A REVIEW OF THE CHANGING COMPOSITION OF THE SOUTH AFRICAN ECONOMY

Report Prepared for the 10-year Review Project
The Presidency

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The composition of the South African economy has been undergoing a process of gradual change in the last decade, with some sectors growing while others declined in size. A variety of reasons can be put forward in an attempt to explain these changes, such as policy induced factors, or structural factors. In order to track these changes, explain why they have occurred, and whether the government has in any way played a role in effecting these change, this note pays attention to the changes in a host of variables at the industry level. These include, but are not limited to output, value-added, employment, exports and imports, with the changes being analysed both at a broad industry level and a more disaggregated 46-sector level.

South Africa has experienced significant liberalisation during the 1990s on the political as well as economic front. With the advent of the new democratic dispensation in 1994, the economy has undergone liberalisation of both internal and external financial markets, the trade regime and labour markets. There have also been major changes in terms of monetary and fiscal policy, with "discipline" and "sustainability" becoming the guiding principles. Industrial policy has also witnessed a shift from demand-side to supply-side measures aimed at boosting output and exports.

Whether these policy choices have resulted in higher levels of efficiency and more importantly better economic performance and equity will remain the subject of economic research for years to come, notably because the structure of any economy does not change overnight. While some of the liberalisation efforts started before the 1990s, a number of them took place during the last ten years or so. Although perhaps still somewhat premature, an examination of the South African economy from the late 1980s to the present therefore seems a worthwhile exercise.

From a broad perspective, there have been noticeable structural changes in the reasonably diversified South African economy since the 1970s (Table 1). The share of the primary sector (*Agriculture* and *Mining*) in overall GDP has decreased over the past three decades, and the secondary (*Manufacturing*, *Construction* and *Electricity, Gas and Water*) sector's share of GDP has maintained a more or less constant trend between 1970-2001.

Table 1: Components of GDP, 1971-2001 (1995 constant prices)

	Ave share 1971-1980	Ave share 1981-1990	Ave share 1991-2001	Ave share 1989-1994	Ave share 1995-2001
Primary [1-2]	16.1%	13.3%	11.4%	12.6%	10.8%
Secondary [3-5]	29.5%	29.6%	27.6%	28.4%	27.4%
Tertiary [6-9]	54.3%	57.0%	61.0%	59.0%	61.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: TIPS South African Standardised Industry Database, Note: GDP is measured at factor cost

What is most striking though is that the tertiary sector (including services), which has traditionally had the largest GDP share in any case, is still increasing its share, mainly, it would seem, at the expense of the primary sector. Thus this suggests a trend towards less reliance on primary products and more on high value-added services (such as *Business Services*, *Transport and Communication* and *Wholesale and Retail Trade*, see below).

ORGANISATION OF THIS REPORT

This report is structured as follows. Section 1 contains a bird's eye view of trends in South Africa's Industrial landscape between 1989-2001, at a broad 9-sector level, taking into account value-added exports, imports, export-output ratios, import penetration ratios, Gross Domestic Fixed Investment and Employment.[1] For the purposes of this paper, all monetary values are recorded in constant 1995 prices, and growth rates calculated on a weighted average annual basis for two selected periods, 1989-1994 (approximating the immediate pre-democracy era) and 1995-2001 (after the 1994 elections). Section 2 goes further and analyses some of the key policies adopted by past and present governments that could have contributed to the current structure of the economy, especially from the 1970s. Section 3 undertakes an analysis of investment schemes available to the Manufacturing sector, and evaluates whether these have been beneficial to the sector as a whole, and to the relevant sub-sector in the case of industry specific schemes. Section 4 concludes.

1 TRENDS IN THE INDUSTRIAL LANDSCAPE

This section offers a snapshot of the South African industrial landscape between 1989-2001, at a relatively broad 9-sector level, making use of the TIPS South African Standardised Industry Data Base. This database offers long- term trends covering the period 1970-2001 for about 46 industries, mainly in manufacturing, and a range of economic variables, such as value-added, exports, imports and employment.

1.1 VALUE –ADDED

In the first column of Table 2, it can be seen that with 6 per cent, both the *Transport and Communication* and *Business Services* sectors had the highest growth rate in value added between 1995-2001, with the *Agricultural* sector in third place with 3 per cent. This can be compared with an economy-wide average growth in value added of 2.3 per cent. The lowest growth in value added was recorded by *Mining* with –1 per cent and *Community Services (including government services),* with 0.4 per cent respectively. *Manufacturing* is ranked 7th out of 9 sectors with a growth rate of 1.2 per cent.

[1] An analysis of these trends at a more detailed 46-sector aggregation is available from the authors upon request.

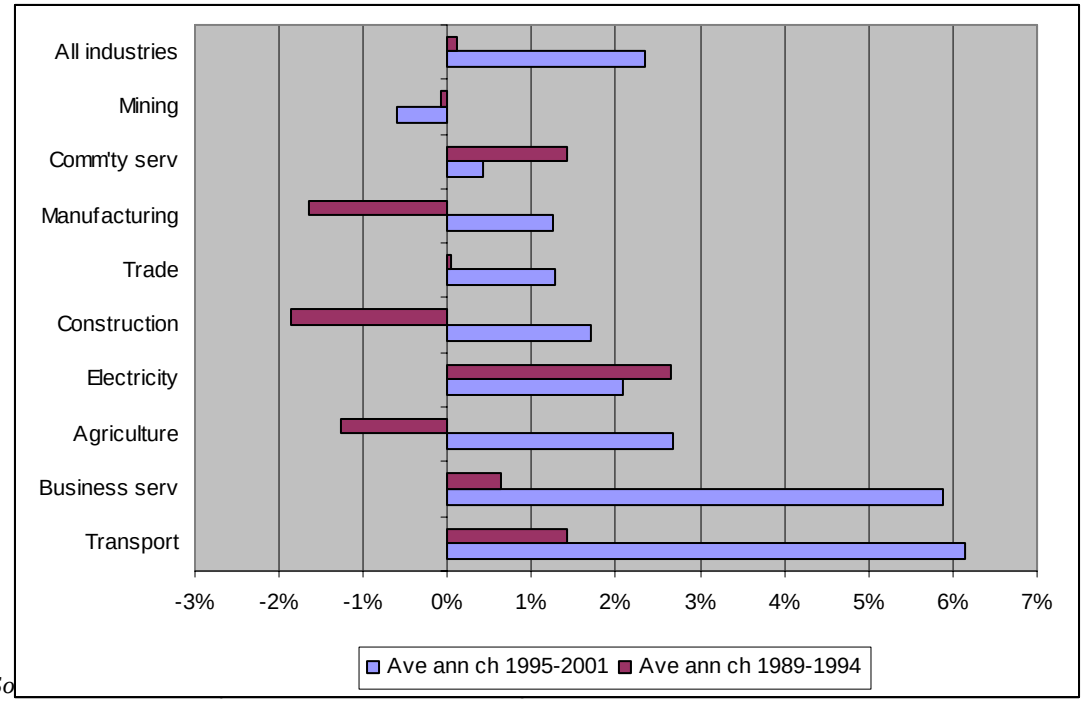
Table 2: Growth in value added, 1991-2001 (1995 constant prices)

		Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	1989-1994 Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	Δ Rank 1989-1994to 1995-2001
1	Transport	6.1%	1.4%	3	10.1%	5	8.0%	2
2	Business serv	5.9%	0.6%	4	17.4%	3	15.4%	2
3	Agriculture	2.7%	-1.3%	7	4.4%	7	5.1%	4
4	Electricity	2.1%	2.7%	1	3.7%	8	3.3%	-3
5	Construction	1.7%	-1.9%	9	3.1%	9	3.4%	4
6	Trade	1.3%	0.0%	5	13.7%	4	13.9%	-1
7	Manufacturing	1.2%	-1.6%	8	20.6%	2	21.8%	1
8	Comm'ty serv	0.4%	1.4%	2	20.6%	1	21.5%	-6
9	Mining	-0.6%	-0.1%	6	6.4%	9	7.5%	-3
	All industries	2.3%	0.1%		100.0%		100.0%	

Source: TIPS South African Standardised Industry Database

The stellar performance of the *Transport and Communications* sector in 1995-2001 vis-à-vis 1989-1994 can be attributed to the rollout of telecommunications services both by mobile service providers and the national fixed-line operator Telkom. *Manufacturing's* growth performance has improved in the 1995-2001 period as compared to the 1989-1994 time frame, although it still is below the economy-wide average. The low performance of *Community Services - including government services* can be explained to some degree, by the fiscal policies adopted during the middle of the 1990 and this has affected the government services sector, which is part of *Community Services - including government services*, negatively.

Figure 1: Growth in Value-added, 1989-2001 (1995 constant prices)



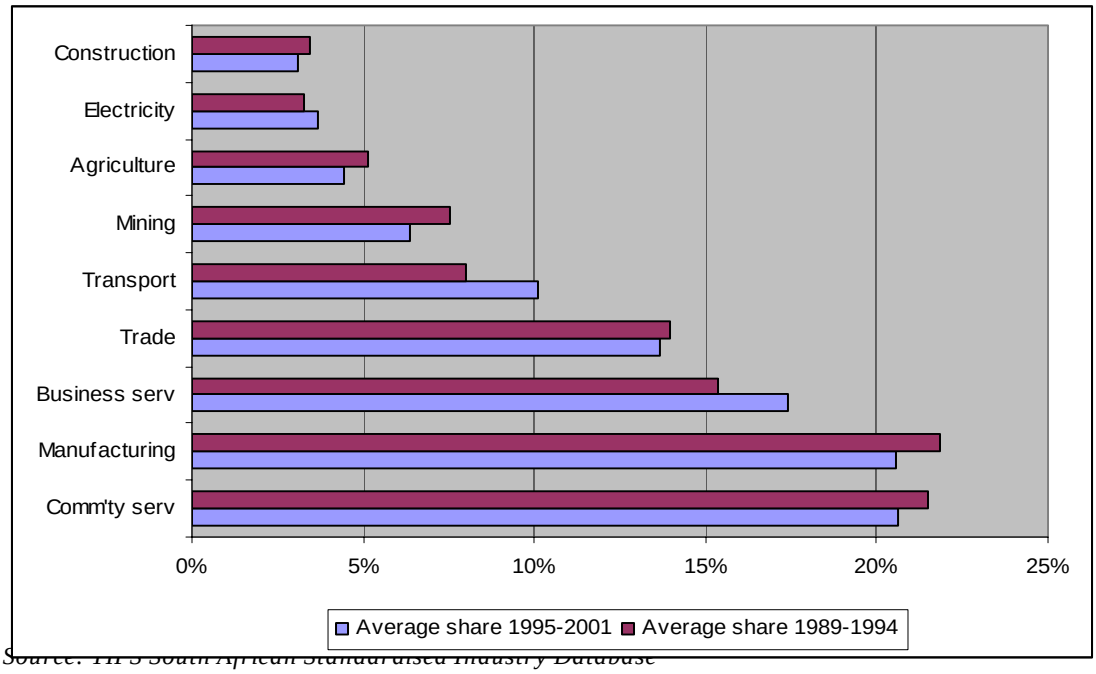
So

In 1989-1994, E*lectricity* topped the table in terms of value-added growth, with 2.7 per cent, followed in second place by both *Community Services - including government services*, and *Transport and Communication* with 1.4 per cent. At the opposite end of the scale, *Construction* had a value-added growth rate of –1.9 per cent, followed by *Manufacturing* with –1.6 per cent, and *Agriculture* with –1.4 per cent. Economy-wide growth in value-added during this period was a paltry 0.1 per cent.

Figure 1 shows that overall the economies performance in terms of value added growth has improved dramatically during the second period. Industries that did not keep up with the average are M*ining*, C*ommunity services*, M*anufacturing*, C*onstructing* and *Electricity*.

Regarding the shares in net output during the period 1989-2001, Table 2 and Figure 2 also indicates that *Manufacturing* and *Community Services - including government services* are the most important contributors to value added in this 9-sector aggregation, both capturing about 20 per cent of total value-added between 1995-2001, followed by *Business Services* with 17 per cent. The smallest sector in this configuration is *Construction* with 3 per cent of value-added followed by *Electricity, Gas and Water* with 4 per cent. This hierarchy is also evident for the 1989-1994 period, where *Manufacturing* accounted for 22 per cent of total value-added, *Community Services - including government services* 22 per cent and *Business Services* 15 per cent.

Figure 2: Shares in Total Value-added, 1989-2001 (1995 constant prices)



Source: HPS South African Standardised Industry Database

It seems that *Community Services - including government services,* which encompass government and public sector services, has lost some ground, presumably following the fiscal austerity policies that were introduced during the middle of the decade. *Business Services* and *Transport and Communication* have increased their share in GDP, while the contribution of *Agriculture, Mining* and *Construction* has declined.

In short: while improved growth performance during the second half of the period is mainly driven by the new economy sectors such as financial and business services and telecommunication, *Agriculture* and *Mining* remain volatile and vulnerable to external factors, *Electricity, Water and Gas* is losing ground after heavy investment during the 1980s, *Construction* and *Manufacturing* are making a cautious recovery and the *Community Services-including government services* sector is still under-performing due to the government's rigid fiscal policy stance.

1.2 EXPORTS

If one of the objectives of the policies adopted during the middle of the 1990s was to re-orient resources towards the production of more tradable goods-producing industries, an analysis of the performance of South African industrial sectors during both halves of the decade is warranted. Table 3 shows that with 7.4 per cent, *Manufacturing* has made a considerable outward shift when compared with an economy-wide average growth in exports of 4.1 per cent. One of the lowest export growth rates was witnessed by *Mining* with –3.1 per cent.

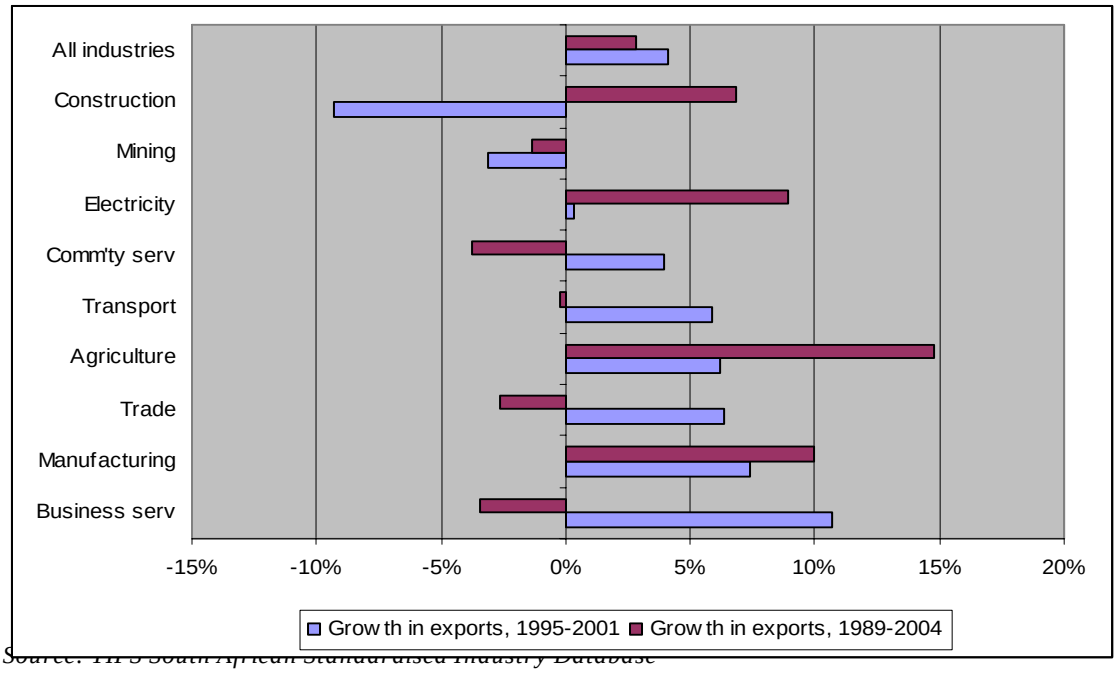
Table 3: Growth in Exports, 1989-2001(1995 constant prices)

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	1989-1994 Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	1989-1994 Rank
1	Business serv	10.7%	-3.4%	8	3.3%	6	2.7%	6
2	Manufacturing	7.4%	10.0%	2	51.9%	1	33.7%	2
3	Trade	6.3%	-2.7%	7	5.3%	4	4.7%	4
4	Agriculture	6.2%	14.7%	1	4.3%	5	3.4%	5
5	Transport	5.9%	-0.2%	5	6.0%	3	5.3%	3
6	Comm'ty serv	3.9%	-3.7%	9	0.3%	7	0.4%	7
7	Electricity	0.3%	8.9%	3	0.1%	8	0.1%	8
8	Mining	-3.1%	-1.3%	6	28.8%	2	49.7%	1
9	Construction	-9.3%	6.8%	4	0.0%	9	0.0%	9
	All industries	4.1%	2.8%		100.0%		100.0%	

Source: TIPS South African Standardised Industry Database

Overall export performance has been better in the 1995-2001 period as compared to 1989-1994, implying that there was an "apartheid dividend" that was reaped in the immediate post 1994 period. Another conclusion might be that the liberalisation policies adopted by South Africa are beginning to bear fruit, albeit at a slow pace.

Figure 3: Growth in Exports for 9 sectors, 1989-2001 (1995 constant prices)

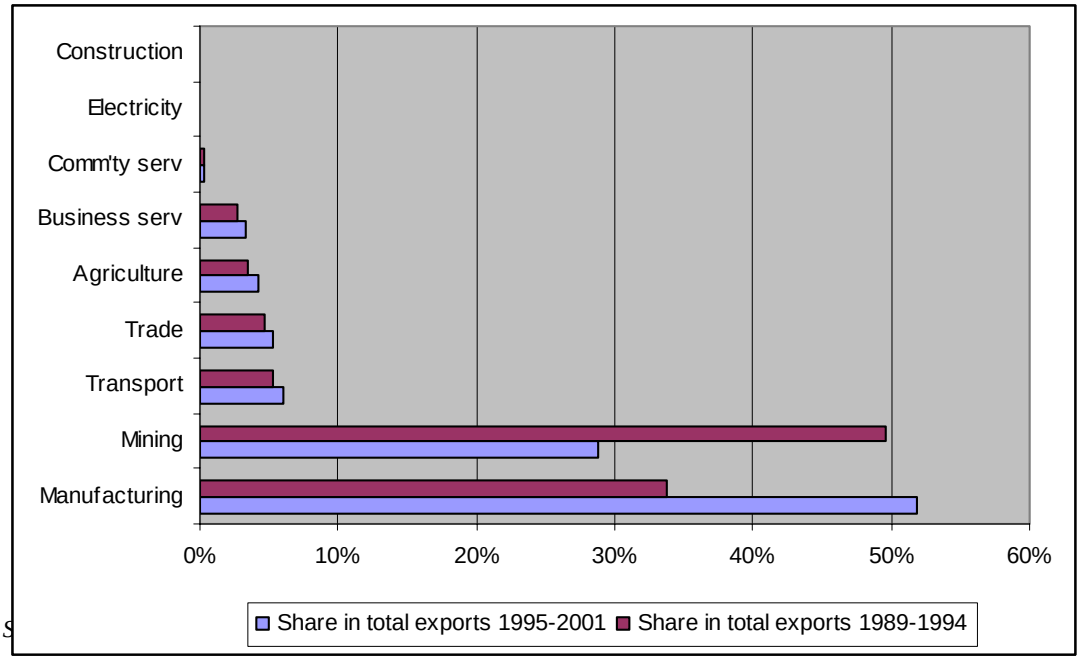


Source: HIS South African Standardised Industry Database

While the export performance of some of the more traditional non-tradable industries, such as *Construction*, *Electricity*, *Gas and Water*, *Community Services - including government services* and *Wholesale and Retail Trade* are less relevant, it can be noted that *Manufacturing's* export performance, although in positive territory, has lost ground relative to *Business Services*. *Mining's* export performance suggests that the global financial crises during the latter part of the decade could have had a considerable negative impact on South Africa's overall export performance.

In the 1995-2001 period, *Manufacturing* captured 51.9 per cent of the absolute total of exports, followed by *Mining* with 28.8 per cent and 26.9 per cent and *Transport and Communication* with 6 per cent. Between 1989-1994, *Mining* had the bulk of total exports with 49.7 per cent, followed by *Manufacturing* with 33.7 per cent, and in distant third place, *Transport and Communication* with 5.3 per cent (Figure 4).

Figure 4: Shares in Total Exports, 1989-1994 (1995 constant prices)



Evidently the large weight of *Mining* combined with its poor showing has kept the total export performance of the South African economy at relatively low levels. Whether this is a blessing in disguise for the other industries' export behaviour remains to be seen. After all, the mild Dutch disease characteristics of the South African economy prior to the 1990s due to the resource-based nature of its export basket may have created an anti-export bias against non-traditional exports, which perhaps started to disappear to some extent during the 1990s. On the other hand, as will be seen below, the mining sector is also a large employer and only if the state provides sufficient resources to allow labour to shift to newly exporting industries can the benefits be truly realised.

While export growth rates and shares tell one part of the story, it is also worth examining the degree to which an industry exports its output, so as to ascertain whether exports have been growing faster than total sales. Export-output ratios point at whether an industry has become more export oriented over time (see Table 4).

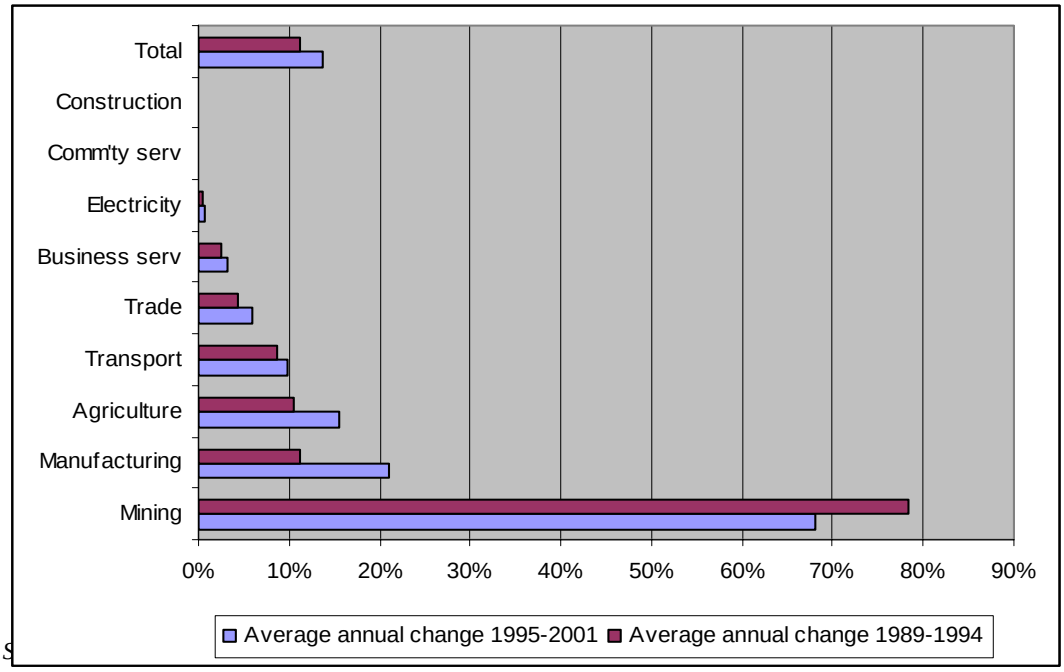
Table 4: Export – output ratio for 9 sectors, 1989-2001(1995 constant prices)

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	1989-1994 Rank	Change 1st - 2nd	Change in ratio Rank
1	Mining	68.2%	78.3%	1	-10.1%	9
2	Manufacturing	21.1%	11.1%	2	9.9%	1
3	Agriculture	15.6%	10.6%	3	5.0%	2
4	Transport	9.7%	8.8%	4	1.0%	4
5	Trade	6.0%	4.3%	5	1.7%	3
6	Business serv	3.1%	2.5%	6	0.7%	5
7	Electricity	0.7%	0.5%	7	0.2%	6
8	Comm'ty serv	0.3%	0.3%	8	0.0%	7
9	Construction	0.1%	0.0%	9	0.0%	8
	Total	13.7%	11.2%		2.5%	

Source: TIPS South African Standardised Industry Database

Table 4 shows that with the exception of *Mining*, all the other sectors of the economy have increased the proportion of output that is sold at world markets. *Manufacturing's* exports as a proportion of total output has increased from 11.1 per cent in 1989-1994 to 21.1 per cent in the 1995-2001 period, while *Agriculture's* proportion has increased from 10.6 per cent to 15.6 per cent between 1989-1994 and 1995-2001. This suggests that the most important tradable sectors have indeed seen an outward-oriented shift. The decline in the export orientation of mining may, apart from the external factors mentioned above, also have been the result of a structural change in the direction of increased downstream local beneficiation, especially of *Basic Iron and Steel.*

Figure 5: Export-Output Ratio for 9 sectors, 1989-2001 (1995 constant prices)



1.3 IMPORTS

While greater export orientation is one side of the trade liberalisation coin, higher import penetration may be the other side. Increases in imports follow trade liberalisation as tariffs are lowered and this can have several effects. Lower tariffs can make export oriented industries more competitive in terms of imported intermediates, although local suppliers may be pushed out of the market, resulting in job losses. Consumer, however, reap the benefits of lower relative prices of final goods such as clothing, electronics and some food products (although price variables are not reported here), as well as a range of other effects that may occur at the micro level.

Table 5 shows that imports with 12.6 per cent, *Mining* sector imports had the highest growth in 1995-2001, while imports of manufacturing goods only increased by 1 per cent.

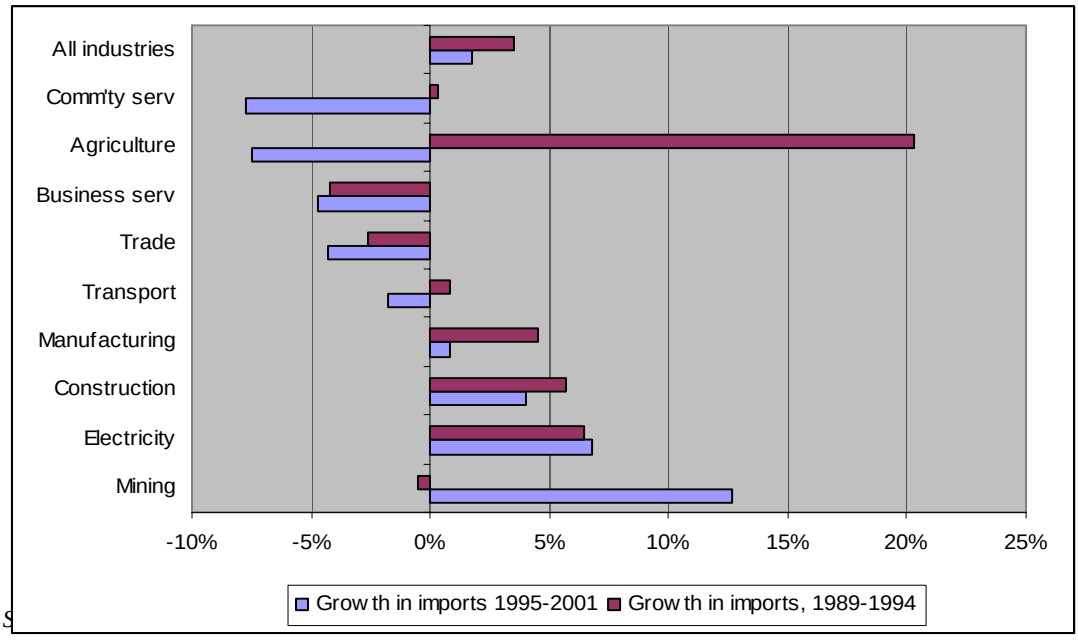
Table 5: Growth in imports for 9 sectors, 1989-2001 (1995 constant prices)

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	1989-1994 Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	1989-1994 Rank
1	Mining	12.6%	-0.6%	7	11.8%	2	10.0%	2
2	Electricity	6.8%	6.5%	2	0.0%	9	0.0%	9
3	Construction	4.0%	5.7%	3	0.1%	8	0.1%	8
4	Manufacturing	0.9%	4.5%	4	78.2%	1	75.7%	1
5	Transport	-1.8%	0.8%	5	4.1%	3	5.7%	3
6	Trade	-4.3%	-2.6%	8	1.1%	7	1.8%	7
7	Business serv	-4.7%	-4.2%	9	1.5%	5	2.7%	4
8	Agriculture	-7.5%	20.3%	1	1.9%	4	1.8%	6
9	Comm'ty serv	-7.8%	0.3%	6	1.2%	6	2.3%	5
	All industries	1.7%	3.5%		100.0%		100.0%	

Source: TIPS South African Standardised Industry Database

In stark contrast, during the 1989-1994 period overall growth in imports was much higher, lead by growth in *Manufacturing* goods imports of 4.5 per cent. This may reflect the start of the retooling process in the sector, which is by nature characterised by high import content. By the middle of the 1990s, the apartheid dividend led investment boom had grinded to a halt, bring down import demand for manufacturing goods of a capital nature, as will be shown in the next section.

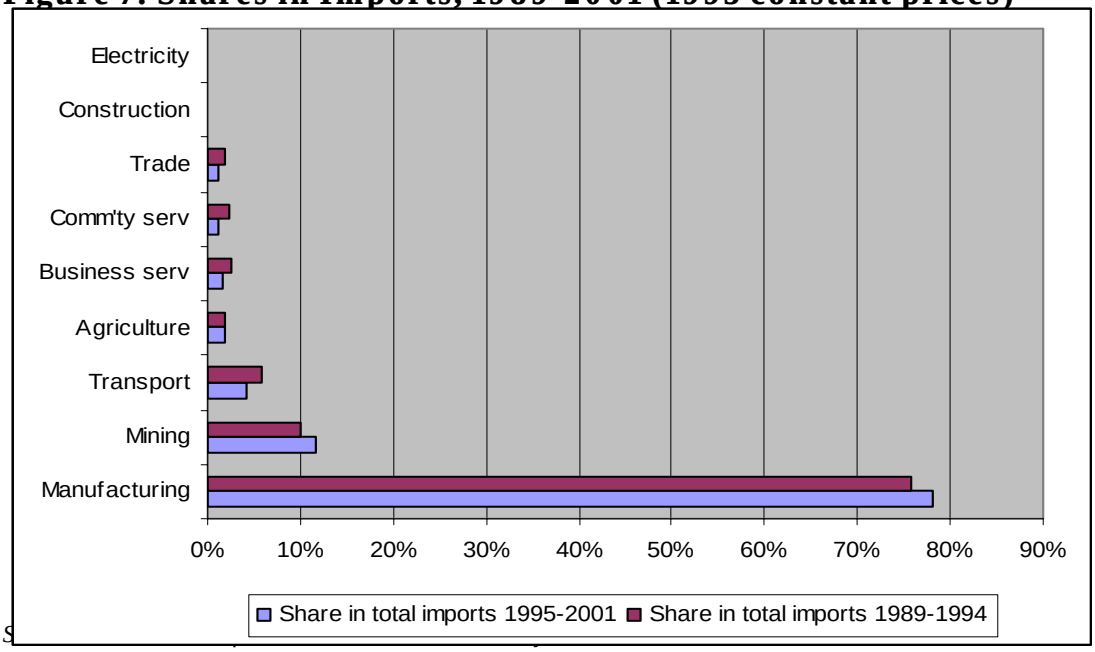
Figure 6: Growth in Imports for 9 sectors, 1989-2001 (1995 constant prices)



In addition, the global economic slowdown during the 1995-2001 period, combined with low domestic economic growth may be responsible for the reduced demand for imported goods and services, the significant lowering of tariffs notwithstanding. In terms of absolute share of total imports, in the period 1995-2001, Figure 7 further shows that the lion's share of imports were made by goods that could have been produced by the *Manufacturing* sector, with an average of 78.2 per cent of imports

between 1995-2001, with *Mining* coming a distant second with 11.8 per cent and *Transport and Communication* 4.1 per cent.

Figure 7: Shares in Imports, 1989-2001 (1995 constant prices)



1.4 IMPORT PENETRATION RATIOS

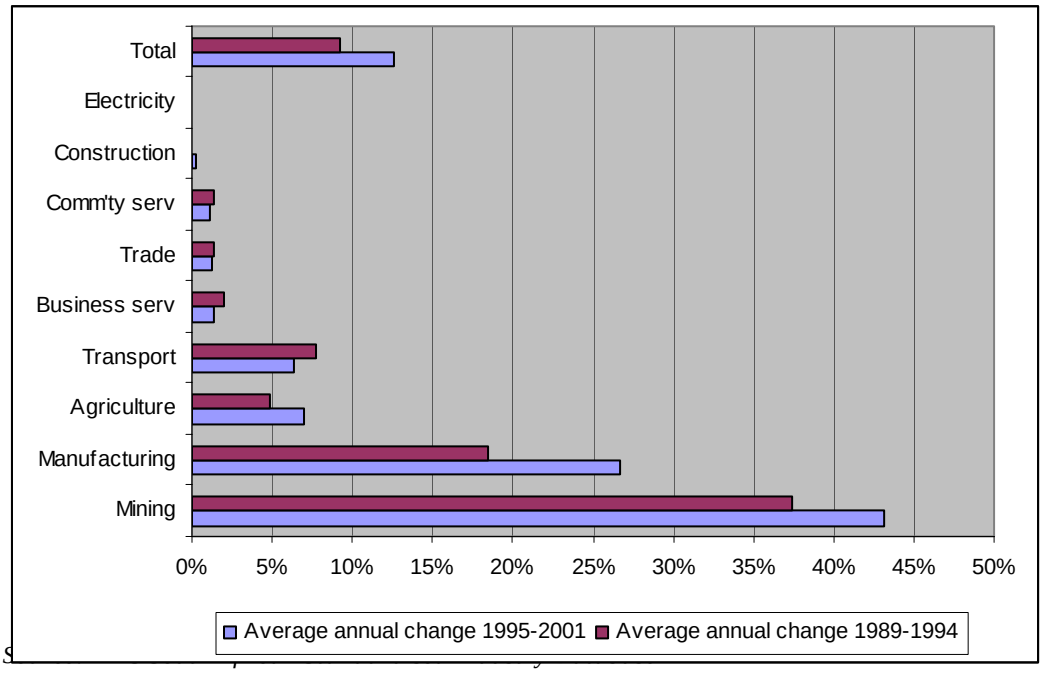
As with the trends in exports, consideration of import penetration ratios is a useful exercise as it compares imports with the size of the domestic market. Import penetration ratios are derived by dividing imports by the sum of total output and imports less exports. The results shown in Table 6 are rather deceptive with regard to *Mining*, due to the high level of exports. However, the increase in the import penetration ratio of *Manufacturing* can be explained by the trade liberalisation undertaken after 1995.

Table 6: Import Penetration Ratios for 9 sectors, 1989-2001 (1995 constant prices)

	Sector	Period Ave 1995-2001	Period Ave 1989-1994	Ave Ann Rank	Δ in ratio 1st –2nd half	Δ in ratio Rank
1	Mining	43.2%	37.5%	1	5.7%	2
2	Manufacturing	26.7%	18.5%	2	8.2%	1
3	Agriculture	7.0%	4.8%	4	2.1%	3
4	Transport	6.3%	7.7%	3	-1.4%	9
5	Business serv	1.4%	2.0%	5	-0.6%	8
6	Trade	1.2%	1.3%	7	-0.1%	6
7	Comm'ty serv	1.1%	1.3%	6	-0.3%	7
8	Construction	0.3%	0.1%	8	0.2%	4
9	Electricity	0.0%	0.0%	9	0.0%	5
	Total	12.6%	9.2%		3.3%	

Source: TIPS South African Standardised Industry Database, Note: import penetration ratio is defined as the ratio of imports and the sum of total output and imports less exports.

Figure 8: Import Penetration Ratios for 9 Sectors, 1989-2001 (1995 constant prices)



Looking at the change in import penetration between the two time periods, it is evident that in both *Mining* and *Manufacturing*, this has been positive, and for all other sectors negative or insignificant, once again mirroring the global economic slowdown and generally low economic growth in South Africa.

1.5 GDFI AND CAPITAL STOCK

Most of the macroeconomic policies adopted in South Africa during the mid-1990s were aimed at raising the levels and rates of investment. In an attempt to evaluate the success or failure of these policies, and to identify which industries have had robust growth in capital stock, Table 7 details the growth in Gross Domestic Fixed Investment (GDFI) and capital stock.

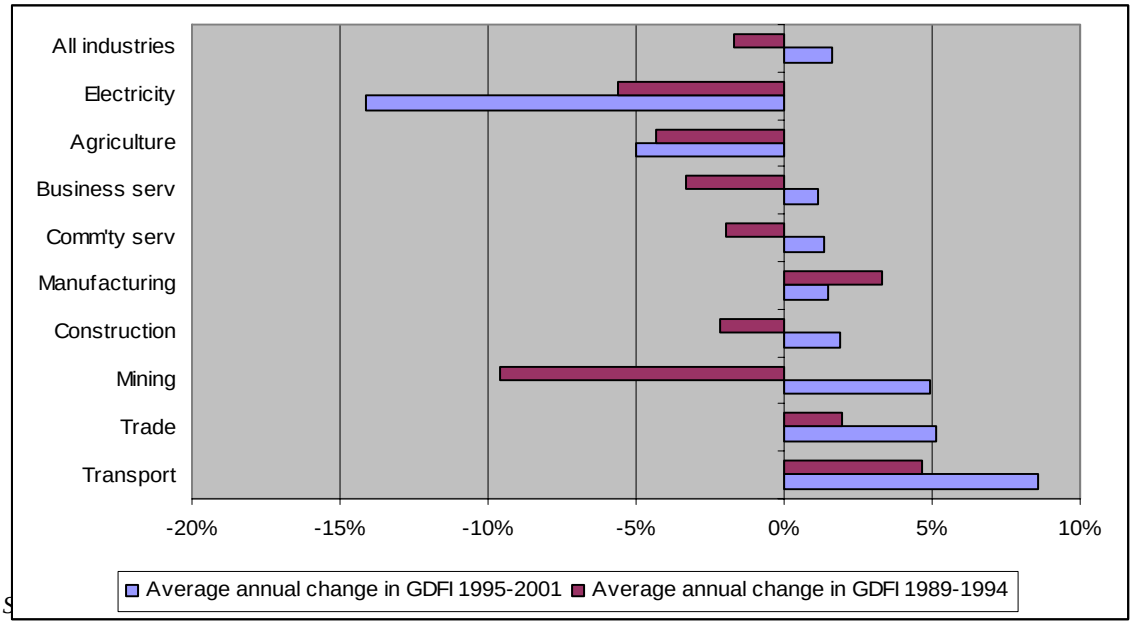
Table 7: Growth in GDFI and capital stock for 9 sectors, 1989- 2001 (1995 constant prices)

	Sector	GDFI Ave ann Δ 1995-2001	GDFI Ave ann Δ 1989-1994	GDFI 1995-2001 Rank		Sector	Cap Stock Ave ann Δ 1995-2001	Cap Stock Ave ann Δ 1989-1994	Cap Stock 1989-1994 Rank
1	Transport	8.6%	4.7%	1		Transport	2.7%	0.1%	6
2	Trade	5.1%	2.0%	3		Trade	2.4%	0.7%	5
3	Mining	4.9%	-9.6%	9		Manufacturing	2.3%	3.0%	1
4	Construction	1.9%	-2.2%	5		Business serv	1.8%	1.2%	3
5	Manufacturing	1.5%	3.3%	2		Comm'ty serv	1.2%	1.7%	2
6	Comm'ty serv	1.4%	-2.0%	4		Mining	0.6%	1.1%	4
7	Business serv	1.1%	-3.3%	6		Construction	0.5%	-1.9%	8
8	Agriculture	-5.0%	-4.3%	7		Agriculture	-0.6%	-1.8%	7
9	Electricity	-14.1%	-5.6%	8		Electricity	-2.4%	-2.5%	9
	All industries	1.6%	-1.7%			All industries	1.4%	0.8%	

Source: TIPS South African Standardised Industry Data Base

Negative GDFI in *Electricity, Gas and Water* can be explained by the nature of the investment process in the sector. The last major investments in generating capacity were undertaken during the 1980s. *Manufacturing* investment has started to lag all the other industries in the South African economy except for *Agriculture*, *Construction* and *Electricity, Gas and Water*. Generally, constrained GDFI can be blamed on low domestic savings, coupled with weak capital inflows and the high real interest rate, together with increased recurrent expenditure by the government at the expense of capital expenditure (ABSA, 2002).

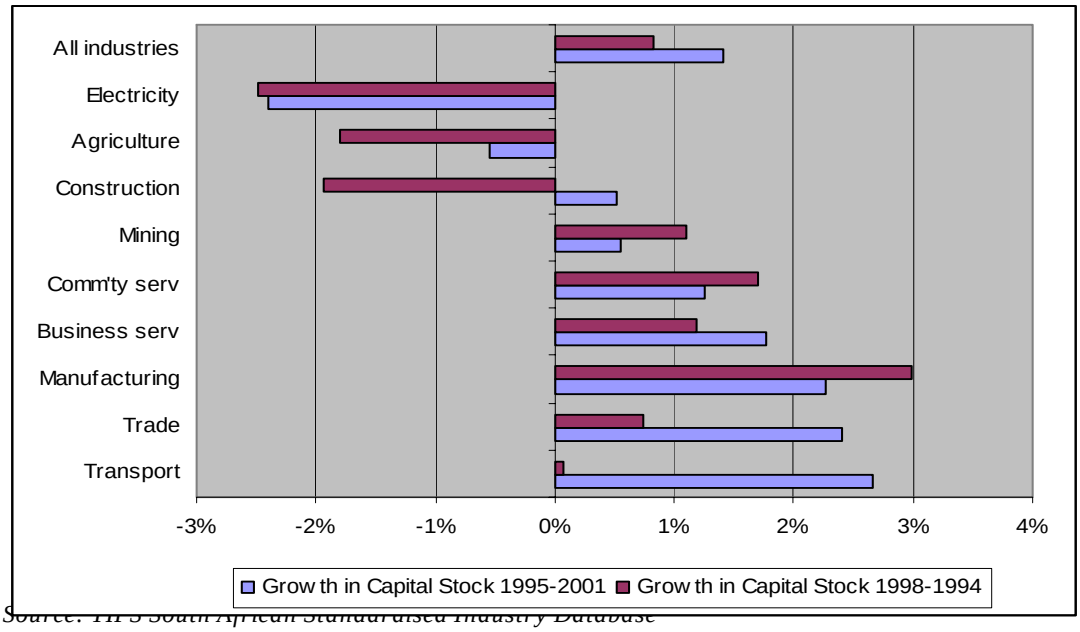
Figure 9: Growth in GDFI for 9 sectors, 1989-2001 (1995 constant prices)



A similar pattern appears with regard to growth in capital stock shown here on the right hand side of Table 7, except that now due to its initial size and to large investments undertaken in earlier periods, the growth rate of *Mining's* capital stock is much lower than that of *Manufacturing* or *Business Services.* Similar to GDFI, the

growth rates in capital stock are low but they are slightly up during the latter part of the decade, with the exception of *Manufacturing* and *Community Services - including government services.*

Figure 10: Growth in Capital Stock for 9 sectors, 1989-2001 (1995 constant prices)



Source: HPS South African Standardised Industry Database

1.6 INVESTMENT RATES

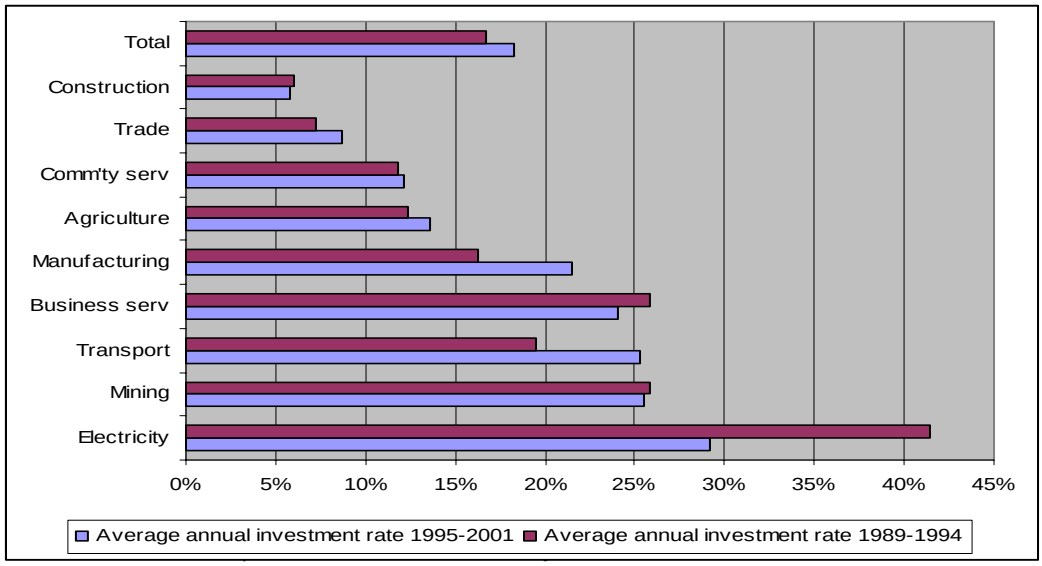
The investment rate is defined as GDFI divided by value added of an industry. The results, shown in Table 8, indicate that in 1995-2001, *Electricity, Water and Gas* had the highest average annual investment rate with 29 per cent, flowed by *Mining* (26 per cent) and *Transport and Communication* (25 per cent). At the opposite end of the spectrum lay *Construction, Wholesale and Retail Trade* and *Community Services- including government services*, with 5 per cent, 9 per cent and 12 per cent respectively. During 1989-1994, the *Electricity, Water and Gas* sector also posted the highest investment rate, with *Business Services* and *Mining* tying in second place with 26 per cent. The *Construction, Wholesale and Retail Trade* and *Community Services-including government services sectors* were characterised by low investment rates of 6 per cent, 7 per cent and 12 per cent respectively.

Table 8: Investment Rates for 9 Sectors, 1989-2001 (1995 constant prices)

	Sector	Period ave 1995-2001	Period ave 1989-1994	1989-1994 Rank	Δ in ratio 1st - 2nd half	Δ in ratio Rank
1	Electricity	29.2%	41.4%	1	-12.2%	1
2	Mining	25.5%	25.8%	3	-0.3%	3
3	Transport	25.3%	19.5%	4	5.8%	4
4	Business serv	24.0%	25.8%	2	-1.8%	2
5	Manufacturing	21.5%	16.2%	5	5.2%	5
6	Agriculture	13.5%	12.4%	6	1.2%	6
7	Comm'ty serv	12.2%	11.8%	7	0.4%	7
8	Trade	8.7%	7.2%	8	1.5%	8
9	Construction	5.8%	6.0%	9	-0.2%	9
	Total	18.3%	16.7%		1.6%	

Source: TIPS South African Standardised Industry Database Note: the investment rate .is defined as gross domestic investment divided by value added

Figure 11: Investment Rates for 9 sectors, 1989-2001 (1995 constant prices)



In terms of change in investment rate between both periods under review, the highest increase in investment rate was recorded for *Transport and Communication* (6.2 per cent), followed by *Wholesale and Retail Trade* (1.5 per cent) and *Agriculture* (1.2 per cent).

1.7 TOTAL EMPLOYMENT

The crisis in the employment creating capacity of the South African economy since the middle of the 1990s has been well documented elsewhere. This section merely highlights the industries that have been most responsible for the downward trend in the demand for labour that has characterised the latter part of the 1990s. At the 9-sector aggregation level, Table 9 depicts the trends in employment in the South African economy during the 1990s, and it is immediately apparent that with the exception of *Wholesale and Retail Trade*, and to a lesser extent *Business Services* all sectors of the economy have been shedding labour during this period.

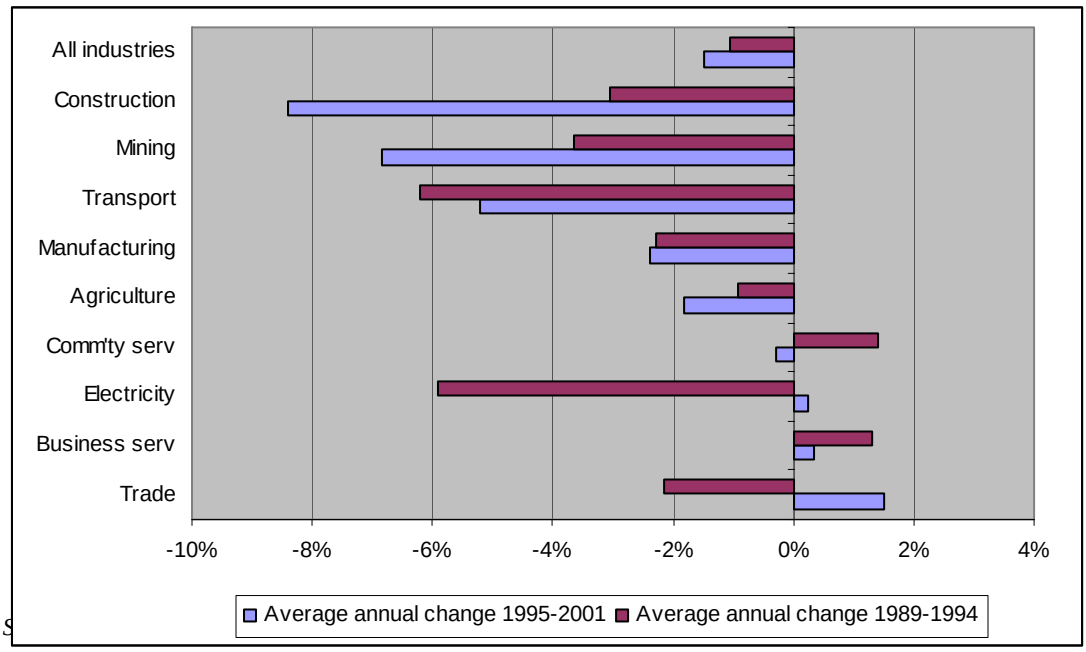
Table 9: Growth in demand for labour for 9 sectors, 1989-2001

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	Ave ann Δ Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	1989-1994 Rank
1	Trade	1.5%	-2.2%	4	12.8%	3	12.3%	3
2	Business serv	0.4%	1.3%	2	6.5%	5	5.6%	6
3	Electricity	0.3%	-5.9%	8	1.0%	9	1.1%	9
4	Comm'ty serv	-0.3%	1.4%	1	37.1%	1	33.1%	1
5	Agriculture	-1.8%	-0.9%	3	10.7%	4	11.0%	4
6	Manufacturing	-2.4%	-2.3%	5	17.8%	2	18.9%	2
7	Transport	-5.2%	-6.2%	9	4.0%	7	5.1%	7
8	Mining	-6.8%	-3.7%	7	6.4%	6	8.1%	5
9	Construction	-8.4%	-3.1%	6	3.6%	8	4.9%	8
	All industries	-1.5%	-1.1%		100.0%		100.0%	

Source: TIPS South African Standardised Industry Database

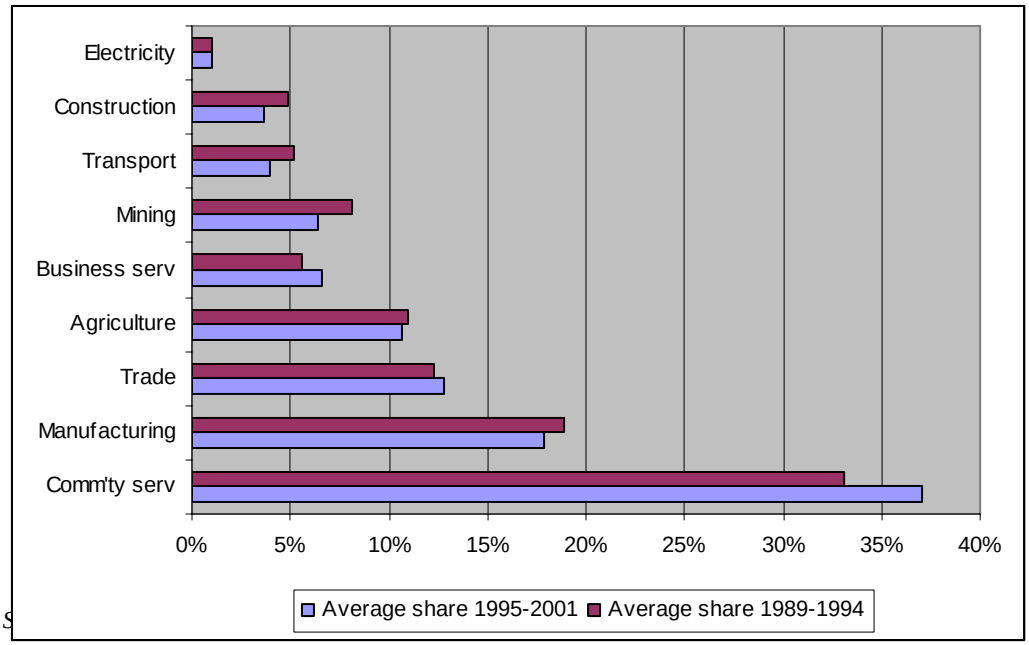
Between 1995-2001, *Wholesale and Retail Trade* reported an average annual employment growth rate of 1.5 per cent, followed by *Business Services* (0.4 per cent) and *Electricity, Gas and Water* (0.3 per cent). The *Construction* sector had the poorest growth rate in employment with –8.4 per cent, followed by *Mining* (-6.8 per cent) and *Transport and Communication* (-5.2 per cent).

Figure 12: Growth in demand for labour for 9 sectors, 1989-2001



In terms of absolute share of employment, *Community Services - including government services*, occupied first slot during 1995-2001 with 37.1 per cent, followed by *Manufacturing* with 17.8 per cent and in third place, *Wholesale and Retail Trade* (12.8 per cent). The bottom of the table was claimed by *Electricity, Gas and Water* with 1 per cent, followed by *Construction* (3.6 per cent), and *Transport and Communication* (4 per cent). This hierarchy was maintained in the preceding period, where *Community Services - including government services*, *Manufacturing* and *Wholesale and Retail Trade* respectively captured 33.1 per cent, 18.9 per cent and 12.3 per cent (Figure 13).

Figure 13: Shares in the demand for labour for 9 sectors, 1989-2001



1.7.1 Highly skilled labour

Below are the trends in employment of highly skilled labour in South Africa between 1989-2001.

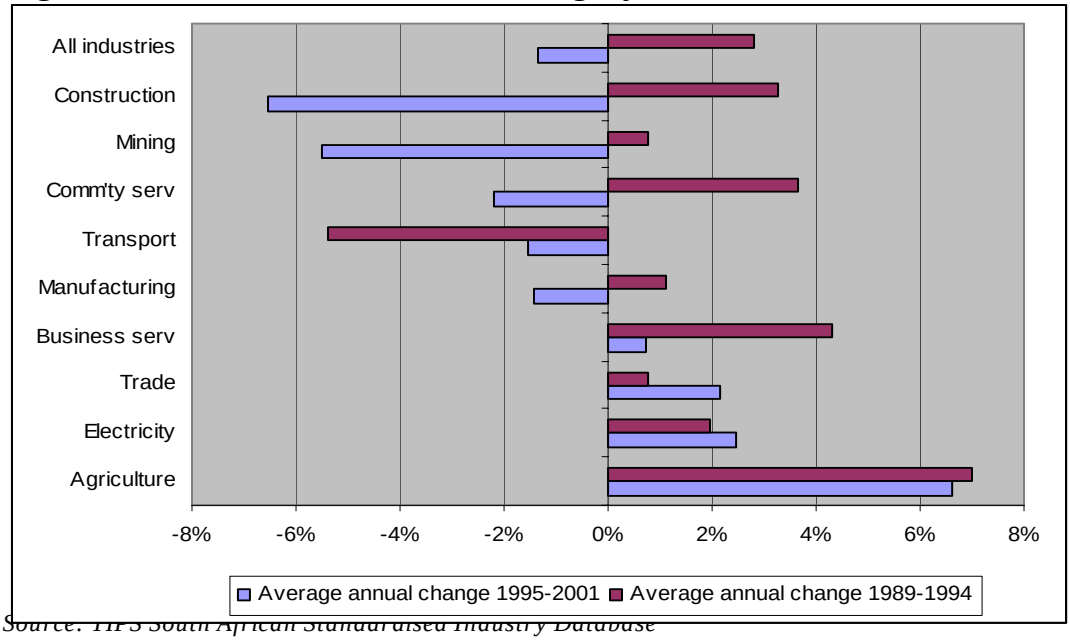
Table 10: Growth in demand for highly skilled labour for 9 sectors, 1989-2001

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	Ave ann Δ Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	1989-1994 Rank
1	Agriculture	6.6%	7.0%	1	1.2%	8	0.9%	9
2	Electricity	2.4%	2.0%	5	1.5%	7	1.4%	8
3	Trade	2.2%	0.8%	8	9.6%	4	9.7%	3
4	Business serv	0.7%	4.3%	2	9.6%	3	8.9%	4
5	Manufacturing	-1.4%	1.1%	6	11.7%	2	12.5%	2
6	Transport	-1.5%	-5.4%	9	2.2%	5	2.8%	5
7	Comm'ty serv	-2.2%	3.7%	3	62.5%	1	60.2%	1
8	Mining	-5.5%	0.8%	7	1.6%	6	1.7%	7
9	Construction	-6.5%	3.3%	4	1.2%	9	1.8%	6
	All industries	-1.3%	2.8%		101.2%		100.0%	

Source: TIPS South African Standardised Industry Database, Note: highly skilled labour is classified as Professional, semi-professional and technical occupations, Managerial, executive and administrative occupations, Certain transport occupations, e.g. pilot navigator

From Table 10, it is evident that between 1995-2001, the *Agriculture* sector had the highest growth in demand for skilled labour with 6.6 per cent, followed by *Electricity, Gas and Water* (2.4 per cent) and *Wholesale and Retail Trade* (2.2 per cent), while there was negative growth in the demand for skilled labour within the *Construction* (-6.5 per cent), *Mining* (-5.5 per cent) and *Community Services-including government services* (-2.2 per cent) sectors (Figure 14).

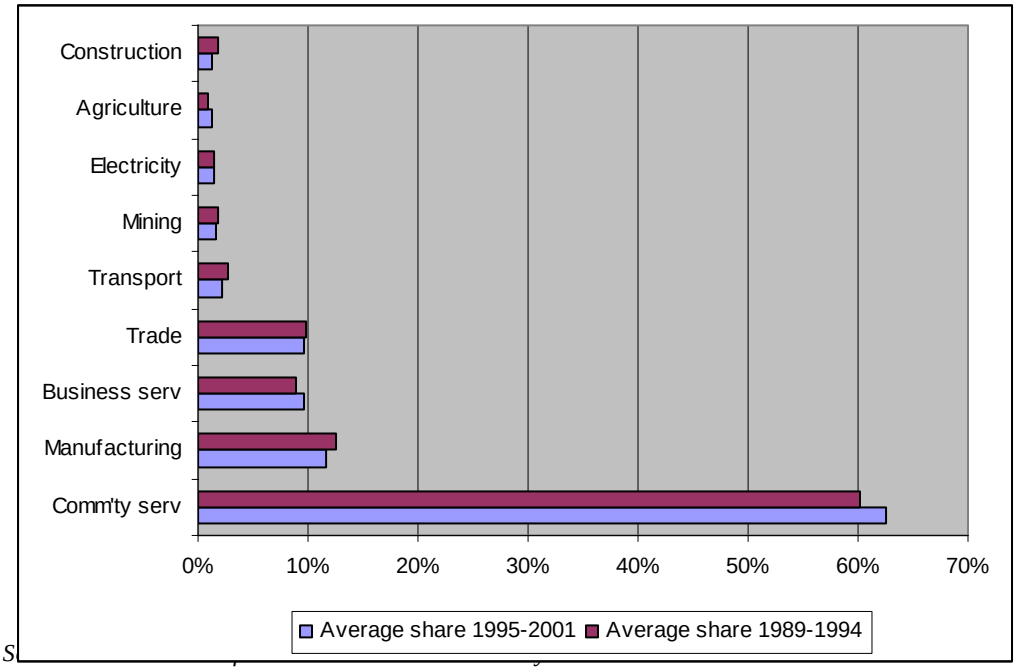
Figure 14 Growth in demand for highly skilled labour, 1989-2001



Source: HPS South African Standardised Industry Database

Between 1989-1994, a similar trend was evident, with *Agriculture* recording a growth rate in demand for skilled labour of 7 per cent, *Business Services* 4.3 per cent and *Construction* 3.3 per cent. Conversely, the demand for highly skilled labour was lowest for the *Transport and Communication* sector (-5.4 per cent), followed by *Mining* (0.8 per cent) and *Manufacturing* (1.1 per cent). The overall demand for highly skilled labour grew by –1.3 per cent between 1995-2001 and 2.8 per cent in 1989-1994.

Figure 15: Shares in the demand for highly skilled labour, 1989-2001



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In terms of absolute shares of highly skilled labour, between 1995-2001, *Community Services-including government services* had 62.5 per cent of the total, followed by *Manufacturing* with 11.7 per cent, with *Business Services* and *Wholesale and Retail*

Trade tying in third place with 9.6 per cent. The lowest shares of total employment of highly skilled personnel in this period were in the *Construction* and *Agriculture* sectors (1.2 per cent) and *Electricity, Water and Gas* (1.5 per cent)

In 1989-1994, *Community Services-including government services* had 60.2 per cent of the total pool of highly skilled labour, followed by *Manufacturing* with 12.5 per cent and in third place, *Wholesale and Retail Trade* (9.7 per cent), with the lowest shares being seen in Agriculture (0.9 per cent), Electricity, Gas and Water (1.4 per cent) and Mining (1.7 per cent) respectively.

1.7.2 Medium Skilled Employment

Table 11 reveals the trends in medium-skilled employment between 1989-2001.

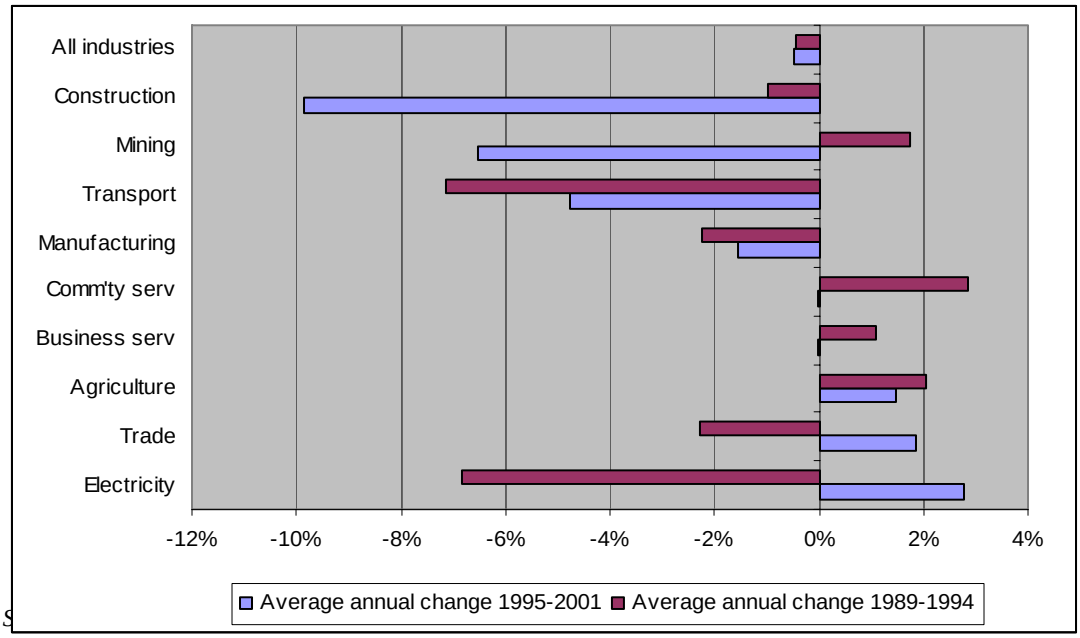
Table 11: Growth in demand for medium skilled labour for 9 sectors, 1989-2001

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	Ave ann Δ Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	1989-1994 Rank
1	Electricity	2.8%	-6.8%	8	0.9%	9	1.0%	9
2	Trade	1.9%	-2.3%	7	23.3%	2	23.5%	2
3	Agriculture	1.5%	2.1%	2	1.2%	8	1.1%	8
4	Business serv	0.0%	1.1%	4	11.8%	4	10.7%	4
5	Comm'ty serv	0.0%	2.8%	1	37.2%	1	33.9%	1
6	Manufacturing	-1.6%	-2.2%	6	14.2%	3	15.4%	3
7	Transport	-4.8%	-7.1%	9	6.6%	5	9.0%	5
8	Mining	-6.5%	1.7%	3	2.6%	6	2.8%	6
9	Construction	-9.8%	-1.0%	5	2.1%	7	2.6%	7
	All industries	-0.5%	-0.4%		100.0%		100.0%	

Source: TIPS South African Standardised Industry Database, Note: medium skilled employment includes Clerical occupations, Sales occupations, Transport, delivery and communications occupations, Service occupations, Farmer, farm manager, Artisan, apprentice and related occupations, Production foreman, production supervisor

The table shows that between 1995-2001, demand for medium skilled labour grew highest in the *Electricity, Water and Gas* sector (2.8 per cent), followed by *Wholesale and Retail Trade* with 1.9 per cent, and in third place *Agriculture* (1.5 per cent). Negative growth was seen in the *Construction* (-9.8 per cent), *Mining* (-6.5 per cent) and *Transport and Communication* (-4.8 per cent) sectors. Economy wide demand for medium skilled labour was –0.5 per cent (Figure 16).

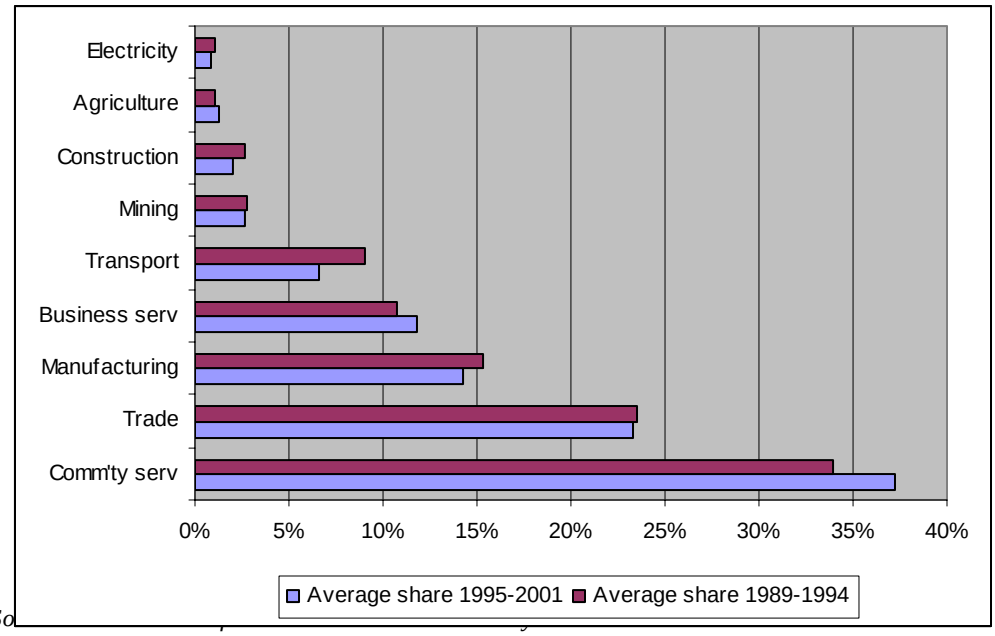
Figure 16: Growth in demand for medium skilled labour, 1989-2001



Between 1989 and 1994, the highest demand for medium skilled labour was seen in *Community Services-including government services* (2.8 per cent), closely followed by *Agriculture* with 2.1 per cent and in third place *Business Services* (1.1 per cent). The lowest demand for medium skilled labour in this period was manifest in the *Transport and Communication* sector (-7.1 per cent), followed by *Electricity, Water and Gas* with –6.8 per cent and *Wholesale and Retail Trade* (-2.3 per cent). Overall demand for medium skilled labour in this period was –0.4 per cent.

In terms of absolute shares, the *Community Services-including government services* sector was the largest employer of medium skilled labour both in 1995-2001 and 1989-1994 periods, with 37.2 per cent and 33.1 per cent respectively. *Wholesale and Retail Trade* also claimed the second position in both time periods with 23.3 per cent and 23.5 per cent, while *Manufacturing* came in third with 14.2 per cent and 15.4 per cent of the total medium skilled labour force respectively. In the 1995-2001 period, *Electricity, Water and Gas* had the smallest share of medium skilled personnel, followed by *Agriculture* (1.2 per cent) and *Construction* (2.1 per cent). This pattern was also evident in 1989-1994, with *Electricity, Water and Gas* claiming 1 per cent, *Agriculture* 1.1 per cent and *Construction* 2.6 per cent respectively.

Figure 17: Shares in the demand for medium skilled labour, 1989-2001



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1.7.3 Low skilled employment

The trends in low skilled employment between 1989-2001 are reproduced in Table 12.

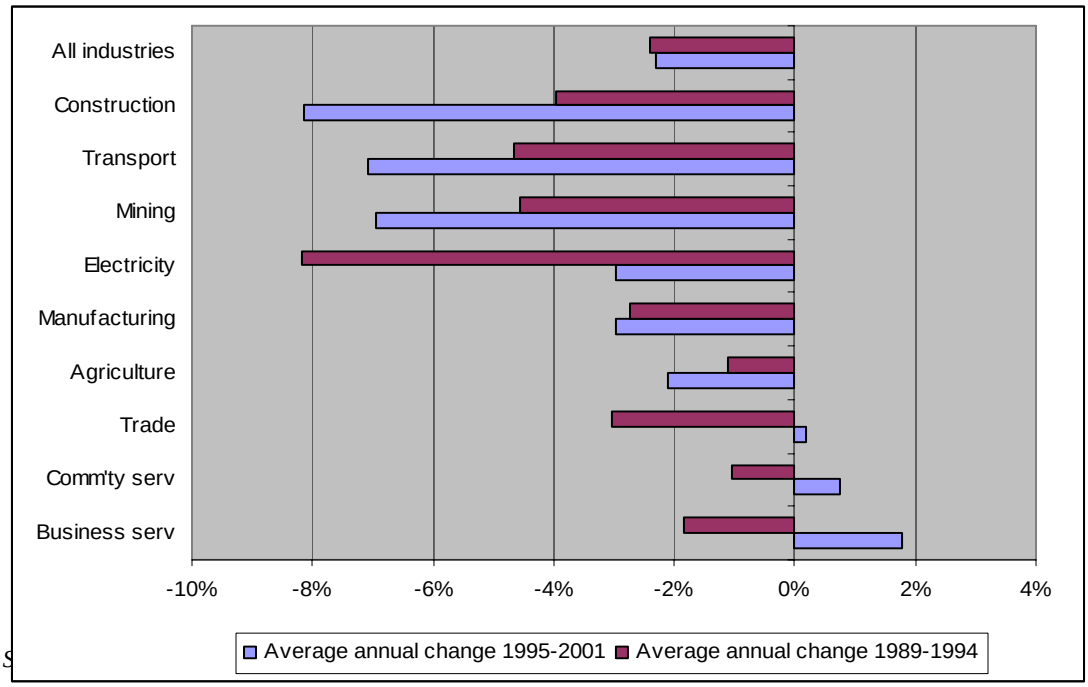
Table 12: Growth in demand for low skilled labour for 9 sectors, 1989-2001

	Sector	Ave ann Δ 1995-2001	Ave ann Δ 1989-1994	Ave ann Δ Rank	Ave share 1995-2001	1995-2001 Rank	Ave share 1989-1994	1989-1994 Rank
1	Business serv	1.8%	-1.8%	3	1.6%	8	1.4%	8
2	Comm'ty serv	0.7%	-1.1%	1	29.1%	1	26.1%	1
3	Trade	0.2%	-3.0%	5	5.8%	5	5.4%	6
4	Agriculture	-2.1%	-1.1%	2	20.9%	3	20.0%	3
5	Manufacturing	-3.0%	-2.7%	4	22.6%	2	22.7%	2
6	Electricity	-3.0%	-8.2%	9	0.9%	9	1.0%	9
7	Mining	-6.9%	-4.5%	7	10.9%	4	13.1%	4
8	Transport	-7.1%	-4.7%	8	2.6%	7	3.1%	7
9	Construction	-8.2%	-4.0%	6	5.6%	6	7.1%	5
	All industries	-2.3%	-2.4%		100.0%		100.0%	

Source: TIPS South African Standardised Industry Database

In the period 1995-2001, the demand for low skilled labour was highest in the *Business Services* sector (1.8 per cent), followed by *Community Services-including government services* (0.7 per cent) and in third place, *Wholesale and Retail Trade* (0.2 per cent). The lowest growth in the demand for low skilled labour was found in *Construction* (-8.2 per cent), *Transport and Communication* (-7.1 per cent) and *Mining* (-6.9 per cent), with overall demand for low skilled labour in this period being –2.3 per cent.

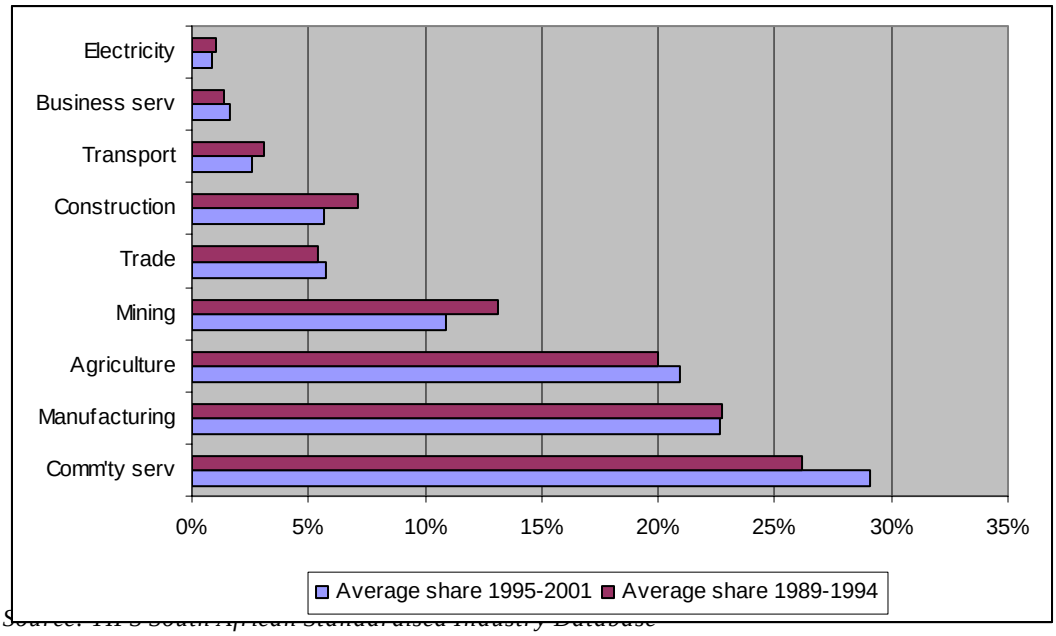
Figure 18: Growth in demand for low skilled labour, 1989-2001



During the 1989 1994 period, there was negative growth in the demand for low skilled labour for all the 9 sectors under consideration, with both *Agriculture* and *Community Services-including government services* recording the smallest decline (-1.1 per cent), followed in third place by the *Business Services* sector. The worst performance in this period was posted by the *Electricity, Water and Gas* (-8.2 per cent), *Transport and Communication* (-4.7 per cent) and *Mining* (-4.5 per cent) sectors respectively, with overall demand for low skilled labour coming in at –2.4 per cent.

Considering the absolute shares of total employment of low skilled labour, reveals that between 1995-2001, the largest share of low skilled labour was found in the *Community Services-including government services* sector (29.1 per cent, followed by *Manufacturing* (22.6 per cent), and in third place, *Agriculture* (20.9 per cent), with the smallest shares going to *Electricity, Water and Gas* (0.9 per cent), *Business Services* (1.6 per cent) and *Transport and Communication* (2.6 per cent). These trends were also mirrored in the 1989-1994 period, when *Community Services-including government services* claimed the largest share of low skilled employment with 26.1 per cent, *Manufacturing* 22.7 per cent and *Agriculture* 20 per cent. The lowest concentration of low skilled labour was found in *Electricity, Water and Gas* (1 per cent), *Business Services* (1.4 per cent) and *Transport and Communication* (3.1 per cent).

Figure 19: Shares in the demand for low skilled labour 1989-2001



Source: TIPS South African Standardised Industry Database

1.8 EMPLOYMENT-OUTPUT RATIOS

Employment-output ratios measure the intensity of employment within an industry. Examining these ratios at the aggregate 9-sector level for the economy (Table 13) reveals that the ranking of these intensities has not changed much during both semesters of the decade under review.

Table 13: Employment-output ratios for 9 industries, 1991-2001 (number of workers per R1 million 1995 constant prices)

	Sector	Ave ann 1995-2001	Ave ann 1989-1994	1989-1994 Rank
1	Agriculture	20.2	26.4	1
2	Comm'ty serv	18.5	18.5	2
3	Mining	7.8	9.7	3
4	Trade	7.4	8.5	4
5	Construction	5.1	6.5	5
6	Manufacturing	3.7	4.7	7
7	Transport	3.4	6.5	6
8	Business serv	3.3	3.9	8
9	Electricity	2.4	3.5	9
	Total	7.1	8.5	

Source: TIPS South African Standardised Industry Database

In both 1995-2001 and 1989-1994 *Agriculture* was the most labour-intensive sector of the economy, with employment-output ratios of 20.2 per R1 million and 26.4 per R1 million respectively. In second and place was *Community Services- including government services,* with a more or less constant ratio of 18.5 per R1 million in both periods under review. *Mining* and *Wholesale and Retail Trade* retained third and fourth positions in both periods, while in the latter part of the 1990s, and *Manufacturing* climbed up one position, as did *Business Services*. *Manufacturing's*

employment intensity, however, remains well below the economy-wide average. A summary of the composition of labour by skill for each of the 9 sectors is presented in Figures 20 and 21.

Figure 20: Summary of labour by skill for 9 sectors, 1995-2001

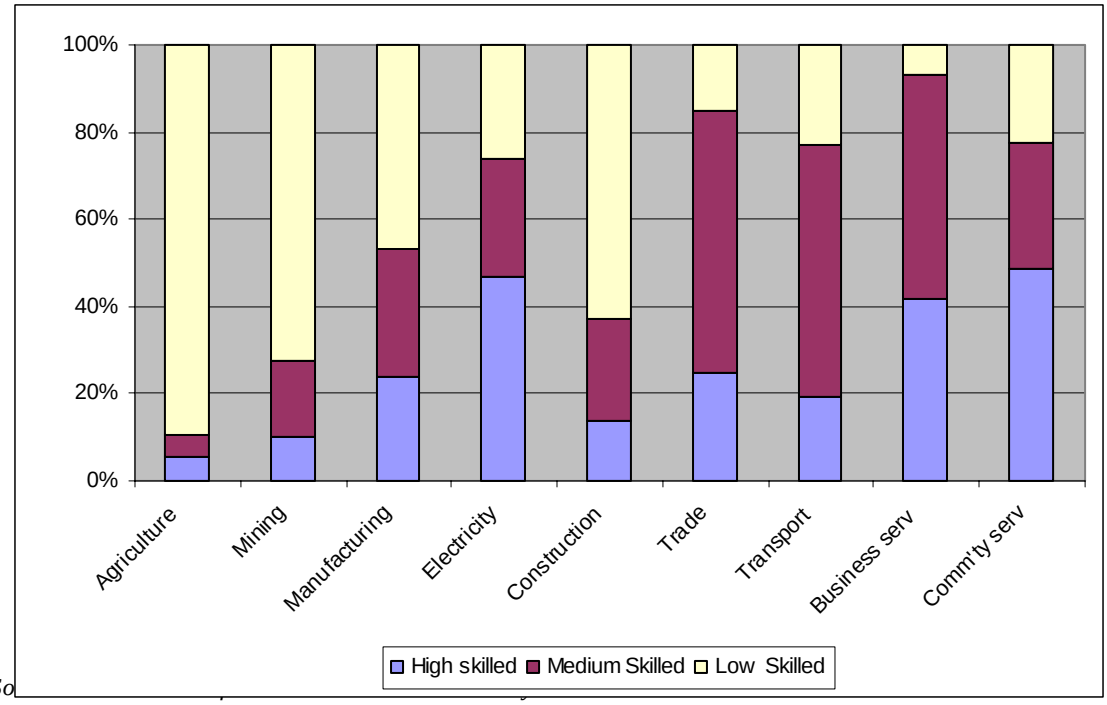


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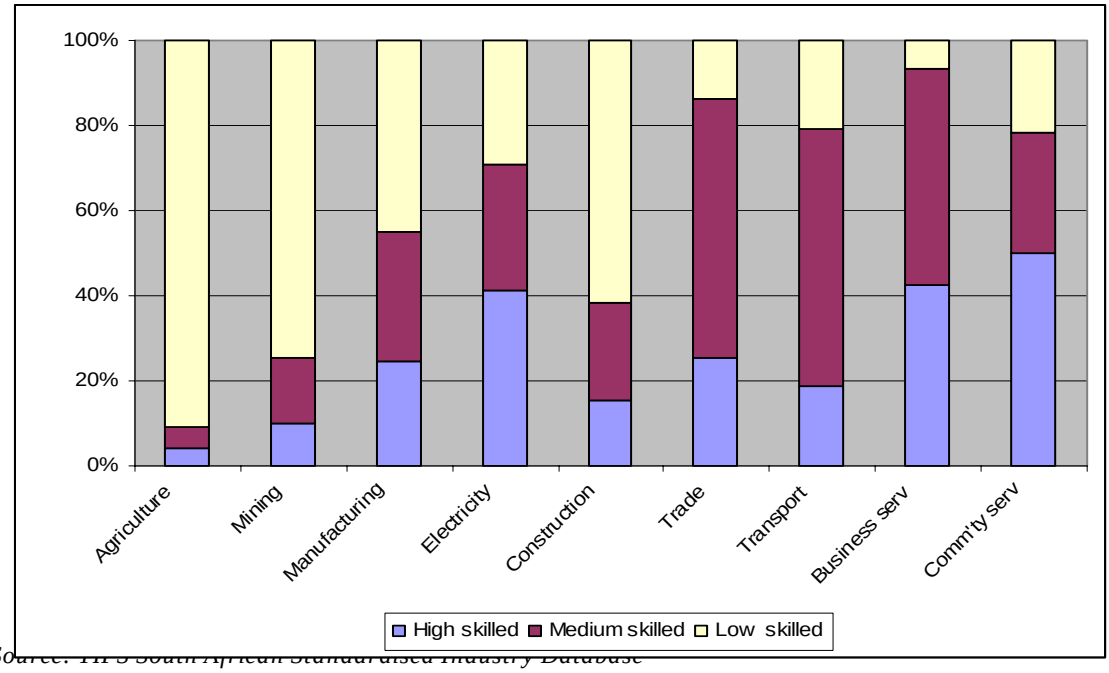
Figure 20 shows that the highest concentration of high skilled labour is present in the *Community Services – including government services* sector, followed by *Business Services*, with *Manufacturing* has approximately 25 per cent. The lowest concentration of high skilled labour is found in *Agriculture* and *Mining* respectively. Medium skilled labour seems to be most prevalent in the services sectors of *Wholesale and Retail Trade* and *Transport and Communication*, while *Agriculture* and *Mining* have the largest concentration of low skilled labour.

Figure 21: Summary of Labour by Skill, 1989-1994



Source: HPS South African Standardised Industry Database

Figure 21 illustrates that the picture is no different from the 1989-1994 period, as *Community Services – including government services* still has the bulk of high skilled labour, followed by *Business Services*, with *Manufacturing* occupying a position more or less similar to the 1995-2001 period. *Agriculture* and *Mining* still have the highest amount of unskilled labour, while *Transport and Communication* and *Wholesale and Retail Trade* have the majority of medium skilled employees.

The Appendix[2] reports in a similar format, but at a more detailed 46-sector aggregation of the South African economy. This section concludes with a comparison of the first and the second sub-period of our period of observation in which we hope to highlight those detailed industries that have made significant improvements in their economic performance (as measured above) and those that have reported significant declines. The question is whether these improvements and declines can then be linked to the changing policy and exogenous environment of the 1990s.

At a detailed 46- sector aggregation, it is appears that in terms of value added, the five highest growth rates recorded between 1995-2001 fall either in the services sectors (*Communication* and *Financial Services)* or are related to the Chemicals sector (*Plastic Products* and *Other Chemicals)*. This is in contrast with the 1989-1994 period, when the high growth in value-added was seen in *Other Mining*, *Electricity*, *Business Services, Television and Communication Equipment* and *Communication*.

The leap in value added for *Communication Services* can be attributed to the rollout of telephony to previously under-serviced areas by the state monopoly Telkom (in terms of its service obligations), together with the entrenching of mobile telephony. The decline in the growth of the *Electricity* sector could be seen in the context of, among other things, subdued economic activity and lessening demand for electricity from neighbouring countries. The improvement in the value-added of the *Financial*

[2] The Appendix is available from the authors on request.

Services sector can be seen as a function of increased openness as the South African economy became more globally integrated and economic sanctions were lifted. In addition, some of the larger financial institutions now have a marked presence both in the rest of Africa and globally.

Looking at the sectors that have performed poorest, it is instructive to note that in 1995-2001, the steepest drop in value-added growth was followed closely by that of *Petroleum Refining, Furniture, Professional and Scientific Equipment* and *Gold Mining*. In the 1989-1994 period, the *Tobacco* sector had the lowest growth in value-added followed by *Footwear, Other Transport Equipment, Textiles* and *Motor Vehicles and Parts*. Generally, value-added growth in the wage-goods sectors has been constrained due to weak domestic demand. Value-added growth was weak between 1989-1994 due to among other things, inefficient domestic production processes, the inward looking nature of *Manufacturing* sub-sectors, aimed at meeting domestic demand. This was in any case constrained, together with the international isolation brought about by international sanctions.

Turning now to exports, the star performers in terms of growth between 1995-2001 have respectively been *Motor Vehicles, Parts and Accessories* sector recorded the highest weighted average annual growth rate in exports between 1995-2001, followed by *Television and Communication Equipment, Tobacco, Communication Services* and *Machinery*. The performance of the automotive sector can be ascribed to the MIDP, through its import-export facilitation scheme, while that of *Television and Communication Equipment* and *Communication Services* can be attributed to the increasing involvement of telecommunications companies on the African continent and other previously untapped foreign markets. The same can be said of the *Machinery* sector, where there has been a marked increase in exports to otherwise untapped markets, following the end of economic sanctions.

At the opposite end of the scale, the negative growth in exports is seen for *Footwear*), *Gold Mining*, *Other Mining* , *Coal Mining* and *Basic Iron and Steel* .This is largely due to depressed commodity prices, especially after 1997, when there was a general slowdown of the global economy.

Between 1989-1994, the highest growth in exports was characteristic of the *Footwear* sector *Leather Products*, *Printing and Publishing*, *Beverages* and *Other Transport Equipment*. This could possibly be as a consequence of the introduction of the GEIS, which was a price-distorting incentive that encouraged manufactured exports by lowering the anti-export bias inherent in the economy. The lowest export growth in this period was attributed to the *Financial Services* sector, followed by *Other Mining, Gold Mining, Basic Non-ferrous Metals* and *Food*. With the exception of the *Financial Services* sector, which was probably constrained by economic sanctions, and *Food,* which essentially is more domestic demand driven and less oriented towards exports, the low growth in the export of the above listed sectors points towards an economy in the process of restructuring itself away from a resource based focus.

In the case of imports, the highest growth rates between 1995-2001 were recorded for the *Furniture* sector, followed in second place by *Television and Communication Equipment, Other Mining, Coal Mining* and *Clothing*. In the case of *Furniture* and *Television and Communication Equipment,* this can be ascribed to prospects for

demand-led growth and higher Gross Domestic Fixed Investment (GDFI), which higher clothing imports could be attributed to reductions in the high levels of protection. The lowest growth in imports during this period was seen for *Agriculture*, *Beverages*, *Printing and Publishing* and *Paper and Paper Products* which could possibly be due to the increase in the price of imported goods relative to those domestically produced, as a result of the pronounced depreciation of the Rand. Between 1989-1994, the highest import growth rates were seen for *Coal Mining*, followed in second place by *Footwear, Other Transport Equipment, Agriculture* and *Leather Products*. These trends are as a consequence of a fairly high marginal propensity to import for some commodities (SARB, 1996), although the increase in economic activity after the end of sanctions could also have played a part. The lowest import growth was characteristic of *Tobacco Products*, *Beverages*, *Petroleum Refining*, *Clothing* and *Other Mining*. With the exception of *Other Mining*, these sectors are typically import competing, hence the low growth figures.

Looking at total employment across all skill levels between 1995-2001, it is clear that only a handful of sectors have shown an increase in their demand for labour, amongst others, *Leather Products*, *Plastic Products*, *Wood and Wood Products*, *Wholesale and Retail Trade*, *Printing and Publishing*, *Medical Services*, *Basic Chemicals* and *Other Chemicals* and *Television and Communications Equipment* producers In terms of labour demand, these industries are also relatively new on the scene, judging from the positions they held during the 1989-1994 period. However, with the exception of the *Wholesale and Retail Trade* sector, none of these industries have a large weight in the total demand for labour - on the contrary, labour shedding has been the trend in the relatively large sectors such as *Gold Mining, Agriculture*, and *General Government,* and this has obliterated whatever little gains in labour demand that have been recorded anywhere. Both *Plastic Products* and *Wholesale and Retail Trade* had the highest weighted average annual growth rate in employment between 1995-2001, followed in third place by *Printing and Publishing.* At the other end of the scale, both the *Footwear* and *Non-Metallic Minerals* sectors posted the greatest decline in the demand for labour, followed by *Gold Mining*. The *Food* sector's demand for labour shrank too, as did that of *Textiles* and *Clothing*. Overall, the top ten sectors in this table were largely in services or upstream sectors.

Turning now to highly skilled employment, the highest growth in job creation between 1995-2001 was attributed to the *Plastic Products*, *Printing and Publishing*, *Wood and Wood Products*, *Business Services* and *Other Chemicals*. It is instructive to note that these sectors have very small shares of total high skilled employment. However, with the increasing trend towards capital intensity, it is intuitive that they would increase their demand for highly skilled employment. Indeed, observing the growth in value-added at 46-sector level, these sectors performed impressively, with the exception of *Printing and Publishing*. In the case of the sectors that posted the lowest growth in highly skilled employment – *Footwear* was last in the 46-sector aggregation, followed by *Non-metallic minerals, Gold Mining*, *Leather Products* and *Glass and Glass Products.* This can be explained by the poor performance of international commodity prices, in the case of *Gold Mining* and *Non-metallic minerals.* Between 1989-1994, the highest growth in high skilled employment was seen for *Leather Products, Glass and Glass Products, Paper and Paper Products, Agriculture* and *Other Chemicals*. This is possibly due to increased capital investment in these sectors, although the resulting drop in employment in the *Glass*

and Glass Products sector can be seen as a function of depressed economic conditions.

In the case of medium skilled labour, the highest growth in job creation was seen in the *Wood and Wood Products* sector, *Leather Products, Printing and Publishing Other Chemicals* and *Other Mining*, largely for the same reasons as highly skilled employment. With regard to the lowest growth in medium skilled employment, this was highest for *Gold Mining*, *Footwear*, *Non-metallic minerals*, *Construction*, and *Basic Iron and Steel*. In the case of commodities, this can be seen against the backdrop of depressed international prices, while for *Construction*, this can be attributed to a combination of restrictive fiscal policies that have seen more government expenditure allocated to welfare services, and also prohibitively high interest rates. For *Basic Iron and Steel*, the possible reason could be the rationalisation of the sector in order to be more competitive internationally. Between 1989-1994, the highest growth in medium skilled employment was seen for *Other Mining*, followed by *Paper and Paper Products, Glass and Glass products, Clothing* and *Television and Communication Equipment*. The reasons for these trends include – slow economic growth and economic sanctions, which impeded growth in productive investments, together with inflexible labour market institutions (SARB, 1996).

The trends in demand for low skilled labour suggest that between 1995-2001, the highest growth in the demand for low skilled labour came from the *Plastic Products* sector, followed closely by *Wholesale and Retail Trade* and *Financial Services.* At the bottom of the table were *Non-metallic Minerals, Footwear* and *Gold Mining*. No trend is discernible in the demand for low skilled labour, as the top ten positions seem to be evenly spread between services, primary products and first level beneficiated goods.

In the preceding period, the *Furniture* sector had the highest growth in demand for low skilled labour, followed by *Wood and Wood Products* and in third position *Television and Communication Equipment*. The tail-enders in 1989-1994 were *Other Transport Equipment, Coal Mining and Tobacco*. In terms of absolute share between 1995-2001, the *Other Producers* sector topped the table, followed by *Agriculture,* and in third place *General Government*. Bottom of the table was occupied by *Tobacco* and *Medical Services* and *Other Services*. The order was somewhat reversed in 1989-1994, when *Agriculture* led shares of low skilled employment, followed by *Other Producers* and *Gold Mining*.

The skilled labour – total employment ratio, which captures the degree to which a sector relies of high skilled labour, suggests that at a 46-sector aggregation, not much difference exists 1995-2001 and 1989-1994, as *Medical Services* tops the table in both periods. In second place lies *Other Services,* and *General Government* third. In terms of *Manufacturing* sectors, it would seem that highly skilled labour is more in demand in *Chemicals, Machinery* and *Basic Iron and Steel* and *Basic Non-ferrous Metals* relative to the *Manufacturing* average, while it in less demand in wage good industries such as *Food, Textiles, Clothing, Leather* and *Footwear*.

1.9 SUMMARY AND CONCLUSIONS[3]

It is clear from the preceding analysis that, in terms of value-added as a barometer for the performance of the South African economy, the importance of the services sector has increased dramatically throughout the last decade. This is emphasised by the performance of the *Transport and Communication* and *Business Services* sectors, both of which have shown both significant growth and increase in proportion of GDP. Low value-added growth has been manifest in *Mining*, in the main as a result of deteriorating commodity prices, while that of *Community Services – including government services*, could be linked to austere fiscal and monetary policies presently being pursued. The contribution of *Agriculture* and *Construction* has also declined markedly during this period. Economy-wide value-added growth has been mediocre, averaging just 2 per cent in the 1990s in this decade, and while growth in *Manufacturing* value-added remains below the economy's average, it did make a cautious recovery in the latter part of the decade and its share of total value-added still remains the highest, together with that of *Community Services – including government services.*

In the case of exports, it was shown that exports of services, in particular *Business Services*, have also had the highest growth since the late 1980s, especially in the latter half of the decade, although *Manufacturing* has not been far behind. In general, overall export performance has been higher in the 1995-2001 period, as compared to the first half of the decade. More significantly, it can be noted that *Manufacturing's* export performance, although in positive territory, has lost ground relative to *Business Services*. *Mining's* poor export performance suggests that the global financial crises during the latter part of the decade could have had a considerable negative impact on South Africa's overall export performance.

In terms of absolute shares of total exports, *Manufacturing* still remains pre-eminent, with 51.9 per cent of the total between 1995-2001, followed by *Mining* with 28.8 per cent and *Transport and Communication* with 6 per cent. The large weight attached to *Mining*, combined with its poor showing has undoubtedly pulled down the total export performance of the South African economy down. Export-output ratios point at whether an industry has become more export oriented over time, and it is significant to note that with the exception of *Mining*, there has been a marked increase in the proportion of output sold internationally. In particular, *Manufacturing* exports as a proportion of total output has increased from 11 per cent in 1989-1994 to 21.1 per cent in the 1995-2001 period, while *Agriculture's* proportion has increased from 10.6 per cent to 15.6 per cent, suggesting that the most important tradable sectors have indeed seen an outward oriented shift.

Regarding imports, it has been shown that the global economic slowdown, especially after 1997, coupled with low domestic economic growth, have conspired to dampen the demand for imported goods and services, despite the significant lowering of tariffs that marked this decade. It is also evident that import penetration has increased for all sectors of the economy, a fact that could be attributed to the declining tariffs that have accompanied the liberalisation episode that has South Africa has undergone, especially in the case of the *Manufacturing* sector. With few

exceptions, the change in import penetration ratios between both semesters of the decade has been positive.

Looking at the trends in investment behaviour, it is disconcerting to note that the *Manufacturing* sector has begun to lag all the other sectors of the economy with regards to GDFI. A similar pattern is seen with regard to the growth of capital stock, only that the growth of capital stock in *Mining* is even lower, a factor that could be attributed to the previous large investments undertaken in previous decades. In terms of investment rates (investment as a ratio of value added), the highest between 1995-2001 has been recorded in *Electricity, Water and Gas* (29.2 per cent), reflecting the roll-out of distribution networks rather than generating capacity), followed by *Mining* (25.5 per cent), and in third position *Transport and Communication* (25.3 per cent).

With regard to employment behaviour, it has been seen that with the exception of *Wholesale and Retail Trade*, all sectors of the economy have been shedding labour during this period. Between 1995-2001, *Wholesale and Retail Trade* employment grew by 1.5 per cent, followed by *Business Services* (0.4 per cent). The poorest growth rates were seen in *Mining* (-6.6 per cent) and *Transport and Communication* (-5.2 per cent). In the 1989-1994 period, employment in *Community Services-including government services* grew highest (1.4 per cent), followed in second place by *Business Services* with 1.3 per cent and in third place, *Agriculture* (-0.9 per cent).

Looking at the absolute shares of total employment, it has been shown that C*ommunity Services - including government services*, occupied first slot during 1995-2001 with 37.1 per cent, followed by *Manufacturing* with 17.8 per cent and in third place, *Wholesale and Retail Trade* (12.8 per cent). This hierarchy was maintained in the preceding period, where *Community Services - including government services*, *Manufacturing* and *Wholesale and Retail Trade* respectively captured 33.1 per cent, 18.9 per cent and 12.3 per cent of total labour demand respectively.

Analysing further the trends in employment by skills level, it was shown that the highest growth in employment of highly skilled labour has been seen in the *Agriculture* and *Wholesale and Retail Trade* sectors (2.4 per cent and 2.2 per cent respectively), although these sectors have a relatively small share of overall highly skilled personnel. Looking at medium skilled personnel, these sectors have once again dominated the highest growth rankings, the only difference being that *Wholesale and Retail Trade* has a significant share of overall medium skilled employees. In the case of low skilled personnel, growth in employment levels has been almost negligible and in many instances negative, with only *Business Services*, *Community Services-including government services* and *Wholesale and Retail Trade* registering positive growth rates between 1995-2001. Across all skill levels, the *Community Services-including government services* sector boasts the highest share of employment levels, both in 1995-2001 and 1989-1994.

In respect of the intensity of employment within a sector, there has not been much change throughout the decade. *Agriculture* remains most labour-intensive, followed by *Community Services – including government services*. The labour-intensity of *Manufacturing* is still well below the economy-wide average, however. Finally, we showed that the highest concentration of high skilled labour is present in the

Community Services – including government services sector, followed by *Business Services*, with *Manufacturing* has approximately 25 per cent. The lowest concentration of high skilled labour is found in *Agriculture* and *Mining* respectively. Medium skilled labour seems to be most prevalent in the services sectors of *Wholesale and Retail Trade* and *Transport and Communication*, while *Agriculture* and *Mining* have the largest concentration of low skilled labour.

2 POLICY CONSIDERATIONS

2.1 INTRODUCTION

Notwithstanding South Africa's low economic growth, there are some interesting differential developments at the sectoral level – investment rates may be robust in some sectors and declining in others, whilst productivity growth rates considerably vary across sectors. Moreover, some sectors have witnessed dynamic export growth, whereas in other sectors, exports have stagnated or declined markedly.

The key question then is, what explains this diversity in economic performance? Could it be historical overhang, sector-specific policies, or overall macroeconomic policy, factor markets and overall government policy that has had a sectoral bias? Determining the extent to which the performance of the South African economy is influenced by government policy choices is of importance in ascertaining whether these choices have indeed resulted in higher levels of efficiency, improved economic performance and greater social equity as the structure of the economy does not change overnight.

While some of the liberalisation efforts started prior to 1990, a number of them began taking place during the middle of the decade. Therefore it makes sense to examine the various aspects of the policy environment that have shaped the structure of the South African economy in the past decade. The key defining features of the South African economy can be summarised thus:

- A changing economic structure that has seen the emergence and dominance of the tertiary sector, a stagnant or contracting secondary sector, and a much reduced primary sector in terms of value added, implying a shift of resources to the growing sectors;

- Exports have witnessed similar trends, with overall growth being lower in the second half of the decade as compared to the first half;

- All sectors of the economy, with the exception of the Wholesale and Retail Trade sector, have been characterised by labour shedding, with absolute shares of employment mirroring the changing structure of the economy and the dominance of services;

- There has been a general fall in the labour intensity of the economy, especially in the Manufacturing sector, pointing to a rising capital and skill intensity of the economy.

It has to be remembered from the outset that while South Africa has a diversified and mature manufacturing base, this is intricately tied to and dependent upon the traditional natural resource core or base – the recently unveiled Integrated Manufacturing Strategy of the Department of Trade and Industry (DTI) attempts to alter this resource-based growth and development trajectory to a high value-added, outward-oriented growth trajectory.

Therefore, in order to understand the performance of the *Manufacturing* sector, there is need to examine not only how the natural resource base has contributed to

economic performance, but also how its has affected and influenced the *Manufacturing* sector. In addition, there is need to understand the influence of policy induced changes that have affected, and are still affecting, the *Manufacturing* sector, the most important being trade liberalisation. It is also crucial to understand the influence that factor markets (capital and labour) have on the performance of the *Manufacturing* sub-sector, and the economy as a whole. A discussion of each is presented in turn below

2.2 THE CONTRIBUTION OF THE NATURAL RESOURCE BASE TO PRESENT MANUFACTURING LANDSCAPE

Jenkins (1999) describes South Africa as being a mineral exporting country with a market-driven economy, driven by a history of heavy government intervention – macroeconomic performance since the 1980s has been dismal, with decelerating growth, high inflation and unemployment. This economic performance is typical of resource-rich middle-income countries that pursued an import substitution strategy over long periods of time. These observations are echoed by Bell *et al.* (1999), who assert that the trends in South Africa's industrialisation process have culminated in a trade structure that is both resource-based and capital-intensive with balance of payments constraint on growth.

Bell *et al.* further distinguish between natural resource-based manufacturing sectors and downstream manufacturing sectors, with the former category encompassing *Chemicals*, *Basic Iron and Steel*, *Non-ferrous metals* and *Paper and Pul*p sectors. The downstream sectors include fabricated *Metal Products, Machinery, Electrical Machinery, Motor Vehicles, Parts and Accessories* and *Other Transport Equipment,* all of which are collectively referred to as the "Metals Group" sectors. Together, the sectors form what Fine and Rustomjee (1996) describe as the 'Minerals Energy Complex' (MEC) which have demonstrated strong sub-sectoral linkages spurned by government between the above sectors, *Mining*, *Electricity* supply and the development of *Transport* infrastructure. The MEC constitutes the core of manufacturing, and also includes the *Rubber Products* and *Plastic Products* sectors, and the petro-chemicals complex embodied by SASOL.

The natural resource boom of the 1970s ended at the turn of the decade, and was accompanied in 1980-85 by a sharp fall in exports of all the main sectors of the economy as the Rand depreciated sharply to culminate in the debt crisis of 1985. This marked a decisive shift from ISI to export-orientated industrialisation (EOI) (Jenkins, 1999). The depreciating currency increased the competitiveness of manufactured exports, with Bell *et al.* stating that the real exchange rate applicable to exports in the metals group of industries declined substantially without interruption between 1985 and 1990, whereas the real exchange rate for natural resource-based exports having risen in 1983-85 was at about the same level in 1990 as in 1985. Bell *et al.* (1999) further add that these trends in relative price changes probably account to a significant extent for much of the faster export growth of the downstream sectors in 1985-1990.

It can therefore be surmised that South Africa's trade specialisation has greatly impacted on the country's macroeconomic performance, which in turn has significant sectoral or micro-level consequences. Also, South Africa has great difficulty in sustaining rapid export, especially in the *Manufacturing* sector, owing to

the preponderance of primary commodities in its export basket. Following Chenery and Syrquin, Bell *et al.* (1999) argue that the primary sector orientation of exports makes for slow export growth and impedes the transformation of production. Further, the transformation of production and economic growth will also be greatly affected by the significant decline in the rate of import substitution brought about by trade liberalisation, which contained current account overshooting in the 1980s by import substitution.

Roberts (1998) analyses some of the other factors explaining the sectoral performance of South African manufacturing. He looks at the export performance of manufactured exports and notes that from 1991-1996, the top five performing sub-sectors have been *Industrial Chemicals, Machinery and Equipment, Printing and Publishing, Metal Products* and *Beverages,* while other sub-sectors that have increased their exports by over fifty percent include *Tobacco Products, Footwear, Leather Products, Rubber Products* and *Plastic Products.* He points out that the sub-sectors whose export shares increased have been those that already had relatively low levels of protection, and if an anti-export bias exists in the *Manufacturing* sector, those sectors with the highest original tariff rates would benefit from lower tariffs and a weaker currency. However, his research shows that this has not been the case and the opposite has actually happened – that other factors should be at play other than relative price effects (tariff reduction and currency depreciation).

Roberts (1998) concludes that the sub-sectoral performance of the *Manufacturing* sector can be explained by the significant and on-going state involvement in the sector, together with the presence of economies of scale, product differentiation and imperfectly competitive markets. Further, there are significant intra-industry trade and linkages, not to mention the importance of differential patterns of integration with the world economy or insertion of sub-sectors into global value chains and its impact on trade performance. Also worth mentioning is the matter of market access, and the case of South Africa, new markets on the African continent, together with the opportunities arising from the Africa Growth and Opportunity Act (AGOA) and the South Africa- European Union Trade and Development Agreement.

Roberts (1998) puts forward the following examples to illustrate the importance of the above factors:

- In 1996, the MEC collectively accounted for 44 per cent of *Manufacturing* sector exports, and still dominates the export basket today - it is known that the MEC was primarily developed by the state and its development finance arm, the Industrial Development Corporation (IDC);

- The *Machinery and Equipment* sector has seen export growth alongside sustained high level imports, with production increasing slightly and employment falling – this suggests a significant reorientation within the sector, and implies that there has been a shift to production in segments that have higher labour productivity and/or the realisation of economies of scale through specialisation;

- *The Metal Products* and *Industrial Chemicals* sub-sectors, together with *Rubber Products* and *Plastic Products* sectors have increased their exports, as

have sectors that are closely linked to the MEC (industry linkages). This industry linkage sees significant imports in these sub-sectors, reflecting relatively balanced trade in *Industrial Chemicals* and *Metal Products*, and an overall deficit in *Plastic Products* and *Rubber Products*. This would suggest the presence of product differentiation rather than Hechscher-Ohlin type factor endowments and specialisation on comparative advantage.

The basic argument that Roberts (1998) brings forward is that in spite of the dominance of South Africa's resource base orientation in industrialisation, sub-sectoral dynamics together with industrial structure are important explanatory variables in understanding South Africa's industrial performance.

2.2 THE OVERALL MACROECONOMIC ENVIRONMENT

At this stage, it is clear that the government has excelled in creating a stable macroeconomic environment in the 1990s. The differential impact of the macroeconomic environment on different sectors of the economy is difficult to ascertain at this juncture. One particular variable that has affected the economic environment at sectoral level is the exchange rate – this has in particular had a positive effect on highly export-oriented sectors.

2.3 THE EXCHANGE RATE

The natural resource boom during the early 1970s resulted in a significant appreciation of the exchange rate, and this caused deterioration in price competitiveness of domestic relative to foreign producers in international trade. A 21.8 per cent nominal devaluation of the Rand/US Dollar exchange rate in 1975 aimed at deepening the level of trade liberalisation, although the manufacturing sector continued to clamour for more protection, and the effects of the devaluation were negated.

After 1980, there was some form of liberalisation in the financial sector when the dual exchange rate was abolished, although this was re-imposed in 1985 when the debt standstill and resulting financial crisis began to bite (Belli *et al.,* 1993). The progressive depreciation of the Rand against major convertible currencies meant that the real effective exchange rate remained relatively constant until 1984, after which time it plunged substantially below its historical levels (Fallon and De Silva, 1994).

Throughout the 1990s, the exchange rate has remained volatile for a host of reasons, most notable being aim of the monetary authorities to keep foreign savings relatively constant, so that the exchange rate takes the burden of any movements on the current account. In addition, the fluctuation in the world price of minerals such as gold and diamonds, which are an integral part of the economy, and whose price has a major influence on the value of the Rand (Belli *et al.,* 1993) has played an important role as are the large flows of portfolio investment, which caused a significant appreciation of the real exchange rate in 1995, and a reversal a year later. In general, it can be argued that the depreciation of the exchange rate lend support to those sectors that are highly export-oriented, and biases the economy towards these sectors. However, wild fluctuations in the exchange rate tend to undermine export orientation.

2.4 PROTECTION

The extent to which the composition of industrial output in the economy has been influenced by the changing trade regime, especially during the 1990s, is of importance, bearing in mind that the structure of the South African economy has historically been shaped by high levels of protection at a sectoral level, together with a broad spectrum of subsidies, tax breaks and other incentives (van Seventer, 2002). While resource shifts in the economy could be attributable to factors other than the trade regime, there is no doubt that the 1990s has witnessed growing export orientation of the economy as a result of tariff reduction, elimination of subsidies, a continuous long-term depreciation of the nominal exchange rate and contracting local demand.

The early 1970s were characterised by attempts towards trade liberalisation, with the use of export incentives to induce neutrality in the trade regime. This period also marked the onset of the dismantling of quantitative restrictions (QRs) and their replacement with tariff equivalents, a process that was to gain momentum in the mid-1980s. However, the government tended to increase tariffs in order to ameliorate the impact of the abolition of QRs, noticeably through the aggressive use of non-transparent formula duties.

During the 1980s, import controls were also increasingly phased out as a means of protection, with the share of import value subject to these controls declining from 77 per cent in 1983 to 23 per cent in 1985. Further, the positive list of permitted imports was replaced by a negative list of imports requiring approval, with unrestricted entry for all unlisted items. However, there was slight backtracking in the trade reform process when the import surcharge system was introduced in 1988.

At the beginning of the 1990s, protection rates on inputs were approximately 13 per cent, and on output about 18 per cent, thereby placing effective protection in the region of 30 per cent (Belli *et al.*, 1993). This therefore implied that value-added was 30 per cent higher than it would have been under conditions of free trade. Nevertheless, variations between and within product categories existed, with protection on output (for sub-sectors and not individual products) reaching as high as 84 per cent and as low as zero, while protection on inputs ranged between a high of 87 per cent and a low of zero per cent (Fallon and De Silva, 1994).

Closer examination of the shifting patterns of sectoral protection also revealed that while the overall trend had been a downward one, some tariffs, such as in the *Food* sector had increased. *Textiles* and *Clothing*, together with *Leather Products* were, by 1996, still the most highly protected sectors with an average tariff of 33.5 per cent, as compared with 15.2 per cent for *Food* (Table 14).

Table 14: The Pattern of Sectoral Protection (percentages)

	1993	1996	1999	2000	2001
Food, Beverages and Tobacco	14.2	14.4	14.4	9.8	9.6
Textiles	49.1	33.0	25.7	16.0	15.7
Clothing, Footwear and Leather	59.5	52.9	40.3	21.7	22.0
Wood and Wood Products	10.9	3.8	3.3	3.1	3.3
Paper and Paper Products	5.6	5.0	5.9	7.1	7.4
Chemicals	9.1	5.6	4.7	2.5	2.7
Non-metallic Minerals	11.0	7.5	6.6	5.2	4.6

Basic Metals	7.3	2.8	2.5	2.0	2.4
Metal Products and Equipment	12.7	2.8	2.3	2.6	2.6
Other Manufacturing	20.0	19.0	22.3	5.8	6.2
Total Manufacturing	**17.7**	**13.8**	**13.7**	**5.2**	**5.4**

Source: 1993and 1996 data adapted from Tsikata (1998), 1999-2001: IDC and DTI data

A comparison of the effective rates of protection in 1996 suggested that for *Manufacturing* as a whole, these had fallen from 29.2 per cent in 1990 to 22 per cent in 1996, and had substantially reduced for a number of individual sectors, although for *Food, Beverages* and *Tobacco, Textiles and Clothing* and *Motor Vehicles, Parts and Accessories*, effective protection increased between 1990 and 1993, before declining by 1996.

Table 15: Estimates of Effective Protection

	1990	1993	1996
Manufacturing	**30.2**	**29.8**	**22.2**
Textiles, Apparel and Leather	8.8	41.1	42.5
Wood and Wood Products	93.6	146.9	117.6
Paper and Paper Products	39.7	31.1	23.0
Chemicals	50.6	23.8	16.8
Non-metallic Minerals	34.3	14.4	11.7
Basic Metal	23.2	12.1	3.8
Metal Products and Equipment	20.3	33.2	24.1
Other Manufacturing	62.8	24.3	-4.4
Coefficient of Variation (manufacturing)		144.2	238.8

Source: Tsikata (1998)

These trade reforms were undertaken, not as part of a general formal structural adjustment programme, but rather in response to the various problems that the South African economy faced (Jenkins and Siwisa, 1997). The WTO agreement, for instance, while only providing a framework for trade liberalisation in the country, now effectively takes precedence over the cautious and hitherto halting approach previously adopted by the government.

While it may well be that the resource shifts in the economy are a result of a host of factors other than the trade regime, what seems increasingly clear is that tariff reduction, abolition of subsidies and a continual long-term depreciation of the real effective exchange rate, combined with shrinking domestic demand, has induced greater export-orientation, and in essence induced some sectoral shifts in the economy.

Jenkins (1999) has shown that South Africa is in what can be called the third trade liberalisation episode, which means that South Africa hopes to gain from static and dynamic efficiency gains achieved from international exchange when protection and tariffs are substantially reduced and the country produce and export according to its comparative advantage. Roberts (1998) argues that liberalisation of protection has not yielded the expected gains from incentives to export. While manufactured exports and imports have increased, output growth has fallen and there have been major reductions in employment and aggregate investment has remained below the levels of the early 1990s.

Edwards (2002) puts forward an argument that tries to figure out the transmission mechanism that drives the causality between falling employment and tariff liberalisation, and notes that there is no clear consensus on the impact of trade

liberalisation on employment and wages. Quoting Fedderke and Vase (2000) who state that the one reason is that the extent of liberalisation of the South African economy has been mixed; most nominal tariffs have fallen since 1994 while effective protection rates have risen or high for many sectors, he also concurs with van Seventer (2001) who states that the tariff structure has remained complex with a large number of tariff lines and continued use of specific and compound tariffs.

Edwards (2002) highlights two important factors that affects the manufacturing sector which been brought about by trade liberalisation and might be possible explanations for the falling employment that is observed in the manufacturing sector; technology and labour market forces (which have seen the rise in wages of less skilled workers). He states that since 1990, there has been a steady increase in the skill intensity of production, which has seen the reduction in the number of less skilled workers. A study by Bell and Cattaneo (1997) estimates the direct employment impact of the changing structure of trade between 1972 and 1993, and finds that there has been a noticeable reduction in the labour coefficient of exports relative to manufacturing and on the import side the has also been a rising labour coefficient that has seen employment in ultra-labour intensive sector fall. The same study also found that shifts in the sectoral composition of exports towards capital-intensive sectors accounted for 36 per cent of the decline in average weighted labour coefficient of exports, the remaining 64 per cent arises from declining labour coefficients within individual exporting sectors.

These within-sector shifts towards more capital- or skill-intensive production techniques are commonly ascribed to technological change. On the import side sectoral shifts in imports only accounted for 17.3 per cent of the decline in the average weighted labour coefficient with the remaining 82.7 per cent, again presumably due to technological change. Bhorat and Hodge (1999) find that trade has induced a bias in the economy towards capital intensity and has seen a bias towards demand for high skill labour. The within-sector shifts in the occupational structure of employment explain most of the rising skill intensity of employment in manufacturing and services and they attribute this to the use of information technology (IT) and micro-electronics in the production process, i.e. skill biased technological change.

During the 1990s, there has also extensive deregulation of the agricultural sector, previously protected from world market forces (Vink *et al.*, 2002). The majority of marketing boards established under the Marketing Act were dismantled by 1998, as were the plethora of QRs, specific duties, price controls and import and export permits and other pernicious forms of regulation.

Table 16: Protection of manufacturing sub-categories

SECTOR	1993 TARIFF	1996 TARIFF	1999 TARIFF	2000 TARIFF	2001 TARIFF	ΔTariff 1993-1999	ΔTariff 1999-2001	Δ Tariff 1993-2001
Food	13.4%	14.6%	14.5%	8.4%	8.2%	8.2%	-43.6%	-39.0%
Beverages	14.3%	10.0%	10.0%	17.7%	18.1%	-30.2%	80.9%	26.2%
Tobacco	27.8%	32.0%	31.3%	42.8%	42.0%	12.7%	34.2%	51.3%
Textiles	49.1%	33.0%	25.7%	16.0%	15.7%	-47.6%	-38.9%	-68.0%
Wearing apparel	81.0%	67.3%	50.2%	20.1%	20.2%	-38.1%	-59.7%	-75.1%
Leather and leather products	24.0%	28.3%	28.3%	15.2%	15.4%	18.1%	-45.8%	-36.0%
Footwear	38.0%	38.7%	28.9%	27.6%	27.5%	-24.0%	-4.9%	-27.7%
Wood and wood products	10.9%	3.8%	3.3%	3.1%	3.3%	-70.2%	1.8%	-69.6%
Paper and paper products	5.6%	5.0%	5.9%	7.1%	7.4%	4.9%	26.4%	32.6%
Printing, publishing & rec media	9.8%	2.5%	2.1%	0.9%	1.0%	-78.4%	-53.9%	-90.0%
Coke & refined petroleum products	9.3%	8.6%	7.2%	2.8%	3.7%	-22.3%	-48.0%	-59.6%
Basic chemicals	1.9%	1.5%	1.4%	2.2%	2.2%	-30.6%	61.9%	12.4%
Oth chemicals and man-made fibres	17.1%	8.1%	6.9%	2.8%	2.9%	-59.9%	-58.5%	-83.3%
Rubber products	20.0%	14.8%	12.4%	16.9%	16.2%	-37.7%	30.6%	-18.6%
Plastic products	17.9%	14.2%	12.4%	9.7%	9.5%	-30.6%	-23.3%	-46.8%
Glass and glass products	11.2%	7.5%	6.2%	8.2%	8.1%	-44.9%	31.2%	-27.6%
Non-metallic minerals	10.9%	8.2%	6.8%	5.2%	5.2%	-37.5%	-24.5%	-52.8%
Basic iron and steel	7.2%	2.7%	2.6%	4.1%	4.4%	-63.6%	65.4%	-39.8%
Basic non-ferrous metals	7.6%	3.6%	1.8%	0.9%	0.8%	-75.7%	-55.1%	-89.1%
Metal products excluding machinery	14.0%	8.3%	7.2%	7.7%	7.3%	-48.2%	1.3%	-47.6%
Machinery and equipment	6.3%	1.5%	1.1%	2.0%	2.1%	-82.5%	86.0%	-67.4%
Electrical machinery and apparatus	13.7%	4.7%	4.3%	6.1%	6.1%	-68.9%	42.8%	-55.6%
Tv, radio and comms equipment	14.3%	1.7%	3.6%	2.8%	2.9%	-74.7%	-20.7%	-80.0%
Professional & scientific equipment	14.2%	1.2%	0.4%	0.5%	0.5%	-97.4%	47.0%	-96.2%
Motor vehicles, parts & accessories	37.0%	39.7%	32.9%	9.4%	10.1%	-11.2%	-69.3%	-72.7%
Other transport equipment	11.6%	2.7%	1.9%	0.1%	0.1%	-83.9%	-94.6%	-99.1%
Furniture	22.5%	22.1%	19.5%	16.6%	15.7%	-13.5%	-19.4%	-30.3%
Other manufacturing	14.2%	1.2%	0.4%	4.9%	4.7%	-97.4%	1182.4%	-66.7%

Source: IDC and DTI

From Table 16, it is evident that at a more detailed sectoral level and with the exception of the *Tobacco* and *Beverages* sectors, tariffs in all the sectors have significantly declined between 1993-2001, with the highest decline being seen in *Professional and Scientific Equipment* (96 per cent), Printing, *Publishing and Recorded Media* (90 per cent), *Television, Radio and Communication Equipment* (80 per cent) and *Basic Non-ferrous Metals* (89 per cent). Between 1993-2001, protection for *Tobacco* rose by 51 per cent and *Beverages* 26 per cent.

However, comparison of changes in protection between 1993-1999 and 1999-2001 suggests that tariff reduction in the latter period slowed down significantly, with the pace being more pronounced for *Beverages*, where protection fell by 30 per cent between 1993-1999 but rose by 80 per cent between 1999-2001. For *Paper and Paper Products*, protection increased by 5 per cent between 1993-1999 and 26 per cent between 1999-2001, while for *Glass and Glass Products*, tariffs that had fallen by 45 per cent between 1993-1999 increased by 31 per cent between 1999-2001. *Machinery and Equipment* (broadly categorised) saw protection fall by 82 per cent between 1993-1999 but increase by 86 per cent between 1999-2001.

One reason for these reversals is that the level of protection as measured here are weighted by the level of imports, so that a small decline in protection of one or two commodities in the broad classification may have resulted in large increases in imports, in the process possibly outweighing significant tariff reduction for commodities in of lesser importance.

In addition, for the sectors in which tariffs have increased, it could well be that at the time South Africa bound its tariffs in line with its WTO commitments, the actual existing tariffs were below the bindings, in order to allow for room to manoeuvre, although this does not necessarily imply policy reversal.

Table 17: Tariff Changes, 1993 – 2000 (>50%)

				GROWTH IN IMPORTS		IPR		GROWTH IN EXPORTS		EMPLOYMENT		TFP		GROWTH IN VALUE-ADDED	
SECTOR	1993 TARIFF	2000 TARIFF	Δ TARIFF 1993-2000	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	1996-2000 AV	1991-1995 AV	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995
Other transport equipment [384-387]	11.6%	0.1%	-98.9%	15.1%	-0.5%	95.1%	62.1%	15.9%	21.7%	-10.5%	-10.7%	0.9%	4.6%	-8.0%	-4.1%
Professional and scientific equipment [374-376]	14.2%	0.5%	-96.1%	-6.8%	1.5%	91.3%	75.8%	5.9%	12.4%	-4.9%	1.4%	-8.7%	-6.6%	-10.9%	-6.7%
Printing, publishing and recorded media [324-326]	9.8%	0.9%	-90.5%	-15.6%	4.0%	17.0%	18.2%	-4.0%	29.0%	4.7%	0.6%	-1.9%	-0.3%	1.6%	2.3%
Basic non-ferrous metals [352]	7.6%	0.9%	-88.5%	-2.3%	26.4%	22.9%	17.6%	0.5%	-3.1%	-5.2%	-5.9%	-1.6%	-15.2%	-2.1%	6.6%
Other chemicals and man-made fibres [335-336]	17.1%	2.8%	-83.6%	-2.1%	11.0%	21.8%	18.1%	8.1%	29.3%	2.5%	-1.7%	4.5%	4.0%	6.1%	3.5%
Television, radio and communication equipment [371-373]	14.3%	2.8%	-80.1%	9.5%	22.2%	76.5%	53.8%	29.2%	24.2%	2.4%	0.0%	6.2%	-3.0%	6.9%	-0.9%
Wearing apparel [313-315]	81.0%	20.1%	-75.2%	3.5%	-1.1%	9.3%	7.7%	11.3%	0.1%	-1.5%	3.2%	2.8%	3.1%	-5.5%	-2.8%
Motor vehicles, parts and accessories [381-383]	37.0%	9.4%	-74.6%	7.0%	16.0%	32.8%	26.6%	31.4%	13.2%	-1.4%	-0.6%	2.2%	-3.0%	5.2%	-0.6%
Wood and wood products [321-322]	10.9%	3.1%	-71.6%	-2.4%	19.1%	9.3%	9.6%	20.7%	7.2%	5.6%	2.9%	1.3%	3.6%	5.1%	5.1%
Coke and refined petroleum products [331-333]	9.3%	2.8%	-69.3%	-18.3%	-4.1%	10.7%	7.1%	-1.0%	-1.3%	-6.9%	-3.6%	-7.1%	1.6%	-9.3%	1.1%
Machinery and equipment [356-359]	6.3%	2.0%	-68.1%	-6.7%	15.4%	65.2%	52.4%	16.4%	26.5%	-3.0%	-0.5%	5.4%	-0.1%	2.4%	-1.3%
Textiles [311-312]	49.1%	16.0%	-67.4%	-4.9%	7.3%	23.2%	21.9%	-1.4%	4.9%	-9.5%	-7.7%	3.4%	2.7%	2.2%	4.8%
Other manufacturing [392-393]	14.2%	4.9%	-65.8%	9.2%	2.1%	23.6%	18.5%	2.1%	4.0%	-3.8%	2.7%	-1.3%	3.2%	1.3%	2.1%
Electrical machinery and apparatus [361-366]	13.7%	6.1%	-55.3%	-4.4%	16.3%	31.4%	27.9%	9.9%	29.1%	-5.0%	0.5%	5.8%	2.8%	0.9%	3.0%
Non-metallic minerals [342]	10.9%	5.2%	-52.4%	-3.0%	11.2%	13.3%	9.4%	2.0%	14.9%	-15.7%	-3.5%	4.2%	5.7%	-6.5%	2.6%

Source: IDC

From Table 17, it can be seen that *Other Transport Equipment*, *Professional and Scientific Equipment*, and *Printing and Publishing* media have had the greatest levels of tariff reduction (99 per cent, 96 per cent and 91 per cent respectively). However, the table also reveals that in the 1991-1995 and 1996-2000 time periods import growth has not been as significant, although the import penetration ratios have grown for most sector, especially after 1995, when tariff reduction was accelerated. For those sectors that have been characterised by both increasing levels of imports and exports (*Motor Vehicles, Parts and Accessories,* and *Television, Radio and Communications Equipment*), it is clear that there is a significant level of intra-industry trade taking place.

What is also evident is that job creation seems to be on the wane, as the trend in most sectors is towards decreasing employment. However, the reasons for this are not as clear-cut as unemployment cannot be said to be an exclusively macro-economic problem, nor for trade policy or labour policy for that matter.

Table 18 reveals the sectors for which tariffs have fallen by less than 50 per cent between 1993-2000.

Table 18: Tariff Change 1993 – 2000 (<50%)

TARIFF CHANGE 1993-2000 = <50%																
				GROWTH IN IMPORTS		IPR		GROWTH IN EXPORTS		EMPLOYMENT		TFP		GROWTH IN VALUE-ADDED	
SECTOR	1993 TARIFF	2000 TARIFF	Δ TARIFF 1993-2000	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995	1996-2000 AV	1991-1995 AV	AV ANN Δ 1996-2000	AV ANN Δ 1991-1995
Plastic products [338]	17.9%	9.7%	-45.9%	-1.3%	18.2%	7.7%	6.0%	9.8%	34.4%	6.9%	0.2%	7.2%	1.0%	12.3%	4.8%
Metal products excluding machinery [353-355]	14.0%	7.7%	-45.0%	18.9%	10.7%	21.6%	11.2%	2.8%	14.0%	-5.7%	-1.5%	4.2%	-1.0%	-1.0%	-0.1%
Basic iron and steel [351]	7.2%	4.1%	-43.9%	-9.0%	11.0%	12.2%	9.7%	1.6%	7.9%	-11.7%	-6.2%	2.8%	2.3%	-1.6%	0.3%
Food [301-304]	13.4%	8.4%	-37.3%	-8.1%	21.7%	9.2%	6.4%	-1.6%	5.9%	-3.6%	-2.8%	-0.5%	-3.4%	-2.3%	-1.2%
Leather and leather products [316]	24.0%	15.2%	-36.6%	-9.6%	16.5%	31.5%	25.0%	4.1%	29.6%	7.6%	-5.3%	-4.0%	-1.6%	1.5%	-0.4%
Footwear [317]	38.0%	27.6%	-27.4%	-1.6%	27.2%	25.7%	14.6%	-12.6%	45.1%	-11.4%	-1.2%	-6.2%	-4.9%	-16.2%	-4.8%
Glass and glass products [341]	11.2%	8.2%	-26.3%	-7.6%	11.7%	21.9%	16.7%	10.8%	1.8%	-9.7%	0.8%	10.5%	1.7%	2.7%	4.8%
Furniture [391]	22.5%	16.6%	-26.1%	5.1%	19.3%	11.4%	4.8%	-1.2%	58.8%	-2.1%	3.0%	-0.3%	0.0%	-1.9%	2.9%
Rubber products [337]	20.0%	16.9%	-15.3%	0.6%	17.5%	29.7%	17.9%	8.1%	18.8%	-4.8%	-0.5%	7.2%	1.0%	3.6%	2.6%
Basic chemicals [334]	1.9%	2.2%	11.0%	-0.3%	12.4%	52.5%	42.7%	-0.1%	18.1%	2.0%	-2.4%	2.3%	2.5%	6.0%	0.1%
Beverages [305]	14.3%	17.7%	23.8%	-15.2%	-4.0%	3.7%	3.4%	2.4%	24.4%	-1.9%	-3.6%	-3.9%	-0.4%	-1.2%	1.6%
Paper and paper products [323]	5.6%	7.1%	26.9%	-8.0%	7.7%	11.7%	13.1%	4.7%	20.6%	-2.3%	-0.2%	-3.5%	1.0%	-2.4%	2.8%
Tobacco [306]	27.8%	42.8%	54.0%	-12.9%	-12.5%	4.7%	5.4%	15.3%	-2.9%	-4.6%	-7.1%	-2.7%	4.2%	-3.6%	-0.2%

Source: IDC

From the table above, it is clear that the number of sectors where tariffs have fallen by less than 50 per cent, or where tariff levels have increased significantly between 1993 and 2001 is much smaller. For the sectors in which tariffs have increased, it could well be that at the time South Africa bound its tariffs in line with its WTO commitments, the actual existing tariffs were below the bindings, in order to allow for room to manoeuvre, but not necessarily to imply policy reversal.

For the *Food* sector, while tariffs have been reduced by less than 50 per cent, this has nevertheless had an adverse effect on a sector that contributes over 4 per cent to national output (ABSA, 2002). From the table, it can be seen that import penetration has increased to over 9 per cent, and this, coupled with reduced exports, have contributed to falling employment and value-added growth. The same could be said for the footwear sector, which as a result of increased import penetration has seen a massive drop in employment, especially between 1996-2000.

While there seems to be a direct link between decreasing tariffs and the increase in penetration ratios, it is generally difficult to conclude that declining tariffs result in higher output and exports, as there does not seem to be any correlation between tariff reduction and the changing composition of the manufacturing sectors for these variables.

2.4 WAGE RATES AND THE LABOUR MARKET

Another potentially determinant of the changing composition of the South African economy is the differential wage behaviour of the labour market. For example, it has been demonstrated that while in the 1970s, the economy was characterised by a low, albeit, positive growth in real output, low positive values in the 1980s and increasingly negative values in the 1990s (Mazumdar and van Seventer, 2002: 4). The reaction of the labour market to these trends in output was to move away from distributing the gains from growth in real output equally between employment increase and wage increase during the 1970s, to a scenario wherein there was increasing real wage growth of those in employment at the cost of a slower expansion of employment. In the 1980s the shift, although clearly perceptible, was moderate in extent. Mazumdar and van Seventer (2002) further argue that there was slight growth in employment during this period as real wage growth was negative in response to the growth rate of output falling to just about a quarter of its value in the 1970s.

The essence of this analysis is that for overall manufacturing during the 1970s, output growth was equally shared between wage growth and increased employment in different sectors of the economy. Although for heavy manufacturing, the rate of output growth was lower than that of light manufacturing and high technology manufacturing, the domestic real exchange rate effect heightened the rate of increase of the real wage bill to a higher level than other groups, as its product prices rose at rates higher than those of consumer prices, ultimately tilting distribution in favour of real wage growth as opposed to employment growth. Thus while the rate of employment growth increased at the same rate in all sectors, heavy industry had a higher

rate of real wage increase. Apart from this difference in the price effect, the general pattern of the 1970s of sharing output growth equally between wage and employment growth is valid for all three sub-sectors as for manufacturing as a whole.

Also of importance in reorienting production from labour-intensive to capital intensive modes, despite the abundance of labour in South Africa, is the fact that the real wage of unskilled labour rose before the exhaustion of labour surplus (Fallon and De Silva, 1994), while at the same time the user cost of capital was declining. During this period, Levy (1992) notes that with manufacturing increasingly being unable to create new jobs, especially after the collapse of its growth in 1981, the overall result was that there was a slowdown in both output and employment.

During the 1990s, there has been a perceptible trend towards real wage growth; in the first half of the 1990s the rate of 'net' output growth was associated with negative employment growth rate of 1.2 per cent per annum, balanced by a real wage growth rate of an equivalent amount (Mazumdar and van Seventer, 2002). This trend was reinforced in the second half of the 1990s. In spite of an even smaller rate of output growth (0.5 per cent) – reinforced by an adverse price-effect – real wage increase was bumped up to a whopping 3.9 per cent and had to be balanced by a fall in employment. The increased share of wages in value added could do no more than slightly mitigate the rate of fall in employment – given the high rate of real wage growth. The result was a very sharp decline in the rate of employment – at the rate of 3 per cent per annum.

Table 19: Decomposition Exercise for Real Wage Growth, All manufacturing

Period	$\hat{w}$	$\hat{v}$	$\hat{L}$	$\hat{p}_p$	DRER = $\hat{p}_p - \hat{p}_c$	α	Output Effect	Wage share effect	Price Effect (5) + (8)
	1	2	3	4	5	6	7	8	9
1970s	2.6	4.5	2.4	12.1	0.8	0.85	4.4	-0.3	0.5
1980s	-0.4	1.1	0.3	15.2	0.4	0.90	1.0	-1.5	-1.1
1990s I	1.0	1.1	-1.2	9.9	-0.2	0.91	1.0	-0.9	-1.1
1990s II	3.9	0.5	-3.0	5.7	-0.7	1.15	0.6	0.9	0.2
1990s I and II	1.8	1.5*	-1.5	7.4	-0.7	0.94	1.4	-0.4	-1.1

Source: Mazumdar and van Seventer (2002).
Note: Variables with a "hat" denote percentage annual growth rate

Secondly, it can be seen from column (6) that the elasticity of the wage-bill with respect to value added (the α value) rose slightly in the 1980s and early 1990s, but became larger than unity only in the second half of the 1990s. Compared to the other periods, this made the wage-share effect (shown in column 8) support a faster increase in real wages. The increase in the share of wages in value added, which this trend implies, suggests a change in labour market conditions. Possible reasons for this important phenomenon in the second half of the 1990s in particular require more detailed research.

These findings are somewhat corroborated by Lewis (2001), who in an examination of wage growth patterns by skill class between 1970-1999, finds that while in 1999 the real remuneration per highly skilled worker was at 90 per cent of the 1970 level, that of skilled workers in 1999 was at 110 per cent of the 1970 level. However, the real wage of semi- and unskilled workers in 1999 stood at 250 per cent of the 1970 level, implying that this latter category of workers had been priced out of the market, as unemployment in this category had steadily risen throughout the period.

Lewis further argues that some of the legislation and regulations governing the workplace, while aimed at redressing the injustices of the apartheid era, are difficult to quantify, and give the impression of inflexibility.

2.5 INVESTMENT INCENTIVES

An examination of investment trends and rates during the 1970s and 1980s by Fedderke *et al.* (2000) reveals an inordinately strong presence of heavy state-led investment activity amongst those sectors that maintained high and sustained levels of investment expenditure.

During the 1970s, there was a marked increase in government intervention in industry, with a deepening of ISI in capital-intensive upstream heavy industrial and chemical ventures such as SASOL, Atlantis Diesel Engines (ADE) and MOSSGAS, behind a wall of tariffs that were further complicated by a cumbersome system of customs duties and import surcharges. During this period, there was intensive lobbying of the Board of Trade and Industry by firms, which were often granted exemptions on a case-by-case basis.

The investment behaviour of these parastatals was also responsive to economic variables, with heavy investment being guided by optimistic expectations of favourable growth projections and the real interest rate (Kahn *et al.*, 1992). For instance, prior to 1985, there was substantial offshore borrowing, with the Reserve Bank providing forward cover for movements in the exchange rate. Following the imposition of financial sanctions, these firms were forced to source their funds from the domestic market and at much higher interest rates, a factor which together with the excess capacity in sectors such as electricity and railways, led to a pronounced drop in investment.

In terms of asset type, machinery and capital equipment investment was mostly constant during the 1980s, while construction and residential building investment increased marginally. The capital intensity of mining investment increased too. With regard to infrastructure, electricity and transport witnessed a notable decline in the 1980s, although electricity was widely believed to have had excess capacity after a massive expansion during the boom years of the 1970s.

Investment behaviour in the private sector, which is characterised by large corporations together with a strong presence of foreign- and domestically-owned multinational corporations, behaved in a manner comparable to that

seen in industrialised countries (Kahn *et al.*, 1992). Private investment was strongly responsive to output and was also significantly influenced by a measure of expected investment profitability. Owing to the disruptions to the economy in the mid-1980s, private investment was way below what would have been expected.

After 1990, investment trends in South Africa were marked by a significant shift as compared to previous decades. Fedderke *et al.*, (2000) identify one of the most important trends as being the relative decline in capital usage by economic sector. In addition, the beginning of the 1990s marked the emergence of a number of manufacturing sectors that maintained the highest investment rates on average. Further, those sectors which in previous decades had shown a heavy reliance on state intervention began to be marked by declining investment activity, attributed to the possibility that government led demand for investment goods could have had a distorting effect on the cost of capital in previous decades by crowding out other sectors.

Overall GDFI was higher in the first half of the decade, when there were new investments in practically all sectors of the economy. Moreover, this investment also meant an increase in leasing contracts and hire purchase agreements, all of which contributed to the growth of real investment in the financial sector (SARB, 1997). The latter part of the decade has been marked by modest investment growth, due to the savings constraint and weak foreign capital inflows that were less than anticipated after South Africa's political transition in 1994. The high cost of capital (as evidenced by high real interest rates) has also contributed to the less than stellar performance of GDFI (ABSA, 2002)

2.6 SUMMARY OF INVESTMENT INCENTIVES THROUGHOUT THE 1990S

2.6.1 STRATEGIC INVESTMENT PROJECTS (SIP) PROGRAMME

In recognition of South Africa's status as a growing economy and its current stage of transition and economic development, the SPI programme was formally promulgated in August 2001. At the heart of this scheme is an attempt to raise levels of private sector investment in innovative, profitable and wealth-creating business enterprises in South Africa, while simultaneously creating job opportunities within the industrial sector.

An amount of R3 billion has been allocated for a four-year period beginning August 2001, in the form of tax allowances that are intended to lower the cost of investing in critical industrial projects. As this programme has been tailored with the prospective individual investor's needs in mind, whether local or foreign, its primary aim is to significantly contribute to the growth, development and competitiveness of specific industry sectors by providing industrial investment allowances, in the form of tax relief, to qualifying industrial projects.

In order to qualify for the SIP, firms must be involved in the manufacture of goods (excluding tobacco and tobacco related products), computer and computer related activities (such as hardware and software consultancy, data processing, database activities but excluding secretarial services) and research and development (R&D) in natural sciences and engineering.

Further qualification criteria for proposed projects under the SIP include the scale of the investment (which should exceed R50 million), an increase in annual production of the relevant sector, demonstrable long-term commercial viability and the promotion of employment within the relevant economic sector. In addition, projects must not be currently benefiting from any other incentive schemes provided for under existing legislation.

The allowances are granted up to 100 per cent of the cost incurred by the company in acquiring, erecting, constructing, installing and/or effecting improvements to qualifying industrial assets. The SIP is managed by The Enterprise Organisation (TEO) of the Department of Trade and Industry, in terms of the Income Tax Act (Act NO58 of 1962, as amended) and Regulations 22848 of 21 November 2001.

Recent reports suggest that while the registration process for the SIP is tedious and cumbersome, to date 14 000 new jobs have been created and R3 billion in new investment has been attracted to South Africa[4].

2.6.2 SMALL MEDIUM ENTERPRISE DEVELOPMENT PROGRAMME

The Small and Medium Enterprise Development Programme (SMEDP) is a grant paid to local and foreign investors to grow their current operations, based on approved qualifying assets and activities/projects, and is open to local and foreign investors engaged in manufacturing, high value agricultural projects, agro-processing, aquaculture, bio-technology, tourism, information and communication technology, recycling, and cultural industries.

Eligibility for this scheme is restricted to corporate legal entities such Companies (Private and Public), Close Corporations (CCs), Co-operatives (co-ops), Sole Proprietorships and Partnerships that can apply for assistance. Any entities formed by the same owners or members to engage in more than one independent project in the same industrial area to manufacture the same generic product are specifically excluded from this scheme. In addition, projects may not qualify for both the SIP and the SMEDP programme simultaneously – approval for support under one programme precluded the conversion of incentive approval to another programme.

Projects qualifying for the SMEDP must further be new (Greenfield) or expansion of existing qualifying projects, and must further not be for the

[4] *SIP's Tasty Tax Benefits*, Financial Mail, March 28 2003

purposes of expansion if the maximum allowance of R100 million is exceeded in terms of qualifying assets prior to the investment in expansion. The minimum and maximum threshold of assistance granted to the firm is based on the amount of qualifying assets that it possesses. The minimum equity requirement is 10 per cent for projects with qualifying fixed assets up to R 5million. For firms with qualifying fixed assets between R15million-R25million, the minimum threshold is 25 per cent, which for those firms with qualifying fixed assets above R15million this threshold is raised to 35 per cent. In addition, assistance is only be rendered to projects with an investment of up to R100 million in qualifying assets if the R 100 million limit has already been attained with the initial investment in qualifying assets prior to the investment.

Eligibility for assistance under the SMEDP is limited to an overall maximum period of 36 consecutive months, the first two years on approved qualifying assets and an additional year grant for the Human Resource Intensity.

2.6.3 REFUND OF REBATES ON PRODUCTS USED IN EXPORT (521.00)

This rebate is applicable to customs duty on products that are not available in the SACU for manufacturing purposes. The purpose of this offering is to create cost reduction of inputs, increase global competitiveness, and promote of manufacturing activities in the SACU. Permanent provisions are introduced, if the exporter enjoys established export markets, exportation takes place on a regular basis, or South African raw materials suitable for the specific use are not available.

These drawbacks are only introduced if the duty payable represents a significant burden, and exemption from the duty is necessary to improve the competitive position of the exported product. However, if the price consideration is the main reason why local material is unsuitable the Board does not necessarily recommend that a drawback be introduced.

Applications for permanent drawback provisions are published in the Government Gazette with the object of affording all interested parties the opportunity to comment. Upon the expiry of at least six weeks, the Board considers the applications. If the Board finds justification for supporting an application, a recommendation for the amendment of the Customs and Excise Act is submitted to the Minister by means of a formal report; if not, the applicant is notified directly of the Board's decision. The same procedure is followed when the Board receives an application for the withdrawal of a permanent drawback provision.

The exporter can, in terms of Item 521.00 (I), apply for a permit from the Board, to allow such drawback.

Usually the Board recommends the issuing of permits for drawback of customs duty:

- As temporary and possibly urgent assistance during the period required by the Board to complete an investigation in connection with the establishment of a permanent drawback provision; or
- If it is clear that exportation will take place once only or a prospective exporter wishes to test the export market.

2.6.4 DUTY-FREE INCENTIVE SCHEME (ITEM 470.03 OF THE CUSTOMS AND EXCISE ACT)

This scheme allows for the duty-free importation of goods that are used in the manufacture, processing, finishing, equipping or packing of goods exclusively for export. As a general rule, a rebate is given sympathetic consideration if it is clear that the export will be lost for the country if the rebate is not granted. If permanent provisions already exist for drawbacks of the duty on inputs for export goods, the Board in general gives sympathetic consideration to the recommendation of a rebate under Item 470.03, except when it appears that the interests of local manufacturers of inputs are detrimentally affected.

A rebate of duty under Item 470.03 is allowed in cases where the imported inputs concerned are not available from South African resources. As a general rule, the rebate is recommended if the available South African inputs are not of acceptable quality or type. In the case of problems relating to quality, available variety or range, temporary drawback permits are granted to allow possible South African suppliers the opportunity to improve the quality or range of their products.

2.6.5 INDUSTRIAL DEVELOPMENT ZONES

Industrial Development Zones (IDZs) are purpose-built export processing zones set up by the South African government as a tool for attracting foreign direct investment in export-driven industries. They are usually established within the vicinity of airports or seaports and are characterised by world-class infrastructure, services and logistics networks[5].

Among the features of South Africa's IDZ programme are customs and financial incentives (such as duty-free importation of capital goods and inputs, together with value-added tax suspension for procurement of supplies within South Africa, with tax incentives being conspicuously absent. In addition to a customs secured area that provides on-site support on customs and excise requirements for firms in the IDZs, there are also industrial and services areas that provide support services to large manufacturers, and a one-stop centre facilitating regulatory procedures and requirements.

At present, IDZs in Coega, Port Elizabeth, and East London have received operator's permits, while other designated areas include Johannesburg International Airport and Richard's Bay, north of Durban.

[5] Sunday Times Business Times, 27 April 2003.

2.6.6 SPATIAL DEVELOPMENT INITIATIVES

Spatial Development Initiatives (SDIs) are geared towards the generation of sustainable economic growth in relatively underdeveloped areas, with the aim of exploiting the under-utilised location and economic advantages for export-oriented growth (WTO, 2003). These are by and large located within South Africa's boundaries, although there are some cross-border initiatives that include neighbouring states such as Mozambique and Swaziland. SDIs, which are envisaged to operate hand in glove with IDZs, are seen as instrumental in reorienting traditional export processing zone strategies towards the development of leading-edge industrial development zones closely integrated with the local productive sector.

3 INDUSTRIAL POLICY INITIATIVES

3.1 INTRODUCTION

This section briefly outlines some of the different policies implemented by the government that could have had an impact on the sectoral composition of South African Industry.[6]

The 1960s and 1970s were characterised by an inwardly focused and import substituting industrial policy that was skewed by distorted capital and factor markets, and which resulted in the establishment of major capital-intensive investments, especially in the defence and petroleum-chemicals complexes. This state of affairs was largely abetted by historic tax distortions such as accelerated depreciation, investment allowances and payroll levies, all of which lowered the user cost of capital and made labour relatively more expensive (*Samson et al.,* 2001). During the 1980s, there was heightened emphasis on self-sufficiency as the country's international isolation was intensified, although the boom in infrastructure development began to slow down.

At the beginning of the 1990s, there was growing realisation that in order to become more competitive once South Africa's global isolation came to an end, there would have to be a fundamental restructuring of the economy, and hence began a more profound process of industrial reform. However, the initiatives introduced at this time, namely the General Export Incentive Scheme (GEIS), together with the Regional Industrial Development Programme (RIDP) proved expensive and ineffectual in countering the structural deficiencies of the economy. Further, whereas the GEIS was effective in encouraging manufactured exports by decreasing the anti-export bias inherent in the South African economy, it was nonetheless transient and unsustainable due to its price distorting nature, not to mention being a burden on the exchequer.

This culminated in the introduction of supply-side measures aimed at stimulating the growth of the manufacturing sector and increased employment[7]. A number of these new measures are broad-based, although there exist some sector-specific programmes for those sectors facing immense structural change – the latter include schemes such as the Duty Credit Certification Scheme (DCCS) and Motor Industry Development Programme (MIDP), both of which are discussed below.

3.2 THE DUTY CREDIT CERTIFICATION SCHEME (DCCS)

The Duty Credit Certificate Scheme (DCCS), introduced in 1993 and applicable until 2005, is the primary instrument for restructuring the *Clothing* and *Textile* sectors, which in 2001 was responsible for 4.6 per cent of overall

[6] This introduction draws heavily on the recently unveiled Integrated Manufacturing Strategy of the DTI.
[7] Hirsch and Hanival (1998) describe these supply-side measures in detail.

Manufacturing GDP, 3.4 per cent of total manufacturing exports by value and 14.8 per cent of the labour force.

The aim of the DCCS is to provide financial incentives specifically to *Clothing* and *Textile* exporting firms through import certificates, and is the primary instrument of restructuring within the *Clothing* and *Textile* sectors. Besides providing cheaper access to inputs and resources, the DCCS also aims to revitalise and kick-start the hitherto highly protected and labour-intensive sectors in the wake of trade liberalisation and enhancing export competitiveness.

The programme offers duty credit certificates to qualifying exporters, and can be used to access imported inputs. DCCs can be claimed for up to 35 per cent of the value of exports with the highest value for clothing and the lowest for yarn (8 per cent to 12 per cent). Other salient features of the DCCS are that they are only eligible for offsetting duties on importation of similar products to those exported, and one stage back – and in addition, only in respect of production for the domestic market.

For the purposes of the DCCS, an the exporting entity or form must comply with any two of the three following criteria:

Table 20: Qualifying Criteria for the DCCS

Size	Total Annual Turnover (excl VAT)	Total Asset Value (Excl Fixed Property)	Total number of full time employees
	Less than	Less than	Less than
Medium	R25million	R5million	51-200
Small	R5million	R1million	5-50
Micro	R1.25 million	R0.25million	1-4

Source: DTI

The performance of the scheme has been satisfactory to date with exports increasing in the second half of the decade. On the negative side of the scheme, it has been found that in the clothing and textile sectors, the number of firms is many and yet the number of firms that benefited from the scheme is only 100.[8] The scheme also failed to access small and medium size firms, which was one of its principal targets.

The lack of detailed data on DCCS firms and their performance makes it difficult to assess the usefulness of the programme. Therefore, commentary on DCCS is based on reason alone, not demonstrated performance. DCCS compensates for higher production costs in South Africa. At least part of the DCCS rational would be eliminated through efficient duty rebates or a duty suspension system (indeed, many decentralized producers opt for duty rebates over DCCS). Lowering duties on imported fabrics and materials (elimination of duties in the case of US and SADC fabrics and yarns) would further reduce the need for DCCS, by putting pressure downward on domestic textile prices. The long-term vision of the DTI could be to move toward efficient allocation of

[8] K. Reid (1999) 'A Critical Review of the DCC Scheme', Department of Trade and Industry Policy Support Programme working paper.

resources such that producers can compete at world prices. DCCS is a stopgap measure that has been in place for ten years or more.

A primary concern with DCCS in the near-term is that it has questionable effects on attracting foreign/new investment, and instead is reported to favour established producers in the centralised areas. As such, it has encouraged these producers to remain in high cost manufacturing areas, rather than seek lower costs in decentralised areas. DCCS has likely retarded producer's movement away from the centralised high cost areas.

A programme that would have greater impact on near-term exports would be one that makes funds available when production decisions are being made, rather than months (some say more than a year), after production has taken place. The DCCS funds could be applied effectively to an export financing arrangement that is available to all firms, whether foreign and domestic in order to provide cash when it is most needed.

3.3 THE MOTOR INDUSTRY DEVELOPMENT PROGRAMME (MIDP)

The Motor Industry Development Programme (MIDP) is a system of incentives based on selective import duty reductions, and which provides substantial subsidies to investment and exports in return for the production and sale of motor vehicles in the protected domestic market (Flatters, 2002).

The MIDP differs radically from the previous incentive schemes that it replaced (such as Phase VI of the Local Content Programme), which measured local content on domestically produced vehicles and components by weight and not value, besides anticipating the rationalisation of the number of vehicle models produced in South Africa. Whereas the motor industry was ineligible for subsidies under the General Export Incentive Scheme (GEIS), local manufacturers stood to benefit from an import/export incentive scheme. This involved local manufacturers rebating the cost of imported components against the value of their exports. Import/export complementation was further enhanced under the Motor Industry Development Programme (MIDP), with exporters of vehicles and components earning export credits to offset the import of vehicles and components.

Among the main features of the MIDP were the reduction of tariff protection on Fully Built-up vehicles (FBUs) from an effective 115 per cent in 1994 to 65 per cent in July 1995, 61 per cent in January 1996, and ultimately 40 per cent by 2002. Similarly, duty on completely knocked down (CKD) kits would fall to 49 per cent over the same time span, with the ultimate objective of enhancing international competitiveness. In addition, the MIDP also aimed to reduce the number of locally produced vehicle models from 39 to 15 between 1995-2003, with duty free incentives being use to enhance the sale of high volume models at the expense of low model ones.

The MIDP also allowed a manufacturer of motor vehicles to import R1 of vehicles or components duty free for every R1 of local content exported in the

form of vehicles; similarly, for every R1 worth of components exported, the exporter would be allowed to import R0.75 worth of motor vehicles and R1 of components duty free. Further, a small vehicle incentive was introduced, which involved a duty free allowance in respect of a net ex factory selling price of R40 000, calculated on the basis of ([R40 000-ex factory selling price] x 0.003 x ex factory selling price).

For every R1 of local content FBU exports, the import costs for vehicles after tariffs per R1 of imports free on board (FOB) of local manufacturers in 1996 would be reduced by R0.61. This implies an export incentive (or looking at it differently, an import advantage) of 61 per cent for FBUs. In the same vein, there would be a 35 per cent export incentive applicable in 1996 to components used to offset vehicle imports. The report further adds that, by the year 2002, the incentive to export FBUs and components would have fallen, in accordance with the lowering of tariffs, to 40 per cent and 23 per cent respectively, as compared to an export incentive of 50 per cent of local content under the defunct Phase VI programme.

Other objectives of the MIDP included the facilitation of locally manufactured vehicles and components (MITG, 1994). This was done with the aim of enhancing economies of scale and promoting effective capacity utilisation. The MIDP was also envisaged to develop human resources and productivity, with the ultimate aim of ensuring stable employment in the longer term (MITG, 1994).

Following the Mid-Term Review conducted in 2002, it was agreed that the MIDP would be extended until 2007, albeit with a number of adjustments that have effectively reduced the value of the incentives therein (see Table 20). However, it is anticipated that this reduction in the value of incentives will be offset by the introduction of a Productive Asset Allowance (PAA) that grants import duty credits to the value of 20 per cent of qualifying[9] new capital investments, with the duty relief staggered over a four-year period from the date of investment (Flatters, 2002).

Table 20: The MIDP as amended in the Mid-Term Review

Year	2002	2003	2004	2005	2006	2007
CBU Duty (Light vehicles)	40%	38%	36%	34%	32%	30%
CKD duty	30%	29%	28%	27%	26%	25%
Qualifying value of eligible Export Performance	100%	94%	88%	82%	76%	70%
Components, heavy duty vehicles & tooling exported: CBU light vehicles imported	100:65	100:60	100:60	100:60	100:60	100:60
Qualifying Precious Metal Content in Catalytic Converters	50%	40%	40%	40%	40%	40%
Productive asset allowance	20%	20%	20%	20%	20%	20%

Source: Black (2002)

[9] In order to qualify for the PAA, an investment must result in an increase in the scale of production of a particular product line, and increase production for exports, effectively rendering the PAA conditional to a firm's export performance (Flatters, 2002).

The main elements of the MIDP, therefore, are falling protection and export assistance derived from the ability to offset import duties. While nominal duties on imported vehicles remain moderately high, the ability to rebate import duties by exporting enables importers to bring in vehicles at lower effective rates of duty. Import-export complementation also enables assemblers to use import credits to source components at close to international prices, so declining nominal protection on vehicles has to some extent been offset by reduced protection for components. This means that there is still a significant incentive to assemble locally.

The MIDP endeavours to provide high quality affordable vehicles, provide sustainable employment and through increased production contribute to economic growth (Department of Trade and Industry, 2001). These, of course, are generic objectives, which are important to all sectors. More specifically, the MIDP is a trade facilitating measure with very particular industry policy objectives. Because of protection, the industry structure has historically been very fragmented and the resultant failure to achieve economies of scale has not only made the assembly industry inefficient, but has imposed major negative externalities on the component sector.[10] Therefore, the MIDP seeks to increase the volume and scale of production though a greater level of specialisation in terms of both vehicle models and components. Higher vehicle volumes allow for the attainment of economies of scale for component producers moving them further down their respective cost curves and enabling a higher level of localisation on an economic basis. In turn, this would bring down assembly costs further. The route to achieving this is by encouraging a phased integration into the global automotive industry.

The provisions of the MIDP could promote this process in two ways. Firstly, tariff reductions create greater competitive pressure, which forces industry rationalisation. Secondly, the provisions of the MIDP assist assemblers to enter export markets (thus achieving high volumes in selected vehicles) and to then import a portion of their requirements in order to maintain a full model range in the domestic market.

Essentially what is required is a transition from 'completely knocked down (CKD) assembly', which has typically been characteristic of vehicle production in protected developing country markets, eventually to 'full manufacturing'. 'CKD assembly' involves relatively light investments and production costs are usually quite high especially if a high level of localisation is stipulated. Quality is frequently below international standards and assemblers may well introduce their own adaptations usually with the purpose of extending model life. As a result, in many protected, emerging economy markets, models continue in production long after they have been phased out in advanced countries.

Since the unveiling of the MIDP in 1995, there have been far-reaching changes in the automotive sector. For instance, there has been a surge in the importation of motor vehicles, largely due to the use of duty-free credits

[10] See Black (2001) for more detail on this question.

(Black, 2002). However, the bulk of new firms established to export components do not supply domestic assemblers and it seems therefore that new models would have to rely more heavily on imported components. In the process, a market has developed for export credits. Component firms are able to sell credits for cash or exchange them on a *quid pro quo* basis to get favourable international contracts, or be introduced to international clients.

Similarly, there has been some rationalisation of the sector, with the large volume of output now arising from fewer model platforms, together with cost-cutting measures being implemented by domestic firms. Between 1995 and 2001, the total domestic production of vehicles has risen from 242 000 units in 1995 to 320 000 units at the end of 2001, and in addition, exports have risen more than tenfold, from 9 000 to 115 000. The share of exports in total sector production has further grown from just 4 per cent to 36 per cent, and significant investments by multinational corporations in the sector have been undertaken, or are in the pipeline. For example, during 2001 South Africa exported, R11 billion worth of automobiles with an engine capacity between 1500cc and 3000cc while importing R4 billion worth of these vehicles.

Flatters (2002) also argues that the MIDP has, more significantly, removed the anti-export bias previously inherent in the sector, and in addition provided a significant subsidy to exporters of vehicles and components, with the effective protection on vehicle exporters now in the region of 30 per cent to 40 per cent and for component exporters between 26 per cent and 30 per cent. The present structure of import duties on vehicles and components, together with the MIDP, have also resulted in substantial effective protection on vehicles destined for the domestic market, ranging from 62 per cent to over 100 per cent.

While it is still too early to deliver a verdict on the efficacy of these and other policies impacting on industry that have been introduced by the government, it is safe to say that there have been measures of success, notably among sector specific schemes like the MIDP[11]. Moreover, there has been improved performance, especially in exports, among most, if not all the manufacturing sectors of South African Industry.

The five sectors of the economy that have been identified in this regard include *inter alia*, agriculture (including food production), information and communication technologies (ICTs), cultural industries and export sectors (such as minerals, metals, clothing, textiles, automobiles, agro-processing and chemicals. As has been demonstrated throughout this paper, most of these sectors have been characterised by increased value-added, exports and investment, although this does not imply that sectors falling outside of the identified ones will be neglected, as the intention is to continue the 'sustain and maintain" approach that has thus far been characteristic of the government approach to industrial policy (DTI, 2002)

[11] Some important debates have emerged, for example on whether the success of intervention in the motor industry is viable in the long term.

No major evaluation currently exists of the positive or negative (distorted) effect of these policies in moving resources away from efficient sectors to inefficient sectors. This is however an important area for further research.

4 CONCLUSIONS

There are many determinants that impact on the restructuring of a country's economy, most notably policy shocks. In the case of South Africa, it is difficult to say, with clarity, the extent to which the advent of the democratic government has been responsible for the sectoral changes witnessed in the economy. This is because government policies, in conjunction with changing consumer tastes, historical path dependence, structural constraints etc., influence particular sectoral outcomes. Nevertheless, some observations can be drawn from this study (see also the Appendix). At the more specific sectoral level, growth has been somewhat differentiated, with some sectors recording more robust investment rates and increases in productivity, while others have been characterised by increased exports, and some sectors have been marked by a significant decline in all or some of the above.

Is the painful phase of the restructuring process over? On the face of it, it would seem that a tentative "yes" is the answer. While the trade liberalisation process has gone on for the greater part of the 1990s, it is now accepted that further acceleration of tariff reduction may not have a significant impact on economic growth. GDP growth has been dismal, averaging just under 3 per cent for most of the 1990s, export growth has been more impressive, at over 4 per cent in the latter part of the 1990s, demonstrating resilience in the wake of weaker global economic conditions. The rising export output ratio (close to 14 per cent between 1995-2001), points to an economy that is now permanently geared towards exports (see Appendix for the performance of individual sectors).

Regarding investments, a rather disappointing picture comes into view. For a economy of its size, the flow of investment into South Africa has, at an estimated 17 per cent of GDP, been well below other comparable economies. This has implications for the industrial sector, where investment is crucial for the replacement of capital stock and the increase in productive capacity in order to meet the envisaged increase in aggregate demand for goods and services. Despite the plethora of incentive schemes that are currently in place that are tailored to increase the inflow of investment (see Section 2.6 and Chapter 3), it is worrying that the bulk of these schemes comprise tax breaks, and generally are geared to capital-intensive investment, which may not do little to alleviate the grinding unemployment problem

Indeed, what is of mounting concern is the problem of unemployment, which by all accounts has been on the increase throughout the 1990s, despite modest growth in GDP, a phenomenon termed as "jobless growth". This stems in part from the increasing capital intensity of the economy, especially in *Manufacturing*, which traditionally has been the engine of South Africa's growth[12], and also highlights the fact that there has been a general tendency in most labour-intensive sectors for output to decline, not to mention the increasing skill composition of *Manufacturing* as a whole (Kaplan, 2003). In an attempt to address the issue of skills shortages, Sector Education and

[12] *The Engine Slows*. Financial Mail, April 4 2003

Training Authorities (SETAs) have been established, so as to tackle this problem by encouraging firms to train their labour force, in return for cash-back bonuses and tax breaks (SARB, 2002).

At a more general level, if the impact of government policy on different sectors of the economy were to be seriously evaluated, then due consideration would also have to be paid not only to those that fall within the ambit of, say the Department of Trade and Industry. To what extent has policy in communications, transport or minerals for that matter, either acted as a constraint or an impetus to the growth of the respective sectors in the economy is an important area of future research.

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