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Cumulative Costs of Trade Protection in the South African Economy

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Please note that all currencies are in US$ unless otherwise indicated.

ABSTRACT

Powerful theoretical reasoning and overwhelming empirical evidence demonstrate that protectionism, being selective and economically distortive, is to the disadvantage of the very country behaving in a protectionist fashion. Although the protected industries can gain from trade protection measures, other industries may suffer severely. Unfortunately, this is not a zero-sum game, as the net effect of a country's trade protection measures on its own social welfare is negative. The South African government's support to some industries, through trade protection and other forms of industrial policy, has costs for other industries.

Trade protection appears to be a politically attractive policy tool because of a certain degree of asymmetric information in society: most voters appreciate the immediate gains for the protected industries and underestimate the costs for the economy in the long run. Protectionist measures thereby generate public support, which of course is relevant in democracies. However, the knowledge about trade policy distortions and welfare costs is not widespread, and an increased public understanding of the economic trade-off caused by South Africa's trade policy in general needs is needed. South Africa's own trade policy measures for different industries can potentially hurt the country's economy. In addition to tariffs, poor regulation of network industries (such as energy and telecommunications) and administrative burdens play an important role. Against this background, the latest South African industrial and trade policy initiatives are somewhat disappointing, relying on old interventionist tools and only marginally attacking the major problems in the economy.

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ABBREVIATIONS AND ACRONYMS

CGE	computational general equilibrium
dti	Department of Trade and Industry
FTA	free trade agreement
GDP	gross domestic product
GTAP	Global Trade Analysis Project
IPAP	Industrial Policy Action Plan
NTB	non-tariff barrier
PPP	purchasing power parity
SACU	Southern African Customs Union
TPSF	Trade Policy and Strategy Framework
WTO	World Trade Organization

BACKGROUND

> We came to the conclusion that the less we attempted to persuade foreigners to adopt our trade principles, the better; for we discovered so much suspicion of the motives of England, that it was lending an argument to the protectionists abroad to incite the popular feeling against the free-traders …. To take away this pretence, we avowed our total indifference whether other nations became free-traders or not; but we should abolish Protection for our own selves, and leave other countries to take whatever course they liked best.
>
> Richard Cobden, quoted in Bhagwati[1]

In his powerful and famous statement, Richard Cobden emphasises the empirically well-founded free trade doctrine, clearly advising that Britain should open its markets regardless of what other nations do. He argues that protectionism, being selective and economically distortive, is to the disadvantage of the very country that behaves in a protectionist fashion. Indeed some industries can gain, while others lose. Unfortunately, this is not a zero-sum game: empirical evidence across the world overwhelmingly suggests that the net effect of a country's trade protection measures on its social welfare is negative.

So why is trade protection such a politically attractive policy tool? The political economy answer lies in the different levels of information and time horizon of the various players. For policymakers, its attractiveness stems from a certain degree of asymmetric information in society: most voters appreciate the immediate gains for the protected industries and underestimate the long-term costs for the economy. Protectionist measures thereby generate public support, which is of course relevant in democracies, although their effects are difficult to measure. However, knowledge about trade policy distortions and welfare costs is not widespread, and an increased public understanding of the economic trade-off caused by South Africa's trade policy in general is needed. The government's support for some industries, through trade protection and other forms of industrial policy, has costs for other industries. In other words, South Africa's own trade measures can potentially hurt the country's economy through costs, which affect different industries in four main channels.

After a review of the data and literature on South Africa's trade policy as a whole, including tariff and non-tariff barriers (NTBs) to trade, these policy measures are related to the channels identified, and the latest South African industrial and trade policy initiatives are examined in the light of the analysis. Finally, policy options are discussed against the background of the costs of protection and the trade and industrial policy initiatives.

CHANNELS OF PROTECTION: THEORETICAL CONSIDERATIONS

To understand the effects of protection on the economy as a whole, it is necessary to look at more than the affected and protected industry. The protected industry will indeed gain because the support decreases competition and allows for higher prices (unless demand is extremely price elastic). However, these positive effects are countered by negative effects on other industries in four main channels: the exchange rate channel, the input demand channel, the purchasing power channel and the retaliation channel.[2] In addition, trade

protection reduces the consumer's choice. Administrative burdens and trade finance costs may add to the picture, and both the static and dynamic effects of trade policy need to be analysed.

The static view

Import tariffs (and other forms of protection) are costly for society. The partial equilibrium theory states that protection causes 'deadweight loss', which is the difference between the sum of consumer and producer surplus in the free-trade regime and the sum of (reduced) consumer surplus, (increased) producer surplus and tariff revenues in the protectionist regime. In a recent study, Irwin[3] calculated that the deadweight losses in the US, since the Civil War until 1961, made up between 0.1% and 1.3% of gross domestic product (GDP), depending on the average tariff level. He reckoned that the losses would be higher, if the US trade share were higher.[4] Since the South African economy is relatively more open than the US economy, higher deadweight losses would be expected. In addition to these costs, the extra producers' rent may be dissipating because of lobbying activities for the rents; in other words, those who gain from protection spend so much on lobbying activities that their rent is reduced. Those who are not protected also spend huge sums on lobbying to prevent protection for other industries or to get the rent themselves, albeit without success. Tullock[5] has shown in theory that this rent-dissipating effect may also be substantial; in reality it is difficult to calculate.

However, the partial equilibrium view is only half of the story. If industries other than the protected ones are taken into account (the general equilibrium perspective), they are potentially hurt by protection via different channels.

Exchange rate channel

The first channel is the exchange rate channel. One aim of import protection is to reduce the demand for imported goods[6] and to increase the demand for home (import-competing) goods. Protection is conventionally taken to mean a tariff levied on imports. However, quotas, other NTBs and subsidies should also be included because, in general, they have the same effect on the relative price between the home and the foreign good. A tariff of x-% on an imported good increases the relative price of the foreign good by the magnitude of x-%. As the price competitiveness of the home industry increases, demand for domestic goods increases and demand for the imported good reduces. Depending on the level, a tariff or NTB may even make a formerly imported good non-tradable, which gives the domestic suppliers a sort of monopolistic power.

In any event, this mechanism leads to a decreased demand for foreign exchange, which in turn causes the domestic currency (the rand in South Africa's case) to appreciate. Of course, such an influence is difficult to measure, as the rand responds to multiple influences, some of which may be substantial such as capital flows.[7] However, all things being equal, the appreciation due to trade protection is a fact and may be huge in single cases.[8] The rand appreciation hurts exporters, whose products become more expensive in foreign currencies (which is relevant for the foreign customers). This effect would not appear if only foreign demand was totally inelastic, which is not the case for most exported products. Thus, export demand is reduced, putting jobs in the export sectors at stake. In effect, import protection acts as a form of export taxation.

Input demand channel

The second channel can be labelled input demand channel, as protection measures mean that imported inputs (and their competing products) become more expensive, which again hurts exporters and import-competing industries producing processed goods further along the value-added chain. The logic is the same as for the exchange rate channel: the price increase on imported inputs reduces the price competitiveness of domestic producers. For tradable goods only (and only partly), this is compensated for by the rand appreciation, which leads to a decrease in some import prices for those goods not protected by tariffs or NTBs. However, non-tradable goods also need imported or import-competing goods as inputs, and their production costs increase as inputs also become more expensive. Since by definition non-tradables are not competing with foreign products, they become more expensive. Again, the net effect on turnovers depends on the price elasticity of demand.

Overall purchasing power channel

The third relevant channel is the overall purchasing power channel. If price elasticity is smaller than one, the increase in prices for imported and import-competing goods raises the purchasing power used for these goods. In this case, the x-% price increase leads to a demand reduction of less than x-%, which implies that more money is spent on these products than before the tariff. In other words, given that income, the purchasing power in South Africa is not increasing, and the purchasing power left for other goods is decreasing. Also to bear in mind is the costs – and thus the prices of goods that use imports or import-competing goods – increase because of the input demand channel, which further reduces purchasing power. Therefore, the quantities of goods and services sold in South Africa are reduced. Although it is difficult to estimate the economy-wide job losses related to this effect, the danger of permanent job losses exists.

Retaliation channel

A fourth channel is the retaliation channel, as other countries may respond to South African trade policy measures that affect their export industries. Foreign retaliation typically seeks to hurt sensitive (and export-oriented) domestic industries – usually not those that are protected – to 'convince' domestic governments to stop protection. As it is difficult to discuss all the hidden or explicit measures by foreign governments, this avenue will not be pursued. Nevertheless, a government should keep this danger in mind when protecting national industries.

Apart from the price effects, the costs relating to the reduction of the consumer's (or industries') choice must not be underestimated. Product variety is reduced, in particular if the tariff is prohibitive, which means that foreign goods are no longer imported and only domestic firms serve the market. Again, although difficult to estimate, the costs of reduced choice for downstream industries and consumers definitely exist.

Finally, administrative and trade finance costs can be considered a form of import protection. These costs do not appear in economics textbooks and so are not found in the theory of protection.[9] Yet, they play a role, as administrative burdens can easily drive out imports. The longer clearing customs takes, the less competitive the imports and the better protected the import-competing industry. Trade finance problems are less clearly concentrated on importers, but relevant for both importers and exporters. Thus, governments would be expected to be eager to decrease these costs and facilitate trade at

any rate. In South Africa, trade finance costs are moderate,[10] and in the *Doing Business Report*,[11] the country is ranked 2 (of 183 countries) with respect to 'Getting credit' for private firms. Although these costs are not considered a problem, the administrative burdens merit a closer look.

Box 1: The protection channels in brief

Exchange rate channel	$T_i\uparrow \Rightarrow P_i\uparrow \Rightarrow D_i\downarrow \Rightarrow R\uparrow \Rightarrow P_x\uparrow \Rightarrow D_x\downarrow$
Input demand channel	$T_i\uparrow \Rightarrow P_i\uparrow \Rightarrow C_x\uparrow \Rightarrow P_x\uparrow \Rightarrow D_x\downarrow$
Purchasing power channel	$T_i\uparrow \Rightarrow P_i\uparrow \Rightarrow S_{i+ic}\uparrow, C_{j\neg i}\uparrow \Rightarrow D_{j\neg i}\downarrow \Rightarrow S_{j\neg i}\downarrow$
Retaliation channel	$T_i\uparrow \Rightarrow P_i\uparrow \Rightarrow D_i\downarrow \Rightarrow T^*\uparrow \Rightarrow p^*_x\uparrow \Rightarrow D_x\downarrow$

Symbols

C = costs
D = demand
i = import good
ic = import-competing good
j¬i = all goods except for i and ic
P = price
R = rand in dollar
S = spending
T = tariff
x = export good
* = foreign

Source: Author's own compilation

The dynamic perspective

The emphasis so far has been on the static effects of protection, but the dynamic effects need to be looked at. First, as protected firms facing little or no competition have no incentive to serve the customers' needs, quality is reduced and innovations are less important than when under full competitive pressure from world markets. Monopolies are especially prone to being less customer-orientated. Therefore, in addition to direct price effects, the effects on quality need to be considered. Although some quality reductions may be tolerated for the sake of retaining jobs in declining industries, the quality effect is a huge problem for export industries, as poor quality inputs affects their competitiveness. A telling example is the energy sector, which is heavily protected from foreign competition (via regulation and monopolisation). The result is frequent shortages and a potential undersupply of energy in the future, with knock-on effects for industry as a whole.

Second, and most importantly, the structure of imports must be considered, in particular the structure of import protection in an emerging economy. The latter is increasingly similar to the import-protection structure of industrialised countries, which supports mainly sectors producing Heckscher-Ohlin goods or Ricardo goods.[12] In general, the higher the degree of protection for this sector, the higher the share of unskilled labour, the higher the regional

concentration and the lower the added value, profits and sectoral growth. In other words, governments concentrate their support on those industries that suffer from worldwide structural change, which may be understandable from a short-term and social perspective, but has long-term negative consequences. The negative effects due to the exchange rate, the input-demand and the purchasing power channels hurt exporting industries. These industries have to be competitive, innovative and flexible to succeed in world markets. By taxing them through import protection, the government risks decreasing the competitiveness of these dynamic industries and thereby the economy maintaining uncompetitive, low-productivity jobs at the expense of competitive, high-productivity jobs.[13]

A standard response to this last argument is that the costs mentioned do not occur, as governments try to support the future winners on world markets. The role is that of a developmental state,[14] driving industrialisation and creating comparative advantages. In theory, the argument is compelling, but only assuming a benevolent, fully informed and visionary government without political restrictions such as election terms. Citing South-East Asian countries as successful examples does not enhance the argument,[15] as their average productivity growth was very modest, and the Asian crisis was probably a result of unsustainable interventions of the state, for example forcing banks to give credit to non-competitive industries. If and how the South African government tries to pick winners through its industrial policy strategies is assessed later.

In general, irrespective of the country in question, the development state has three inherent problems: first, government lacks the knowledge to pick future winners. The future is open and cannot be planned. The knowledge, which is needed to identify future chances and reduce the associated risk, is normally decentralised and consists of a huge number of single signals created by competition,[16] read by many market participants who take individual risks. In what is a process of trial and error, individual actors use the knowledge and some lose while others gain. Thus a trend is generated, leading to successful industrial developments. Governments and bureaucracies in democracies not only often miss these individual signals, but are also driven by political rather than economic rationality, which implies that the short term is more important than the long run. As a result, their success is much lower. Furthermore, governments do not spend their own money and so do not need to calculate the risks; failures are not a personal punishment, and so matter less than in private businesses. Third, governments are not benevolent, but are subject to lobbying by interest groups to which they have to respond as a politically rational action, for fear of not being re-elected. As a consequence, they do not fully concentrate on winners, but mainly support the losers of global structural change. The ability of the state to develop sustainable industries is not supported by theory and empirical evidence – the expectation is net losses instead of benefits for the economy.

CHANNELS OF PROTECTION: THE CASE OF SOUTH AFRICA

The type and extent of trade policy costs

For the overall economy, the cumulated costs of protection translate into growth reduction, less private consumption and job losses. Of course some endangered jobs are saved, at

least in the short run, but in the long run, the problems of the affected industries are not necessarily solved. A look at protected industries in developed countries reveals that this protection had to be maintained for a long time, and ever more jobs were lost over time, despite the protection. Examples are the Western European textile and clothing industry, the shipbuilding industry and mass steel production. As most of these industries are labour-intensive, the degree of protection either has to be steadily increased or jobs eventually disappear despite the support.

Thus, empirical analyses often concentrate on jobs. A study for West Germany using computational general equilibrium (CGE) techniques came to the conclusion that in 1987 the agricultural protection contributed significantly to the level of unemployment. Without the subsidies, the simulation results suggest that German employment could have risen by 850 000 jobs, mainly in export industries, which means that the rate of unemployment in 1987 would have been 5%, instead of 9%. When other industries were taken into account, the calculated overall job losses due to subsidies were even higher.[17] While extraordinarily high because it assumes the dismantling of all agricultural support, this result should not be regarded as the benchmark for South Africa, but it does shows the potential of liberalisation quite powerfully. Moreover, a study, which employed the Global Trade Analysis Project (GTAP) model to simulate a free trade agreement (FTA) between the US and the Southern African Customs Union (SACU), arrived at comparable results. Concluding this single FTA would increase employment and GDP in the SACU region by almost 0.5%.[18]

The results were assessed by running the GTAP model for South Africa,[19] assuming the following simultaneous policy changes: (1) a 5% uniform tariff reduction for all goods;[20] (2) a 3% decrease in trade costs for imports; and (3) a 1% reduction of trade costs for exports. The last two items reflect administrative costs of trade and protection of service industries, which are by nature non-tariff and for which the GTAP database for South Africa does not show protection rates. The result is quite interesting and encouraging: the increase in overall GDP due to lower trade barriers is around 1.7%.

However, there are caveats: (1) the GTAP model is comparatively static and does not say anything about the time needed to reach new equilibria; in other words, the timing of the GDP increase remains open; (2) the data used in Bauer and Freytag[21] is from 2004, as newer updates are not available; (3) quantitative studies require an enormous amount of information, including measuring the degree of protection given by different forms of protection (tariffs, NTBs such as regulation and monopolisation of network services, cost of trade finance and customs procedures). To calculate the trade-related costs is a heroic attempt;[22] thus, (4) many CGE models, including those of Adams and Horridge[23] and Bauer and Freytag,[24] restrict themselves to tariffs. Therefore, although any figure resulting from CGE models should not be taken at face value, the tendency should at least be acknowledged, which points to a welfare gain through liberalisation.

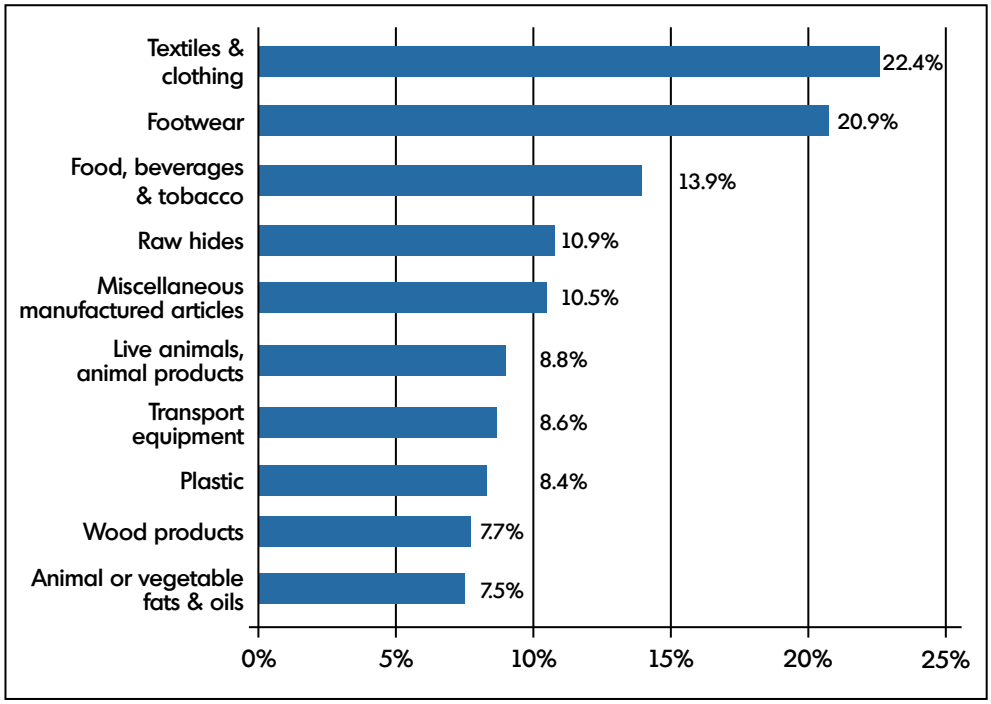
Even considering the limitations of CGE models, the two papers mentioned above and this analysis form a framework for the following qualitative analysis, presenting a systematic qualitative overview of tariff and non-tariff barriers in the country. Using available data, some examples are given to illustrate how the various channels can hurt industries not subject to government protectionist support, and the magnitude of the costs related to the South African trade regime are then analysed.

Tariffs in South Africa and their costs

The World Trade Organization (WTO) Trade Policy on SACU of November 2009 systematically reported on South African trade barriers,[25] which include tariff protection. According to Draper and Biacuna,[26] the South African tariff rates have declined remarkably since 1994. There are less tariff bands (1994: 723; 1998: 275; 2007: 102), less tariff lines (1994: 11 231; 1998: 7 773; 2007: 6 667) and lower applied tariff rates (simple average 1994: 23%; 2006: 6.7%) than at the end of apartheid.[27] Nevertheless, the average tariff is still twice as high as in the European Union. In other words, there is still potential to reduce the tariff rates. In 2008, some of the applied tariffs increased again to use the water in the tariff structure.[28]

In addition to comparable high tariff rates, the tariff structure is widely spread, with some goods being much more protected than others (Figure 1 shows the most protected sectors, while Table 2 on page 21 shows a representative sample). The ten most protected goods are quite low tech in nature. At the top are textiles, clothing and footwear, which have average tariff rates of above 20%, followed by food, beverages and raw hides. Transport equipment is one of the few highly protected medium-tech industries. The automotive industry is especially protected. It is also interesting to note that there is a differentiation within the product group concerning the bound tariff: while the maximum bound tariff in food is about 130%, even products in the machinery industry have bound tariff protection of up to 30%.

Figure 1: South Africa's top 10 most protected product groups, average applied tariffs



Source: Draper P & G Biacuana, 'Business, trade policy and import tariffs in the global economic crisis: fiddling while rome burns?', mimeo, Johannesburg: SAIIA, 2008, p. 13

With respect to tariffs, the exchange rate channel is working. High tariffs reduce the demand for foreign exchange, thereby increase the price for rand in foreign currency and so exporters suffer. If the tariff is higher than in other countries, this effect is stronger than elsewhere, everything else being equal. The exchange rate effect applies to all export-oriented industries, regardless of how much they depend on imported inputs.

In addition, the input demand channel increases the costs for industries that depend on imported inputs. Apart from transport equipment, the typical inputs for downstream industries, such as minerals, chemicals, base metals, machinery, specialised equipment, have below-average protection. To compensate for this effect and to enhance exports, since the early 1980s the South African government has run a rebate scheme for import tariffs paid by some export industries, such as the automotive industry and the textile and clothing industry.[29] Between 2003 and 2007 on average approximately 10% of the imports benefited from these rebates,[30] which shows that, for export goods, the input demand channel is not working as strongly as the theory suggests. Nevertheless, the rebate scheme is judged as arbitrary and opaque.[31]

However, the purchasing power channel is working more strongly, as many final products with low-price elasticity, such as food and textiles, are at the top of the list. Thus, the demand for other traded and non-traded goods is probably declining, which can be demonstrated by a calculation on the product groups: textiles, clothing and food, and beverages and tobacco. The calculation assumed that the same tariff for each good is applied and that a full pass-through of tariffs and their reduction in either direction is possible. Using consumer price index weights[32] as proxy for the spending pattern in South Africa, the average household was assumed to use 18.28% of its disposable income for food and beverages and 4.42% for textile and apparel. Further, assuming that price elasticity is equal for all goods within each of the groups, the purchasing power surplus resulting from zero tariffs can be calculated as Box 2 shows.

The price elasticity of demand is defined as a relative quantitative change in demand (Q) due to a relative price (P) change: $\varepsilon = \frac{dQ/Q}{dp/p}$

Although the assumptions are very simple and strong, the results in Box 2 demonstrate how a tariff can distort the economy and hurt the consumer. A fully fledged model would need more information and should consider feedback processes, which would increase rather than diminish purchasing power gains from liberalisation, encouraging dynamics such as the saved purchasing power that could be spent on goods with higher productivity and value added.

Non-tariff barriers in services

However, tariffs do not play the only role, as substantial NTBs exist, in particular in service trade. The Organisation for Economic Co-operation and Development Report of 2008 suggests that how network industries (in particular: energy, telecommunications and transport) are organised causes particularly high costs for downstream industries. State-owned entities still run the electricity and telecommunications networks. In case of electricity, a monopoly (Eskom) provides protection from internal as well as foreign

Box 2: Purchasing power channel simulation for clothing and textiles, food and beverages, 2008

G = S*(1−PE)*T)/(100+T)

Example 1: High price elasticity				
	S	**T**	**PE**	**G**
Food and Beverages	18.28	13.9	-0.8	0.446
Clothing	3.13	22.4	-0.8	0.115
Footwear	1.29	20.9	-0.8	0.045
Sum				**0.606**
Example 1: Low price elasticity				
Food and Beverages	18.28	13.9	-0.2	1.784
Clothing	3.13	22.4	-0.2	0.460
Footwear	1.29	20.9	-0.2	0.180
Sum				**2.424**

Symbols

S = share of spending (weight in consumer price index)
T = tariff rate
PE = price elasticity
G = gain in purchasing power from zero tariff in %

Source: Statistics South Africa, Consumer Price Index, 2008 Weights (Total Country), 2008, http://www.statssa.gov.za/cpi/index.asp, accessed 8 September 2010; Draper P & G Biacuana, 'Business, Trade Policy and Import Tariffs In The Global Economic Crisis: Fiddling While Rome Burns?', mimeo, Johannesburg: SAIIA, 2008; author's own calculations

competition, while South Africa has not signed the Fourth Protocol of 1997 related to telecommunications.[33] As a result, prices are high and quality is poor in both markets.

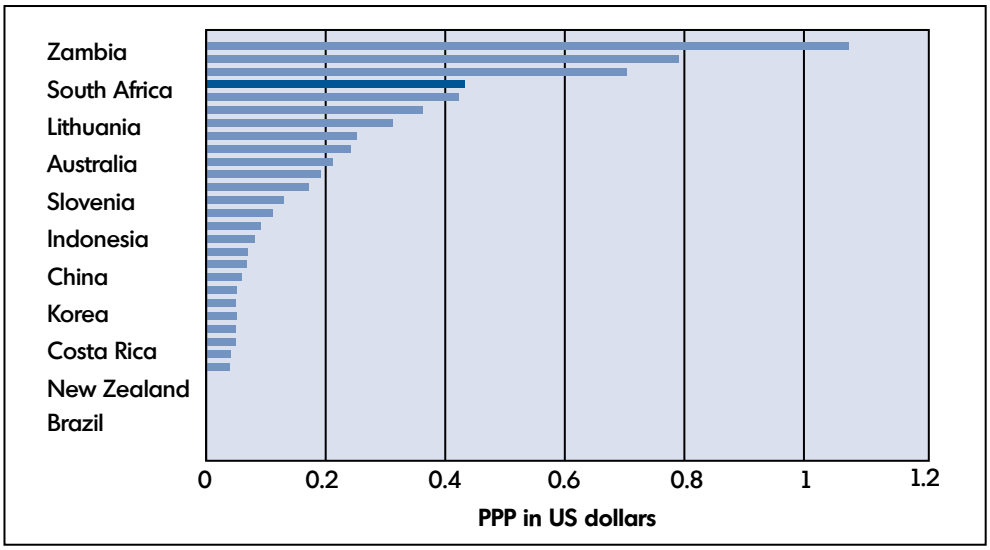
It is difficult to compare the electricity prices in South Africa to those in other countries. A rather incomplete international comparison of 68 countries by the US Energy Information Agency[34] suggests that the electricity price for business in South Africa is at the bottom of the list. However, as the prices are calculated in dollars, the comparison suffers from exchange rate fluctuations, which makes the purchasing power effect difficult to calculate and compare. A US Energy Information Agency study shows a strong increase in the dollar-denominated electricity price from 2002, which is in line with Eskom's information about prices in real terms. Electricity prices have increased enormously since the beginning of this decade, mostly between 2003 and 2008,[35] and were almost 40% higher in 2008 compared to 2002. In 2009 Eskom increased the average electricity price by 31% and asked for even higher increases until 2013, but the regulator only approved an annual price rise of about 25% for 2010 through 2012.[36] It is still a high increase, which raises costs for industries substantially and is a burden for exporters and import-

competing firms. Thus, the input demand channel and the purchasing power channel seem to work.

For South African customers, another big problem is the high cost of telecommunications,[37] for which a precise international comparison is possible. Price data in dollar purchasing power parity (PPP) for a local call at peak time is available for 118 countries,[38] of which South Africa ranked 106th in 2009 (see Table 3 on page 22). Competing firms in many foreign countries, in particular in emerging economies, face much lower telephone costs. Figure 2, which includes a selection of the countries found in Table 3, clearly shows that South Africa's telephone rates for peak time calls ($0.43 per 3 minutes) are well above the average rate of about $0.20. The average is also misleading, due to some outliers, as the median of 118 countries is only $0.065, which implies that telecommunication in South Africa is much more expensive than in most other countries. This creates competitive disadvantages for the firms in the country, regardless of whether they export, compete with imports or produce non-tradables.

The three channels identified here show that the protection of an oligopolistic state leads to high costs compared to the world market.

Figure 2: Telephone tariffs (3 minute local call at peak time) around the world (selected countries)



Source: The World Economic Forum (WEF) and INSEAD, 'Global Information Technology Report 2009–2010', http://networkedreadiness.com/gitr/main/analysis/showdatatable.cfm?vno=4.44I, accessed 30 August 2010

The role of hidden barriers

Apart from official trade policy measures, hidden barriers include waiting time at borders, bottlenecks in transport and uncertainty surrounding policy implementation. The World Bank's *Doing Business Report*[39] found that South African international business suffers from high cross-border costs. South Africa is ranked 34 out of 183 economies for 'Ease of

doing business', which is not so bad. However, the country ranks 148 in 2009 for 'Trading across borders', which is even worse than in 2007 when it was ranked 134 out of 178 countries.[40]

'Trading across borders' looks at three measures: the documents necessary to trade, the time to export and import (including paperwork) and the trade-related costs, weighting them a third each.[41] For South Africa, exporting requires on average eight documents, 30 days and $1,531 per container,[42] while importing requires nine documents, 35 days and $1,807 per container. Compared to African nations, South Africa is in the midfield, but performs poorly compared to competitors such as other emerging nations, as Table 1 shows: except for landlocked Botswana, South Africa performs worse across all the criteria.

Table 1: Trading across borders 2009: international comparison

	Botswana	Brazil	China	India	Korea	Malaysia	Singapore	SA
Exports								
Documents[1]	6	8	7	8	3	7	4	8
Time[2]	30	12	21	17	8	18	5	30
$/container	2,810	1,540	500	945	742	450	456	1,531
Imports								
Documents[1]	9	7	7	9	3	7	4	9
Time[2]	41	16	14	20	8	14	3	35
$/container	3,261	1,440	545	960	742	450	439	1,807

[1] number of necessary documents.

[2] time in days.

Source: International Bank for Reconstruction and Development and World Bank, *Doing Business 2010. South Africa.* Washington, DC: World Bank, 2010. www.worldbank.org

A study by Mthembu-Salter,[43] which discusses the costs of South African trade with Zimbabwe, also highlights these administrative costs and has similar results. The costs of South Africa's poor performance are difficult to estimate. However, Djankov, Freund and Pham[44] estimated the effects of time in a gravity model of international trade and concluded that each day of delay reduces trade by about 1%. In other words, if South Africa reduced the time required to trade by half, statistically trade would increase by more than 15%.[45] Reducing time to trade virtually diminishes South Africa's distance to the developed world. This can be taken as a proof of the high costs of indirect trade barriers.[46]

By the same token, a substantial uncertainty exists about the validity of rules, combined with corruption. According to the World Bank's *Investment Climate Enterprise Survey*,[47] the average South African firm uses about 6% of their overall management time capacity in negotiations and conversation with government officials, which is exactly the African median. The share of firms bribing officials is the lowest in Africa: 17.5% of the firms pay

bribes to officials. However, the high correlation of data on 'Time to bring imports through customs' between the *Investment Enterprise Survey* and the *Doing Business Report* for Africa shows that legal uncertainty plays a major role.

To summarise, the administrative burdens caused by a poor transport network and high administrative requirements (eight and nine documents for exports and imports respectively) increase the costs of trade. The channels that work here are the input demand channel and the overall purchasing power channel. The exchange rate channel is probably less relevant, as both exports and imports are restricted: if the administrative costs for exports and imports were decreased equally, demand and supply of foreign exchange would also increase equally. In any case, the net effect is difficult to tell.

Cumulative costs of protection are significant

The current state of protection for special sectors in the South African economy clearly causes non-trivial costs for the economy, particularly for industries that are not protected. Import protection in South Africa not only works as export taxation, but also imposes costs on the producers of non-tradables. All channels identified work through tariffs, NTBs and administrative burdens. The structure of the protected industries further suggests that high-tech, not low-tech, industries are taxed. Low-tech industries may provide more jobs per capital invested, but certainly generate less innovation. Thus, overall productivity growth may be substantially smaller than under free-trade conditions.

These static and dynamic costs for downstream industries and other, particularly export-oriented, sectors not only diminish profits for the shareholders, but also create less and less productive employment compared to a free trade regime, which is especially problematic given the high unemployment in the country. Governments should be expected to be aware of these problems and act accordingly to reduce the costs. Therefore, the following section discusses recent trade and industrial policy initiatives of the South African government against the background of the cumulative costs of protection.

SOUTH AFRICAN TRADE POLICY INITIATIVES

In 2010 the South African government issued two related strategy papers: *2010/11–2012/13 Industrial Policy Action Plan*[48] and *A South African Trade Policy and Strategy Framework* (TPSF),[49] which both address the problem of mastering structural change and increasing employment. The government seems to be – at least partly – aware of the costs of trade policy, in particular with respect to the dynamic aspects, when it states that the tariff structure is not adequate to support a modernisation of the economy and concedes that 'we have chosen to focus not on upstream capital intensive projects, but on downstream, more labour intensive, and employment creative activities'.[50]

The general thrust of these strategy papers is not to reduce the distortive costs of protecting and supporting certain industries, but to redirect the support strategically. The government deems itself capable of 'the identification and targeting of appropriate value adding activities'.[51] Explicitly, the TPSF refers to the theory of strategic trade policy.[52]

However, political trust in this elegant and very instructive theory is risky, as Krugman[53] first argues that it may well be justified to assume competition in prices rather

than in quantities (which the Brander/Spencer model does). In this case, an export tax may be the better policy option. Second, the theory is intended for the application of modern industrial economics to trade policy. In particular, the term 'strategic' deserves a second consideration: in the models, it refers to interaction between actors as used in game theory and industrial economics. Thus, the theory differs from traditional trade theory, which takes all others actions as given. In sum, the word strategic only takes into account the interaction between actors in the models; political–strategic considerations of governments to develop new industries or seek new markets do not play a major role, although some authors have tried to define strategic sectors.[54] This definition centres on the very properties that make interaction between actors possible: oligopoly, static economies of scale, learning effects etc. Third, technological externalities are often unobservable, and again the government faces the knowledge system. Fourth, high profits may not be shifted but lost in the subsidy race. Thus, if the South African government tries to shift rents towards domestic firms, other countries with higher budgets may well counter these efforts. Finally, the empirical evidence does not favour deviating from classical trade theory because the new trade theory models are a progress in theory, not policy, which holds in particular for developing countries.[55]

Box 3: The theory of strategic trade policy

In the 1970s and 1980s, economic theorists observed that the international trade theory had not kept pace with market developments and changing conditions. Up until then, trade theories had only reflected North–South trade in perfect markets with Heckscher-Ohlin and Ricardo goods. Instead of being characterised by perfect competition, many product markets were imperfect. Oligopolies dominated markets in developed countries, which traded much more between themselves than with developing countries. Trade also became increasingly intra-industrial.

To reflect this development, theorists such as James Brander, Barbara Spencer and Paul Krugman combined new trends in industrial (competition) economics (Cournot models, Bertrand models) with trade theory and developed models of strategic interaction (game theory) between firms on international oligopolistic markets. In these models, governments can help domestic firms to generate rents through subsidies or other instruments. The strategic element entered the models through the game theoretic background.

These models were meant to contribute to the theory of international trade, not to be policy recommendations, as the results of policy interventions depend strongly on the assumptions and are thus shaky. The models enable economists to understand the functioning of markets better and are an important theoretical contribution. Consequently, in 2008 Paul Krugman received the Nobel Prize in Economics for his contributions to trade theory.

Thus, the theory cannot, and should not, be taken as a policy recommendation.[56] Paul Krugman, a founding of strategic trade policy, was himself always very sceptical about it.[57] Another systematic feature of the policy initiatives is a general distrust of liberalisation

policies. The government claims that almost no evidence exists to support welfare-enhancing liberalisation and most emerging countries flourished because of an explicit deviation from free-trade regimes. In support of this argument, the government quotes the automotive industry's Motor Industry Development Programme as an example of successful export promotion and import protection,[58] despite the costs for downstream sectors.[59] The empirical literature tells a different story: liberalisation, even unilaterally, is one strong element of several drivers of welfare improvements.[60] Of course, trade adjustment costs can be substantial in the short run, but they tend to be more than compensated by the reduced costs of protection and gains from more competition in the medium and long run.[61] These costs are smaller if the economy is flexible enough to master the inevitable structural change. However, both strategy papers lack this insight.

In relation to trade protection costs, the following components of the policy strategy are discussed in detail:

- tariff structure;
- trade in services;
- procurement policy;
- technical standards;
- competition policy;
- capital costs; and
- sectoral developments.

The government does not plan to change the tariff structure (at least not systematically), which is intended to support medium and high tech industries.[62] The aim is 'that tariff policy should be decided on a sector by sector basis, dictated by the needs and imperatives of sector strategies'.[63] Although well aware that this strategy can only be employed within the tariff bounds agreed to in the WTO negotiations, the government wants to maintain its 'policy space to pursue national economic policy objectives'.[64] Such an approach has at least two severe downsides: first, it invites the participation of lobby groups, which may make it very difficult to reject a request for support on the grounds of sector strategy imperatives. Business Unity South Africa[65] has already endorsed this approach, which is understandable, as discretionary leeway for politicians also opens the door for interest groups and their ad hoc arguments.[66] One major advantage of the stick-to-rules strategy is that governments can free themselves from the influence of interest groups.[67] It would be wrong to abandon rules in particular because of the second downside, which is that the government's potential to support new, productive and innovative industries is reduced, as interest groups have instruments and arguments to request support and block other policies. This is true even if the South African government has the knowledge necessary to pursue strategic policies. Thus, a rule-based approach to harmonise the opaque tariff structure[68] is commendable.

Trade in services is another big issue. Acknowledging the importance of services for the South African economy, the government claims to have made significant WTO commitments in services. However, the country has not fully committed to opening up telecommunications and at this stage is not willing to open service markets further. Instead, the plan is to assess the competitiveness of South African service sectors and to establish industry forums before negotiating further market access multilaterally.[69] The

problem is that this procedure is exactly the same as in the case of tariffs. As services are especially labour intensive, a more offensive market-opening strategy would be preferable to raise employment.

The government intends using procurement policies, in particular infrastructure procurement, to enhance domestic producers.[70] Although understandable from a political perspective, a 'buy national' campaign is economically costly.[71] It sends a clear signal to producers that they do not have to consider serious foreign competition. They are thereby likely both to reduce quality and increase the price, which will raise the costs for downstream industries and taxpayers (purchasing power channel).

With regard to technical standards, the government plans to improve standard setting and change standards in order to bring them closer to world standards.[72] This sounds reasonable, provided the government does not give in to the temptation to use technical standards as barriers to trade, particularly against countries from the developing world, because the result would be increased costs for producers and consumers.

The *Industrial Policy Action Plan* (IPAP) is also dedicated to a stricter competition policy,[73] which is good news, as more intense competition is likely to increase quality and reduce the price of goods, and particularly services, for downstream industries, thereby reversing the channels of protection as identified above. Opening the market up can also lead to more competition, a point that the Competition Commission will hopefully stress.

The IPAP also mentions capital costs, which the Department of Trade and Industry (dti) believes are too high. The plan is to reduce them by granting credit on favourable conditions, in other words at below market rates, which will distort the allocation of capital and is prone to rent-seeking and corruption. Stability-oriented monetary policy, in particular fiscal policy, in a stable macroeconomic framework has much more potential to solve this problem.

Finally, the IPAP picks a number of sectors that are considered to be of particular relevance for the South African economy. The three clusters consist of (1) qualitatively new areas of focus, (2) existing IPAP sectors, and (3) sectors with potential for long-term development. The criteria used to pick these industries are not clear, and the South African government appears to have copied other countries' effort, a strategy that has been observed in the past. Interestingly, the sectors chosen are closely related to those industries that enjoy high tariff protection (see Table 2, sectors marked with an *).

The preferred support instruments are those discussed above: subsidies, import barriers, public procurement, standards, regulations and market developments. The history of creationist industrial policies in other countries[74] leads to some scepticism, and the probability of widespread, successful sectoral development programmes is rather low.

POLICY OPTIONS

The South African trade policy is clearly costly for the domestic economy. Although the purpose of this paper is not to give policy recommendations, in the light of the planned policies, which are unlikely to reduce protection costs for the South African economy and may aggravate the situation, such options need to be discussed.

Prior to any direct action, experiences in other countries should be studied, particularly countries that have implemented unilateral liberalisation programmes.[75] Many countries, which have unilaterally opened their markets to imports from the world, have been overwhelmingly successful. Some were in a similar situation to that of South African, facing high unemployment or poor regulation problems. Therefore, it would make sense for the dti to study these countries.

Next, based on the current programmes, the following policy adjustments are proposed. First, the tariff structure is very opaque[76] and seems to be based on historical performances of rent-seeking groups. The TPSF's planned restructuring of the tariff structure does not promise much improvement, but rather invites more rent-seeking activities. Admittedly, the government does not intend to increase tariffs, but rather plans to reduce selected ones. To reduce tariffs asymmetrically in South Africa, the government should apply a Swiss formula (Box 4) without opening up space for vested interests.

Box 4: Swiss formula

A given tariff (t^{old}) for industry (i) is changing to t^{new} the more, the higher the tariff is because a parameter (r) is added.

$$t_i^{new} = \frac{r t_i^{old}}{r + t_i^{old}}$$

In Table A1 (page 21), the results for two simulations with r = 30 and r = 5 are shown. If r = 5, the maximum applied average tariff (for textile & clothing) is reduced to about 4.09%; with r = 30, it is 12.82%.

The Swiss formula allows reducing high tariffs relatively stronger than low tariffs. The government can maintain higher tariffs and keep the tariff structure, but is more independent from interest groups when calculating tariffs. Demands for lower tariffs for input[77] can be satisfied with this formula as well.

Second, the government should seriously reconsider its position with respect to trade in services. In particular, downstream industries should use their good connections to the government to make a strong case for services liberalisation. This could be pursued unilaterally, plurilaterally,[78] or if possible multilaterally. A positive side-effect of service trade liberalisation is the potential to attract foreign direct investment in the service industries, which increases knowledge. The problems in the network industry not only hint at monopolistic structures and political difficulties, but also seem to display a certain lack of expertise and distance from the technological frontier. Foreign competition can be very beneficial for downstream industries. In addition, the service sector is especially able to absorb (less skilled) labour, which the South African economy requires.

Third, the government should be encouraged to keep their stamina in competition policy. The less monopolies and cartels that South Africa has to bear, the lower the costs for downstream industries and customers and the better the quality of goods and services. It is also recognised and appreciated that the government wants to strengthen its ex-ante

regulation. In combination with ex-post competition policy, regulation can be very powerful. Studying experiences in developed countries may help to overcome problems.

Finally, the sectoral development approach should be rethought and rebalanced. Given the poor performance of such a (rather costly) policy, public funding should be concentrated on horizontal measures, for example interventions that focus on productivity and education, or general tax breaks for research and development spending. This policy can be called soft industrial policy, since it does not pick certain industries. The government can also maintain its independence from vested interests and can fight corruption.

Table 2: South Africa's average applied and bound tariff rates by product group and value of imports, 2008

Product group	Average applied tariff (%)	Average max. bound tariff (%)	Swiss formula 30, average applied	Swiss formula 5, average applied
Machinery	4.0	30.0	3.53	2.22
Mineral products	1.9	3.3	1.79	1.38
Transport equipment*	8.6	18.8	6.68	3.16
Chemical products	2.5	18.0	2.31	1.67
Base metals	5.1	22.3	4.36	2.52
Plastic products*	8.4	30.0	6.56	3.13
Textiles & clothing*	22.4	35.9	12.82	4.09
Specialised equipment	0.3	21.7	0.30	0.28
Food, beverages & tobacco*	13.9	131.1	9.50	3.68
Vegetable products*	6.5	74.4	5.34	2.83
Paper products*	4.7	21.7	4.06	2.42
Precious stones and metals	4.4	30.0	3.84	2.34
Non-metallic minerals	7.1	30.0	5.74	2.93
Misc. manufactured articles	10.5	30.0	7.78	3.39
Animal or vegetable fats & oils	7.5	81.0	6.00	3.00
Live animals, animal products	8.9	64.0	6.86	3.20
Footwear*	20.9	30.0	12.32	4.03
Wood products*	7.7	26.7	6.13	3.03
Raw hides	10.9	40.0	8.00	3.43
Collectors' pieces & antiques	0.0	0.0	0.00	0.00

* sectors identified by the IPAP.

Source: South Africa, Department of Trade and Industry, *2010/11–2012/13 Industrial Policy Action Plan*. Pretoria: Government Printers, 2010a, p. 26ff; Draper P & G Biacuana, 'Business, trade policy and import tariffs in the global economic crisis: fiddling while rome burns?', mimeo, Johannesburg: SAIIA, 2008, p. 13; author's changes and calculation (column 3 and 4)

Table 3: Telephone tariffs (3 minutes local call at peak time) around the world (selection)

Rank	Country	PPP US-$	Rank	Country	PPP US-$
1	Barbados	0.00	60	El Salvador	0.14
2	Brazil	0.00	61	Italy	0.14
3	Canada	0.00	62	Switzerland	0.15
4	Hong Kong	0.00	63	Finland	0.15
5	Kuwait	0.00	64	Bosnia and Herzegovina	0.15
6	New Zealand	0.00	65	Norway	0.15
7	Philippines	0.00	66	Guatemala	0.16
8	Guyana	0.01	67	Algeria	0.17
9	Ecuador	0.02	68	Austria	0.17
10	Bangladesh	0.02	69	Paraguay	0.17
11	Montenegro	0.03	70	Estonia	0.18
12	Syria	0.03	71	Dominican Republic	0.18
13	Serbia	0.04	72	France	0.18
14	Singapore	0.04	73	Panama	0.18
15	Costa Rica	0.04	74	United Kingdom	0.18
16	Argentina	0.05	75	Macedonia	0.18
17	Tunisia	0.05	76	Thailand	0.18
18	Korea	0.05	77	Trinidad and Tobago	0.19
19	India	0.05	78	Chile	0.19
20	Russia	0.05	79	Sri Lanka	0.20
21	Iceland	0.06	80	Bulgaria	0.20
22	China	0.06	81	Bolivia	0.21
23	Saudi Arabia	0.06	82	Australia	0.21
24	Nepal	0.06	83	Croatia	0.21
25	Ukraine	0.06	84	Mali	0.22
26	UAE	0.06	85	Colombia	0.22
27	Egypt	0.07	86	Uruguay	0.23
28	Malta	0.07	87	Latvia	0.24
29	Benin	0.07	88	The Gambia	0.24
30	Malaysia	0.07	89	Azerbaijan	0.24
31	Vietnam	0.07	90	United States	0.24
32	Japan	0.07	91	Kenya	0.25
33	Ethiopia	0.07	92	Belgium	0.25
34	Jamaica	0.07	93	Nigeria	0.25
35	Venezuela	0.07	94	Ghana	0.26

36	Sweden	0.08	95	Lithuania	0.31
37	Indonesia	0.08	96	Poland	0.31
38	Bahrain	0.08	97	Malawi	0.31
39	Armenia	0.08	98	Czech Republic	0.33
40	Suriname	0.08	99	Hungary	0.33
41	Albania	0.08	100	Mexico	0.36
42	Denmark	0.09	101	Senegal	0.38
43	Taiwan	0.09	102	Burkina Faso	0.38
44	Cambodia	0.09	103	Namibia	0.42
45	Pakistan	0.09	104	Morocco	0.42
46	Spain	0.10	105	Botswana	0.42
47	Luxembourg	0.10	106	South Africa	0.43
48	Netherlands	0.10	107	Lesotho	0.46
49	Romania	0.11	108	Mauritania	0.51
50	Peru	0.11	109	Georgia	0.54
51	Jordan	0.11	110	Cameroon	0.60
52	Ireland	0.11	111	Cote d'Ivoire	0.62
53	Cyprus	0.12	112	Uganda	0.70
54	Nicaragua	0.12	113	Tanzania	0.73
55	Greece	0.13	114	Mozambique	0.76
56	Mauritius	0.13	115	Slovak Republic	0.79
57	Slovenia	0.13	116	Madagascar	0.80
58	Portugal	0.13	117	Zambia	1.07
59	Germany	0.14	118	Oman	1.18

Median: 6.5 PPP $–cent; average 20 PPP $–cent.

Source: The World Economic Forum (WEF) and INSEAD, 'Global Information Technology Report 2009–2010', http://networkedreadiness.com/gitr/main/analysis/showdatatable.cfm?vno=4.44I, accessed 30 August 2010

ENDNOTES

1 Bhagwati J, *Protectionism*. Cambridge, Mass and London: MIT Press, 1989, p. 12.

2 In this section, we concentrate on import protection, but the effects can be similar in the case of export promotion, in particular export subsidies. Only the input demand channel may not hold, but the other channels are relevant.

3 Irwin D, 'Trade Restrictiveness and Deadweight Losses from US Tariffs', *American Economic Journal: Economic Policy*, 2, 2010, pp. 111–133.

4 *Ibid.*, p. 129.

5 Tullock G, 'The welfare costs of tariffs, monopolies and theft', in Buchanan JM *et al.* (eds), *Toward a Theory of the Rent-Seeking Society*. Texas: A&M University Press, College Station, 1980, pp. 39–50.

6 In this section, we use the word goods for both goods and services.

7 Draper P & A Freytag, *South Africa's Current Account Deficit,* Trade Policy Report, 25. Johannesburg: South African Institute of International Affairs (SAIIA), 2008.

8 It has to be considered that the exchange rate change is due to the balance of capital and trade flows and not the gross flows in a certain period of time.

9 See Corden WM, *The Theory of Protection*. Oxford: Clarendon Press, 1971.

10 Draper P, 'Trade finance in South Africa. The impact of the sub-prime crisis', mimeo, Johannesburg: SAIIA.

11 The World Bank, www.doingbusiness.org.

12 Heckscher-Ohlin goods are goods produced with either a high share of capital or labour intensive (based on the theory of trade by Eli Heckscher and Bertil Ohlin); Ricardo goods are agricultural goods and tourism, where the comparative advantage is based on productivity (sun etc.).

13 This provides another argument for open markets, as import shocks have a significant impact on next-period productivity growth. This impact is expected to be particularly substantial for sectors that exhibit large concentration ratios such as network industries (MacDonald JM, 'Does import competition force efficient production', *The Review of Economics and Statistics*, 76, 1994, pp. 721–727). In a recent study two economists examined the relationship between trade and labour productivity (Thanguvalu SM & R Gulasekaran, 'Is there an export or import-led productivity growth in rapidly developing countries? A multivariate var analysis', *Applied Economics*, 36, 2004, pp. 1083–1093) and confirmed what several other studies have found: imports are more important than exports in promoting productivity growth (with Granger causality running from imports to productivity). Their results also support the empirical evidence that imports have a positive effect on long-term output growth.

14 South Africa, Department of Trade and Industry (dti), *2010/11–2012/13 Industrial Policy Action Plan*. Pretoria: Government Printers, 2010a, p. 26ff.

15 Draper P & A Freytag, *op. cit.*

16 Hayek V & A Friedrich, 'Die Anmaßung von Wissen', reprint of the Nobel Lecture, *ORDO,* 26, 1975, pp. 12–21.

17 Dicke H, Juergen BD, Egbert G & K Grant, 'The economic effects of agricultural policy in West Germany', *Weltwirtschaftliches Archiv*, 124, 1988, pp. 301–321.

18 Adams PD & JM Horridge, 'The effects of a free trade agreement between the USA and the South African Customs Union (SACU)', Centre of Policy Studies/IMPACT Centre Working Paper G-147. Wellington: Monash University, 2004.

19 Bauer M & A Freytag, 'Trade liberalization in South Africa', Friedrich-Schiller University, Jena, mimeo, 2008.

20 This means that, for example, a 10% tariff is reduced to 9.5%.

21 Bauer M & A Freytag, *op. cit.*

22 For an overview of the methods, see UNCTAD (United Nations Conference on Trade and Development), *Methodologies, Classifications, Quantification and Development Impacts of Non-Tariff Barriers*. Geneva: UNCTAD, 2005; Mthembu-Salter G, *The Costs of Non-Tariff Barriers to Business along the North–South Corridor (South Africa–Zimbabwe) via Beit Bridge,* Trade Policy Report, 20. Johannesburg: SAIIA, 2008, pp. 7–10.

23 Adams PD & JM Horridge, *op. cit.*

24 Bauer M & A Freytag, *op. cit.*

25 WTO (World Trade Organization), *Trade Policy Review Botswana, Lesotho, Namibia, South African and Swaziland,* 2009, http://www.wto.org/english/tratop_e/tpr_e/tp322_e.htm, accessed 15 October 2010.

26 Draper P & G Biacuana, 'Business, trade policy and import tariffs in the global economic crisis: fiddling while Rome burns?', paper prepared for Business Leadership South Africa, 2008.

27 South Africa, dti, *A South African Trade Policy and Strategy Framework*. Pretoria: Government Printers, 2010b, p. 14ff.

28 Draper P & G Biacuana, *op. cit.* Table 2 shows the latest figures available.

29 The authors thank Siyabulela Tsengiwe for sharing the information about rebate item 470.03 and drawback item 521.00 of Schedule Nos. 4 and 5 of the Customs and Excise Act.

30 WTO, *op. cit.*, pp. 196–298.

31 For an overview of the paperwork related to rebates, see also South African Revenue Service, Custom Forms, 2010, http://www.sars.gov.za/home.asp?pid=4153&tid=60&s=forms&show=1084, accessed 5 November 2010.

32 Statistics South Africa, Consumer Price Index (CPI), 2008 Weights (Total Country), 2008, http://www.statssa.gov.za/cpi/index.asp, accessed 8 September 2010.

33 For an overview, see Fredebeul-Krein M & A Freytag, 'Telecommunications and WTO discipline: an assessment of the WTO agreement in telecommunication services', *Telecommunications Policy*, 21, pp. 477–491. Reprinted in Kariyawasam R (ed.), *The WTO, Intellectual Property, E-Commerce and the Internet,* Reference Series, 2 Volumes. Cheltenham: Edward Elgar, 2009.

34 US Energy Information Agency, 'Electricity Prices for Industry', 10 June 2010, http://www.eia.doe.gov/emeu/international/elecprii.html, accessed 2 September 2010.

35 This is remarkable. The reason prices are increasing may have to do with (1) production capacity constraints, (2) the associated build programme, (3) Eskom's need to fund this programme, and (4) high net capital inflows since 2003, which causes the prices for non-tradable goods to rise (Draper P & A Freytag, *op. cit.*).

36 South Africa Web, 'Electricity Price Hike in South Africa', http://www.southafricaweb.co.za/article/electricity-price-hike-south-africa, accessed 3 September 2010.

37 OECD (Organisation for Economic Co-operation and Development), *South Africa – Economic Assessment*, OECD Economic Surveys Volume 2008/15. Paris: OECD, 2008.

38 WEF (World Economic Forum) and INSEAD, 'Global Information Technology Report 2009–2010', http://networkedreadiness.com/gitr/main/analysis/showdatatable.cfm?vno=4.44I, accessed 30 August 2010.

39 The World Bank Group and International Finance Corporation, *Doing Business 2010, South Africa.* Washington, DC: World Bank, 2010.

40 DPC & Associates, *An Assessment of the 'Doing Business Report' on Costs of Cross-border Trade.* Johannesburg: DPC & Associates, 2010.

41 World Bank, *op. cit.*

42 More than half of this sum is required for port charges, which is the 10 times greater than Chinese port charges. See, Powels D, 'The South African automotive Industry. A reflection on the first year of the economic crisis', presentation 8 October 2009, http://www.aidc.co.za/events/AIC2009/presentations/Dave_Powels.pdf, accessed 5 November 2010).

43 Mthembu-Salter G, *op. cit.*

44 Djankov S, Freund C & CS Pham, 'Trading on Time', mimeo, Washington, DC: The World Bank, 2006.

45 *Ibid.*

46 OECD, *op. cit.*

47 Hallward-Dreimer N, Khun-Jush G & L Pritchett, 'Deals versus rules. Policy implementation uncertainty and why firms hate it', World Bank Policy Research Working Paper, 5321. Washington, DC: World Bank, 2010.

48 South Africa, dti, 2010a, *op. cit.*

49 South Africa, dti, 2010b, *op. cit.*

50 *Ibid.*, p. 17.

51 *Ibid.,* p. 3.

52 Brander JA, 'Strategic trade policy', NBER Working Paper 5020. Cambridge: NBER, 1985. See Box 3.

53 Krugman P, 'Does the new trade theory require a new trade policy', *The World Economy*, 15, 1992, pp. 423–441.

54 Spencer B, 'What should trade policy target?', in Krugman PR (ed.), *Strategic Trade Policy and International Economics*. Cambridge, Mass. & London: The MIT Press, 1986, pp. 69–90.

55 Alam A, 'The new trade theory and its relevance for developing countries', World Bank Policy Research Working Paper, 1274. Washington, DC: World Bank, 1994.

56 Bhagwati J, 'Is Free Trade Passé after All?', *Weltwirtschaftliches Archiv*, 125, 1989, pp. 17–44.

57 Krugman PR & M Obstfeld, *International Economics*. Boston: Addison Wesley, 2004, p. 282f.

58 South Africa, dti, 2010b, *op. cit.*, p. 18.

59 Although not exhaustive and as anecdotal evidence, a simple comparison of prices for new cars of the same producer manufactured in Germany and South Africa reveals a huge difference. According to price lists accessed on the internet on 9 September 2010 (converted using the rand/euro exchange rate of that day) the same car is up to 30% more expensive in South Africa than in Germany.

60 Sally R, *Trade Policy: New Century,* Hobart Paper, 163. London: Institute of Economic Affairs, 2008, p. 151ff.

61 See the collection of essays in Porto G & BM Hoekman (eds), *Trade Adjustment Costs in Developing Countries: Impacts, Determinants and Policy Responses*. Washington, DC: The World Bank and CEPR, 2010.

62 South Africa, dti, 2010b, *op. cit.* p. 16.

63 *Ibid.,* p. 14.

64 *Ibid.*, p. 4.

65 Business Unity South Africa, 'South African trade policy strategic framework', mimeo, September 2009, BUSA Initial Response, 8 February 2010, p. 1.

66 This problem may even be worsened by the fact that corruption is still a major problem in the country.

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71 In addition, the Preferential Procurement Policy Framework discriminates within the South African economy, which might be costly too.

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