

THE EXTENT OF TRADE LIBERALISATION IN THE 1990S: REVISITED

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IN A RECENT ARTICLE IN THIS JOURNAL, Fedderke and Vaze (2001:436-473) undertook an analysis of the extent and effects of trade liberalisation in South Africa during the 1990s. The study (hereafter referred to as the FV study) quantifies the extent of trade (tariff) liberalisation in SA using a measure of the effective protection rate (*ERP*). Based on their ERP calculations the FV study finds that "more of South Africa's output is protected by tariffs in 1998 than in 1988", and hence deduces from this that, "the much-hyped liberalization of the South African economy has not been fully realized" (Fedderke and Vaze, 2001:447). The purpose of this paper is to ascertain if this is indeed the case and if new evidence exists that gives more complete answers.

The first part of the paper provides a brief overview of some theoretical considerations relating to the measurement of ERP and its use as an indicator of the extent of trade liberalisation. The second part documents the tariff liberalisation undertaken by South Africa during the 1990s. ERP calculations are undertaken in part three and these are compared to those in the FV study. Some conclusions are drawn in the last section.

1. SOME THEORETICAL CONSIDERATIONS

Max Corden (1966,1969,1971) is credited with having formalised the theory of effective protection. However, as Greenaway and Milner (2002:2) note, economists like Taussig, Haberler and Meade, decades earlier signalled the importance of considering tariffs on inputs when analysing protection. The appeal of the ERP measure lies in the fact that it takes into account tariffs imposed on the final product as well as on the intermediate inputs used in the production of that product. In other words, the ERP indicates the total effect on domestic production (value added) of an existing tariff structure (Carbaugh, 2000: 116-117).

With perfect competition, protection (on output and inputs used in the production process) will result in domestic value added diverging from the level prevailing under free trade. The standard measure of the ERP is given by:¹

$$ERP = \frac{V_t - V_{ft}}{V_{ft}} \quad (1)$$

Where value added under protection is given by V_t and value added under free trade by V_{ft} . Considering a linear relationship between inputs and outputs with a_{ij} the input-output coefficient for the i^{th} input used in the production of the j^{th} output. Considering the nominal tariff level on j (t_j), nominal tariff on input i (t_i) and the share of inputs i in the costs of j without tariffs ($\sum a_{ij}$), the ERP measure is given by:

$$ERP = \frac{t_j - \sum_i a_{ij} t_i}{1 - \sum_i a_{ij}} \quad (2)$$

Equation 2 is a common measure used in ERP calculations and is the one used in the FV study. It highlights two important points.

¹ See Greenaway (1983) for an elegant review of the concept and an exposition of how it can be measured. Holden (1999) provides a good review of the development of the theory.

Firstly, the overall tariff structure has a tax and subsidy element with the tariff on the output (input) being equivalent to a subsidy (tax) (Greenaway and Milner, 2002). Secondly, effective protection can be negative, that is, an activity can be worse off due to protection on inputs exceeding that on the final product.

The theoretical shortcomings of the ERP concept have been well documented (Jones, 1971; Ethier, 1972, 1977; Bhagwati and Srinivasan, 1973).² More recently Anderson (1998) has also challenged the usefulness of ERP calculations as a measure of protection. In the light of these criticisms it is important to consider the relevance or validity of ERP analysis. In this regard it has been argued that

"even though the theoretical validity of ERP as an indicator of resource pull is somewhat less than was initially asserted or hoped for, it continues to be a nice way to summarise the information on the protection structure resulting from tariffs on inputs and outputs ... if ERPs are used with some care ... even their analytical use can be somewhat suggestive" (Bhagwati and Srinivasan, 1983: 131, quoted in Greenaway, 2002:16).

Thus, ERP measures can help in

"identifying the probabilities or effects on average that may be expected from reforms ... with production falls likely to happen on average in the sectors experiencing declines in effective protection" (Greenaway and Milner, 2002:12).

Given the theoretical shortcomings, the ERP calculations may not necessarily provide the best measure of the likely pull on resources, but in the light of data constraints it may still provide the best description of the overall structure of *tariff* protection.³ Changes in the ERP may therefore provide a useful indicator of

² Some of these shortcomings include the imperfect substitutability between imported and local products, the treatment of non-tradable inputs in the measurement of the ERP, measurement of tariff equivalents of non tariff barriers and the allocation of intermediate inputs to multiple outputs.

³ Since tariff rates are the only protection measures used in the calculations, the ERP in essence measures tariff protection. ERP measures also provide insights into the phenomenon of tariff escalation.

the extent of *tariff liberalisation*."

There are two ways of interpreting the extent of tariff liberalisation from ERP calculations. The first is to consider the difference in ERP measures between two periods; large reductions in the measures will show that the particular sector in question has been subjected to extensive tariff liberalisation.⁵ An alternative is to consider the relative importance of the sectors being subjected to increased tariff liberalisation (increased) protection. Summing the contributions to GDP of all those sectors that have been liberalised (or subjected to increased tariff protection) between any two periods would indicate whether the major part of a country's output has been liberalised or subject to increased protection. This is the approach undertaken in the FV study and is also the one used in this study.

(a) *Trade liberalisation during the 1990s*

There is consensus that South African industrialisation was founded on a policy of import substitution.⁷ The path of the import substituting process in South Africa has been contested. *Inter alia*, McCarthy, 1988, Fallon and Pereira de Silva (1994) and Joffe *et al* (1995) have argued that South Africa followed the conventional industrialisation process - the industrialisation process began with consumer goods industry and then moved on to "light" industry and finally the establishment of "heavy"

⁴ Holden (2001) has found that there was not a robust relationship between trade policy changes (as depicted by ERP rates) and resource allocation during the 1990s. Given these results, her conclusions are that ERP analysis undertaken for industries independently from the rest of the industries in the economy may not be meaningful.

⁵ There is however an element of subjectivity involved in deciding the benchmarks for what could be considered large or extensive tariff liberalisation.

⁶ Since the focus of the study is on tariff reform during the 1990s only a brief review of protection prior to this period is provided. For a more thorough review see Bell, 1997.

⁷ see, McCarthy, 1999; Bell, 1993; Strydom, 1995 and Fine and Rustomjee, 1996 for a review and analysis of South Africa's industrialisation path.

industry. On the other hand, Fine and Rustomjee (1996) have contended that South Africa, engaged in the production of "heavy industry" before embarking on the production of consumer goods. There is however less debate on the instruments of trade policy used to support the industrialisation process in SA. Tariffs, quantitative restrictions and export incentives, were the main trade incentives used to drive the industrialisation process. For Belli *et al* (1993) protection was granted selectively (during some periods to importers rather than on imports) and was premised on the infant industry argument (Fine and Rustomjee, 1996). The selected issues report on South Africa by a staff team of the IMF in 2002, indicates that it was only in 1983 that a first systematic attempt was made to dismantle some of the controls, with around 77 per cent of imports were subject to direct import controls (IMF, March 2000:53).

Export oriented industrialisation began to receive increasing attention in policy circles since the early 1970s.⁸ The Reynders Commission recommended a diversification of the export base away from a reliance on gold exports. As Bell (1996,71) notes, the commission did not view import liberalisation as a necessary condition for non-gold export production. In 1972, a tax allowance for export marketing expenses was one of the first direct export incentives introduced by the government. A new system of export incentives then followed in September 1980. By the beginning of the 1990s the official policy stance was one of export-oriented industrialisation. The General Export Incentive Scheme (GEIS) was introduced on 1 April 1990, with the objective of encouraging the production of value added exports. However, while export subsidies were used to reduce the anti export bias in the economy, the view that the path to export production should entail trade (and more specifically tariff) liberalisation began to gain ground. This is evident in the recommendations made by an official investigation into South Africa's tariff protection policy:

⁸ see Bell, 1993, 1996 and Tips, 2002 for a review of the protective measures during 1970 to 2000.

"Progress to greater export orientation, requires the responsible adjustment of the competitiveness of the existing industrial structure, which has been built up through import replacement, so as to enable it to deliver products at prices more in line with world prices. A generally accepted method of achieving this is to reduce tariffs and in addition, to follow a realistic exchange rate policy. The reduction of import tariffs is therefore an integral part of a process of progress towards export orientation" (IDC, 1990: p i—ii).⁹

This view was based on the evidence that South Africa: "had the most tariff lines (more than 13000), most tariff rates (200 *ad valorem* rates), the widest range of tariffs and the second highest level of dispersion (as measured by the coefficient of variation) among developing countries" (IMF, March 2000:54).

It was further argued that: "the lowering of tariffs will, however, serve first and foremost to strengthen the export orientation of South Africa's trade policy" (IDC, 1990:v). There was thus a firm belief that the tariff protection policies (of the previous decades) created an anti export bias and hence did not promote competitiveness and economic growth.

At the beginning of 1990, the protection system consisted of quantitative restrictions, customs duties and import surcharges. In addition the protection policy was subject to frequent changes, biased against exports and fairly complex (Fallon and Pereira de Silva (1994:81).¹⁰ Table 1 captures the tariff protection prevailing at the beginning of the 1990s.¹¹ The overall statutory tariff while not too high (approximately 28 per cent) by international standards, nevertheless had a wide dispersion. Within the manufacturing sector, consumer goods enjoyed the highest protection.

With the election of a democratic government in 1994, the

⁹ The minister of trade, industry and tourism commissioned the Industrial Development Corporation, in collaboration with the Board of Trade and Industry, to "investigate the efficacy of the existing tariff protection policy".

¹⁰ The complexity was due to the variety of different tariff rates and exemptions granted on a firm-by-firm level rather than a product-by-product basis.

¹¹ The calculations were based on the 1989, 1990 and 1991 tariff schedules. In addition *ad valorem* equivalent rates were calculated for formula duties and other specific duties.

economic policy bias towards exports as a major stimulant of economic growth was further entrenched. This is clearly borne out in the Growth, Employment and Redistribution (GEAR) strategy, which has since become a cornerstone of government policy. According to GEAR:

"sustained growth on a higher plane requires a transformation towards a competitive outward-oriented economy" (Gear, 1996: 3). The challenge for economic policy was to create: "a competitive platform for a powerful expansion by the tradable goods sector" which is taken to mean, "accelerated growth of non-gold exports" (Gear, 1996:3).

Gear is aimed at: "strengthening the competitive capacity of the economy in the long term" (Gear, 1996:7). Further; competitiveness in the tradable goods sector was to be achieved through: "a reduction in tariffs to contain input prices" (Gear, 1996:4).¹²

Table 1. Nominal Protection at the beginning of the 1990s

	Weighted mean	Unweighted mean	Minimum rate	Maximum rate	Coefficient of variation
Whole economy	28	29	0	1389	159.8
Agriculture	23	16	0	147	144.9
Mining	3	3	0	20	186.6
Manufacturing	28	30	0	1389	158.4
Consumer goods	60	48	0	1389	125.5
Intermediate goods	17	18	0	1320	198.9
Capital goods	19	17	0	135	103.5

Source: Fallon, P. and de Silva, L.A. 1994: "South Africa: Economic Performance and Policies", *Informal discussion papers*, World Bank, Washington. P.83

It is quite apparent from the above that government policy is premised on the assumption that exports are vital for economic growth. Reduced input costs improve cost competitiveness, which in turn facilitates increased export production.

By the mid 1990s it was clearly evident that the government was committed towards abolishing GEIS partly as a result of its incompatibility with GATT rules and partly because of a policy shift that entailed tariff liberalisation as a means of reducing the

¹² It is interesting to note that the objective of striving for international competitiveness is not meant to be isolated from social objectives. In fact one of the stated intentions of economic policy is "to support a competitive and more labour-intensive growth path" (GEAR, 1996, p 7).

anti export bias in the economy.

The governments tariff liberalisation policy culminated in South Africa's offer to the GATT in 1994 and implemented in January 1995. In terms of the GATT offer, South Africa agreed to bind 98 per cent of all tariff lines and to cut tariffs by a third (Holden, 2001). The country also offered to convert all quantitative restrictions on agricultural imports to bound *ad valorem* rates and to liberalise the sensitive industries over an eight-year period (IMF, 2000:54). The offer to GATT clearly displayed a commitment to the opening up the economy to foreign competition.¹³ In terms of the offer, industrial protection was to be substantially reduced over a five-year period from an average tariff of around 12 per cent in 1994 to approximately 5 per cent in 2001. The average import weighted tariff rates were to be reduced to well within the WTO bound rates; from 34 per cent to 17 per cent for consumption goods, 8 per cent to 4 per cent for intermediate goods and 11 per cent to 5 per cent for capital goods (TIPS, 2002, p.11).¹⁴

South Africa's commitment to her liberalisation offer is borne out by an analysis of the applied rate over the latter half of the 1990s (see Table 2). The average import weighted tariffs since the GATT offer, had been significantly reduced from 28 per cent in 1990 to 10 per cent in 1998 (IMF, 2000:55). For agricultural products the rate has been lowered from 9.23 per cent (1996) to 1.4 per cent (2000) while for industrial products it was reduced from 11.4 (1996) per cent to 8.6 per cent (2000). The average for the economy as a whole has seen applied rates come down from 11.3 per cent in 1996 to 7.3 per cent in 2000 (TIPS, 2002:14). These statistics on output protection confirm that South Africa has made significant strides down the tariff liberalisation path. However, can the same be said of the "overall" tariff structure? In order to answer this question we need to analyse tariff changes on both inputs and outputs.

¹³ This section is mainly based on TIPS (2002).

¹⁴ The bound rates are 26 per cent, 4 per cent and 15 per cent for consumption, intermediate and capital goods respectively.

Table 2. South Africa: Trade Regime, 1990 and 1998
(In per cent, unless otherwise indicated)

Tariffs	1990	1998
Manufacturing		
Maximum tariff	1389	72
Average import-weighted tariff	28	10
Average unweighted tariff	30	14
Number of tariff bands	>200	72
Standard deviation	43	15
Number of tariff lines 1/	>13000	7814
Per cent of tariff lines with non ad valorem duties 1/	28	26
Range of effective protection 2/	189 to -411	204 to -2
Average import-weighted surcharge 3/	6	0
Import surcharge bands	10, 15, and 40	eliminated
Agriculture		
Average tariff	25	2.2
Average import surcharge	8	0
Export subsidy 4/	17	eliminated
Export taxes		
Diamonds	15	15
Quantitative restrictions on imports 5/ of which:	15	virtually eliminated
Agriculture	74	virtually eliminated
Manufacturing	14	virtually eliminated
Quantitative restrictions on exports; goods 3/	diamonds	Diamonds
	21 agric comm.	
Memorandum items:		
Trade tax revenue as share of total revenue	7.9	4.0
Import taxes as share of imports	10.8	4.1
Export subsidies as a share of GDP	0.3	0.0

Source: IMF (2000). *South Africa: selected issues*, March 2000, IMF Staff Country Report no.00/42 p55.

1/ The figure for 1998 refers to June 1997.

2/ At ISIC three-digit level; excludes import surcharge.

3/ The figure for 1990 refers to 1992.

4/ Actual subsidy disbursements were 2.7 per cent of exports in 1990/91.

5/ The figure for 1990 refers to 1992. As per cent of total tariff lines (other than those maintained for health, security, and environmental reasons).

4. TRADE (TARIFF) LIBERALISATION AND THE ERP

Effective protection captures the net protection accorded to an industry by taking into account the protection imposed on both output and intermediate inputs used in the production process. Various studies have used ERP analysis to appraise SA's protection policy during the 1990s (IDC, 1996; Fedderke and Vaze, 2001; TIPS,

2002). The FV study has recently explicitly questioned the extent of tariff liberalisation in the 1990s.¹⁵ The study claims that: "more of South Africa's output is protected by tariffs in 1998 than in 1988" and hence concludes that: "the much-hyped liberalisation of the South African economy in the 1990's has not been fully realised" (Fedderke and Vaze, 2001:447). Using a similar methodology, this paper will appraise this result of the FV study.

The FV study analyses the protection accorded to 38 economic sectors. Average EPRs (based on tariff duties collected) were calculated for the period 1988-93 and 1994-98. Sectors were classified as more protected (P) if the EPR increased by more than 1 per cent, liberalised (L) if it decreased by more than 1 per cent and moderately protected (M) otherwise. In terms of these criteria 8 sectors were classified as more protected, 16 as moderately protected and 14 as liberalised. The FV study claims that the 8 protected sectors accounted for more than 50 per cent of the GDP in 1998.

A defining characteristic of this study relates to the use of collected customs duties to estimate the tariff rates rather than the use of statutory tariff rates in the calculations of ERPs. There are a couple of points that can be made in this regard. The first relates to high or prohibitive tariff rates not being reflected in the customs revenues collected. Secondly, it is important to recognise that in the case of SA, imports are recorded when they land in the country while import duties are only paid when goods leave the warehouses at the port. Thus, it is possible that in some cases importers only pay the customs duties after the year in which the imports were reflected in customs records. In these cases tariff calculations based on revenue collections will understate the "actual" tariff rates applicable to the products. It is unclear to what extent this issue has been addressed in the FV study.¹⁶

¹⁵ The study also establishes a positive relationship between tariff liberalisation and export production. The results pertaining to this aspect are not analysed in this paper.

¹⁶ This is not to state that statutory rates are superior. In fact the issue of

Table 3. Tariff phase-down under the WTO

New ISIC		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
3	Textiles	30.1	33.8	31.8	24.9	23.4	21.9	20.3	18.7	17.3	17.3	17.3
4	Clothing,	73.7	73.6	68.2	54.6	50.5	46.4	42.4	37.7	33.2	33.2	33.2
5	Leather& leather produc	14.9	14.8	14.1	16.5	15.7	14.8	14.8	14.8	14.8	14.8	14.8
6	Footwear	37.5	41.6	39.1	36.8	34.2	29.1	29.1	29.1	29.1	29.1	29.1
7	Wood & wood production	13.9	3.6	3.4	3.5	3.3	3.1	3.1	3.1	3.1	3.1	3.1
8	Paper& paper production	9.6	9.3	9.1	8.8	8.7	8.5	7.9	7.3	6.8	6.2	5.6
9	Printing & publishing	8.1	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	Petroleum & petrol product	1.6	-	-	-	-	-	-	-	-	-	-
11	Industrial chemicals	9.3	7.5	7.5	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6
12	Other Chemical prod	9.0	3.8	3.7	2.7	2.6	2.5	2.5	2.5	2.5	2.5	2.5
13	Rubber products	30.5	14.5	14.1	15.8	15.4	14.9	14.6	14.4	14.0	14.0	14.0
14	Plastic products	19.8	14.7	13.7	13.2	12.6	12.0	12.0	12.0	12.0	12.0	12.0
15	Glass &glass production	11.8	9.5	9.0	8.3	7.9	7.6	7.6	7.6	7.6	7.6	7.6
16	Non-metallic Mineral produc	10.6	8.7	8.1	8.4	8.0	7.7	7.7	7.7	7.7	7.7	7.7
17	Basic iron & steel products	7.6	4.4	4.2	4.2	4.1	3.9	3.9	3.9	3.9	3.9	3.9
18	Non-ferrous Metal produc	2.3	2.3	2.3	2.3	2.2	2.0	2.0	2.0	1.9	1.7	1.7
19	Metal product, excl machinery	13.1	8.2	7.8	7.8	7.6	7.4	7.4	7.4	7.4	7.4	7.4
20	Non-electrical Machinery	6.5	1.4	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3
21	Electrical machinery	11.0	6.1	6.0	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.7
22	Radio, Television & communic	12.1	5.1	3.7	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3
23	Professional Equipment	7.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
24	Motor vehicles, parts & accessories	55.4	33.5	31.7	29.3	27.9	26.1	24.8	23.2	22.1	22.1	22.1
25	Other Transp.equip	1.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
26	Furniture	28.1	21.4	20.8	20.2	19.6	18.9	18.9	18.9	18.9	18.9	18.9
27	Other manufacturing	2.9	1.0	1.0	5.2	5.1	5.0	4.9	4.9	4.9	4.9	4.9
82	Mining	2.7	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total		11.7	7.2	6.8	6.1	5.8	5.5	5.3	5.1	4.9	4.9	4.9

Source: IDC quoted in Trade and Industry Policy Strategy (TIPS), 2002: The state of trade policy in South Africa, Johannesburg.

whether statutory rates (rather than collected rates) are more appropriate is debatable. For example, statutory rates do not reflect rebates and does not capture the effects of smuggling.

Table 4 captures the ERP calculations of the 38 sectors considered in the FV study. These are reflected in rows 1 to 38, while rows 39 to 46 reflect the sectors that are not considered in the study.¹⁷ In addition, the contributions to value added are captured for all the sectors for the years 1988, 1998 and 2001 under columns 2 to 4. The ERP calculations (averages for period 1988-93 and 1994-98) are reflected in columns 5 and 6. Some derivations from the ERP calculations and trade policy classifications are depicted in columns 7 to 10.

Since the FV study considers only 38 sectors it is important to ascertain the relative importance of these sectors in the economy. The 38 sectors considered in the FV paper made up 72 per cent (62 per cent) of total GDP in 1988 (1998).¹⁸ Thus, the point to bear in mind is that the relative importance of the 38 sectors has decreased over the period. Thus, the conclusions in the FV study are based on an analysis of only around two thirds of the South African economy. The question therefore is whether the results of the FV study still hold if the analysis (calculations) is (are) done with reference to the whole economy?

As pointed out above, FV classify the sectors on the basis of the change in the average ERP between the two periods (1988-93 and 1994-98). The calculations and classifications are reflected in columns 7 and 9 respectively. As per the FV study, column 9 depicts the 14 sectors that were liberalised (L), 16 sectors that were moderately (M) protected and 8 sectors that enjoyed increased levels of protection (P) between the two periods. The relative importance of the sectors to the GDP of the 38 sectors considered in the FV study and the overall economy are reflected under column 9 (rows 47 to 52).¹⁹ As an illustration we expound on

¹⁷ These are mainly non-tradable sectors.

¹⁸ These calculations are captured in rows 50 to 52; an explanation on how to interpret these representations is provided later on in this section. By 2001 these sectors made up 61 per cent.

¹⁹ The relative importance is for the years 1988, 1998 and 2001.

column 9, row 49. The 14 liberalised sectors made up 23 per cent (in 1988 and 1998) and 22 per cent (in 2001) of the GDP of the 38 sectors considered in the FV study. This contribution is higher than that recorded in the FV study.²⁰ However, in terms of the overall significance of the tariff liberalisation, column 9 (row 50), indicates that these 14 sectors contribution to the total GDP of South Africa decreased from 16 per cent (1988) to 14 per cent (1998) to 13 per cent (2001). Similarly, the 16 moderately protected sectors contribution to the GDP of the 38 sectors increased from 43 per cent (1988) to 46 (1998) to 45 per cent (2001) while the contribution to the overall economy decreased from 30 per cent (1988) to 29 per cent (1998) to 28 per cent (2001).²¹ The sectors enjoying more protection decreased their contribution to the GDP of 38 sectors from 34 per cent in 1988 to 30 per cent in 1998 before increasing to 33 per cent in 2001. These sectors contribution to the economy decreased from 25 per cent in 1988 to 19 per cent (20 per cent) in 1998 (2001). These results refute the claim made in the FV study that: "more of South Africa's output is protected by tariffs in 1998 than in 1988" (Fedderke and Vaze, 2001:447). By 2001, liberalised (protected) sectors accounted for 13 per cent (20 per cent) of total GDP in 2001. So whereas the percentage of output enjoying tariff protection was higher than that subject to tariff liberalisation, the protected sectors did not make up the major proportion of the country's GDP.

An important factor influencing the results and conclusions reached in the FV study relate to the classification of the extent of liberalisation. The calculations as undertaken by FV for the classification of the sectors as liberalised (L), moderately protected (M) or protected (P) do not capture the relative significance of the change in the ERP. For example, from Table 4 the 0.6 per cent reduction in the ERP between the two periods represents a 4 per

²⁰ The FV study records that the liberalised sectors account for just over 15% of the total GDP from the 38 sectors.

²¹ Classified as M in the Table.

cent and 76 per cent decrease in the ERP for the rubber (row 17) and other transport sectors (row 16) respectively. Column 8 captures the percentage change in the ERP measures between the two periods (1988-93 and 1994-98) *P* All sectors that experienced a reduction (increase) of at least 10 per cent in their ERP measures are classified as liberalised (protected) and moderately protected otherwise (classification reflected under column 10) *P* In terms of this classification 21 sectors are classified as liberalised, 11 sectors as moderately protected and 6 sectors as protected. In terms of the contribution to total value added, the protected sectors made up 12 per cent of total GDP in 1988 as compared to 9 per cent (8 per cent) in 1998 (2001).²⁴ Stated differently, it is apparent that *less* of South Africa's output enjoyed tariff protection in 2001 (or even in 1998) than in 1988.

In terms of both the classifications used, it is apparent that the protected (liberalised) sectors made up approximately 8-20 per cent (between 13-19 per cent) of total GDP in 2001 as compared to between 12-25 per cent (16-21 per cent).²⁵ Thus, contrary to what is claimed in the FV study, it is apparent that more of South Africa's output *is not* protected by tariffs in 1998 (or even in 2001) as compared to 1988.

However, it should be remembered that the tariff calculations used thus far were based on collected rather than on statutory rates. Thus, the question is whether the situation changes when one considers statutory rates? In order to ascertain if this is indeed the case, we consider ERP calculations based on statutory rates as undertaken by the IDC (1996).

Table 5 (in annex) reflects the ERP calculations for 1993 and 1999 undertaken by the IDC on the basis of statutory tariff rates. Our aim is to see if the analysis portrayed above is corroborated

²² This captures the relative rather than the absolute change in the ERP.

²³ It is acknowledged that the 10% dividing line is arbitrary and as such is only suggestive.

²⁴ See row 52, column 10 in table 4 in annex.

²⁵ In 1998 protected (liberalised) sectors contributed between amounted to 9-19 per cent (14-18 per cent) to total GDP.

by these calculations. Due to data constraints we are not able to undertake a comparison across all the sectors included in the IDC study.²⁶ However, there are sufficient data points to provide at least an indication of the extent of trade liberalisation. The Table reflects the same two classifications used above to capture the trade policy stance during 1993 and 1999. Considering the relative percentage change in ERP between 1993 and 1999 we observe that the liberalised (protected) sectors contribution to the sales of the 51 manufacturing industries decreased from 67 per cent (11 per cent) to 66 per cent (10 per cent).²⁷ Similarly the contribution to total sales of the manufacturing sector has decreased from 50 per cent (8 per cent) to 49 per cent (8 per cent) for the liberalised (protected) industries during 1993 and 1999. Similarly, by considering the absolute change between 1993 and 1999, we see that the protected sectors made up around 10 per cent of total manufacturing sales, whilst liberalised sectors contribute approximately 61 per cent of total sales during the period under analysis.²⁸ These results suggest that by the end of the 1990s more of South Africa's manufacturing output was liberalised than protected.

There is an additional issue relating to the tariffication of the agricultural sector that warrants mention given the influence it could exert on the calculations undertaken in both FV study and in

²⁶ Our main constraints relate to the industry classifications used in the IDC study. The industry classification in the IDC study is at the SIC version 3 level while sectoral data is currently available on at SIC version 5 level. A link provided by the TIPS was used to link 51 SIC version 3 manufacturing sectors (of the 71 sectors considered in the IDC studies) with their corresponding sales data. Hence the point to bear in mind is that while we are not considering all the sectors, the results are nevertheless indicative of the extent of liberalisation undertaken during the 1990s. Sales data was used as a proxy for contribution to GDP due to the unavailability of GDP data on an SIC (version 5) 4 digit level.

²⁷ The calculations and classifications are represented in columns 9 and 11 respectively.

²⁸ The classification used here is similar to the one used in the previous table. A one per cent reduction classifies the sector as liberalised, a one per cent increase as protected and moderately protected otherwise.

this paper. As part of the WTO commitment, quantitative restrictions were converted into ad-valorem rates during the 1990s (TIPS, 2002). This has a direct effect on the tariffs collected and could lead to increases in duties collected. This being the case, you could have the case of the agricultural sector's protection being overstated and those of the other industries using agricultural inputs being understated. This problem exists also if statutory rates are used in the calculation of the ERP. However, in terms of our calculations the agricultural sector is classified as enjoying more protection during the 1990s and as such biases the total output under protection upwards. If the tariffication of the agricultural sector does not represent an increase in the protection to this sector, the output of the agricultural sector would not form part of the total output under protection. This would lend further support to our argument. On the other hand, if agriculture's protection is overstated then the protection of the other industries using agricultural inputs is understated and this could influence the strength of our argument. However, the information on the tariff revenues collected on agricultural products would seem to suggest that the tariffication measures did not lead to a significant increase in protection for the agricultural sector. The tariff rate for agriculture increased marginally from 1.4 per cent in 1993 to 1.7 per cent in 1994 before decreasing again to 1.4 per cent in 1995.²⁹

5. CONCLUSION

During the 1990s there was a deliberate attempt on the part of the South African authorities to increase the pace of tariff liberalisation. The WTO offer in 1994 and the subsequent liberalisation - in some cases at faster rates than the WTO commitments - has meant that the tariff protection, which

²⁹ The tariffs collected on products within the SIC 1 category was used in the calculation for the tariff rates. This information was obtained from the DTI. The results are even more pronounced if one considers statutory rates. According to IMF (2000) the statutory average rates decreased from 25 per cent in 2000 to 2.2 per cent in 1998 (see Annex 2).

sheltered domestic industry from international competition in the past, has largely diminished. This view is supported by an analysis of ERP calculations during the 1990s. Whether liberalisation should have gone further and faster during the 1990s is a legitimate question with the answer to this question depending on a critical analysis of the liberalisation programme during the 1990s. However, to argue that more of South Africa's output has been subjected to increased levels of protection during the 1990s is not only incorrect but is also a misrepresentation of facts.

APPENDIX

Table 4. *Extent of Trade liberalisation in SA (ERP calculation based on collected tariff revenues)*

Sector	Contribution to value added Rm			Average ERP for 1988-93	Average ERP for 1994-98	Change in EPR (FV class) ¹	% change in EPR ²	Liberalisation (EPR 88-93 minus 94-98) (FV class)	Liberalisation stance (% change in EPR)
	1988	1998	2001						
[1]	[2]	[3]	[4]	[5]	[6]	[7]=[6]-[5]	[8]=[7]/[5]*100	[9]	[10]
1 Paper and Paper products	1655	5571	7462	1.145	0.616	-0.529	-46	L	L
2 Glass and glass products	351	1020	1313	0.987	0.564	-0.423	-43	L	L
3 TV radio and equipment	884	2337	3050	0.115	0.046	-0.069	-60	L	L
4 Plastic products	1062	4146	6953	0.187	0.118	-0.069	-37	L	L
5 Footwear	462	719	578	0.300	0.244	-0.056	-19	L	L
6 Furniture	1105	3011	3196	0.092	0.038	-0.054	-59	L	L
7 Basic Iron and Steel	3094	9590	10612	0.210	0.164	-0.046	-22	L	L
8 Motor vehicles Parts	3074	8387	12670	0.063	0.032	-0.031	-49	L	L
9 Wearing apparel	1315	4305	4508	0.115	0.084	-0.031	-27	L	L
10 Other manufactures	1351	6267	6419	0.045	0.014	-0.031	-69	L	L
11 Basic Chemicals	1809	6384	8186	0.058	0.028	-0.030	-52	L	L
12 Basic non ferrous metals	1268	4740	6374	0.063	0.044	-0.019	-31	L	L
13 Professional and scientific products	289	508	679	0.098	0.084	-0.014	-15	L	L
14 Electrical machinery	3210	6754	8768	0.042	0.030	-0.012	-28	L	L
15 Electrical, Gas and Steam	7081	19249	20658	0.070	0.062	-0.008	-11	L	L
16 Other transport	832	1034	1440	0.008	0.002	-0.006	-76	L	L
17 Rubber	602	1356	1930	0.170	0.164	-0.006	-4	L	M
18 Other chemicals & Manmade fibres	2525	10269	13975	0.040	0.034	-0.006	-15	L	L
19 Wood and wood production	765	2831	3337	0.018	0.014	-0.004	-24	L	L
20 Building Construction	4836	14126	15947	-0.007	-0.008	-0.001	20	M	P
21 Non metallic minerals	1510	3775	4660	0.008	0.008	0.000	-4	M	M
22 Med, dental, health and veterinary services	1781	12027	16180	0.000	0.000	0.000	0	M	M
23 Metal prod excluding machinery	3031	8124	10028	0.010	0.010	0.000	0	M	M
24 Coal Mining	3287	9532	13797	-0.010	-0.010	0.000	0	M	M
25 Transport and Storage	14625	43850	53283	0.000	0.000	0.000	0	M	M

26 Wholesale and Retail Trade	22910	83206	108684	0.000	0.000	0.000	0	M	M
27 Coke and refinery petrol	2471	5531	6631	-0.013	-0.012	0.001	-10	M	L
28 Machinery & Equipment	2479	6311	7875	-0.002	0.000	0.002	-100	M	L
29 Beverages	1912	7611	9684	0.008	0.012	0.004	44	M	P
30 Printing, publishing and recording	1277	4372	6191	0.130	0.134	0.004	3	M	M
31 Other Mining	5229	17846	35019	-0.062	-0.054	0.008	-12	P	L
32 Finance and Insurance	12080	51943	79988	-0.195	-0.184	0.011	-6	P	M
33 Leather	167	284	605	0.207	0.218	0.011	5	P	M
34 Gold and Uranium Mining	13348	17410	19752	0.000	0.012	0.012	**	P	M
35 Agriculture, Forestry and Fishing	11197	24700	27730	0.052	0.064	0.012	24	P	P
36 Food	4642	13802	16472	0.027	0.064	0.037	140	P	P
37 Textiles	1652	3317	3555	0.093	0.136	0.043	46	P	P
38 Tobacco	292	951	1117	0.035	0.124	0.089	254	P	P
39 Water supply [42]	1064	3628	3598						
40 Excluding medical, dental and veterinary services [94-96]	1682	7929	10107						
41 Catering and accommodation services [64]	2190	7913	8407						
42 Civil engineering and other construction [52-53]	2869	9660	11479						
43 Communication [75]	3788	21488	37429						
44 Other producers [98]	6317	20519	27200						
45 Business services [83-88]	13969	74553	106254						
46 General government services [99]	25571	120342	145270						
47 Contribution to GDP of 38 sectors: L								23;23;22	30;30;30
48 (FV study) M								43;46;45	53;55;56
49 P								34;30;33	17;15;13
50 Contribution to total GDP: L								16;14;13	21;18;19
51 M								30;29;28	38;34;34
52 P								25;19;20	12;9;8
53									

Source: Own calculations with data from Federekke, J and Vaze, P, 2001, Trade and Industrial Policy Strategies Database.

Notes: 1. Change in the average ERP for the period 1988-93 and 1994-98.

2. Percentage change in the average EPR between the period 1988-93 and 1994-98

Table 5. *Extent of trade liberalisation (ERP calculations based on statutory rates)*

sic v3		Contribution to total sales									
		1990	1993	1999	ERP 1993	ERP 1999	Absolute ERP change in 93-99	% change in ERP 93-99	Liberalisation stance (absolute change in ERP)	Liberalisation stance (% change in ERP)	
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]=8/6*100	[10]	[11]	
1	3116	Grain mill products	5004	7198	9847	0.03	-0.11	-0.14	-467	L	L
2	3114	Canning Preserving & Processing of fish	794	1266	1533	0.12	-0.05	-0.17	-142	L	L
3	3133	Malt Liquors & Malt	4235	5261	8967	0.16	-0.04	-0.2	-125	L	L
4	3522	Medical & Pharmaceutical preparations	2796	3436	5781	0.13	-0.03	-0.16	-123	L	L
5	3420	Printing & Publishing	5107	7063	11665	0.11	-0.02	-0.13	-118	L	L
6	3901	Jewellery and related articles	1558	1602	2449	0.21	-0.03	-0.24	-114	L	L
7	3512	Fertilizers & pesticides	1790	2311	5932	0.08	-0.01	-0.09	-113	L	L
8	3529	Other chemical products	3233	3625	6882	0.17	0	-0.17	-100	L	L
9	3134	Soft Drinks & Carbonated waters inds	2266	3089	6092	0.4	0.01	-0.39	-98	L	L
10	3839	Other electrical apparatus & supplies	583	712	1004	0.3	0.02	-0.28	-93	L	L
11	3121	Other, food products	2580	3690	6419	1.42	0.1	-1.32	-93	L	L
12	3851/4	Other transport	1539	1679	2789	0.21	0.02	-0.19	-90	L	L
13	3115	Vegetable & animal oils & fats	1969	2901	5566	0.63	0.06	-0.57	-90	L	L
14	3310	Wood & Wood products excluding furniture	3508	4580	8355	0.19	0.02	-0.17	-89	L	L
15	3521	Paints vanishes & lacquers	1253	1727	3683	0.95	0.1	-0.85	-89	L	L
16	3213	Knitting mills	1195	1370	1859	2.82	0.4	-2.42	-86	L	L
17	3832	Radio, Television & communication equipment	2571	2772	4441	0.2	0.05	-0.15	-75	L	L

18	3831	Electrical industrial machinery	630	808	2130	0.16	0.04	-0.12	-75	L	L
19	3710	Iron & Steel basic industries	13362	15041	26057	0.12	0.04	-0.08	-67	L	L
20	3119	Cocoa, Chocolate & Sugar confectionery	1204	1552	2911	0.34	0.13	-0.21	-62	L	L
21	3819	Other fabricated metals excluding machinery	5963	7560	11054	0.3	0.13	-0.17	-57	L	L
22	3523	Soap, cosmetics & toilet preparations	2519	3824	7606	1.26	0.57	-0.69	-55	L	L
23	3220	Wearing apparel excluding footwear	4848	5837	9136	3.54	1.62	-1.92	-54	L	L
24	3211	Spinning, Wool weaving & finishing of fabrics	3907	4586	6305	1.23	0.6	-0.63	-51	L	L
25	3412	Paper containers	2970	3720	6814	0.5	0.28	-0.22	-44	L	L
26	3620	Glass & Glass products	1612	1606	2141	0.16	0.09	-0.07	-44	L	L
27	3551	Tyres & Tubes	875	826	972	0.48	0.31	-0.17	-35	L	L
28	3559	Other rubber products	1744	2077	3195	0.2	0.13	-0.07	-35	L	L
29	3240	Footwear	1807	2131	2379	0.75	0.49	-0.26	-35	L	L
30	3560	Other plastic products	4328	5810	9723	0.48	0.34	-0.14	-29	L	L
31	3811	Cutlery, Hand tools & General hardware	975	1115	1839	0.31	0.27	-0.04	-13	L	L
32	3111	Slaughtering Preparing & Preserving Meat	2653	3349	5693	5.13	4.49	-0.64	-12	L	L
33	3419	Other Pulp, paper & paperboard	1185	1880	3567	0.27	0.25	-0.02	-7	L	M
34	3843/0	Motor vehicles	15497	20883	42720	1.21	1.13	-0.08	-7	L	M
35	3833	Electrical appliances & house wares	1205	1358	1926	0.56	0.56	0	0	M	M
36	3411	Pulp, Paper & Paperboard	4361	4999	10019	0.08	0.08	0	0	M	M
37	3691	Bricks, Tiles, re-factories, etc.	1466	1594	2431	0.17	0.17	0	0	M	M
38	3692	Cement	1224	1632	2313	-0.02	-0.02	0	0	M	M
39	3511	Industrial chemicals	712	793	1391	0	0	0	0	M	M
40	3610	Pottery, China & Earthenware	226	230	270	0.32	0.33	0.01	3	P	M
41	3320	Furniture	3028	3451	6356	0.5	0.53	0.03	6	P	M

42	3212	Made-up textile goods, exc wearing apparel	992	1257	1659	0.77	0.82	0.05	6	P	M
43	3219	Textiles, not elsewhere classified	423	614	1105	0.15	0.2	0.05	33	P	P
44	3233	Leather products & leather substitutes	871	1065	2578	0.57	0.81	0.24	42	P	P
45	3214	Carpets & rugs mats & matting	459	610	701	0.6	0.86	0.26	43	P	P
46	3113	Canning & preserving of fruit & vegetables	2180	2720	4489	0.32	0.49	0.17	53	P	P
47	3117	Bakery products	2598	3577	4157	0.85	1.62	0.77	91	P	P
48	3131	Distilleries & wineries	2699	3226	5546	0.44	1.85	1.41	320	P	P
49	3122	Prepared animal feeds	2380	2987	5025	-0.2	1.19	1.39	695	P	P
50	3112	Diary Products	3227	4601	7165	0.16	1.84	1.68	1050	P	P
51	3118	Sugar factories & refineries	2124	2528	4473	0.1	4.99	4.89	4890	P	P
52		Contribution to sales of 51 sectors L								80;81	67;66
53		M								6;6	21;25
54		P								13;13	11;10
55		Contribution to manufacturing sales L								60;61	50;49
56		M								5;5	16;18
57		P								10;10	8;8

Source: IDC, 1996; *Trade and Industrial Policy Strategies Database*, own calculations

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