%	Radio & television	1%	9%	25%
Fish products	1%	2%	30%	Fruit & vegetables	1%	9%	55%
Fruit & vegetables	1%	9%	55%	Household appliances	1%	13%	30%
Knitting mill products	0%	35%	40%	Other paper products	1%	17%	20%
Furniture	0%	18%	20%	Fish products	1%	2%	30%

Note: The tariffs are the import weighted average tariff on final goods. Expenditure shares are calculated using the IES 2000 survey.

Figure 9 below shows an approximate Lorenz curve based on the cumulative value of total expenditure in 2000 for each of 10 deciles, ordered sequentially in increments of 10. A concentration curve using the tariff incidence data for 2006 is also constructed. The concentration curve of tariff expenditure lies above the expenditure Lorenz curve for all income deciles. This shows that import tariffs are a regressive tax and poor household bear a disproportionate share of the tariff burden relative to their income. For example, households in the poorest 2 deciles account for 1.6 percent of total expenditure, but 2.5 percent of the implicit tariff revenue. Households in the first 5 deciles account for 7.8 percent of total expenditure, but 12.4 percent of the implicit tariff revenue.

Figure 9: Cumulative distributions of expenditure and costs of tariff protection



Note: See Daniels and Edwards (2007) for methodology

Infant industry protection. Often protection is justified on infant industry grounds. The idea is that protection will nurture and stimulate production capabilities. The aim of infant industry protection is to encourage the production of products that have particularly desirable strategic characteristics so that the costs of protection today will be more than offset by the

benefits that will accrue over time. One possibility is that protection today is being granted to develop exports that are particularly associated with relatively rapid economic growth. A second possibility is that protection will improve South Africa's potential to develop exports in related products in the future. In this section we use some measures of productive potential developed by Hausmann and Klinger (2006) to evaluate if protection is geared towards these goals.

The first measured is PRODY, which is an indicator of revealed product sophistication. This is calculated as the weighted average of the GDP per capita of each country that exports a particular product. Research using this variable has found that higher PRODY goods are associated with greater subsequent growth and successful countries such as China are distinguished by their specialization in exports that have a higher PRODY than their current income levels. (Hausmann, Hwang and Rodrik (2006) and Rodrik (2006)). The second measure is "density". Hausmann and Klinger developed this measure to indicate how close any product not currently being exported is to the current export basket. If a sector has a high density then, given existing exports, it will be relatively to easy to become an exporter of this product, For example if a country is already an exporter of shirts it could be easy for it to become an exporter of skirts. The third measure is strategic value. This is a measure of the marginal contribution of exporting this product to new export possibilities. In other words if a country exports a product with a high strategic value (say autoparts) it will be more likely to export a lot of other products (e.g. automobiles, machinery etc).

Tradeoffs may of course exist between these measures: sectors in which it is easy to attain a comparative advantage in (have a high density) may have low strategic value or a low PRODY. Indeed, the relatively low and stagnant export sophistication for South Africa in the 1970s, 1980s and early 1990s reflected the failure of SA to shift from peripheral products to those with high strategic value (Klinger and Hausman, 1996 – SA study).

We use these three measures to assess the extent to which tariff protection in 2006 may facilitate or impede structural transformation of South Africa's export bundle. To analyse the relationships, we aggregate, using import values, the various measures of productive capabilities, which are available at the HS4-digit level, to 32 industrial sectors (ISIC 3/4 digit level), made up of 4 primary sectors and 28 manufacturing sectors. Nominal tariffs are drawn from the 2006 June tariff schedule for SACU and include ad valorem equivalents.¹⁷ Estimates of effective protection, the implicit export tax and the anti-export bias are calculated using an aggregated 2002 Supply-Use table obtained from Statistics SA (2005). Estimates are adjusted for rebates under the Duty Credit Certificate Programme (Clothing and textiles), the IRCC (motor industry) and the 470.03 scheme.

Overall, we find a wide variation in the association between the measures of productive capabilities and protection. Very little of the variation is explained by a linear trend fitted to the data. The scatter plots in the figures below generally slope downwards, suggesting that both nominal tariff protection and effective rates of protection are relatively high in sectors with low PRODY, strategic value (to a lesser extent) and density. *This means that the sectors that are being given protection are not those which are likely to enhance competitive capabilities in the future.* A somewhat more favourable picture of the structure emerges only in case of export taxes. Export taxes (large negative reflect high implicit export tax) are however, relatively low in sectors with high PRODY and density. The structure of tariff protection therefore does not appear to impede export growth of these sectors relative to those with low PRODY and density values.

Conclusion: All in all, we find that the tariff structure remains quite protectionist, discouraging of exports and complex and opaque. It does not appear to be a cost effective approach to job preservation, it has a regressive impact on income distribution and it does not appear to reflect a coherent infant industry orientation. Instead, it is poorly focused and clearly

¹⁷ Calculated using 2006 import prices.

the result of numerous ad hoc decisions based on historical and political pressures rather than strategic behaviour.

Figure 10: Scatter plot of export taxes and measures of productive potential

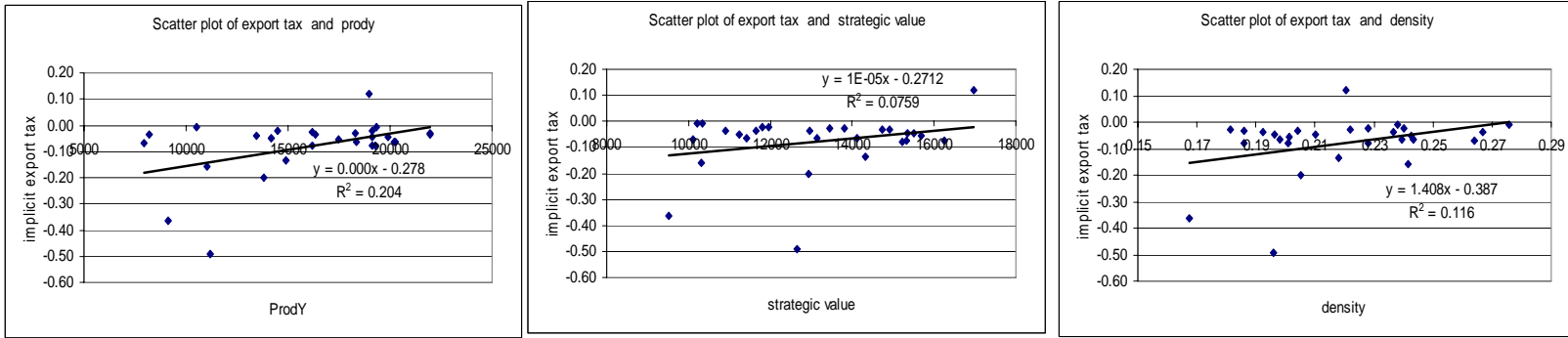


Figure 11: Scatter plot of effective protection and measures of productive potential

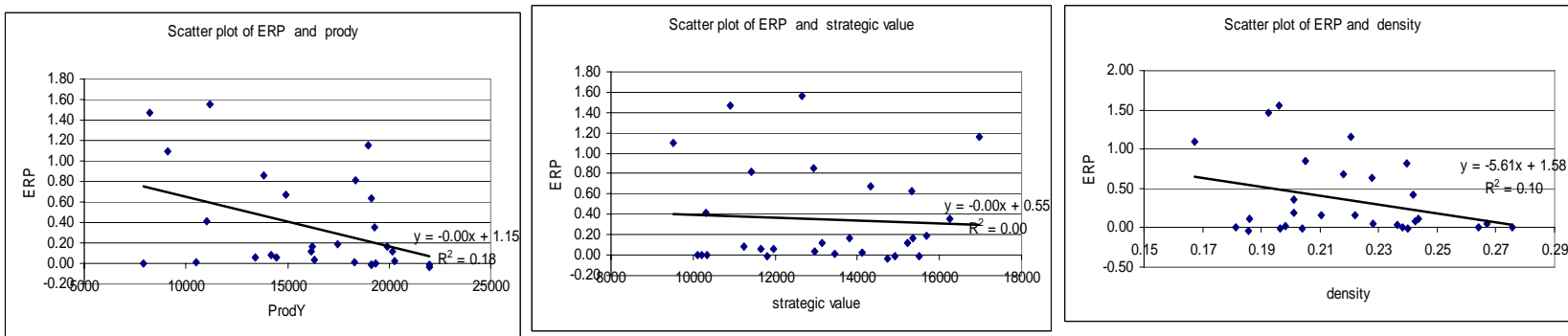
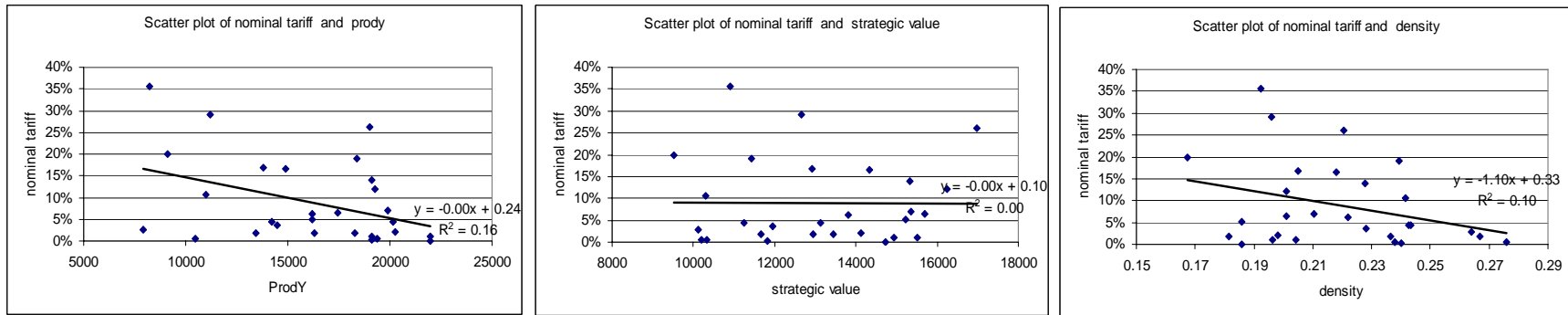


Figure 12: Scatter plot of nominal protection and measures of productive potential



Is Simpler Really Better? We will demonstrate in the next section that an approach in which the majority of tariff lines are set either at zero or at only one or two rates and is supplemented by safeguard, infant industry, and unfair trade exceptions -- is likely to be far superior to current practice which continues to rely on a highly differentiated structure that is poorly grounded. Some object that in seeking to judge the overall performance of the tariff structure by these criteria we are overlooking the argument that it is necessary to have a highly differentiated tariff structure to provide scope for the authorities to grant individual producers the amount of protection they require in order to become competitive.

We find this argument unconvincing both in terms of the economic logic it reflects as well as the administrative burdens that it imposes. Indeed, a case-by-case approach which sets individual tariffs differentially is more likely to be counterproductive, misallocate scarce resources in the economy and reduce South African living standards by giving the most protection to the activities in which South Africa is the least efficient economically and the most organized politically.

Economic Principles. Let us use the current protection of fruit as an example of the case by case approach. Table 9 presents information on the tariff rates applied to various fruit products as well as a measure of Revealed Comparative Advantage. (RCA). We measure RCA as exports-imports over exports plus imports. This ranges from 1 (only exports) to -1 (only imports). Values in excess of 0 reveal a comparative advantage in production of the product.

South African tariffs for fruit range widely from the 35 percent for mangoes, to 15 percent for Pineapples, melons and, strawberries, 10 percent for dried grapes, 5 percent for most other fruits (e.g. bananas, oranges, grapes, pears, and peaches) and zero for several berries, dates and figs: Secondly, there is very little change in tariff protection over the entire period. Protection

has remained unchanged for up to 11 years and more for most of the products. And thirdly there is no consistent relationship between competitiveness and the tariff structure.

What could possibly justify such a structure? One argument is that absent protection it is less profitable to grow mangoes in South Africa for example than to grow pears and so in order to survive so that they can eventually become competitive mango producers should be given more protection than pear producers. The tariffs therefore “level the playing field” between South African farmers and their foreign competitors and they do so by setting tariffs equal to the difference between the border price of imports and the domestic farm-gate price.

But when left in place for long periods of time, this approach rewards inefficiency and guarantees that protection will be very costly. The least efficient sectors get the most protection. This raises the key question: why should the South African government stimulate the production of a fruit in which South Africa is less competitive and provide less support for fruits in which it is more competitive? The basic point is that protection channels resources out of some activities into others. By imposing these tariffs, the Government is creating incentives to put more South African farmland, capital investments, farm labor, water and fertilizers etc. into mango growing and less into growing other fruit. Over long periods of time, maintaining this structure is surely counterproductive. If growing pears is a more profitable and competitive activity than growing mangoes, resources should be moving *into* pear production and *away* from mangos. It is one thing to argue that fruit farming (or farming as a whole) should be assisted, but it is another to argue that some fruits deserve more help than others.

Moreover, there is an irony in this approach. Domestic producers actually compete with each other to attract investment and workers and other scarce resources. At the same time as the government tries to level the playing field between domestic and foreign producers it actually slants the playing field towards domestic mango producers and away from other domestic fruit

producers! Surely a level playing field at home is even more important than one internationally. Yet a differentiated tariff structure actually does the opposite! It places the government in a position of favoring some South African producers at the expense of others.

So far we have only considered farmers. But tariffs also affect other producers who use fruit as an input. In addition to the protection they provide to some producers, differentiated tariffs have consequences. They could also tilt the playing field downstream. Why would the government want to favor producers wishing to process pears (by giving it a low tariff) and to penalize producers wishing to process mangoes (by raising its domestic price)?

It is striking that South Africa retains tariffs on fruits that it exports. As shown by the measures of revealed comparative advantage in the Table 9, South Africa is an exporter of oranges and many other fruits. ($RCA = 1$).¹⁸ This means that SA farmers producing these fruits are actually internationally competitive. Why if this is the case, are these fruits (pears, grapes, oranges etc) being given any protection at all? If the domestic South African markets for fruit are competitive, the prices of fruits that South Africa exports will be lower at home than they are on world markets and though it does not impose costs on consumers, protection is unnecessary. But if domestic producers actually have market power and can engage in import-parity pricing, protection harms fruit processors by raising domestic prices above world levels.

In other work for this project we have expressed some reservations about encouraging beneficiation as a guide for policy, but it's hard to explain a policy that would actually discourage beneficiation.¹⁹ Why impose tariffs on a key input (pears, peaches etc) and raise the costs of the canning industry in South Africa -- an important potential export? Why impose tariffs on grapes

¹⁸ Positive tariffs are applied on over 50 percent of all HS 8-digit products that are internationally competitive, as indicated by positive RCAs. Statistical tests show that competitive products are as likely to have a positive tariff as uncompetitive products and there are no differences in the predicted level of protection. In other words, we find no consistent or coherent relationship between tariff protection and competitiveness.

¹⁹ See Hausmann, Klinger and Lawrence.

and thereby raise the costs of South African wine exporters? And finally, in general tariffs raise the prices that consumers have to pay for fruit. Higher fruit prices may well be a necessary evil to support fruit farmers, but the differentiated tariff additionally distorts the choices of consumers between fruits: Why would the government actually want to *discourage* the consumption of mangoes and *encourage* the consumption of Apples?

Administrative challenges. To implement a highly differentiated approach to tariffs in practice, the government has to be able to (a) adequately identify and assess the economic merits of each product's need for protection; (b) have appropriate instruments at its disposal to provide the needed protection in the correct amounts and (c) be able to withdraw the protection once industries actually become competitive. It is one thing to try to accomplish this in a few selective cases and quite another to claim that it can be done line by line across the board.

First, the government simply does not have detailed knowledge of production and consumption of over 6000 product lines, and to the extent that it actually scrutinizes the existing tariffs, it has to rely heavily on data and arguments provided by the industries themselves. This informational asymmetry makes it highly susceptible to capture. It is one thing to claim to be able to obtain such knowledge in a few select cases or for a few broad categories and quite another to be able to do it product by product. In opening itself up to setting highly differentiated rates, the government is likely to be vulnerable to rent seeking and capture.

Second, in a volatile world the "necessary" tariff differential is unlikely to remain constant, so that even if the different rates were appropriate to achieve the desired effect at one point in time, they would have to be continuously changed to maintain that effect. Yet this would be administratively burdensome and unrealistic. And finally, instances in which the government has actually reduced individual tariffs on its own are rare. This means, for example, that

industries that made a case for a particular level of protection when import prices were low or the Rand was strong, benefit differentially when conditions change.

In sum, tariffs reallocate resources towards producing more of the product that is being protected and away from being used to produce all other products. Since they arbitrarily impose costs on other producers and on consumers, therefore, individual tariffs should be used sparingly and only with clear justification.²⁰ We would not rule out the use of protection at tariff rates that differ from the norm but would argue that where it is provided, the reasons should be explicitly stated and supported. In the example above, perhaps protection could be justified as a short run (safeguard) measure to assist mango growers while they make the shift into more profitable fruits. But it should then be explicitly temporary. Alternatively, perhaps protection could be justified as infant industry protection, necessary to attract farmers into mango farming because the industry would eventually be competitive if it operated at sufficient scale. *Thus both of these deviations from the norm are arguments for temporary protection* and not current practice. Finally, if foreigners subsidize their exports, tariffs that precisely offset such subsidies could be justified as a countervailing duty but the necessary investigations would have to be undertaken.

Table 9: Tariff rates on fruit products and indicators of Revealed Comparative Advantage

HS code	Description	Tariff 95	Tariff 00	Tariff 06	RCA 95	RCA 2000	RCA 2006
08030000	Bananas	5	5	5	-0.9	-0.3	-0.8
08041000	Dates	0	0	0	-0.9	-0.8	-0.1
08042000	Figs	0	0	0	-0.9	-0.7	-1.0
08043000	Pineapples	15	15	15	1.0	1.0	0.9

²⁰ To favour a tariff, it should be shown why (a) the resource allocation it induces will raise social welfare and (b) why the tariff is the best available instrument. For example, the government might have to raise revenue. For this purpose sales (or value-added) taxes are generally superior to tariffs, but in underdeveloped countries without tax administration, customs revenues raised through tariffs could well be more cost effective. Similarly, a production subsidy could be superior to an infant industry tariff, but the government might again find that raising and disbursing the subsidy is too costly. Another justification for tariffs could be that markets are actually imperfect. For example, as shown in Krugman and Helpman, in the face of a foreign monopolist with a particular demand structure, a tariff could actually shift rents away from the foreigner and towards the domestic producers.

08044000	Avocados	5	5	5	1.0	1.0	0.8
08045000	Mangoes	15	35	35	0.9	1.0	0.8
08051000	Oranges	5	5	5	1.0	1.0	1.0
08052000	Clementines, Mandarines	5	5	5	1.0	1.0	1.0
08053000	Lemons and limes	5	5	5	1.0	1.0	1.0
08054000	Grapefruit	5	5	5	1.0	1.0	1.0
08059000	Other Citrus	5	5	5	1.0	0.5	1.0
08061000	Fresh grapes	5	5	5	0.9	1.0	1.0
08062000	Dried grapes	0	14	10	1.0	0.9	1.0
08071100	Watermelons	15	15	15	1.0	1.0	1.0
08071900	Other melons	15	15	15	1.0	1.0	1.0
08072000	Papaws	15	15	15	0.4	1.0	0.8
08081000	Fresh apples	5	5	5	1.0	1.0	1.0
08082000	Pears and quinces	5	5	5	1.0	1.0	1.0
08091000	Apricots	5	5	5	0.9	1.0	0.9
08092000	Cherries	15	5	5	-0.2	0.6	-0.7
08093000	Peaches and nectarines	5	5	5	0.9	1.0	0.6
08094000	Plums	5	5	5	1.0	1.0	0.9
08101000	Strawberries	15	15	15	-0.3	0.9	-0.8
08102000	Raspberries, blackberries, mulberries and loganberries	5	0	0	0.0	0.4	0.9
08103000	Currants and gooseberries	5	0	0	-1.0	0.8	0.7
08104000	Cranberries, bilberries	5	0	0	-1.0	1.0	1.0
08105000	Kiwifruit		5	5		-0.9	-0.9
08106000	Durians			5			-1.0
08109010	Granadillas and litchis	15	15	15	1.0	1.0	1.0
08109090	Other fresh fruit	5	5	5	-0.2	1.0	1.0
Correlation coefficient between tariffs and RCA		0.240	0.344	0.141			

Section 3. Economic effects of alternative trade reform scenarios

The SACU tariff structure is clearly in need of reform. One option is to simply liberalise unilaterally. This approach would be effective in stimulating exports as well as realising the economic gains and consumer welfare gains described earlier. However, the adjustment costs may be perceived as too high and will also be concentrated in a number of important labour intensive sectors including clothing.

Is there an alternative strategy? In this section we propose an approach to trade policy reform that we believe will enable South Africa to realise most of the gains from liberalisation, while minimising the dislocation of production and employment. In particular, we propose an approach to tariff reform that seeks to:

- Provide benefits to consumers,
- Limit employment dislocation,
- Promote exports,
- Provides a norm against which industrial priorities can be set, and
- Facilitate regional and multilateral trade negotiations

The proposal. Our general strategy is to explore the use of a single (or limited number) band approach that is heavily focused on finished goods and that implements extensive reductions and eventual liberalization of capital goods and intermediate inputs. This strategy rests on three key ideas:

- Firstly, concentrating on reducing input tariffs can both promote exports by reducing export taxes and will increase effective protection on remaining sectors.
- Secondly, by reducing input tariffs, there may be scope to provide benefits to final consumers by reduce some output tariffs without reducing protection for some producers.
- Finally, simplification of the tariff schedule reduces the burden of administering rebates, provides a transparent signal for resource allocation and is less open to industry lobbying

Let's first deal with the issue of simplification. A key role of tariffs as an instrument of industrial policy is that they grant an incentive, through increased domestic prices, for investment and production in that industry.²¹ The effectiveness of tariffs in achieving these goals depends on both the level and the transparency of the signal. A tariff schedule consisting of uniform bands of *ad valorem* tariffs with significantly (in economic sense) different levels of protection is best suited for this purpose. Firstly, the *ad valorem* tariff is transparent, unlike specific or mixed tariffs where the level of protection varies according to exchange rate or international price fluctuations. Secondly, distinct tariff bands that provide a sizeable level of protection provide a clear signal to investors and industries of the priority of the protected sector for industrial development. For non-prioritised sectors, economic theory suggests a tariff of zero will maximise national welfare.²² A complex tariff structure such as that of SACU where over 100 different rates are applied dilutes the signal for resource allocation and reflects an ad hoc approach to sector prioritisation.

A simple tariff structure with few bands is also easier to administer and is less open to corruption. Wide variations in tariff levels amongst similar products, as is found in the SACU tariff schedule, encourages false value declarations on highly protected products in order to benefit from lower tariff rates applied on similar products. And as discussed above, restricting tariffs to a number of bands limits arbitrary and time dependent differences in tariff rates across similar products. Restricting tariffs to a number of bands, in effect contributes towards a transparent rule based approach to tariff setting.

There are also important political economy justifications for tariff simplification. A simple and preferably uniform tariff structure helps insulate government from interest groups that lobby for continued protection (Panagariya and Rodrik (1993)). The current complexity of the

²¹ Tariffs are also used as an instrument for revenue collection. This is not of significant importance for South Africa, but is of relevance for the remaining members of SACU, as will be discussed later.

²² We ignore large country effects or strategic trade policy effects arising from imperfect competition.

SACU tariff structure as well as the marginal changes to tariff rates currently allowed under ITAC (albeit reductions in most cases) give scope for industries to lobby for continued protection on their goods and lower protection on their inputs. Because these changes are often marginal and are obscured by a wide variation in applied tariffs, it is less likely that the tariff changes will be effectively challenged by groups negatively affected by the policy change. As pointed out by Corden (1966: 56) “protection unnoticed is protection more secure”. Recognition of these political economy dangers, contributed towards Chile’s simplification and finally implementation of a uniform tariff from the 1970s (Edwards and Lederman, 2002).

These political economy issues should be of particular concern to the South African government as historically industry has been effective in lobbying for changes in protection. This is noticeable in the late 1980s where businesses effectively lobbied for additional protection in the face of the economic downturn (Bell, 1993), as well as during the 1990s where organised industries were effective in lobbying for tariff increases in the face of rising import penetration (Holden and Casale, 2002). Further, the significant rise in protection on clothing and textiles during 1992/93 is argued by GATT (1994: 170) to represent “... *a clear-cut case of rent-seeking by entrenched special interests, with no final arbiter to guide the industry towards international competitiveness on the basis of free trade.*” Finally, the imposition of import quotas on Chinese imports of clothing and Textile products in January 2007, in part reflects the effective lobbying by the South African Clothing and Textile Workers Union (SACTWU) that Chinese imports had contributed towards significant job losses in the industry.²³

Our proposal goes further than just simplification of the tariff structure. Our tariff reform proposal is to simplify the tariff structure through the elimination of tariffs on intermediate and capital goods and the reduction of tariffs on final goods by fairly large percentages. This strategy relies heavily on the fact that what counts for any industry is its *effective* rather than *nominal* rate

²³ Edwards and Moriss (2007) show that one of the main justifications, that 60 000 jobs had been lost in the past few years, is based on erroneous comparison of employment numbers across two different and incomparable surveys.

of protection. *What each industry cares about is not the protection that is granted to the products that it produces but to the value that it adds.*

If, for example, twenty percent of a car's value, at world prices, comes from auto-assembly operations and eighty percent from auto-parts that can be imported duty free, then a ten percent tariff on finished autos will confer a fifty percent effective rate of protection. If however, a ten percent tariff is levied on *both* parts and finished automobiles, the effective rate of protection on assembly will be only ten percent. Auto assemblers would therefore get the same effective rate of protection from a two percent tariff on finished cars if there was no tariff on parts, as they would from a ten percent tariff on both finished cars and auto parts.²⁴

It is this basic notion that we exploit in our tariff liberalization design. By removing tariffs on inputs, we are able to limit the reductions in effective protection represented by the reduction in final tariffs. Hence, the employment losses in the final goods sector will be minimized and consumers will gain in the form of lower prices. In addition, import tariffs implicitly tax exports and confer negative rates of protection. So an approach which eliminates input tariffs will also stimulate exports by reducing or eliminating these penalties.

There are two additional benefits of this proposal. Firstly, in some versions of the approach the need for input tariff rebates would be eliminated. Currently extensive rebates on intermediate inputs and capital goods are granted to specific industrial sectors under Schedule 3 and exporters under Schedule 4 (and 5 & 6). This is both administratively burdensome and discriminatory as the rebates on inputs are not granted to all industries. Further, the rebates discriminate against producers who rely on domestic suppliers and encourage the substitution of domestic inputs with imported intermediate inputs by export industries. Our approach, however, does not alter the current system whereby rebates are granted on final goods imported using

²⁴ This can be shown as follows: $ERP_j = (t_j - \sum_i a_{ij}t_i) / (1 - \sum_i a_{ij})$ where t_j is the tariff on outputs, t_i is the tariff on inputs and a_{ij} is the quantity of intermediate input i used in the production of one unit of j . Let the market price of the car be R 1 million. ERP under uniform 10 percent tariff = $(10\% - 10\% * 0.8) / 0.2 = 10$ percent. In alternative scenario, ERP = $(2\% - 0\% * .8) / 0.2 = 10$ percent..

DCCs and IRCCs, although the value of these will diminish as tariffs on final goods (and intermediate inputs) declines.

The extent of rebates granted is visible in Table 10 and Table 11 below. These tables compare the import weighted scheduled rate with the collection rate. The “efficiency” of collection, calculated as actual revenue over predicted revenue, is also provided. Overall, only 56.7 percent of potential customs revenue is collected. The primary source of the under-collection is the duty rebate granted to the motor industry under the MIDP for the importation of inputs and final goods. Only 31.4 percent of potential duty is collected resulting in a collection rate of 8.9 percent, which is substantially lower than the import weighted average tariff of 28.3 percent. The efficiency of collection also decreases at higher tariff rates, falling from around 90 percent for tariffs less than 5 percent to 65 percent for tariffs greater than 30 percent. The latter reflects rebates under the DCC, which are largely used to purchase clothing, as well as the greater incentive for industries to apply for duty rebates.

Table 10: Average Scheduled tariff rates, collection rates and efficiency of collection, 2006 (percent)

	Import weighted average tariff	Average collection rate	Efficiency of collection
Consumption	12.7	12.2	95.6
Intermediate	2.6	1.9	75.5
Capital	2.0	1.6	80.1
Motor Cars	28.3	8.9	31.4
TOTAL	7.4	4.2	56.7

Source: DTI for collection duty, 2006 June Tariff Schedule from SARS.

Table 11: Predicted and Actual Revenue by Tariff Bands, 2006.

Bands	Tariff lines	Predicted revenue (R m)	Actual Duty (R m)	Efficiency of collection	Imports (R m)	Implied Duty Collection Rate (%)	Predicted Schedule3 Rebate (R m)
0%	3,344	-	5	Na	285,276	0.0	26
=<5%	619	517	470	90.9	31,088	3.9	646
=<10%	467	1,382	1,169	84.6	16,145	7.2	1,028

=<15%	648	1,917	1,671	87.2	14,407	11.6	1,153
=<20%	518	4,166	3,416	82.0	22,768	15.0	3,623
=<30%	432	13,045	3,436	26.3	50,038	6.9	7,539
>30%	248	12,508	8,078	64.6	37,687	21.4	54
na	394	-	34		-		33
Grand Total	6,670	33,535	19,030	56.7	457,409	4.2	14,102

Source: SARS, DTI and own calculations.

Note: It appears that excise duty is included with customs duty for tobacco and beverages. The above table removes the excise duties by assuming all potential revenue for these sectors is collected.

A second advantage of zero rating or substantially reducing inputs is that it greatly facilitates regional integration. Unfair access to production inputs in regional trade partners is a primary reason for the implementation of rules of origin. In the SADC case, these rules of origin have been argued to be highly restrictive and inhibitive of trade flows within the region (Flatters, 2005). Enabling duty free inputs, obviates much of the need for these rules of origin and hence will facilitate imports from the rest of SADC into SACU.

Simulation scenarios. As an exploratory analysis we estimate the economic effects in three scenarios:

- **Scenario 1 (Sim 1):** *Input liberalisation with a 15 or zero percent tariff on final goods.*

In particular, a zero tariff on intermediate inputs and capital goods. A 15 percent tariff on final goods if the 2006 tariff is equal to or exceeds 10 percent, otherwise zero percent.

- **Scenario 2 (Sim 2):** *Input liberalisation with a 20, 10 or zero percent tariff on final goods.* Tariffs are set to zero on intermediate inputs and capital goods. For final goods, they are set at 20 percent if the 2006 tariff equals or exceeds 18 percent, 10 percent if the 2006 tariff is greater than or equal to 8 percent and less than 18 percent and zero percent for the remaining products.

- **Scenario 3 (Sim 3):** *Partial liberalisation of inputs and a 20, 10 or zero percent tariff on final goods.* Tariffs are equivalent to simulation 2, except for a tariff of 10 percent on intermediate inputs and capital goods if the original input tariff is greater than or equal to 8 percent.

Scenario 1 represents the simplest application of our approach, namely a single band of positive tariffs on final goods and full elimination of tariffs on intermediate and capital goods. Scenario 2 modifies the first Scenario by applying two bands (20 and 10 percent) of positive tariffs on final goods. In scenario 3, we also allow for a 10 percent tariff on some intermediate and capital goods. The extent of liberalisation in Sim 3 is therefore more moderate than the other scenarios.

Model. To evaluate the effect of the proposed tariff policy reform on the South African economy, we extend the simple partial equilibrium model developed earlier and treat production for final goods, intermediate & capital goods and exports separately.²⁵ Domestic production in each case is modelled as a function of value added per unit output. This specification allows us to model tariff reductions on inputs as well as final goods that leave effective rates of protection on final goods relatively unaffected.

An important caveat to our analysis is that it is basically static in nature and advocates of both freer trade and more protection are likely to claim that this understates the dynamic gains that would accrue if their preferred policies were adopted. In theory the effects could go in either direction. “Sometimes”, as the saying goes, “a kick in the pants gets you going, at other times it just hurts.” On the one hand, more competition and open markets could stimulate competition and innovation. On the other hand, there are those who argue that that there are dynamic benefits from trade protection and that providing firms with a more secure domestic market stimulates investment and innovation.

²⁵ The data are obtained from Quantec who provide output data classified according to intermediate goods, capital goods, household expenditure and capital goods. This data are based on the Supply Use tables provided by Statistics South Africa and are updated using other data sources from SSA. Some discrepancies with the SU tables are evident (for example the 2002 share intermediate inputs in total supply differs from the 2002 SU table) and it is unclear how the data are adjusted to ensure consistency with the national accounts. More importantly, the output data provided combines domestic and imported goods. To separate out domestic production from total supply, we assume common sector import penetration ratios across intermediate and final goods (incl. exports). An alternative approach is to decompose imports into intermediate, final and capital goods using the Broad Economic Classification provided by UN Statistics. This was attempted, but frequently imports exceeded total sales, leading to negative domestic production.

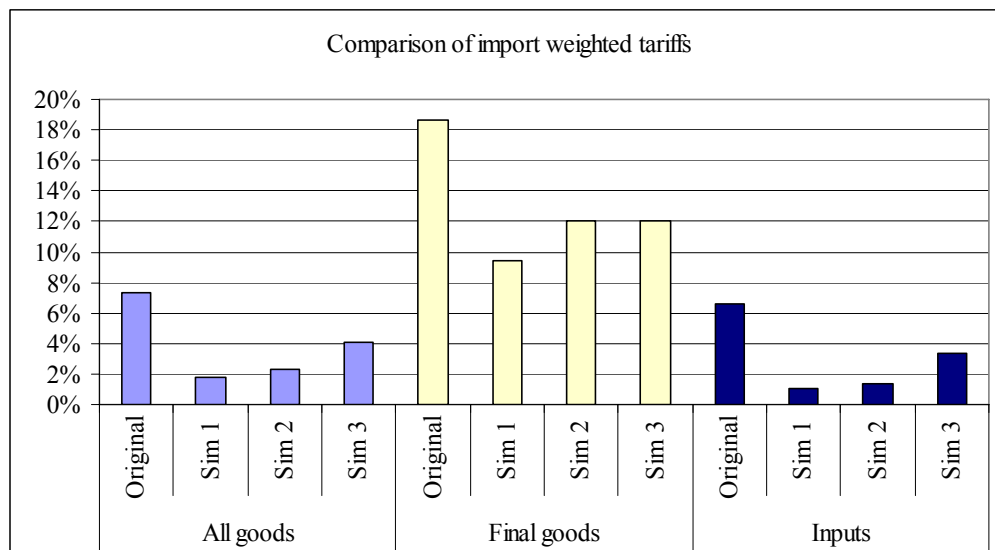
The ASGISA program has identified weak competitive pressures in the South African economy as a constraint on growth. There is evidence in support of this view in the work of Agion and Fedderke (2006) who found that in the case of South Africa trade liberalization has increased competition, reduced profit margins and enhanced productivity and employment growth. Other South African studies (Jonsson and Subramanian, 2001; Belli *et al.*, 1993; Fallon and Pereira de Silva, 1994; Fedderke, 2005 and Harding and Rattso, 2005) find consistent evidence that the dynamic productivity gains from liberalization and openness are large for South Africa.²⁶ To the degree that these effects are significant, they suggest that the welfare gains from the liberalization we have estimated could well be far too conservative.

Results. In the following section we highlight the main economic results emerging from our simulations. We first look at changes in tariff distortions, then analyse changes to output, employment, exports and welfare.

Nominal protection. All scenarios give rise to significant reductions in nominal tariff protection as measured using import weighted tariffs (Figure 13) and the trade restrictiveness index (not shown here). Average tariffs fall from 7.3 percent to 1.8 percent for Sim 1, 2.2 percent for Sim 2 and a more modest reduction to 4 percent for Sim 3. The decline in the TRI for each end-use category is roughly equivalent. The largest reductions in protection are on inputs which, apart from passenger vehicles, are set equal to zero in the case of Sim 1 and Sim 2. The small positive tariff on inputs in these two scenarios therefore reflects continued protection on passenger vehicles (15 percent in Sim 1, 20 percent in Sim 2). Tariffs on final goods also fall, from around 18 percent to between 10 percent and 12 percent.

Figure 13: Comparison of import weighted tariffs

²⁶ Harding and Rattso (2005), for example, estimate that 70% of productivity improvements in the post sanction period can be explained by liberalisation. If the effect that liberalization has on the transfer of foreign technological improvements to SA is included, this share approaches 100%.



Notes: Passenger vehicles (BEC 51) are included in both final goods and inputs

Looking at the sectoral breakdown in Table A in the appendix, relatively large declines in nominal tariffs on final goods occur in clothing (37 percent to between 14 and 19 percent), motor vehicles (31 percent to between 15 and 19 percent) and leather products and footwear. Many of these are key consumption goods implying an improvement in consumer welfare through lower product prices. This is explored in more detail later. Tariffs on inputs fall most strongly for motor vehicles and parts in scenarios 1 and 2 (26 percent to 5-7 percent) largely due to the reduction to zero of the high tariffs on original equipment components (HS 98). These products account for a high proportion of overall imports (8 percent of total imports)²⁷ Large declines in tariffs on inputs are also found in clothing, textiles and furniture. In scenario 2, tariffs are retained on inputs and relatively high levels of protection are found on vehicles, clothing, rubber and plastic products.

Effective protection and profitability. Our simulation scenarios are also successful in retaining effective protection on final goods, but lead to significant reductions protection on intermediate and capital goods. This can be seen in the GDP weighted effective rates of protection presented in Table 12 and the two bar charts in Figure 14 below.

²⁷ HS 98 is a specific category used under the MIDP. How we treat these has a significant impact on estimates of protection in the motor vehicle sector. These simulations I treat these as intermediate inputs, hence their tariff has been reduced to zero.

Table 12: Effective rates of protection

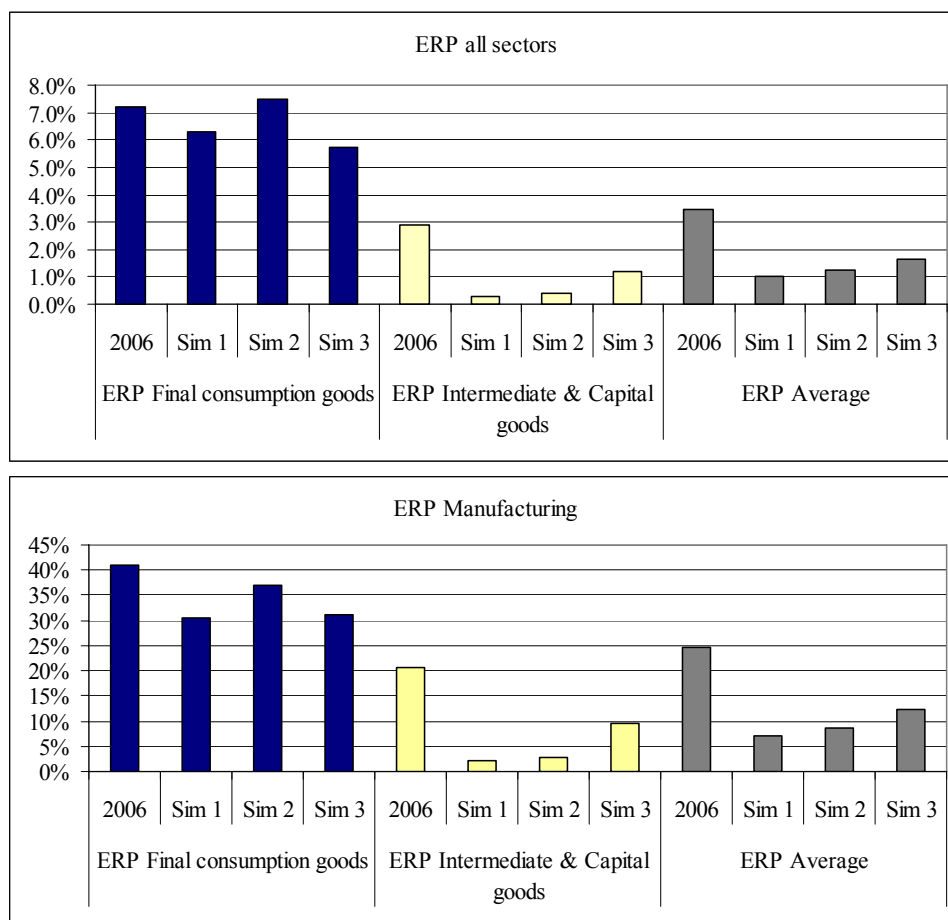
	ERP Final consumption goods				ERP Intermediate & Capital goods				ERP Average			
	2006	Sim 1	Sim 2	Sim 3	2006	Sim 1	Sim 2	Sim 3	2006	Sim 1	Sim 2	Sim 3
All sectors	7.2%	6.3%	7.5%	5.7%	2.9%	0.3%	0.4%	1.2%	3.5%	1.0%	1.3%	1.6%
Agriculture	7.2%	9.3%	8.0%	6.1%	0.7%	-0.2%	-0.3%	-0.2%	1.2%	0.4%	0.0%	0.4%
Mining	-1.4%	-0.1%	-0.1%	-0.8%	-1.4%	-0.1%	-0.1%	-0.8%	-1.8%	-0.5%	-0.6%	-1.0%
Manufacturing	41.1%	30.4%	37.0%	31.2%	20.7%	2.0%	2.7%	9.5%	24.6%	7.0%	8.7%	12.4%
Services	-1.7%	-0.1%	-0.2%	-0.9%	-1.7%	-0.1%	-0.2%	-0.9%	-1.9%	-0.5%	-0.6%	-1.1%

Note: 2002 GDP values used as weights. The average ERP uses the import weighted average tariff for both final goods and inputs.

In all scenarios, lower tariffs on intermediate and capital goods offset the negative impact on profitability from lower tariffs on final goods. The weighted average ERP for final goods (using 2002 GDP values) for all sectors including services declines in Sim 1 and 3, but actually rises in Sim 2. Since, as we have noted in simulation 2, import weighted average nominal tariffs on final goods are cut from 18 to 12 percent – a cut of 33 percent – the rise in effective protection is noteworthy. Even in the case of Sim 1, the nominal tariff reductions of a third are associated with declines of effective protection of less than 25 percent. If we exclude the services sector, and only look at manufacturing, ERP on final goods falls in all scenarios. Looking at intermediate and capital goods, we find large decreases in effective protection, particularly within manufacturing where ERP falls from 20.7 percent to 2-3 percent in scenarios 1 and 2. *The simulation scenarios therefore retain much of the protection on final goods, but reduce protection significantly on intermediate and capital goods.* Scenario 3 is interesting, in that it highlights the trade-off between effective protection on inputs and final goods. A higher tariff on inputs reduces effective protection in downstream industries.²⁸

²⁸ Consistent results are found when comparing value added per unit output for each scenario. Given that domestic production (including exports) is modelled as a function of value added per unit output, this comparison is arguably a better representation of the potential effect of each liberalisation scenario on production. Full liberalisation reduces average value added per unit output in manufacturing by 25 percent for final products and 13 percent for inputs, but raises the profitability of export production by approximately 4 percent. Scenarios 1 and 2 lead to more moderate declines in value added per unit output for final goods (2-5 percent declines) while retaining the improvements in export profitability. Scenario 3 differs in that retaining some tariffs on inputs limit the decline in profitability in these sectors, but at the expense of value added per unit output in the downstream final goods sectors and export sectors.

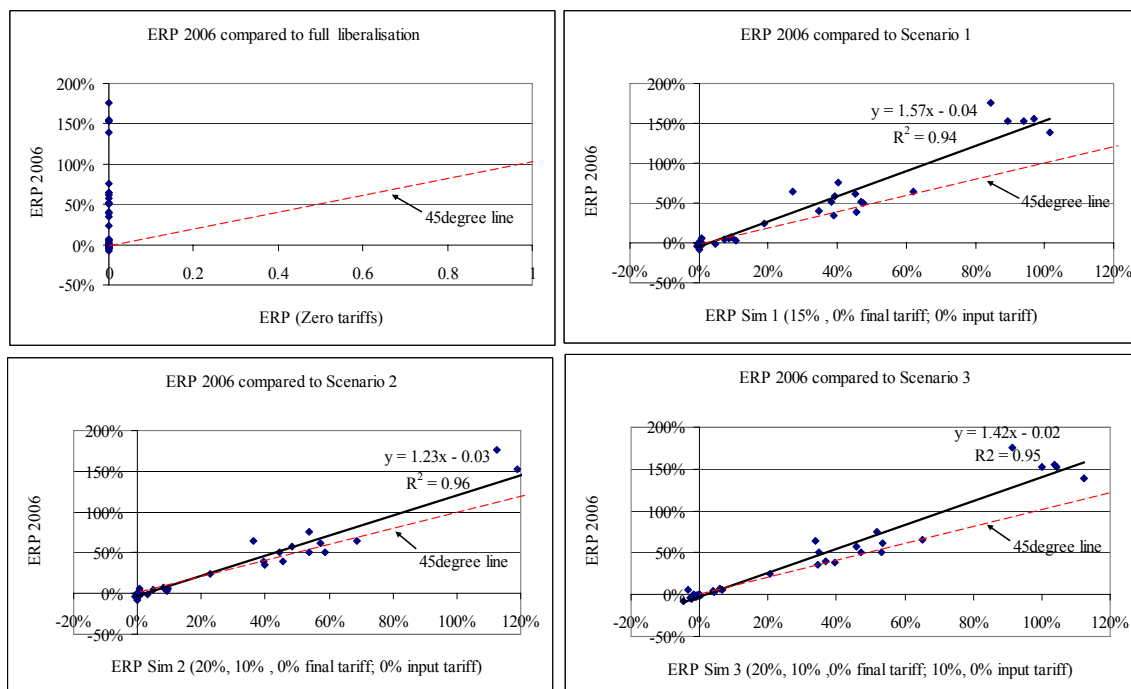
Figure 14: GDP weighted average effective rates of protection for all sectors and manufacturing



Our tariff scenarios also broadly preserve the rank order of effective protection for final goods. Figure 15 below presents scatter plots comparing ERP for final goods in 2006 with ERP in each scenario. The 45 degree line represents a perfect preservation of ERP for each sector. Under full liberalisation ERP are reduced to zero for all sectors. In Sim 1, the correlation with 2006 ERP values is positive, but relatively large declines in protection are experienced in high protection sectors such as clothing, textiles, leather, footwear and motor vehicles & parts. However, effective protection remains above 80% for these sectors. In the case of Sim2, the estimated slope is very close to the 45 degree line, indicating very little change in the level and structure of effective protection across sectors. When we introduce input tariffs in Sim 3, effective protection

is once again reduced in these highly protected sectors. The most affected are clothing and vehicles where tariffs on textiles and vehicle components reduce profitability in the downstream clothing and vehicle industries. In conclusion, our scenarios generally preserve the sector rank order of protection on final products with simulation 2 the most successful in maintaining the very high levels of effective protection in the most protected industries.

Figure 15: Scatter plots of ERP for final goods in 2006 and each scenario



Note: All primary, manufacturing and services sectors are included in the above diagrams.

Changes in anti-export bias. Finally, export profitability rises in almost all sectors in all scenarios. Relatively large increases are experienced in footwear, textiles, leather products, vehicles, clothing and food. Many of these are labour-intensive, suggesting that liberalisation under the two scenarios will enhance labour-intensive exports. An important exception, however, is the motor industry, where export profitability declines under full liberalisation and only rises moderately in Scenario 3. As discussed later, this arises from the changing value of export incentives provided by the IRCCs.

Declining effective protection rates and export taxes under each tariff liberalisation scenario lower the anti-export bias of production (Table 13). The GDP weighted anti-export bias for final goods in manufacturing declines from 1.5 to around 1.3 and those for intermediate & capital goods from 1.2 to between 1 and 1.1. Nevertheless, production of final goods for the

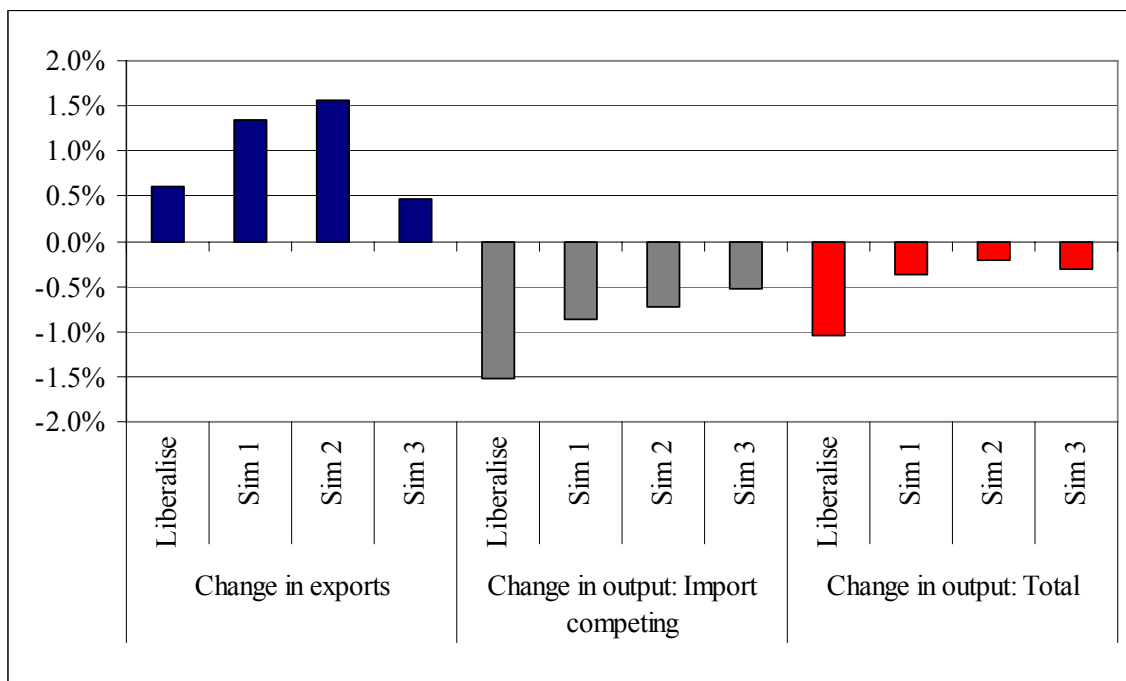
domestic market remains approximately 30 percent more profitable than for the export market in each scenario. Similarly, at the sector level, while the anti-export bias has declined, it remains relatively high in many sectors, particularly the labour intensive sectors including clothing, footwear, textiles and leather products.

Table 13: Anti-export bias

	2006		Sim 1		Sim 2		Sim 3	
	Final goods	Intermediate & capital goods	Final goods	Intermediate & capital goods	Final goods	Intermediate & capital goods	Final goods	Intermediate & capital goods
Traded sectors	1.3	1.2	1.2	1.0	1.2	1.0	1.2	1.1
Agriculture	1.1	1.0	1.1	1.0	1.1	1.0	1.1	1.0
Mining	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Manufacturing	1.5	1.2	1.3	1.0	1.3	1.0	1.3	1.1
Services	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Note: Anti-export bias is measured as $(1+ERP)/(1-\text{export tax})$

Output. Liberalisation in each scenario leads to structural shifts in the economy away from import competing sectors towards export oriented sectors (Figure 16). Export growth is driven by improved profitability arising from lower costs of intermediate inputs. Interestingly, export growth is stronger under Sim 2 and Sim 1, than under full liberalisation and Sim 3. This is largely indicative of the extensive support granted to the motor industry in the form of duty credits. The value of the duty credits for exporters is directly related to the tariff rates on motor vehicles and parts. With full liberalisation, the incentive for export production granted through IRCCs is reduced to zero. In our estimates, the IRCCs plus 470.03 rebates provide vehicle and parts exporters a subsidy that exceeds the cost raising effects of high domestic prices for protected intermediate inputs. Hence, full liberalisation leads to significant reductions in exports of motor vehicle and parts (see Table B in Appendix). Tariffs on inputs do matter, as is shown in the stagnant growth in exports of vehicles when tariffs on components are retained (Sim 3). The availability of duty rebates under the DCC scheme leads to similar trends in the clothing and textile sectors.

Figure 16: Sources of change in aggregate output in traded sectors

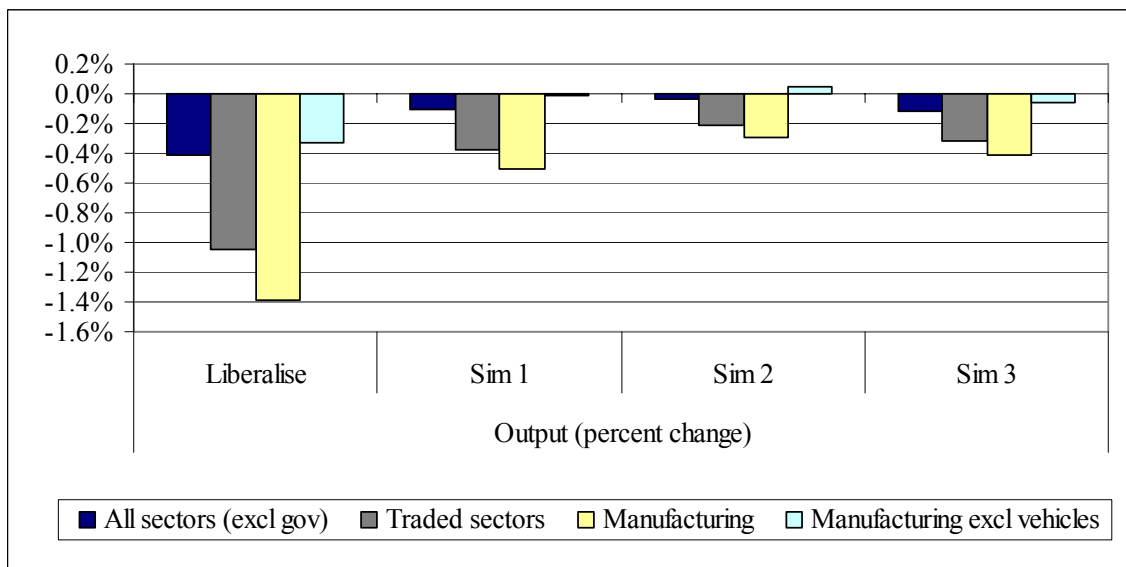
Note: Percentage reflect change from 2006 value for that category

The growth in exports, however, is insufficient to offset declining domestic production of import competing products leading to a net decline in domestic production. The overall decline in production of traded goods in each scenario is small (less than 0.5 percent) and is not experienced in all sectors. In Scenario 2 for example, domestic production decreases in only 13 of the 32 traded sectors. The net decline in output is primarily driven by declining output in the motor vehicle and parts industry and to a lesser extent clothing and textiles. Excluding, motor vehicles and parts, we find close to zero or even a positive change in manufacturing output in Sim 1 and 2 (see Figure 17 below). Hence, in the non-motor vehicle industries export growth, combined with small declines in production of final goods, offsets the decline in production of intermediate and capital goods.

Reducing the extent of liberalisation on intermediate inputs, as is simulated in scenario 3, appears to exacerbate the effect on aggregate output. While production of intermediate inputs is

less affected, production of final goods and exports in particular decline by more than the other scenarios. Continued protection on inputs, is therefore at the expense of production of final goods and exports.

Figure 17: Output changes (percent)



Employment. The sectoral composition of employment changes is similar to that of output, although the net effects differ slightly. Employment opportunities are created in the expanding industries, with relatively large gains in employment experienced in the agricultural, machinery and iron & steel sectors. Employment opportunities are also created in the services sector.

Nevertheless, the net effect on employment is negative. Under full liberalisation, employment in traded sectors declines by around 25,000, with roughly half of this accounted for by the motor vehicle and parts industry. Under scenario 1, employment losses in traded sectors fall to around 9,000 and for scenario 2 employment losses equal approximately 5,000. If, however, we include the roughly 4,500 jobs created in services, the job losses in Sim 1 are halved and job losses in Sim 2 fall to a mere 450.

The better employment outcome in Scenario 1 and 2 compared to full liberalisation arise from higher export growth and lower declines in employment within the final goods sectors. In all

simulations, we find lower job reductions in the labour-intensive clothing, textile and footwear sectors. The weaker employment results for scenario 3 compared to scenario 2, reflect higher input costs leading to lower exports and final output, with relatively large declines experienced in clothing and motor vehicles. Unlike output, employment in manufacturing falls, even when the motor vehicle sector is excluded. This arises from the decline in output in the labour intensive sectors such as textiles and clothing (Table 14).

Figure 18: Change in employment in traded sectors by end-use classification

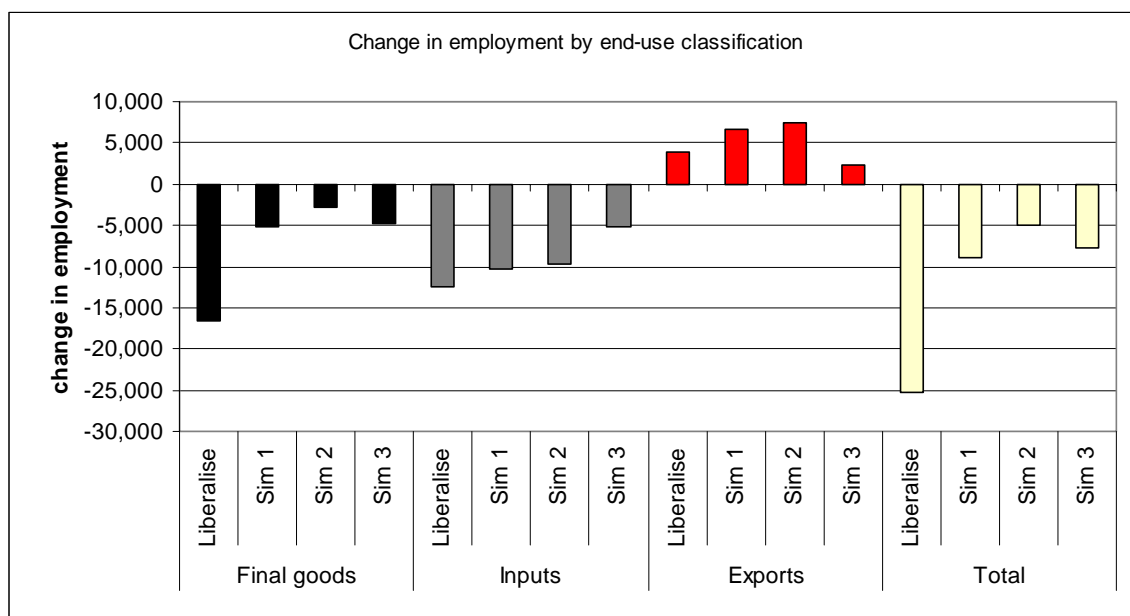


Figure 19: Aggregate employment change (percent)

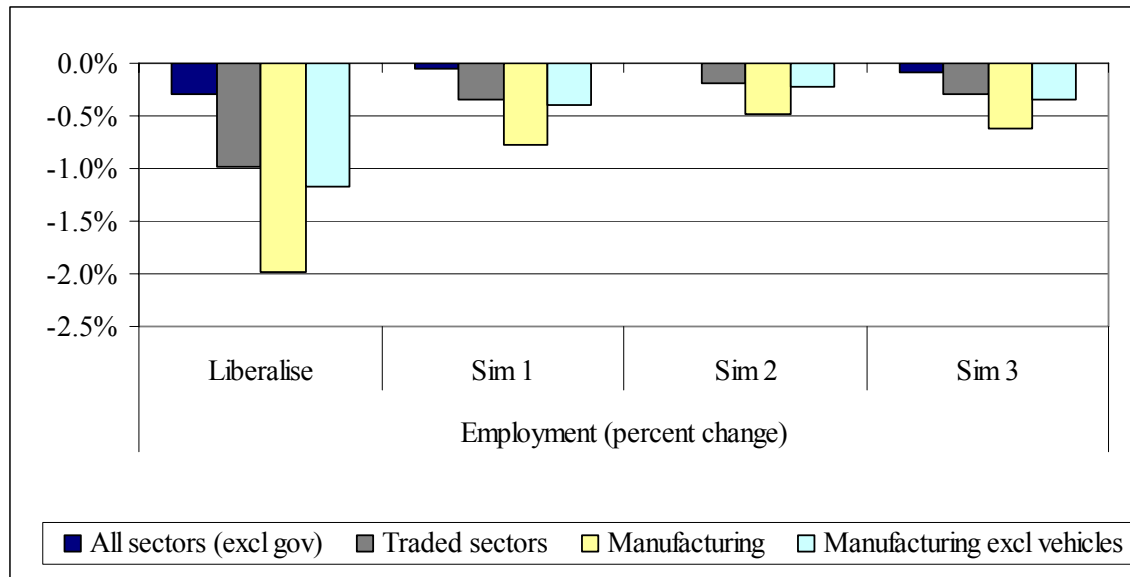


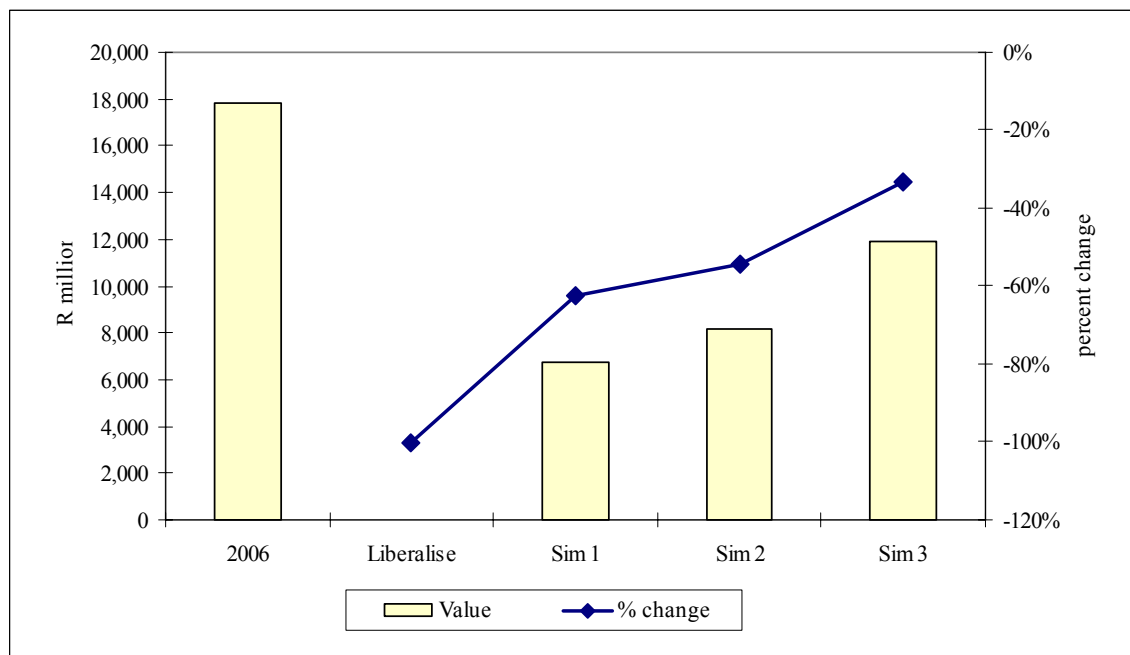
Table 14: Employment effect of Scenarios

	Employment 2006 Jobs	Full liberalisation		Sim 1		Sim 2		Sim 3	
		Change in jobs	% Change	Change in jobs	% Change	Change in jobs	% Change	Change in jobs	% Change
Agriculture	791,702	921	0.1%	1,257	0.2%	1,163	0.1%	360	0.0%
Coal mining	55,336	57	0.1%	53	0.1%	52	0.1%	26	0.0%
Gold & Plat	163,419	167	0.1%	166	0.1%	165	0.1%	71	0.0%
Other mining	239,720	93	0.0%	87	0.0%	85	0.0%	43	0.0%
Food	167,311	-987	-0.6%	75	0.0%	213	0.1%	-188	-0.1%
Beverages	37,891	94	0.2%	97	0.3%	100	0.3%	40	0.1%
Tobacco	2,818	-13	-0.5%	-4	-0.1%	-1	0.0%	-5	-0.2%
Textiles	47,634	-2,056	-4.3%	-1,138	-2.4%	-935	-2.0%	-570	-1.2%
Clothing	76,206	-9,395	-12.3%	-4,180	-5.5%	-2,882	-3.8%	-3,627	-4.8%
Leather prods	7,912	222	2.8%	284	3.6%	298	3.8%	91	1.1%
Footwear	10,619	-1,262	-11.9%	-377	-3.6%	-163	-1.5%	-342	-3.2%
Wood & prods	59,641	11	0.0%	16	0.0%	17	0.0%	29	0.0%
Paper & prods	37,213	50	0.1%	79	0.2%	81	0.2%	27	0.1%
Printing	53,421	-104	-0.2%	-100	-0.2%	-102	-0.2%	-3	0.0%
Petrol ref	16,709	0	0.0%	0	0.0%	0	0.0%	-4	0.0%
Basic chems	20,559	23	0.1%	22	0.1%	21	0.1%	12	0.1%
Other chems	48,969	52	0.1%	96	0.2%	89	0.2%	21	0.0%
Rubber prods	14,233	-281	-2.0%	-211	-1.5%	-211	-1.5%	-89	-0.6%
Plastic prods	39,352	-222	-0.6%	-215	-0.5%	-215	-0.5%	-44	-0.1%
Glass & prods	9,831	-79	-0.8%	-79	-0.8%	-79	-0.8%	-15	-0.2%
Non-met mins	60,403	-447	-0.7%	-430	-0.7%	-426	-0.7%	-146	-0.2%
Bas iron & st	53,085	350	0.7%	344	0.6%	343	0.6%	161	0.3%
Bas n-fer met	22,319	24	0.1%	23	0.1%	23	0.1%	10	0.0%
Metal prods	126,838	-382	-0.3%	-346	-0.3%	-340	-0.3%	-48	0.0%
Machinery	106,692	996	0.9%	1,116	1.0%	1,125	1.1%	627	0.6%
Electr mach	42,637	-302	-0.7%	-160	-0.4%	-160	-0.4%	-71	-0.2%
Tv & coms eq	8,770	-61	-0.7%	-2	0.0%	9	0.1%	-13	-0.1%
Scientific eq	9,596	122	1.3%	121	1.3%	121	1.3%	56	0.6%
Motveh & parts	135,537	-12,458	-9.2%	-5,689	-4.2%	-3,789	-2.8%	-4,157	-3.1%
Oth trnsp eq	13,138	39	0.3%	64	0.5%	55	0.4%	24	0.2%
Furniture	39,396	-395	-1.0%	-14	0.0%	63	0.2%	9	0.0%
Other	63,509	0	0.0%	196	0.3%	213	0.3%	24	0.0%

manufacturing							
Services	4,582,368	4,797	0.1%	4,661	0.1%	4,615	0.1%
						2,043	0.0%

Revenue. Approximately R18 billion of tariff revenue was collected in 2006. Liberalisation reduces the tariff per imported product, but also raises imports which has a positive effect on tariff revenue. Our simulations indicate that the tariff effect dominates leading to a decline in revenue by approximately 62 percent in Sim 1 to R6.7 billion, 54 percent in Sim 2 to R7.6 billion and 33 percent in Sim 3 to R12 billion.

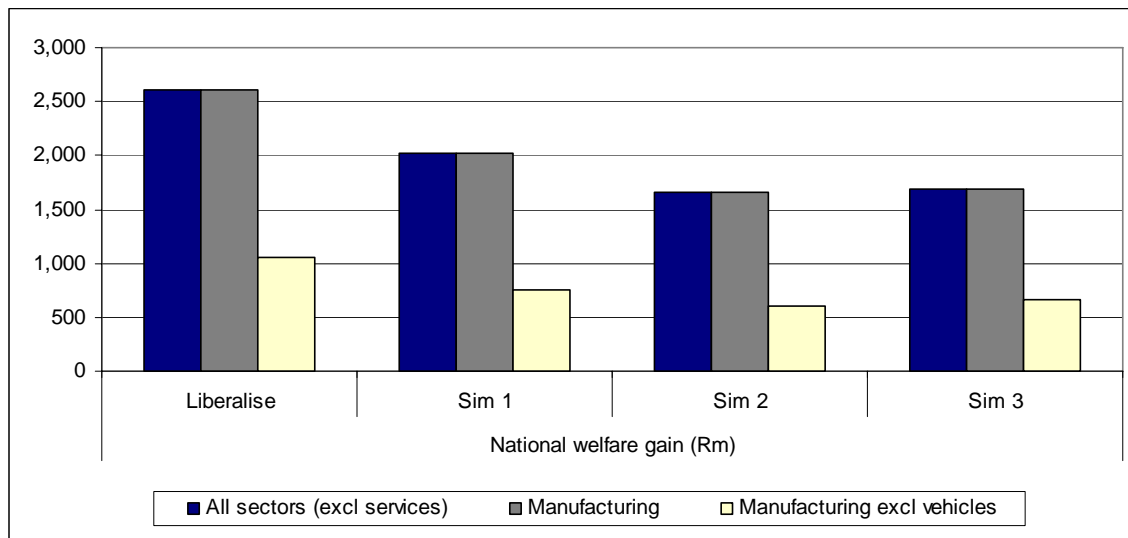
Figure 20: Revenue implications of liberalisation



Welfare effects. As shown earlier, the removal of all tariffs leads to a net welfare improvement as production and consumption distortions are eliminated. Figure 21 compares the net welfare effect each scenario with that of full liberalisation. Our results show that partial liberalisation, as in Sim 1, 2 & 3, lead to lower gains in net welfare than full liberalisation. The net welfare gain from full liberalisation of approximately R2.6 billion declines to R2 billion in Sim 1 and R1.7 billion in Sim 2 & 3. Once again, liberalisation of the motor vehicle industry is the single most important

source of gain from liberalisation in each scenario. The net welfare gain declines by more than half if the motor industry is excluded.

Figure 21: Net national welfare gain from liberalisation scenarios



The lower output, employment and revenue losses in scenarios 1 to 3 relative to full liberalisation therefore come at the cost of lower net national welfare gains. To explore this further, we compare the outcomes of each scenario as a proportion of the outcomes under the elimination of all tariff protection (Table 15).

What is striking is that simplification and reform of the tariff structure as we propose makes it possible to realize 63 to 77 percent of the net welfare gains from complete liberalization with just 20 to 35 percent of the job losses in traded sectors. For example, in Sim 1, employment in traded sectors decline, but by only 35 percent of the decline under full liberalization. The net welfare gain is also lower, but 77 percent of the potential gains are realized. Sim 2 does even better in preserving in employment and while the welfare

benefits are smaller, the benefit/jobs loss ratio is even better. In Sim 3, the net welfare effects are similar to Sim 2, but the employment losses are greater.²⁹

Table 15: Comparison of outcomes

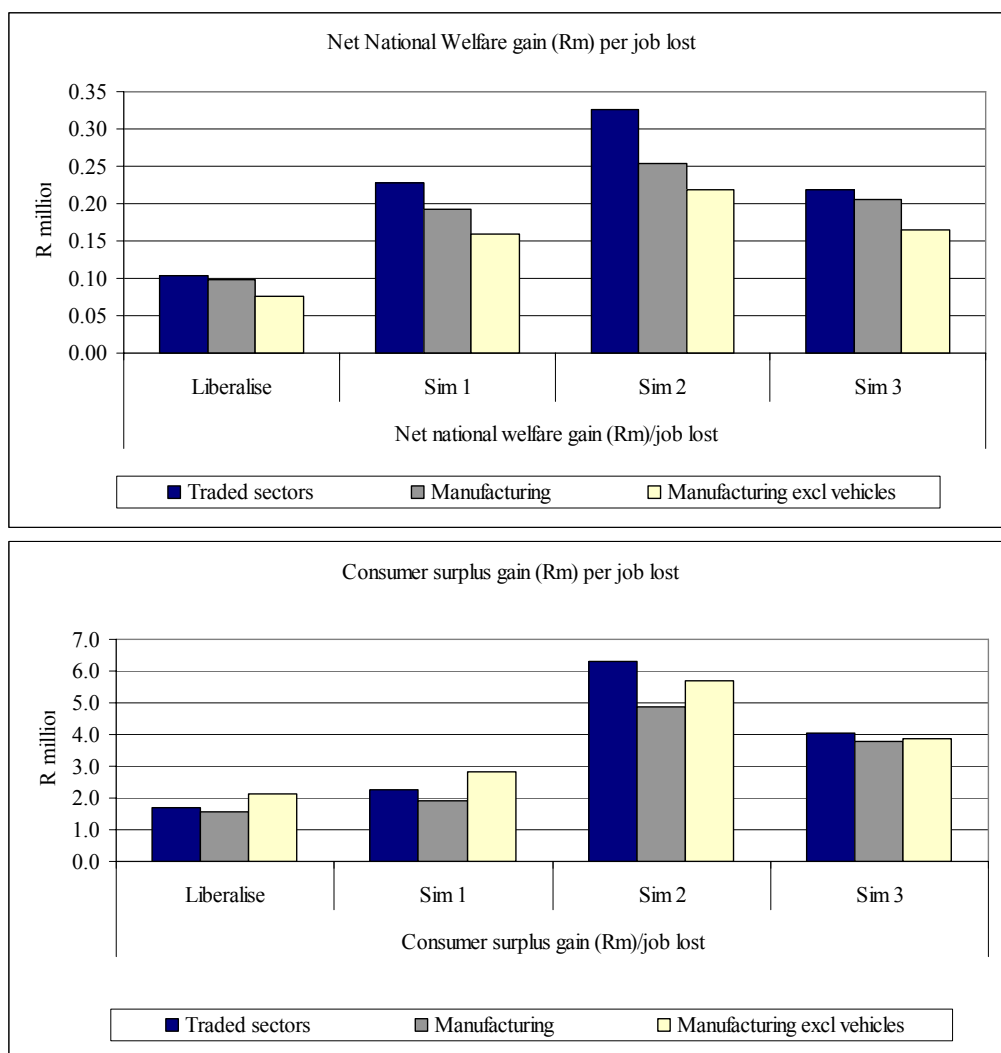
	Simulation outcomes				Proportion of liberalisation outcome		
	Liberalise	Sim 1	Sim 2	Sim 3	Sim 1	Sim 2	Sim 3
<i>Change in employment (number)</i>							
All sectors (excl gov)	-20,426	-4,190	-452	-5,649	21%	2%	28%
Traded sectors	-25,223	-8,850	-5,067	-7,692	35%	20%	30%
Manufacturing	-26,461	-10,413	-6,532	-8,193	39%	25%	31%
Manufacturing excl vehicles	-14,003	-4,724	-2,743	-4,035	34%	20%	29%
<i>Change in revenue (Rm)</i>							
Traded sectors	-17,850	-7,561	-7,196	-3,508	42%	40%	20%
Manufacturing	-17,748	-7,508	-7,143	-3,478	42%	40%	20%
Manufacturing excl vehicles	-10,176	-3,952	-3,952	-1,445	39%	39%	14%
<i>National welfare gain (Rm)</i>							
All sectors (excl gov)	2,625	2,027	1,665	1,695	77%	63%	65%
Traded sectors	2,613	2,015	1,653	1,688	77%	63%	65%
Manufacturing	2,609	2,014	1,652	1,685	77%	63%	65%
Manufacturing excl vehicles	1,063	755	601	662	71%	57%	62%
<i>Gain in consumer surplus (Rm)</i>							
All sectors (excl gov)	42,917	19,834	14,878	14,878	46%	35%	35%
Traded sectors	42,917	19,834	14,878	14,878	46%	35%	35%
Manufacturing	41,932	19,701	14,632	14,632	47%	35%	35%
Manufacturing excl vehicles	29,802	13,367	10,183	10,183	45%	34%	34%
<i>Change in output (Rm)</i>							
All sectors (excl gov)	-12,933	-3,432	-1,130	-3,580	27%	9%	28%
Traded sectors	-14,856	-5,274	-2,945	-4,422	36%	20%	30%
Manufacturing	-15,105	-5,555	-3,212	-4,528	37%	21%	30%
Manufacturing excl vehicles	-3,119	-82	433	-528	3%	-14%	17%

Looking at consumer welfare, we note lower gains relative to liberalization in comparison with the net national welfare gains. This arises because each of the scenarios retains protection on final consumption goods. Nevertheless, as can be seen in Figure 22, the net welfare gain and consumer surplus gain per job lost for each scenario still exceed that of full liberalisation. In each case, the consumer gains per job lost are very high and exceed the average wage of R71,000 for workers in traded sectors. In the full liberalisation scenario, the consumer

²⁹ Net national welfare gains are greater under Sim 3 compared to Sim 2, despite the imposition of tariffs on inputs in the former scenario. This largely reflects distortions in the motor vehicle. In Sim 3 input tariffs reduce the value of the 27 percent duty rebate granted to domestic vehicle producers as well as the value of the IRCC granted to vehicle exporters.

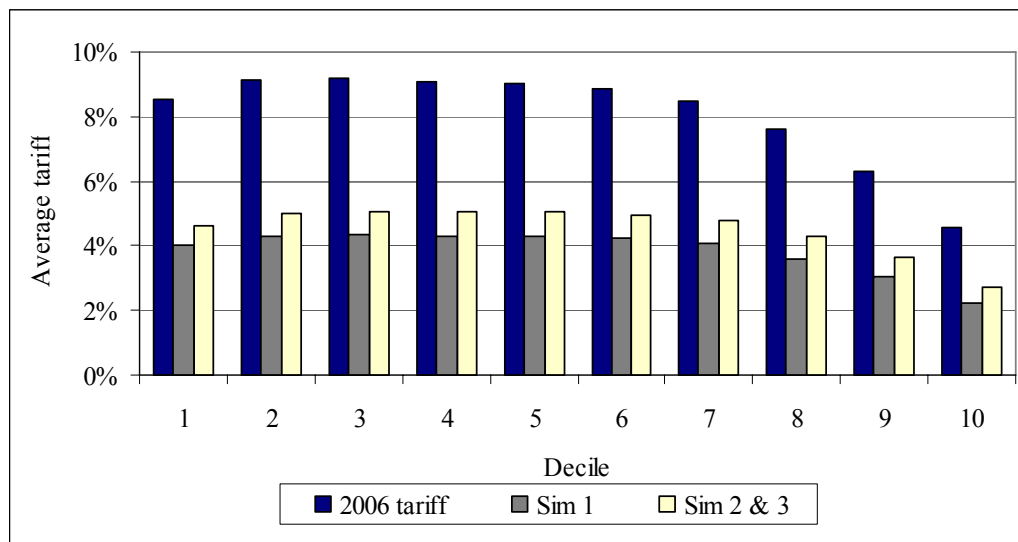
gain per job lost equals over R2 million if we include non-government services, or R1.7 million if we focus on traded sectors. In Sim 1, the net welfare gain per job lost is R230 thousand and for Sim 2 the value is R330 thousand. Raising tariffs on inputs in this scenario (scenario 3) reduces these welfare gains per job to a level similar or slightly worse than scenario 1. Similar trends are evident when looking at the consumer surplus gains per job loss. Finally, if we include services, the welfare gains per job loss for Sim 1 and 2 rise even further reflecting lower job losses in these scenarios.

Figure 22: Welfare gains per job lost, traded sectors only



The impact on consumption expenditure of the poor is also positive (Figure 23). The expenditure weighted average tariff declines for all household deciles, but the decline is proportionately larger for poorer households. The tariff structure remains regressive, but the overall tariff burden on poor households is substantially lower.

Figure 23: Expenditure weighted tariff by decile for each scenario



Conclusions. What we have shown is that much of the welfare gains from liberalisation can be achieved through our proposed approach to tariff reform. Simplification of the tariff structure that is heavily focused on finished goods and implements extensive liberalization of capital goods and intermediate inputs improves transparency, promotes exports, enhances consumer welfare and reduces the adjustment costs associated with dislocation. Although the elimination of tariffs leads to the greatest net welfare gain and gain to consumers, our scenarios show that *the welfare gains per job lost are significantly higher in each scenario compared to full liberalisation*. A useful approach towards realising the full gains from liberalisation may therefore be to first simplify the tariff regime through liberalising the intermediate and capital good sector, while reducing tariffs on final goods to one or two rates. There is also the option of retaining tariffs on some

intermediate inputs, but this is often at the expense of output and employment in the export and final goods sectors.

Whatever the aggregate benefits, the lowering of trade barriers can cause dislocation. In the South African context, given the extremely high rates of unemployment, this can inhibit taking policies that could actually stimulate long run growth and employment. These concerns should be addressed through several policy responses. The first is to phase in the changes gradually but steadily so that the adjustment can be spread over time. The second is to consider programs that can aid in the adjustment of industries, workers and communities. In the case of industries, a viable safeguards program is important. In the event that the disruption has been underestimated, upon demonstrating that imports are causing (or threatening to cause) serious injury, protection that is sufficient to offset the injury should be temporarily re-imposed. In the case of workers, one approach would be to establish a SACU adjustment assistance program that would draw on tariff revenues in order to establish a program that would assist dislocated workers and communities. Following procedures such as those which are in operation in the United States Trade Adjustment Assistance (TAA) Program, groups of dislocated workers (or their unions) could petition for an investigation of the reasons for their dislocation. If import competition resulting from liberalization is found to be the major cause of their job loss, workers could be declared eligible for trade adjustment assistance. This could take the form of some combination of unemployment compensation, training, and temporary wage-loss compensation in the event that wages fall in their next jobs. Finally, communities (municipalities) in which there is job loss or large plant closures due to trade could be given trade adjustment grants. We therefore propose that as part of the process of reforming the SACU tariff structure, various adjustment assistance programmes be explored.

Section 4: Regional Trading Arrangements.

South Africa participates fully in the major African institutions organizations that have broad and ambitious political and economic goals such as the African Union that seeks the establishment of an integrated African Economic Community. However, the most important of these organizations for South Africa's regional trading relationships are SACU and SADC.³⁰ Currently these agreements present major challenges: with respect to SACU the principle issue relates to the Revenue Sharing Formula (RSF) and with respect to SADC the principle question relates to the ultimate viability of the agenda to achieve a customs union by 2010.

In this section of the paper we discuss options for dealing with these challenges. In particular, we consider a more explicit division of the aid and tariff-revenue sharing components of SACU, a step we believe will be much easier to accomplish if the tariff simplification exercise proposed above is implemented, but would, in any case, be desirable. We also consider some options for SADC and South Africa's trade relations with other African countries. In this regard we emphasize concentrating on measures that facilitate duty-free trade in goods and services on the ground rather than more complex customs union arrangements. In addition we advocate additional free trade agreements with non-SADC African nations either individually or in groups.

A key ASGISA goal is export diversification and it is in its trade with Africa that South Africa has made the most strides in this regard. While South Africa has important political interests in Africa, it is also evident that regional markets in Africa play a crucial role for the South African economy particularly with respect to exports of non-commodity manufactured goods and services. As the many estimates using gravity models confirm, distance -- both cultural and geographic -- powerfully matters for trade, and the markets that are closest often provide the greatest opportunities. The early numbers in the 90s are affected by the end of the apartheid

³⁰ In addition to South Africa, Botswana, Lesotho, Namibia and Swaziland (BLNS) belong to SACU. The SADC consists of SACU plus Angola, DRC, Madagascar, Malawi, Mauritius, Mozambique, Tanzania, Zambia and Zimbabwe.

regime, but it is clear that South African firms have achieved rapid growth exporting to and investing in the rest of Africa.³¹ It also appears to be the case that compared with other regions, the rest of Africa's share of trade with South Africa's is still relatively small and there is considerable scope for expansion.³²

Table 16

South Africa's Merchandise Exports to Africa and the World		Rand (millions)				
Value		1992-2006				
Year		SADC Trade Database (TIPS & AusAID)				
Source		1992	1995	2000	2005	2006
Total primary products	Africa	573	894	1,566	3,303	2,420
	World	2,958	4,847	8,449	15,157	14,021
	%	19%	18%	19%	22%	17%
Total manufactured products	Africa	5,403	12,131	26,191	43,356	50,893
	World	58,341	89,126	176,794	315,238	381,023
	%	9%	14%	15%	14%	13%
Prepared foodstuffs & beverages and tobacco	Africa	523	881	2,515	2,781	3,765
	World	1,874	3,207	8,432	11,563	12,958
	%	28%	27%	30%	24%	29%
Plastic products	Africa	341	674	1,709	3,061	3,310
	World	739	1,355	3,145	5,980	6,322
	%	46%	50%	54%	51%	52%
Mineral products	Africa	320	1,880	4,732	7,858	7,487
	World	7,976	12,810	27,146	47,446	56,809
	%	4%	15%	17%	17%	13%
Products of the chemical or allied industries	Africa	820	1,541	3,746	5,457	6,329
	World	3,212	6,190	12,957	21,910	22,781
	%	26%	25%	29%	25%	28%
Base metals and articles of base metals	Africa	1,038	2,285	3,094	7,888	8,561
	World	9,572	14,971	31,562	59,131	68,396
	%	11%	15%	10%	13%	13%
Machinery & mechanical appliances and electrical	Africa	930	2,093	4,485	7,372	9,771
	World	2,083	5,425	15,610	28,935	39,442
	%	45%	39%	29%	25%	25%
Vehicles, aircraft, vessels and transport equipment	Africa	553	1,099	2,299	3,813	6,139
	World	2,322	3,698	15,810	33,043	38,609
	%	24%	30%	15%	12%	16%
Other manufactured products	Africa	879	1,677	3,611	5,125	5,531
	World	30,563	41,470	62,133	107,230	135,705
	%	3%	4%	6%	5%	4%
Unspecified goods	Africa	533	115	353	126	137
	World	7,581	8,199	26,156	1,012	1,485
	%	7%	1%	1%	12%	9%
TOTAL MERCHANDISE EXPORTS	Africa	6,510	13,140	28,110	46,785	53,449
	World	68,880	102,171	211,399	331,407	396,529
	%	9%	13%	13%	14%	13%

³¹ Africa's share of overall South African exports has increased from 6.6 percent in 1990, to 12.3 percent in 1995, 12.6 percent in 2000 and 13.8 in 2005. In the same years, the share of imports from Africa has increased from 1.8 percent in 1990 to 5.2 percent in 2005. Africa's share of total direct investment by South African firms also rose from 6 percent in 2002 to between 8 and 10 percent in 2005 (South African Reserve Bank data).

³²According to Arora and Vamvakidis (2005) "Although South Africa's relative importance in regional trade has grown since 1994, it remains small compared with, for example, the regional trade shares of the United States in other Western Hemisphere countries and those of China and Japan in the rest of Asia"

South Africa's regional policies need to achieve two principle objectives: First, to create an environment that facilitates exports of goods and services and direct foreign investments by South African-based firms. This would not only be conducive to the expansion of South African owned firms but it would also allow South Africa to attract foreign firms that are interested in using it as a regional hub. And second, to stimulate regional economic development by increasing these countries ability to export to South Africa and to attract FDI. Over time, the development of its African neighbors will provide larger markets for South African goods and services and reduce the poverty in these nations that leads to political instability, illegal immigration and other pressures that detract from South Africa's own economic development.³³ While we will concentrate relatively narrowly on tariff issues we should emphasize that although trade policies represent an important instrument for achieving these goals, they are not a substitute for initiatives that create both the physical (roads, telecommunications) and institutional infrastructure (finance, regulatory regimes and competitiveness) that facilitate trade and investment.

In pursuing its objectives, South Africa needs to find the right balance between (a) insisting that its regional partners adhere to binding commitments and avoid discrimination against South African exports and firms and (b) providing them with adequate policy space, preferences, and financial assistance. Finding this balance presents particular challenges for South Africa since its trading partners in the rest of Africa are sometimes afraid of South African dominance.³⁴ This is the inevitable result of South Africa's size and level of industrialization and as a consequence, its relationships with regional partners are inevitably characterized by considerable asymmetry. In any interaction, it seems quite natural to its trading partners that

³³ As Siphambe (2004) observes, "...most SADC countries are already integrated outside official efforts through undocumented cross-border trade and illegal movements of labor and people.

³⁴ There is an unfortunate tendency to adopt a mercantilist posture when evaluating national benefits from regional trade arrangements. Thus an agreement is viewed as detrimental/favorable if it increases/reduces the bilateral trade deficit. Of course this neglects the gains that could accrue to consumers in the form of lower prices

South Africa should bare a disproportionate share of the costs. In response, South Africa has signed regional agreements which (a) which have a strong compensatory component or (b) which result in less than full reciprocity, both with respect to timing and coverage. This does not mean that these initiatives are not beneficial to South Africa, but it does give rise to complications.

SACU. Consider SACU, which dates back to 1910. SACU has a common external tariff which all five members apply. In this respect, their tariff obligations are almost fully symmetrical – although there are provisions allowing infant industry exceptions for the BLNS. However, the tariff *revenues* are redistributed in a manner that is generous to the BLNS members and expensive for South Africa. Specifically, the revenue sharing formula (RSF) requires that after a fifteen percent contribution from all revenues has been distributed into a development fund, each SACU member receives a share of overall customs revenue equal to its share in intra-SACU trade.³⁵ In addition, members divide excise duties in proportion to GDP. Since the BLNS are very open to South African imports, their shares in intra-SACU trade are much larger than their shares in the SACU imports that generate the customs revenues. The net result is considerable redistribution and South Africa which accounts for about 86 percent of population and 90 percent of SACU GDP and as high as 97 percent of extra-SACU imports actually receives about 20 percent of all (non-excise) tariff revenues.³⁶

The RSF has proven to be especially generous in the current expansion since there has been extremely strong growth in South African consumer spending particularly on automobiles that bear a high tariff.³⁷ This has resulted in a very rapid growth in SACU revenues and the payments to BLNS countries have risen from R9.7 billion in 2003/04 to an astounding R25.2

³⁵ The development fund is then distributed in proportions inversely related to per capita GDP.

³⁶ Trade shares calculated for 2001 using UN COMTRADE DATA

³⁷ The increased revenue reflects rapid import growth, particularly of autos which are subject to high tariffs in combination with the relatively slower growth in auto exports that benefit from Import Rebate Credit Certificates that come out of the revenue pool.

billion in 2006/2007. These now comprise almost half of government revenues for Namibia, Lesotho and Swaziland and a fifth of government revenues of Botswana.³⁸

While there is little doubt that currently BLNS are net beneficiaries from this arrangement, there has, in the past, been some dispute over whether South African is transferring net benefits to the BLNS through the revenue sharing formula or simply compensating them for trade diversion because of the higher prices they pay on South African goods as a result of SACU. In fact, it appears they are treated very generously with the amounts being transferred far in excess of the likely impact of SACU tariffs on BLNS import prices. According to Flatters and Stern (2006) for example the probable impact of SACU tariffs in 2006 was to raise prices in BLNS countries by a range of between 9.6 percent (for Lesotho) and 7.4 percent (for Namibia). Even without taking account of the offsetting benefits from the higher prices on the exports of the BLNS to South Africa this works out to additional payments to South Africa in the form of higher prices that are far less than the customs transfer under the SACU Revenue sharing formula.³⁹

Problems with the RSF. The current revenue sharing formula (RSF) is problematic for many reasons.⁴⁰ First, it inhibits trade. Since shares are based on intra-SACU trade the RSF creates an incentive for countries to tightly police (and overstate) their intra-SACU trade thereby weakening one of the benefits of a customs union -- the ability to eliminate internal custom and border controls. At times this has given rise to disputes among the parties over the value of trade that has actually taken place. Second, it introduces volatility. As the recent experience of explosive growth in revenues makes clear, there is considerable instability in the revenues received by the BLNS countries. This makes planning difficult and raises the risks that countries could adjust spending to revenue growth that turns out to be temporary. Third, the payments are effectively arbitrary. Since the redistribution is undertaken in a mechanical fashion, South Africa cannot control the amount of compensation it is providing and in recent years, the BLNS have

³⁸ Flatters and Stern (2006)

³⁹ SACU Revenue Sharing: Issues and Options March 2006

⁴⁰ A more detailed discussion of many of these points can be found in Flatters and Stern (2006).

received a windfall disproportional to their costs of participating in SACU. Fourth, the RSF creates perverse incentives that could distort policies by misaligning costs and benefits. On the one hand, BLNS countries have an incentive to resist additional liberalization since they could bear a disproportionately high share of the revenue loss; on the other hand, South Africa has an incentive to use rebates as an industrial policy tool (Such as the MIDP) since it will pay a disproportionately small share of the revenue costs. Fifth, it inhibits new accessions. The current RSF presents particular problems when additions to SACU membership are contemplated. Existing members other than South Africa fear revenue dilution, and while new members may be attracted by the money – that is not a good reason for their membership. South Africa is in turn reluctant to move forward to expand SACU for fear it might have to increase its financial support. Sixth, as noted by Flatters and Stern (2006) the development basis of the distributions is unclear. Per-capita the largest transfers are going to Swaziland and Botswana and much smaller transfers are being allocated to Lesotho which is much poorer. Seventh, because it is embedded in SACU, South Africa receives little credit for its generosity as an international donor and finally, South Africa is unable to ensure that the funds are spent on development. Eight, since the revenues are substantial and integrated into the BLNS budgets, it weakens their incentives to develop adequate tax bases. All told this mechanism appears ripe for reform and as we discuss below the most straight forward way to do this would be to assign the revenues on a more rational basis while at the same time, granting the BLNS aid through a separate SACU development fund.

SADC. The members of the SADC may share the same continent but they are a very diverse group of countries. They include the five SACU members, two developing countries Zimbabwe and Mauritius, and several least developed countries (LDCs) Angola, Mozambique, Madagascar, Malawi, Tanzania and Zambia. Ultimately, the trade protocol which came into effect in 2000 calls for SADC to become a Free Trade Area by 2008 when 85 percent of internal SADC trade will be free. The protocol also calls for a customs union to be implemented by 2010.

In an effort to accommodate the diversity of its members, in the trade protocol the SACU countries agreed to front-load their reductions (with the exception of some sensitive products) and to eliminate all duties on SADC imports by 2005. These commitments have been implemented and SACU now permits almost all qualifying products from SADC to enjoy duty free access. In the protocol, the two developing countries were allowed to take longer to phase in their liberalization, while the LDC liberalization has been back-loaded. Nonetheless there are reports that as of 2007, LDCs such as Mozambique have begun to come into compliance.

Figure 24: SA imports from SADC

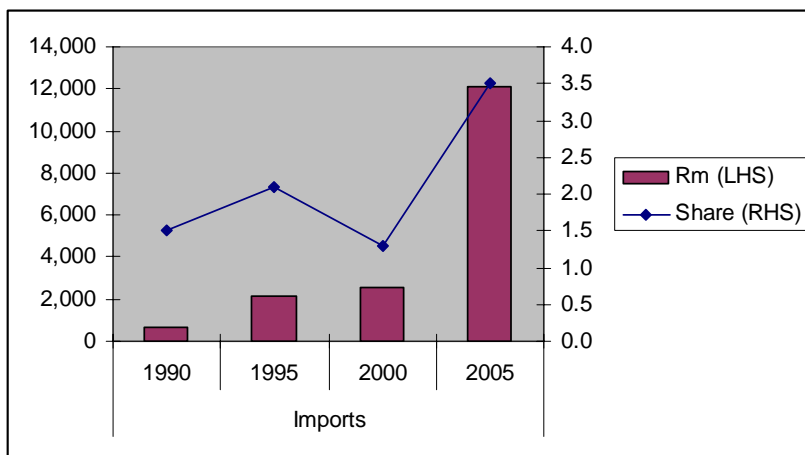
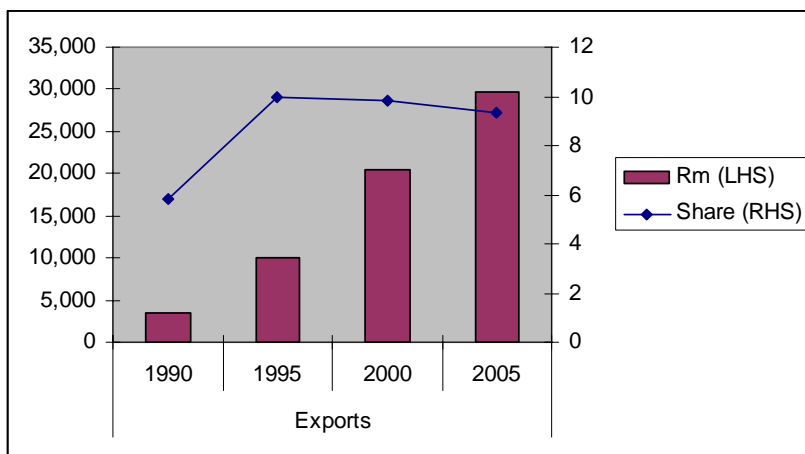


Figure 25: SA exports to SADC



It appears that SADC is working, not simply with respect to implementing obligations, but also in generating some new trade flows. In particular, as shown in the above figures, in

recent years South African imports from SADC countries while relatively small have been growing rapidly. SADC will also offer additional opportunities to deepen integration particularly with respect to trade in services such as transportation, finance, tourism, construction, energy, and communication.⁴¹ Work has already been completed on a draft annex and services negotiations will take place over the next few years and are expected to come into effect by 2015.

SADC coexists with a second major regional trade agreement in which South Africa is not a member, -- COMESA. COMESA has an even broader membership and an ambitious agenda that includes establishing a customs union even earlier than SADC i.e. by 2008.⁴² It too has made considerable progress in this direction --although not all members are participating -- in 2007 agreeing on the parameters of the Common External Tariff. These will set tariffs on semi-finished products at 10 percent, and those on finished goods at 25.⁴³

SADC and COMESA have several members in common: Madagascar, Malawi, Mauritius, Swaziland, Zimbabwe, Zambia and Tanzania belong to *both* SADC and COMESA. Tanzania is in addition a member of a third customs union -- the East African Community and Swaziland is a member of SACU. In principle, this overlapping membership of arrangements that seek to establish customs unions creates problems for establishing a common external tariff.

One way to reconcile these conflicting obligations is for these different arrangements to adopt the same external tariffs and to have a free trade agreement among them. But there are no commitments to do this and in any case, in order to be effective, customs unions need to integrate other policies such as sharing tariff revenues, establishing administrative bodies to deal with administered protection (safeguards, antidumping and countervailing duties) and rules governing standards, technical barriers and so on, and it is unclear if these could all be reconciled and

⁴¹ These plans for deeper integration are elaborated in the Regional Indicative Strategic development Plan (RISDP)

⁴² Comesa members include Burundi, Comoros, Djibouti, DRC, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe.

⁴³ Several members appear reluctant to make this commitment. Reportedly, Angola, Ethiopia and Uganda are among those currently sitting on the sidelines, citing concerns about the possible impact on their economies.

effectively implemented. Moreover SADC also has plans for a monetary union by 2016 and COMESA has monetary union objective over a longer time horizon, and it is surely the case that overlapping membership would preclude both of these initiatives from independently being realized.⁴⁴

Instead, it appears that the countries participating in several arrangements are (a) seeking to gain the maximum short-term political and economic advantages from belonging to more than one agreement, particularly if they have been allowed to delay their own implementation or (b) hedging their bets until they are forced to decide among arrangements.

Whatever the advantages to these members, their behavior surely detracts from the overall credibility of the arrangements. It is also problematic for members to make preferential liberalization commitments on a reciprocal basis to countries that may eventually leave the arrangement. SACU countries for example have for several years granted Tanzanian products duty free access in anticipation of eventually being granted reciprocity for SACU exports. But what if Tanzania eventually adopts an EAC or COMESA Common External Tariff that levies duties on SACU products?

A related problem stems from the fact that in the current Economic Partnership Agreement (EPA) negotiations with the European Union, countries are negotiating in groups that do not correspond to their memberships in regional groupings. All the members of SACU, including South Africa, are included in a single EPA configuration, which is an important milestone. However, other SADC members are negotiating an EU EPA separately with the eastern and southern African group, while the Democratic Republic of Congo has slotted in with the central Africa negotiating bloc. Again, this would not really matter if the EU makes similar demands of all groups, but given the diversity in their membership this might not be the case.

Why Customs Unions? Almost all of the agreements that have been negotiated among African countries reflect the presumption that large customs unions among African countries are

⁴⁴ See Buigut (2006)

desirable and feasible. Several papers have been written focusing on the incoherence of these current arrangements and commitments, offering approaches that could reduce these inconsistencies.⁴⁵ But before attempting such efforts, some fundamental questions about the benefits and costs of customs unions should be introduced.

Customs unions do undoubtedly provide benefits. Above all, since no matter where they enter the union, goods pay the same tariff, customs unions offer the prospects of eliminating internal customs barriers and the necessity for rules of origin, thereby allowing for deeper integration of goods markets. In addition, the task of establishing a common external tariff could lead to simple and more effective tariff structures that are less affected by domestic political lobbies in particular members. It is noteworthy, for example, that the COMESA and EAC proposals for CETs are simple and both call for only two bands. Since it takes a complicated negotiation to adjust them, once set in place, these tariff structures are also more likely to be stable, thereby giving the private sector a more secure policy environment. The exercise may also be politically attractive since it allows members to express solidarity with each other. It may also give small countries a way of constraining or at least influencing the behavior of larger members. A customs union may also allow the members to bargain more effectively with outsiders than they would if they negotiated individually. It could also generate revenues that could be used either for joint purposes (as in the EU) or for redistribution among members. In addition, the experience of the EU has been that the challenge of jointly operating a customs union has induced cooperation among countries that were once enemies. Indeed, each step towards deeper integration seemed to expose the need for even further integrative steps to be taken. Witness the progression from the European Coal and Steel Community in the 1952 to the EEC (1958), the EMS (1979) and the EU (1993) and the Euro Area in 1999.

But these benefits all come at some cost and thus customs unions should not be undertaken lightly. To realize the benefits, countries need to be fully committed to the enterprise.

⁴⁵ See for example Draper *et al.* (2007) and Gibb (2006).

If there are doubts about an agreement's credibility, private agents are unlikely to undertake the investments necessary to take advantage of it. You would not invest in an African distribution network centered in just one country, for example, if you believed that trade barriers among them could be resurrected.

Second, giving up the ability to use trade policy independently should not be undertaken likely. Discretionary trade policy could be an important development tool that countries may wish to retain. One of the costs of preferential trade agreements, for example, is that they not only create trade but may also divert trade. With a customs union, however, countries give up the discretion to mitigate such diversion by unilaterally liberalizing. Third, agreeing on the appropriate external tariff is not a simple matter, not only because countries may be susceptible to protectionist pressures but also because they may have very different characteristics. If they are at different stages of economic development, they are likely to differ in their views on the desirability of a particular structure and level of tariffs. Countries with poorly developed tax collection capacities, for example, may require tariffs for revenue purposes. Also countries may not share the same approach to trade policy. Some might wish to use tariffs to complement their industrial policies, while others might prefer a limited number of bands.

These diverse and often incompatible objectives for the region as a whole, are clearly reflected in the diverse MFN tariff rates applied by each SADC economy (Table 17). Average levels of protection vary from 12 to 15 percent for the DRC, Madagascar, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe to low values for Mauritius (3.1 percent) and to a lesser extent Angola (7.1 percent) and SACU (8.2 percent). The MFN tariff structures also vary enormously in terms of complexity. Most noticeably, SACU has 100 tariff bands (including non-ad valorem rates), compared to 4 to 11 bands for the remaining SADC economies (with the exception of Mauritius and Zimbabwe who have slightly higher bands), have far fewer bands ranging from 4 to 11. Finally, there is considerable sectoral variation of tariff levels and tariff peaks (defined as

tariff rates above 15 percent).⁴⁶ Negotiation of a common external tariff to be applied by the CU will require considerable adjustments in their external tariff rate for many SADC economies.

Table 17: Structure of MFN tariffs applied by SADC economies, 2006

	Ang	DRC	Mad	Mal	Mau	Moz	Tan	Zam	Zim	SACU
Number of tariff lines	5,224	5,224	5,222	5,112	5,224	5,224	5,212	5,224	5,224	6420
Number of bands	7	5	4	7	21	5	11	4	17	100
Duty free lines (% total)	0	0	2	9	86	2	37	22	15	53
Non-ad valorem (% lines)	0.8	0.3	0	0	2.8	0	0.2	0	-	2.9
Tariff quotas	0	0	0	0	0	0	0	0	0	0
Binding coverage (%)	100	100	29.7	31.2	17.8	13.6	13.4	16.7	21.0	96.6
Simple average	7.1	12.0	13.3	13.1	3.1	12.1	12.7	13.9	15.0	8.2
Weighted average	6.3	11.4	9.1	10.3	2.0	9.2	9.2	10.6	16.2	7.4
Maximum rate	30	30	20	30	30	25	100	25	100	108
Minimum rate	0	5	0	0	0	0	0	0	0	0
Agricultural products	11.4	14.1	16.1	15.3	6.8	18.9	21.6	20.0	24.4	9.4
Non- agricultural products	6.5	11.7	12.8	12.8	2.5	11.0	11.2	12.9	13.5	8.0
Domestic spikes (3*average) (% lines)	2.2	0	0	0.0	14.8	0	0.5	0	1.0	8.8
International (>15%) (% lines)	9.5	35.2	40.9	36.7	7.7	35.0	40.7	33.2	36	21.9
Nuisance (0<t<2%) (% lines)	0.8	-	-	-	-	-	-	-	-	1.3
Coefficient of variation	0.92	0.51	0.44	0.72	2.55	0.80	0.91	0.66	0.90	1.35

Source: TRAINS database and World Trade Profiles (2006)

Similarly, negotiating with outsiders may also be problematic, especially for a group that includes LDCs that are not required to provide reciprocal access. The European Union, for example, is currently negotiating EPA agreements with groups of countries that include least developed countries that enjoy unilateral preferences and other countries that are going to be obligated to provide reciprocity relatively quickly. If the LDCs try to cash in on these benefits, though, their CET is no longer viable. Fourth, small countries in particular may find their ability to affect policy extremely limited as formal equality among members is belied by power realities. Draper *et al.* (2007) give a great example: “It is said that in Mercosur, the Latin American customs union, there is decision-making by consensus, as long as Brazil agrees.” Finally although the SACU experience shows that sharing tariff revenues can be done, as the earlier discussion indicates, it can also be extremely problematic.

⁴⁶ There is a reasonably high degree of correlation in weighted average tariff levels across industrial sectors for some of the countries (Madagascar, Mozambique, Zambia, DRC and Tanzania), but a very weak correlation for SACU, Malawi and Mauritius.

All told, these considerations raise questions about the viability of customs unions among large diverse groups of countries at very different stages of economic development. They suggest that many of the goals of increased integration may be better met by establishing free trade agreements (FTAs) rather than customs unions. The downside of FTA's is that they require rules of origin, but in principle there is no need for these to be restrictive and the great upside is that they provide scope for countries to differ in their policies with respect to non-members. Specifically, for example, in a SADC FTA, the least developed countries could continue to implement infant industry protection and avoid full reciprocity with the European Union when receiving preferences. SACU could implement industrial policies and a tariff regime that best suits its interest. It could negotiate freely with third parties and avoid the issue of tariff revenue sharing. By contrast, the erection of large, meg-regional customs unions in SADC is both unrealistic and undesirable. Potential members are at very different stages of development, they have different relationships with third parties, and differ in the degree to which they are ready to come into full compliance. There is also no reason why, even if they only operate Free Trade Agreements, countries could not develop deep and cooperative policies relating to trade facilitation, rules of origin, competition policy, industrial policy, foreign investment, standards and technical barriers, dispute settlement etc. The North American Free Trade Agreement (NAFTA) among Canada, Mexico and the United States is an example of deep economic integration within such a framework.

SACU has been valuable for both South Africa and the BLNS but it is not really a model that currently is ready to be extended to the large number of countries that make up the SADC. More work clearly needs to be done in SACU to resolve problems vis-à-vis the current tariff structure; the revenue sharing formula; and the effective implementation of joint decision-making, the operation of a common industrial policy and other issues relating to government capacity.

Policy Options: RSF Reform. The most urgent issue relates to the RSF. It should be reformed. This could occur in a number of ways. The most straightforward would be for South Africa to simply announce that the RSF is no longer acceptable. This could lead to considerable friction. Another approach would be to try to achieve reform of the RSF in the context of either new accessions to SACU – e.g. Mozambique -- or a SADC CET. But this could either lead to difficult negotiations if the BLNS were to be faced with revenue losses or require South Africa to commit to additional outlays.

Alternatively, renegotiation could occur in the context of a major change in SACU tariffs. The adoption of radically simplified tariff structure for SACU as suggested in the previous section would provide an opportunity for renegotiating the Revenue-Sharing Formula. The BLNS would benefit considerably from a reformed structure, since they consume but do not produce many of the products whose tariffs would be reduced. However, the approach could radically reduce SACU tariff revenues and under the current arrangement, the BLNS would bear about 80 percent of this reduction. They would be sure to request some form of compensation. In response, South Africa could cushion their adjustment through an explicit SACU development program that would involve financial contributions disbursed as aid rather than as tariff-revenue sharing. South Africa would provide long run commitments for the size of the fund and the BLNS countries could be given time to implement alternative revenue raising measures as the new tariff reform is implemented. The residual SACU tariff revenues could then be shared using a much simpler formula more likely to approximate national outlays on import duties. Since keeping track of the destination of imports entering SACU is complicated, a simpler basis such as GDP shares would be a natural benchmark. Another simple approach could be to share the revenues in proportion to population. Such a per capita approach would have the virtue of emphasizing regional solidarity, with the highest transfers as a share of per capita income, going to the poorest countries. Once such a formula was agreed upon, SACU would be in a much better position to consider either new members, or the formation of an SADC customs union.

SADC Customs Union? The second major area of concern is South Africa's regional integration policies. As many have pointed out, there is simply no way all the members of all the current arrangements can meet their pledges. Instead of subjecting one or more of these countries to the embarrassment of having to choose among their obligations, a simpler approach would be for SADC to explicitly postpone implementation of the Customs Union indefinitely. This might entail some short run political costs, but would have the advantage of clearing the air and making SADC commitments more credible. Alternatively, the political problems relating to the current pledges to establish an SADC customs union by 2010 could be finessed by simply allowing the date to lapse and/or explicitly setting a much later date for the union to come into being. De facto therefore this would involve a regional trade configuration with SACU as a fully fledged customs union (matched by the EAC) and SADC as an FTA.

Headline commitments to the formal structure of a customs union are in any case less important than undertaking trade liberalization and facilitation measures that genuinely stimulate intra-regional trade. From the viewpoint of most participants, the key ingredient is not a customs union but a network of viable African free trade arrangements that are feasible, credible and effective. For the foreseeable future, therefore, the SADC should concentrate on deepening its operation as a free trade area. This would ensure duty-free access for South African goods and services, while not subjecting the arrangement to unrealistic or inconsistent expectations. SADC members would then be free to get the best deals they could from EPAs with the EU. At the same time, intra-SADC trade could be further promoted through the adoption of more liberal rules of origin and liberalization in services trade. SADC is already committed to negotiate services liberalization and the payoff from this is likely to be greater than that from completing the movement from an FTA to a customs union. This is particularly valuable for South Africa since services are not covered in SACU but all members of SACU are also members of SADC.

SACU should not seek to join Comesa because the problems it faces in this respect resemble those of SADC but it could propose a Comesa-SADC FTA. It could also offer

countries such as Kenya, Uganda (or the whole EAC) the opportunity to negotiate an FTA with SACU.

While other countries in Africa might not be ready to eliminate their trade barriers, South Africa also needs to play defense and ensure that its exports are not discriminated against. The SADC trade protocol prohibits members countries from offering trade benefits to a third country without extending them immediately to all SADC members and this is an important insurance for South Africa. Accordingly it should insist on genuinely most-favored nation treatment for goods services and investments from all trading partners to which it grants preferential treatment. For example, African countries should not grant products or services from the EU (or the US or China) better treatment than they give to products or services made by their neighbors. A similar provision in an SADC-Comesa FTA would give South Africa what it needs.

In sum, South Africa's regional trade arrangements do present challenges but they also offer important opportunities. The key steps now are to place both the revenue sharing formula and the overall configuration of regional trade agreements on a sustainable basis.

Conclusions.

SACU has come a long way in improving its trade regime, but more work needs to be done. The tariff structure remains complex, lacking in transparency, protectionist and penalizes exports. While the current structure does support some jobs at relatively low costs, many other tariffs impose social costs that are several multiples of the wages earned in the jobs they support and consumer costs that are as high as thirty times such wages. This is significant because the incidence of tariffs is regressive since poor households spend higher shares of their incomes on traded goods. Not only is it inefficient and regressive but there is no coherent rationale for the current structure. In particular, infant industry considerations cannot explain it and it appears to reflect a preservationist rather than strategic orientation.

A number of much simpler tariff structures could achieve better results. In particular, employment could be more efficiently supported, transparency improved, exports promoted,

consumer benefits enhanced, and industrial policy priorities clarified. Adoption of a simpler structure would also provide an opportunity for SACU to rationalize its revenue sharing formula and place its relationships with other trading partners on a more sustainable footing.

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APPENDIX

Table A: Measures of distortion

	2006 values									Sim 1: Final = 15%, 0%, inputs=0%									Sim2: Final = 20%, 10%, 0%, inputs=0%								
	ERP					Pva				ERP					Pva				ERP					Pva			
	Final tariff	Input tariff	final goods	ERP inputs	Export tax	Pva Final	Pva Input	Input	Export	Final tariff	Input tariff	final goods	ERP inputs	Export tax	Pva Final	Pva Input	Input	Export	Final tariff	Input tariff	final goods	ERP inputs	Export tax	Pva Final	Pva Input	Input	Export
Agriculture	6%	2%	7%	1%	-3%	55%	51%	49%	5%	0%	9%	0%	0%	56%	56%	51%	2%	0%	4%	0%	0%	53%	51%	51%			
Coal mining	0%	0%	-2%	-2%	-2%	47%	47%	48%	0%	0%	0%	0%	0%	49%	49%	49%	0%	0%	0%	0%	0%	49%	49%	49%			
Gold & Plat	0%	0%	-1%	-1%	-1%	61%	61%	61%	0%	0%	0%	0%	0%	62%	62%	62%	0%	0%	0%	0%	0%	62%	62%	62%			
Other mining	0%	0%	-1%	-1%	-1%	55%	55%	55%	0%	0%	0%	0%	0%	56%	56%	56%	0%	0%	0%	0%	0%	56%	56%	56%			
Food	12%	8%	51%	27%	-15%	27%	23%	15%	7%	0%	38%	0%	0%	25%	25%	18%	7%	0%	38%	0%	0%	25%	18%	18%			
Beverages	3%	5%	0%	9%	-6%	35%	38%	33%	0%	0%	1%	0%	0%	35%	35%	35%	0%	0%	1%	0%	0%	35%	35%	35%			
Tobacco	19%	14%	64%	45%	-5%	46%	40%	26%	8%	0%	27%	0%	0%	35%	35%	28%	10%	0%	36%	0%	0%	38%	28%	28%			
Textiles	23%	15%	139%	76%	-10%	31%	23%	12%	13%	0%	101%	0%	10%	27%	27%	15%	17%	0%	128%	0%	13%	30%	13%	15%			
Clothing	37%	20%	176%	75%	4%	46%	29%	18%	14%	0%	84%	0%	15%	31%	31%	19%	19%	0%	113%	0%	20%	36%	17%	20%			
Leather prods	28%	7%	155%	13%	-29%	38%	17%	11%	15%	0%	97%	0%	0%	30%	30%	15%	19%	0%	125%	0%	0%	34%	15%	15%			
Footwear	29%	0%	153%	-23%	-18%	42%	13%	14%	15%	0%	89%	0%	0%	31%	31%	17%	20%	0%	119%	0%	0%	36%	17%	17%			
Wood & prods	21%	3%	61%	5%	-5%	52%	34%	30%	15%	0%	45%	0%	0%	47%	47%	32%	17%	0%	54%	0%	0%	50%	32%	32%			
Paper & prods	17%	2%	65%	3%	-6%	39%	24%	22%	15%	0%	62%	0%	0%	38%	38%	24%	13%	0%	55%	0%	0%	37%	24%	24%			
Printing	0%	4%	-3%	7%	-3%	38%	42%	38%	0%	0%	1%	0%	0%	40%	40%	39%	0%	0%	0%	0%	0%	39%	39%	39%			
Petrol ref	0%	0%	1%	1%	-1%	23%	23%	23%	0%	0%	0%	0%	0%	23%	23%	23%	0%	0%	0%	0%	0%	23%	23%	23%			
Basic chems	1%	2%	-1%	4%	-3%	22%	23%	22%	1%	0%	5%	0%	0%	24%	24%	23%	0%	0%	0%	0%	0%	23%	23%	23%			
Other chems	2%	2%	2%	2%	-6%	22%	22%	20%	2%	0%	11%	0%	0%	24%	24%	22%	1%	0%	4%	0%	0%	23%	22%	22%			
Rubber prods	8%	14%	35%	66%	-7%	25%	31%	18%	7%	0%	39%	0%	0%	26%	26%	19%	5%	0%	27%	0%	0%	24%	19%	19%			
Plastic prods	16%	11%	50%	31%	-8%	40%	35%	25%	13%	0%	48%	0%	0%	40%	40%	27%	12%	0%	44%	0%	0%	39%	27%	27%			
Glass & prods	4%	8%	6%	20%	-5%	34%	38%	30%	0%	0%	1%	0%	0%	32%	32%	32%	0%	0%	0%	0%	0%	32%	32%	32%			
Non-met mins	24%	5%	76%	12%	-3%	54%	35%	30%	12%	0%	40%	0%	0%	43%	43%	31%	17%	0%	54%	0%	0%	48%	31%	31%			
Bas iron & st	0%	2%	-5%	5%	-4%	17%	19%	18%	0%	0%	0%	0%	0%	18%	18%	18%	0%	0%	0%	0%	0%	18%	18%	18%			
Bas n-fer met	0%	0%	-1%	1%	-1%	31%	31%	31%	0%	0%	0%	0%	0%	31%	31%	31%	0%	0%	0%	0%	0%	31%	31%	31%			
Metal prods	17%	5%	58%	14%	-5%	41%	30%	25%	10%	0%	39%	0%	0%	36%	36%	26%	12%	0%	45%	0%	0%	38%	26%	26%			
Machinery	12%	0%	40%	-4%	-4%	36%	25%	25%	9%	0%	35%	0%	0%	35%	35%	26%	8%	0%	32%	0%	0%	34%	26%	26%			
Electr mach	11%	5%	39%	11%	-8%	33%	26%	22%	11%	0%	45%	0%	0%	34%	34%	23%	7%	0%	30%	0%	0%	30%	23%	23%			
Tv & coms eq	9%	1%	24%	0%	-2%	39%	31%	30%	6%	0%	19%	0%	0%	37%	37%	31%	6%	0%	20%	0%	0%	38%	31%	31%			
Scientific eq	0%	0%	-4%	-4%	-3%	31%	31%	31%	0%	0%	0%	0%	0%	32%	32%	32%	0%	0%	0%	0%	0%	32%	32%	32%			
Motveh & parts	31%	26%	153%	117%	30%	35%	30%	18%	15%	5%	94%	26%	38%	27%	27%	19%	19%	7%	125%	34%	50%	31%	18%	21%			
Oth trnsp eq	2%	0%	5%	-2%	1%	32%	30%	30%	2%	0%	7%	0%	3%	32%	32%	31%	0%	0%	0%	0%	0%	30%	30%	30%			
Furniture	18%	16%	51%	43%	-7%	46%	43%	28%	14%	0%	47%	0%	0%	45%	45%	30%	17%	0%	55%	0%	0%	47%	30%	30%			
Other manufacturing	4%	2%	6%	1%	-4%	43%	41%	39%	4%	0%	9%	0%	0%	44%	44%	41%	3%	0%	7%	0%	0%	44%	41%	41%			
GDP weighted average																											
All sectors (excl services)	7%	4%	25%	12%	-2%	42%	39%	36%	5%	0%	20%	1%	2%	41%	41%	37%	4%	0%	21%	2%	3%	41%	49%	37%			
Manufacturing	11%	6%	41%	21%	-3%	33%	29%	24%	6%	0%	30%	2%	4%	31%	31%	25%	7%	1%	33%	3%	5%	32%	62%	26%			

Table A, continued.

Sim 3: Final =20%, 10%, 0%, Inputs = 10%, 0%								
	Final tariff	Input tariff	ERP final goods	ERP inputs	Export tax	Pva Final	Pva Input	Pva Export
Agriculture	4%	1%	6%	0%	-2%	54%	51%	50%
Coal mining	0%	0%	-1%	-1%	-1%	48%	48%	48%
Gold & Plat	0%	0%	-1%	-1%	-1%	61%	61%	62%
Other mining	0%	0%	-1%	-1%	0%	55%	55%	55%
Food	8%	5%	35%	19%	-9%	24%	21%	16%
Beverages	0%	1%	-2%	0%	-3%	34%	35%	34%
Tobacco	10%	6%	34%	19%	-2%	37%	33%	27%
Textiles	17%	7%	112%	37%	-2%	28%	18%	13%
Clothing	19%	10%	91%	36%	3%	32%	23%	17%
Leather prods	19%	6%	104%	19%	-21%	31%	18%	12%
Footwear	20%	0%	100%	-19%	-15%	33%	13%	14%
Wood & prods	18%	3%	54%	5%	-3%	49%	34%	31%
Paper & prods	16%	1%	65%	1%	-3%	39%	24%	23%
Printing	0%	3%	-2%	6%	-2%	39%	42%	39%
Petrol ref	0%	0%	-1%	0%	0%	23%	23%	23%
Basic chems	1%	1%	0%	3%	-2%	23%	23%	22%
Other chems	2%	1%	4%	0%	-4%	23%	22%	21%
Rubber prods	8%	8%	35%	35%	-4%	25%	26%	18%
Plastic prods	14%	8%	47%	23%	-6%	40%	33%	25%
Glass & prods	0%	6%	-3%	16%	-3%	31%	37%	31%
Non-met mins	17%	3%	52%	8%	-1%	47%	33%	30%
Bas iron & st	0%	0%	-2%	0%	-2%	18%	18%	18%
Bas n-fer met	0%	0%	-1%	0%	0%	31%	31%	31%
Metal prods	13%	3%	46%	9%	-2%	38%	28%	25%
Machinery	10%	0%	37%	-2%	-2%	35%	25%	25%
Electr mach	11%	3%	40%	7%	-5%	33%	25%	22%
Tv & coms eq	7%	1%	21%	-1%	-1%	38%	31%	31%
Scientific eq	0%	0%	-2%	-2%	-2%	31%	31%	31%
Motveh & parts	19%	13%	104%	57%	14%	28%	22%	16%
Oth trnsp eq	1%	0%	4%	-1%	0%	31%	30%	30%
Furniture	18%	9%	53%	24%	-5%	47%	38%	29%
Other manufacturing	4%	1%	6%	0%	-2%	43%	41%	40%

Table B: Output effects (percent)

	Change in imports			Change in exports			Change in domestic production: Import competing			Change in domestic production: Total		
	Full liberalisation	Sim 1	Sim2	Full liberalisation	Sim 1	Sim2	Full liberalisation	Sim 1	Sim2	Full liberalisation	Sim 1	Sim2
Agriculture	3.2%	1.8%	2.7%	1.3%	1.2%	1.2%	-0.1%	0.0%	-0.1%	0.1%	0.2%	0.1%
Coal mining	-0.3%	-0.3%	-0.3%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Gold & Plat	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Other mining	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Food	12.7%	5.1%	5.2%	6.6%	6.6%	6.5%	-1.0%	-0.3%	-0.3%	-0.6%	0.0%	0.0%
Beverages	1.7%	1.5%	1.5%	2.6%	2.6%	2.6%	0.0%	0.0%	0.0%	0.2%	0.3%	0.3%
Tobacco	64.2%	35.2%	26.7%	1.9%	1.9%	1.9%	-0.8%	-0.4%	-0.3%	-0.5%	-0.1%	0.0%
Textiles	20.5%	14.3%	13.0%	4.3%	8.6%	9.6%	-5.1%	-3.4%	-3.1%	-4.3%	-2.4%	-2.0%
Clothing	36.2%	19.4%	14.9%	-1.7%	3.9%	5.6%	-13.0%	-6.1%	-4.4%	-12.3%	-5.5%	-3.8%
Leather prods	7.3%	4.0%	3.2%	14.4%	14.4%	14.4%	-2.0%	-0.9%	-0.7%	2.8%	3.6%	3.8%
Footwear	19.7%	7.7%	4.5%	8.5%	8.5%	8.4%	-12.2%	-3.8%	-1.7%	-11.9%	-3.6%	-1.6%
Wood & prods	3.4%	3.3%	3.3%	2.1%	2.1%	2.1%	-0.2%	-0.2%	-0.2%	0.0%	0.0%	0.0%
Paper & prods	2.7%	1.8%	1.8%	2.5%	2.5%	2.5%	-0.2%	-0.1%	-0.1%	0.1%	0.2%	0.2%
Printing	2.2%	2.2%	2.2%	1.3%	1.2%	1.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Petrol ref	0.5%	0.5%	0.5%	0.3%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Basic chems	1.1%	1.1%	1.2%	1.4%	1.3%	1.3%	-0.2%	-0.2%	-0.2%	0.1%	0.1%	0.1%
Other chems	0.9%	0.4%	0.7%	2.7%	2.7%	2.7%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.1%
Rubber prods	7.8%	6.3%	6.7%	3.0%	2.9%	2.9%	-2.7%	-2.2%	-2.3%	-2.0%	-1.5%	-1.6%
Plastic prods	8.5%	8.3%	8.3%	3.3%	3.3%	3.3%	-0.8%	-0.8%	-0.8%	-0.6%	-0.5%	-0.5%
Glass & prods	7.0%	7.0%	7.0%	2.0%	2.0%	2.0%	-1.0%	-1.0%	-1.0%	-0.8%	-0.8%	-0.8%
Non-met mins	6.9%	6.7%	6.6%	1.0%	1.0%	1.0%	-0.9%	-0.8%	-0.8%	-0.7%	-0.7%	-0.7%
Bas iron & st	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	-0.1%	-0.2%	-0.2%	0.7%	0.7%	0.6%
Bas n-fer met	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Metal prods	5.4%	5.1%	5.1%	2.2%	2.2%	2.2%	-0.7%	-0.6%	-0.6%	-0.3%	-0.3%	-0.3%
Machinery	0.2%	0.0%	0.0%	1.9%	1.8%	1.8%	0.7%	0.8%	0.8%	0.9%	1.0%	1.0%
Electr mach	4.5%	3.2%	3.6%	3.2%	3.2%	3.2%	-1.1%	-0.7%	-0.8%	-0.7%	-0.4%	-0.5%
Tv & coms eq	1.8%	1.0%	1.0%	1.0%	1.0%	1.0%	-0.9%	-0.1%	-0.1%	-0.7%	0.0%	0.0%
Scientific eq	-0.2%	-0.2%	-0.2%	1.4%	1.4%	1.4%	1.3%	1.3%	1.2%	1.3%	1.3%	1.3%
Motveh & parts	23.6%	15.3%	13.0%	-10.1%	2.2%	5.8%	-10.2%	-6.2%	-5.1%	-10.2%	-4.5%	-3.0%
Oth trnsp eq	-0.1%	-0.2%	-0.1%	-0.3%	1.1%	-0.3%	0.3%	0.4%	0.3%	0.2%	0.5%	0.2%
Furniture	10.7%	5.0%	4.2%	3.0%	3.0%	3.0%	-2.2%	-0.9%	-0.8%	-1.0%	0.0%	0.1%
Other manufacturing	2.7%	1.1%	1.3%	1.6%	1.6%	1.6%	-0.3%	0.0%	0.0%	0.0%	0.3%	0.3%

Table C: Welfare changes

	Consumer Surplus gains from Liberalisation (Rm)					Net National Welfare gains from Liberalisation (Rm)				
	Full liberalisation	Sim 1	% of full liberalisation gains	Sim 2	% of full liberalisation gains	Full liberalisation	Sim 1	% of full liberalisation gains	Sim 2	% of full liberalisation gains
Agriculture	985	133	13%	643	65%	4	0	3%	2	60%
Coal mining	0	0		0		0	0	28%	0	32%
Gold & Plat	0	0		0		0	0	2%	0	3%
Other mining	0	0		0		0	0	14%	0	18%
Food	14,088	6,894	49%	7,025	50%	115	67	58%	68	59%
Beverages	803	723	90%	711	89%	2	0	27%	0	27%
Tobacco	2,230	1,496	67%	1,256	56%	13	11	81%	9	69%
Textiles	1,825	952	52%	726	40%	92	62	67%	47	51%
Clothing	8,048	5,674	71%	4,902	61%	556	448	81%	373	67%
Leather prods	351	208	59%	167	47%	16	8	50%	6	36%
Footwear	2,207	1,313	59%	1,029	47%	132	91	69%	64	49%
Wood & prods	40	17	44%	13	33%	1	1	48%	0	38%
Paper & prods	404	106	26%	138	34%	7	1	19%	2	32%
Printing	16	-2	-11%	16	100%	1	1	94%	1	95%
Petrol ref	129	129	100%	129	100%	0	0	71%	0	71%
Basic chems	12	-5	-42%	12	100%	1	1	42%	1	45%
Other chems	584	-6	-1%	358	61%	2	-1	-35%	1	33%
Rubber prods	326	56	17%	136	42%	15	11	79%	13	89%
Plastic prods	99	31	31%	35	36%	9	8	88%	8	89%
Glass & prods	8	7	92%	8	100%	2	2	97%	2	97%
Non-met mins	115	67	58%	51	45%	7	6	85%	5	75%
Bas iron & st	0	0		0		3	0	15%	0	16%
Bas n-fer met	0	0		0		0	0	4%	0	5%
Metal prods	210	98	47%	83	40%	9	7	75%	7	71%
Machinery	311	96	31%	112	36%	15	6	41%	7	49%
Electr mach	656	100	15%	287	44%	15	3	21%	9	61%
Tv & coms eq	532	203	38%	177	33%	15	8	53%	7	45%
Scientific eq	0	0		0		0	0	83%	0	83%
Motveh & parts	31,526	19,933	63%	16,171	51%	1,587	1,305	82%	1,096	69%
Oth trnsp eq	28	-3	-12%	28	100%	0	0	-19%	0	98%
Furniture	1,388	458	33%	303	22%	28	12	43%	7	24%
Other manufacturing	824	187	23%	274	33%	8	1	18%	3	35%

Table D. South African Trade with SADC

	2000	2005	2006
SOUTH AFRICA'S EXPORTS			
Total World	211,399,485,407	331,407,199,177	396,528,789,303
Total SADC	21,996,697,570	31,798,380,705	35,892,629,593
Angola	1,375,926,085	3,535,751,384	4,739,163,283
Botswana	1,136,423	NA	NA
Congo, DR	888,958,480	1,807,178,789	2,554,532,457
Lesotho	NA	NA	NA
Madagascar	308,276,178	538,874,825	515,651,738
Malawi	1,669,001,960	1,637,853,052	1,686,546,510
Mauritius	2,006,574,498	2,190,087,390	1,995,517,270
Mozambique	4,996,925,220	6,402,557,319	6,240,445,459
Namibia	261,453	NA	NA
Swaziland	949,125	NA	NA
Tanzania	1,326,832,823	2,757,256,358	2,765,244,042
Zambia	4,562,491,217	5,441,962,992	7,984,927,032
Zimbabwe	4,859,364,108	7,486,858,596	7,410,601,802
SOUTH AFRICA'S IMPORTS			
Total World	188,078,203,665	351,664,971,434	465,040,209,075
Total SADC	2,424,588,412	10,181,097,341	13,153,459,390
Total SACU	4,124,662	2,743,120,827	2,714,212,889
SADC-SACU	2,420,463,750	7,437,976,514	10,439,246,501
Angola	67,891,350	1,891,096,822	2,486,136,775
Botswana	995,526	1,926,034,593	1,802,623,289
Congo, DR	9,482,307	26,738,184	49,244,950
Lesotho	54,414	1,701,993	83,343
Madagascar	21,170,793	11,194,349	13,317,153
Malawi	285,754,056	455,836,759	531,080,443
Mauritius	46,549,286	167,884,973	259,751,269
Mozambique	362,892,179	199,281,867	318,590,133
Namibia	978,279	815,112,913	910,698,405
Swaziland	2,096,443	271,328	807,852
Tanzania	24,677,774	250,825,952	305,470,671
Zambia	302,264,373	1,303,600,021	1,842,287,471
Zimbabwe	1,299,781,632	3,131,517,587	4,633,367,636