

**South Africa clothing exports 1994-2004: Policy and response**

by

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## Abstract

This study assesses South Africa's (SA) clothing industry export performance between 1994 and 2004. It accounts for the performance by considering both the impacts of shifts in the trade arrangements between South Africa and the largest global clothing markets and of shifts in government policy.

Compared to the performance of the top clothing exporters in Sub Saharan Africa (SSA), SA export performance between 1994 and 2004 was rather lacklustre, especially between 2000 and 2004.

Although SA and the rest of SSA benefited from preferential trade arrangements with the United States (US) and the European Union (EU), the arrangements included very stringent rules of origin (ROO) for SA firms to qualify for US benefits and for SSA in general to qualify for EU trade benefits. Given the paucity of yarn and fabric production in SSA outside of SA, a significant production response would have been required by the SA textile industry to enable a positive clothing export response from SA. The SA textile industry did not respond to the demand for locally produced fabrics due its uncertainty about the future of the clothing industry in SA.

Between 1994 and 2004 a key aspect of SA's policy framework to promote exports consisted in an import export complementation measure, the Duty Credit Certificate Scheme (DCCS). Very little research has been done on the impact of this measure on clothing exports. The paper makes a contribution towards addressing this gap by developing a simple model to estimate the DCCS's export subsidising effect. The model indicates that although the DCCS provided a substantial subsidy to exports, a key reason for poor export performance may have been the perverse incentive regime inherent within the DCCS. The subsidy tended to maximise at a relatively low level of export (i.e. 15% of total firm sales), which was within easy reach of the average SA clothing firm, which exported between 12% and 14% of its total sales.

One of the aims of the DCCS was to compensate SA exporters for the labour cost premium they faced in relation to their competitors. The study estimates the premium

lay roughly between 20% and 30% of the value of export sales. While maximum subsidy levels were high for the period between 2001 and beginning of 2004, they may not have been sufficient to cover the labour cost premium. This was especially the case where firms had higher than average export levels and import content, and for firms active in the latter part of 2004.

One of the key assumptions behind the temporary support offered to the clothing industry through the DCCS was that export hysteresis was possible. There is evidence to suggest that globally, the relationship between buyers and producers began to shift away from a “relational” mode in the period under consideration. A relational mode of interaction is based on the requirement for sunk costs on the sides of both buyers and sellers, which in turn gives the relationship resilience. This shift profoundly lessens the prospect of export hysteresis.

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## Section 1: Background

The change of millennium saw a number of shifts in the international trade environment. These shifts favoured South African (SA) clothing exports. Preferential trade arrangements favouring SA were put in place with the two largest clothing markets globally, the United States (US) and the European Union (EU), in the form of the African Growth and Opportunity Act (AGOA) which came into effect in 2001, and the South African EU Free Trade Agreement (SA EU FTA), in effect from 2000. AGOA is especially significant because it is a trade preference programme that is non-reciprocal, offering eligible countries, most of Sub Saharan Africa (SSA), duty free and largely quota-free access to the US market, a market hitherto largely untapped by SA clothing producers. At this time, the South African clothing industry was the most established in Africa (Gibbon 2002a: 1). The only other country with a substantial industry was Mauritius, which in contrast was export focussed.

Between 1995 and 2002, upon joining the World Trade Organisation (WTO), the SA government ran a programme to rationalise and phase-down import tariffs. Clothing tariffs were partially removed and a uniform level of 40% was established. Under the previous system some specific tariffs had been as high as 200% (Gibbon 2002a: 18). To “kick-start” exporting amongst firms with a domestic orientation, a special export incentive programme, the so-called Duty Credit Certificate Scheme (DCCS), was set up as an alternative to duty rebates, already on the statute books since the 1980s (i.e. clause 470.03 of the Customs and Excise Act of 1964) (Kaplan 2003: 15; ITAC undated). Duty rebates were designed for firms which exported most, if not all, of their product. (Kaplan 2003: 31). Policy makers pinned their hope on the DCCS to induce a dramatic export response from domestic firms. The DCCS was one of a number of supply side measures established to take the place of direct export subsidies disallowed by the WTO. The DCCS was an “export-import complementation” measure, in that under the scheme exports earned duty credits that could only be used to pay duty on imported inputs (ITAC 2004: 11-12). The scheme’s designers’ intention was to promote the movement into higher value-added textile and clothing product export markets by South African firms by

ascribing more earned benefits to higher value-added products than lower ones (ITAC 2003: 8). The combined export subsidising effect of the preferential trade and DCCS were thought to be enough to overcome the factors that had constrained the export response from domestically oriented firms up to then. The scheme was temporary in nature as reflected in the scheduled phase down of benefit levels (ITAC 2003: 8). In this paper we suggest that the scheme was designed to be temporary not only because of the requirements of the WTO but also because policy makers assumed that once firms successfully broke into export markets they would be able to remain there without subsidies. These policies of import duty phase down and the DCCS co-existed with a number of other policies, which also profoundly impacted on export performance e.g. exchange rate policy and labour policy.

This paper attempts to assess the efficacy of South Africa's policy framework in inducing an export response from the clothing industry over a 10-year period between 1994 and 2004. Special attention is given to the period from 2000 to the end of 2004. The international quota system for clothing and textiles was terminated at the end of 2004.

The paper focusses on the following set of questions:

- What was the export response between 1994 and 2004, and how strong or weak was it?
- What were the objectives of SA policy in regard to the clothing industry, and what policies were followed to achieve these objectives? What role in particular was envisaged for the DCCS?
- How did the policy framework influence export performance?

Section 2 explores export expansion in clothing industries situated in emerging markets using a Global Commodity Chain (GCC) framework, and compares this with what has specifically occurred in SA. A number of debates in the literature are examined in order to assess possible implications for effective and sustainable policy and export responses.

Section 3 explains the global trade environment as it affects SA focussing on its implications for the design and implementation of successful export responses.

Section 4 explains the strategic thrust of the policy framework in SA in relation to the clothing GCC. We situate the DCCS in SA's broader trade policy environment and unpack the design and logic of the scheme in more detail than given above.

In section 5 the various aspects of export performance of the SA clothing industry are assessed, and SA is compared with SSA countries facing similar conditions.

Section 6 accounts for the export response, tracing it back to a number of factors that emerge from section 2 as critical for the functioning of GCCs. We look at how effectively the policy engages with these factors. The section focusses in detail on the DCCS. We report on the findings of a simple model that we have developed to calculate the export subsidy arising for DCCS, which is detailed in the Appendix. We look at how this export subsidy accounts for export performance.

Section 7 concludes.

## **Section 2: The development of the global and SA clothing export industry**

### **2.1 The global clothing industry**

The Global Commodity Chain (GCC) approach has emerged as the most widely employed conceptual framework for understanding how emerging clothing producers have gained access to global markets and have been able improve their position. In an approach which resembles Dependency Theory, agents in the “core” of the global economy (in this case “buyers”) act in ways to “dominate” agents in the semi-periphery and periphery (“producers”) (Sverrisson 2004: 17-19). Agents in the periphery are subordinate to those in the semi-periphery.

According to this approach, a GCC is conceived of as a production value chain, which stretches across global geographic space. The global value chain is “driven” by lead agents in the richest and largest markets, which occur in the developed countries (Gereffi 2002: 4). Lead agents control or “drive” production (to varying degrees) along the chain by virtue of controlling the processes that add the highest value (Gereffi 2002: 5). In the clothing GCC the highest value activities are retail and marketing, and the driving agents are thus the “buyers” in the largest markets, who purchase products from producers and retail these to consumers in their markets (Gereffi 2002: 4). The rest of the chain consists of the following activities, in rough order of descending value added: logistics and distribution, design, quality assessment (QA), input sourcing and assembly. Over the last 40 years, global buyers have sought to increase the surplus they capture by increasingly externalising the lower value-adding elements of the chain to ever lower cost locations amongst emerging economies (Gibbon 2000b: 9). In essence, they are “optimising” the distribution of production on the basis of the lowest production cost (i.e. absolute advantage) (Gibbon 2002b: 9). For instance, they are locating low value labour intensive activities to areas where labour costs are lowest. Production needs to be organised in a very flexible way to allow it to be shifted as the advantage of different locations shifts with changing cost structures and exchange rates (Gibbon 2002b: 33). The price of the product (at a given quality, lead time etc) is seen as a critical indicator of the advantage of

a production location. Because clothing production is one of the most labour intensive industries in the manufacturing sector, the labour cost is a very important factor in determining the success of production locations. Having access to a cost competitive fabric supply is also a critical factor for a production location.

The radical geographic separation of elements in the production chain has been enabled by advances in communication and information technology, and as, Sverrisson points out, continued political control of access to the key global markets by buyers in those markets (2004: 20). Other sources of power include “cultural” knowledge about the market, and resources built up historically through operating in those markets, and the centralisation of and large scale nature of marketing, that creates and feeds consumer demand (Gereffi 2002: 6). Buyers exercise this control through the length of the chain by means of “internal governance structures” which include functions critical to supply chain management, such as the screening of suppliers, the monitoring of their performance, and other general systems for doing business (Gereffi 2003: 3). New technological developments have opened up increased possibilities to buyers for surplus extraction through new marketing strategies, termed “lean retailing” in the literature (Gibbon 2001: 3-6). Improved information technology has allowed for the more precise measurement of market responses to new products, which together with “just-in-time production” and a compression of “delivery time” has led to an increase in the frequency of fashion seasons (and shortening of their lengths). The new marketing strategies have led to the increasing importance of “time-to-market” and “cost-to-market”, at the same time as production has become more geographically dislocated and distal from key global markets. Cost- and time-to-market factors now have to be considered more by buyers as they seek to optimise the distribution of production. Locations more proximal to the big global markets have become more viable despite, for instance, their higher unit labour costs.

To gain access to the key global markets, emerging producer countries have to place themselves on the chain (Gereffi 2002). When GCCs were being set up, buyers established a “hierarchical relationship” with producers, in which producers undertook

limited, low value assembly operations (Gereffi 2003: 7, 11). This relationship required limited sunk costs on both the sides of the buyer and producer, and the relationship tended to dissolve once the order had been fulfilled. The buyer outsourced functions and dictated the specifications in such a way that producers could easily follow them. Producers were required to take on minimum risk, and captured only a small portion of the surplus. Buyers took the most risk, and captured nearly all the surplus.

To grow the surplus generated in the clothing GCC, buyers externalised more functions and passed on more risk to producers, in exchange for a greater share of the surplus (Gereffi 2003: 8-10). The externalisation of more functions required that buyers induce producers to “upgrade” to high value activities, which by definition, entailed moving up the chain into sourcing, quality control and design etc. For GCC advocates, upgrading takes place sequentially since the skills and knowledge entailed develop in a progressive manner through a process of organisational learning (Gibbon 2002b: 9-10). Learning opportunities are provided by participation in production networks and by the producers’ obligation to absorb the increasing range of functions being externalised by buyers. Three interlocking hierarchies of value-adding have been identified (Gereffi 1999)<sup>1</sup>: a **product**-based hierarchy from “basic” to “fashion”, a **process**-based one, from “assembly” to “original brand manufacturing” through “full package production”<sup>2</sup>, and a **functional** one (see below). Gibbon points out that buyers often use intermediaries to create and develop the institutional linkages between producers and buyers. The intermediaries often play a very “hands-on” role in building the capacity of producers to respond to the institutional requirements of the buyers (Gibbon 2002a: 11). Intermediaries need thus to be able to understand buyers’ requirements intimately and be able to facilitate the shifts. The process of upgrading requires sunk costs on both the part of buyers and producers. Buyers have to do the teaching and producers the learning, both costly activities. This mode of interaction between buyer and producer is termed “relational” within the GCC discourse (Gereffi 2003: 7). Relational modes of interaction imply that as the GCC develops, a process of “export hysteresis” occurs. According to

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<sup>1</sup> Quoted in Gibbon 1999: 4-5.

<sup>2</sup> Full package production entails assembly as well as sourcing and quality control.

this understanding, once established, the buyer-seller relationship has resilience because of the sunk costs on both sides, implying that a firm that successfully enters the export market will tend to remain there.

The emergence of the GCC in clothing saw the East Asian Newly Industrialised Countries (NICs) rapidly expanding into clothing assembly for US and EU buyers (Gereffi 2002: 11). As their capabilities increased, NICs sought to upgrade by taking on the design, management and even financing functions of buyers, or even becoming buyers or marketers themselves in their economies and beyond (Geriffi 2002:13). This process is known as “**function upgrading**”. Labour costs increased in the East Asian NICs as productivity increased, due to technology upgrades, and as labour became scarce given the high labour absorption rates in clothing (and other industries). To continue to capture increasing levels of value-added activities, NICs progressively outsourced lower value production roles to countries, maintaining access to the US and EU markets and providing these markets with ever higher production volumes (Gereffi 2002: 15-18). Some countries, especially those proximate to the East Asian NICs (in the semi-periphery) have benefited the most from this outsourcing, and are themselves developing design and management capabilities (Geriffi 2002: 16-75). This is especially true of China.

A number of countries more proximal to the US and EU have emerged as producers of clothing with higher fashion content, and shorter runs and lead times to capitalise on their lower time- and cost-to-market advantage. These advantages now enjoy more status amongst buyers, as marketing strategies have shifted (Gereffi et al 2003). This mode of supply has also been facilitated by preferential trade agreements between the supply countries and the US and EU. Eastern Europe, Turkey and Morocco were given better access to the EU, and Mexico and the Caribbean Basin, better access to the US (Naumann 2005b: 21).

The global trade environment, constituted by multilateral and significant bilateral trade agreements, has a considerable impact on the structure of GCCs (Gibbon 2000a: 2)<sup>3</sup>. The environment grants emerging producers access to the key markets, and constrains the geographic distribution of production activities. For instance, the international quota system governed, firstly, by the Multifibre Agreement and then by the Agreement on Clothing and Textiles, profoundly effected the configuration of clothing GCCs. Not only did buyers make production location decisions on the basis of cost or price, but they also did so on the basis of quota availability in relation to their target markets (Naumann 2005a: 5). Locations were shifted when quotas associated with a particular country location were exhausted. This shifting was known as “quota hopping”. Quotas led to a greater geographic dispersal of clothing production than would have otherwise occurred, and because locations with quota availability and clothing capacity were relatively rare, export hysteresis tended to occur more often (Naumann 2005a: 5).

But in the period of study, the processes of globalisation started to undermine relational modes of interaction, and thus export hysteresis. Critics of the GCC perspective have pointed out that learning and upgrading is increasingly occurring outside of chains (Sverrisson 2004: 27, 31). Due to globalisation, knowledge about markets and technology or production engineering, some of the key bases of buyer-power, can now diffuse more readily from chains rather than only within them. This is because chains have become much larger and more ubiquitous as globalisation has grown. Clothing production is becoming increasingly mobile as new production methods emerge and as the services related to production are easier to obtain for aspirant producers (Sverrisson 2004: 31). This has given rise to a massive increase in the number of locations that can offer the

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<sup>3</sup> There is a debate in the literature about whether there is one GCC for clothing. Gibbon (2002a) has suggested that it is better to think about clothing GCC as being segmented by end-market. Segmentation arises because of different forms of buyer co-ordination (often related to the different marketing approaches taken by buyers). Trade agreements governing marketing access also differ between them. The key point is that producers cannot move effortlessly from one chain to another. Gibbon has differentiated between a US mass-market chain, and the chain serving the EU mass-market chain. The US chain is characterised by long runs (for filling vast shop display areas, which is a key element of the US mass market marketing strategy), a narrow range of functions, and production-process based quality assessment (QA) regimes. (Gibbon 2002a: 5-7). The EU chain is characterised in contrast by smaller runs, a broader set of functions expected of buyers and product-based QA regimes.

services required of producers, and an increase in the competition between locations (Naumann 2005b: 21-22). Higher-cost locations are being squeezed out of global chains, even where firms in those locations have long-established relationships with buyers (Naumann 2005b: 19-22)<sup>4</sup>.

The demise of quotas, after 1 January 2005, has added momentum to the processes of GCC reconfiguration explained above, in which price competition between locations has become even more marked. Buyers are now increasingly able to find the lowest cost locations unconstrained by quota availability<sup>5</sup>, and these low locations are increasingly able to offer the services required by buyers, without the buyers having to incur sunk costs (Naumann 2005b: 19).

## **2.2 The emergence of clothing exporters in SA**

Understanding the export response is predicated on an understanding of the nature of exporters operating in SA. Two broad groups of clothing exporters have emerged historically in SA, and were active during the period of study (Gibbon 2002b: 20). They have contrasting cost structures and production locations.

### **a) firms which were domestic market orientated, but engaged in some exporting**

These firms were domestically owned, and were of long standing, often 30 to 40 years (Gibbon 2002a: 38). They have historically been oriented to serving a diverse domestic market characterised by relatively short production runs, and protected behind high tariff walls (Gibbon 2002a: 28-33). Serving a diverse market requires a diverse mix of skills within the average production unit. This is because, for shorter runs to be profitable,

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<sup>4</sup> In terms of the Gereffi model of global value chain governance, there are indications that the relationship between buyer and seller is moving towards a "market mode" in which transactions can easily be codified and there is little input required of buyers (Gereffi 2003: 6). Under this mode, buyers respond to the prices set by sellers. Price is thus a critical mechanism for signalling and determining whether a relationship between buyer and seller is possible or not.

machinists have to reach a given style's "optimal minute time" very quickly (Gibbon 2002b: 24). In South Africa, these skills have been reproduced in the metropolitan areas of the country (Gibbon 2002a: 28). Labour in urban areas was better skilled due to racially based labour and settlement policy under apartheid. The wages in the urban areas have remained high in turn, because living environments in urban areas are high cost due to the spatial inefficiencies arising from apartheid urban planning (Davie 2005b). High wages were thus structural issues. They had become socially embedded and were underpinned by high cost living environments. In urban areas, machinists took about 3 years of on-the-job training and experience to get up to full capacity. As we see, this was in contrast to the skills that were used in production in rural areas.

Non-specialised exporters have tended to export a relatively limited share of total output, around 15%, and have focused on the EU market (Gibbon 2002a: 38, 42). They supplied products at a range of price points from mid- to mass-market (Gibbon 2002a: 38-39). Gibbon has characterised the export response of these firms as "defensive", meaning that they are exporting to preserve sale volumes and values, rather than to grow them (Gibbon 2002a: 41-42).

Since the lowering of tariffs in the mid 1990s, domestic market-oriented firms have faced stiff competition from imports, and have responded by moving into new functions, like design and sampling, and into product lines with higher fashion content (Gibbon 2002a: 46-48). This entailed producing shorter runs, with shorter lead times. Producing clothes with higher fashion content gave rise to higher additions of value, and allowed local firms to take advantage of their short "time-to-market" capabilities.

#### **b) specialised, foreign-owned exporters**

This group had its roots in the Far Eastern owned clothing firms that started entering SA in the mid 1980s to take advantage of subsidies offered by the SA government in

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<sup>5</sup> The introduction of safeguard measures for a range of lines in the second half of 2005 in the EU and US markets has reintroduced quotas. But these quotas are not as widespread as before and are temporary.

“decentralized” and former homeland areas, and the availability of quotas in South Africa (Gibbon 2002b: 21). They tended to be the assembly operations of larger firms located in the Far East which themselves were engaged in higher value activities on the clothing GCC, like sourcing and QA (Gibbon 2002a: 59).

These firms continued to enter into the 1990s, up until 2000. Because they served a mass market, which involved producing much longer runs than the domestically focussed industry, they were able to draw on less skilled labour (Gibbon 2002b: 25). The economics of producing longer runs means that a longer labour learning curve for learning optimal minute times can easily be tolerated, and only 3 to 6 months training was required for this business model (Gibbon 2002: 25). Producing for a mass market also meant that longer delivery times could be tolerated, and the firms could locate themselves away from the centres. These factors meant that the firms largely located themselves in non-metropolitan areas, where labour was more flexible and costs lower.

Specialised exporters mainly exported to the US mass market, producing long runs for a narrow selection of products. The best estimates of the contribution of this industry segment have suggested that it accounts for between 55% and 60% of total SA clothing exports (Kaplan 2003: 29)<sup>6</sup>.

A third group of exporters exported substantial shares of their turnover, in excess of 50%, to both the US and EU markets, at a range of price levels (Moodley and Velia 2002: 27). This group was located in metropolitan and non-metropolitan areas, although mostly in non-metropolitan areas. Gibbon (2002b: 21) alludes to this group, by pointing out that in the greater Durban area, there was a small, emerging group of firms switching from EU end markets to US end markets. This group tended not to be differentiated from the second group in the literature.

The picture of the different exporters and their relative significance presented in the literature, has been built up on the basis of a number of surveys, none of which have been

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<sup>6</sup> Kaplan quotes Gibbon (2002a) and the Export Council for the Clothing Industry.

designed to be representative. There is no official, comprehensive data on the nature of exporters, or the significance of their relative contributions to exports.

In summary, we can say that a large section of the SA clothing industry is underpinned by cost structures that are relatively high in relation to global norms. Locations with high cost structures are increasingly being squeezed out of the GCC chain as the chain reconfigures in favour of very low cost production locations. This dynamic has been brought about by increasing globalisation and hastened by the phasing out of the quota system, which ended in January 2005. Policy makers in SA thus saw the period from 2000 to the end of 2004 as a critical one for SA clothing. Section 4 looks at the policy response and the rationale behind this view. The policy makers' rationale partly arose from their views about the advantageous nature of the trade opportunities that opened up for SA during this period. Section 3 considers these trade opportunities.

## Section 3: Export opportunities

### 3.1 African Growth and Opportunity Act (AGOA)

Initially set to expire in 2008, in 2003, the AGOA was extended until 2015 (Tralac 2005)<sup>7</sup>, to allow the outcomes to “bed down” more firmly, given the mobility and short business horizons of the clothing industry. Within the broader textile and clothing industry, AGOA benefits only applied to clothing. The duty-free, quota-free benefits of AGOA translated into export price buffers for SSA-based exporters to the US. AGOA allowed eligible exporters to price their export products at a level just below the sum of the international price and the tariff duties on that product charged in the US, and still remain competitive in relation to exporters without such access. In 2001, SA clothing exports had an average cost advantage of 17% over Far Eastern suppliers, due to the duty free access alone (Gibbon 2002b: 7)<sup>8</sup>. The 17% average concealed a great differentiation in duties across products. For instance duties for man-made fibre (MMF) products were 7 to 10 percentage points higher than cotton garments (Minor et al 2002: 7).

Far Eastern based exporters’ market access to the US was constrained during the study period by import quotas. Addressing a quota constraint required a constrained producer to relocate production to countries not quota-constrained. They faced a cost premium, referred to as the “export tax equivalent of quotas”, in doing so. In 2002 this tax equivalent amounted to 100% for cotton trousers and knit shirts from Hong Kong, and 25% to 30% for the same products from China (Minor et al 2002: 8).

The quota and duty free benefits of AGOA are subject to rules of origin (ROO)<sup>9</sup>. For countries designated as “developed” (DCs), beneficial access is subject to a triple

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<sup>7</sup> All information for this section on AGOA is obtained from Tralac’s website on AGOA – [www.agoa.info](http://www.agoa.info), except where otherwise indicated.

<sup>8</sup> This was calculated on the basis of an imported weighted average based on historical patterns of apparel products imported.

<sup>9</sup> For a discussion on the manner in which rules of origin (ROO) are formulated and the significance of ROOs in preferential trade arrangements in determining resulting trade opportunities for the beneficiary countries refer to Naumann (2005d).

conversion ROO<sup>10</sup>, with “cumulation” provisions applying in all countries party to the AGOA arrangement. Cumulation means that to claim the benefit in question, the different stage inputs specified in the rule of origin as having to be locally produced, can be produced in a specified “region” and still qualify. For AGOA, cumulation in regard to clothing producers extends to the areas of AGOA beneficiary countries in SSA, and the area of the US. The most significant clothing producers that are DCs are South Africa and Mauritius (Naumann 2004). The remaining countries designated as “less developed countries” (LDCs) have been exempt from this ROO provision until September 2007.

To successfully respond to the AGOA export opportunity in the study period, SA firms would have had to establish a closely organised and co-ordinated supply chain for yarns and fabric located within the AGOA region (Gibbon 2002b: 9). The vertical integration of SA clothing firms with textile production operations was called for, because the SSA region was largely bereft of textile production capacity, and US produced textiles were too expensive to allow variable production<sup>11</sup>. The prospect of the end of the exemptions seemed to have had very little impact on the patterns of yarn and fabric supply in the AGOA SSA region during the period of study (Naumann 2004).

According to Flatters, the key aim of AGOA in relation to clothing was to induce the emergence of a node of low cost, integrated clothing manufacture in SSA (2002b: 3-4). Such an outcome allows for a reduced lead-time in relation to the US East Coast compared with the Far East, given the distance-to-market advantage Africa has over Asia. Furthermore, it facilitates the development of SSA as an alternative low cost location for clothing production to the Far East and reduces the production risks associated with a single low cost location, albeit a large one. Flatters argues that for this to have occurred in the review period, a production chain organised according to the absolute cost

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<sup>10</sup> There is a range of other categories in AGOA determining what can be counted as clothing and clothing inputs. All categories have been subject to shifts since 2000, and generally have become slightly more permissive of trim and linings produced outside of the region, and to what is classified as “apparel”. For example “knit-to-shape” clothing was initially excluded as it was produced using fabric that did not come from a bolt of cloth.

<sup>11</sup> Vertical integration is consistent with an upgrading trajectory aimed at full package manufacturing / global commodity manufacturing, that takes producers into the realm of sourcing, QA and packaging. This

advantages of different production locations needed to have emerged in the region (2002b: 7-8). Such a chain would have seen textile manufacture, because it is more capital intensive, centred on South Africa due to its relatively higher labour costs and better infrastructure and logistics, and clothing production located in the broader SSA region.

### **3.2 South African European Free Trade Agreement (SA EU FTA)**

The FTA with the EU, which was part of the Trade, Development and Co-operation Agreement (TDCA) between the SA and the EU, offered SA preferential access to the EU market, although not to the extent that AGOA did for the US market. Although EU quotas were dropped, EU duties on clothing exports from SA were not instantly removed, but subject to phase down, albeit at a faster rate than equivalent duties in SA (Grant 2005: 3). A number of EU clothing import tariffs will be phased-down completely only in 2006. Furthermore, the simple average tariff applying to the SA clothing exports prior to the advent of the TDCA was 12.8%<sup>12</sup>. Although not strictly comparable, the difference between the weighted average tariff reduction on SA exports to the US under AGOA (i.e. 17%) and simple average tariff reduction under the TDCA suggest that the tariff reduction benefits under AGOA were greater.

On the other hand, the ROO provisions for the SA EU FTA were not conclusively less stringent than AGOA's (Naumann personal communication). They required a two-, instead of, three-stage conversion, but with unqualified cumulation applying only to the Southern African Customs Union (SACU) region and cumulation qualified by a value addition proviso applying to the rest of the ACP States (Council of the European Union 1999: 9)<sup>13</sup>. The latter proviso was that the value added by South African firms had to "exceed the value of materials used originating in any one of the ACP states" (Council of the European Union 1999: 10)<sup>14</sup>.

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is because vertical integration allows the manufacturer to better ensure quality, textile sourcing and availability and predictable lead times, key requirements for buyers and their sourcing agencies.

<sup>12</sup> Derived from a spreadsheet on EU tariffs under the TDCA by Owen Willcox (personal communication).

<sup>13</sup> Protocol 1 of the TDCA Article 3(3 and 4).

<sup>14</sup> Protocol 1 of the TDCA Article 3(5).

### **3.3 EU Cotonou Agreement**

During the study period preferential access for the rest of SSA to the EU clothing market occurred through the Cotonou Agreement, which like AGOA was a non-reciprocal arrangement, granting duty free and largely quota free access, subject to two-stage conversion (Naumann 2005d: 5). Cumulation applied to the ACP countries – the African, Caribbean and Pacific countries party to the arrangement.

During the period of study, the Cotonou Agreement's ROO were more stringent than AGOA's for SSA countries outside of South Africa. Furthermore, clothing input supply from the Caribbean and Pacific to SSA was further constrained as Caribbean and Pacific fabric supply chains were integrated with clothing manufacture in the Caribbean and Pacific areas (Naumann personal communication).

### **3.4 Southern African Development Community (SADC) trade protocol**

To facilitate the emergence of a successful export-orientated, clothing production chain in the region, Flatters argues that the movement of textile and clothing products, at various stages in the value chain, needed to be as free as possible (2002b). The SADC trade protocol placed unnecessary bounds on this movement in that in order to qualify for SADC tariff preferences, SADC countries needed to meet a two-stage conversion ROO (Flatters 2002b: 8-9). Not only has the tariff phase-down in textiles and garments under the protocol been slow, but the ROO were too stringent. For instance in relation to the EU market, fabric would have had to have been produced from regional yarn to claim the SADC preferential access benefit, even though EU access only required fabric forward regional production. This certainly affects the availability of compliant fabric because of the lack of spinning capability within the region.

During the study period, the SADC trade protocol has probably had a very limited impact on the ability of SA to respond to AGOA. This is because the two-stage conversion was

irrelevant for SA clothing industry supply chains, given the more stringent three-stage conversion AGOA requirement (Flatters 2002b: 12). Furthermore, LDCs could import inputs from anywhere in the world and still be compliant, and given the lack of spinning, weaving and knitting capacity in the SSA region, SA textiles came with a price premium (should the EU market have been targetted).

In relation to export markets unprotected by ROO, however, the SADC trade protocol could certainly have had a profound effect on the SSA export response (Flatters 2002b: 12), and indirectly on SA's export response (see 6.2a for more details).

### **3.5 The advent of preferential trade agreements between SA's clothing export competitors and the US and EU**

During the study period, preferential trade arrangements were established between countries which were potential competitors to SA clothing firms, and the EU and US. Eastern Europe, Turkey and Morocco were given better access to the EU, and Mexico and the Caribbean Basin, better access to the US (Naumann 2005b: 21; Minor et al 2002: 6). Most of the countries were involved in the production of clothing with higher fashion content, having shorter runs and lead times to take advantage of their proximate locations to these markets (Gereffi et al 2003). They thus displaced an export role that SA could perhaps have fulfilled. Some of the countries were initially involved in mass-market production e.g. Mexico, or were involved in mass-market production for the entire period e.g. the Caribbean Basin (Gereffi et al 2003: 16-22), displacing some of SA's mass-market exports, especially in the initial part of the study period (Minor et al 2002: 21).

## **Section 4: The policy environment**

Trade policy is critical for facilitating and inducing an export response from clothing firms. Tariff protection of clothing and its inputs gives rise to a so-called “anti-export bias” for two key reasons. Firstly, locally based firms cannot access inputs at international prices and thus cannot compete in export markets. Secondly, local firms have no inducement to export, as they are able to earn substantial rent on the basis of the protection. We look at how trade policy makers have sought to remove anti-export bias since the 1970s in section 4.1.

The GCC perspective highlights the importance of labour policy and exchange rate policy in determining whether industries in particular countries are able to access the GCCs successfully. South Africa’s labour and exchange rate policy is assessed in terms of how it facilitates or constrains local industries’ access to GCCs in sections 4.2 and 4.3.

### **4.1 Trade policy**

SA policy makers began to move away from an industrial strategy based solely on import substitution in the 1970s through the introduction of direct export incentives (Cassim et al 2004: 6). This initial move appears to have been motivated by the perceived priority to earn foreign exchange. The goals of removing anti-export bias shifted to inducing efficiency gains in resource allocation and boosting economic growth only in the 1980s and 1990s (Cassim et al 2004: 6; Roberts 1998: 3)

In the 1980s policy makers aimed to reduce anti-export bias through the introduction of duty rebates and drawbacks for exporters (Cassim et al 2004: 7). Duty drawbacks and rebates can be seen as a form of targeted tariff liberalisation. These measures favoured large exporters in that small, limited exporters found it uneconomic to establish the systems required to access the rebates. Claiming firms had to create a physical “rebate store” and set up auditing systems to prove that duty rebated inputs were not used in

production for local markets (SARS undated<sup>15</sup>). The 470.03 provision is an example of a tariff rebate, and is used by the specialised exporters.

Non-specialised exporters were able to access direct export subsidies, which sought to remove anti-export bias by compensating exporters for the comparatively high cost structure of production in SA, and the high duties in place for imported inputs. The early 1990s saw the introduction of the General Export Incentive Scheme (GEIS), which was “designed as an economy-wide package based on value-added and local content, and provided a considerable incentive to export” (Cassim 2004: 9).

The last decade has seen a restructuring of the trade policy environment. In the mid 1990s SA joined the World Trade Organisation (WTO), and as a consequence embarked on an extensive programme of rationalising and reducing import tariffs, and transforming direct export subsidy instruments into supply side measures (Cassim 2004; Roberts 1998).

**Table 1: Import duty tariffs affecting clothing industry during the phase-down period, 1995 - 2002**

Year	Clothing	Fabric	Yarn
1995	84%	42%	30%
1996	78%	39%	28%
1997	72%	36%	26%
1998	66%	33%	24%
1999	60%	30%	22%
2000	54%	27%	20%
2001	47%	24%	18%
2002	40%	22%	15%

Source: RSA International Trade Administration Commission (ITAC)

Table 1 shows the tariff phase-down regime for clothing, which ended in 2002. Although phase-down went beyond WTO requirements, the tariff levels were still at the upper end of what the WTO required. Tariff liberalisation has thus been characterised in the literature as “partial” (Cassim et al 2004). It appears that the liberalisation was only partial, because policy makers judged that the upheaval that would be unleashed on the domestic industry and the labour market would be too great for the country to bear.

<sup>15</sup> The 470.03 Information Guide was faxed to the author on 30 May 2005 upon request for the most recent information regarding the working of the provision.

Because deep-seated structural features underpin the labour market, the restructuring required to absorb tariff liberalisation would be prolonged, and labour would have to endure the burden in the short term, if the industry was to survive. One way in which liberalisation has been kept partial was through the introduction of a two-stage ROO in the SADC trade protocol (Cassim 2004: 11). Under the protocol the SADC region was opened up formally, but local industries remained protected through the ROO. The impact of these ROO have been marked. For instance, PEP clothing, a clothing firm focussed on the SA domestic market, relocated production to Malawi in the late 1990s to take advantage of the low labour costs in that country, but was forced to locate back to SA following implementation of the ROO (Hartzenberg personal communication). By protecting SA-based clothing production, the protocol has prevented the optimisation of location in the clothing commodity chain in the SADC region envisaged under AGOA.

Policy makers argued that the supply side measures established to take the place of direct subsidies were still necessary to compensate exporters for barriers they faced in relation to input duties and labour costs. As mentioned above, these barriers persisted because their structural roots were deemed too difficult to remove, politically and economically.

The key supply side measure that was developed for the clothing industry was the DCCS (Kaplan 2003: 15). The DCCS commenced in 1993. It was applied throughout the SACU and operated over the entire period of study. Importantly it is an alternative to the 470 provision i.e. it cannot be used in tandem with this provision (Kaplan 2003: 29).

The DCCS was an “export-import complementation” measure, in that under the scheme exports earned duty credits that could only be used to pay duty on imported inputs, with these inputs only being permitted for use in the production of goods destined for the domestic market (ITAC 2004: 11-12). If firms earning DCCS were unable or unwilling to use the duty credit internally, they could be traded on a secondary market (ITAC 2004: 25). Such a scheme could have generated an export subsidy, and we look more closely at the extent to which it did so in section 6.3. The only other industry for which a similar export-import complementation was set up was the autos and auto-component industry

(Kaplan 2003: 15). The Import Rebate Credit Certificate (IRCC) scheme was embedded in a larger intervention termed the Motor Industry Development Programme (MIDP). We also briefly compare the IRCC scheme to the DCCS in section 6.3. MIDP provides additional benefits, which may also be construed as subsidies.

**Table 2: Rates at which DCCS are earned according to product, period in which earned, and relative value of exports to turnover**

% of export value	2001 to 2002				2002 to 2004				2004 to 2005			
	C	hh	f	y	c	hh	f	y	c	hh	f	y
Value of export < 15% of total turnover	25%	17.5%	12.5%	8%	20%	15%	10%	6%	15%	12%	8%	5%
Value of export > 15% of total turnover	35%	23%	17%	12%	30%	20%	15%	10%	25%	17.5%	12.5%	8%

Product Exported: c = clothing; hh = household textiles; f = fabric; yarn = yarn

Source: DCCS Training Manual ITAC 2003: 8

Duty credits were earned in the DCCS on the basis of the value of export sales, the type of product exported, and the share of exports in the qualifying firm's sales (see table 2). Higher value-added products earned more benefits than lower value-added ones.

Between 1995 and 2002, the benefit levels of the DCCS were phased down as tariff duty levels came down (Kaplan 2003: 28). Even after the clothing tariff phase-down was completed in 2002, the benefit levels continued to be phased out. The phase-down of benefits reflected the fact the policy makers saw the scheme as only providing temporary support to exporters. The scheme seemed to be aimed at achieving export hysteresis. The motivation behind this as a policy goal is explained in section 2.1. It rested on the assumption that the mode of interaction between buyers and producers was seen as "relational". We have suggested that during the study period the prevalence of relational modes of interaction was increasingly questioned.

Furthermore, the temporary nature of the scheme was underpinned by the doubts expressed by some policy makers as to whether it was WTO compliant (Hartzenberg personal communication), and during the period of study was scheduled to terminate a number of times<sup>16</sup>.

<sup>16</sup> At the time of writing (2005) a scheduled termination point was reached and the scheme has yet to be renewed. There are strong indications that it will not be.

A number of other supply measures were also available to the clothing sector. Firstly, the Export Marketing and Investment Assistance (EMIA) scheme provided financial allowances for export marketing (DTI 2004). Secondly, a “Sector Assistance Scheme” gave financial support to export councils and other structures aimed at promoting exports in the industry. This support took the form of resources for running costs and projects (ITAC undated). Thirdly, there were also a number of “Innovation Support Programmes”, in terms of which the industry could research and develop product and process upgrading options (ITAC undated). These schemes were, however, available to all industries. Furthermore, some of them were structured so that clothing exporters could not easily access them. For instance, the EMIA was geared toward small firms, while clothing exporters tended to be large (Kaplan personal communication). The clothing industry has only managed to claim a small portion of the benefits offered in these schemes (Theron personal communication).

Kaplan observed, “No clear objectives were developed for the supply side measures, monitoring in many cases has been deficient and no systematic evaluation data exist as to the effectiveness of these measures” (2003: 14). The intention of this paper is to start to remedy this situation by examining the degree to which the DCCS compensated for the constraints faced by exporters i.e. the extent to which it has acted as a subsidy to exports. We do this in section 6.3.

#### **4.1 Labour policy**

SA’s labour policy is founded on a human rights basis, and the terrain is characterised by a strong trade union movement (Davie 2005b). The framework establishes collective bargaining for wage setting and the regulations governing conditions of work circumscribe the powers of employers (Gibbon 2002a: 20).

Until recently, the wage bargaining system was structured in a decentralised manner (Gibbon 2002a: 20). This allowed wages to conform to the structural features of the

labour market that emerged historically under colonialism and apartheid. Since 2003, the framework has shifted to allow more uniform wages to emerge across the country. Prior to 2003, metropolitan or “centralised areas” each had their own Bargaining Council, while Determination Boards covered the non-metropolitan or “decentralised areas”. All producers in these areas were bound by the wage agreements made in these institutions although they were able to apply for departures. Since the mid 1990s wage law was decriminalised and a number of producers have not been registering or applying the wage levels (Gibbon 2002a: 20).

Under the “National Bargaining Council” set up in 2003, national level agreements can be extended to non-parties, i.e. non-registered employers, if the council is deemed to be “sufficiently representative” of employers and employees by the Registrar (Davie 2005b). No exact definition of “sufficiently representative” is provided in the Act (Davie 2005a). The regionally based bargaining councils have been retained, but in a modified form, as chambers, which do not set wage levels. The regional councils rather deal with the day-to-day regulation of certain aspects of conditions of service e.g. overtime etc. (Vlok personal communication).

The labour policy is not geared to restructuring the labour market in ways that conform to the requirements of GCCs. A number of other policy frameworks would be required to do this, including one dealing with the provision and financing of municipal service delivery, public transport etc as these are factors that underlie the high labour costs in SA.

### **4.3 Exchange rate policy**

No specific link in the policy framework has been made between removing anti-export bias and the value of the exchange rate. During the last decade, exchange controls have increasingly been removed and market-based exchange policy introduced (Gibbon 2000a: 19). Under this schema, the exchange rate responds primarily to the interest rate, which itself is targetted at a particular level of price inflation. The inflation targets are set so as

to align to the inflation rates of SA's major trading partners, but this setting in itself does not address anti-export bias.

## Section 5: South Africa's clothing export performance

In this section we consider the export performance of the clothing industry between 1994 and 2004. We examine trends in a range of global and local indicators, and track SA's export response in the two largest global clothing markets. SA's export response since the advent of the preferential trade arrangements circa 2000 is then compared to the response of the top SSA clothing export performers. We consider what the literature says about export upgrading in SA over the period. Lastly, changes in the number of exporting firms are considered.

### 5.1 Export growth

Our assessment of export growth makes use of three different product classification systems: SITC 2 digit, SIC 3 digit and HS 2 digit. These systems are not strictly comparable, and thus we do not directly compare the results. Furthermore, the trade data we use are mostly obtained from the SA sources, although for the SSA inter-country comparison we use figures derived from US and EU customs data, which tend to differ from the SA figures. The use of such disparate sets of data is justifiable, because answering our research questions only requires an understanding of the broad trends.

**Table 3: Annual share of SA in world exports by industry, 1997 - 2003**

Sitcname	1997	1998	1999	2000	2001	2002	2003
Textile fibres	0.91%	0.86%	0.95%	0.78%	0.74%	0.95%	0.91%
Textile yarn/fabric/artificial	0.17%	0.14%	0.15%	0.13%	0.15%	0.17%	0.19%
Apparel/clothing/accessories	0.09%	0.07%	0.09%	0.1%	0.11%	0.12%	0.13%
All goods and services	0.56%	0.48%	0.47%	0.47%	0.47%	0.48%	0.5%

Source: WTO; sourced from DTI database on [www.dti.gov.za](http://www.dti.gov.za)

Table 3 shows that between 1997 and 2003 SA's clothing annual exports made up between 0.09% and 0.13% of annual global clothing exports. Compared to the average annual share of SA exports in global exports, of about 0.5%, clothing exports are extremely low. There was some growth in the SA clothing industry's share in world clothing exports between 2000 and 2003, but this only amounted to 0.03 percentage points.

**Table 4: Annual export output ratio, 1994 - 2004 (Rand, 2000 constant prices, normalised)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Manufacturing (3)</b>	18.3%	20.7%	22.3%	23.2%	22.1%	22.0%	20.7%	20.7%	19.3%	18.1%	17.7%
<b>Textiles (311-312)</b>	18.3%	18.2%	20.8%	20.2%	16.4%	15.8%	11.8%	12.2%	10.0%	8.4%	7.1%
<b>Wearing apparel (313-315)<sup>17</sup></b>	15.0%	14.6%	15.9%	17.6%	15.3%	16.9%	15.8%	17.2%	13.2%	12.4%	8.2%

Source: TIPS RSA Trade statistics; own calculations

Table 4 shows that as a share of output, clothing exports over the period peaked before 2000, in 1997, and on the whole, export shares of output were lower in the post-2000 period, especially in the period after 2002.

**Table 5: Annual final output by industry, 1994 to 2004 (Rand, constant 2000 prices, normalised)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Manufacturing (3)</b>	1.00	1.12	1.12	1.19	1.22	1.30	1.41	1.52	1.58	1.50	1.51
<b>Textiles (311-312)</b>	1.00	0.97	1.52	1.69	1.50	1.82	1.63	1.98	2.66	2.50	2.48
<b>Wearing apparel (313-315)</b>	1.00	1.17	1.10	1.19	1.22	1.24	1.33	1.30	1.42	1.47	1.52

Source: TIPS RSA Trade statistics; own calculations

Given that since 1994 real clothing final output increased in a continuous fashion during the study period (see table 5), the figures in table 4 imply that clothing production was increasingly directed at the domestic market. The export output ratio of clothing was considerably below that of manufacturing in general.

**Table 6: Annual clothing exports as a share of total manufacturing exports by industry, 1994 - 2004 (Rand, constant 2000 prices)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Textiles (311-312)</b>	2.6%	2.1%	2.2%	2.1%	1.7%	1.5%	1.2%	1.1%	1.1%	1.0%	0.9%
<b>Wearing apparel (313-315)</b>	2.2%	1.9%	1.7%	1.9%	1.6%	1.7%	1.6%	1.5%	1.3%	1.3%	0.9%

Source: TIPS SA Standardised Industry Output Structure; own calculations

Similar trends can be seen in table 6 in relation to clothing as a share of total manufacturing exports. Levels were relatively static in real terms since 2000. As a share of total manufacturing exports, clothing declined from 2.2% in 1994 to 0.9% in 2004.

<sup>17</sup> SIC 315 (i.e. dressing and dyeing of fur, and articles of fur) is usually considered part of clothing but its contribution is very limited (less than 1%) (Barnes 2004: 3). Its inclusion does not significant impact on our analysis.

**Table 7: Annual clothing exports (HS 61 and 62) to world by main market, 1994 - 2004 (US \$ current prices, normalised)<sup>18</sup>**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
US	1.00	1.14	1.26	1.34	1.43	1.99	2.73	3.62	4.09	4.33	3.40
EU	1.00	1.27	1.22	1.30	1.08	1.11	0.98	0.86	1.09	1.49	1.22
Rest of world	1.00	1.27	2.35	4.20	1.95	1.82	2.16	2.30	2.19	3.52	3.12
Total world	1.00	1.22	1.39	1.71	1.33	1.54	1.80	2.09	2.36	2.83	2.30

Source: TIPS RSA Trade statistics; own calculations

Table 7 shows that in nominal dollar terms by the end of the study period, SA clothing exports to the world had increased by 2.3 times since 1994, in terms of the HS classification system. The growth in exports to the EU was quite limited over the period, with a peak experienced in 2003.

**Table 8: Annual growth and average annual growth in clothing exports, 1994 to 2004 (HS 61 and 62, US \$, current prices)**

	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	Ave annual growth whole period	Ave annual growth 1994-2000	Ave annual growth 2000-2004
US	14.2%	10.3%	6.6%	6.5%	38.9%	37.5%	32.5%	12.8%	5.9%	-21.3%	14.4%	19.0%	7.5%
EU	27.2%	-4.4%	6.6%	-16.6%	2.5%	-12.0%	-12.2%	27.0%	37.0%	-17.8%	3.7%	0.5%	8.5%
Rest of world	27.1%	84.7%	79.2%	-53.6%	-6.7%	18.6%	6.8%	-5.2%	61.2%	-11.3%	20.1%	24.9%	12.9%
Whole world	22.3%	13.5%	23.5%	-22.3%	15.3%	17.0%	16.5%	12.9%	19.9%	-18.7%	10.0%	11.6%	7.6%

Source: TIPS RSA Trade statistics; own calculations

Table 8 reveals that exports to the rest of the world grew more sharply than those to the EU and US, especially in the initial post-liberalisation period, prior to 2000.

Except for exports to the EU, most of the export growth response occurred prior to 2000, although this response clearly moved off a smaller base than the growth that occurred from 2000. Growth in the two biggest export markets since 2000 was lower than the growth in those markets in the 1994 to 2000 period.

**Table 9: Annual share of SA clothing exports (HS 61 and 62) in total SA exports by main market, 1994 - 2004 (US \$, current prices)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
US	37.5%	35.0%	34.1%	29.4%	40.3%	48.6%	57.1%	64.9%	64.9%	57.3%	55.5%
EU	48.7%	50.7%	42.7%	36.9%	39.5%	35.1%	26.4%	19.9%	22.4%	25.6%	25.9%
Rest of world	13.7%	14.3%	23.2%	33.7%	20.1%	16.3%	16.5%	15.1%	12.7%	17.1%	18.6%
Whole world	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: TIPS RSA Trade statistics; own calculations

Table 9 shows that exports to the US and the rest of world grew in significance for SA, squeezing out exports to the EU; over the period the EU's share of total SA exports shifted from half to about a quarter. Exports to the US and EU together remained by far the most significant end markets, constituting between 65% and 85% of all SA exports over the period.

Tables 10 to 14 compare SA export performance to the performance of SSA's top clothing exporting countries<sup>19</sup>.

**Table 10: Annual clothing exports of top SSA clothing exporters (HS 61 and 62) by country to US and EU, 1994 - 2002 (US \$ million, current prices)**

US \$ millions		1994	1995	1996	1997	1998	1999	2000	2001	2002
South Africa	US	34.7	16.6	60.4	70.9	78.7	96.9	140.9	173.3	181
	EU	73.4	66.9	67.1	62.3	69.4	68.3	78.9	69	68.7
	<b>US + EU</b>	<b>108.1</b>	<b>83.5</b>	<b>127.5</b>	<b>133.2</b>	<b>148.1</b>	<b>165.2</b>	<b>219.8</b>	<b>242.3</b>	<b>249.7</b>
Mauritius	US	186.2	190.3	164.7	184.4	233.3	231.6	244.7	238.3	254.5
	EU	518.8	573.3	616	658	693.2	625.2	638.5	591.2	642.3
	<b>US + EU</b>	<b>705</b>	<b>763.6</b>	<b>780.7</b>	<b>842.4</b>	<b>926.5</b>	<b>856.8</b>	<b>883.2</b>	<b>829.5</b>	<b>896.8</b>
Lesotho	US	62.7	61.7	64.9	86.5	100.2	110.7	140.1	216.7	321.1
	EU	13.5	12.6	12.7	4.5	0.8	0.2	1.6	3.2	2.1
	<b>US + EU</b>	<b>76.2</b>	<b>74.3</b>	<b>77.6</b>	<b>91</b>	<b>101</b>	<b>110.9</b>	<b>141.7</b>	<b>219.9</b>	<b>323.2</b>
Kenya	US	35.2	34	27.1	31.3	33.5	39.3	43.8	64.4	125.5
	EU	7.1	6.3	3.3	2.6	2.3	2.5	1.7	1.7	1.1
	<b>US + EU</b>	<b>42.3</b>	<b>40.3</b>	<b>30.4</b>	<b>33.9</b>	<b>35.8</b>	<b>41.8</b>	<b>45.5</b>	<b>66.1</b>	<b>126.6</b>
Madagascar	US	2.8	6.7	11	15.3	22	45.7	109.5	178.2	89.3
	EU	92.6	122	147.7	177.1	218	213.9	244.7	238.3	145.6
	<b>US + EU</b>	<b>95.4</b>	<b>128.7</b>	<b>158.7</b>	<b>192.4</b>	<b>240</b>	<b>259.6</b>	<b>354.2</b>	<b>416.5</b>	<b>234.9</b>

Source: US ITC, US Department of Commerce, Otxea Eurostat, quoted in Morris et al 2004; own calculations

Table 12 (below) shows a strong return to the export growth trend in Madagascar established in the pre-2002 period, and suggests that Madagascar's sharp drop in exports should be treated as an aberration due to civil unrest in that country (Gibbon 2002b: 27).

<sup>19</sup> Minor et al (2002) identified the top SSA clothing exporters.

If this is the case, Table 10 shows that South Africa's position in SSA as an exporter to the US and EU deteriorated from second place at tariff liberalisation in 1994 to fourth place by 2002.

**Table 11: Annual clothing exports of top SSA clothing exporters (HS 61 and 62) by country to the US and EU, 1994 – 2002 (US \$ million, current prices, normalised)**

US \$ millions		1994	1995	1996	1997	1998	1999	2000	2001	2002
South Africa	US	1.00	0.48	1.74	2.04	2.27	2.79	4.06	4.99	5.22
	EU	1.00	0.91	0.91	0.85	0.95	0.93	1.07	0.94	0.94
	<b>US + EU</b>	<b>1.00</b>	<b>0.77</b>	<b>1.18</b>	<b>1.23</b>	<b>1.37</b>	<b>1.53</b>	<b>2.03</b>	<b>2.24</b>	<b>2.31</b>
Mauritius	US	1.00	1.02	0.88	0.99	1.25	1.24	1.31	1.28	1.37
	EU	1.00	1.11	1.19	1.27	1.34	1.21	1.23	1.14	1.24
	<b>US + EU</b>	<b>1.00</b>	<b>1.08</b>	<b>1.11</b>	<b>1.19</b>	<b>1.31</b>	<b>1.22</b>	<b>1.25</b>	<b>1.18</b>	<b>1.27</b>
Lesotho	US	1.00	0.98	1.04	1.38	1.60	1.77	2.23	3.46	5.12
	EU	1.00	0.93	0.94	0.33	0.06	0.01	0.12	0.24	0.16
	<b>US + EU</b>	<b>1.00</b>	<b>0.98</b>	<b>1.02</b>	<b>1.19</b>	<b>1.33</b>	<b>1.46</b>	<b>1.86</b>	<b>2.89</b>	<b>4.24</b>
Kenya	US	1.00	0.97	0.77	0.89	0.95	1.12	1.24	1.83	3.57
	EU	1.00	0.89	0.46	0.37	0.32	0.35	0.24	0.24	0.15
	<b>US + EU</b>	<b>1.00</b>	<b>0.95</b>	<b>0.72</b>	<b>0.80</b>	<b>0.85</b>	<b>0.99</b>	<b>1.08</b>	<b>1.56</b>	<b>2.99</b>
Madagascar	US	1.00	2.39	3.93	5.46	7.86	16.32	39.11	63.64	31.89
	EU	1.00	1.32	1.60	1.91	2.35	2.31	2.64	2.57	1.57
	<b>US + EU</b>	<b>1.00</b>	<b>1.35</b>	<b>1.66</b>	<b>2.02</b>	<b>2.52</b>	<b>2.72</b>	<b>3.71</b>	<b>4.37</b>	<b>2.46</b>

Source: US ITC, US Department of Commerce, Otxa Eurostat, quoted in Morris et al 2004; own calculations

Table 11 reveals that in nominal terms between 1994 and 2002, except for Mauritius, SA exports to the EU and US grew the least of all the top SSA exporters. The table also shows that exports to the US responded much more dynamically than exports to the EU<sup>20</sup>.

**Table 12: Annual clothing exports of top SSA clothing exporters (HS 61 and 62) to the US by country, 2000 – 2004 (US \$'000, current prices)**

	2000	2001	2002	2003	2004
South Africa	141 531	173 316	180 540	231 962	141 260
Mauritius	244 771	238 241	254 485	269 032	226 403
Lesotho	140 219	214 788	321 068	392 671	455 760
Kenya	43 864	64 360	125 907	187 752	277 167
Madagascar	109 544	178 197	89 407	195 950	323 323
Swaziland	31 852	48 077	89 059	140 489	178 604

Source: <http://dataweb.usitc.gov>, compiled from trade data from the US Department of Commerce and the US International Trade Commission

<sup>20</sup> In Lesotho and Kenya, the top two export performers, exporters shifted markets from the EU to the US, but only to a limited extent.

Table 12 shows that for exports to the US, all of the top SSA clothing exporters had overtaken SA by 2004. Indeed, in current dollar terms, SA US exports were at pre-AGOA levels by 2004.

**Table 13: Annual clothing exports of top SSA clothing exporters (HS 61 and 62) to the US by country, 2000 to 2004 (US \$'000, current prices, normalised)**

	2000	2001	2002	2003	2004
South Africa	1.00	1.22	1.28	1.64	1.00
Mauritius	1.00	0.97	1.04	1.10	0.92
Lesotho	1.00	1.53	2.29	2.80	3.25
Kenya	1.00	1.47	2.87	4.28	6.32
Madagascar	1.00	1.63	0.82	1.79	2.95
Swaziland	1.00	1.51	2.80	4.41	5.61

Source: <http://dataweb.usitc.gov>, compiled from trade data from the US Department of Commerce and the US International Trade Commission; own calculations

As seen in Table 13, by 2004, export performance to the US was especially strong in Kenya and Swaziland, and Madagascar had recovered from its lows in 2002.

**Table 14: Annual share of AGOA compliant clothing exports to US, 2001 to 2004 (US \$, current prices)**

	2001	2002	2003	2004
South Africa	17.5%	46.9%	54.4%	81.2%
Lesotho	60.2%	98.9%	94.9%	98.0%
Mauritius	16.3%	41.8%	50.2%	65.3%
Kenya	80.1%	96.8%	93.9%	97.9%
Madagascar	51.7%	84.6%	94.9%	97.3%
Swaziland	17.0%	83.0%	89.9%	98.3%

Source: <http://dataweb.usitc.gov>, compiled from trade data from the US Department of Commerce and the US International Trade Commission; own calculations

Table 14 reveals that SA and Mauritius, the only countries in this selection designated as DCs in terms of AGOA and thus facing three-stage conversion ROO, found it difficult to achieve AGOA compliance. The apparent sharp improvement in SA's rate of compliance in 2004 was due mainly to the drop in the total SA exports to the US – the absolute value of clothing goods complying to the AGOA rules dropped from \$126m to \$114m.

In summary, SA's export growth response over the last decade was rather poor, both in relation to its own historical performance trends, and in relation to countries in SSA, many of whose export clothing industries became established in this decade. The largest

export growth occurred during the first part of the decade under review. The new growth in this wave was mainly destined for countries outside of the EU and the US, although there was some growth in exports to the US. There was a second wave of growth in the post-2000 period, but this growth was somewhat weaker, although it came off a larger base than the first wave. We do not, however, explore exports in the first part of the study period in any detail in this paper. Our focus is on accounting for the relatively poor performance in the post-2000 period. In section 6 we look at why the response to AGOA and the EU FTA was so weak, concentrating on the ability of the DCCS to compensate firms for barriers to export entry, and incentivise export growth in section 6.

## 5.2 Export upgrading

There are very limited accounts in the literature that track upgrading. A survey of the literature that documents the results of the benchmarking of productive efficiency in the clothing industry<sup>21</sup> might throw some more light on upgrading, but is beyond the scope of this paper. What is covered in the literature suggests that upgrading amongst non-specialised exporters has been very limited. Moodley and Velia's (2002: 51) examination of what upgrading had taken place amongst top SA-owned exporters up until 2002 concluded that upgrading had been rather muted:

First, around the product-upgrading platform, firms appear to have developed the capabilities to meet the specs... In some instances, firms faced a stringent internal reject rate threshold for foreign end-customers. Process upgrading (albeit to a limited extent) is taking place and, as quality improves, cost reductions are actively sought... There are also some signs of functional upgrading in the market intelligence terrain.

By the end of 2002, despite the movement of the domestically focussed industry into products with higher fashion content, the SA industry had not attempted to upgrade exports in such a manner (Minor et al 2002: 20-22). This could be due to the growing importance of the time-to-market in buyer competitiveness. The growth of importance of

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<sup>21</sup> For example, the RALIS study conducted in the Western Cape 2003 and sponsored by the Western Cape Provincial Government.

this factor allowed the advent of a number of production locations proximate to the large global markets with much greater time-to-market advantages than South Africa despite their higher costs in other aspects of production.

Gibbon (2002a: 39-40) points out that where exporters appointed intermediaries to help create closer links with US and EU buyers and their markets, they tended to choose agents that lacked experience in these markets and that were not well positioned to build such relations.

### **5.3 Firms entering or exiting the export market**

Official information which tracks entry to and exit from export markets amongst SA clothing firms is lacking. Anecdotal evidence suggests the decline in exports in 2003 and 2004 corresponded to a marked withdrawal of both specialised and domestically orientated exporters from production for export. Starting in 2003 and going into 2004, a number of specialist exporters began to disinvest from SA e.g. Nova Clothing in Newcastle closed in 2003 (Kipling personal communication). Although there was a significant entry into exports by domestically focussed firms without previous export experience in 2002 to 2003, following strong currency depreciation (see section 6.1), this entry was very short lived. Since 2003, non-specialised exporters have tended to exit (Kipling personal communication). The reasons for the withdrawal by both types of exporters have not been formally investigated in the literature.

## Section 6: Explaining South Africa's export response

In this section we consider why the export response amongst SA firms was so poor in the light of their enhanced trade opportunities (section 3) and the advent of the DCCS (section 4). We distinguish structural issues from policy design issues. We consider the impact of the exchange rate, clothing supply and labour costs. These arenas, especially the latter two, are underpinned by far reaching structural factors, which cannot be addressed through policy instruments traditionally contained within these arenas. The design and working of the DCCS with its focus explicitly on the clothing exporters, is narrower in scope. It is more amenable to being thought about purely at the level of design.

### 6.1 Exchange rate policy

As discussed in section 2.1 the external value of the currency of a producer country plays an important role in building up and sustaining export success. In this section we consider the correlation between the value of exports and the value of the rand in the post-2000 period. We also consider how exchange rate volatility per se might have had an additional effect on export levels, by impacting on the reputation of exporters.

**Table 15: Annual middle exchange rates in cents (R1 = 100 cents) per foreign currency unit, 1999 - 2004**

	1999	2000	2001	2002	2003	2004
EU	652.46	639.26	770.56	990.31	853.06	801.35
US	611.31	693.53	860.31	1051.65	756.47	644.99
UK	989.21	1048.63	1239.15	1575.84	1234.04	1180.78

Source: SARB, Quarterly Bulletin, March 2005, S-110, KB521

Table 15 indicates that, even without adjusting for differences in inflation rates between SA and its main trading partners, the rand price of dollars in 2004 was substantial below the price in 2000. This suggests that exchange rates were at historically high levels in 2004.

**Table 16: Annual, year-on-year growth in foreign currency unit for one rand (current prices), 1999 - 2004**

	1999 - 2000	2000 - 2001	2001 - 2002	2002 - 2003	2003 - 2004
US	-11.9%	-19.4%	-18.2%	39.0%	17.3%
EU	2.1%	-17.0%	-22.2%	16.1%	6.5%
UK	-5.7%	-15.4%	-21.4%	27.7%	4.5%
<b>Effective exchange rate</b>	-5.9%	-15.0%	-21.7%	25.1%	9.1%

Source: SARB, Quarterly Bulletin, March 2005, S-110, KB521; own calculations

There is a clear correlation between year-on-year changes in the value of exports and changes in the exchange rate, which can be seen by comparing table 16 with table 17.

**Table 17: Nominal year-on-year change in the value exports (US \$, current prices)**

	1999 - 2000	2000 - 2001	2001 - 2002	2002 - 2003	2003 - 2004
US	37.5%	32.5%	12.8%	5.9%	-21.3%
EU	-12.0%	-12.2%	27.0%	37.0%	-17.8%
Rest of world	18.6%	6.8%	-5.2%	61.2%	-11.3%
Clothing world	17.0%	16.5%	12.9%	19.9%	-18.7%

Source: TIPS RSA Trade Statistics; own calculations

Increases in the value of exports correlate with the decline of the exchange rate, but there is a clear lag between a change in the exchange rate and changes in the rate of exports. There are two non-exclusive explanations for this lag (Kipling, personal communication). Firstly, a lead-time is required for export sales. Ordering occurs as a response to exchange rate stimulus, but the sale is only registered by customs when the order is shipped, which is often 6 to 9 months after the order is placed. Secondly, exporters tend to absorb losses following a downturn in the terms of trade in the hope that conditions will improve. The persistence of unfavourable conditions not only delays the withdrawal response, but also makes withdrawal more marked as losses are intensified.

Kipling (personal communication) has suggested that in SA, exchange rate volatility had an effect on exports beyond simply its impact on the international price of a SA product. The sharp decrease in the external value of the currency between 2001 and 2002, given the presence of an established exporter sector, caused a sharp, and rapid surge in demand from international buyers. This in turn caused a surge in production activities as producers sought to meet that demand, putting clothing's supply chains under extreme pressure. In SA this had a more marked effect in the light of highly restrictive ROO and the lack of textile supply in the broader SSA region. Because the textile sector is less

flexible than clothing, given its more capital-intensive nature, the textile industry could not respond fast enough to the demand for increased production, and the price of textiles rose. The increased demand for clothing exports also attracted previously non-exporting producers into exporting, which further drove the input price increases. South African producers increasingly were unable to meet orders, especially given the increase of new, inexperienced producers entering the field. These failures impacted negatively on the reputation of all exporters, as reputation imprints on the country as a whole and not on individual firms, causing export decline in addition to that caused by an increase in the external price (Kipling personal communication). These negative reputation effects are usually quite persistent.

## 6.2 Structural factors

### a) Fabric supply chain

Fabrics make up about 50% of the “free on board” value of a typical garment exported to the US (Minor et al 2002: 17). Fabric costs and availability are thus critical for an export response.

SA clothing exporters faced two levels of constraint in regard to sourcing fabrics and other inputs. Firstly, they were unable to source fabrics at international prices, due to the import duties imposed on fabric. For specialised exporters this constraint was addressed through the 470.03 rebates. The DCCS was established in part to address this constraint for non-specialised exporters. We consider how well it did so in section 6.3.

Secondly, exporters focussing on accessing the AGOA and EU SA FTA benefits in the US and EU markets were unable to source fabric inputs that met the ROO requirements of these trade arrangements (Minor et al 2002: 17-9; Gibbon 2002a: 50; Morris et al 2004: 11-12; Kipling personal communication)<sup>22</sup>. This problem can be clearly seen in SA’s and Mauritius’s poor US export performance. Because yarn and fabric production

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<sup>22</sup> In the post-2000 period, there has been little switching by SA and Mauritius from the EU, a well-established market in both these countries, to the US, with its greater preferential market access. A process of switching would indicate a shift in the end-markets of existing EU-oriented exporters. As pointed out by Gibbon (2002b), this confirms his GCC segment hypothesis (see section 2). There has been some switching in Kenya and Lesotho, but this has been relatively minor. The relatively sluggish response to the EU preferential agreements and arrangements amongst all of the top SSA exporters, relates to the difficulty with meeting the 2-stage conversion rule in the case of SSA exporters defined as LDC in terms of AGOA. In the case of the DCs, especially SA, the sluggish response relates to the lower market incentives in the EU agreement relative to AGOA. For instance, AGOA provided an instant trade **weighted average** reduction benefit of 17% on SA exports to the US, while, although not strictly comparable, the equivalent figure we have for the EU is 12.8% in **simple average** terms, with this reduction to be phased in over 6 years.

capacity was very limited in the SSA region outside of SA, SA and to a lesser extent other SSA countries (i.e. those seeking to increase exports to the EU, especially non-SA SACU members) were reliant on SA production. In other words, this level of constraint relates to the availability of locally produced fabrics, at local prices. This second constraint is the focus of this section.

Table 18 shows that local textile output growth has been very sluggish over the period 1994 to 2004. A sharp increase is seen for 2002, when clothing output was increased following exchange depreciation in 2000, but these figures are probably misleading as a substantial portion of textile production is for non-apparel fabric (Simon Roberts personal communication). Kipling puts this portion at two-thirds (2005). Disaggregated data for textile output in SA is not available.

**Table 18: Annual output in textiles and clothing in SA, 1994 - 2004 (rand, 2000 constant prices)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Textiles (311-312) real output	1.00	0.97	1.52	1.69	1.50	1.82	1.63	1.98	2.66	2.50	2.48
Wearing apparel (313-315) output	1.00	1.17	1.10	1.19	1.22	1.24	1.33	1.30	1.42	1.47	1.52

Source: TIPS Standardised Industry Output Structure; own calculations

There is substantial evidence to suggest that local fabric production was highly constrained in relation to demand. Leading up to 2002, clothing firms cited the shortage of locally produced fabrics as the main factor inhibiting the expansion of exports to the EU and especially the US (Gibbon 2002a: 49-50)<sup>23</sup>. For these exporters, not only were certain materials not being produced regionally, but they were also not of the relevant quality (weights and construction), and displayed lead-times that were too long to adequately service the market.

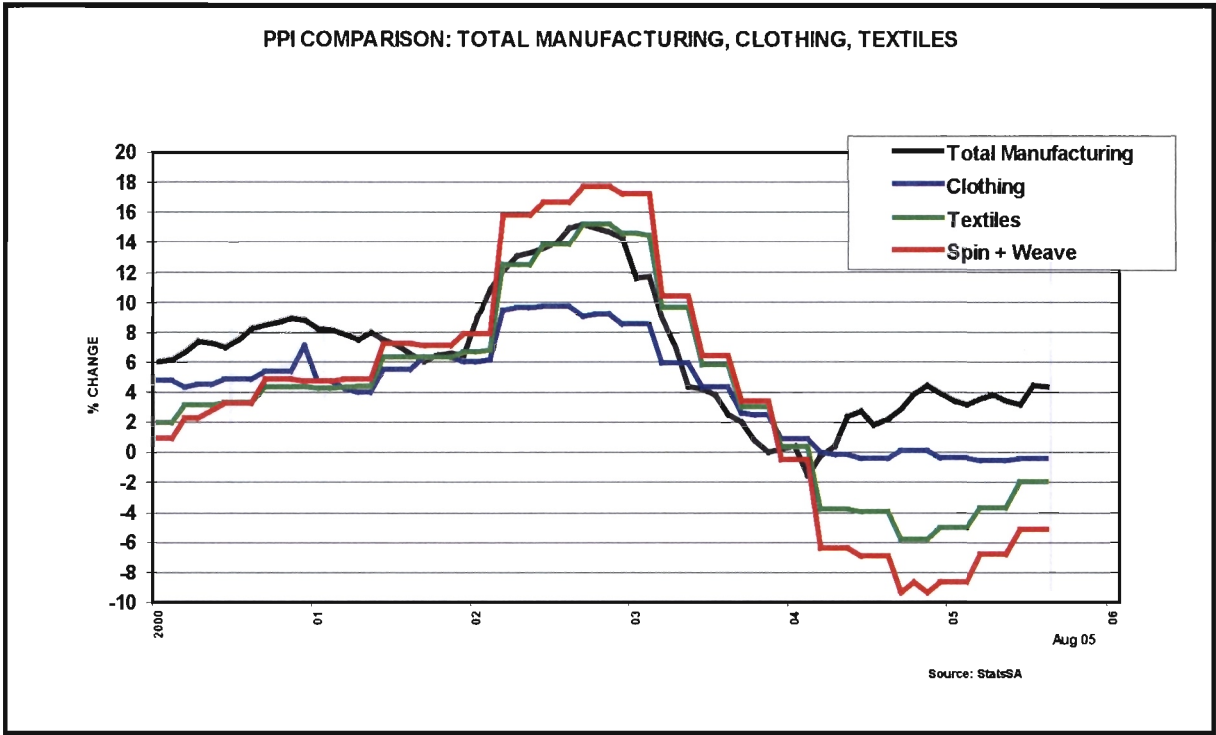
The strong effective demand for fabrics is borne out by two observations. Minor et al (2002)<sup>24</sup> show that exports grew for products made of a fabric for which there was no or little production constraint. Where the opposite occurred, the export levels declined. For

<sup>23</sup> Gibbon (2002a) provides one of the most extensive and thorough surveys of the industry in the post 2000 period.

<sup>24</sup> Kaplan also cites this observation.

instance, the share of SA cotton clothing exports to the US in total clothing exports to the US declined from 91% to 74% between 2001 and 2002. This declining performance was unique amongst all the top SSA clothing exporters (Minor et al 2002: 10). Minor et al trace (2002: 17) the production constraint to the availability of AGOA compliant cotton fabric: SA yarn and fabric producers had to source their cotton from SA producers, and such supply was constrained. The wool supply chain was however not so constrained, and the share of SA wool clothing exports in total clothing shifted from 6% to 9% over the same period.

**Figure 1: A comparison of year-on-year growth in PPI of total manufacturing, clothing and textiles, 2000 - 2005**



Source: compiled by P Theron, TI.ZA, DTI on the basis of StatsSA data

Secondly, unmet effective demand for fabrics can also be seen in shifts in the production price index (PPI) for textiles in relation to PPIs for other products. Figure 1 shows the sharp increases in PPI in spinning and weaving, for which capacity in SA was most constrained, were substantially above those for clothing (a maximum of about 4 percentage points) and manufacturing in general (about 1.5 percentage points maximum), during 2002. This occurred at the height of the export and production response to the

rand depreciation. In this period PPI increases for textiles essentially coincided with those for manufacturing, but these were 2 to 2.5 percentage points above the increases for clothing (Kipling personal communication). The year 2001 shows slightly different trends in PPI increases, which also suggest constrained supply and increased demand for textiles (Kaplan 2003: 33)). Considering the period between 2000 and the end of 2001, in the first part of 2001 both the manufacturing and clothing PPIs were falling after having reached a peak at the end of 2000, while spinning and weaving and textiles continued the trend of increases. When clothing PPI decreases changed to increases towards the end of the first half of 2001, spinning and weaving PPI climbed at steeper rates while the PPI for manufacturing continued its fall.

Why did the textile sector not respond more sharply to increases in demand for its products by increasing output?

**Table 19: Annual imports domestic demand ratio, 1994 – 2004 (rand)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Textiles (311-312) imports domestic demand ratio</b>	30.3%	31.3%	31.4%	31.7%	28.5%	26.2%	23.8%	22.5%	20.8%	20.9%	21.8%
<b>Wearing apparel (313-315) imports domestic demand ratio</b>	11.0%	9.9%	13.5%	15.2%	14.8%	15.1%	14.8%	14.7%	12.3%	17.6%	22.1%

Source: TIPS Standardised Industry Output Structure; own calculations

After tariff liberalisation, the textile industry faced a substantial increase in competition from imported clothing, clothing production for the domestic market being an important market for its products (Roberts et al 2003a). Competition also came from imported textiles, but to a lesser extent. Clothing import penetration started to increase in 1990 (not reflected in table 19), and during the period of study peaked in 1997 with an import domestic demand ratio of 31.7%, as seen in table 19. According to Roberts and Thoburn, it is likely that import penetration of clothing was substantially higher than these official figures, given the high degree of illegal clothing imports (2003b: 5)<sup>25</sup>.

<sup>25</sup> Paper made available by author. Page references given here do therefore not correspond with journal page references.

**Table 20: Annual SA import penetration by yarn and fabric type, 1999 to 2002**

	1998	1999	2000	2001	2002
<b>Yarns</b>	13%	12%	12%	16%	18%
<b>Woven fabrics</b>	38%	43%	49%	56%	53%
<b>Knitted fabrics</b>	22%	28%	35%	33%	32%

Source: Textiles Federation of SA, quoted in Morris et al 2004

SA Textile Federation figures indeed show a very dramatic increase in yarn and apparel import penetration (see table 20).

**Table 21: Annual share of SA import in world imports by industry, 1997 to 2003**

Sitcname	1997	1998	1999	2000	2001	2002	2003
<b>Textile yarn/fabric/art.</b>	0.47%	0.42%	0.41%	0.4%	0.37%	0.38%	0.4%
<b>Apparel/clothing/access</b>	0.12%	0.12%	0.12%	0.13%	0.11%	0.12%	0.17%

Source: WTO, quoted on DTI website [www.thedti.gov.za](http://www.thedti.gov.za); own calculations

Similar trends can be seen in the share of SA in clothing's annual total world imports (see table 21), which shows a steady increase in SA's share of the world's total clothing imports.

**Table 22: Annual employment in textiles and clothing (normalised)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Textiles (311-312) employment</b>	1.00	0.96	1.14	1.12	0.83	0.80	0.82	0.79	0.81	0.80	0.78
<b>Wearing apparel (313-315) employment</b>	1.00	1.06	1.18	1.09	1.00	1.07	1.05	1.01	1.01	0.99	0.98

Source: Textiles Federation of SA, quoted in Morris et al 2004; own calculations

The apparel fabric subsector of the textile industry responded by moving away from providing the short runs of highly diversified fabric required by the domestically oriented clothing industry, to producing directly for the export market (Roberts et al 2003b: 7-9; Gibbon 2002a: 22-23). This, firstly, entailed a move into specialising and producing longer runs of yarns and fabrics. The movement allowed producers to improve their economies of scale, which previously were suppressed by having to serve a highly diversified local market. Secondly, the refocus on exports entailed a move into industrial or technical fabrics and domestic fabrics.

**Table 23: Annual textile exports (HS 50 to 60, and 63 less 5101 - 5 and 5201 - 3) from SA, 1994 - 2004 (\$'000, current prices, absolute and normalised)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Textiles</b>	162 508	218 524	217 803	304 296	231 907	224 463	205 576	231 980	265 229	310 211	314 548
<b>Textiles index 1994=1</b>	1.00	1.34	1.34	1.87	1.43	1.38	1.27	1.43	1.63	1.91	1.94

Source: Source: TIPS RSA Trade Statistics; own calculations

The export-oriented strategy reported by Roberts et al (2003a&b; Gibbon 2002a: 23) is not very clearly reflected in the export figures in table 23. A somewhat muted increase in exports at current dollar prices can be seen in the period 1994 to 2004, particularly from 1997 to 1999, and from 2001 to 2004.

It appears that the textile industry geared itself away from serving the domestic apparel market in the second half of the 1990s as a defensive strategy to maintain capacity utilisation (critical because of the capital-intensive nature of the industry). This is supported by the surveys of textile firms conducted by Roberts et al (2003a) and Gibbon (2002a: 22 – 23). The industry was thus not positioned to serve domestic producers trying to break into the US and EU markets post 2000 (Kaplan 2003: 38-39).

It was not clear why the industry did not respond to the advantageous global trade environment in the post-2001 period, but analysts suggest that the lack of co-ordination between textiles and clothing is due to the poor relations between these industries (Kaplan 2003: 39). Historically, in SA, the relationship has been one of poor co-ordination and a lack of joint strategies. Clearly, the textile industry could not see a significant opportunity in supplying the clothing industry in the late 1990s. Because the textile industry is more capital intensive than clothing, shifting production entails certain sunk costs and imposes production rigidities on the industry. There are perhaps three reasons for the textile industry not seeing a significant opportunity in re-investing to shift back towards serving apparel. Firstly, specialised exporters, of all SA located firms, were the best geared up to serve the US market, the bigger of the two markets in question, and the one providing the best market access. The US market required very long runs of buyer-specified fabrics sourced from foreign manufacturers usually outside of the AGOA region (Kipling personal communication). Such sourcing was possible because the specialist exporter did not require AGOA benefits to be viable. Secondly, there was very little demand in the broader SSA for regionally produced textiles, given the LDC ROO waiver that operated in terms of AGOA. Thirdly, the double conversion rule associated

with the SADC trade protocol inhibited the duty free supply of fabric into countries that were trying to export to the EU under a two-stage conversion rule (as discussed in section 3).

SA based exporters to the US have had some success in improving the response of local fabric chains in the post-2000 period (see section 5). This can be seen in the sharp increase in AGOA compliance for 2001 and 2002, despite the relatively static export figures for the same period. Gibbon attributes this response to specialised exporters, those geared towards serving the US market (2002b: 20). Initially specialised exporters were unable to alter their fabric supply chains from sourcing outside of the AGOA region. That ability grew, however, prompted both by the substantial AGOA market access benefits and rand depreciation, and the corresponding domestic rand price increases for exported products. Gibbon (2002b: 26 – 27) points to anecdotal evidence of increasing vertical integration with fabric manufacture amongst specialist exporters in the 2002 period in support of this argument. This appears to have only occurred in very limited instances. More research is required to determine why backward integration has been so rare, but one reason may be due to the lack of low cost capital during the 2001 to 2003 period. Capital constraints may be related to the weaknesses in the industry already mentioned above, and to high interest rate levels that existed at the time.

## b) The cost of labour

In SA, labour is second only to fabric as the most significant cost element in the production of clothing (Minor et al 2002: 19). It makes up 42% of the “free on board” value of a typical item of clothing produced in SA metropolises and exported to the US (e.g. trousers), and 30% of clothing value produced in decentralised areas. This range is due to the differential in wages across the urban-rural divide in SA, which reflects the different business models followed in each of these areas (see section 2).

**Table 24: Hourly rates in dollars for a clothing machinist, 2002**

	Textiles industry	Clothing industry
Bangladesh	0.25	0.39
Sri Lanka	0.4	0.48
China	0.40 - 0.69	0.68 - 0.88
India	0.57	0.38
Kenya	0.62	0.38
Egypt	1.01	0.77
Mauritius	1.33	1.25
South Africa	2.17	1.38
Mexico	2.3	2.45
Taiwan	7.15	na
Madagascar	na	0.33

Source: Werner International Management Consultants, Spinning & weaving labour cost comparisons, 2002, quoted in Economist Intelligence Unit, Africa consumer goods: Clothing industry is shrinking, April 27, 2004

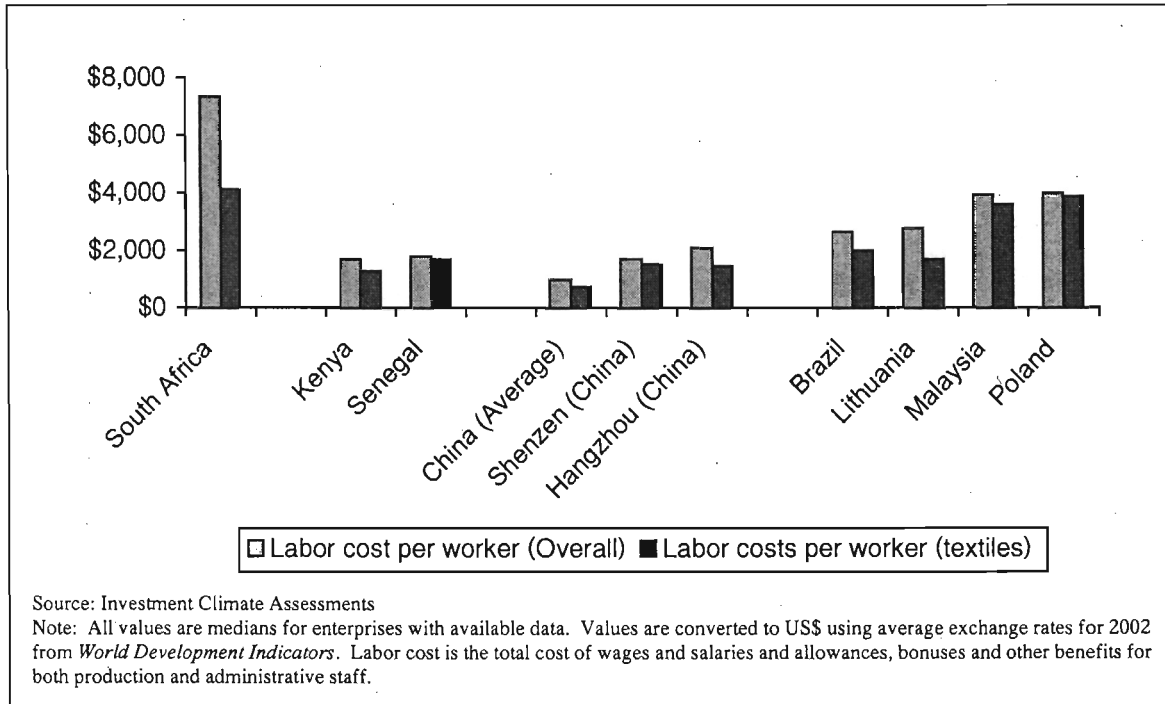
Table 24 shows that compared to emerging economies with significant clothing industries, in 2002, SA firms located in metropolitan areas had significantly higher average wage levels. Aside from Mexico, wage levels in SA metropolises were two to four times the value of its competitors. The fact that labour costs in these metropolitan areas constitute about 40% of the value of clothing sales implies a cost premium that roughly lies between 20% and 30%<sup>26</sup>.

The premium on SA labour costs is also reflected in the World Bank Investment Climate Report (Clarke et al 2005), which tracks a different set of countries to those above<sup>27</sup> (see figure 2).

<sup>26</sup> The rough estimate is calculated by taking the proportion by which SA wage levels are higher than the international levels and multiplying this by 40% i.e.  $\frac{1}{2}$  to  $\frac{3}{4}$  of 40%.

<sup>27</sup> Investment Climate Report (Clarke et al 2005) only covers the manufacturing sector. The countries covered all have well to relatively well-developed clothing sectors, and compete with elements of the SA

**Figure 2: A comparison of median labor costs in manufacturing and the garments sector in South Africa with other Investment Climate Assessment participant countries (2002)**



Source: extract from South Africa: An assessment of the investment climate, 2005

Minor et al (2002: 20) registered wages of \$0.51/hour in SA decentralised areas for a machinist, while Morris et al (2004: 18) recorded figures of \$0.63/hour in decentralised areas in the province of Kwazulu Natal (Ladysmith)<sup>28</sup>. It seems that wages in some decentralised areas were competitive with some low-cost, emerging production environments on the global level.

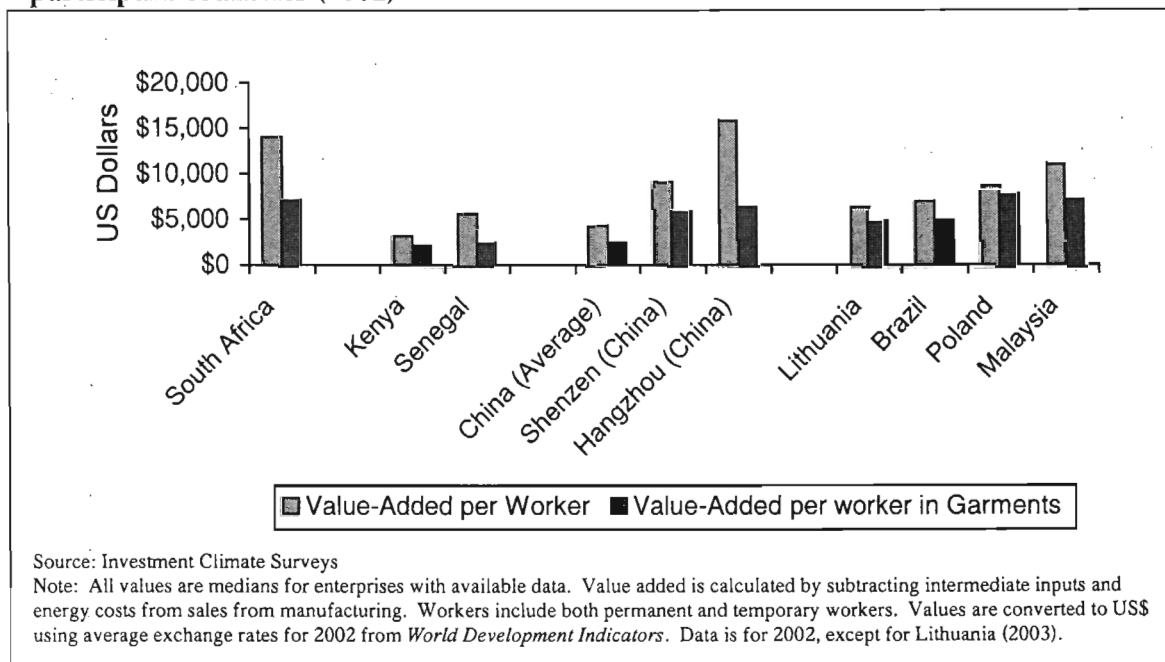
Wage levels only provide a limited view on labour costs; labour productivity also needs to be taken into account. For instance, if productivity levels in non-metropolitan areas are substantially lower than those in metropolitan areas, it may be that the costs of production in relation to labour may actually be cheaper in metropolitan areas, despite

clothing industry. Country selection is based on where Investment Climate Surveys have been done. The African countries that have been chosen are the best performing ones.

<sup>28</sup> Converted from monthly dollar rates and weekly rand rates assuming an 8 hour working day, 22 working days per month, and using the average annual exchange for 2002 of R10.52 to the dollar (SARB, Quarterly Bulletin, March 2005, S-110, KB521).

higher wage levels. No labour productivity information for clothing production in non-metropolitan areas is available.

**Figure 3: Comparison of labour productivity in manufacturing and the garment industry in South Africa with with other Investment Climate Assessment participant countries (2002)**



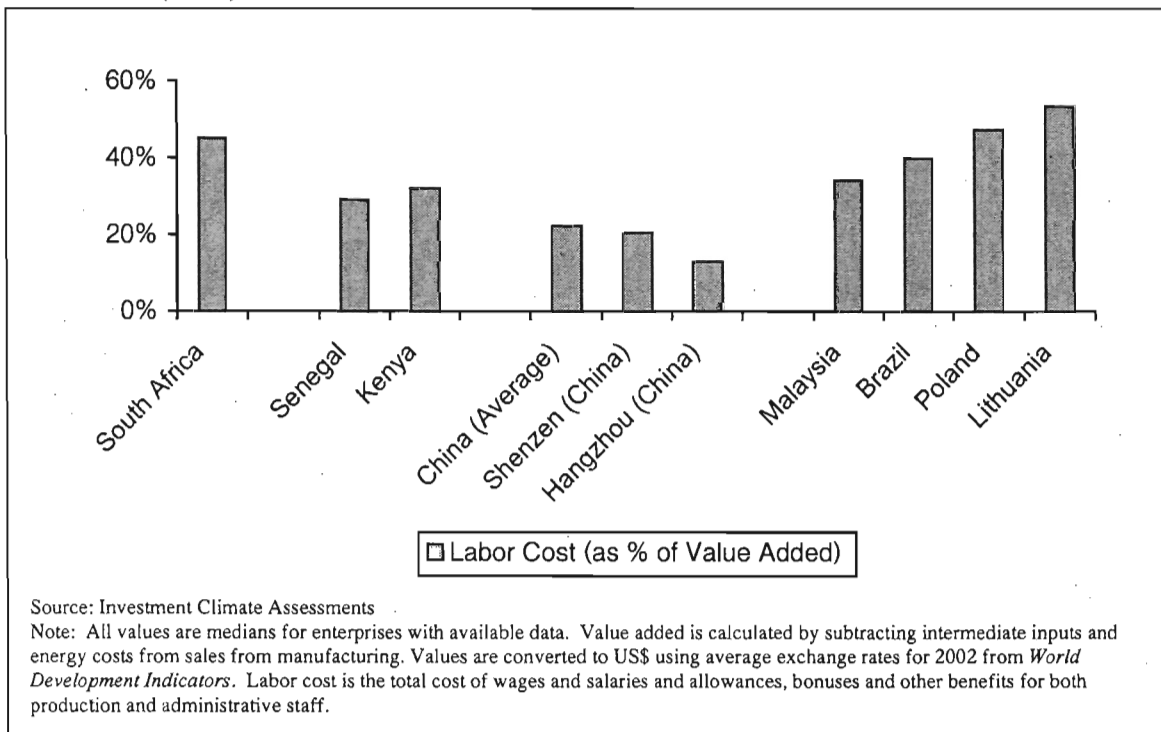
Source: extract from South Africa: An assessment of the investment climate, 2005

Figure 3 suggests the labour productivity in the metropolitan based “garment industry” in SA was relatively high; it was higher than the most productive areas covered by Investment Climate Surveys in China, and was only slightly lower than Malaysia and Poland.

“Unit labour costs”, defined as labour costs as a share of value-added, combines absolute labour cost measures with labour’s productivity. It is the most meaningful measure of the labour costs<sup>29</sup>.

<sup>29</sup> The measure also avoids the problems of exchange rate fluctuations, as it is a ratio.

**Figure 4: Comparison of unit labour costs (i.e. labour cost as a percentage of value-added) in South Africa with other Investment Climate Assessment participant countries (2002)**



Source: extract from South Africa: An assessment of the investment climate, 2005

Figure 4 suggests that unit labour costs in manufacturing in SA were high, and were only competitive with those of Eastern Europe. No cross-comparative information for the unit labour costs in the garment industry is provided in the Investment Climate Report. If we take the differences in unit labour costs in manufacturing as being broadly illustrative of the differences in the garment industry, SA's labour cost was about two to three times those of Asian competitors during the study period. By similar reasoning to that used earlier, this suggests a labour cost premium that lies roughly between 20% and 26%. We consider the extent to which the DCCS was able to offset this premium in section 6.3.

The National Bargaining Council (NBC) has established seven different sets of wage levels for the country, each one defined for a different type of area in the country, in recognition of the different cost conditions and clothing business models operational across the country (Vlok personal communication). The lowest set of wage levels is the "non-metro rate", for traditionally decentralised areas. But there are three sets of non-metro rates, which increase in level as the areas get more proximate to centralised areas.

Wage differentials that predated the NBC have been retained, but the NBC's intention is to bring the non-metro level up to the level of the metro regions over time. Since its inception annual wage increases in non-metropolitan areas have been slightly higher than in metropolitan areas i.e. 6% to 8% as opposed to 4%.

Minor et al have suggested that labour conditions in the metropolises were not sufficiently flexible compared to global conditions (2002: 20). Employers reported that it was difficult to introduce the shift work needed to reach optimal machine running times. Minor et al also report that the cost of retrenchment was too high (2002: 19). The Development Planning Research Unit found that employers in the manufacturing sector in Cape Town reported absenteeism rates of 10 to 15% in the period, which raised the unit cost of labour (Poswell personal communication).

Since the advent of the NBC, the key function of the regionally based chambers is take to day-to-day decisions on the conditions of work that are regulated (Vlok personal communication). According to Gibbon, historically producers saw the procedures required to shift conditions of work as extremely onerous e.g. authorisations required for overtime work were difficult to obtain (2002: 51). It is unclear whether the source of these rigidities was intrinsic to the system of labour regulation, or due to the stance taken by the unions (Gibbon 2002: 52).

### Section 6.3: DCCS and the subsidy to exports

No official impact assessment of the DCCS is available in the public domain (Osman personal communication), despite its existence since 1993. Trade authorities have not even tracked the value of Duty Credit Certificates (DCCs)<sup>30</sup> earned by the clothing firms in SA (Pretorius, personal communication). We attempt to make a contribution to assessing the efficacy of the scheme by considering the extent of the export subsidy that arises from the DCCS.

In terms of the DCCS, an export subsidy is defined as:

*(DCCs earned on the exports – duty paid for the imported inputs used in the production of exports) / turnover earned from exports.*

The subsidy thus varies with export level and import content. Because of the lack of information on the take up and use of DCCs, we model the manner in which the rate of export subsidy varies with a set of hypothetical export and import content levels, for a number of periods. The model's parameters are set according to what the literature and the general trade figures suggest might have been valid for SA firms. This allows us, firstly, to estimate the **maximum subsidy** for the study period and consider whether it can account for the sluggish export response. We compare the subsidy levels and export response of clothing, to those present in the auto industry at the time. We also consider the degree to which maximum values could accommodate the premium on SA metropolitan labour costs. Secondly, the model allows us to assess whether the manner in which the subsidy varies with export level and import content provides incentives to firms to move towards exporting greater portions of their production i.e. the "incentive regime" within the subsidy scheme. We unpack the incentive regime by examining how well the DCCS was targetted at the average firm and whether a logical incentive regime encouraging a better export response from that of the average firm was inherent within the variation of subsidy rate with export level and import content. We also look at what

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<sup>30</sup> The Duty Credit Certificate System is referred to herein as DCCS, while Duty Credit Certificates are referred to as DCCs.

the subsidies might have been for specialised exporters. Finally, we consider **factors external to the model** that might have caused the rate of subsidy to differ from the values we have calculated.

The DCCS model we have constructed is fully explained in the Appendix. We lay out a few of the main features of the model here. DCCs could only be used to pay for the duty on imported inputs for production destined for the domestic market. This means that firms could only use all the DCCs they earned internally when their production for the domestic market was of sufficient volume and used a sufficient level of import content to enable a full absorption of the earned DCCs. At particular combinations of export level and import content, full absorption of DCCs was not possible, and firms would have sold their DCCs on a secondary market at a discounted rate, ranging between 30 and 40% according to the literature (Kaplan 2003: 30). We set the rate at 35% in the model. We take the export subsidy to be a weighted-average of the export subsidy based on the full value of DCCs earned and that based on the discounted value of DCCs earned. **This weighted average rate of export subsidy for different combinations of export level and import content is the key output of the model.** The two weights are first, the proportion of DCCs earned that could be absorbed in the production for the local market ( $w$ ), and second, the proportion that could not, and is thus the residual ( $1 - w$ ).

Modelling is further complicated by the need to track the impact on the export subsidy of the manner in which import content was allocated to production for the export market at different combinations of export level and import content. Three hypothetical import content allocation scenarios are defined. Scenario 1, perhaps the most typical, splits import content across production for the export market and the domestic market according to the share of sales as between export production and production for the domestic market. Scenario 2 allocates the maximum import content to production for exports for each of the different combinations of export level and import content, and is thus a minimum export subsidy scenario. Scenario 3 is a mirror image of scenario 2, and is thus a maximum export subsidy scenario. As the level of local content in exports is maximised under scenario 3, it also reflects the import content allocation algorithm of a

firm trying to maximise exports compliant with the US and EU preferential trade arrangements.

Our model, however, should be seen as preliminary, and its results indicative, rather than definitive. The model's simplifications introduce a number of possible errors. Three of the key ones are as follows. Firstly, the rate of export subsidy is modelled for discrete values of export level and import content, and the full range of possible export subsidy rates may not actually be generated at these values. Secondly, we do not explicitly model the labour content of production. Labour content is simply lumped together with local content, a residual of import content and the profit, which are explicitly defined in the model. Accounting for labour content would affect the manner in which the model allocates import content across export production and production destined for the domestic market. This would impact on the size of the rate of export subsidy and its variation with changes in export level and import content. The impacts are, however, unpredictable as they affect both the quantum of duty on import content, and the ability of the firms to absorb DCCs internally and avoid having to discount DCCs. Our estimates of the parameters are yet another source of error. Furthermore, we have not checked the robustness of the results of the model to changes in the parameters i.e. we have not checked for sensitivity. The parameters we use in the model are estimates (as discussed in more detail below). We need to test how the results shift in relation to the range of values associated with the parameter estimates.

The rate of duty for imported inputs is a key parameter. We set the duty at 20%, a weighted average of the 22% duty of fabric and the 17.5% duty on yarn in operation during the period 2001 to 2004.

**Table 25: Maximum weighted average export subsidy rates per scenario and per period**

Scenario (Export level; import content)	2001 - 2002	2002 - 2004	2004 - 2005
Scenario 1 (15%;40%)	28.3%	23.3%	19.5% (15%;20%)
Scenario 2 (15 - 100%; 0%)	22.8%	19.5%	16.3%
Scenario 3 (15%; 40%)	35%	30%	25%

Source: own DCCS model; Appendix

Turning first to consider the maximum subsidies, Table 25 tabulates the rate of subsidy maxima generated by our modelling exercise, for each period and scenario. It also indicates the values of export level and import content under which the maxima were generated. According to the model, the highest subsidy rate post 2000 occurred in the period 2001 to 2002 under scenario 3, and amounted to 35%. This was a true maxima for all values of export level and import content, as it was the maximum rate at which DCCs could be earned during that period (see table 2). Maxima under scenario 1 and 2 were 28.3% and 22.8%, but given the errors recounted above it is not clear that these are true maxima. The maxima for each scenario occurred in the period 2001 to 2002. Holding the scenario constant, maxima per period decreased regularly with moves away from the 2001-2002 period.

The maxima were sufficient to absorb a labour cost premium of 20%, except in the last period, where scenario 2 generated a subsidy rate significantly smaller than 20%. If we incorporate the average cost advantage that arose from the AGOA benefit in 2002 (i.e. 17%) into the maximum export subsidy under scenario 3, the production scenario most able to generate AGOA compliant outputs, the subsidy rose substantially to over 50%.

These DCCS subsidy levels seem to be in line with those generated under the IRCC scheme in the auto and auto component industry. This is despite the fact that IRCCs were earned in addition to the rebate on duties (in terms of the 470.03 provision), unlike the DCCs, which were an alternative to 470.03 (see section 4.1). The rate of subsidy in 2002 varied with the type of item that was exported and the type of import product on which the IRCC was used, as shown in table 26 (Flatters 2002a: 8). The figures in table 26 include the impact of the tariffs on inputs, as does our DCCS model.

**Table 26: Effective protection given to exports by the IRCC facility, 2002**

Use of IRCCS	Item exported	
	Vehicles	Components
Vehicle imports	40%	26%
Component imports	30%	30%

Source: Flatters, F 2002a: 8

There were, however, a number of other benefits under the MIDP that imparted subsidies to the auto and auto component industry (Flatters 2002a: 6-9). The clothing industry did not enjoy these additional subsidies. They were: a) a productive asset allowance on investments in new facilities for export production; and b) duty free allowance (DFA) on components up to the value of 27% of the value of a vehicle produced for sale to the local market. Under certain assumptions a) could be converted into a subsidy on export goods produced, adding a substantial export subsidy to that of the IRCC scheme. The DFA provided a substantial subsidy to local production, which already enjoyed protection, and as subsidies are ultimately fungible, could assist in the subsidy of exports. The total subsidy to exports of all of these incentives has not been calculated. It may be much more substantial than that derived from the IRCC scheme alone.

Although the two industries cannot be strictly compared, the export response of the auto and auto component industry certainly contrasts sharply with that of the clothing industry.

**Table 27: Annual share of SA exports in world exports by industry, 1997 to 2003**

Sitcname	1997	1998	1999	2000	2001	2002	2003
Apparel/clothing/access	0.09%	0.07%	0.09%	0.1%	0.11%	0.12%	0.13%
Textile yarn/fabric/art.	0.17%	0.14%	0.15%	0.13%	0.15%	0.17%	0.19%
Road vehicles	0.22%	0.21%	0.31%	0.34%	0.37%	0.38%	0.48%

Source: WTO, quote on DTI website, [www.thedti.gov.za](http://www.thedti.gov.za)

Table 27 shows that as a share of total global exports for the industry, SA's auto and components exports were double to triple SA's share of global clothing exports. The auto and auto component's share of global exports rose at greater rates between 1997 and 2003, than that of clothing.

**Table 28: Annual clothing exports as a share of total manufacturing exports from SA by industry, 1994 - 2004 (Rand, constant 2000 prices)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Textiles (311-312)	2.6%	2.1%	2.2%	2.1%	1.7%	1.5%	1.2%	1.1%	1.1%	1.0%	0.9%
Wearing apparel (313-315)	2.2%	1.9%	1.7%	1.9%	1.6%	1.7%	1.6%	1.5%	1.3%	1.3%	0.9%
Motor vehicles, parts & accessories (381-383)	4.9%	5.6%	5.1%	5.1%	7.2%	11.6%	13.6%	15.6%	15.7%	16.3%	16.3%

Source: TIPS SA Standardised Industry Output Structure; own calculations

Autos and auto components made up a highly significant and ever-increasing share of total manufacturing exports of about 15% (see table 28). Clothing contributed in the order of 1 to 1.5% of manufacturing exports, and from 1999, its share of manufacturing exports steadily declined.

**Table 29: Annual export output ratio, by industry, 1994 - 2004 (Rand, 2000 constant prices, normalised)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Manufacturing (3)</b>	18.3%	20.7%	22.3%	23.2%	22.1%	22.0%	20.7%	20.7%	19.3%	18.1%	17.7%
<b>Textiles (311-312)</b>	18.3%	18.2%	20.8%	20.2%	16.4%	15.8%	11.8%	12.2%	10.0%	8.4%	7.1%
<b>Wearing apparel (313-315)</b>	15.0%	14.6%	15.9%	17.6%	15.3%	16.9%	15.8%	17.2%	13.2%	12.4%	8.2%
<b>Motor vehicles, parts &amp; accessories (381-383)</b>	10.1%	11.6%	12.1%	13.2%	15.6%	23.3%	22.3%	22.4%	23.7%	23.5%	22.4%

Source: TIPS Standardised Industry Output Structure; own calculations

Table 29 shows that the proportion of the auto and auto components industry's product exports increased sharply over the period, when compared to manufacturing in general and the clothing industry. Its export output ratio tended to increase slightly in the post-2000 period, while the ratios for clothing and manufacturing have on the whole declined somewhat.

**Table 30: Annual exports from SA, 1994 – 2004 (rand, constant 2000 prices, normalised)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Manufacturing (3)</b>	1.00	1.22	1.33	1.42	1.44	1.50	1.62	1.72	1.70	1.63	1.68
<b>Textiles (311-312)</b>	1.00	1.01	1.13	1.17	0.94	0.91	0.74	0.76	0.73	0.64	0.58
<b>Wearing apparel (313-315)</b>	1.00	1.06	1.06	1.22	1.05	1.16	1.18	1.22	1.00	0.97	0.67
<b>Motor vehicles, parts &amp; accessories (381-383)</b>	1.00	1.39	1.39	1.47	2.11	3.57	4.49	5.46	5.44	5.41	5.57

Source: TIPS Standardised Industry Output Structure; own calculations

Table 30 shows that in real terms auto and auto component exports increased sharply over the period, by over 5.5 times, while clothing's real export increases were much more modest, declining from 1994 levels by the end of the period.

Although the maximum rates of subsidy arising from the DCCS were substantial and compared well with rates of subsidy arising from the IRCC scheme, there may have been substantial additional subsidies arising through other aspects of the MIDP scheme. The

export response in the auto industry was several orders of magnitude higher than that of the clothing industry, and this is certainly due in some degree to the higher export subsidies available for autos. Without more of an idea what these extra subsidies for the auto industry amounted to, it is difficult to make a judgement about the extent to which the difference in the export response in the two industries can be accounted for by differences in export subsidy levels.

We turn next to consider the incentive regime within the export subsidy schemes. We can assess the accuracy of targetting by considering the extent to which the average firm's export level and import content had to shift to reach the maximum rate of subsidy. The export level and import content of the average firm during the period is by definition simply the export output ratio for the clothing industry and the degree to which imported fabric apparel and other imported clothing inputs penetrated the local market. Table 4 suggests that the average export level in the post-2000 study period ranged from 12% to 14%, while tables 19 and 20 suggest that the average import content lay between 35% and 40%. The export subsidy associated with the average firm under each of the import content allocation scenarios and for each period is given in table 31.

**Table 31: Export subsidy arising from DCCs for average firm, per period, per scenario**

Scenario (Export level; import content)	2001 - 2002	2002 - 2004	2004 - 2005
Scenario 1	18.3%	13.3%	8.7%
Scenario 2	9.1%	4.1%	-0.9%
Scenario 3	25%	20%	15%

Source: own DCCS model; Appendix

Comparing table 25 to 31 we can see that, except for scenario 2, the minimum export subsidy scenario, the average subsidy and the subsidy maxima did not radically diverge from each other. Furthermore, under scenarios 1 and 3, the average firm was largely able to cover the labour cost premium in the first two periods with its subsidy. Bearing in mind that our model is somewhat preliminary, this suggests the subsidy was quite well targetted at the average firm.

To what extent did a logical incentive regime encouraging a better export response from that of the average firm arise from the variation in the rate of subsidy with export level

and import content? Except under scenario 2, the maxima occurred at the same level of import content as the average firm's (i.e. 40%), and very close to the average firm's export level (15%, as opposed to the average value between 12% to 14%). This means that for a small change in the export content, the maxima could have been achieved in scenarios 1 and 3. The rate of the subsidy then diminished from the maxima as the export level was increased, as can be seen in tables 32 and 33, which show the distribution of subsidy rates across values of export level and import content for the period 2001 to 2002.

**Table 32: Weighted average export subsidy arising from DCCs for values of export level and import content, scenario 1, 2001 to 2002**

Exports import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		21.0%	18.0%	17.1%	23.6%	23.1%	22.6%	22.2%	22.0%	21.9%
10.0%		23.3%	19.8%	18.0%	24.4%	23.4%	22.4%	21.7%	21.3%	21.1%
20.0%		21.7%	21.7%	19.8%	26.0%	24.1%	22.1%	20.6%	19.8%	19.4%
40.0%		18.3%	18.3%	18.3%	28.3%	25.4%	21.5%	18.4%	16.9%	16.1%
60.0%		15.0%	15.0%	15.0%	25.0%	25.0%	20.9%	16.3%	13.9%	12.8%
100.0%		8.3%	8.3%	8.3%	18.3%	18.3%	18.3%	11.9%	8.0%	6.1%

Source: own DCCS model; Appendix

Was the variation in subsidies with export level and import content structured so as to create a feasible path for increasing exports? In terms of scenario 1, table 32 shows that subsidy rates declined from 28.3% to 25.4% as the export level increased from 15% to 20%. Furthermore, in order to have earned the maximum possible subsidy for levels of export above about 30% (i.e. 22.8%), firms needed to have dropped their import content from 40% to 0%, which does not seem very feasible. If the firm maintained its import content at 40% and increased its level of exports, at an export level point somewhere between 50% and 60% the rate of subsidy decreased to below that earned by the average firm. This suggests that the incentive regime associated with the DCCS was not well structured to encourage the expansion of exports, if a scenario 1 import content allocation algorithm was followed. The regime discouraged expansion beyond the 15% export level, and was thus somewhat perverse.

**Table 33: Weighted average export subsidy arising from DCCs for values of export level and import content, Scenario 3, 2001 to 2002**

Exports import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		22.1%	19.2%	18.3%	24.7%	24.2%	23.7%	23.3%	23.1%	21.9%
10.0%		25.0%	22.1%	20.3%	26.6%	25.7%	24.7%	23.9%	23.5%	21.1%
20.0%		25.0%	25.0%	24.3%	30.5%	28.6%	26.6%	25.1%	24.3%	19.4%
40.0%		25.0%	25.0%	25.0%	35.0%	34.4%	30.5%	27.4%	21.0%	16.1%
60.0%		25.0%	25.0%	25.0%	35.0%	35.0%	34.4%	24.2%	16.6%	12.8%
100.0%		-6.7%	1.2%	3.7%	13.8%	15.2%	16.5%	10.8%	7.7%	6.1%

Source: own DCCS model; Appendix

The distribution of subsidy rates under scenario 3 displays a similar incentive regime, although the perverse elements were perhaps not as marked, as can be seen in table 33. The firm could have maintained the maximum export subsidy, or rates very close to that, at export levels just below 30%, by increasing import content to about 60%. Increasing import content to 60% would, however, have decreased the firm's ability to achieve AGOA compliance, and receive the 17% average cost advantage arising from the AGOA benefit. If the firm maintained its import content at 40%, the drop from the maximum subsidy was only marked when export content breached the 20% mark. Subsidy levels could have been kept at levels close to those earned by the average firm if export levels were kept to less than 75%, and import content was dropped from 40% to 20% as the export level began to increase over 50%. If the import content of 40% was maintained, subsidy rates would have fallen to below that of the average firm at some point between export levels of 50% and 75%, probably close to the 60% export level.

**Table 34: Weighted average export subsidy arising from DCCs for values of export level and import content, scenario 2, 2001 to 2002**

Exports import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		0.7%	7.9%	10.5%	17.2%	18.6%	20.0%	21.1%	21.6%	21.9%
10.0%		6.5%	0.7%	4.8%	11.6%	14.4%	17.2%	19.4%	20.5%	21.1%
20.0%		9.1%	6.5%	2.9%	9.1%	7.2%	11.6%	16.1%	18.3%	19.4%
40.0%		9.1%	9.1%	9.1%	16.9%	13.0%	9.1%	9.4%	13.9%	16.1%
60.0%		9.1%	9.1%	9.1%	19.1%	18.8%	13.0%	8.3%	9.4%	12.8%
100.0%		9.1%	9.1%	9.1%	19.1%	19.1%	19.1%	13.0%	9.1%	6.1%

Source: own DCCS model; Appendix

Under scenario 2, a minimum subsidy scenario, the average firm would have needed to decrease its import content to 0% and increase its export level marginally to 15% to achieve the maximum subsidy, which does not seem that feasible. Table 34 shows that the incentive regime that arose under this scenario was generally consistent with encouraging export expansion, especially where the firm kept its export content to below about 40% i.e. below the average level. At 0% import content, when the maximum subsidy was achieved, increasing export levels was not rewarded by greater rates of subsidy.

Our model indicates that subsidies tended to reach their minimum levels under the different scenarios when export levels were below 15% and import content was very high i.e. tending towards 100% (see Appendix). The incentive regime implicit within the DCCS discouraged very low levels of export combined with high import content. This configuration thus encouraged firms to be as AGOA and EU FTA compliant as possible. Under scenario 2, in the last period, as the DCCS was being phased out, the DCCs earned were insufficient to cover even the duty on local fabrics at levels of export below 15% and import content higher than 10%.

**Table 35: Export subsidies arising from DCCS applicable to specialist exporters, per period and per scenario**

Scenario (Export level; import content)	2001 - 2002	2002 - 2004	2004 - 2005
Scenarios 1,2,3	6.1%	2.8%	-0.4%

Source: own DCCS model; Appendix

Table 35 considers the export subsidy that would have been enjoyed by specialist exporters (those with an import content close to 100% and export levels close to 100%). The table suggests that, at least for the first part of the post-2000 period, specialist exporters could have improved their economic position by shifting from using 470.03 to using the DCCs. The 470.03 provision merely neutralises the impact of protection on import content and provides a zero export subsidy. Our model suggests that using DCCs in the first two periods would have imparted a positive export subsidy.

The incentive regime within the IRCC scheme has not yet been considered in the literature and is beyond the scope of this paper. We cannot therefore readily compare the incentive regimes inherent within the DCCS and the IRCC scheme to explain the differences in export performance between clothing and autos recorded above.

Why did specialist exporters not switch to the DCCS in this period? One possible explanation is that our model does not account for a number of the costs incurred in using the DCCS, to which we lastly turn. Such costs would diminish the rates of the subsidy we have calculated in our model. Firstly, the DCCs were paid out after a lag of up to a year from the time the export was made (Gibbon 2002a: 52). This means there was an opportunity cost to exporting under the DCCS. This was the cost required to finance the difference between international and local prices before the offsetting subsidy from the DCCS became available (Kaplan 2003: 30). Secondly, there were a number of conditionalities related to the DCCS. DCC-earning firms needed to meet certain training and labour relations obligations, and to have paid for and organised a productivity report conducted by prescribed consultants (ITAC 2004: 13 – 21). According to a survey of scheme beneficiaries and other more technical firm-level research, the fulfilling of these conditions had a limited impact on improving export performance (Kaplan 2003: 30; Ried 1999b: 5-13). Thirdly, during the existence of the scheme, it was scheduled to terminate a number of times, but was always, in the end, extended (ITAC 2004: 8). These scheduled terminations and re-instatements led to uncertainty, which eroded the incentive effects of the scheme. Furthermore, specialised exporters would have had to face switching costs when changing back to the 470.03 from the DCCS in the third period, when the associated subsidy became negative.

In summary, the DCCS provided a substantial export subsidy, especially immediately post-2000. The maximum subsidy occurred when firms tended to allocate as much import content to production destined for the local market, allowing enough production for the local market to absorb the DCCs internally, and exported rather moderate levels of production. These firms were also best able to access the AGOA and EU SA FTA

benefits, which brought subsidy rates up to levels of about 50%, at which level labour premia would have readily been covered, and a positive subsidy still have been earned. All the subsidy rates may actually have been lower than reflected in the model, if the costs of using the DCCS are included e.g. conducting productivity surveys. Average firms that allocated an even share of import content to export production and production for the local market were also within easy reach of the maximum subsidy, a marginal increase in export level being all that would have been required. Firms that allocated as much import content as they could to production for the local market were also within easy reach of the maximum subsidy. The incentive regime associated with the DCCS, however, tended to encourage firms to reach 15%, but not increase export levels above that. Only firms that allocated as much import content to export production as possible faced an incentive regime that encouraged exports, provided import content was below average, but the levels of incentive they faced generally diverged strongly from the maximum.

## Section 7: Conclusion

Despite AGOA and the SA EU FTA, and a number of measures to reduce anti-export bias, including an export incentive designed for the clothing sector, SA's clothing industry's export response has been weak. SA's export growth response over the last decade was rather poor, both in relation to its own historical performance trends, and in relation to other countries in SSA. Many of the SSA countries' export clothing industries only became established in the decade under review. The largest export growth in SA occurred during the first part of the decade under review i.e. in the period 1994 to 1999. The new growth was destined for countries outside of the EU and the US. There was a second wave of growth in the post-2000 period, much of which occurred in the US market, but growth rates were somewhat weaker. Growth, however, came off a larger base than in the first wave.

There have been no official attempts to track the export performance of different types of clothing firms, and the secondary literature is also scant in this regard. The best estimates suggest that the Far Eastern owned specialised exporters accounted for 55% to 60% of exports during the period. These firms had lower overhead structures than non-specialised exporters primarily serving the domestic market. The former produced longer runs, and therefore could draw on less skilled labour. Given their focus on basic goods with longer lead times, the firms could therefore locate themselves away from the main centres in non-metropolitan areas, where labour was cheaper and tended to be more flexible. The specialised exporters were essentially the assembly wings of international clothing companies, which sourced fabric internationally, and did not take up export incentives on offer from the government, favouring tariff rebates on inputs. This group of exporters has tended to disinvest since 2003.

Secondary information on the degree of upgrading amongst SA owned exporters is scant. What there is suggests that some upgrading occurred during the review period, although it was very limited in scope, being only what was sufficient to achieve participation in the GCC at the same level at which SA owned firms had already been active. For instance,

up to the end of 2002, movement into the fashion basic segment had not occurred, despite this type of upgrade having occurred in relation to production for the local market.

We have not explored exports in the first part of the review period in any detail in this paper. Our focus has been on accounting for the relatively poor performance between 2000 and 2004. We have looked at why the response to AGOA and the EU FTA was so weak, concentrating on the ability of the DCCS to compensate firms for the barriers to export entry, and to incentivise export growth.

The policy designed to promote clothing exports was primarily aimed at continuing to remove anti-export bias. This process was started in the 1970s and included the introduction of direct export subsidies and tariff rebates on the inputs used for exports. These measures largely failed to generate a massive export response, possibly because of economic sanctions (Kipling personal communication). A number of foreign owned specialised exporters began to enter SA in the late 1980s, prompted largely by another set of industrial strategies that aimed at encouraging investment in decentralised areas. Post 1994, the export rebates were retained, but remained difficult for non-specialised exporters to access. Non-specialised exporters found it easier to access a number of supply side measures set up to replace direct export subsidies that were phased out after 1994, when SA joined the WTO. One of the key supply side measures was the DCCS, an export import complementation scheme designed to incentivise exports in the clothing industry. The SA government also rationalised and phased down tariffs on clothing inputs (and clothing per se) between 1995 and 2002. The process ended with tariff levels remaining relatively high.

The intention of the DCCS was to give temporary support to non-specialised exporters to increase export activity by compensating them for some of the barriers to entry, like the tariff protection placed on clothing imports and the high labour cost structure. Policy makers argued that only temporary support was necessary, as a process of export hysteresis would occur.

Our preliminary modelling of the rate of export subsidy arising from the DCCS shows that, even with the tariff duty fully compensated for, the export subsidy was substantial. Between 2000 and 2004, it reached maximum levels of 35% in 2000/01. Our model is rather simplified and to develop a more definitive picture we need to measure the degree of error that our assumptions impart to the results of the model. Large margins of error need to be addressed through more accurate modelling. For instance, models that allow the testing of a continuous range of values of export level and import content, rather than the fixed ones “hardwired” in the present model, would be more definitive. The model also needs to take better account of labour content. In addition, we need to check the sensitivity of the model’s results to shifts in the values of the parameters.

The export subsidy maxima suggested by our simplified model appear to be comparable with export subsidy levels arising for a similar export import complementation scheme targeted at the auto industry. The export response was substantially larger for autos than for clothing. Part of the reason for this might, however, be the other subsidies available within the MIDP. More research is required to test this hypothesis.

In line with the policy of temporary support, the subsidy levels arising from the DCCS were gradually decreased over the period.

The paper suggests six reasons for why, despite the preferential market access available and the substantial export subsidies, the export response was so poor. Much more research is required to reach conclusions with more confidence. These six reasons are laid out below.

Firstly, the SA economy was subjected to severe exchange rate volatility during the period, especially between 2000 and 2004. In the last part of the period, the rand-dollar exchange rate stabilised at a level substantially higher than the rate at the beginning of the period, despite higher price inflation in SA than the US. Given that the DCCS subsidy rates were being phased down during the period of volatility and the exchange rates were historically very high, the compensatory function of the DCCS may have faltered.

Further, the industry's inability to handle exchange rate volatility may have given rise to a number of export order failures, which in turn may have generated negative reputation effects, leading to additional decreases in exports. More research is required to evaluate the impact of reputation effects.

Secondly, local fabric supply was extremely constrained over the review period. Local fabric supply is critical for accessing the AGOA and EU trade benefits, given the associated stringent rules of origin and the dearth of fabric production capacity in SSA outside of SA. Despite the indication from our model that the DCCS subsidy regime substantially rewarded the use of local fabric in exports, and was thus consistent with promoting AGOA and EU FTA compliance, the export response in these two markets was relatively lacklustre. The local industry failed to respond to changes in trade conditions that favoured clothing exports. The textile industry was uncertain about the local clothing industry, where much of its production had historically been directed, in the light of the decrease in protection on clothing in the local market and the advent of cheap imports and poor customs control. The review period was characterised by the imminent demise of the quota system and increases in global competition in the industry, which added further to the uncertainty. In addition, there was limited demand in the broader SSA region for SA fabric, given the waiver on the AGOA ROO applicable to nearly the entire region that operated over the period. Lastly, the two stage ROO associated with the SADC trade protocol inhibited the supply of fabric to the broader region for domestic markets and for export markets other than the US and EU. Other than the establishment of the DCCS, one of the aims of which was to stimulate demand for local apparel fabric manufactures, the government did not attempt to correct the co-ordination failure between clothing and textiles. Some SA exporters, usually the specialised exporters, responded to the shortage of fabric by integrating backwards but this only occurred in limited instances. Backward integration may have been constrained by the lack of affordable capital.

Thirdly, SA exporters faced a premium on the cost of labour. We estimate this to be between 20% and 30%, depending on what measure of labour cost is used. Much of this

premium was due to structural factors that had their roots in apartheid human settlement policy, which has imposed high cost living environments on labour. The government was reluctant to address the costs of higher labour through labour policy, as the burden on labour would have simply been increased, at least in the short term. Given the range of our labour costs estimates, it is difficult to determine the extent to which the export subsidy was able to compensate for the premium. It would appear that at the beginning of the post-2000 study period, the subsidy was sufficient to compensate for the high costs, but this ability was exhausted as the end of the period was approached. More detailed research is required to estimate the premium with more accuracy. Labour in urban areas also seemed to be inflexible compared to international norms, and this inflexibility imposed high costs on SA firms that had to be factored in. Labour flexibility is critical in the clothing industry, where demand is uncertain and volatile, given the dominance of buyers and the marketing strategy they have adopted.

Fourthly, our DCCS model shows that the incentive regime arising from the DCCS tended to encourage the average firm, which had export levels of about 12 to 14%, to raise its level to 15%. The regime, however, did not strongly incentivise expansion beyond the 15% point, a very modest export level. We have not modelled the incentive regime arising from DCCS in the pre-2000 period, but a similar incentive regime in this period may help account for the two export waves that have occurred in the decade. The first wave could have occurred due to the combined effect of the introduction of the DCCS and the removal of anti-export bias through the tariff phase down. A subsidy peak at a relatively low level of export may account for the brevity and relative weakness of the response. The second wave could then be explained by the introduction of AGOA and the EU FTA, which in combination with the DCCS could have raised the incentive to increase exports. The weakness of this wave could be due to the DCCS benefit phase-down and the low export levels at which the DCCS subsidy peaks fall. More research is required to explore this hypothesis.

Another possible explanation for the differences in export performance between clothing and autos recorded above is the differences in the incentive regimes inherent within the

DCCS and the IRCC scheme. The incentive regime within the IRCC scheme has not yet been considered within the literature and is beyond the scope of this paper.

Fifthly, our model tends to overestimate the rate of export subsidy arising from the DCCS, because it does not account for the costs that were associated with using the DCCS e.g. conducting productivity surveys.

Sixthly, the assumption on which the policy objective was based, that of providing only temporary subsidy support for clothing exports (i.e. that export hysteresis is possible), may have started to lose validity during the period. The notion that export hysteresis could occur was based on the observation that the mode of interaction between buyer and seller was relational, and thus entailed sunk costs for both parties. The relationship was thus thought to be highly resilient. Over the past few years, as globalisation increased and quotas were phased out, there was evidence to suggest that this mode has shifted, and that it is no longer required to allow producers to position themselves on GCCs. Knowledge about market and production techniques no longer flows solely through chains; the channels of knowledge flow have multiplied due to globalisation. Competition has increased between locations, with the advent of a number of locations with firms that are ready to offer the services required by buyers, without extended prior engagement with buyers. This suggests that to ensure that the location remains price competitive either the subsidy has to be permanent, or a policy response other than temporary support is required. The design of policy options would need to take account of the fact that extended support is not permitted by the WTO, and is inefficient<sup>31</sup>.

There are other factors not explored to any degree in this paper that might account for the poor export response. Firstly, partial tariff liberalisation left a tariff regime in which protection was still relatively high and which imparted significant anti-export bias to the industry. Substantial portions of the local clothing production market appear to have

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<sup>31</sup> A new policy response could focus on improving the business environment for clothing production, rather than on the exporter per se. Such a focus may address itself to the supply chains and auxiliary services required by exporters and the regulatory frameworks that affect these supply chains.

thrived during the period, experiencing good returns. Secondly, as the marketing strategies of key global buyers have changed to favour shorter runs and shorter delivery times, locations proximal to these markets have become viable in relation to supplying the fashion basic market segment despite the cost premium entailed. SA industry has been prevented from beginning to move into this market segment due to its distal location. This is despite the local, metropolitan-based industry increasingly fulfilling this role in the domestic market.

This paper points to the lack of differentiated data on clothing exporters and the take up of export incentives. Without such data, the efficacy of trade policy and trade arrangements cannot be determined with any confidence. Firstly, data on the different types of exporters and their relative importance, and how these particular groups performed over the period is lacking. Secondly, there is no data that maps the extent of DCCS uptake to export performance and export business models adopted by firms. A thorough understanding of the value of DCCs awarded, and how they were distributed across types of exporters, is sorely lacking.

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Kaplan, D	Chief Economist, DTI, 2000 - 2003
Vlok, E	Official at the South African Clothing and Textile Workers Union (SACTWU).
Naumann, E	Economist and associate of the Trade Law Centre for Southern Africa, who has done research on rules of origin and related issues
Hartzenberg, T	Executive Director Trade Law Centre for Southern Africa
Willcox, O	Trade programme manager at Trade and Industry Policy Strategies (TIPS)

**Web based electronic quantitative data sources (details provided in text)**

Trade and Industrial Policy Strategies (TIPS) databases accessed through Easydata interface, <http://easydata.co.za>

Comtrade data accessed through the DTI database, <http://www.dti.gov.za/>

US ITC, US Department of Commerce data access through Dataweb, [http://dataweb.usitc.gov/scripts/user\\_set.asp](http://dataweb.usitc.gov/scripts/user_set.asp)

Otexa Eurostat quoted in Morris et al 2004

## Appendix: The DCCS Model

### A.1 The set-up of the model

This model calculates the rate of export subsidy arising from the DCCS for different combinations of export and imported content. We consider the period from 2001 to the end of 2004. The parameters we use in the model are as close to the reality in SA in this period as our knowledge allows.

The following levels of export as a share of turnover are considered in the model. Turnover is set at 1000 units.

**Table A: Levels of export tracked in the model, as a share of share of turnover and as a absolute value**

% export of turnover	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
Export sales	0	50	100	145	150	200	300	500	750	1000
Local sales	1000	950	900	855	850	800	700	500	250	0
Sales	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Our world is one in which domestic imports are protected by a duty tariff of 20% (a weighted average of the 22% duty of fabric and the 17.5% duty on yarn in operation during this period).

The following levels of import content, and their associated levels of duty payment, are considered in the model.

**Table B: Levels of import content (as a share of turnover and as absolute values), with corresponding tariff payment tracked in the model**

Import content	0.0%	5.0%	10.0%	20.0%	40.0%	60.0%	100.0%
Total import content	0	50	100	200	400	600	1000
Tariff duty at 20%	0.00	8.33	16.67	33.33	66.67	100.00	166.67
Import content less duty	0	41.67	83.33	166.67	333.33	500.00	833.33
Local content	1000	950	900	800	600	400	0
Sum of local content and import content	1000	1000	1000	1000	1000	1000	1000

Our base line case is a firm operating in a world with no DCCS. The firm generates sales of 1000 and a profit of 5% on sales, which implies that the cost of production is 952.38. The rate at which profit is generated is the same for production for exports as for production for the local market i.e. 5% of the sales in each of those markets. As there are no DCCS, the export subsidy for all combinations export level and import content is zero.

### A.2 Introducing the DCCS

Because the rate at which DCCs are earned on clothing exports changes over the period of study (see table 2 in the main body), we have divided our subsidy modelling into sections according to those rates.

The export subsidy = (DCCs earned on the exports – duty paid for the imported inputs used in exports) / turnover earned from exports.

However, DCCs can only be used for duty on imported inputs used in production for the domestic market, and thus when production for the domestic market is of sufficient volume and uses a sufficient level of import content to enable a full absorption of the earned DCCS. At particular combinations of export level and import content, the full absorption of DCCS is not possible, and the firm sells its DCCS at a discounted rate which the literature about the SA clothing industry puts at about 35%. We take the export subsidy to be a weighted average of the export subsidy based on the full value of DCCS earned and that based on the discounted value of DCCS earned. **This weighted average rate of export subsidy for different combinations of export level and import content is key output of the model.** The weights are the proportion of DCCS earned that can be absorbed in the production for the local market (w), and the proportion that cannot, and is thus a residual (1-w).

### A.2.1 Scenarios under which import content is allocated to export production and production for the domestic market

We model the rate export subsidy under three hypothetical scenarios for allocating the import content to production for the export market.

#### a) Scenario 1

Import content is split across production for the export market and for the domestic market according to the share of sales as between export production and production for the domestic market. The duties paid on import content for export production for different combinations of import content and exports under scenario 1 are provided in table C.

**Table C: Duty paid on imported inputs in export production for values of export level and import content**

Exports import content	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0%	0.00	0.42	0.83	1.21	1.25	1.67	2.50	4.17	6.25	8.33
10.0%	0.00	0.83	1.67	2.42	2.50	3.33	5.00	8.33	12.50	16.67
20.0%	0.00	1.67	3.33	4.83	5.00	6.67	10.00	16.67	25.00	33.33
40.0%	0.00	3.33	6.67	9.67	10.00	13.33	20.00	33.33	50.00	66.67
60.0%	0.00	5.00	10.00	14.50	15.00	20.00	30.00	50.00	75.00	100.00
100.0%	0.00	8.33	16.67	24.17	25.00	33.33	50.00	83.33	125.00	166.67

The duties paid on import content for production for the local market for different combinations of import content and exports under scenario 1 are provided in the table D. This calculation is necessary to calculate the degree to which DCCS earned can be absorbed by the firm, and therefore are not discounted. From this we calculate the weights for calculating the weighted average rate of export subsidy (see A3).

**Table D: Duty paid on imported inputs in production for domestic market for values of export level and import content**

Exports import content	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
0.0%	0	0	0	0	0	0	0	0	0	0
5.0%	8.33	7.92	7.50	7.13	7.08	6.67	5.83	4.17	2.08	0
10.0%	16.67	15.83	15.00	14.25	14.17	13.33	11.67	8.33	4.17	0
20.0%	33.33	31.67	30.00	28.50	28.33	26.67	23.33	16.67	8.33	0
40.0%	66.67	63.33	60.00	57.00	56.67	53.33	46.67	33.33	16.67	0
60.0%	100.00	95.00	90.00	85.50	85.00	80.00	70.00	50.00	25.00	0
100.0%	166.67	158.33	150.00	142.50	141.67	133.33	116.67	83.33	41.67	0

#### b) Scenario 2

All imported inputs are used in the production of clothing for export markets up to the point at which the imported inputs can longer be absorbed, at which point the imported inputs are allocated to production for the local market. On the export production side, imported inputs are thus allocated up until the point when the difference between the sales and input content is equal to 5% of sales i.e. up to the point that allows the assumed rate of profit of 5% to be accommodated. The return on labour (which is a part of local content) is ignored for simplicity. Under this scenario the import content of export production is maximised, and therefore this scenario generates the lowest rates of export subsidy arising from DCCS.

Table E shows imported content allocated according to scenario 2 to export production for different combinations of export level and import content, while table F shows imported content used in production destined for the domestic market. Tables G and H correspond to tables C and D.

**Table E: Imported content for export production for values of export level and import content**

Exports Import content	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
0.0%	0	0	0	0	0	0	0	0	0	0
5.0%	0	47.62	50	50	50	50	50	50	50	50
10.0%	0	47.62	95.24	100	100	100	100	100	100	100
20.0%	0	47.62	95.24	138.1	142.86	190.48	200	200	200	200
40.0%	0	47.62	95.24	138.1	142.86	190.48	285.71	400	400	400
60.0%	0	47.62	95.24	138.1	142.86	190.48	285.71	476.19	600	600
100.0%	0	47.62	95.24	138.1	142.86	190.48	285.71	476.19	714.29	1000

**Table F: Imported content for production for local market for values of export level and import content**

Exports Import content	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
0.0%	0	0	0	0	0	0	0	0	0	0
5.0%	50	2.38	0	0	0	0	0	0	0	0
10.0%	100	52.38	4.76	0	0	0	0	0	0	0
20.0%	200	152.38	104.76	61.9	57.14	9.52	0	0	0	0
40.0%	400	352.38	304.76	261.9	257.14	209.52	114.29	0	0	0
60.0%	600	552.38	504.76	461.9	457.14	409.52	314.29	123.81	0	0
100.0%	1000	952.38	904.76	861.9	857.14	809.52	714.29	523.81	285.71	0

**Table G: Duty on imported inputs used in production for export market for values of export level and import content**

Exports Import content	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
0.0%	0	0	0	0	0	0	0	0	0	0
5.0%	0	7.94	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33
10.0%	0	7.94	15.87	16.67	16.67	16.67	16.67	16.67	16.67	16.67
20.0%	0	7.94	15.87	23.02	23.81	31.75	33.33	33.33	33.33	33.33
40.0%	0	7.94	15.87	23.02	23.81	31.75	47.62	66.67	66.67	66.67
60.0%	0	7.94	15.87	23.02	23.81	31.75	47.62	79.37	100.00	100.00
100.0%	0	7.94	15.87	23.02	23.81	31.75	47.62	79.37	119.05	166.67

**Table H: Duty on imported inputs used in production for domestic market for values of export level and import content**

Exports Import content	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0%	8.33	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0%	16.67	8.73	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0%	33.33	25.40	17.46	10.32	9.52	1.59	0.00	0.00	0.00	0.00
40.0%	66.67	58.73	50.79	43.65	42.86	34.92	19.05	0.00	0.00	0.00
60.0%	100.00	92.06	84.13	76.98	76.19	68.25	52.38	20.64	0.00	0.00
100.0%	166.67	158.73	150.79	143.65	142.86	134.92	119.05	87.30	47.62	0.00

**c) Scenario 3**

This is the inverse of the scenario 2. All imported inputs are used in the production of clothing for the local market up to the point at which the imported inputs can longer be absorbed, at which point the imported inputs are allocated to export production. In regard to the production for the local market, import content is thus allocated up until the point when the difference between the sales and input content is equal to 5% of sales i.e. up to the point that allows the assumed rate of profit of 5% to be accommodated. The return on labour (which is part of local content) is ignored for simplicity. Under this scenario the import content of

export production is minimised for the different combinations of export level and import content, and therefore this scenario generates the highest rates of export subsidy arising from DCCS.

**Table I: Imported content for export production for values of export level and import content**

Exports	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
Import content										
0.0%	0	0	0	0	0	0	0	0	0	0
5.0%	0	0	0	0	0	0	0	0	0	50
10.0%	0	0	0	0	0	0	0	0	0	100
20.0%	0	0	0	0	0	0	0	0	0	200
40.0%	0	0	0	0	0	0	0	0	161.9	400
60.0%	0	0	0	0	0	0	0	123.81	361.9	600
100.0%	47.61 9	95.2381	142.857	185.714	190.476	238.1	333.33	523.81	761.9	1000

**Table J: Imported content for production for local market for values of export level and import content**

Exports	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
Import content										
0.0%	0	0	0	0	0	0	0	0	0	0
5.0%	50	50	50	50	50	50	50	50	50	0
10.0%	100	100	100	100	100	100	100	100	100	0
20.0%	200	200	200	200	200	200	200	200	200	0
40.0%	400	400	400	400	400	400	400	400	238.10	0
60.0%	600	600	600	600	600	600	600	476.19	238.10	0
100.0%	952.3 8	904.76	857.14	814.29	809.52	761.90	666.67	476.19	238.10	0.00

**Table K: Scenario 3: Duty on imported inputs used in production for export market for values of export level and import content**

Exports	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
Import content										
0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.33
10.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67
20.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33
40.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.98	66.67
60.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.64	60.32	100.00
100.0%	7.94	15.87	23.81	30.95	31.75	39.68	55.56	87.30	126.98	166.67

But

**Table L: Duty on imported inputs used in production for domestic market for values of export level and import content**

Exports	0.0%	5.0%	10.0%	14.5%	15.0%	20.0%	30.0%	50.0%	75.0%	100.0%
Import content										
0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0%	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	8.33	0.00
10.0%	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67	0.00
20.0%	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	0.00
40.0%	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67	39.68	0.00
60.0%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	79.37	39.68	0.00
100.0%	158.73	150.79	142.86	135.71	134.92	126.98	111.11	79.37	39.68	0.00

### A.3 Modeling rates of export subsidy arising from the DCCS

In all the periods we consider, the rate of which DCCs were earned on exports differs according the share of exports in total sales (see table 2 main body). The rate at which DCCS were earned on export sales that made up less than 15% of total sales is 10 percentage points below rate on export sales that made up 15% or more of total sales, as is illustrated below in table 0102.0 for the period 2001 to 2002.

We explain the manner in which the rate of subsidy is calculated in terms of the model for Scenario 1 in the first period. The calculations for the different combinations of period and scenarios considered in the model are similar. In each case the main results in the derivation of the weighted average export rate of subsidy is given (see Scenerio 2 in 2001 to 2002 etc). The tables in which the export subsidy is derived are labeled using a coding which represents the period and the scenario e.g. 0102.1 means Scenario 1 in the period from 2001 to 2002.

#### a) 2001 to 2002

In this period the rate at which DCCs are earned on export sales is 35% for exports making up less than 15%, and 25% on export sales when export sales make up 15% or more of total sales, as can be seen in table. The levels of DCCS earned for levels of export during 2001 and 2002 are also given in table 0102.0. Similar figures and tables are given for the other periods below.

#### 0102.0: Full DCCs and discounted DCCs earned on corresponding levels of export

Export level	Exports below 15% of sales (25%)*				Exports 15% and above of turnover (35%)*					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Export turnover	0	50	100	145	150	200	300	500	750	1000
DCCS @ * % of export value	0	12.5	25	36.25	52.5	70	105	175	262.5	350
Discounted at 35%	0	8.13	16.25	23.56	34.13	45.50	68.25	113.75	170.63	227.50

#### 2001 to 2002: Scenario 1 – Derivation of the weighted average rate of export subsidy

The export subsidy arising from full value DCCs at a particular combination of export level and import content = (full value DCCs earned on the exports for the level of exports concerned – duty paid for the imported inputs used in exports at that combination) / turnover earned from exports at level of export concerned. These rates of export subsidy are mapped out for the combinations export level and import content considered in our model in table 0102.1A below.

#### 0102.1A: Rate of export subsidy for full value DCCs for values of export level and import content

Exports import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
5.0%		24.2%	24.2%	24.2%	34.2%	34.2%	34.2%	34.2%	34.2%	34.2%
10.0%		23.3%	23.3%	23.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
20.0%		21.7%	21.7%	21.7%	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
40.0%		18.3%	18.3%	18.3%	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%
60.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
100.0%		8.3%	8.3%	8.3%	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%

Similarly, the export subsidy arising from discounted DCCs at a particular combination of export level and import content = (Value of discounted DCCs earned on the exports for the level of export concerned – duty paid for the imported inputs used exports used in exports at that combination) / turnover earned from exports at the level of export concerned.

**0102.1B: Rate of export subsidy for discounted DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		15.4%	15.4%	15.4%	21.9%	21.9%	21.9%	21.9%	21.9%	21.9%
10.0%		14.6%	14.6%	14.6%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%
20.0%		12.9%	12.9%	12.9%	19.4%	19.4%	19.4%	19.4%	19.4%	19.4%
40.0%		9.6%	9.6%	9.6%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%
60.0%		6.3%	6.3%	6.3%	12.8%	12.8%	12.8%	12.8%	12.8%	12.8%
100.0%		-0.4%	-0.4%	-0.4%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%

Table 0102.1C indicates the ability of the firm in scenario 1 to absorb the DCCs earned for different combinations of export level and import content. The value at a particular combination is the difference between the duty paid for import content on production for local market at that combination, and the full DCCs earned for the level of export concerned. A negative value indicates that the DCCs earned cannot be completely absorbed internally, and are sold at their discounted value. The absolute value of the negative numbers indicate the remaining full valued DCCs, that then have to be sold at the discounted value. The positive values indicate the value of DCCs that can still be absorbed by the firm at the corresponding combinations of export level and import content.

**0102.1C: Ability to absorb full valued DCCs for values export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%	0	-13	-25	-36	-53	-70	-105	-175	-263	-350
5.0%		-5	-18	-29	-45	-63	-99	-171	-260	-350
10.0%		3	-10	-22	-38	-57	-93	-167	-258	-350
20.0%		19	5	-8	-24	-43	-82	-158	-254	-350
40.0%		51	35	21	4	-17	-58	-142	-246	-350
60.0%		83	65	49	33	10	-35	-125	-238	-350
100.0%		146	125	106	89	63	12	-92	-221	-350

Table 0102D provides the weight that is applied to the rate of export subsidy arising from discounted DCCs required to work out the weighted average rate of export subsidy. This weight (w) is the absolute value of the negative values in the matrix above (table 0102.1C) divided by total full valued DCCS for the level of export concerned. Positive values in table 0102.1C are set to zero to derive the weighting, as at these combinations of export level and import content, the DCCs earned can be fully absorbed internally by the firm. The weight applied to the rate of subsidy arising from full valued DCCS is thus (1-w).

**0102.1D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.37	0.70	0.80	0.87	0.90	0.94	0.98	0.99	1.00
10.0%		0.00	0.40	0.61	0.73	0.81	0.89	0.95	0.98	1.00
20.0%		0.00	0.00	0.21	0.46	0.62	0.78	0.90	0.97	1.00
40.0%		0.00	0.00	0.00	0.00	0.24	0.56	0.81	0.94	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.33	0.71	0.90	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.84	1.00

Thus weighted average rate of subsidy at a particular combination of export level and import content = (1-w)\*rate of subsidy due to full value DCCS at that combination + w\*rate of subsidy due to the discounted DCCS at that combination. The results of this calculation for the different combinations of export level and import content are given in table 0102.1E.

**0102.1E: Weighted average export subsidy arising from DCCs for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		21.0%	18.0%	17.1%	23.6%	23.1%	22.6%	22.2%	22.0%	21.9%
10.0%		23.3%	19.8%	18.0%	24.4%	23.4%	22.4%	21.7%	21.3%	21.1%
20.0%		21.7%	21.7%	19.8%	26.0%	24.1%	22.1%	20.6%	19.8%	19.4%
40.0%		18.3%	18.3%	18.3%	28.3%	25.4%	21.5%	18.4%	16.9%	16.1%
60.0%		15.0%	15.0%	15.0%	25.0%	25.0%	20.9%	16.3%	13.9%	12.8%
100.0%		8.3%	8.3%	8.3%	18.3%	18.3%	18.3%	11.9%	8.0%	6.1%

**2001 to 2002: Scenario 2**

**0102.2A: Rate of export subsidy for full value DCCs for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
5.0%		9.1%	16.7%	19.3%	29.4%	30.8%	32.2%	33.3%	33.9%	34.2%
10.0%		9.1%	9.1%	13.5%	23.9%	26.7%	29.4%	31.7%	32.8%	33.3%
20.0%		9.1%	9.1%	9.1%	19.1%	19.1%	23.9%	28.3%	30.6%	31.7%
40.0%		9.1%	9.1%	9.1%	19.1%	19.1%	19.1%	21.7%	26.1%	28.3%
60.0%		9.1%	9.1%	9.1%	19.1%	19.1%	19.1%	19.1%	21.7%	25.0%
100.0%		9.1%	9.1%	9.1%	19.1%	19.1%	19.1%	19.1%	19.1%	18.3%

**0102.2B: Rate of export subsidy for discounted DCCs for values of export level and import content**

	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		0.4%	7.9%	10.5%	17.2%	18.6%	20.0%	21.1%	21.6%	21.9%
10.0%		0.4%	0.4%	4.8%	11.6%	14.4%	17.2%	19.4%	20.5%	21.1%
20.0%		0.4%	0.4%	0.4%	6.9%	6.9%	11.6%	16.1%	18.3%	19.4%
40.0%		0.4%	0.4%	0.4%	6.9%	6.9%	6.9%	9.4%	13.9%	16.1%
60.0%		0.4%	0.4%	0.4%	6.9%	6.9%	6.9%	6.9%	9.4%	12.8%
100.0%		0.4%	0.4%	0.4%	6.9%	6.9%	6.9%	6.9%	6.9%	6.1%

**0102.2C: Ability to absorb full valued DCCs for values export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)						
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%	
Exports											
Import content											
0.0%			-13	-25	-36	-53	-70	-105	-175	-263	-350
5.0%			-12	-25	-36	-53	-70	-105	-175	-263	-350
10.0%			-4	-24	-36	-53	-70	-105	-175	-263	-350
20.0%			13	-8	-26	-43	-68	-105	-175	-263	-350
40.0%			46	26	7	-10	-35	-86	-175	-263	-350
60.0%			80	59	41	24	-2	-53	-154	-263	-350
100.0%			146	126	107	90	65	14	-88	-215	-350

**0102.2D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.37	0.70	0.80	0.87	0.90	0.94	0.98	0.99	1.00
10.0%		0.00	0.40	0.61	0.73	0.81	0.89	0.95	0.98	1.00
20.0%		0.00	0.00	0.21	0.46	0.62	0.78	0.90	0.97	1.00
40.0%		0.00	0.00	0.00	0.00	0.24	0.56	0.81	0.94	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.33	0.71	0.90	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.84	1.00

**0102.2E: Weighted average export subsidy arising from DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		0.7%	7.9%	10.5%	17.2%	18.6%	20.0%	21.1%	21.6%	21.9%
10.0%		6.5%	0.7%	4.8%	11.6%	14.4%	17.2%	19.4%	20.5%	21.1%
20.0%		9.1%	6.5%	2.9%	9.1%	7.2%	11.6%	16.1%	18.3%	19.4%
40.0%		9.1%	9.1%	9.1%	16.9%	13.0%	9.1%	9.4%	13.9%	16.1%
60.0%		9.1%	9.1%	9.1%	19.1%	18.8%	13.0%	8.3%	9.4%	12.8%
100.0%		9.1%	9.1%	9.1%	19.1%	19.1%	19.1%	13.0%	9.1%	6.1%

**2001 to 2002: Scenario 3**

**0102.3A: Rate of export subsidy for full value DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
5.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	35.0%	34.2%
10.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	35.0%	33.3%
20.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	35.0%	31.7%
40.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	35.0%	31.4%	28.3%
60.0%		25.0%	25.0%	25.0%	35.0%	35.0%	35.0%	30.9%	27.0%	25.0%
100.0%		-6.7%	1.2%	3.7%	13.8%	15.2%	16.5%	17.5%	18.1%	18.3%

**0102.3B: Rate of export subsidy for discounted DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	21.9%
10.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	21.1%
20.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	19.4%
40.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	19.2%	16.1%
60.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	18.6%	14.7%	12.8%
100.0%		-15.5%	-7.6%	-5.1%	1.6%	2.9%	4.2%	5.3%	5.8%	6.1%

**0102.3C: Ability to absorb full valued DCCs for values export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		-13	-25	-36	-53	-70	-105	-175	-263	-350
5.0%		-4	-17	-28	-44	-62	-97	-167	-254	-350
10.0%		4	-8	-20	-36	-53	-88	-158	-246	-350
20.0%		21	8	-3	-19	-37	-72	-142	-229	-350
40.0%		54	42	30	14	-3	-38	-108	-223	-350
60.0%		88	75	64	48	30	-5	-96	-223	-350
100.0%		138	118	99	82	57	6	-96	-223	-350

**0102.3D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.33	0.67	0.77	0.84	0.88	0.92	0.95	0.97	1.00
10.0%		0.00	0.33	0.54	0.68	0.76	0.84	0.90	0.94	1.00
20.0%		0.00	0.00	0.08	0.37	0.52	0.68	0.81	0.87	1.00
40.0%		0.00	0.00	0.00	0.00	0.05	0.37	0.62	0.85	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.05	0.55	0.85	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.85	1.00

**0102.3E: Weighted average export subsidy arising from DCCs for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		16.3%	16.3%	16.3%	22.8%	22.8%	22.8%	22.8%	22.8%	22.8%
5.0%		22.1%	19.2%	18.3%	24.7%	24.2%	23.7%	23.3%	23.1%	21.9%
10.0%		25.0%	22.1%	20.3%	26.6%	25.7%	24.7%	23.9%	23.5%	21.1%
20.0%		25.0%	25.0%	24.3%	30.5%	28.6%	26.6%	25.1%	24.3%	19.4%
40.0%		25.0%	25.0%	25.0%	35.0%	34.4%	30.5%	27.4%	21.0%	16.1%
60.0%		25.0%	25.0%	25.0%	35.0%	35.0%	34.4%	24.2%	16.6%	12.8%
100.0%		-6.7%	1.2%	3.7%	13.8%	15.2%	16.5%	10.8%	7.7%	6.1%

**b) 2002 to 2004**

This is period the rate at which DCCs are earned on export sales is 20% for exports making up less than 15%, and 30% on export sales when export sales made up 15% or more of total sales, as can be seen in table.

**0204.0: Full DCCs and discounted DCCs earned on corresponding levels of export**

	Exports below 15% of turnover (20%*)				Exports 15% and above of turnover (30%*)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Export level										
Export turnover	0	50	100	145	150	200	300	500	750	1000
DCCS @ * of export sales	0	10	20	29	45	60	90	150	225	300
Discounted at 35%	0	6.5	13	18.85	29.25	39.00	58.50	97.50	146.25	195.00

2002 to 2004: Scenario 1

0204.1A: Rate of export subsidy for full value DCCs for values of export level and import content

Exports Import content	Exports below 15% of turnover (20%)				Exports 15% and above of turnover (30%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
5.0%		19.2%	19.2%	19.2%	29.2%	29.2%	29.2%	29.2%	29.2%	29.2%
10.0%		18.3%	18.3%	18.3%	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%
20.0%		16.7%	16.7%	16.7%	26.7%	26.7%	26.7%	26.7%	26.7%	26.7%
40.0%		13.3%	13.3%	13.3%	23.3%	23.3%	23.3%	23.3%	23.3%	23.3%
60.0%		10.0%	10.0%	10.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
100.0%		3.3%	3.3%	3.3%	13.3%	13.3%	13.3%	13.3%	13.3%	13.3%

0204.1B: Rate of export subsidy for discounted DCCs for values of export level and import content

Exports Import content	Exports below 15% of turnover (20%)				Exports 15% and above of turnover (30%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
5.0%		12.2%	12.2%	12.2%	18.7%	18.7%	18.7%	18.7%	18.7%	18.7%
10.0%		11.3%	11.3%	11.3%	17.8%	17.8%	17.8%	17.8%	17.8%	17.8%
20.0%		9.7%	9.7%	9.7%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%
40.0%		6.3%	6.3%	6.3%	12.8%	12.8%	12.8%	12.8%	12.8%	12.8%
60.0%		3.0%	3.0%	3.0%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%
100.0%		-3.7%	-3.7%	-3.7%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%

0204.1C: Ability to absorb full valued DCCs for values export level and import content

Exports Import content	Exports below 15% of turnover (20%)				Exports 15% and above of turnover (30%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		-10	-20	-29	-45	-60	-90	-150	-225	-300
5.0%		-2	-13	-22	-38	-53	-84	-146	-223	-300
10.0%		6	-5	-15	-31	-47	-78	-142	-221	-300
20.0%		22	10	-1	-17	-33	-67	-133	-217	-300
40.0%		53	40	28	12	-7	-43	-117	-208	-300
60.0%		85	70	57	40	20	-20	-100	-200	-300
100.0%		148	130	114	97	73	27	-67	-183	-300

0204.1D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content

Exports Import content	Exports below 15% of turnover (20%)				Exports 15% and above of turnover (30%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.21	0.63	0.75	0.84	0.89	0.94	0.97	0.99	1.00
10.0%		0.00	0.25	0.51	0.69	0.78	0.87	0.94	0.98	1.00
20.0%		0.00	0.00	0.02	0.37	0.56	0.74	0.89	0.96	1.00
40.0%		0.00	0.00	0.00	0.00	0.11	0.48	0.78	0.93	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.22	0.67	0.89	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.81	1.00

**0204.1E: Weighted average export subsidy arising from DCCs for values of export level and import content**

	Exports below 15% of turnover (20%)				Exports 15% and above of turnover (3%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
5.0%		17.7%	14.8%	13.9%	20.3%	19.8%	19.3%	19.0%	18.8%	18.7%
10.0%		18.3%	16.6%	14.8%	21.1%	20.2%	19.2%	18.4%	18.0%	17.8%
20.0%		16.7%	16.7%	16.5%	22.8%	20.8%	18.9%	17.3%	16.6%	16.2%
40.0%		13.3%	13.3%	13.3%	23.3%	22.2%	18.3%	15.2%	13.6%	12.8%
60.0%		10.0%	10.0%	10.0%	20.0%	20.0%	17.7%	13.0%	10.7%	9.5%
100.0%		3.3%	3.3%	3.3%	13.3%	13.3%	13.3%	8.7%	4.8%	2.8%

**2002 to 2004: Scenario 2**

**0204.2A: Rate of export subsidy for full value DCCs for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
5.0%		4.1%	11.7%	14.3%	24.4%	25.8%	27.2%	28.3%	28.9%	29.2%
10.0%		4.1%	4.1%	8.5%	18.9%	21.7%	24.4%	26.7%	27.8%	28.3%
20.0%		4.1%	4.1%	4.1%	14.1%	14.1%	18.9%	23.3%	25.6%	26.7%
40.0%		4.1%	4.1%	4.1%	14.1%	14.1%	14.1%	16.7%	21.1%	23.3%
60.0%		4.1%	4.1%	4.1%	14.1%	14.1%	14.1%	14.1%	16.7%	20.0%
100.0%		4.1%	4.1%	4.1%	14.1%	14.1%	14.1%	14.1%	14.1%	13.3%

**0204.2B: Rate of export subsidy for discounted DCCs for values of export level and import content**  
DCCS discounted

	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
5.0%		-2.9%	4.7%	7.3%	13.9%	15.3%	16.7%	17.8%	18.4%	18.7%
10.0%		-2.9%	-2.9%	1.5%	8.4%	11.2%	13.9%	16.2%	17.3%	17.8%
20.0%		-2.9%	-2.9%	-2.9%	3.6%	3.6%	8.4%	12.8%	15.1%	16.2%
40.0%		-2.9%	-2.9%	-2.9%	3.6%	3.6%	3.6%	6.2%	10.6%	12.8%
60.0%		-2.9%	-2.9%	-2.9%	3.6%	3.6%	3.6%	3.6%	6.2%	9.5%
100.0%		-2.9%	-2.9%	-2.9%	3.6%	3.6%	3.6%	3.6%	3.6%	2.8%

**0204.2C: Ability to absorb full valued DCCs for values export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)						
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%	
Exports											
Import content											
0.0%			-10	-20	-29	-45	-60	-90	-150	-225	-300
5.0%			-10	-20	-29	-45	-60	-90	-150	-225	-300
10.0%			-1	-19	-29	-45	-60	-90	-150	-225	-300
20.0%			15	-3	-19	-35	-58	-90	-150	-225	-300
40.0%			49	31	15	-2	-25	-71	-150	-225	-300
60.0%			82	64	48	31	8	-38	-129	-225	-300
100.0%			149	131	115	98	75	29	-63	-177	-300

**0204.2D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10.0%		0.13	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20.0%		0.00	0.13	0.64	0.79	0.97	1.00	1.00	1.00	1.00
40.0%		0.00	0.00	0.00	0.05	0.42	0.79	1.00	1.00	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.42	0.86	1.00	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.79	1.00

**0204.2E: Weighted average export subsidy arising from DCCs for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
5.0%		-2.6%	4.7%	7.3%	13.9%	15.3%	16.7%	17.8%	18.4%	18.7%
10.0%		3.2%	-2.6%	1.5%	8.4%	11.2%	13.9%	16.2%	17.3%	17.8%
20.0%		4.1%	3.2%	-0.4%	5.8%	3.9%	8.4%	12.8%	15.1%	16.2%
40.0%		4.1%	4.1%	4.1%	13.6%	9.7%	5.8%	6.2%	10.6%	12.8%
60.0%		4.1%	4.1%	4.1%	14.1%	14.1%	9.7%	5.1%	6.2%	9.5%
100.0%		4.1%	4.1%	4.1%	14.1%	14.1%	14.1%	9.7%	5.8%	2.8%

**2002 to 2004: Scenario 3**

**0204.3A: Rate of export subsidy for full value DCCs for values of export level and import content**

	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
5.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	30.0%	29.2%
10.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	30.0%	28.3%
20.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	30.0%	26.7%
40.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	30.0%	26.4%	23.3%
60.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	25.9%	22.0%	20.0%
100.0%		-11.7%	-3.8%	-1.3%	8.8%	10.2%	11.5%	12.5%	13.1%	13.3%

- imported inputs on the export production side cannot be absorbed – hence the weird figures

**0204.3B: Rate of export subsidy for discounted DCCs for values of export level and import content**

	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Exports										
Import content										
0.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
5.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	18.7%
10.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	17.8%
20.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	16.2%
40.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	15.9%	12.8%
60.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	15.4%	11.5%	9.5%
100.0%		-18.7%	-10.8%	-8.3%	-1.7%	-0.3%	1.0%	2.0%	2.6%	2.8%

**0204.3C: Ability to absorb full valued DCCs for values export level and import content**

Exports	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Import content										
0.0%		-10	-20	-29	-45	-60	-90	-150	-225	-300
5.0%		-2	-12	-21	-37	-52	-82	-142	-217	-300
10.0%		7	-3	-12	-28	-43	-73	-133	-208	-300
20.0%		23	13	4	-12	-27	-57	-117	-192	-300
40.0%		57	47	38	22	7	-23	-83	-185	-300
60.0%		90	80	71	55	40	10	-71	-185	-300
100.0%		141	123	107	90	67	21	-71	-185	-300

**0204.3D: Weight applied to the rate of subsidy arising from discounted DCCs used to work out weighted average rate of export subsidy for values of export level and import content**

Exports	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Import content										
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.17	0.58	0.71	0.81	0.86	0.91	0.94	0.96	1.00
10.0%		0.00	0.17	0.43	0.63	0.72	0.81	0.89	0.93	1.00
20.0%		0.00	0.00	0.00	0.26	0.44	0.63	0.78	0.85	1.00
40.0%		0.00	0.00	0.00	0.00	-0.11	0.26	0.56	0.82	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.82	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.82	1.00

**0204.3E: Weighted average export subsidy arising from DCCs for values of export level and import content**

Exports	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Import content										
0.0%		13.0%	13.0%	13.0%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
5.0%		18.8%	15.9%	15.0%	21.4%	21.0%	20.5%	20.1%	19.9%	18.7%
10.0%		20.0%	18.8%	17.0%	23.4%	22.4%	21.4%	20.7%	20.3%	17.8%
20.0%		20.0%	20.0%	20.0%	27.3%	25.3%	23.4%	21.8%	21.1%	16.2%
40.0%		20.0%	20.0%	20.0%	30.0%	31.2%	27.3%	24.2%	17.8%	12.8%
60.0%		20.0%	20.0%	20.0%	30.0%	30.0%	30.0%	20.9%	13.3%	9.5%
100.0%		-11.7%	-3.8%	-1.3%	8.8%	10.2%	11.5%	7.6%	4.4%	2.8%

**c) 2004 to 2005**

This is period the rate at which DCCs are earned on export sales is 15% for exports making up less than 15%, and 25% on export sales when export sales made up 15% or more of total sales, as can be seen in table.

**0405.0: Full DCCs and discounted DCCs earned on corresponding levels of export**

Export turnover	Exports below 15% of turnover (15%*)				Exports 15% and above of turnover (25%*)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
DCCS @ * % of export value	0	7.5	15	21.75	37.5	50	75	125	187.5	250
Discounted at 35%	0.00	4.88	9.75	14.14	24.38	32.50	48.75	81.25	121.88	162.50

2004 to 2005: Scenario 1

**0405.1A: Rate of export subsidy for full value DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (15%)				Exports 15% and above of turnover (25%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
5.0%		14.2%	14.2%	14.2%	24.2%	24.2%	24.2%	24.2%	24.2%	24.2%
10.0%		13.3%	13.3%	13.3%	23.3%	23.3%	23.3%	23.3%	23.3%	23.3%
20.0%		11.7%	11.7%	11.7%	21.7%	21.7%	21.7%	21.7%	21.7%	21.7%
40.0%		8.3%	8.3%	8.3%	18.3%	18.3%	18.3%	18.3%	18.3%	18.3%
60.0%		5.0%	5.0%	5.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
100.0%		-1.7%	-1.7%	-1.7%	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%

**0405.1B: Rate of export subsidy for discounted DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (15%)				Exports 15% and above of turnover (25%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
5.0%		8.9%	8.9%	8.9%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%
10.0%		8.1%	8.1%	8.1%	14.6%	14.6%	14.6%	14.6%	14.6%	14.6%
20.0%		6.4%	6.4%	6.4%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%
40.0%		3.1%	3.1%	3.1%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
60.0%		-0.3%	-0.3%	-0.2%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%
100.0%		-6.9%	-6.9%	-6.9%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%

**0405.1C: Ability to absorb full valued DCCs for values export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)						
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%	
0.0%			-8	-15	-22	-38	-50	-75	-125	-188	-250
5.0%			0	-8	-15	-30	-43	-69	-121	-185	-250
10.0%			8	0	-8	-23	-37	-63	-117	-183	-250
20.0%			24	15	7	-9	-23	-52	-108	-179	-250
40.0%			56	45	35	19	3	-28	-92	-171	-250
60.0%			88	75	64	48	30	-5	-75	-163	-250
100.0%			151	135	121	104	83	42	-42	-146	-250

**0405.1D: Weight applied to the rate of subsidy arising from discounted DCCs used to work out weighted average rate of export subsidy for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%			0.00	0.50	0.67	0.81	0.87	0.92	0.97	0.99
10.0%			0.00	0.00	0.34	0.62	0.73	0.84	0.93	0.98
20.0%			0.00	0.00	0.00	0.24	0.47	0.69	0.87	0.96
40.0%			0.00	0.00	0.00	0.00	0.00	0.38	0.73	0.91
60.0%			0.00	0.00	0.00	0.00	0.00	0.07	0.60	0.87
100.0%			0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.78

**0405.1E: Weighted average export subsidy arising from DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
5.0%		14.2%	11.5%	10.6%	17.1%	16.6%	16.1%	15.7%	15.5%	15.4%
10.0%		13.3%	13.3%	11.5%	17.9%	16.9%	15.9%	15.2%	14.8%	14.6%
20.0%		11.7%	11.7%	11.7%	19.5%	17.6%	15.6%	14.1%	13.3%	12.9%
40.0%		8.3%	8.3%	8.3%	18.3%	18.3%	15.0%	11.9%	10.4%	9.6%
60.0%		5.0%	5.0%	5.0%	15.0%	15.0%	14.4%	9.8%	7.4%	6.3%
100.0%		-1.7%	-1.7%	-1.7%	8.3%	8.3%	8.3%	5.4%	1.5%	-0.4%

**2004 to 2005: Scenario 2**

**0405.2A: Rate of export subsidy for full value DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
5.0%		-0.9%	6.7%	9.3%	19.4%	20.8%	22.2%	23.3%	23.9%	24.2%
10.0%		-0.9%	-0.9%	3.5%	13.9%	16.7%	19.4%	21.7%	22.8%	23.3%
20.0%		-0.9%	-0.9%	-0.9%	9.1%	9.1%	13.9%	18.3%	20.6%	21.7%
40.0%		-0.9%	-0.9%	-0.9%	9.1%	9.1%	9.1%	11.7%	16.1%	18.3%
60.0%		-0.9%	-0.9%	-0.9%	9.1%	9.1%	9.1%	9.1%	11.7%	15.0%
100.0%		-0.9%	-0.9%	-0.9%	9.1%	9.1%	9.1%	9.1%	9.1%	8.3%

**0405.2B: Rate of export subsidy for discounted DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
5.0%		-6.1%	1.4%	4.0%	10.7%	12.1%	13.5%	14.6%	15.1%	15.4%
10.0%		-6.1%	-6.1%	-1.7%	5.1%	7.9%	10.7%	12.9%	14.0%	14.6%
20.0%		-6.1%	-6.1%	-6.1%	0.4%	0.4%	5.1%	9.6%	11.8%	12.9%
40.0%		-6.1%	-6.1%	-6.1%	0.4%	0.4%	0.4%	2.9%	7.4%	9.6%
60.0%		-6.1%	-6.1%	-6.1%	0.4%	0.4%	0.4%	0.4%	2.9%	6.3%
100.0%		-6.1%	-6.1%	-6.1%	0.4%	0.4%	0.4%	0.4%	0.4%	-0.4%

**0405.2C: Ability to absorb full valued DCCs for values export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		-8	-15	-22	-38	-50	-75	-125	-188	-250
5.0%		-7	-15	-22	-38	-50	-75	-125	-188	-250
10.0%		1	-14	-22	-38	-50	-75	-125	-188	-250
20.0%		18	2	-11	-28	-48	-75	-125	-188	-250
40.0%		51	36	22	5	-15	-56	-125	-188	-250
60.0%		85	69	55	39	18	-23	-104	-188	-250
100.0%		151	136	122	105	85	44	-38	-140	-250

**0405.2D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10.0%		0.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20.0%		0.00	0.00	0.53	0.75	0.97	1.00	1.00	1.00	1.00
40.0%		0.00	0.00	0.00	0.00	0.30	0.75	1.00	1.00	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.30	0.83	1.00	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.75	1.00

**0405.2E: Weighted average export subsidy arising from DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
5.0%		-5.8%	1.4%	4.0%	10.7%	12.1%	13.5%	14.6%	15.1%	15.4%
10.0%		-0.9%	-5.8%	-1.7%	5.1%	7.9%	10.7%	12.9%	14.0%	14.6%
20.0%		-0.9%	-0.9%	-3.6%	2.6%	0.7%	5.1%	9.6%	11.8%	12.9%
40.0%		-0.9%	-0.9%	-0.9%	9.1%	6.5%	2.6%	2.9%	7.4%	9.6%
60.0%		-0.9%	-0.9%	-0.9%	9.1%	9.1%	6.5%	1.8%	2.9%	6.3%
100.0%		-0.9%	-0.9%	-0.9%	9.1%	9.1%	9.1%	6.5%	2.6%	-0.4%

**2004 to 2005: Scenario 3**

**0405.3A: Rate of export subsidy for full value DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
5.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	24.2%
10.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	23.3%
20.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	21.7%
40.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	25.0%	21.4%	18.3%
60.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	20.9%	17.0%	15.0%
100.0%		-16.7%	-8.8%	-6.3%	3.8%	5.2%	6.5%	7.5%	8.1%	8.3%

**0405.3B: Rate of export subsidy for discounted DCCs for values of export level and import content**

Exports Import content	Exports below 15% of turnover				Exports 15% and above of turnover					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
0.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
5.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	15.4%
10.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	14.6%
20.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	12.9%
40.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	12.7%	9.6%
60.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	12.1%	8.2%	6.3%
100.0%		-22.0%	-14.1%	-11.6%	-4.9%	-3.6%	-2.3%	-1.2%	-0.7%	-0.4%

**0405.3C: Ability to absorb full valued DCCs for values export level and import content**

Exports	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Import content										
0.0%		-8	-15	-22	-38	-50	-75	-125	-188	-250
5.0%		1	-7	-13	-29	-42	-67	-117	-179	-250
10.0%		9	2	-5	-21	-33	-58	-108	-171	-250
20.0%		26	18	12	-4	-17	-42	-92	-154	-250
40.0%		59	52	45	29	17	-8	-58	-148	-250
60.0%		93	85	78	63	50	25	-46	-148	-250
100.0%		143	128	114	97	77	36	-46	-148	-250

**0405.3D: Weight applied to the rate of subsidy arising from discounted DCCS used to work out weighted average rate of export subsidy for values of export level and import content**

Exports	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Import content										
0.0%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.0%		0.33	0.67	0.77	0.84	0.88	0.92	0.95	0.97	1.00
10.0%		0.00	0.33	0.54	0.68	0.76	0.84	0.90	0.94	1.00
20.0%		0.00	0.00	0.08	0.37	0.52	0.68	0.81	0.87	1.00
40.0%		0.00	0.00	0.00	0.00	0.05	0.37	0.62	0.85	1.00
60.0%		0.00	0.00	0.00	0.00	0.00	0.05	0.55	0.85	1.00
100.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.85	1.00

**0405.3E: Weighted average export subsidy arising from DCCs for values of export level and import content**

Exports	Exports below 15% of turnover (25%)				Exports 15% and above of turnover (35%)					
	0%	5%	10%	14.5%	15%	20%	30%	50%	75%	100%
Import content										
0.0%		9.8%	9.8%	9.8%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
5.0%		15.0%	12.7%	11.8%	18.2%	17.7%	17.2%	16.8%	16.6%	15.4%
10.0%		15.0%	15.0%	13.8%	20.1%	19.2%	18.2%	17.4%	17.0%	14.6%
20.0%		15.0%	15.0%	15.0%	24.0%	22.1%	20.1%	18.6%	17.8%	12.9%
40.0%		15.0%	15.0%	15.0%	25.0%	25.0%	24.0%	20.9%	14.5%	9.6%
60.0%		15.0%	15.0%	15.0%	25.0%	25.0%	25.0%	17.7%	10.1%	6.3%
100.0%		-16.7%	-8.8%	-6.3%	3.8%	5.2%	6.5%	4.3%	1.2%	-0.4%