



D T I

**DEPARTMENT OF TRADE
AND INDUSTRY**

REPUBLIC OF SOUTH AFRICA

Industrial Policy and Programmes in South Africa

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PREFACE

In 1994 the first democratic elections in South Africa's history were held. South Africa's first black Minister of Trade & Industry, the Honourable Trevor Manuel, was appointed in the same year. Minister Manuel was tasked with ensuring the successful implementation of a key component of the Reconstruction & Development Programme (RDP). The RDP represents a coherent and viable framework through which to address the socio-economic challenges facing South Africa in the 1990s. These challenges were indeed daunting, the economy had experienced three extended periods of recession in 1981-83, 1984-85 and again in the period 1989-93. Living standards had been in long term decline with per capita Gross Domestic Product (GDP) declining throughout most of the 1980s. Inflation had reached double digit rates and was approaching the 20% threshold and unemployment was estimated at 29%. Moreover large portions of the population were living in abject poverty with no access to water, electricity and housing. It was in this context that the Department of Trade & Industry developed its industrial policy for the support of domestic manufacturing.

In November 1995 the DTI presented its first programme of *Support Measures for the Enhancement of the International Competitiveness of South Africa's Industrial Sector* to Nedlac. This report outlined the DTI's vision and policy interventions designed to revitalise the South African economy after decades of tariff protection. Shortly thereafter the Government formulated its macro-economic framework for *Growth, Employment and Redistribution* (GEAR). The GEAR sets out the macro-economic strategic framework within which economic development will be accelerated over the medium term. Consisting of an integrated set of strategies covering all aspects of the economy, its core elements include:

- # budget reform to strengthen the redistributive thrust of expenditure;
- # fiscal deficit restraint to facilitate investment;
- # exchange rate policy to stabilise the real effective rate at competitive levels;
- # consistent monetary policy to counter inflationary pressures;
- # tariff reductions to facilitate industrial restructuring and enhance international competitiveness;
- # incentives to stimulate new investment in small and large manufacturers;
- # an expansionary infrastructure programme; and
- # a commitment to the implementation of stable and coordinated policies.

This report is intended to articulate the DTI's role in ensuring that the objectives of the RDP and GEAR are met, namely, transforming the South African economy into a sustainable, fast growing, internationally competitive, labour-absorbing and export-oriented economy.

INTRODUCTION

The Department of Trade & Industry (DTI) is tasked with ensuring that the broad objectives of the RDP and GEAR, in terms of industrial restructuring, export and investment facilitation, as well as job creation and redistribution, are met. The Department has thus put in place a set of programmes and policies aimed at achieving the three central objectives of the RDP and GEAR:

- " Growth;
- " Employment; and
- " Redistribution.

Many of the programmes and policies designed by the DTI represent a major departure from the policy framework used by the previous government. The previous government was primarily concerned with ensuring that South Africa was self-sufficient for political and strategic reasons. Consequently, domestic industry was protected by high tariff barriers, the exchange rate was allowed to appreciate (thus discouraging manufactured exports) and assistance to industry took the form of demand-side interventions.

As GEAR makes clear, this policy framework is no longer relevant in the global economy of the 1990s. The previous policy framework failed to create a dynamic manufactured goods sector and clearly was not capable of creating sufficient jobs to make a meaningful impact on unemployment. In addition, some of the programmes pursued under this particular brand of policy intervention were not compatible with the rules-based trading environment which is an essential part of today's global economy.

The DTI acknowledged the shortcomings of previous policies and has put in place a set of coherent and integrated policies and programmes which are World Trade Organisation (WTO)-friendly and which will create the kinds of competitive, outward-oriented manufacturing sectors referred to in GEAR. The purpose of this document is to highlight these industrial policies and programmes and the context within which they have been developed.

The first section of the report thus details the economic context within which the DTI operates. This section provides a brief historical overview of economic development in South Africa as well as an analysis of the major trends in the manufacturing sector and its sub-sectors. Section two highlights some of the main characteristics of the manufacturing sector and describes the context in which the industrial strategy pursued by the Department was developed. This section thus also describes the main components of Government's industrial policy. Section three provides a detailed description of each of the policies which form part of South Africa's industrial policy 'menu'. These policies are each justified both in theoretical terms and in terms of international experience regarding their use. Thereafter each policy is discussed in historical terms and a brief analysis of the impact of the policy is provided. Finally, an analysis of the macro-economic environment within which industrial development is to occur is presented in appendix one.

SECTION 1: THE SOUTH AFRICAN ECONOMY

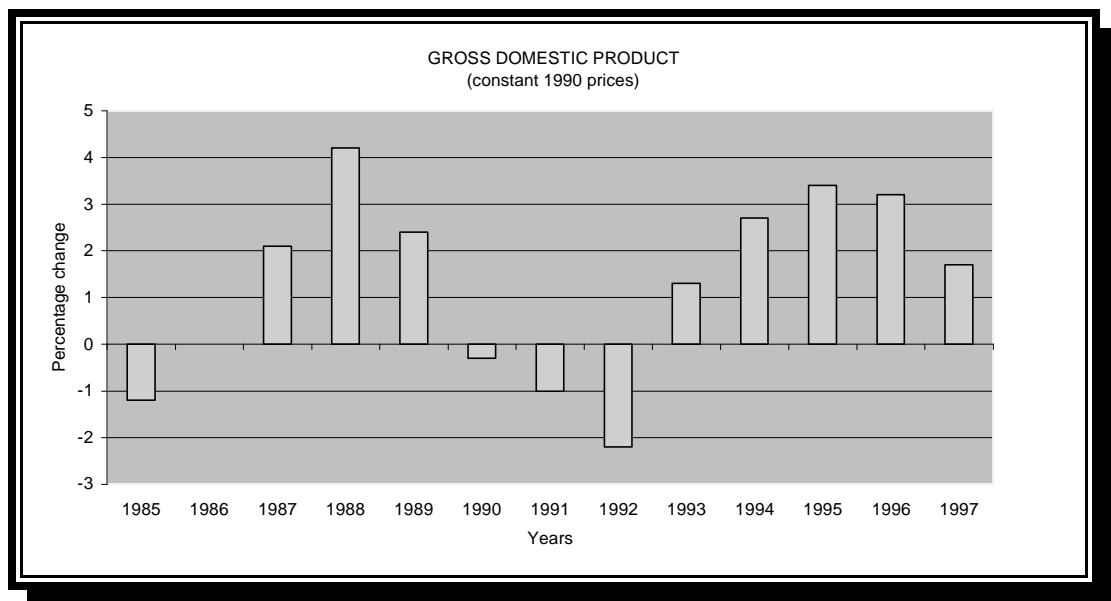
The performance of the economy over the period 1980-97 has been subject to considerable debate in academic and government circles as well as in other stakeholder organisations. The main focus has been the poor performance of the economy in terms of job creation and its overall sluggish performance in the late 1980s and early 1990s. This section of the report first offers a brief analysis of the economy in aggregate terms and then details some of the specific trends developing in the manufacturing sector.

1.1 GENERAL INDICATORS¹

1.1.1 Gross Domestic Product

The South African economy has not performed consistently in recent years. Moreover, even when the economy has grown it has not reached similar rates of growth to those experienced in the 1960s and 1970s. Compared to the growth rates of South Africa's competitors, particularly in East Asia, the economy has performed very poorly for the past 17 years. Only once in this period has the economy grown at more than 6% per annum and this was largely driven by unusually strong gold exports in 1980. Since then the economy has grown on average at a mere 1.3% per annum until 1990. From 1990 to 1993 the performance has been even worse with the economy declining at the average annual rate of 0.5%, though it recovered to an average rate of 3% annual growth over the period 1994-97.

Figure 1: GDP Growth 1985-97



¹South African statistics should be treated with some care, as they may be distorted in a number of important cases. For example, in a developing country the informal sector often contributes a significant quantity to overall GDP and as this sector is difficult to sample, formal statistics in South Africa do not take account of this contribution. Likewise employment statistics may be distorted as the global trend of increased subcontracting and casual employment has appeared in South Africa, although official statistics do not reflect this shift.

As Figure 1 clearly shows the economy performed particularly poorly in the early 1990s as international sanctions ensured South Africa's isolation from international markets and especially international capital markets. This period was characterised by one of the longest recessions in South Africa's history which lasted from March 1989 to May 1993. Since 1993 however, the economy has experienced a period of sustained growth. Although this growth phase has been sustained over the last four and a half years it still does not compare favourably with trends in East Asia. While GDP has annually grown by between 1.7% and 3.4% over the period 1994-97 South Africa's competitors in East Asia such as Indonesia, China, Malaysia, Thailand and Korea have grown by between 7% and 13% annually.

A country's economy may be broken down into its constituent parts in the following manner. The primary sector consists of agriculture, fishing and mining; the secondary sector largely consists of manufacturing; and the tertiary sector is composed of services, including tourism, finance and commerce. In terms of the growth rates of the various sectors of the economy, Fig 2 indicates that the **primary** sector is characterised by increasingly sharp fluctuations in production from year to year. The main cause of these fluctuations is the vastly different climatic conditions prevailing in consecutive years. This is arguably due to the 'El Niño' weather phenomenon. Mining production has been declining steadily and changes in international prices for mineral products have also contributed to the erratic growth rate of the sector.

The **secondary** sector responded positively to the lifting of sanctions in the 1993-94 period. Manufacturing production grew strongly in 1994 and 1995 as both the domestic and export demand was strong. In addition, as the Reconstruction and Development Programme (RDP) gathered momentum, the electricity and water supply sectors also grew strongly. However, the manufacturing sector's growth rate slowed considerably in 1996 partly due to tariff liberalisation as well as weak domestic demand factors. The tariff liberalisation led to increased competition on the domestic market and manufacturers were forced to restructure their production processes in order to increase their competitiveness. Moreover, with the domestic market increasingly contested by international producers, local manufacturers were forced to target export markets in order to maintain sales/turnover. Many SA producers have done so successfully and manufactured exports have increased significantly since 1995.

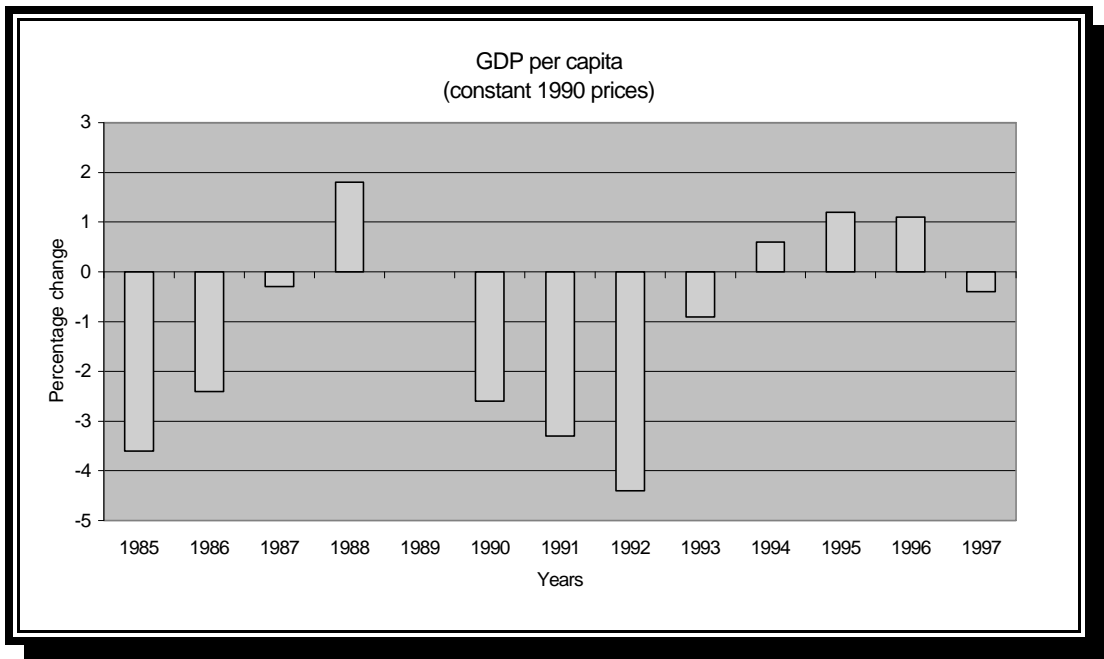
The growth rate of the **tertiary** sector has been much more stable over the last four years. However, a significant proportion of the sector's business is conducted with or dependent on the secondary sector and its growth rate thus tends to coincide with that of the secondary sector, albeit with a lag of approximately one year. Thus the tertiary sector's growth rate declined significantly in 1997 after the manufacturing sector had stagnated in 1996. Trade in services is a relatively new phenomenon in SA and it is likely that trade in services to the Southern African region could become significant if the region experiences sustained growth for a number of years. Furthermore, SA is increasingly seen both as a tourist destination in its own right and as a 'gateway' to tourist attractions in the region. If this sector continues to grow as it has in the recent past a significant boost in the tertiary sector's growth rate can be expected.

1.1.2 GDP Per Capita

In per capita terms the economy's performance has been less than satisfactory. The early 1990s

were characterised by large declines in living standards and the increases achieved since 1994 have been small. In fact, GDP per capita declined by an average of 0.8% over the period 1980-95. Without the realised redistribution in health and education or price changes which favoured the poor over this period, South Africa's highly skewed income distribution would have ensured that those people already living below the 'bread line' become even more impoverished. Although the effect on the *extent* of impoverishment is unclear, the statistics show that the absolute number of people living below the 'bread line' has increased further. Moreover, when GDP per capita has fallen it has done so at a considerably faster rate than when GDP per capita has increased. As Fig 2 shows, of the ten occasions in the last 17 years when GDP per capita has fallen seven of these declines were at rates greater than 2% per annum. Significant changes in South Africa's income distribution between race groups have been noted in the past few years. In particular, redistribution between the 'white' and 'black' groups has been substantial and suggests some initial successes in the affirmative action policies of the private and public sector alike. Moreover, as the economy has been growing relatively strongly over this period income distribution has also been driven by economic growth.

Figure 2: GDP Growth per capita 1985-97



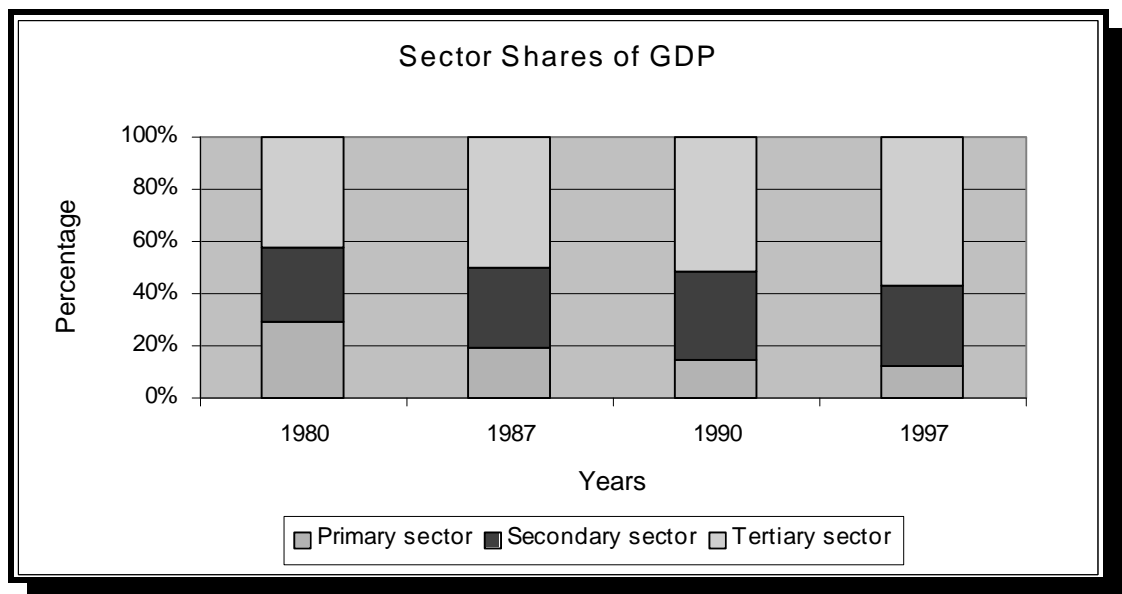
GDP growth outstripped the population growth rate in 1994-96 and thus led to improvements in living standards, signifying a break from the trend after four years of continuous decline in living standards. In 1997 GDP per capita fell again, although this time only marginally.

1.1.3 Structure of GDP

The structure of the domestic economy has undergone considerable change in recent years. The primary sector in particular has declined significantly in terms of its contribution to GDP. As

figure 3 indicates this sector contributed more than 28% of GDP in 1980. In 1997 the sector contributed less than 13%. This is not an unexpected development, empirical evidence suggests that as countries industrialise the importance of the secondary sector, which comprises mainly the manufacturing sector, increases at the expense of the primary sector. However, SA's experience is that the secondary sector's contribution to GDP has remained relatively static over this period, to the extent that it now contributes the same proportion to GDP as it did a decade ago. This is a key issue as it indicates the relative strength of the secondary sector and suggests that deindustrialisation as a result of reduced trade protection has been avoided. Fluctuations in the contribution of the various sectors to GDP have largely been as a result of the varying fortunes of the primary sector.

Figure 3: Structure of the Economy 1980-97



However, the contribution of the tertiary sector has increased considerably in recent years from 52% of GDP in 1990 to 57% in 1997. The strong performance of this sector is largely due to sustained growth in the 'finance, insurance, real estate and business services' sub-category.

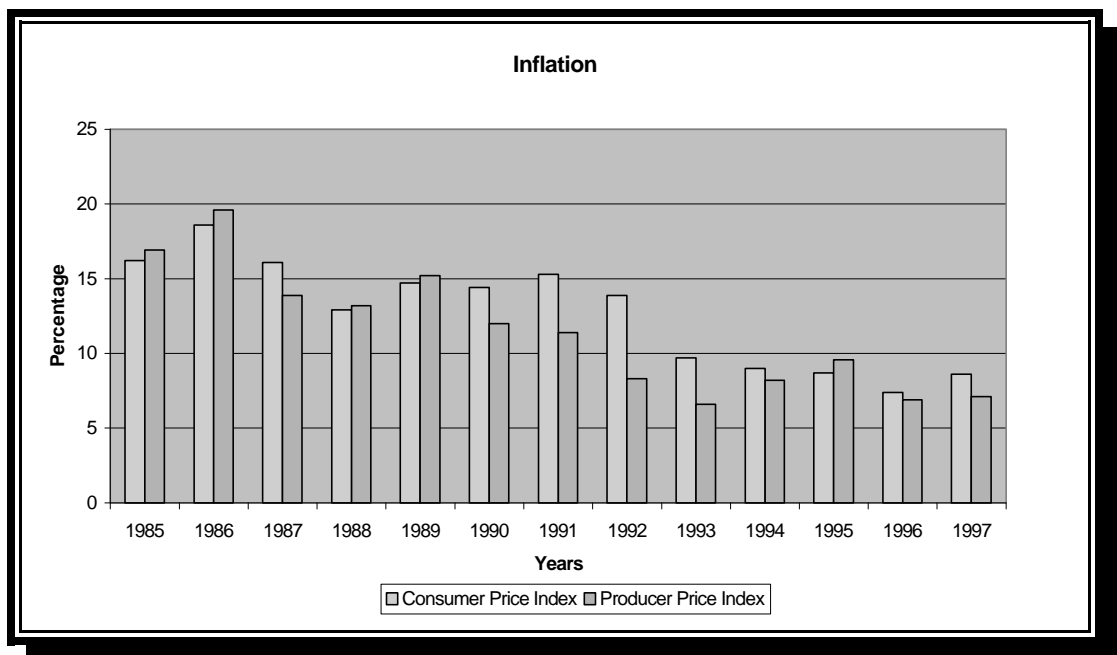
These developments suggest that deep structural changes are occurring in the economy. Qualitative evidence from the DTI's sectoral specialists points to a move towards higher value-added activities in the sub-sectors of manufacturing. This has occurred to a large extent due to the tariff liberalisation which was embarked upon in early 1995.² Although the liberalisation may have contributed to some degree of job losses in 1997 it has also increased the competitiveness of a range of sub-sectors and has laid the foundation for sustainable manufacturing production.

²While tariff liberalisation started in earnest in 1995 trade liberalisation started a number of years before and gathered momentum with the scrapping of import surcharges and the conversion of quantitative restrictions to tariff equivalents. These issues will be dealt with more fully in a later section.

1.1.4 Inflation

After twenty-five years of double digit inflation during which the annual rate peaked in 1986 at 18%, the inflation rate has fallen in recent years. The SARB has utilised a highly restrictive monetary policy in an attempt to reduce the increase in prices. This approach has met with some success: inflation has recently fallen to single digit rates with the forecast rate for 1998 approximately 5%-7%. A contributory factor to the recent reduction in inflation was the relative strength and stability of the exchange rate in 1997. After the substantial devaluation and trade liberalisation experienced in 1996 the rand strengthened against a number of its trading partners and this helped dampen inflation stemming from the imported goods component of the price basket in 1997.

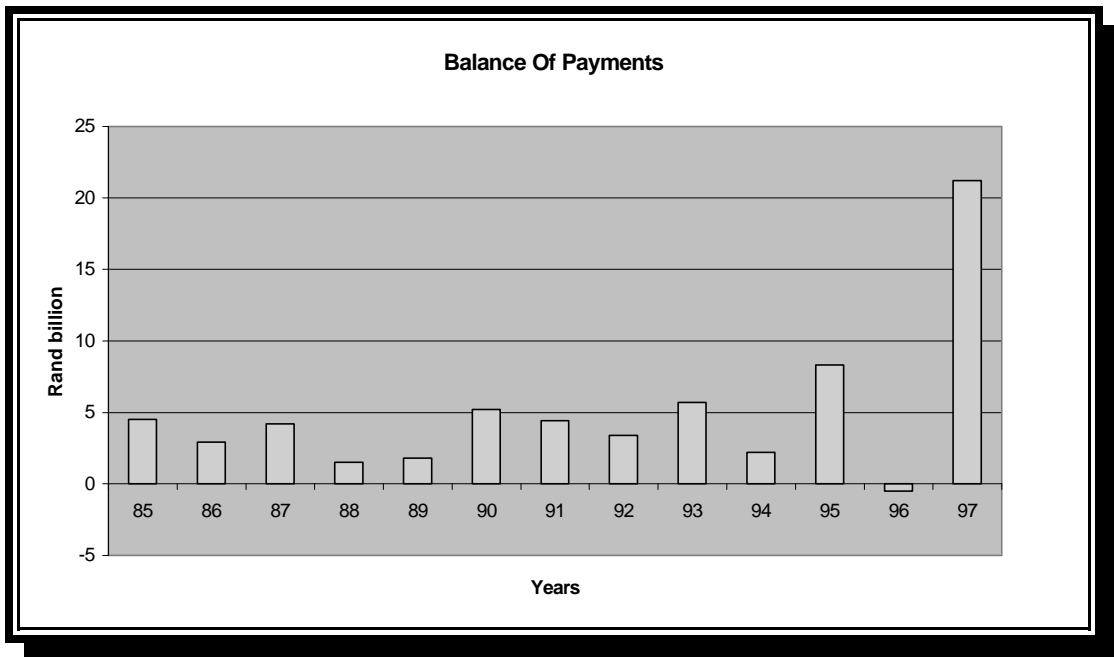
Figure 4: Rates of Inflation 1985-97



1.1.5 Balance of payments

The balance on the current account of the balance of payments was positive in the period 1990-93. However, as the economic recovery gathered momentum in 1993/94 the current account weakened significantly as imports rose considerably. The South African economy is highly dependent on the import of capital and intermediate goods in order to grow and increased imports normally coincides with economic growth in South Africa. It is however noteworthy, that in the 1993-97 period exports of merchandise goods rose considerably thus offsetting part of the balance of payments deficit. Be that as it may, as merchandise imports were higher the trade balance weakened slightly. Moreover, a weaker performance by the manufacturing sector in 1997 also contributed to a softer trade balance (excluding gold trade).

Figure 5: Balance of Payments 1985-97³



The capital account on the other hand increased its surplus considerably in 1997, from R2,7 billion in 1996 to more than R20 billion in 1997. However, these inflows of capital remain relatively unstable and comprise mainly portfolio investment. This form of investment remains less beneficial to the economy than direct fixed investment but does enforce a measure of competitiveness, ensuring that profitability is maintained by listed SA companies. The surplus on the balance of payments also supported the relative stability of the exchange rate in 1997. While the rand devalued slightly against the dollar it appreciated against most other traded currencies. This is of concern to the DTI as it lowers the competitiveness of manufactured exports especially.⁴

1.2 INDUSTRY INDICATORS

The South African manufacturing sector is large and relatively diversified in terms of production. However, the sector is dependent on the importation of intermediate and capital goods and has suffered from a significant anti-export bias in the past. The manufacturing sector was particularly hard hit during the sanctions era, firstly because it was difficult to import essential inputs and secondly because exports were dampened by international sanctions. Since 1993 the sector has grown strongly although its performance weakened slightly in 1997.

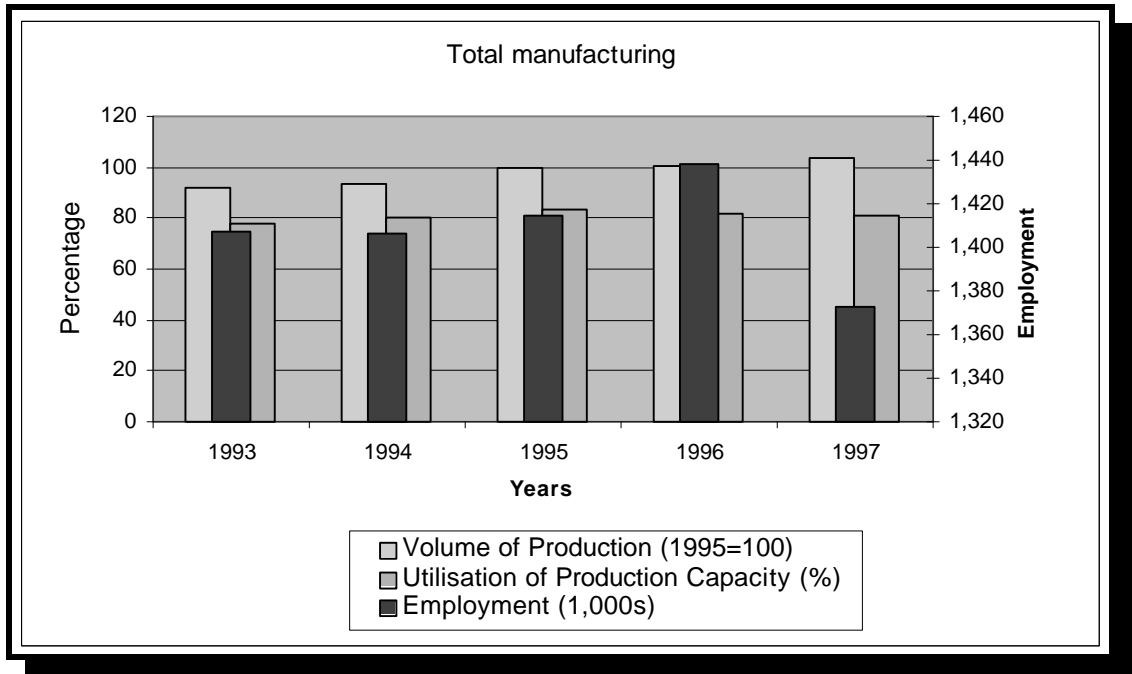
³Figure 5 refers to the 'basic balance' of the balance of payments and is measured in current years.

⁴This issue is discussed more fully in a later section.

1.2.1 Production

The manufacturing sector has now been growing for the last 5 years and although the growth rate weakened slightly in 1996 it maintained its upward momentum in 1997.

Figure 6: Total Manufacturing 1993-97



The increase in production was largely due to continued export demand as domestic demand has been relatively static recently. The sectors which experienced the largest production increases include the:

- C wood and wood products;
- C 'other' chemical products;
- C basic iron & steel;
- C metal products;
- C machinery;
- C electrical machinery; and
- C furniture sub-sectors.

It is particularly encouraging that the machinery and electrical machinery sectors have grown so significantly as these are conventionally thought of as relatively sophisticated manufacturing. In addition it is noteworthy that the metal products and furniture sectors are included as they are both relatively labour intensive sectors.

1.2.2 Employment

Employment in the formal non-agricultural sector of the economy has been in long term decline since 1990.⁵ Between 1990 and 1993 total employment loss amounted to almost 338 000 jobs. In the later period 1994-97 the rate of employment loss slowed considerably and amounted to only 112 000 jobs.

With regard to *manufacturing*, employment declined in most of 1992 and 1993 but picked up strongly towards the end of 1994 before slowing again in 1995. In 1996 employment increased by some 1,7% or some 12 000 jobs.⁶ In 1997 employment again declined significantly as the combined effects of tariff liberalisation, illegal imports and weak domestic demand suppressed employment creation. In recent months employment has begun to pick up and sectors recording substantial employment gains in the last quarter of 1997 include:

Food processing	6 000
Clothing	8 000
Plastic products	1 000
Non-ferrous metal products	2 000
Furniture	2 000

Significant changes in production and employment have occurred in various sub-sectors of manufacturing suggesting that a restructuring and modernisation process has been underway for the last few years. Restructuring has led to the movement of resources between and amongst sub-sectors of manufacturing and the DTI believes that this in part accounts for some employment loss. In addition employment statistics in South Africa are notoriously unreliable and the Department is of the opinion that under-reporting of informal sector activities, increased sub-contracting and the creation of unrecorded new jobs results in employment statistics under-reporting the true employment level in the manufacturing sector.

For a more detailed discussion of the evidence disputing any simplistic causal link between tariff reductions and employment consult the DTI's 1996/7 Annual Report.

1.2.3 Capacity utilisation

Capacity utilisation increased briefly in 1995 before falling back towards the average for the period 1993-95. Capacity utilisation of just over 80% is about average for developed and

⁵Sources used in this section of the paper include the CSS Manufacturing Statistics Releases and the SARB Quarterly Bulletin.

⁶This statistic is somewhat misleading as TBVC states were included in CSS data for the first time. It is not clear how much of this increase derives from this data change.

industrialised countries alike. The main reasons given by manufacturers for under-utilised capacity is lack of demand, although new investment, and thus the increased capacity of the manufacturing sector as a whole since 1994/5, is clearly also a factor. It is interesting that neither lack of skilled labour nor lack of raw material inputs feature significantly as a cause of under-utilised capacity.

1.2.4 Trade

South Africa’s manufactured trade account is cause for cautious satisfaction at present. Although exports increased at a slower rate in 1997 compared to 1996 they remain on an upward trend. It is also significant that exports increased notwithstanding the strengthening of the exchange rate with respect to South Africa’s basket of trading partners exchange rates. Moreover, export performance in the last two months of 1997 was particularly weak and it would appear that events in East Asia had by this time begun to impact on international markets resulting in a weakening trade performance.

Figure 7: Trade 1993-97



Imports increased only marginally in 1997 and this led to a slight improvement in the trade balance. It remains heavily in deficit however and it is clear that considerably better performances will be required by a number of sub-sectors which at present are net users of foreign exchange before the trade balance will show any significant improvement.

The restructuring of tariff protection which started in 1995 has not had the disastrous consequences many commentators were predicting earlier. The de-industrialisation which has accompanied tariff liberalisation in a number of other developing countries has been avoided

mainly because of the careful segmentation and sequencing of this tariff reform. In addition, the devaluation in 1996 offset some of the effects of the tariff reform and contributed to the relative stability of the manufacturing sector. It remains of concern to the Department that significant numbers of employment opportunities have been lost but the DTI is confident that as sub-sectors restructure and begin to find their competitive advantage niches they will begin to create jobs.

Sectors which performed particularly strongly in exports in 1997 include the:

- < beverages;
- < clothing;
- < plastics;
- < 'other' transport; and
- < furniture sub-sectors.

The clothing sector in particular grew exports strongly and it is clear that the industry increased its competitiveness significantly in 1997.

1.2.5 Investment

While domestic investment weakened slightly in 1997, foreign direct investment (FDI) has remained relatively strong. To an extent the FDI total for 1997 is misleading as it includes two very large investments by Malaysia in telecommunications and energy. However significant inflows into the motor, food, beverages and leisure industries were experienced and this pushed total FDI for the year to over R12 billion. The main countries investing in SA at present are the:

- C United States;
- C Malaysia;
- C United Kingdom; and
- C Germany

These four countries account for over 70% of all FDI into SA.

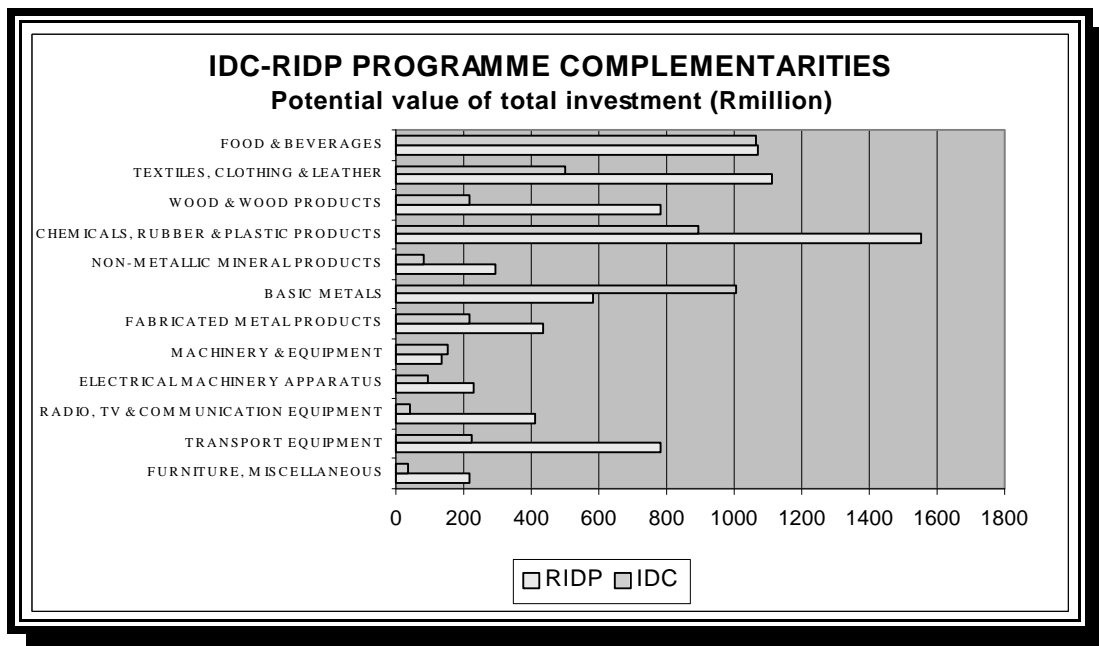
Domestic investment has been strongly driven by a number of mega projects as well as an extremely broad spread of small and medium-sized investment across manufacturing sub-sectors. Moreover, for the first time in many decades Gross Domestic Fixed Investment (GDFI) is being led by the private sector.

Some of the mega projects concluded in recent years are the:

- C Saldanha Steel project - R4,5 billion;
- C Majuba Power Station - R9,5 billion; and
- C Telkom's Vision 2000 project - R30 billion (over a number of years).

Figure 8 highlights IDC and DTI investment facilitation achievements in 1996/97 and demonstrates the complementarities between the two institutions investment promotion priorities.

Figure 8: IDC & RIDP Investment Facilitation 1996/7



SECTION 2: INDUSTRIAL POLICY IN SOUTH AFRICA - THE BASES FOR POLICY AND PROGRAMME DEVELOPMENT

2.1 INTRODUCTION

Section one reviewed the performance of the South African economy in the 1980s and 1990s. As the presented data illustrates, the economy is not performing sufficiently well, notwithstanding the resumption of GDP growth in 1993. This chapter begins by highlighting the importance of the manufacturing sector for economic development. The key arguments are that manufacturing industry has been a critical element of growth in developing countries in three main ways. Firstly, through economies of scale which increase productivity and therefore wealth; secondly, through the positive external effects of manufacturing plants on each other and on the rest of the economy, and through forward and backward linkages in the economy; and, thirdly, through the positive direct and indirect effects of the development of manufacturing on employment creation.

This is followed by an overview of the foundations of industrial policy in a South African context. It examines recent developments in industrial policy and industrial development, and identifies future focal points for industrial policy and programme implementation.

2.2 MANUFACTURING AS THE ENGINE OF GROWTH

Industrialisation is the process whereby the share of value added contributed by the secondary sector expands in relation to the primary sector. In other words, a key stage of economic development involves a structural shift in the economy from a high contribution of agriculture and mining in total output to the position where manufacturing is increasingly responsible for a larger contribution to total output⁷. Furthermore, it is generally accepted that rising incomes are associated with industrialisation although the exact causal mechanism is subject to debate. The importance of the manufacturing sector in an economy's development is contingent on its characteristics as the 'engine of growth'.

2.2.1 Economies of Scale

The manufacturing sector has a number of highly favourable characteristics which make it exceptionally conducive to increasing standards of living in an economy. Perhaps the most important characteristic involves the concept of *dynamically increasing returns to scale*.

Evidence suggests that productivity is higher in the manufacturing sector compared to either the primary or tertiary sectors of the economy. However, more important is the manufacturing sector's effect on total factor productivity. This is the main way that manufacturing growth drives income expansion. Increasing output per worker implies more real output available for

⁷Industrialised countries have subsequently become characterised by a further change in the structure of their economies. This change involved a relative decline in the value added contribution of the manufacturing sector as the tertiary sector increased its contribution to total value added. In most cases the services sector now contributes the largest share of value added.

distribution within the economy. Driving the process of increasing productivity are increasing returns to scale in most parts of manufacturing.

Increasing returns may be static or dynamic. Static returns to scale are associated with the scale or volume of production where increases in the volume of production results in out of proportion increases in production output. This result suggests that a degree of productivity improvement occurs. However, of more importance in terms of productivity growth are dynamic returns to scale.

Dynamic returns to scale occur as a result of induced technological progress and 'learning by doing' effects, spread throughout the manufacturing sector through externalities and linkages. Induced technological progress and 'learning by doing' are byproducts of the physical accumulation of production over time, resulting in enhanced production experience, and of industrial specialisation. In other words, the cumulative effect of manufacturing production encourages technological improvements, and induces continuous reductions in inputs and improvements in quality.

2.2.2 Externalities

The second important characteristic of the manufacturing sector involves externalities. Externalities arise where a producer does not reap all the benefits (or bear the all costs) of his/her investment though private profits. There are two main types of externalities namely, pecuniary and technological.

Technological externalities do not operate through the price mechanism of markets and reflect direct inter-dependence between producers. An example of a technological externality is the free-rider effect which occurs when one producer invests in training its labour force and a second producer does not. If the skilled workers of producer one leave and begin working for producer two, the latter will have benefited from producer one's investment without having had to invest funds in training. In this way producer one has had a direct effect on producer two.

Pecuniary externalities operate through the price mechanism and arise when the profits of one producer are affected by the input and output levels of other producers. Pecuniary externalities arise in a variety of situations. For example, if Producer One experiences increasing returns to scale when it expands production and reduces its price as a consequence, Producer Two may experience an increase in its profits if it is a consumer of producer one's output. Similarly if Producer One expands, it will create increased demand in its input supplier industries which may also experience increasing profits due to economies of scale.

In addition, growth in Producer One may have a technological stimulatory effect on its input suppliers and output consumers which may have beneficial effects in other sectors of the economy. This type of impact is often transmitted through *linkages*. The concept of linkages is used to describe the economy as consisting of a variety of individual producers and consumers inter-linked through their input and output flows. Forward linkages refer to the relationship between a producer and consumers of its products, and backward linkages to the relationship between an industry and its input suppliers. The linkage effect can be measured and provides

grounds for selective investment in industries which reflect high linkages as this will result in a widespread impact on other industrial and non-industrial sectors. Industries such as leather, basic metals and clothing, for example, are conventionally accepted as demonstrating high backward and forward linkages.

2.2.3 Employment Creation

The manufacturing sector is also important in terms of its potential for both direct and indirect employment creation. Direct employment creation occurs as the various industries of the manufacturing sector expand production in order to meet new or increased domestic or export market demand. In recent years this aspect of the manufacturing sector has been subject to much discussion. It has been suggested that the ability of the manufacturing sector to absorb labour has declined. This issue is of less relevance in developing countries than it is in newly industrialised countries (NICs) and industrialised countries (ICs) which already have large manufacturing sectors. Most importantly, indirect employment is created in service industries when the manufacturing sector grows. For example, in industries such as retailing and distribution as well as financial services and banking. Moreover, indirect employment also results when improved living standards lead to changes in leisure preferences, for example increased domestic demand for tourism services.

For the above reasons it is accepted that if a developing country wishes to increase its living standards, the manufacturing sector, amongst other key sectors such as services, should be targeted for development. Be this as it may, despite being a critical component of overall economic growth, the manufacturing sector does not always spontaneously create itself. It is in this context that contemporary industrial policies have a sound rationale.

Over the past two financial years, programmes supported by the DTI and its family members such as the Khula Investment Corporation and the Industrial Development Corporation have led to the creation of over 70 000 new direct jobs in manufacturing, thus meeting our expected contribution to the GEAR target for new jobs per annum.

2.3 HISTORICAL OVERVIEW:

The Evolution of Industrial Policy in South Africa

For reasons which will become clearer as this chapter progresses, it was recognised in the early 1990s that the industrial sector was far below its potential, and that this was a major obstacle to the economic and social development of South Africa. The need for a new approach to industrial development was recognised by the union-based Industrial Strategy Project, the ANC-linked Macroeconomic Research Group, and the Industrial Development Corporation.

All agreed that the industrial sector was stagnating as a result of the strategies of the isolated apartheid state, and that the policies needed major reforms to achieve industrial restructuring and growth. In 1994, National Economic Forum, predecessor to NEDLAC, agreed to a proposal by a respected international consulting company to undertake a set of brief industrial cluster studies. The consultants' report confirmed the earlier studies: South African manufacturing was generally

uncompetitive, with a few exceptions in sectors which processed competitive primary products.

The reasons for poor performance by most of South African manufacturing included:

- # poor productivity of capital and labour due to weak management and undertrained workers;
- # a low level of commitment by industry to human resource development, research and development, and the promotion of best practice;
- # low levels of rivalry due partly to protection from imports and partly to uncompetitive practices;
- # poor supply chain relationships; a very weak small and medium firm sector;
- # excessively high input costs;
- # a lack of sophistication in export marketing;
- # and industry associations focused on milking government rather than providing services to members.

Some examples of deficiencies in manufacturing uncovered during these investigations are indicated in the boxes below.

TEXTILES - 1994

The South African textile sector suffers from three main deficiencies. Firstly, the average age of the technology used by textile manufacturers is significantly higher than the international average. New investment has not occurred partly because the competitive pressure of markets has been blunted by high levels of import protection and oligopolistic tendencies amongst producers. This situation has been exacerbated by the second problem. This is that the industry has been unable to attain a very high level of organisational efficiency both within individual firms and amongst the participants in the pipeline. This has resulted in any new technology not being utilised optimally anyway thus reducing the potential productivity increases flowing from the application of 'leading-edge' technology. Intra-firm organisational inefficiencies result from a lack of information about how to implement efficient organisational practices and the potential benefits which accrue from their use. In addition, power is concentrated at the retail end of the pipeline and a lack of co-operation throughout the value chain has directly prevented the implementation of certain efficiency enhancing mechanisms such as just-in-time or quick response production. Thirdly, the sector has under-invested in human resource development to the extent that almost two thirds of its entire workforce have had practically no training whatsoever. This has occurred because of the nature of the domestic market which has not until recently been highly protected. Textile firms were thus less concerned with quality and overall productivity as they were selling to a captive market, thus reducing the incentive to invest in further training. Moreover the racial demography of the skilled job categories removed any possibility of career progression thus removing the incentive for workers to undergo training. At the highly skilled level the long training periods mitigate against the need for increased training and the potential for 'poaching' suggests individual firms will not reap the full benefit of this type of skills development. (Drawn from Industrial Strategy Project reports and cluster studies.)

STRUCTURAL STEEL - 1996

The structural steel industry suffers from two main problems. Firstly, significant organisational inefficiencies seem to characterise the industry. This conclusion is suggested by a range of international benchmark indicators. For example the industry, when compared to international competitors, has much higher re-working levels, lower quality levels and low ratio of technical staff to basic workshop staff. The latter characteristic suggests very limited potential at the shopfloor level for innovation and incremental technical change. Furthermore the high variance in total cost levels (as a proxy for productivity levels) amongst domestic producers suggests that horizontal information flows are weak leading to the limited diffusion of 'best practice' techniques. This situation is exacerbated by these industries limited international exposure and the concentrated domestic market in which five firms account for 60-70% of the market. Secondly, the industry's total delivery cost to port is high per ton when compared to its international competitors. However the average cost per ton per kilometre compares favourably. From this it may be surmised that the industry suffers from a locational anomaly. Whilst it is located close to the main steel producers it is still required to purchase some 70% of its steel input from steel merchants which adds significantly to total costs. Furthermore locating near the steel plants does not appear to have led to any significant productivity or technical change benefits through vertical information flows. In addition by locating on the highveld production for export has become difficult because of the long distance to the nearest port. In the context of increasing South Africa's export orientation these industries may well find it difficult to penetrate export markets because of this locational disadvantage. (Drawn from cluster study reports.)

ELECTRONICS - 1996

The electronics industry in South Africa is characterised by its overwhelming historical dependence on government procurement contracts and high import protection coupled with international isolation. This has resulted in the industry engaging in production strategies based on 'cost plus' pricing. Furthermore many of the parastatals are themselves not able to map their future demand very accurately which gives rise to situations where demand is relatively uneven with prices especially high during the increased demand period. Unsurprisingly this makes production planning for the industry very difficult and it is suggested leads to significant cost increases. The nature of the industry's relationship with parastatals has led to two basic deficiencies. Firstly, the industry has failed to invest sufficiently in human resource development especially at the engineer level. This is indicated by the fact that the industry spends some four times less on training than the top 10% of its international competitors. Labour shortages are uneven with certain categories in extremely short supply and the long time taken to train an engineer to optimal productivity clearly makes this an unattractive option. This is partly a reflection of the uncertainty which exists in the industry as the firm-parastatal relationship evolves. Secondly, the industry is relatively small in international terms and imports significant quantities of basic inputs. Its small size and thus low buying power has resulted in the industry being forced to purchase its imports through local distributors. These distributors increase costs directly through their profit margin and through supply and quality inefficiencies. The co-operative purchasing of inputs to force bulk discounts seems to have limited possibilities for success. (Drawn from the Industrial Strategy Project reports and cluster study reports.)

The broad contours of an appropriate policy were reasonably evident, even before the new government came to power. It needed to:

- # encourage training of management and workers;
- # encourage the commitment of industrialists to human resource development, research and development and the application of best practices;
- # increase rivalry and lower costs through new investment, strengthened competition policy, and tariff reform;
- # support the emergence of small, micro, and medium firms in the manufacturing and service sectors;
- # strengthen supply chain relationships;
- # support new export initiatives;
- # and turn industry associations from the trough towards assisting members towards competitiveness by providing value-adding services.

Not everything could be done at once. The capabilities of government were limited, and reform had to proceed from one area to another in a reasonably orderly and systematic way. In spite of these limitations, however, a huge range of industrial policy and programme reform has already been undertaken. Every single programme has been reviewed and/or restructured since 1994. This includes tariffs, export support programmes, small business programmes, investment support programmes including those of the Industrial Development Corporation (IDC), technology support programmes including those of the Council for Scientific and Industrial Research (CSIR), as well as the introduction of a series of new programmes under the broad heading 'strategic and informational leadership' programmes. Several new agencies have been established, such as Ntsika Enterprise Promotion Agency, Khula Finance Corporation, Investment South Africa (ISA), and the South African National Accreditation System (SANAS), not to mention Spatial Development Initiatives, Industrial Development Zones and the forthcoming National Empowerment Fund (NEF).

For some industries particularly sensitive to restructuring and international competition, special restructuring programmes had to be developed. Important examples were clothing and textiles, the motor industry, liquid fuels and petrochemicals, and the footwear industry. Many industries, including those described in the boxes above, have already made significant advances towards positive restructuring.

As important as programme development, was the development of relationships and systems that would facilitate higher levels of coordination both within the DTI, and between the DTI and its 'family members'. This included restructuring within the DTI and the introduction of project management as a key tool to cut across previously impenetrable bureaucratic boundaries. New appointments were made to the governing boards of key organisations such as the IDC, the CSIR, and the South African Bureau of Standards (SABS), which enabled these organisations to select excellent new leaders, to align their programmes with new government priorities, and make their own original contributions to the development and implementation of our new industrial policies and programmes. Key examples are the IDC's Global Player Programme and the CSIR's contribution to the Manufacturing Advisory Centre programme -- for small businesses -- of the DTI.

Some reforms are completed, but for a few, a lot more work lies ahead. Some of those still in the earlier stages include:

- # competition policy and corporate governance;
- # consumer protection;
- # environmentally-oriented industrial development;
- # and the economic empowerment of previously disadvantaged communities and individuals.

But, as is detailed in Section 3, a great deal of our industrial programme has already been put in place, and the biggest challenge today is not policy and programme development, but effective implementation.

SECTION 3: INDUSTRIAL POLICIES AND PROGRAMMES

This section of the report discusses South Africa's framework of industrial policies and highlights their impact on the manufacturing sector. While a number of key policies such as exchange rate, monetary and labour market policy are outside of the DTI's direct policy making framework the Department strives to impact on these policies through a variety of mechanisms. These include information sharing agreements with those government institutions responsible for administering these policies as well as DTI involvement in an array of fora where these issues are raised. The DTI's continued participation will lead to increased policy co-ordination amongst government departments.

This is a critically important aspect of the Department's business as a lack of policy co-ordination between policymaking institutions can easily lead to the effect of one policy being undermined by the implementation of another. Notwithstanding the above, the DTI is responsible for administering five key pillars of policy intervention designed to accelerate manufacturing development. These include:

- # investment support;
- # trade facilitation;
- # technology promotion & innovation support;
- # strategic & informational leadership; and
- # contributing to human resources development.

This section of the report thus highlights the key industrial policies and discusses each policy's importance to the manufacturing sector, in some cases, firstly in theoretical and historical terms, and finally in contemporary terms in South Africa. The section begins by discussing the investment promotion functions of the DTI.

3.1 INVESTMENT FACILITATION

Direct investment is essential to grow the South African economy and its facilitation is a crucial part of the work of the DTI. This section reviews the approach of the Department to investment facilitation within Government's overall strategy for industry. The new approach to investment and incentives to promote investment has developed out of South Africa's unique industrial structure which is biased towards large-scale, capital-intensive, natural resource-based industrial production. The RDP takes account of this and suggests a move towards more labour intensive investment in order to encourage job creation. Moreover, the RDP and GEAR also highlight the issue of policy co-ordination so as to optimise the economic returns of investment. This includes ensuring that investment facilitation policies are designed to attract the quantity and quality of investment required by the economy.

This section of the report reviews the performance of Government's previous investment policy and describes key aspects to DTI's new approach to investment facilitation.

Key amongst these, is the issue of increased policy co-ordination amongst and between DTI and its 'family' of institutions; incentives for investment in small business; economic empowerment

of historically disadvantaged individuals and communities; and promotional programmes.

Informed by the sectoral and cluster studies, the DTI embarked on systematic and thorough set of reforms of investment programmes and institutions. Major reviews included:

- < a general review of investment promotion in South Africa which led to the establishment of Investment South Africa as a marketing instrument, and informed future policy development;
- < a comprehensive review of the Regional Industrial Development Programme which led to the end of the RIDP in its previous form and the establishment of a tax holiday programme and a small and medium manufacturing development programme; and
- < a review of the programmes of the IDC followed by the agreement on a new government mandate to the IDC board emphasising industrial entrepreneurs and midi-projects rather than mega- projects.

In addition to putting in place and restructuring an array of investment measures, the Department has also prioritised the issue of policy co-ordination amongst its 'family' of institutions. To this end, the DTI has articulated its industrial policy, to especially the IDC, so that the sophistication of policy co-ordination amongst the investment facilitation institutions is greatly improved. Thus it now happens that investment encouraged by, for example, the IDC meets Government's objectives in terms of industrial development and furthermore results in high level co-operation in the design of investment programmes to underpin crucial aspects of DTI's industrial policy. For example, as a result of DTI-IDC co-ordination the effect of the tariff phase-down on the sensitive clothing, textiles and auto sectors was softened through the provision of preferential finance to firms in these sectors in order to assist them to recapitalise their operations and become internationally competitive. In addition, the Department is working with the IDC to ensure that new 'emerging' entrepreneurs are assisted.

Furthermore, the DTI is involved in the **Cabinet Investment Cluster**. This is a special cabinet committee of ministers responsible for encouraging both private sector investments and public infrastructure investment. It is intended to maximise the complementarities between public investments, and between public and private investments, and to target key growth potential areas. The CIC plays an important complementary role to the SDI strategy.

Coordination around investment promotion occurs through the board of Investment South Africa which includes representatives of all the provinces and of the private sector, as well as key government and parastatal organisations. In addition, the DTI has an investment promotion coordination function which assembles projects and organises investment missions.

3.1.1 HISTORICAL OVERVIEW

3.1.1.1 Background to programmes with spatial dimensions: Regional Industrial Development Programmes (RIDP)⁸

The Tax Holiday Scheme that was jointly introduced by the Department of Trade and Industry (DTI) and the Department of Finance replaced the Regional Industrial Development Programmes (RIDPs). The RIDPs were based on political rather than economic fundamentals and comprised a key component of apartheid policy. The first RIDP, which lasted from 1960 to 1982, was seen as one way of developing 'sub-economies' so as to reduce the migration of blacks to the cities. This RIDP however did little to create jobs or develop industrial linkages between 'homelands' and metropolitan centres.

The RIDP programme was significantly expanded in 1982 with the growth centre approach being central to this programme. Nearly 60 locations were identified, most were called Industrial Development Points (IDPs) which were inside 'homeland' boundaries. Eight of the places were identified as deconcentration points that were situated on the edges of the PWV region and the Durban-Pine Town-Pietermaritzburg area within, or close to, homeland borders.

The cost of the RIDPs would become its major weakness, outside of the limited success of these programmes. The costs of the incentives are estimated to have been nearly R1 billion a year by 1991. The incentives in the 1982 RIDPs were considerably more than in the first RIDP and included:

- # a labour cost subsidy;
- # interest and rental subsidies;
- # relocation reimbursement; and
- # a productivity improvement scheme.

Long term incentives consisted of transport, electricity, training, and housing subsidies.

Criticisms of the RIDP programme were based on criticisms of the growth centre theory informing the programmes, the over-generous incentives, and the apparent inability of most of the declared locations to achieve self-sustaining industrial development.

The 1982, Third Schedule RIDP was phased out at a very high cost. The new Fourth Schedule RIDP launched in May 1991 limited the amount granted to R100 million per year up to a maximum of R500 million in the fifth year. The RIDP provided a tax free, start-up cash grant payable over two years, for investment of up to R15 million and equal to 10% of the investment in each year. They also granted a relocation fee of up to R1 million for foreign investment projects. Further awards were linked to the project's performance after the start-up period. The new RIDP

⁸In some cases the assistance programme involves both spatial and sectoral aspects. This overlap will be highlighted where appropriate.

was different because it applied fully to all parts of the country with the exception of parts of the PWV, Durban, Cape Town area, and Pietermaritzburg which had reduced access to the incentives.

In 1993 a Simplified RIDP (SRIDP) was implemented because of the claim that small manufacturers could not take full advantage of the programme. The SRIDP had a smaller tax-free establishment grant over 2 years worth 10.5% of assets up to a maximum of R2.5 million, a three year tax free profit/output incentive worth 25% of profit before tax and a foreign relocation allowance.

The SRIDP was different from the other RIDPs because it gave incentives to invest almost anywhere except the PWV and Durban “core”. In 1996 a steering committee of NEDLAC was tasked with evaluating the 1991 RIDP and the 1993 SRIDP. They found that both were of limited success in terms of meeting their objectives of concentrated industrial and self-sustaining development. In terms of investment these RIDPs seemed to favour the extension of existing local projects (many of which arguably may have happened without the RIDPs). The creation of new projects, new foreign investment, and employment creation was limited. The report also found that these programmes had little effect on process technology upgrading, skills enhancement, promoting foreign investment, fostering new entrepreneurship or on improving labour relations. Most of the projects approved under the RIDP and the SRIDP were in metropolitan areas with few occurring in small towns or former homelands. The findings of the evaluation of the 1991 RIDP and the 1993 SRIDP helped in identifying the 53 locations that would qualify for the Tax Holiday Scheme and aided in the design of the Small and Medium Manufacturing Development Programme.

3.1.2 CURRENT INVESTMENT POLICIES

The DTI's powerful new set of direct investment promotion programmes consists of the Tax Holiday Scheme, Spatial Development Initiatives, and Industrial Development Zones. In its spatial approach, the Department is concerned with regional development. The aim of these types of programmes is not only to develop industries in specific locations for economically strategic reasons, such as the development of industrial clusters around specific resources or to tap the potential of currently under/undeveloped areas, there is also a strong redistributive component. However, the targeting whether at a sectoral or spatial level forms an important component of the strategy to move away from ISI to an outward oriented manufacturing sector, increased regional co-operation and a more diversified ownership base. Moreover, there are agglomeration economies within specific locations that are advantageous for manufacturing competitiveness and these advantages have to be drawn upon, and where possible, duplicated.

3.1.2.1 Tax Holiday Scheme (THS)

The THS replaced the RIDP in October 1996. The scheme is administered by the DTI and is available to local and foreign firms that invest in plant and machinery exceeding R3 million. The scheme consists of 3 elements which provide potential industrialists with 2 year tax holidays for each component complied with: spatial location, human resource remuneration as a proportion of value added, and industry type. There is also a foreign investment grant to companies that bring in new industrial equipment. This scheme aims to encourage labour intensive investment in priority manufacturing sectors, and production in specific regions.

3.1.2.2 Spatial Development Initiatives (SDIs)

The SDIs are different to the RIDPs in that they are aimed at generating long term, internationally competitive growth and development, and at restructuring the apartheid space economy. The SDI programme is a joint investment strategy led by the Department of Trade and Industry and the Department of Transport consisting of a number of SDIs.

Spatial Development Initiatives or SDI's were introduced by the DTI in 1996. SDI's are a particular vehicle of government intervention with the objective of 'crowding in' private sector investment in specific regions. They are based on two theoretical concepts which have relatively long histories in development literature. SDI's are, firstly, based on the notion of regional agglomeration which refers to the tendency for industries to be concentrated in relatively confined geographical areas. This occurs because any particular industry is dependent on a range of other industries, associated institutions and service providers for its continued success. Secondly, SDI's are theoretically consistent with development literature which stresses the necessity for government to contribute to the basic infrastructure, such as roads, water and electricity, in order for private investors to invest in profitable industrial concerns.

SDI's and the regional aspect of the MDP involve a radical departure from the previous government's regional industrial policy. The previous regional industrial development policy was

designed to enforce apartheid's racial policies. The objective was thus to provide employment in the 'homelands' to prevent black South Africans from seeking work in the 'white' metropolitan areas. The incentives offered included wage subsidies but were on the whole characterised by the near complete absence of a long term development strategy based on industrial development fundamentals. In addition the previous government actively undermined industrialisation in neighbouring countries through amongst others its defence policy. This has resulted in underdevelopment not only in regions of SA but also in countries such as Mozambique.

The SDI's attempt to undo these flawed regional policies by identifying projects in regions which demonstrate relative underdevelopment as a result of previous government's policies. However this is not the only criteria and SDI projects are only initiated if the region demonstrates inherent un/under-utilised economic potential. Moreover as projects are required to generate long term internationally competitive production they have tended to be located near air or sea ports.

SDI's have a number of important operational aspects:

Firstly, they leverage private investment funds by packaging industrial projects and introducing these to potential investors. Secondly, they install and/or upgrade physical infrastructure through public sector institutions including parastatals. Thirdly, each SDI is designed around at least one key anchor project funded by the IDC. Fourthly, regulatory mechanisms and supply side interventions to support the establishment of Industrial Development Zones (IDZ) have been put in place.⁹

Five main types of SDI's have been developed up to now:

- C Regional industrial e.g. Southern KwaZulu Natal from Richards Bay to Durban/Pietermaritzburg;
- C Agro-tourism e.g. the Wild Coast and the Lubombo initiatives;
- C Hybrid of industrial and agro-tourism e.g. the Maputo Development Corridor; the West Coast Initiative and the Platinum corridor from Pretoria to Rustenberg;
- C Metropolitan Corridors e.g. the Cape Town corridor from Phillipi to Wynberg
- C Focused industrial development areas-Industrial Development Zones (IDZ's) and local industrial parks LIP's e.g. West Bank of East London and Coega.

At present 383 projects are at various stages of consideration for involvement in SDI's. These projects involve total potential investment of more than R67 billion and would create more than 63 000 jobs in some of the least developed parts of South and Southern Africa.

⁹IDZ's are discussed in more detail in a later section.

THE MAPUTO DEVELOPMENT CORRIDOR

The Maputo Corridor Development was the first SDI initiated in 1996. The objective of the project was to rehabilitate the core infrastructure in the corridor i.e. the road, rail, port and border posts through public/private partnership. The initiative is important to both countries in terms of SA and Mozambique's reconstruction and development programme. Furthermore, the project has been seen as a catalyst to regional integration.

This SDI includes infrastructural development in the form of the construction of a toll road between Maputo and Witbank which has been concessioned for 30 years to a private consortium. This investment is valued at \$400m and construction started in February 1998. In addition the rehabilitation of the port of Maputo and the railway network is under consideration with bids currently being evaluated. With regard to the Ressano Garcia/Komatipoort border post, a bilateral agreement has been reached to develop a single facility border post and construction is planned to take place over three years.

It is expected that the infrastructure rehabilitation will catalyse investors into investing in both the inherent potential of the region as well as in opportunities which will present themselves as a direct result of the infrastructural rehabilitation itself. A number of projects have already been identified. These include the Mozal Aluminium smelter plant which is valued at \$1.3bn, phosphate rock expansion valued at US\$150m, iron reduction and iron slab plants and petro-chemical projects which will increase the range of upstream and downstream opportunities.

To ensure that the developmental impact of these investments is maximised, all concessions or contracts involving the state allow for participation by 'emerging' contractors. Furthermore there are targeted interventions to support SMME's and this includes proposals to establish a regional equity fund to assist 'emerging' small businesses. To ensure sustainability, all projects are developed within a framework of participatory and integrated environmental management.

3.1.2.3 Industrial Development Zones

Industrial Development Zones (IDZ) will provide a further mechanism to facilitate investment in complex manufacturing. They are designed to attract FDI for export oriented manufacturing production and will be located within designated SDI regions so as to maximise the natural linkages between these two programmes. At the present time, IDZs are being discussed by stakeholders within Nedlac and it is envisaged that agreement will be reached in the near future. In the interim IDZs remain one of the DTI's programmes 'under development'.

The justification for IDZs is based on two considerations. In the first instance, industrial concentration as discussed in the SDI section is increasingly important in the global economic environment of the 1990s. In addition IDZs are supported by recent developments in the many countries throughout the world where it is becoming increasingly difficult to attract manufacturing FDI without offering foreign investors further incentives. The DTI acknowledges that it is essential to encourage FDI flows into SA to boost growth, employment, exports and increase competitiveness. However, the Department is wary of conventional export processing zones

(EPZ) where fiscal incentives are offered, labour rights are repressed and environmental standards are loosened. The Department has investigated these types of EPZ's and is of the opinion that in many cases foreign investors have indicated that these types of incentives are not significant in influencing their locational decisions. Furthermore, the DTI believes that these types of EPZs would be fiscally unsustainable, undermine industrial development in other parts of the country, and discourage manufacturers from entering global markets where competitive advantage derives from the level of skill of the workforce and not merely its cost.

The DTI's approach to IDZs thus commits SA to a very different form of locationally concentrated development than that encompassed in EPZs. To begin with the Department will not allow the relaxing of labour conditions in IDZs. All labour legislation will apply fully in IDZs. Furthermore the Department will not be offering any further fiscal incentives to foreign investors wishing to locate in IDZs. The incentives offered by the DTI in terms of the MDP and all other incentives will however be equally accessible to these firms.

The incentives the Department will offer are targeted at those areas identified as critical to foreign investors. These include the:

- < **Institutional framework** - A dedicated national IDZ authority will be established to oversee the development of these zones. The responsibility of this body will be to develop appropriate policy, set national investor guidelines and determine the designation of new zones. The development of the zone will be the responsibility of an IDZ development company/ corporation, responsible for all aspects of project development and ongoing IDZ management. This may take the form of a joint public / private investment venture.
- < **Administrative support** - A dedicated IDZ administrative unit will be based in each of the zones and will include a 'one-stop' regulatory and approval service, including fast and predictable investment approval procedures, a dedicated customs service providing single window clearance, and marketing and information centres.
- < **Advanced labour relations** - South Africa's legacy of inward led industrialisation, job reservation and other apartheid policies also contributed to the systematic exclusion and under-development of the country's human resources. IDZs will have a specific strategic human resource component, aimed at facilitating advanced labour relations and developing human resource capacity. These could be based in the IDZ administrative unit and should include advanced dispute resolution facilities (CCMA), strategic human resource development capacity including a formal framework for skills development agreed between the Department of Labour and DTI, the creation of a training fund and the provision of training facilities and recruitment services
- < **Incentive structure** - The incentive structure that will be offered to investors essentially contains no additional items to those offered under existing policy and incentive schemes. The incentive structure thus involves the 'packaging' of existing incentives and support measures, to enable these measures to more adequately support the IDZ objectives. These include the MDP (6 year tax holiday and accelerated depreciation

allowance), rebate item 470.03 of the Customs and Excise Act, exemption of VAT on inputs of IDZ companies sourced from the domestic economy and for export processing purposes, exemption from property and local taxes within the IDZ, automatic and unrestricted access to duty free inputs (rebate item 360.01) as well as other export incentives (EMIA, Short term Export Finance Guarantees, Export Credit Guarantees, and bilateral and multilateral market access arrangements.

- < **Regulatory mechanisms** - International trends indicate that investors are seeking highly productive and efficient productive platforms rather than un-regulated environments, particularly in higher value added manufacturing activity. There will therefore be no relaxation on any regulatory mechanisms applicable to these zones.
- < **Physical zone qualities** - World class infrastructure and utilities will be provided in the Zone including bulk sewerage reticulation and waste water treatment, bulk water supply, industrial buildings and warehouses, stormwater management, port (sea or air) handling facilities, advanced transport infrastructure, bulk electricity supply and communication services.
- < **Location** - IDZs will be located in close proximity to a port or airport, providing excellent infrastructure and transport linkages.

Through the use of these measures the DTI expects to be able to attract significant FDI for complex manufacturing production for export. IDZ legislation will be submitted to Cabinet and Parliament later this year.

Past investment policies encouraged capital intensive investments. This was partly a consequence of the negative real interests rates which prevailed in South Africa at various times in the last two decades and specific political objectives which saw Government investing significantly in strategic industries such as Sasol and Mossgas. The DTI current investment policy acknowledges that previous investment policies did little to encourage labour absorbing industries and attempts to rectify this situation.

Jobs Scheme

This scheme is administered by the IDC and provides preferential finance for investments where the total cost per new job is less than R100 000.

Multi-shift Scheme

This scheme, also administered by the IDC, has twin objectives. Firstly, it serves to encourage manufacturers to utilise their capital more effectively by increasing production times, and secondly, it encourages job creation through the operation of more than one shift which also reduces the need for overtime.

Orchards Scheme

The IDCs Orchards Scheme is designed to encourage the expansion of orchards and vineyards in rural areas where other job creation possibilities are limited.

DTI's sectoral investment policy is based upon its industrial policy objectives. Thus priority industries have been identified and the tax holiday scheme designed to encourage this by offering a two year tax holiday for investments in these industries.

DTI and IDC have in recent years developed their policies in much closer partnership than before. To this end it is noteworthy that in terms of investments both institutions are increasingly focussed on labour intensive and advanced manufacturing industries. To an extent the IDC remains more focussed on upstream investments while DTI programmes focus on downstream investments but even this is changing as IDC simultaneously re-focusses its energies and collective resources on labour intensive and SME enterprises without neglecting upstream projects.

3.1.2.4 World Player Scheme

This was an IDC scheme designed to assist firms in industrial sectors undergoing extensive tariff reductions. It allowed for low interest loans to enable firms to upgrade their equipment to meet new levels of international competition.

3.1.2.5 Small Business Investment Programmes

These are covered in more detail in the section on small business programmes. To emphasize the importance of small business investment we have cross-referenced several key programmes below.

Small/Medium Manufacturing Development Programme (SMMDP)

This DTI programme is available to local and foreign firms investing up to R3 million in land; buildings, plant and equipment to encourage small and medium-sized manufacturing and to facilitate increased employment creation. This incentive package provides for:

- < an establishment grant payable for 3 years worth 10.5% of qualifying assets;
- < profit/output incentive, calculated at 25% of profit before tax, payable for an additional year;
- < an additional 2 years profit/output incentive provided the industrialist can meet or exceed the human resource remuneration to value added ratio of 55% measured in the fourth financial year;
- < a foreign investment grant to overseas companies investing in new machinery and equipment to establish new projects in RSA.

Venture Capital Scheme

This is an IDC scheme available to small and medium sized industrialists to stimulate the development of various products or the establishment of new ventures for products with good growth potential.

Standard Credit Guarantee Scheme

This scheme is available from Khula Enterprise Finance Limited (Khula) to increase the access SMMEs have to finance from banks. It is available to independently owned SMMEs with assets worth less than R2 million that meet the banks normal lending criteria, for establishing, expanding or acquiring a new or existing business.

Emerging Entrepreneur Scheme

This Scheme, available from Khula, is available to independently owned SMMEs with assets worth less than R2 million that meet the banks normal lending criteria, for establishing, expanding or acquiring a new or existing business.

Business Loans for Retail Financial Intermediaries (RFIs)

This Scheme is available to RFIs who meet Khula's development and institutional criteria. The aim of the scheme is to provide business loans to RFIs with funding for or lending to SMMEs.

Seed loans for RFIs

This scheme by Khula is to provide initial capital to new organisations to initiate their portfolio; and to fund operational expenses over a predetermined period.

Capacity Building Support for RFIs

The aim of this programme, by Khula, to provide capacity-building support to new RFIs to initiate a loan portfolio for existing RFIs to expand their loan portfolios.

In addition the Department has also been party to the design of more generic investment promotion activities. These include:

Accelerated Depreciation

This programme, that provides for the depreciation of plant and machinery over 3 years and land and building over 10 years, is offered by the South African Revenue Services to local and foreign firms establishing new manufacturing plants or expanding existing plants.

Normal Finance

This is finance available from the IDC available to small and medium sized industrialists to assist them in the growth phase of their development.

Import Finance

This finance is available from the IDC to small and medium sized industrialists. Credit and

guarantee facilities to local industrialists for importing capital goods and services.

Standard Leased Factory Building Scheme

This programme is managed by the IDC for small and medium sized industrialists to allow them to use capital more productively, increase their borrowing powers and their cash flow by making general purpose factory buildings available for lease.

Life Scheme

This scheme is administered by the IDC for the promotion of exports. The scheme provides low interest finance to industrialists with assets of more than R1 million for financing projects where 30% or more of their output will be exported.

Finance for Export of Capital Goods and Service

This IDC administered scheme promotes the export of capital goods by South African firms by facilitating extended repayment terms at world market related interest rates denominated in US Dollars. This scheme enables capital goods exporters to offer competitive terms to foreign purchasers.

3.1.3 INVESTMENT PROMOTION

Investment South Africa is an agency of the DTI that plays a role in marketing investment projects to potential investors. ISA has an online investor database, knowledge of incentives, and a qualified team of people to help potential investors through the regulatory and legislative requirements of investing in South Africa. ISA also maintains communication with provincial development agencies. The provincial development agencies have been set up by the provincial governments to promote the economic development of their provinces. These agencies have emphasised the attraction of investment as a key strategy in provincial economic development. They play a key role in developing the skills and institutional infrastructure that services industrialisation. However, there is still a lack of skills and many programmes that have a spatial component, like the Tax Holiday Scheme, the cluster studies, and the SDIs are done nationally but with full involvement from the provinces.

CONCLUSION

Recent economic theories on manufacturing growth and trade argue that, to a significant extent, success is endogenous. It is possible that an initial disadvantage can give rise to a long-lasting low-level equilibrium trap, while an initial success can generate its own further successes. Much of this argument is based on the recognition that there are economies of scale that lie outside of the firm that lowers the cost to firms, e.g. the growth of one firm can lower the costs for inputs to another firm. This argument draws on experiences of agglomeration economies in terms of infrastructure, skills and knowledge formation. There is also the recognition that with many products transport costs and vicinity from inputs and markets does affect competitiveness.

The argument goes that the different advantages can lead to falling manufacturing costs, rising returns to knowledge and a growing market. This favourable development for manufacturing in one location serves as a disadvantage to and decreases the viability of other locations. Therefore, countries that start off from a disadvantaged position and wish to compete in world markets have to out-compete established industries in developed markets.

The advantage that South African industrial strategy holds is that there are a range of supply side measures accompanying trade reform. In other words, there is measurable success already because of the wide acceptance of the huge turn-around in industrial strategy. These developments on their own may attract investment as they show investors there is a clear, broadly accepted industrial strategy within the context of sound macroeconomic policies.

The investment facilitation programmes are therefore designed to compliment industrial sectoral strategies and spatial development strategies. They are designed to breed success where the chances of success are greater, and where the spin-off effects that will encourage further investment and job creation are most significant.

3.2 TRADE POLICY

Trade policies are defined as those policies affecting the structure of incentives for private producers to produce goods and services for either the domestic or the international market. Trade policies thus include tariff policy as well as a range of policies designed to encourage production for export, for example export subsidies or export marketing assistance.

This section begins with a brief review of the theoretical issues before providing an historical overview of trade policy development in South Africa. The section concludes with an analysis of the present trade regime and highlights the main trade policy instruments and programmes being used by the DTI.

3.2.1 THEORETICAL ISSUES

The theoretical case for neutral trade policy, that is trade policy which does not offer differential incentives for either domestic or export production, is premised on the productivity enhancing benefits which flow from this. Neo-classical theorists argue that by offering neutral incentives, or more often, by maintaining an environment of free trade allocative efficiency is optimised with production and trade based on the country's comparative advantage. Moreover, it is argued that free trade is associated with increased technological dynamism and enhanced information market functioning. Free trade leads to productivity increases through economies of scale which can be tapped by producing for the world market, which in itself is beneficial as it alleviates foreign exchange constraints which developing countries are often particularly susceptible to.

This particular trade model has however been subject to considerable criticism. Briefly, critics argue that the assumptions made by neo-classicists are not realistic. In particular, in the presence of pervasive market failures and imperfect competition, allocative efficiency may not be enhanced through free or even free-trade. Furthermore a protected domestic market may encourage firms to invest in R&D and thus accelerate technological development whereas a domestic market under threat from global competitors may lead to excessive competition damaging to the domestic economy in the long run. In addition a movement towards free trade may lead to a decline in production if scale economies are present in those sectors subject to import competition. It is thus not at all clear that a movement to free trade will *per se* be beneficial to a relatively small developing country such as SA.

A second trade model has its roots in endogenous growth models which highlight the impact of 'learning by doing' and innovative capacity on the economy's overall growth rate. The link between endogenous growth and trade theory is based on the argument that market size encourages innovation which drives productivity and thus economic growth. This model suggests that firms which compete in international markets are often more technologically dynamic and are concentrated in industries where knowledge externalities are present.

However this trade model has also been subject to criticism. In particular, it is again possible that a movement towards free trade will, especially if economies of scale are present, lead to a process of de-industrialisation and a contraction of employment.

3.2.2 HISTORICAL OVERVIEW

South Africa embarked on an import substitution industrialisation growth path in the late 1920s and early 1930s. This strategy comprised the erection of quantitative import restrictions and tariff barriers, and the establishment of parastatal industrial concerns, such as Iscor. This growth strategy was designed to both diversify the economy in terms of production and in terms of origin of imports so reducing South Africa's dependence on Britain.

However, while the manufacturing sector diversified significantly in terms of production it also became increasingly concentrated in terms of ownership. The mining giants involved in gold and diamond mining came to wield considerable power during this period and these conglomerates became increasingly involved in manufacturing production. During the same period strong gold sales led to an appreciation of the exchange rate which further encouraged the importing of capital and intermediate goods. Consumer goods were produced at a premium to international prices and were only competitive on the domestic market with significant import protection.

By the 1970s growth had begun to slow and the negative consequences of ISI were becoming apparent. These included a significant anti-export bias and considerable import dependence especially of capital goods. In an attempt to reduce the anti-export bias the Reynders Commission of Inquiry of 1972 proposed a range of export incentives including tax concessions, import duty rebates and cash grants to exporters. Although the incentives offered were substantial and broad in scope they did little to increase exports. It has been argued that the incentives offered were not sufficient to outweigh the cost to manufactured good exporters of the over-valued exchange rate driven by strong gold exports.

The debt crisis in 1985 precipitated an intensification of previous export promotion policies. These included structural adjustment programmes, the devaluation of the exchange rate and re-introduction of the dual exchange rate system, and the imposition of punitive surcharges on imports. Finally, in 1990 the General Export Incentive Scheme (GEIS) was introduced. GEIS was a cash subsidy paid to exporters on the basis of the level of value added and local content. However, GEIS was not entirely successful in promoting exports and tended to reward companies already exporting while doing little to encourage firms to begin exporting. Furthermore, the cost to the fiscus was substantial and the programme also tended to encourage rent-seeking. The Department negotiated with GATT to begin phasing out the programme over a five year period but as a result of the re-prioritisation of the national budget and accumulating evidence that the programme was not operating optimally, the DTI accelerated the phase-down period and GEIS was finally discontinued in July 1997.

3.2.3 CURRENT TRADE POLICY

The DTI has noted the theoretical confusion surrounding the issues of trade policy and market orientation. The Department has furthermore reviewed the empirical evidence supporting movement towards free trade and has taken into consideration the lack of clarity in this evidence for supporting a case for either inward or outward orientation. The DTI has therefore adopted a pragmatic approach to the development of its trade policy which was formalised in South Africa's offer to GATT in 1994. The trade policy consists of a number of inter-related interventions.

3.2.3.1 Tariff Reform and Liberalisation

To begin with, the DTI has committed SA to a major reform and rationalisation of the tariff structure and a substantial further liberalisation of trade. Reform of the tariff structure is an important aspect of trade liberalisation but is also important in its own right. Tariff reform cuts the administrative costs associated with applying a large number of tariff lines and reduces the possibilities for mis-classification of goods. This is particularly important as not all SACU countries have the same level of sophistication of tariff revenue collection. The DTI thus initiated the reduction in tariff lines from about 12 500 in 1990 to 8 250 in 1996. Furthermore the Department set itself the target of reducing the number of tariff rates from approximately 210 in 1990 to 6 in 1996.¹⁰ Whilst this target has not been fully met, substantial headway has been made in rationalising South Africa's complex tariff structure.

The DTI has also been the main driving force behind the significant trade liberalisation which started in the early 1990s and which accelerated in 1995. However, the DTI does not see tariff liberalisation as an end in itself, rather tariff policy is used to achieve the objectives of industrial policy. This can be done as the tariff rates on a substantial number of products have been reduced to below the WTO agreed bound rates. This allows the Department the leeway to in fact increase tariff rates, if and when, industrial policy imperatives require this. The DTI will under no circumstances increase tariffs above the bound rate and will utilise tariff policy in an open and predictable manner. The objectives of the tariff liberalisation are two-fold. Firstly, it is intended to increase the level of competition on the domestic market and in so doing dampen inflationary pressures while also forcing manufacturers to become internationally competitive. Secondly, the liberalisation is designed to encourage exports by reducing the anti-export bias.

The anti-export bias represents a significant barrier to manufacturers wishing to penetrate export markets. The DTI has thus put in place various support programmes to reduce its impact. These programmes form part of the Department's supply side measures 'package' of interventions and include matching grants for outward selling trade missions, exhibition assistance and primary export market research. These interventions are 'market-friendly' and are designed to reduce the possibilities of rent-seeking activities by private firms. Moreover, many of the trade policy programmes require some degree of financial commitment from the firms accessing the programme funds and this ensures that the services provided to firms are relevant and contributes to the building of trust between Government and the private sector. These programmes are discussed in more detail in the trade policy programmes section.

¹⁰These tariff rates are set at 0%, 5%, 10%, 15%, 20% and 30%.

Anti-export bias also results from the level at which the exchange rate is pegged. The exchange rate is important to exports as its level determines the price of exports on the international market and the price of imports on the domestic market. The previous section of the report highlighted the theoretical link between exchange rate depreciation and exports. Two issues are important in this regard. Firstly, the stability of the real exchange rate is important in order to allow manufacturers to make long-term investment decisions with some degree of certainty and with some assurance of the predictability of exchange rate policy. Secondly, and perhaps more importantly, the level at which the exchange rate is pegged is crucial. If the real exchange rate is not competitively valued manufactured exports especially in the period immediately after trade liberalisation are likely to experience significant difficulties in penetrating export markets. The GEAR acknowledges the importance of the real exchange rate and in fact states that one of the objectives of exchange rate policy will be to 'keep the real effective exchange rate of the rand at a competitive level'.¹¹

In 1996 the substantial devaluation of the rand provided a welcome boost to manufacturers competitiveness. In 1997 however, the real effective exchange rate has appreciated against most of South Africa's trading partners. Moreover, as a result of the substantial currency devaluations experienced by countries in East Asia, South African manufactured exports are now relatively less competitive as the rand was largely unaffected by turbulence in these markets. This suggests a more active role for the South African Reserve Bank in order to, firstly, smooth the volatility of the exchange rate but also to ensure that it moves within a range which offers South African exporters a measure of competitiveness.

3.2.3.2 Global Repositioning

The Department has also re-prioritised its bilateral and multilateral trade policies. To this end the DTI has committed itself to:

- # regional development;
- # fostering useful bilateral economic relations; and
- # full participation in multilateral economic fora.

3.2.3.3 Regional Development

The DTI acknowledges the fact that Southern African economies are inextricably linked. These linkages are cultural, economic and political and have been further strengthened in the period after the 1994 elections as trade within the region and increased political stability throughout Southern Africa increased. Trade between South Africa and its neighbours is now vitally important to the health of the South African economy and exports to SADC partners now equal our exports to Europe. This trade is especially important as much of the goods exported to SADC are relatively sophisticated manufactured goods. Between 60 000 and 70 000 manufacturing sector jobs are dependent on the region's capacity to import.

¹¹GEAR, Page 10.

The DTI acknowledges the unsustainable trade deficits which many SADC countries are running with South Africa. In addition the Department is willing to encourage the growth of the manufacturing sector in SA's neighbours not only because of the economic benefits which may flow to SA as a result but also to ensure the long term socio-economic stability of these neighbours. To this end, the DTI has agreed to the creation of an FTA with SADC over a period of 8 years. SA has committed itself to the opening up of the domestic market at an asymmetrical rate with all SADC partners. Negotiations regarding the implementation date are ongoing.

3.2.3.4 Bilateral economic relations

The Department is also engaged in negotiations with the EU for the creation of an FTA between South Africa and EU states. The EU is South Africa's major trading partner and largest source of inward investment. South Africa's objective in the negotiations are to achieve a long-term bilateral arrangement which will guarantee stable and improved market access in the EU and encourage increased flows of new investment and technology. SA has thus proposed a Trade, Development and Cooperation Agreement with the EU which will:

- C contribute to achieving the goals of the RDP and GEAR;
- C facilitate the restructuring of the underlying relationship (in which SA exports mainly raw and semi-processed products and imports highly processed capital goods) into a more balanced and mutually beneficial one;
- C remove discriminatory treatment currently applied to South African products as compared to other countries; and
- C contribute towards increasing flows of FDI into export oriented sectors and regional investment projects.

3.2.3.5 Multi-lateral trade relations

With regard to multilateral trade relations, the DTI attaches great importance to its membership of the WTO and is keen to participate in shaping the future evolution of the rules based multilateral trading system. The Department believes that it has fulfilled its Marrakesh Agreement obligations to the letter and believes that the country has already benefited substantially from the improved access to world markets that was negotiated in the WTO.

A crucial part of the Department's re-prioritisation is its programme for forging bilateral economic relations and the re-focussing of its international export promotion offices. The DTI believes that South Africa will benefit greatly from strengthened economic linkages with emerging economies in Asia, Latin America and Africa. To ensure that these opportunities are seized the Department has re-focussed the location of its export promotion offices abroad to reflect these new imperatives.

South Africa hosted the Ninth United Nations Conference on Trade and Development in 1996. The DTI attaches great significance to Unctad as it plays an important role as a universal forum where countries can debate, deepen their understanding and identify their interests around critical trade and development issues prior to entering into binding negotiations in the WTO.

3.2.4 PROGRAMMES

The previous section detailed the policy framework within which the DTI operates in terms of its trade policy. This section is concerned with the programmes which the DTI has put in place to achieve its trade objectives.

3.2.4.1 Export Marketing & Investment Assistance Scheme (EMIA)

The DTI acknowledges that exporters face significant costs in attempting to break into new export markets and has thus put in place a comprehensive set of financial schemes designed to partially compensate exporters for certain costs incurred in the process of developing new export markets.

- # Primary Export Market Research - This scheme provides assistance to exporters or export marketing consultants for costs incurred in developing entirely new export markets for manufactured goods.
- # Outward -Selling Trade Mission - This scheme assists South African exporters to penetrate new markets by assisting them to gain access to foreign buyers.
- # Inward-Buying Trade Mission - Similar to the above scheme, assistance is provided by facilitating contact between foreign buyers and South African exporters.
- # Exhibition Assistance - The DTI funds South Africans to participate in foreign exhibitions.
- # Assistance to industry specific sectors - This scheme encourages associations of specific industry sectors to initiate the setting up of export councils.

3.2.4.2 Export Credit and Foreign Investment Reinsurance

The DTI recognises that exporters face multiple risks when pursuing export opportunities and has thus put in place programmes to reduce this risk to acceptable levels.

- # Short-term Insurance - This scheme offers cover for pre-shipment, post-shipment and consignment stock risks.
- # Medium/Long-term Insurance - Risks covered by this scheme include: contractor's cover, unfair calling of bonds, financial credit cover and foreign exchange cover.
- # Export Finance for Capital Goods & Projects - This scheme assists exporters of capital goods to offer foreign buyers credit facilities.
- # Export Finance Guarantees for SMEs - The purpose of this scheme is to assist SMEs to obtain finance for export orders.

These then are the DTI's supply-side measures to facilitate increased exports. In some cases the programmes are relatively new and have thus been slow to in terms private sector usage. The Department remains confident, however, that the programmes are well designed and in some cases are already demonstrating their value to exporters.

3.3 TECHNOLOGY POLICY

3.3.1 Theoretical issues

Direct government support for technology development has theoretical justification in endogenous growth theory. There is clear theoretical and empirical demonstration of the fact that, if left to the market, the level of investment in generating new advancements in technology would be less than is socially optimal. For this reason, government support of scientific and technology development has been in place in advanced industrialised countries for some time.

By contrast, until recently, the approach to developing nations was that, in their position as mostly consumers of technology, the spreading of technology to these countries was best served by the free functioning of the market. This was a very passive approach to technology and knowledge dissemination. However, as the industrial history of the NICs has now vividly demonstrated, the lessons of endogenous growth theory can be extended. In developing countries, intervention in the acquisition and absorption of technology can be just as important as support for the development of new technology.

The selection and absorption of appropriate technologies by developing countries is not without its costs and uncertainties. Learning costs form a significant barrier to 'catch-up' in terms of industrialisation. Active investment on the part of the recipient country in terms of setting up the right institutional frameworks for the effective identification, operation and adaptation of appropriate technology can have a substantially positive impact. As with the generation of new technologies, the level of investment undertaken to acquire and absorb technology from elsewhere, in the absence of government support, is likely to be suboptimal, thus rendering technology transfer less effective than it could be. Skill in the strategic management of technology is becoming ever more important in the face of globalisation and the quickening pace of technological advance.

Two pillars of technology development that have received particular attention in other countries are investment in human resources and support for technological innovation:

As far as development of skills is concerned, a number of interventions have been followed in promoting the formation of human capital. These include: increasing the relevance of education and training to industrial needs, co-ordinating the skills needs of industry with the design of educational curricula, increasing the emphasis on technical subjects at higher levels of education, and increasing industry involvement in training at the vocational level.

The need for both functional and selective interventions in education and training is borne out by the experience of the East Asian NICs. Industry was closely involved in the design of curricula and the actual training of industrial workers, engineers and managers. Tax and other incentives were provided to encourage in-firm training. Data on growth of enrolments in various educational and training programmes bear out the efficacy of these policies.

In terms of technology and information in developing countries, the first policy need is to strengthen the capabilities of local enterprises to select, bargain for, and buy technologies in international technology markets. Setting up databases and information centres that industrial

enterprises can easily access can help in this regard. There is also scope for government assistance in bargaining over the terms and conditions of technology transfer (as demonstrated by the early Japanese experience of successfully bargaining for low royalties).

A second policy consideration is influencing the mode of technology import. Many developing countries have a passive reliance on foreign investment to meet their technological needs. This can lead to under-investment in R&D and create a barrier to acquiring 'know-why'. Some countries, notably Japan, Korea, Taiwan and Singapore, have therefore used a combination of policies that both regulate technology imports and facilitate local R&D. They have often tied conditions to foreign direct investment that induce multinational corporations to increase local design and development activities.

3.3.2 Current Policy & Programmes

South Africa's approach to the management of technology has changed dramatically in the last few years. Until recently, South Africa had no comprehensive technology policy.

The present government recognises the vital importance of having a technology promotion policy in place in order to support economic growth, specifically driven by the export of high value-added manufacturing goods. A major thrust of government policy in this regard has been a recent move to establish a new National System of Innovation (NSI) aimed at co-ordinating the activities of the science, engineering and technology (SET) community and to promote technological innovation. In terms of co-ordinating SET activities, the NSI advisory panel will have oversight for the entire system, including: ensuring the integration of policies with respect to science and technology, linking the research activities of the scientific institutions (such as the science councils) and the universities to the needs of industry, and requiring that the research activities of the strategic industries are managed with reference to broader S&T policy objectives. In terms of its innovation-promotion mandate, the NSI will also oversee specific programmes aimed at the supporting both large, long-term research into industrial innovation, as well as direct grants for the development of product or process innovation in SMMEs.

There are a number of programmes included in this framework, namely the National Research and Technology Foresight Programme, the Innovation Fund, the Support Programme for Industrial Innovation (SPII) and the Technology and Human Resources for Industry Programme (THRIP). The DTI is directly involved in the two main supply-side measures specifically aimed at industry, namely SPII (administered on behalf of the DTI by the IDC) and THRIP (jointly managed with the FRD). More recently, further initiatives within the DTI have arisen to address particular technology diffusion and innovation needs. These include an Agency for Technology Transfer; Partnership for Industrial Innovation (PII) aimed at the innovation needs of large firms; Feasibility Study Support (FSS) aimed at assisting SMMEs in innovation development; and proposals for the implementation of Technology Incubators aimed at supporting entrepreneurial innovation amongst SMMEs. Within the NSI, the CSIR also plays a vital role as partner in contracted technology projects.

3.3.2.1 Foresight Programme

The Foresight Programme is a short-term initiative aimed at systematically identifying those areas of science and technology that are likely to yield the greatest economic and social benefits for South Africa in the longer term. In the process, it seeks to align policy with broader national goals.

3.3.2.2 Innovation Fund

The Innovation Fund is part of a major reallocation of resources from the historical patterns of government science towards encouraging industrial competitiveness. The aim is to enable longer-term, large innovation projects through the co-operative efforts of all SET players, namely the higher education institutions (HEIs), government science, engineering and technology institutions (SETIs), civil society and the private sector.

3.3.2.3 THRIP

THRIP is aimed at providing South African industry with the means to obtain specific responses to its technological needs and to produce a flow of highly skilled researchers and technology managers who understand research, technology development and the diffusion of technology from both the point of view of industry and the academic sector. It thus provides students with industry-relevant experience and encourages co-operation between SET participants. The following funding mechanisms are available:

- i) Firms and THRIP invest jointly in research projects where project leaders are on the academic staff of South African HEIs.
- ii) THRIP matches investment by industry in projects where SETI-based researchers/experts serve as project leaders and students are trained through the project.
- iii) TIPTOP (Technology Innovation Promotion through the Transfer of People) schemes provide mechanisms to promote the mobility of researchers and students between the industrial participants within defined THRIP projects.

Historically, the South African technology environment, which these measures were designed to address, has been characterised by reasonable overall investment in SET, especially in comparison with other countries at a similar stage of economic development. However, much of this investment was 'politically' motivated (in armaments and atomic energy in particular) and not market competitive or related to the development needs of the economy. In contrast with the NICs, South Africa has performed far more strongly in science than in technology. Research is largely not sufficiently commercialised, as borne out by low and declining patent registrations. In terms of innovation, South African firms, as is characteristic of inward-oriented manufacturing elsewhere, are generally more effective in adapting foreign technology to local conditions than at developing their own product innovations.

In terms of human resources, another unfortunate legacy of the past is a shortage of SET skills in key areas and an unequal racial distribution of these skills. Graduate flows in the science and engineering streams are still growing at a slower pace than those in the humanities and social sciences. Moreover, there is an asymmetric flow of information between business and universities, and graduates are not being optimally prepared for jobs in industry.

The THRIP has seen dramatic growth of late, suggesting a certain degree of success in promoting technology and competitiveness within South African industry. The total value of approved projects increased by 255% to R 58,3 million in the 1996/97 financial year as compared to R 16,4 million in the corresponding period last year.

At a more detailed level, the success of THRIP must be measured against its stated objectives, namely:

- i) Increasing the base of human resources with appropriate technology skills for industry;
- ii) Promoting increased interaction among researchers in industry, higher education and SETIs, with the aim of developing skills for the commercial exploitation of SET;
- iii) To stimulate industry to increase its investment in research, technology development and innovation promotion.

i) Human Resources:

- ! A total number of 1 053 students were supported by THRIP in 1996/97, compared with just over 200 in 1995/96. 138 researchers were involved in THRIP projects in 1996/97, compared with just over 60 in the previous period. Both these figures point to commendable growth in the industry-relevant development of human resource skills.
- ! A priority of THRIP is support for an increased number of black and female students to follow technological and engineering careers in order to correct past imbalances. In this respect, THRIP provides funding at a preferential rate for research projects that involve a substantial number of black or female students. Such projects comprised 10% of total research funding in 1996/97 compared with no representation in the previous year. Whilst this is an improvement, there is a need for expansion in this area if an impact is to be made. The target for the immediate-term has been set at 20%.
- ! A major new initiative in respect of improving the quality of human resources available for the technology needs of industry is the Technology Innovation Promotion through the Transfer of People (or TIPTOP) programme. This programme aims at rotating students and researchers in SET-related fields between different stakeholders in the NSI arena, namely the HEIs, government SETIs, and industrial laboratories. The objective is to break down barriers between industry and other players in the SET field, thereby increasing the industry focus of research and improving the diffusion of knowledge.

As many of the THRIP initiatives in the area of human resources are only just getting underway, it is difficult as yet to measure their outcome, let alone their long-term impact. However, the following aspects should be monitored to assess the effectiveness of these measures:

- The extent to which graduate flows in the science and engineering streams catch-up with, and hopefully eventually overtake, those in the humanities and social sciences. This is especially true for previously disadvantaged students.
- The mobility of such students into careers in industry.
- The extent to which students involved in the THRIP go on to work in the domestic industry sector in which they gained practical experience.

ii) Improved Linkages:

Weak linkages between firms and the rest of the national system of innovation is by no means limited to South Africa. However, indications are that, at least by comparison with many of competitor countries, South Africa performs poorly in converting science research into more commercial outputs. In a country such as South Africa with well-developed research and technology organisations and a relatively strong tertiary education sector, there is scope for improvement. In this respect, THRIP already appears to be paying dividends. The number of firms involved in THRIP projects almost doubled to 119 in 1996/97 compared with the previous year. The scope for further expansion, however, would seem considerable. Government SETIs were recently brought into the programme because of recognition of the fact that they could function well as partners rather than competitors for technology research resources, and that they represented a valuable skill base that was not being effectively utilised to develop further human resource skills. As was mentioned before, the THRIP management has introduced the TIPTOP initiative to further improve the spirit of co-operation between all NSI participants. The scheme should aid in enhancing the level of understanding between participants as to the complementary and beneficial roles of the different sectors in promoting industrial competitiveness.

Whilst the TIPTOP scheme is currently limited to students and researchers in the SET field, one suggestion that has been put forward is that such exchange possibly be schemes extended to the carrying-out of best-practices studies within industry, including the study of the evolution of competitiveness amongst local firms. These studies could be of direct use to the DTI in formulating industrial policy. This exercise would also provide experience for students in the fields of economic and social science that would fine-tune them for working in industry.

An area of particular concern is bringing the historically black universities (HBUs) and technikons into this circle. Their participation in this co-operative research and innovation effort is still very low. HBUs and technikons accounted for only 2,7% of total THRIP funding for higher education institutions in 1996/97. A number of strategies have been implemented to address this biased distribution. This is particularly important, as the long-term success of THRIP will be judged by its ability to transform the demographic representation of the SET community. Firstly, it is important that THRIP becomes part of the individual strategic plans for development of these universities and technikons. Secondly, more direct support for HBUs and technikons is provided by including conditions for SETI-led research projects to involve at least one HBU or technikon in at least one out of every three projects supported by THRIP. THRIP also provides for less stringent conditions of support in general in the case of 'first-time' applicants (project leaders) who are based in either a technikon or HBU.

Another priority of THRIP is the facilitation of multi-company projects in which companies collaborate and share in the project outcomes. Many companies in South Africa have traditionally developed their own research instead of outsourcing or forming consortia. This is alarming, in that it is at odds with the global trend towards collaboration, which has come about because of the evident efficiencies thereof. However, this is one area in which the THRIP already seems to have made a significant impact. Almost 60% of THRIP funding was invested in multi-company projects in 1996/97, compared with a corresponding figure of 6% the previous year. It is hoped that this trend will continue. In particular, it has been recommended, as part of a wider industrial policy framework, that competition policy allow for joint-firm collaboration in research, as has been recently modified in U.S. anti-trust law.

Lastly, much scientific research is now being conducted within formal or informal international networks; a pattern that is extending into technology development as more companies seek international alliances. These trends can be particularly beneficial to smaller economies such as South Africa's, as these linkages facilitate access to both knowledge and capital. For this reason, THRIP encourages linkages with relevant activities elsewhere in the world, and will provide matching funds for the participation of foreign firms in domestic research projects. This will be an area of growing importance, and may require ongoing policy study to derive the full benefits.

iii) Sectoral focus:

At present, there is no specified focus to THRIP funding in terms of targeting those sectors of industry that have been identified as strategically important. This is expected to change in the medium-term as funding constraints become more binding, and the findings of such industrial strategy projects such as the Foresight Programme and industrial cluster studies feed through.

A more proactive approach to the sectoral-profile of THRIP funding may in fact become necessary, as an analysis of past funding would indicate a certain unintended, yet inappropriate, bias in the usage of THRIP. The main sectors utilising THRIP remain those with relatively low technological dynamism and positive externality potential. (Although some heavy users were clearly important for socio-economic reasons, such as Water & Sanitation). High tech 'driving' sectors were poorly represented. This is of concern given the DTI's strategy of shifting production towards knowledge-intensive, high value-added manufactures. A difficult trade-off may develop in terms of supporting research that promotes internationally competitive industry and that which supports social and economic development. The proactive resolution of this policy point through the declaration of clear funding priorities may be an area for imminent panel attention.

The promotion of technological know-how within the SMME sector is another priority of THRIP. This is an area in which delivery still needs to be enhanced. There has been an increase from 5% to 6.7% in state funding leveraged by the small business sector into projects. This is an area that will have to be significantly improved in the future, given the SMME sector's high priority in the wider framework of South Africa's industrial revitalisation. Efforts in this regard include a particular focus on SMME involvement within the TIPTOP initiative, and proposals to work more closely with the Ntsika Enterprise Promotion Agency. This SMME agency is setting up two pilot Manufacturing Advisory Centres (MACs), which could act as a forum for THRIP to interact with

a large number of SMMEs, and thus identify potential THRIP collaborative projects.

3.3.2.4 SPII

SPII is designed to promote technology development in manufacturing industries through direct financial and project management support for innovation of competitive products and/or processes.

SPII resulted from the broadened scope of the Innovation Support for Electronics (ISE) programme, which had been initiated in 1989. The declared success of this programme resulted, in 1993, in the initiative being extended to all manufacturing firms. When SPII was first introduced, it marked a radical departure from the current thinking amongst government at the time because of its supply-side focus. It was originated as a modest and limited programme. The successful results of the programme in the past few years, however, have seen its expansion and calls for a more ambitious SPII. SPII currently provides for grants to selected technology innovation projects of 50% of the direct pre-competitive costs involved, up to a maximum of R1,5 million per project.

Targeted Initiatives:

As a result of an evaluation of SPII, a need to address the very different innovation needs of large firms and SMMEs was identified.

In terms of large firms, the R1,5 million grant ceiling on SPII ceiling was identified as providing no incentive for large-scale innovation projects. As such, the Partnership in Industrial Innovation (PII) scheme is being planned as an additional means to promote innovation amongst large firms. It is a move away from grant funding and takes the form of a partnership between the government and the private sector in sharing the risks and returns of the industrial research and development.

In terms of SMMEs, overly complex application criteria - in particular marketing, technical and financial projections - were seen as obstacles to increasing the proportion of SPII funding applications originating in this sector. As such, the Feasibility Study Support (FSS) scheme was introduced to assist such firms in making an informed decision regarding technological innovation projects.

Further SMME support for innovation takes the form of Business Incubators aimed at developing local SMMEs, especially those involved in technology-intensive activities. Business incubators or 'innovation centres' are aimed at nurturing selected early-stage ventures through focussed assistance within a supportive environment. At present discussions with role-players are being held to establish the most effective way for DTI to assist incubators.

Despite the relatively modest Government investment in SPII to date, the programme has had remarkable success in most areas:

- ! The proportion of SPII-supported projects that succeeded and went on to make a profit is high by international standards for such programmes. In a recent evaluation, 54% of the projects embarked on were deemed to have been a success.

- ! Higher returns, in terms of additional turnover and tax paid, were achieved on projects undertaken with SPII support than has been the experience of similar projects overseas. Furthermore, the net return to the fiscus seems to have easily justified the initial investment. Whilst these are not necessarily the most important of performance criteria, and whilst the accuracy of their measurement is questionable, they would seem to suggest a remarkable degree of success.
- ! A more accurate measure of success could be achieved if it were possible to accurately determine the extent of investment in innovation that would not have gone ahead if it were not for SPII. This level of 'additionality' is difficult to separate-out, but past SPII evaluation would seem to suggest that the programme has made an absolute difference to the level of investment in technology. Although the evaluation suggests that a high percentage of SPII-supported projects would have gone ahead anyway without government support, it is likely that the funds saved by the private sector in this way are then re-invested in other technology development projects.
- ! SPII has found relatively strong representation in the SMME sector. Of the total number of applicants in the past, 46% were SMMEs.
- ! Past evaluation of SPII has also suggested other benefits. These included a positive impact on local firms' approach to technological innovation and the funds dedicated thereto, less dependence on foreign technology, improved quality control of innovation projects and positive job-creation spin-offs.

International experience confirms the appropriateness of programmes with the broad characteristics of SPII for encouraging technological development. There is general consensus that specific support measures such as SPII are preferable to blanket tax concessions. Tax concessions have historically been based on tax breaks for R&D expenditure. Innovation and R&D are two clearly distinct concepts. Such tax breaks would thus have an uneven impact, favouring R&D intensive sectors and larger firms.

However, the scope for supply-side measures such as SPII needs to be addressed. Lessons from international experience are that knowledge management is becoming just as important as knowledge accumulation. For developing countries especially, there is a need to specialise in the development of technology in only certain, strategically-selected sectors. This implies focusing the support for innovation efforts in those areas which are expected to reap the highest benefits, whilst in other areas the government should rather be encouraging the importation, adaptation and management of technology.

In this regard, SPII would appear to have been successful. Industry studies showed that 38.7% of SPII non-applicants allocate innovation funds to the importation of external technology (a number of large international firms fall into this category), compared to 9.3% of applicants. The most important reasons given for sourcing and adapting foreign technology included: that it is more cost-effective not to "re-invent the wheel"; or that relationships with parent companies provided the foreign expertise which could then be developed further for local conditions. Reasons for local development of technology included: utilisation of unique, in-house expertise; the cheaper cost of doing it locally and avoiding international license fees (with their concomitant restraints on marketing areas); and the need to develop niche markets.

Further light can be cast on this issue by examining the size distribution of firms involved in SPII. A recent evaluation of SPII highlighted the bipolar pattern to the size distribution of the firms that had made use of SPII support, but suggested that there was no ready explanation for this phenomenon. It is suggested here that the size profile of firms can be explained by the characteristics of those firms that would normally invest a greater proportion of funds in innovation. These firms are likely to be either firms competing in sizeable, even global, markets for relatively high-tech goods aimed at the mass market - in which case the escalation of R&D sunk costs leads to a natural increase in the size and concentration of firms in this industry - or else they are likely to be smaller firms that survive in high-tech industries through entrepreneurship and by specialising in certain niche markets.

The lack of medium size firms possibly points to the fact that such firms are located in industries where the returns to product innovation are low (perhaps those involved in the production of standardised products). Non-applicants to SPII (presumably the majority of which are medium-size firms) see technology innovation as being utilised for quality/productivity improvement, whereas a higher proportion of applicants utilises technology innovation for development of products for international markets. This would imply that the SPII has attracted the right profile of companies. Similarly, the motivations for technology innovation were driven more by production in the case of non-applicants and more by the marketing function for applicants. SPII is not being utilised by a certain class of enterprise precisely because such firms are best served by importing and adapting technology - with innovation, when it does occur, being limited to the area of process improvement.

Whilst one possibility for expanding the scope of SPII would be to put greater energy into the area of supporting incremental process innovation, and thereby drawing-in a greater number of previously non-applicants (largely medium-sized firms), it is suggested that the focus of SPII efforts are better spent elsewhere. Product innovation has a greater impact in terms of market expansion and job creation, and support of these initiatives is a better use of limited resources. Support for product innovation amongst large firms is justified because of the major impact on international competitiveness that such investments can have; whilst product innovation amongst SMMEs is supported on the grounds that the growth of this sector needs to be promoted in general, but also because some of the most pioneering innovations often originate from such firms.

Whilst the general focus of SPII would thus seem to be appropriate, and whilst it has been remarkably successful by a number of performance measures, the major negative aspect of the programme is that it has, thus far, had a relatively limited impact on industry. It certainly has not created the type of technological revolution that might ultimately be hoped for. The number of applicants received over the last 5-6 years since its inception has been rather disappointing. This has been largely ascribed to problems with promotion of the programme, risk aversion in allocation of funding and lack of focus in terms of funding priorities. Furthermore, certain aspects of the programme need to be evaluated in terms of the impact that they have on the specific objectives of the DTI industrial strategy, namely the promotion of high-value added manufactured exports and the promotion of the SMME sector. These are examined below:

Programme Promotion

- Awareness and promotion of the programme is its single biggest problem. A recent evaluation of the programme revealed that 77% of non-applicants surveyed had not known of the programme, and awareness levels were particularly low amongst the smaller companies. Amongst past-applicants, 96% did not believe that it had been adequately promoted. Whilst steps have been made to address this situation, the pace of improvement in this area needs to be closely monitored.

Risk profile

- It is generally felt that local firms are being too risk averse in their investments in innovation. Business needs to take on more risky innovation projects if there is to be a situation that even approaches that of a technological revolution. This would imply that the SPII authorities, instead of being risk averse, should be actively encouraging firms to take risk.

- From an international perspective, it has been suggested that the SPII authorities could adopt a less cautious approach to product innovation. Of the total number of SPII applications, 82% were successful. Of these, only 8% were prematurely terminated. This points to a relatively high degree of caution exercised on the part of the SPII panel during the application phase, but also to a certain level of caution amongst firms when they apply for SPII support. It would seem as if some of the riskier, perhaps more pioneering projects, are being dissuaded from even making it to the application stage. SPII authorities should consider exploring efforts to encourage these projects to come forward.

- Likewise, the increase in turnover amongst benefiting firms has been high by international standards, implying that SPII management has steered the programme away from high-risk projects and had consequently supported far too few projects. This success underscores one of the failures of the scheme - the failure to attract the high-risk projects that an innovation programme such as SPII is designed to support in the first place. - It is suggested that this 'risk averse' posture was forced on SPII management by the negative and sceptical light in which the programme was held by the government at the time, but should be re-evaluated now in the light of new objectives.

Sector profile

- SPII has some representation across most industries. However, because of historical factors, the majority of grants are still allocated in the electronics sector. Although applications from the electronics sector only made up 36% of total SPII applications, they constituted 82% of the approved grants. - Other countries have successfully implemented very elaborate plans to identify clusters and their component technologies that held the greatest potential for development in those countries, and then to invest substantially in the people, R&D, innovation and industrial development required in these fields. - An increasing focus of SPII must be to integrate its efforts with the DTI's 'cluster' initiatives and the DACST's Foresight Programme in order to support those sectors identified as strategically important.

Export promotion

- One of the chief objectives of innovation policy is to support export-led growth: innovative firms are more likely to be successful in export markets, while exporting should itself stimulate innovation through providing a highly competitive market environment and significant information flows. One would therefore expect innovation and exports to be strongly correlated.
- However, a study of South African manufacturing found that the evidence on the relation between exports and innovation was rather mixed and inconclusive. Much of the data on which the study was based, however, was collected in 1994, prior to large-scale trade liberalisation and before specific export promotion initiatives came into action. New data on this relationship needs to be monitored.

What studies have pointed to is that the link between innovation and exports would appear to be stronger in export-oriented firms. Further trade liberalisation will have the effect of forcing more domestic firms to turn to export markets for growth, and should thus lead to increased incentives to innovate.

As a proxy for the link between innovation and export growth, one can examine the recent performance of South Africa's trade in high technology products. Exports in high-tech products have grown at an average rate of 11,8% for the period 1991 to 1995, which is well above the average annual growth in all exports of 4,8% for the same period. Exports of high-tech products has increased from 2,1% of total exports to 2,8% while imports of high-tech products has seen their proportion of total imports actually fall from 18,1% in 1991 to 16,9% in 1995. These movements are positive, and whilst slight, point to improvements in South Africa's competitiveness in the high value-added end of the supply chain in terms of both exports and production for the domestic market. This trend will have to be monitored in order to ascertain the impact of the widening scope of innovation support schemes such as SPII.

- Given that support for innovation is a critical component of export-led manufacturing growth, one area for increased future research will be how innovation support can be tailored to assist greater export success in particular.

Size profile

- It has been suggested that the innovation support for large firms and SMMEs needs to be differentiated. In other countries, there exists separate support programmes for very small and very large companies. Whilst both type of firms spend a great deal on 'innovation' the profile of such expenditure can be expected to differ.
- In response to this deficiency in the original programme, the DTI has recently introduced initiatives aimed at addressing the needs of these two extreme ends of the market. These initiatives are described below.

3.3.2.5 CSIR

The CSIR has for many years functioned as a leading researcher of industrial technology on a contract basis and so build up core competencies. Recently, through the establishment of the NSI, the efforts of the CSIR have become increasingly aligned with the social and economic needs identified in the NSI framework. As such, the CSIR forms another vital pillar in the implementation of the government's technology policy.

Support for technology absorption, innovation development, human resource capacity building and the co-operation of SET institutions are all aimed at supporting wider DTI objectives, namely reinforcing the shift to downstream high value-added manufactured exports, and the promotion of the SMME sector.

The CSIR has achieved significant alignment over the past two years with the industrial policy developments of the DTI as part of its initiative to support the manufacturing sector. The CSIR is an active player in the development of technology for industry, and by aligning and specifically targeting its research activities, it is directly contributing to the success of the DTI's objectives of shifting to high value-added export growth.

It is also contributing to the DTI's aim of supporting the SMME sector. During the last four years, the CSIR has strengthened its interaction with formal sector SMMEs and has piloted various initiatives (usually in partnerships with the Ntsika Enterprise Promotion Agency and the National Productivity Institute) to strengthen and support SMME creation, extension and leverage. These include manufacturing advisory centres (MACs), technology demonstration centres and innovation centres. It has also included "funnel and bridge" activities such as the transfer and refurbishment of a complete relay manufacturing plant from Europe to South Africa. The majority of small contract activities of the CSIR are undertaken for small and medium enterprises and provide a critical input into the well-being and support of this sector.

The CSIR also plays an important role in supporting national human resource development in science and technology. It sponsors the exposure of students to client projects and has also developed partnerships for capacity building at historically disadvantaged institutions.

3.3.2.6 Support for Feasibility Studies (FSS)

There are also a number of cogent reasons why SMMEs should receive particular support. In addition to the socio-economic and developmental importance of this sector, the SMME sector also holds great potential for pioneering innovation, positive export growth in niche markets and job-creation spillovers.

Findings of the recent SPII evaluation pointed to a need to cater more for the SMME sector. Amongst the main findings was that the rigorous application procedure - including marketing, technical and financial projections - was dissuading many SMMEs from applying for assistance.

In response, the FSS was established to provide assistance in the form of a grant of 50% of the direct cost incurred in carrying out a feasibility study, up to a maximum grant of R30 000 per project. The aim is to assist SMMEs in making informed decisions about possible innovation projects and participation in SPII.

The provision of other periphery support services to SMMEs (either within the realm of SPII or by outsourcing) could also be considered. This would include help with the commercialisation of product innovations, finding local/international partners for innovation efforts, assistance with patent applications and marketing of products. SPII should interact with the SMME division within DTI to co-ordinate support in this regard. Supporting subcontracting links between SMMEs and foreign firms can also be a major way of raising the technological competence of local firms and has had good results elsewhere.

3.3.3 Programmes under development

3.3.3.1 Technology Transfer Agency

In the past, local firms wishing to acquire technology via a license agreement were required to submit applications to the DTI. Only two criteria were used by the DTI to assess the applications: the level of royalty payments and the extent of restrictions on exports. This process led to a certain laxity in the approach to technology transfer. Even so, the DTI has accumulated a pool of knowledge over time in the finding of appropriate technology and negotiating acceptable payment and distribution terms. Because of the proven benefits of managing technology importation in other countries, the technology transfer programme of the DTI is to be converted into an Agency. The roles of the Agency will go beyond policing and advising on licensing and royalty agreements, to include more aspects of facilitating access by firms to needed technologies.

Historically, South African firms have acquired foreign technology primarily by means of licensing. Experience in the DTI, however, has shown that a large percentage of technology transfer agreements were badly negotiated. This is reflected in high royalties, restrictions on exports and provisions which retard the local firm's abilities to develop their own technological capacities. Therefore imported technology has tended to displace rather than complement local innovation capacity. Such passive technology importation directly opposes the industrial policy objectives of promoting a shift to the export of high value added manufactured goods.

Many companies, especially SMMEs, are at a disadvantage in negotiating technology transfers because of the differences in bargaining strength, inadequate information about possible suppliers and a lack of negotiating skills.

These problems have been addressed in other developing countries through government intervention. This can take the form of either direct intervention in the importation of technology and/or, as has often proved more successful, through indirect government intervention in the form of improving the information that is available to local firms (as to the availability of suppliers, the

terms of contracts signed elsewhere, etc.) and in improving companies' selection and negotiating skills. It is these information and support services that will be provided by the new Agency for Technology Transfer.

However, licence agreements entered into by South African firms do not generally lead to the transfer of innovation capacities - the 'know-why' necessary to not only operate the new technology, but also to eventually modify and improve upon it. This reinforces an existing tendency for local firms to rely on foreign technology rather than develop their own innovations.

As discussed before, a number of countries, notably those of East Asia, adopted interventions that enforced the transfer of technological 'know-why' to local firms in licensing agreements. Whilst it is becoming increasingly difficult and unpopular to attach specific knowledge transfer conditions to foreign investment and licensing, one area which can be addressed is the insistence on a training provision as a condition of technology transfer. Requirements and/or incentives to ensure the building-up of local skills through training have been the most successful means of technology assimilation in other countries and should be considered as part of the Agency's role.

The framework of the agency should also include assistance for the selling of South African technology. In light of environmental policy, the Agency should also be promoting the adoption of energy efficient and environmentally friendly technologies.

3.3.3.2 Partnership for Industrial Innovation (PII)

During a recent evaluation of SPII, a specific need to provide support for technological in large projects was identified. The ceiling value of the SPII grant per project of R1,5 million is insufficient to provide an incentive for large innovation projects as it would not make a significant contribution to project costs and the extensive application and evaluation procedures would in some cases not justify participation in SPII.

PII is designed to promote technological development in South African industries, by forming partnerships between government and the private sector. The risks and returns that are inherent within industrial research and development are shared. PII is thus not a grant giving function, but rather funds are provided on the basis that they are repayable if the project is successful.

In this way, the government can also influence the expenditure patterns and policy towards R&D in large companies. The programme will also be targeted in line with specific sector strategies/cluster initiatives.

3.3.3.3 Business Incubators

Relying on new ventures in the SMME sector to drive the national economy involves risks related to the inherent instability of such organisations. The success rate of new ventures, particularly those that are technology intensive, is often disconcertingly low. Whilst many new venture failures are due to poorly thought-out strategies and products, there are also those companies with great

promise and innovative products that fail because of inadequate financing, and the need to learn how to market their products and services, develop strategic alliances, and find effective distribution channels. The majority of failures occur in the first two to five years.

If a country can increase the survival rate of its new start-up ventures, it can create tremendous economic leverage. With limited capital available to assist SMMEs, structures need to be developed to ensure that the optimum assistance is provided to firms with the highest growth potential - largely technology-based businesses.

Whilst a favourable regulatory policy, infrastructure and entrepreneurial climate are all important to nurturing new technology-based businesses, a complementary measure that has proved very successful in other countries is the concept of 'business incubators' or 'innovation centres'. These are centres aimed at overcoming the very financial, marketing and management problems mentioned above.

A business incubator, as defined by the United Nations Development Programme, is a controlled work environment, designed to foster the growth of new and emerging companies. They are centres that focus on the training, support and development of SMMEs. They are characterised by: careful initial selection of early-stage or start-up entrepreneurial firms with potential for growth; designated work spaces provided for each tenant; shared facilities necessary to operate a business, such as communications and administrative support; a small management team who train, develop and assist new entrepreneurs; access to critical professional services such as legal and financial assistance; affordable rents and fees for services; and businesses "graduating" after three or four years of residence at the incubator.

Benefits largely accrue from: the ability to interact directly with other entrepreneurs and business experts; shared costs; technology transfer and ongoing training and development for entrepreneurs.

The characteristics of business incubators can be adapted to country-specific conditions. In particular, in South Africa, the entrepreneurial culture is one that needs to be developed. In this context, the incubator concept should not only be seen as a business support centre, but also a tool to foster an entrepreneurial culture.

Business incubators can directly encourage innovation. It also has an important role to play in technology transfer if the incubator has strong ties with external entities, such as SET institutions, HEIs, the private sector, and representatives of other innovation support programmes, such as SPII and THRIP. In the first case, tenants may require access to technology that they cannot afford as an in-house resource. In the second case, a tenant may want to consider transferring a technology that they have developed to an outside organisation that can properly promote the technology.

Some business incubators already exist in South Africa, chiefly the SBDC's Hives of Industry, the CSIR's Technology Development Incubator and Technology for Development Incubator, and the Stellenbosch Innovation Centre, amongst others. The CSIR's TDI and the Stellenbosch Innovation Centre are focused on the development of technology oriented businesses in particular, and as such, focus more on technology transfer and industry development. The other business incubators

are aimed at more traditional roles of providing the support and technology for building new ventures and creating jobs.

One of the main weaknesses with business incubators in South Africa at present is that there is very little interaction between the different initiatives and no co-ordinated government support. Given the proven effectiveness of such schemes, this is one area for future expansion on the part of the DTI.

3.3.3.4 Venture Capital

The DTI is currently involved in discussions with all role-players regarding a venture capital programme.

3.3.4 Programme Co-ordination

The continued integration of all the above mentioned innovation support schemes and agents within the National System of Innovation (NSI) is essential in order to derive maximum returns from the schemes. With the array of initiatives currently managed between the DTI and DACST, problems could easily develop in terms of co-ordination. This has been identified as a risk, and the different Departments have committed to working together, but the gradual rationalisation of these plans may be considered. In the long-term a 'one-stop shop' for innovation which acts as a 'front-end' for all innovation initiatives could be considered.

In the short-term, the findings of the Foresight Programme will feed into the direction of the SPII and THRIP programmes and, conversely, the experience encountered in SPII and THRIP will provide input into the Foresight Programme. The co-ordination of the Innovation programme, under DACST, with the THRIP and SPII programmes under the DTI, will have to be high on the agenda for the two Departments. The boundaries and interfaces between THRIP and the Innovation Fund is one area, in particular, that will call for special attention. The essential complementarity of THRIP and the Innovation Fund lies in their orientation towards the objective of stimulating multi-party initiatives in pursuit of technology developments and the priority that they attach to problems of competitiveness. What differentiates them is THRIP's focus on improving the process of high-level human resource capacity building. THRIP will concentrate on creating the conditions within which possible Innovation Fund projects can be conceived, whilst the role of the Innovation Fund will be to operationalise these projects and strengthen research alliances. By maintaining close working relationships with the staff responsible for the Innovation Fund, THRIP could then define opportunities for joint THRIP-Innovation Fund support of some initiatives that will combine technology development with human resource development.

Whilst SPII targets activities which are different in nature and scope from those supported by THRIP, avenues for co-operation should be examined. In particular, periodic reports on the project outputs of SPII, in terms of successful innovations, could be circulated to THRIP in order to provide stimulus for further areas of applied research. This would support one of THRIP's key roles - that of diffusing technology. Similarly, the diffusion of innovation and research findings from SPII and THRIP to the SMME sector will be facilitated through the business incubator

initiatives and the activities of the CSIR.

Lastly, innovation promotion policies must be co-ordinated in ways already mentioned with other industrial policies such as cluster initiatives, competition policy, export promotion and investment policy.

3.4 SMALL BUSINESS PROMOTION POLICY

3.4.1 Theoretical Issues

In the past, the common assumption amongst business theorists was that business success came with size. This managerial wisdom was turned on its head however in the 1980s as bloated corporations were forced to downsize whilst small companies thrived. Research at the time showed that small companies of fewer than 100 employees were responsible for as many as eight out of ten new jobs. Global competition and the shift towards information and service-oriented activities mean that opportunities for job-creation within large companies are diminishing. Small, medium and micro enterprises (SMMEs) on the other hand are playing an ever-increasing role in absorbing labour, penetrating new markets and expanding economies in creative ways. Consequently, SMMEs are viewed as the prime drivers of economic growth and job creation in both industrialised and developing countries. In general, SMMEs constitute the overwhelming bulk of total firms by number and contribute around one-third to one-half of GNP, creating almost all the net growth in employment, as well as a significant proportion of technical innovations. Firms that make the largest contribution to job creation include: technology-based firms, high growth firms, and service businesses.

The good performance of SMMEs in developing countries has been achieved despite the actions of governments and not necessarily because of them. As net job creators, even in periods of recession, SMMEs can help to raise incomes and improve the distribution of wealth. They broaden participation in the national economy and widen the ownership of national assets.

Reasons for the growth and increasing success of SMMEs are related to the changing global environment of industry. The pace of technological change is ever increasing, creating new business opportunities for flexible enterprises. Small companies with growth-oriented management can adapt faster to change, create new products and bring them to market swiftly. SMMEs can complement the activities of large-scale industry and work in symbiosis with it by providing them with low cost, high value services and products.

Having said this, the problem with relying on growth in the SMME sector to drive the economy is that survival rate of new businesses, particularly those that are technology intensive, is often disconcertingly low. Whilst many new venture failures are due to poorly thought-out strategies and products, there are also those companies with great promise and innovative products that fail because of inadequate financing, and the need to learn how to market their products and services, develop strategic alliances, and find effective distribution channels. The majority of failures occur in the first two to five years.

If a country can increase the survival rate of its new start-up ventures, it can create tremendous economic leverage. A favourable regulatory policy, infrastructure and entrepreneurial climate are all important to nurturing new businesses. So is more direct intervention in providing financial, marketing and management support.

3.4.2 Historical Overview

In 1996, there were more than 1 million SMMEs in South Africa, absorbing more than a quarter of the labour force by employing 15 million people. This is in addition to about 3,5 million people involved in survivalist activities. The SBDC estimates that approximately 40% of the overall economic activity in South Africa can be accredited to small-scale enterprise in both formal and informal sectors. They also estimate that approximately 75% of new jobs in South Africa are generated by the small business sector. In the current macroeconomic context of declining employment levels and the restructuring of large scale industry, it is imperative that significant investment is made in SMMEs in order to create both short and long term capacity for labour absorption and output growth. With South Africa being freed from the constraints of the apartheid system, a wellspring for new SMME growth has opened up in the form of previously disadvantaged entrepreneurs. This source of potential growth needs to be nurtured and supported.

Current levels of investment in SMMEs are inadequate to stimulate the growth levels required by the macroeconomic strategy. Estimates indicate that SMMEs receive approximately 2,6% of investment capital flows through a range of formal and informal agents. In order to benefit from the dynamism and labour absorption capacity of SMMEs, there is a need to redirect investment flows towards them. The challenge of current policy is to achieve a greater investment in new SMME ventures, and greater success rates in the survival of these ventures, through a mix of financial and non-financial support measures.

The SMME sector has traditionally been neglected by government industrial policy, and as such is in need of special attention.

Within the national programme, the DTI is the coordinating body for all policies related to the small business sector and for all SMME-support programmes directly or indirectly assisted by the government. It is also responsible for the coordination of small business strategies pursued by the provincial governments within the national policy framework. As a result, the Centre for Small Business Promotion (CSBP) was established within the DTI to have overall responsibility for these matters. The Centre also monitors cooperation between different government departments in matters relating to small business support and an Interdepartmental Committee on Small Business is in place.

The CSBP relies on close cooperation between the National Small Business Council (NSBC); the Ntsika Enterprise Promotion Agency (Ntsika); Khula Enterprise Finance Limited (Khula); the provincial SMME desks; and regional development corporations to operationalise its different support strategies.

3.4.3 Policy Analysis

The mission of the Centre for Small Business Promotion (CSBP) is to champion, implement and monitor and evaluate the national Small Business Strategy. The aim of the strategy is to contribute

to job creation, income generation, redistribution of wealth and overall economic growth.

During the financial year 1998/99, the CSBP has identified its chief output objectives as being the creation of an enabling legal and policy environment for SMMEs, and the facilitation and financing of support services to SMMEs. A particular thrust has been the development of strategies for increased and equitable access to finance for SMMEs.

3.4.3.1 Creating an enabling legal and policy environment:

The CSBP initiated the establishment of the National Small Business Regulatory Review Team to advise the government on the appropriateness of the legal and regulatory framework that impacts on small business development.

Various Task Teams consisting of specialists are in the process of reviewing legislation in the following areas:

- ! Labour
- ! Taxation
- ! Business and Trade
- ! Property
- ! Land Ownership
- ! Finance
- ! By-laws and Ordinances

An advisory Board, representing the public and private sector, will make recommendations regarding new legislation to the Minister of Trade & Industry, who in turn will present recommendations to Parliament.

The CSBP has also identified the need to ensure that a government procurement policy is established in such a way as to promote SMMEs (especially entrepreneurs from historically disadvantaged groups), and the need to reform existing tendering policies and procedures so as to ensure equitable distribution of tender awards within the SMME sector.

Lastly, the need to establish a new regulatory and legislative framework to encourage and stimulate increased delivery of financial services to SMMEs has been identified. The need for increased and equitable finance for SMMEs has been identified as a critical success factor, and is discussed in greater detail below.

3.4.3.1 Facilitation and financing of support services to SMMEs:

Non-financial support - Ntsika Enterprise Promotion Agency (Ntsika)

Ntsika is responsible for implementation of non-financial support on a wholesale level. It primarily works through existing intermediaries, namely: Local Business Service Centres (LBSCs) and entrepreneurial and vocational training institutions.

Ntsika's role includes:

- ! Training Provision - Ntsika's objective is to increase the capacity of intermediaries to provide training to SMMEs. This it achieves through the training of trainers in these intermediaries, who then go on to train potential entrepreneurs. Training is in areas directly relevant to SMMEs such as business start-up, business counselling, and SMME information management. Ntsika also contracts-in training directly. Ntsika's target for 1998/99 is to train 120 trainers in each of the following areas: Business Trainers, Information Officers, Information Counsellors and Business Counsellors. It also aims to train 270 Government officers on entrepreneurship. Its target for direct entrepreneurship training lies in enterprise development (600), business start-up (240) and exporting (580).
- ! Service Provision - Ntsika's objective is to establish a country-wide network of service providers to SMMEs through the support of existing institutions and the establishment of new institutions. Support takes the form of provision of equipment and funding under the Service Provider Interim Grant (SPIG). Existing service providers are in the form of LBSCs. The target for 1998/99 is to establish 200 service providers and to organise them into a national network so as to provide effective coordination of SMME services. The impact target is to provide services to 20 800 SMMEs.
- ! Targeted Assistance - Ntsika aims to support the provision of targeted services to disadvantaged groups within the SMME sector, namely youth, disabled, women and rural communities. Rough targets for 1998/99 include 13 Youth run businesses started, 8 new businesses started by disabled entrepreneurs, 200 women trained in non-traditional skills and 200 people trained in dried fruit processing in rural areas.
- ! Linkages - Ntsika also focuses on promoting SMMEs through greater linkages with government and big-business. The aim is to establish access to local and international markets through increased access to government contracts, business linkages, raw material provision and infrastructure provision. As already mentioned, attention is being given to the reform of tendering and procurement policies so as to support SMMEs. In addition, Tender Advice Centres have been set up to advise SMMEs on how to tender. In terms of linking up with large companies, a Business Linkage Mechanism is to be established. The target is for 5000 SMMEs to be supplied with a handbook on business opportunities, and for 10 business linkages between SMMEs and big business to be established. It is hoped that through the success of these initial linkages, further linkages will be encouraged. Exports by SMMEs will be supported by increased participation in Trade Fairs. Lastly, raw material and

infrastructure provision is provided for through plans for 3 pilot Local Industrial Parks and a pilot group purchasing scheme in the construction industry.

- ! Information and Research Provision - Business information is considered to be one of the most important long-term competitive advantages in any business. With this in mind, increased access to information for SMMEs was identified as one of the key priorities of Ntsika. In 1997, the CSBP compiled a number of information booklets aimed at the SMME sector, covering such issues as the registering of trade marks and patents, exporting, tendering and linking-up with big-business. Another initiative is the Business Information Centre (BIC). A number of pilot sites are to be launched, aimed at transferring information and knowledge to those who will be visiting the Centre. They will serve as a hub for business counselling and advice, training, information and networking. An SMME help-line with the capacity to accommodate 200 000 phone calls per month is also to be established. A major new initiative is the planned establishment of a Business Referral and Information Network (BRAIN) - a database and on-line service that will provide substantial generic and sector focussed information and services.

These services, and other information services provided by Ntsika, will be promoted on the "Your Own Business" programme on national television, and through concerted media exposure.

Ntsika will also continue to conduct and publish research into SMMEs. The aim is to maintain an up-to-date database on SMMEs, establish economic models for estimation and projection, and provide regular reviews of progress in the form of an Annual Review.

Financial Support - Khula Enterprise Finance Limited (Khula)

In recognition of the fact that increased capital was a key constraint to development of SMMEs, the DTI created Khula Enterprise Finance Limited in 1996 designed to increase the capacity of existing institutions and establish new institutions to provide financial services to SMMEs. The aim of Khula is to absorb a portion of the risk and cost of private investment in SMMEs.

The strategy adopted was long term and sought to provide the private sector with the opportunity to learn how to make SMME investments in a profitable manner. Whilst Khula has made significant strides in the implementation of this strategy, the perception that SMME investment is unprofitable and thus a social responsibility rather than an economically viable investment still largely prevails.

In view of macroeconomic objectives and the persisting perceptions of the private sector, it was deemed necessary to review the current incentive structure and implementation approach. In addition to this - in the quest for more far reaching effects - a broader policy framework that begins to address the structural impediments that hamper SMME investment has been called for.

These objectives have been the focus of much CSBP effort of late. A stakeholder workshop on a new strategy for small business financing was held in September 1997, and the debate and further research arising therefrom has led to the identification of a number of gaps in the market and resulting recommendations for policy reform. These concerns and recommendations are summarised below:

Small Business Finance Environment - A key factor constraining investment in the SMME sector is the structure of the financial sector. The sector is composed of a concentrated formal banking sector targeting corporate accounts and competing with smaller niche banks and investment banks. Few second tier banking institutions exist that can absorb savings and extend credit. Furthermore, there is a dearth of strong alternative finance institutions providing credit to the self-employed for productive purposes.

A further concern is the risk aversion of institutional investors, who tend to focus on "safer" and larger investments, which yield few social and economic benefits.

As a result, a large proportion of the SMME sector does not have access to adequate and appropriate credit and equity. In competing for the corporate market, the formal financial sector has structured their products to serve the needs of corporates. Alternative finance institutions such as Non-Governmental Organisations (NGOs) offer a limited range of products and do not have the infrastructure to reach a significant number of SMMEs. It is estimated that NGOs currently serve 6% of the survivalist and micro enterprise sector. The net result is that there is almost no debt finance available to SMMEs in the loan ranges between R10 000 and R50 000, and very little between R6 000 and R100 000. Even below R6 000 and above R100 000, access remains inadequate to meet demand.

In the past five years, a number of private equity funds have been established. Fund managers have focussed on large investments from R5 million upwards and have targeted expanding businesses and management buy-outs. However, most SMMEs require initial capital investments below R5 million. Equity and loan finance for new enterprises has been almost exclusively targeted at franchises. Furthermore, the Johannesburg stock exchange has not been effective in providing access to capital for SMMEs despite the establishment of alternative investment markets in the 1980s.

An overarching concern is that previously disadvantaged individuals do not have adequate access to formal financial institutions and, therefore, are forced to seek relatively expensive and small amounts of credit from alternative financial intermediaries. Several reasons account for the lack of access in addition to the factors outlined above. These range from a lack of collateral, bad or no credit histories, an exaggerated risk perception of previously disadvantaged borrowers, to discrimination on the basis of gender and race.

Given these circumstances, the aims of the small business financing strategy can be translated into four objectives:

- (i) To significantly increase the level of bank lending to SMMEs at rates not inflated by unreasonable risk perceptions, especially to previously disadvantaged groups;
- (ii) To improve the outreach and efficiency of alternative financial institutions, especially in unserved rural areas;
- (iii) To stimulate the provision of start-up and small-scale equity products for SMMEs;
- (iv) To expand the number of SMMEs listed on the Johannesburg Stock Exchange.

In achieving these objectives, policies will have to overcome what have been identified as the main barriers to greater investment in SMMEs, namely: the perception that SMME investments are risky and offer low profitability, and the structure and regulatory framework of the financial system. In the course of evaluating how these objectives are to be met, possible modifications to existing programmes (in the form of Khula) will be examined.

3.4.3.2 Formal Financial Institutions:

The Department has drafted a discussion document in which all the above key issues are raised with possible solutions. Presently, we are in the process of consultation with stakeholders to achieve consensus on the way forward.

Equity Finance Programmes

1) Khula Equity Schemes:

No clear, integrated programme to stimulate equity investment in SMMEs has emerged. Khula has developed an equity programme that seeks to leverage private sector investment into provincial programmes. While the concept of provincial equity funds has merit, the emphasis has been on larger scale investment from R5 million upwards. Thus, the programme in its current conception does not address the market gap for small-scale and start-up investment capital.

Furthermore, no non-financial support programmes to reduce the cost of making equity investments in SMMEs have been developed by Ntsika. Donor funded programmes, such as the EASY initiative funded by USAID, have instead sought to fill the gap. These programmes assist entrepreneurs with structuring proposals, the performance of initial due diligence, as well as with the identification of potential funders. However, these programmes do not have the funding required to reach significant scale.

Furthermore, the risk of business failure and the scarcity of potentially profitable business opportunities present real constraints to equity financiers. Targeted support and training for SMMEs with growth potential need to be developed, to both increase the profitability of existing companies and to reduce the risk of business failure for new enterprises.

Finally, the risk perception of institutional investors must be addressed. While success in the SMME sector would probably have the most significant effect in the long run, in order to stimulate private sector funds in the short-run, a set of clearly defined tax incentives should be developed. Consideration should also be given to the development of specialised equity funds for small-scale equity investments. Alternative sources of investment capital that require lower returns than institutional investors may be a way of securing more equity investment for smaller firms. In countries such as the UK and USA, government played a large role initially in providing investment capital to stimulate investment in smaller enterprises.

2) SBDC Limited:

The SBDC is another institution that holds significant government funds. The SBDC's mandate has been revised and its core business is now equity financing. Its target market is small and medium sized enterprises that require capital between R50 000 and R3 million. It thus has positioned itself to provide support in an area where a market gap exists. Should the SBDC be successful in providing equity investments in these ranges, it could stimulate the market for

small-scale equity investments. However, currently, most transactions of the SBDC are loan transactions that use an equity stake to increase returns and substitute for collateral. While the approach is innovative, it is not fulfilling the mandate of the institution. Furthermore, the borrower profile of the SBDC is changing only marginally. However, targets have been put in place to achieve a transformation of the SBDC over a five year period. These figures should be made public, so that the SBDC is held publicly accountable.

3) Johannesburg Stock Exchange:

Another potential source of equity finance, mainly for small and medium-sized growth companies, is the Johannesburg Stock Exchange. However, the level of activity in the Development Capital Market (DCM) and Venture Capital Market (VCM) of the JSE has been low. Institutions generally only invest in large corporations and smaller investors equate the DCM/VCM market with unmanageable risk.

On both the NASDAQ and the Alternative Investment Market (AIMS) of the London Stock Exchange, marketing of small business has been critical in attracting attention from both investors and companies. Revitalising the Venture Capital Association in South Africa may be key in this regard. Furthermore, a set of incentives may need to be introduced to encourage both brokers and investors to become more involved in the alternative markets.

3.4.4 Small Business Representation - The National Small Business Council (NSBC)

Lastly, another important pillar of the national strategy for Small Business is heightened awareness and representation of the SMME sector. In this regard, the role of the NSBC is to initiate, lead, promote and advocate on Small Business Issues and to broaden the participation of SMMEs.

The National Small Business Council has commenced with a strategic programme of activities for the year. The programme includes:

- ! A Chamber Development Programme - The objective of the programme is to develop the capacity of Chamber to deliver a more effective service to its members.
- ! A Programme on Local Economic Development - The objective of the programme is to highlight the role that small business can play in the process of local economic development.

3.5 STRATEGIC AND INFORMATIONAL LEADERSHIP

Earlier sections of the review discussed the increasing competitive pressures faced by South African industry. In response to this new environment, industrial sectors have restructured significantly, both through rationalisation and through reinvestment. The DTI's support measures for investment, technological advancement and export promotion have assisted in this process. However, the changing practices of rival producers in other countries, together with the changing demands of consumers, require a response from South African industry which goes beyond physical restructuring. Competitive advantage must also be derived from intra and inter firm cooperation. This would include initiatives:

- , between stakeholders at shopfloor level,
- , between producers and their customers,
- , across companies with common interests, and
- , between business, labour and government at national and industry level

This section of the report highlights a key pillar of DTI's policy intervention. DTI's intervention through strategic and informational leadership is premised on the characteristics of the South African manufacturing sector. South African manufacturers have historically fought amongst themselves for shares of a protected local market. The level of trust between competitors was generally low with the only examples of joint action being requests to government for import protection. Few firms are positioned to respond to the new competitive environment singlehandedly. Yet, without experience of cooperation, it is unlikely that parties will come together to develop shared resources to enhance their competitiveness. In terms of the earlier discussion of industrial policy, this is clearly an area of market failure.

The DTI is not in a position to prescribe the competitive strategies which individual companies should be following. It can, however, initiate processes through which:

- , information with strategic value is compiled and distributed
- , stakeholders at plant, industry or national level come together to develop joint strategies in response to new competitive conditions

This section of the report looks at four such processes:

- , the "Cluster" and Sectoral Strategy Initiatives
- , the Fund for Research into Development, Growth and Equity
- , the Sectoral Partnership Fund, and
- , the Work Place Challenge.

Before discussing each of these in detail, a brief background discussion is provided of the theoretical issues surrounding economic co-operation and the international and local experience of its promotion.

Background

In the late 1980s, on the basis of regional industrial research, writers such as Best and Porter were arguing that firm level competitiveness was largely determined by factors external to the firm. These included:

- , arrangements integrating producers with their suppliers and customers
- , the existence of sophisticated and demanding product markets
- , shared institutions to promote training and research across companies

Such factors were said to provide a platform which gave competitive advantages to groups of firms in a particular industry or set of industries, which could not be created in isolation by any single company.

The implications of this finding were immense, not only for firms but also for government. Companies could no longer rely on their own inherent strengths to survive, but needed to work with clients, suppliers and competitors to develop collective strengths and resources to compete in the broader (global) market. To the same extent, government needed to promote co-operation between different industry players, rather than engaging with them on a purely individual basis.

This thinking has strongly influenced many of the development strategies adopted in both the developed and developing world. A range of initiatives have been set up to promote inter firm and cross industry co-operation, including regional processes in Chihuahua, Mexico; Adelaide, Australia and Northern Ireland and national programmes in Morocco, Malaysia, Colombia and Poland. It has also generated a global industry of national strategy consultants involved in the analysis and facilitation needed for such initiatives.

South Africa's experience with such programmes, commonly referred to as "cluster initiatives" has been relatively patchy.

The "Cluster" and Sectoral Strategy Initiatives

In building on the industrial sector policies that emerged from the ISP, MERG and other research programmes, the DTI supported a number of industrial policy investigations through the so-called Japan Grant Fund, which we placed in Nedlac under tripartite control. The primary methodology used, was the 'cluster methodology' for information gathering and analysis. By April 1997 this had resulted in 16 IDC, DTI and Nedlac 'cluster studies'. A review of this process in mid-1997 painted a fairly bleak picture. While many of the studies had collected a wealth of industry information, the vast majority of the cluster processes:

- , lacked an overall vision of what they were trying to achieve
- , had not developed programmes which would enhance competitiveness
- , had limited leadership capacity, and

, focussed mainly on short term problems and the need for government support

DTI was further concerned that clear strategies and objectives for the industry had not emerged from some of the cluster processes

Given resource constraints, it was decided to focus the DTI's efforts on a limited number of "role model" clusters which would demonstrate the potential of collaborative processes, and securing commitment and buy in from industry stakeholders. This process typically involves:

- , setting up joint fora with industry in which to:
 - < collect, share and debate data
 - < develop an understanding of the industry's "natural" evolution
 - < identify government or industry interventions which will shift this evolution in a manner which realises their respective objectives
 - < put together an action plan which effects these interventions

- , the constant revision of objectives and priorities on the basis of new information and experiences;

The Fund for Research into Development, Growth and Equity

The Fund for Research into Development, Growth and Equity is financed by the DTI and supervised by a subcommittee of Nedlac. It funds research into the international competitiveness of the South African economy. The Fridge aims not only to improve local competitiveness, but also to build the capacity of industry stakeholders and to enhance their contribution to policy formulation.

The Fridge is the successor to the Japanese Grant Fund (JGF), established three years ago from a grant provided by the Japanese government. The JGF had essentially the same aims as the Fridge, and concluded a number of highly successful research projects. Many of the key economic initiatives of government over the past three years were developed through the JGF research, including:

- < the establishment of Investment South Africa
- < the creation of a Short Term Export Guarantee Programme
- < the creation of the Competitiveness Fund

In addition, many of the cluster studies were funded by the JGF, as was the research which led to the Department of Labour's skills development programme.

Nedlac's Fridge subcommittee is comprised of representatives of government, the Industrial

Development Corporation, Business and Labour. Any of these parties may bring forward research proposals which must be approved by the committee before being put out to tender. Each research project is managed by a tripartite counterpart group which interact with the researchers and provide progress reports to the Fridge subcommittee. By ensuring the full participation of stakeholders in the counterpart group, Fridge's procedures lay the foundations for the implementation of policy which is accepted and endorsed by Business and Labour.

A number of possible research projects have already been identified for Fridge. These include:

- , a study into an environmental strategy for industrial development
- , research into South Africa's standards and conformance infrastructure
- , an industrial study into the tourism sector
- , the establishment of South Africa's own domestic competitiveness investigation

In summary, Fridge provides an extremely valuable facility to fund research and foster co-operation at national and industry level.

The Sectoral Partnership Fund

The DTI established Sector Partnership Fund (SPF) in late 1997 to support technical and marketing projects and programmes aimed at improving competitiveness and productivity and developed by partnerships of five or more firms.

The SPF was conceived of as a direct, financial means of promoting co-operation. Funding is provided either for short term projects, such as export market studies or training on workplace practices, or for more sustained institutional development, such as the establishment of joint quality control facilities, technology clubs or procurement centres. Successful applicants to the SPF receive a grant to the value of 65% of the projects cost. The maximum grant considered is R1m. Further, up to R10 000 is available for a "network facilitator" to assist applicants to draft project proposals.

To date, 4 partnerships comprising 37 firms have received approval for the funding of projects through the SPF to a value of R2.8m. The SPF plans to fund a total of 65 partnerships over the next three years.

The SPF programme is intended as a catalyst. By inducing organisations to devise cooperative projects, the SPF stimulate learning by doing and demonstrate the benefits subsectoral cooperation. Having experienced the benefits that can be derived from partnering, it is hoped that the companies involved in the SPF programme will develop joint projects spontaneously in future and encourage other companies to do likewise.

The Workplace Challenge

The Workplace Challenge is an initiative focussed on improving firm level performance through the co-operation of business and labour in introducing practices on the shopfloor. It was set up in 1995 as a joint initiative between the DTI, the National Productivity Institute and Nedlac. The first phase of the project saw a number of workshops being held in the various provinces at which business, labour and government representative discussed issues of employment, productivity training and shopfloor relations. The process succeeded in raising awareness amongst stakeholders of the threats and opportunities presented by increasing competition and the need for productivity enhancement. On the conclusion of phase one it was recommended that a second phase be launched which would aim to develop the capacity of South African industry to compete globally. It was suggested that this process be focussed at sectoral level.

Phase two of the Workplace Challenge has taken the form of sector level projects involving groups of volunteer “pilot” companies. To date, one such project has been launched, being the plastics sector, another, footwear, has completed a detailed implementation plan for their project and a number of other sectors have been identified for participation.

The Plastics project has in operation for six months. Five volunteer companies were selected for the project. These agreed to comply with predetermined conditions for participation, being:

- , firstly, that agreement was required from all stakeholders to participate in the project and on the plan to be followed for its duration to improve shopfloor performance
- , secondly, that all stakeholders needed to agree to “measures of success” which would identify what the company would improve in the course of the project.

While it is still premature to evaluate the success of the phase two of the Workplace Challenge, the experience in the Plastics sector is already providing extremely valuable lessons on what is required for success, co-operative workplace change. The Plastics project plans to write up a detailed report of its experience by the end of the year.

Conclusion

This section of the review started by providing a general background on the role of cooperative practices in enhancing industrial competitiveness. Processes promoting cooperation have gained currency throughout the developed and developing world. While in some respects South Africa’s

adoption of these processes has been uneven, the DTI has established a strong set of programmes which will hopefully lead to the diffusion of cooperative behaviour within and between firms, and in the development of sector and national level industrial policy.

3.6 COMPETITION POLICY

3.6.1 Introduction

The current interest in competition policy among economic theorists and practitioners reflects growing recognition of the importance of institutions and business framework laws as critical determinants of national economic growth. As such, debate on, and speedy implementation of, a renewed competition policy in South Africa is vital in that it represents a last, crucial pillar in the DTI's strategy for industrial restructuring and revitalization - supporting both microeconomic productivity initiatives and macroeconomic management strategies.

Recent calls to attempt a convergence of national competition laws into an international agreement on competition issues, however, has highlighted the fact that there are still very disparate views on the contents and objectives of an effective competition policy.

Largely, the debate revolves around the extent to which competition policy should be guided by purely efficiency considerations, versus the extent to which these considerations should be complimented by other concerns, primarily those of national development. Whilst the chief focus of competition policy has traditionally been that of "economic efficiency", there are also arguments that it should include broader, developmental, considerations such as contributing to industrial restructuring, controlling the concentration of economic power, fostering the growth of SMMEs, encouraging innovation and contributing to the empowerment of previously disadvantaged portions of society. These additional objectives may sometimes be in conflict with the efficiency objective.

3.6.2 Theoretical Issues

We first examine the traditional theoretical justifications for the critical role of an active competition policy. The role of competition policy is based on the optimizing properties of competitive markets. Specifically, competition ensures that prices paid by consumers are equivalent to the marginal costs of producing individual goods and services. This facilitates the efficient allocation of resources throughout the economy ("allocative efficiency"). Competition is also generally believed to encourage firms to minimize their costs by adopting the best available technologies and organisational forms ("technical efficiency"). From this perspective, the role of competition policy is to deter or remedy business transactions and practices that undermine efficiency by constraining the competitive process.

This relationship between competition and economic performance was traditionally described in terms of the "structure-conduct-performance" (SCP) paradigm, according to which economic performance depends upon the interaction between the structure of the market and the conduct of buyers and sellers in the market. As originally interpreted, this theory held that market structure - as summarized by concentration and barriers to entry - was the primary determinant of both conduct and performance. The less the market structure resembles that of perfect competition

(large number of sellers and no barriers to entry), the less the participants can be described as price takers, and the greater the room for collusive practices, leading to higher prices.

This straightforward structure-conduct-performance causality, based as it is on a link between market concentration and anti-competitive behaviour, has been criticised on a number of fronts however:

- In a world in which many products are differentiated, consumer welfare does not depend on price alone - product variety, quality and innovation are all crucial, and there is little evidence that less concentrated markets necessarily foster better performance on these counts.

- As shown in contestable market theory, even highly concentrated industries will be forced to price "competitively" if they face the discipline of potential "hit and run" entry. Thus, concentration is not the most important dimension of market structure; contestability is key. Here the main factor is the extent to which entry requires expenditure on sunk costs. - Furthermore, the traditional SCP paradigm ignores an important feedback mechanism. Market structure and concentration are themselves the product of the competitive process. It has been argued (chiefly by Demsetz) that the reason why firms in concentrated industries earn higher profits is not because they set higher prices, but rather because they are more efficient. A somewhat similar message emerges from some modern game theory analyses of market structure which show how tougher competition between incumbent firms may itself cause higher concentration; the reason is that competition means lower prices, and lower prices force out marginal producers, while offering less favourable prospects for new potential entrants.

Thus, both "competition" and "market structure" are, in practice, complex concepts, and the relationship between the two defies simple generalisations. As a result of these theoretical debates, the role of competition policy has been questioned. For those economists that believe in the sanctity of free markets, the logic runs that most markets are actually contestable, and the cases in which cartels or cartel-like arrangements can be effective are few and, even then, likely to be temporary. Moreover, those advancing such views are concerned by the danger that government policies may be captured by firms and may actually serve to reinforce rather than reduce monopoly power. On another level, "Chicago School" theorists have argued that, in the past, anti-trust policy (particularly in the United States) has interfered unnecessarily with allegedly efficient business practices, notably in the area of vertical contractual relations.

Although the debate surrounding the effect of competition policies continues, recent research on industrial organisation effectively supports the premise that intervention to counteract the exercise of market power is necessary. Most analysis shows clearly that mergers and inter-firm agreements can indeed cause significant welfare losses. Studies of industries with market power have also confirmed that concentrated market power is a widespread phenomenon and that it is attributable, in large part, to anti-competitive conduct. Competition policy aimed at curbing such abuse of market power will thus directly improve economic efficiency in a static sense.

Competition policy can also improve dynamic efficiency, defined as the rate at which technological constraints change over time. Recent analysis suggests that a vigorous competition policy can contribute substantially to the success and vitality of firms, as well as protecting

consumers from the abuse of market power. This is a key finding of Michael Porter's research on the competitive advantage of nations. According to Porter, domestic rivalry contributes directly to the international competitiveness of a nation's firms through pressures to innovate. Porter suggests that a strong competition policy is essential for the upgrading of technology and innovation in an economy.

With specific respect to developing countries, the role of competition in fostering productivity improvement may also work through other channels. Recent research highlights domestic competition as a specific factor in increasing the rate at which transnational corporations (TNCs) transfer technology into host countries. In particular, competition improves the probability of a continuous inflow of the best available technology within individual enterprises, enabling them to take advantage of competitive advantages which it is necessary to employ in order to challenge entrenched domestic competitors. This, in turn, enhances positive technological spillovers in the host country market, creating a virtuous cycle of technological advancement and productivity growth. Competition may also foster productivity by spurring rapid adoption of improved managerial practices.

Further corroboration that competition policy has an important bearing on productivity growth and competitiveness is provided by the experiences of those countries that have, in the past, failed to maintain an effective body of competition law. For example, an OECD Economic Survey of Switzerland published in 1992 cites extensive restrictions on competition in tradable and non-tradable goods and services industries and the lack of a modern competition law as key impediments to achieving productivity improvement and economic growth. Likewise, it is increasingly recognised that the adoption of competition-oriented framework policies played a key role in the rapid growth of South Korea and other Southeast Asian NICs in the 1980s.

Research and empirics, therefore, would seem to point to a clear case for domestic competition policy on both static and dynamic efficiency grounds. One of the key questions that has emerged in light of the changing face of the global economy, however is the impact that globalization and the increasing liberalisation of trade and investment will have on the validity of these national competition policies. One argument put forward is that the pervasiveness of global competition may be reducing the need for a vigorous domestic competition policy in many industries. This view, however, has been largely discredited. As the findings the recent UNCTAD World Investment Report dealing with competition policy in a global environment states: "If anything, the effect of globalization calls for a direct, necessary and enlarging relationship between the liberalisation of trade and foreign direct investment policies and the importance of competition policy: on the one hand, FDI and trade liberalisation is a means of promoting competition among firms; on the other hand, in order to benefit fully from such liberalisation, countries need to ensure that, as statutory obstacles to contestability are reduced, these are not replaced by anti-competitive practices of firms, be they foreign or domestic."

The arguments for an active competition policy so far have looked mainly at efficiency considerations. In addition, however, competition policy can also serve wider, political-economic purposes. These include promoting the growth of SMMEs by making market access easier, supporting broader industrial restructuring, and helping to promote a pluralistic economy and society. Internationally it is not uncommon for governments to apply industrial and social policies

such as these that are generally justified on the grounds of market failures. Such policies, which are essentially designed to promote the special interests of certain groups or sectors, will thus conflict with the efficiency concerns of competition policy. Resolution of this conflict necessitates a number of exemptions or adaptations to the purely efficiency-based competition policy paradigm - and should involve an economic evaluation of the efficiency costs of explicit interventions.

3.6.3 Historical Overview of South African Competition Policy

The legal instruments and institutions associated with present competition law in South Africa are largely ineffectual on both substantive and logistical grounds.

The origins of competition policy in South Africa lie with the Regulation of Monopolistic Conditions Act, 24 of 1955. Historically, however, the government has failed to tackle monopolistic structural conditions and anti-competitive conduct effectively. Even recent attempts to strengthen the Competition Board (in 1986 and 1990) have failed to make a discernable difference to either the structure or conduct of large South African firms. This is in part due to flaws in both the content and the logistical implementation associated with the Act.

For the first two decades of its existence, the Act was administered by the Board of Trade and Industries (the Competition Board's precursor) reporting to the Minister for Industry. Activities largely entailed examination of monopolistic conditions viewed as not justifiable in the public interest. The focus of attention was therefore on issues of conduct - mainly restrictive trade agreements. Issues of market structure were not specifically examined. Even so, in only one case in two decades did the Minister of the day enforce prohibition of the anti-competitive activity. This points to the fact that the Board's competition law mandate was given low priority. Amendments to the Act were repeatedly proposed so as to enhance the prevention of anti-competitive practices, but were unsuccessful. Complaints that the Board had no power to instigate its own investigations were also ignored.

During the late 1970s, a Commission of Inquiry investigated the 1955 Act and found that oligopoly had intensified dramatically in spite of the Act. In addition to the conglomeration fad within business globally at the time, other factors that contributed to the rise in concentration included protectionist barriers, the accumulation of capital by the highly profitable mining houses, and geographical factors. To address this problem it was felt that the 1955 Act was ineffective as it had the power to intervene only after a merger or acquisition was complete. As a result, in 1979 the Maintenance and Promotion of Competition Act replaced the earlier statute.

The 1979 Act was amended in 1986 to give the Competition Board further powers, including the ability to act not only against new concentrations of economic power but also existing monopolies and oligopolies. This brought South African competition policy, in theory, more in line with U.S.-style anti-trust legislature. Yet, it is now widely recognised that there were so many technical flaws within this Act that competition law has again been judged relatively ineffectual, on both substantive and logistical grounds.

For this reason, the Department of Trade and Industry embarked on a three-year project, consulting with experts and stakeholders, to arrive at a new competition policy framework for South Africa. This effort has recently culminated in a set of policy guidelines, published in November 1997, which serve as a discussion document to be presented within the forum of Nedlac.

The policy guidelines identify the following main substantive problems with the existing Act:

* Horizontal concentration: The present Act does not address the extent of concentration of ownership nor market share in South Africa. The Act contains no provision against monopolisation per se except in so far as conduct arising therefrom is not in the "public's interest". As such, within the structure-conduct paradigm, the present Act only really concerns itself with issues of conduct. In this vein, divestiture of parts of conglomerates is seen only as a penalty, and not part of a proactive effort to address the concentration of ownership and market share in South Africa.

* Vertical ownership and control:

There are no provisions to tackle vertical acquisitions in the Act. Again, only restrictive conduct arising from vertical integration can be punished - the potential for such behaviour due to unjustifiable vertical integration cannot be addressed. Similarly, unjustifiable conglomerate relations can not be addressed under the present Act.

* Mergers and acquisitions: Whilst there is provision for addressing potentially restrictive mergers and acquisitions in the Act, this would be difficult to enforce. No provision is made for the compulsory pre-notification of mergers and acquisitions of substantial size. The unscrambling of a large acquisition ex-post would be fraught with practical difficulties.

* Anti-competitive conduct: Whilst this has been the main focus of the competition authorities, the present Act does not contain strong prohibitions of anti-competitive activity and is difficult to enforce. This is because, contrary to the practice in most countries, it does not in fact prohibit anti-competitive conduct. The implementation of rules and decisions governing competition is performed through executive decrees. As such, this process is both protracted and open to challenge on purely technical grounds (in administrative law).

To address these weaknesses in the content of current legislation, the government proposes that South African monopolies law be directed at restrictive practices and abuse of dominance. A certain, coherent, and predictable set of principles governing competition will be developed; specifying acts which are specifically prohibited. Furthermore, the government is also obviously cognisant of the link between structure and conduct. While anti-competitive conduct does not necessarily flow from given structural arrangements, they do enable such inappropriate conduct to take place. Hence it is proposed that, while the monopolies law authorities will direct themselves principally at anti-competitive conduct, they (or a parallel authority charged with oversight of structural arrangements) will retain the power to institute or to trigger structural remedies, both preemptively (to prevent anti-competitive mergers and acquisitions) and with respect to compelling disinvestment or exit from particular markets. It is also proposed that a separate Securities Act be drafted (which would include aspects of the existing Companies Act)

to deal solely with matters of corporate structure, including mergers and acquisitions. The excessive concentration of ownership and, therefore, control of economic activity, will be addressed in the context of the above mechanisms.

The DTI's policy guidelines, furthermore, identify additional problems with the present Act at the level of enforcement logistics. Some of the main ones include the duplication of proceedings between the Competition Board and the Ministry of Trade and Industry, the danger of political interference in cases, and problems in enforcing compliance with competition policy provisions.

The government's view is that monopolies law should be effected by a competent, professional agency with powers to investigate and to respond rapidly and robustly to anti-competitive conduct. The decisions of the tribunal envisaged will be subject to judicial review, but it is the Government's intention to take enforcement of competition law out of the hands of the criminal courts and to avoid the prospect of lengthy, complex and costly litigation. The possibility of politically-inspired intervention will also be removed by eliminating the exercise of ministerial discretion in the enforcement of competition law and by a more precise definition of both the mandate of the policy structure and its relationship to the Minister and government policy.

3.6.4 Analysis

The current competition policy guidelines propose a uniquely South African approach to competition policy. It follows the mandate of the RDP in melding competitiveness and efficiency aims with trying to ensure access to many more people previously denied an equal opportunity to participate in the economy. The overriding goal of the new competition proposals is "to achieve a more effective economy" relying on the criterion of "public interest". The definition of public interest is a combination of competitiveness and development.

The overriding objective of all the government's policies is to achieve sustainable growth and development, thereby ensuring a better life for all people. This requires a significant increase and an improved distribution of economic activity in the country, reflected in output growth, higher employment, enhanced efficiency and the entry of new entrepreneurs into business activity. Competition policy should have significant influence on the achievement of these objectives - particularly levels of efficiency and entrepreneurial activity - but only if it is pursued in a manner consistent with all the other policies.

As is the case with a number of other countries, therefore, the proposals would see competition policy effectively subordinated to the concerns of industrial policy. The role of competition policy within industrial restructuring therefore would be "to help domestic firms to participate effectively in international competition and to move up the value-added chain."

In analysing whether the proposed approach is likely to be successful in supporting the objectives of industrial policy, it is worth examining the applicability of alternate views.

The basis of the approach to be adopted in South Africa is that an active industrial strategy is necessary to enhance the effectiveness of the economy. By contrast, the implicit standpoint underlying the alternate arguments, as identified in the theoretical section of this discussion, is the view that the market should be left to its own devices, although there is a different emphasis in each of these arguments. Roughly speaking, these arguments center around the following three views: 1) that South Africa will not need an active competition policy, or industrial policy, as trade and investment liberalisation will do the job of regulating the domestic economy; 2) that the present, largely oligopolistic, structure of industry in South Africa supports robust competition and promotes international competitiveness - and that an interventionist competition policy that interferes in this market structure would have dire efficiency consequences; and 3) that competition policy should deal solely with efficiency issues and not wider questions of development - in other words that competition policy should not be subverted to industrial policy.

The applicability to the South African situation of each of these arguments is examined in turn:

3.6.4.1 Trade and Investment Liberalisation

It is argued that regardless of the size of domestic firms relative to their home markets, the international economy most closely approximates a perfectly competitive market. The logic of this argument holds that trade and investment liberalisation are the most effective policy interventions to ensure that domestic firms are subject to competitive pressures - thus rendering both competition policy and industrial strategy obsolete.

In particular, small markets such as South Africa's are often more concentrated and thus less competitive than large markets. By opening itself up to competition internationally, South Africa could take major steps in making the domestic market more competitive - not just in terms of lower market concentration, but also enhanced contestability, increased product differentiation and dynamic changes such as the rate of innovation.

Even so, trade and investment liberalisation cannot be seen as an effective substitute for competition policy. A strategy of regulation through liberalisation has the following limitations:

Trade Protection

There are many cogent reasons for extending a measure of protection to domestic producers. Such reasons amplify the importance of competition policy mechanisms as a means of promoting rivalry between privileged domestic producers.

Limits to Trade

In certain key markets, the main goods and services are not internationally traded and rely on competition policy to secure efficiencies and ease of entry. Even in those product markets where trade does occur, domestic producers, even in the absence of trade barriers, enjoy local advantages that effectively constitute a measure of 'natural' protection. Competition policy does not aim to reduce these advantages - it rather strives to ensure that they are exploited to the full through the promotion of rivalry between domestic producers.

Effects of Foreign Direct Investment

Foreign direct investment (FDI) has been encouraged in South Africa as it can directly contribute to the contestability of domestic markets. This is especially so because transnational corporations (TNCs) may be better able than purely domestic firms to overcome some of the cost-related barriers to entry that limit the number of firms in an industry. The markets in which the opening up to FDI is most likely to enhance contestability and inject competition are those for services. Many services cannot be traded across distances, and FDI is the only modality through which foreign providers can enter host country markets for these services. Furthermore, increasing the temperature of competition in the domestic market for certain products and services will also force South African companies to become more competitive in international markets, thus supporting the goal of export-led manufacturing growth.

Whilst this is the case in theory, this desired impact on the South African market structure may be choked-off depending on the conditions for FDI both at-entry and post-entry. Instructive in this regard is the empirical evidence of a positive correlation between TNC activity and market concentration. TNCs possess special advantages (proprietary assets such as technology or brand names) that are typically generated in industries with relatively high cost-related barriers to entry (because of high R&D or advertising) and that are conducive to their entering such industries in host countries. In other words, the majority of FDI arises from oligopolistic firms investing in oligopolistic markets.

Thus, whilst investment in new capacity by TNCs would necessarily be good for competition as it adds to the number of firms in the market, entry by acquisition has been observed to be more common in industries that are already concentrated. This could lead to increased concentration if the TNC is large enough to substantially increase investment and production, making use of its comparative advantage.

South Africa is a difficult market to break into. Market domination by a few firms has resulted in key brand names are well established, as are marketing channels and after-sales service. The consequences can be seen in the preferred habit of forming joint ventures to break into the market. This blunts the positive consequences of FDI.

The affect of FDI post-entry is also not clear-cut. If local firms prove to be strong competitively, there could be a positive spillover effect for competition as these firms adapt to the changing environment by taking new technologies and managerial practices on-board. If, on the other hand, the gap in capabilities is too large, the affect of entry by a multinational with far bigger resources could be to force the local firms to either exit or go into joint-ventures and non-equity

arrangements with the TNC - neither of which strategy aids competition or national economic development goals. The latter scenario is made more likely by the absence of competition laws aimed at improving the competitiveness of South African firms by addressing the type of anti-competitive conduct and structure that has built up during the country's isolation from international competition.

There is also the danger that TNCs which establish a dominant market position through their proprietary assets and relative size may themselves indulge in anti-competitive practices, and perhaps even erect still higher barriers to entry. Although systematic studies in this regard are lacking, TNCs have featured in some of the most conspicuous cases that have come before competition agencies. Particular concerns in this regard would include predatory pricing because of the deep-purse advantage, and vertical relationships and mergers that reduce contestability. Certainly, therefore, an effective competition policy that applies equally to foreign firms as domestic ones is necessary to prevent this situation.

3.6.4.2 Large-Firm Imperative

Another position concedes the need to have a competition policy that monitors anti-competitive conduct, but argues that a line should be drawn at any interference in market structure because of the efficiency advantages of large scale and high concentration in a small economy such as South Africa's. There are two main strands to this argument: firstly, that large national firms are necessary to promote international competitiveness, and secondly, that South Africa's oligopolistic markets do in fact underpin robust competition.

International Competitiveness

With respect to potential conflict between competition policy and international competitiveness - in particular the need to increase non-traditional exports - it is acknowledged that if South African firms are to compete effectively in international markets, a significant size is sometimes essential. With the dominance of global production and exchange, it is now important to adjust definitions of the geographical scope of markets. From this perspective, 'big' is certainly not 'bad'. However, competition policy will still play a vital role in accelerating export growth because:

- Dominance in the domestic market may provide the capacity to export, but it may inhibit the will to do so. It is, first and foremost, an intensely competitive domestic market that will encourage local firms to seek profitable opportunities in other markets and that will prepare them for robust international competition. As discussed below, this may not be the case in South Africa unless market structure is addressed.

- Research shows that small firms are also globally active players in international markets. Specifically striving to facilitate the entry of small firms and black-owned firms into international markets will have both export-growth and developmental benefits. Market and ownership concentration has been identified as one of the main barriers to expansion in these sectors.

Oligopolistic competition

It has been argued that in the South African case:

- vigorous competition characterises relations between the conglomerates and their operating subsidiaries;
- conglomeration provides the centralised financial muscle necessary for large-scale investment and that it promotes the sharing of scarce managerial and technical resources;
- the conglomeration form accords owners the power necessary to discipline management and maintain entrepreneurial initiative.

However, recent research (notably that of the Industrial Strategy Project) has rejected a simple and positive relationship between efficiency and the current form of industrial organisation. On the contrary, there are indications of widespread collusion, much of it informal and extremely difficult to track and act against. Much of it takes the form of single-firm dominance in specific markets, suggesting that South African oligopolies collude in the sharing of markets. Similarly, domination by conglomerates at key points in the productive chain and ubiquitous vertical integration serves to underpin the weakness of South Africa's SMMEs.

Tackling this problem, however, should be handled cautiously. The preceding theoretical discussion highlighted the fallibility of a straightforward relationship between structure and conduct. Collusion does not characterise all oligopolistic markets, and there can be no presumption that 'big is bad'. Markets should not be restructured simply because they are oligopolistic. On the other hand, there is clearly a case, given the South African conditions, for an economic evaluation and, if necessary, intervention, where the present market structure is a serious detriment to the public interest.

Interesting in this regard are the underlying conditions that would seem to predispose South African markets to single-firm dominance, and oligopolies to collusion rather than fierce competition. In particular, the extent to which effective competition policy is compromised by conglomeration or concentrated ownership structures has been highlighted.

This finds its influence in such practices as 'conglomeration forbearance' whereby conglomerates tacitly agree not to interfere in each other's markets for fear of retaliation. Conglomerate power also allows for greater incidence of predatory pricing due to deep pockets. Lastly, there is the question of vertical integration and the competitive constraints it can impose. Where the manufacturer integrates vertically, other suppliers can be effectively forced out and entry into the market by competing manufacturers is severely constrained.

Added to this, research would seem to suggest that the supposed benefits from conglomeration in terms of capital funding or shared overheads and managerial resources are rarely realised in the South African context. Likewise, the preservation of ownership control seems to have led to shareholders acting more like portfolio investors than entrepreneurs. Competition, innovation and growth are constrained under these circumstances.

Given the artificial environment within which most of these conglomerates gained their present status, it is doubtful whether the defense that success was achieved entirely through the competitive process can be maintained. Policy action designed to address this domination is thus not tantamount to punishing success. On the other hand, it is recognised that the extent to which South African firms are 'excessively' diversified, or South African markets are 'unusually' highly concentrated, is attributable to some extent to previous policy interventions such as exchange control and tariff protection. To some extent it is also an inevitable consequence of the particular imbalances wrought by the dominance of gold mining, with its unusually large capital requirements and returns, in a small economy. From this perspective, the determinants of South Africa's industrial structure are essentially exogenous and an 'accident of history'. Punitive divestiture, therefore, would seem ungrounded in sufficient cause from this perspective.

Fortunately, leading South African corporations, partly motivated by a desire to stay ahead of the government's commitment to action in this area, but also because of increasing investor and managerial dissatisfaction with highly diversified conglomerates, are increasingly initiating 'unbundling' exercises aimed at greater specialisation. Competition policy that has the mandate to address issues of market structure may have its greatest impact in encouraging voluntary divestitures such as these. The opening up of exchange controls and overseas investment opportunities enhances this process. Given that the concerns of controlling shareholders have always been those of risk reduction, this now provides an avenue for managing risk through geographical diversification rather than sectoral.

Efficiency Consequences

Somewhat more controversial than accepting the role of competition policy in monitoring both market conduct and structure, is the claim that it should serve wider objectives than efficiency. In South Africa, it has been explicitly suggested that efficiency concerns should be tempered with considerations of industrial restructuring and development.

One objection commonly raised is that the objectives of competition policy are compromised by industrial strategy and development interventions, as they are seen as privileging targeted sectors, classes of enterprises or regions at the expense of others. This introduces both distortions into the system and incurs a cost in terms of reduced efficiency.

However, it is not unusual for competition policy, especially in developing nations, to be complemented by industrial policy and development considerations. As suggested by UNCTAD World Investment Report: "In the context of developing countries, flexibility in applying competition policy may be even more necessary in order not to impede efficiency, growth or development goals, and policy coherence should be ensured between competition policy and other policies aimed at promoting development". The rationale for this is that the benefits in terms of increased growth, and the positive externalities that accompany development initiatives, outweigh the possible costs in terms of reduced efficiency.

In several competition laws, exemptions from restrictive business practice controls may be provided for some types of practice or for joint ventures, for some industries, for small

transactions or for cooperative arrangements among small enterprises. Competition policy may also sometimes be modified in respect of some policies relating to trade or industrial promotion. Exemptions in the name of development would take into account considerations such as empowerment and job-creation.

In the South African context, given national economic objectives and the DTI's strategy for industrial restructuring, there is a strong case for the interests of SMMEs, export sectors and certain key industries to be exempted from competition policy provisions in a considered manner. To avoid unnecessary bias, industrial support measures should be aimed at the level of clusters and other collectives of firms rather than individual firm level. Market failures that compromised the country's human resource and technological capacities will also have to be addressed. Similarly, given that one of the main impacts of the present form of industrial organisation in South Africa is distributional - it reflects and exacerbates a skewed distribution of wealth, income and power - then a new form of competition policy should also address issues of empowerment for those previously excluded from economic activity.

However, policies put in place to ensure social objectives are met need to be formulated carefully to achieve the desired objectives. It should be recognised that such policies often come at the expense of reducing economic efficiency, and these costs should be explicitly weighed-up and evaluated. Likewise, whilst pragmatic compromise may sometimes be justified, the misuse of development arguments by vested interest needs to be guarded against, and the momentum of progressive movement towards competitive markets should be encouraged.

3.6.5 Conclusion

Recent policy guidelines call for a South African competition policy that is concerned with issues of conduct, structure and ownership as well as industrial restructuring and development - collectively termed the 'public interest'. The above arguments demonstrate how this approach will indeed form the missing pillar that will effectively support the government's micro-economic productivity measures and macro-economic national economic management efforts.

The proposed competition policy framework is explicitly designed to support the stated objectives of the DTI's industrial strategy - namely the promotion of downstream high value-added exports. As discussed, its role is critical:

The elimination of trade and investment barriers may be only a necessary and not a sufficient condition for ensuring that markets are genuinely contestable. What liberalisation may grant, restrictive business practices may deny. Competition policy needs to be urgently introduced so as to reduce non-statutory barriers to entry. The concentration of many of South Africa's industrial sectors has already been identified as one of the key inhibitors to new foreign direct investment.

An active competition policy is also necessary to ensure that there is vibrant competition amongst domestic firms so that, as liberalisation occurs, South African firms have both the capacity and willingness to compete in international markets. This may have to include measures to address issues of market structure and ownership where these have led to anti-competitive behaviour.

Increasing competitiveness also means that local firms are better able to compete with the entry of transnational corporations.

In addition, increased competition leads to greater dynamic efficiencies. Competitive pressures increase the likelihood of innovation, technological upgrading and niche production. A vibrant domestic manufacturing sector also increases the ability of local firms to benefit from the positive technological spillover effects that often accompany foreign direct investment. Lastly, measures that encourage the unbundling and increased specialisation of local conglomerates also encourage the move to downstream high value-added activities.

3.7 LABOUR MARKET POLICY

The basis on which companies and countries compete internationally has changed over the last two decades. Previously low labour costs were sufficient to guarantee some level of foreign investment and exports. In the 1990's the basis for competition has increasingly become the skills level of the country's workforce both at the production worker level and at the R&D engineer level. As a result it has become increasingly necessary for governments to assist industries to enhance the skills of their labour force. In SA the legacy of apartheid makes this all the more necessary. Labour market policy is however not within the realm of DTI responsibility. The Department of Labour is tasked with ultimate responsibility for developing an appropriate labour market policy while the Department of Education oversees the development of appropriate school and tertiary institution syllabi. The DTI has however played an important role in the development of the new labour market policy and this section will thus first briefly highlight the context within which labour market policy has developed internationally and locally, before going on to highlight the measures developed by the Department of Labour to enhance skills development in SA.

3.7.1 Historical Overview

One of the effects of the increased 'globalization' of industries throughout the world has been the intensification of competition on international and domestic markets. This has led to an increase in the rate at which new products are developed and improved upon. Moreover the advent of micro-electronics and micro-computers means that consumer goods are considerably more sophisticated today than they were 20 years ago. Production of these goods likewise requires sophisticated machinery and production techniques.

These developments impacted on labour demand by increasing the skill levels required of labour. Furthermore it is not only the relatively static concept of competence that labour is now required to possess. Instead labour must now have the ability to think analytically, engage in problem solving, identify bottlenecks and generally boost productivity in any way possible.

As economies became increasingly export oriented in the 1980/90s the importance of stable industrial relations also gained recognition. As companies developed quick response production techniques and devolved responsibility for a whole range of production functions to the shopfloor the costs of work disruption or sabotage became increasingly severe. Where a web of companies depended on one another for inputs delivered 'just-in-time' any delay could have dire consequences for the whole group. The development of stable industrial relations with clear and predictable disciplinary procedures became an essential component of labour market policy.

South Africa's manufacturers have in the past produced for a captive local market; with high import tariffs in place the competitive pressure to upgrade skills and productivity was blunted. However the restructuring resulting from the tariff liberalisation which the DTI committed South Africa to in 1995 has made domestic industries increasingly exposed to trends and developments in the global economy. This provides South African firms with both opportunities and threats. In order for SA to benefit from the opportunities and avoid the threats it is essential that a

concerted effort be made to upgrade the skills of the South African workforce. This will not be an easy task, the legacy of apartheid is nowhere so stark as in the labour market.

3.7.2 SA LABOUR MARKET CHARACTERISTICS

The labour market in SA continues to bear the remnants of apartheid. The labour market was one of the main arenas targeted by previous governments for intervention in order to entrench apartheid ideology. These interventions included job reservation, the exclusion of blacks from training programmes including apprenticeships and university degrees, as well as the exclusion of blacks from managerial positions. Furthermore at various times in the past the previous government either encouraged capital intensive production through the suppression of real interest rates, or encouraged labour intensive production via its regional financial incentives to encourage production in 'homelands'. Quite apart from the unpredictable policy changes noted above the government also maintained high import tariffs which insulated domestic manufacturers from international competition. Manufacturers thus had little incentive to invest in skills development and the upgrading of human resources.

It thus comes as no surprise that the SA labour market is characterised by particularly low skills levels. In addition industrial relations are conflictual with strikes relatively common and their outcome unpredictable. Finally, because of the recession experienced in the late 1980s unemployment has risen substantially. Unemployment statistics are notoriously unreliable in SA but both qualitative and quantitative evidence suggests unemployment is in the order of 32%. However, when one takes account of the significant numbers of people who scrape a precarious living from informal sector activities it is likely that unemployment is approximately 20-25%.

No discussion of unemployment in SA can be complete without raising the issue of so called 'jobless growth'. This phenomenon, said to be unique to South Africa, is held to occur when the economy grows but employment is not created. The DTI is highly sceptical of this phenomenon.

There are two main reasons for the Department's scepticism. Firstly, if one looks at the data available (from a variety of sources) on capacity utilisation and productivity prior to the economy's emergence from the recession it is clear that resources were being significantly under-utilised. In particular many manufacturers have noted that they would be able to produce more goods with less labour input if the need were to arise. This suggests that many manufacturers were in fact significantly over-staffed and that the economy would need to grow for a sustained period before new employment would be created in these firms. Secondly, the industrial restructuring precipitated by tariff liberalisation was expected to result in significant changes in the relative strengths and weaknesses of different sub-sectors. Restructuring by its very nature implies a period of adjustment as sub-sectors begin to compete on the basis of their comparative and competitive advantage. The DTI believes that this is precisely what has been seen over the last two to three years. In some cases the restructuring has led to significant job losses, in others employment creation has begun to gather momentum. While the net job losses are substantial, the liberalisation has also led to an important acceleration of exports and the Department believes that job creation through the success of South African exports will follow shortly.

As noted in the previous section modern economies competing on the basis of sophisticated manufactured goods require highly skilled, motivated and stable work forces. South Africa's labour market policies are based on these assumptions. At a relatively simplistic level these policies fall into two categories, productivity/skill enhancing or industrial relation regulatory.

The latter refers to attempts to regulate the relationship between employee and employer in a rational and objective manner with maximum benefit to the economy. These measures include the Labour Relations Act and are the subject of the following section.

3.7.3 POLICIES REGULATING INDUSTRIAL RELATIONS

Labour Relations Act (LRA)

The Labour Relations Act of 1995, amended in 1996, was drawn to address problems created by Apartheid. The act promotes and facilitates collective bargaining at both the workplace and sectoral level. The promotion of employee participation in decision making through workplace forums is incorporated into the Act. The Act provides simple procedures for the resolution of labour disputes through statutory conciliation, mediation and arbitration. In addition the LRA allows for the creation of Bargaining Councils of the LRA through which, amongst others, wage negotiations can be resolved.

Basic Conditions of Employment Act #3 of 1993

Minimum conditions include the weekly working hours, meal breaks, sick and annual leave, overtime pay, public holidays and Sundays. The Act also regulates the notice procedures to be followed in the event of the termination of employment contracts. Furthermore the Act outlaws child labour and sets guidelines for maternity leave.

Labour Migration Bill

The Migration Bill acknowledges the shortage of highly skilled individuals in some sectors of the economy. The Bill therefore suggests that a proactive policy be implemented that will attract skills to facilitate the accessing by private companies of the global skills market. This is however envisaged as a short term measure as local individuals would be expected to be trained in these skills.

3.7.4 POLICIES TO ENHANCE PRODUCTIVITY

The global economy is characterised by the complexity of the technology used and the integration of the skills of the workforce to use this technology optimally. Training and developing skills in the manufacturing sector thus becomes essential to achieve high productivity levels and to become internationally competitive. The Department of Labour's main policy measure to achieve this is the Skills Development Bill #1997.

The Skills Development Bill is intended to promote economic and employment growth and social development through a focus on education, training and employment services. This forms an integral part of government's commitment to overall human resource development which includes education reform and transformation of health and welfare services. Principles underpinning this new system are as follows:-

- C it is flexible and decentralised but with adequate levels of national coordination and direction to support effective localised decision making and more strategic approach to education and training;
- C it is demand led, with particular emphasis on the new skills and competencies needed by enterprises to support rising productivity and competitiveness, and on pre -employment and target group training linked to work experience to support better prospects for employment or income generation; and
- C it is based on a partnership between public and private sectors, joint control over the new skills development strategy and shared costs arrangements.

The objectives of the Bill in relation to the country as a whole are:

- C to facilitate a general increase in the skills profile of the population, through accredited high quality education and training linked to the National Qualification Framework;
- C to increase the quality and quantity of intermediate level skills in the country;
- C to facilitate, through uplifting applied competency levels, more efficient social and infra structural delivery; and
- C to raise the quality, relevance and cost effectiveness of skills development throughout the country in order that the country achieves rising competency levels which promote economic and employment growth and social development.

The objectives of the Bill in relation to industry are:

- C to facilitate more structured and targeted skills development within enterprises;
- C to increase access by workers to education and training; and
- C to increase the proportion of intermediate level skills in enterprises in order that workers achieve nationally recognised qualifications and are able to assume increased independence and responsibility and employers achieve rising levels of productivity and competitiveness.

In relation to target groups the objectives of the Bill are:

- C to support target groups to enter regular employment or to sustain micro level income generating activities;
- C to support the establishment of viable small and micro enterprises; and
- C to increase access to entry level education and training in order that the people that are most vulnerable in the labour market, including those in micro enterprises are able to enter and successfully remain in employment/ self employment and enjoy a rising standard of living.

The core components of the strategy are:

Information for strategic planning: the collection , analysis and dissemination of information on labour market trends and work opportunities and their implications for skills development is essential if investment in education and training by government and the private sector are to improve. The responsibility for generating this information will be a partnership between the National Skills Authority, the Sector Education Training Authority and the Department of Labour.

Learnerships: are proposed as a mechanism to facilitate linkages between structured learning and work experience in order to obtain a registered qualification which signifies work readiness.

Employment services: will provide advice to people on the range of support services available to them, and assisting with the development of a social plan in cases of retrenchments. These services are also aimed at assisting vulnerable groups to acquire basic capabilities for accessing the labour market.

Enhancing provision: this focuses on new public funding procedures relating to private training providers, industry training centres, and NGO's amongst others. Proposals for competitive tendering of training contracts are described together with measures to assist providers to improve the quality of learning programmes

Funding: the funding of skills development will occur through a levy scheme of 1% to 1.5% of the total wage bill which will be increased to 4% over a three year period.

Skills formation should be linked to job structures and will be undertaken in the following ways:

- C pre labour market: schooling, adult education ,vocational training
- C labour market entry training: induction, apprenticeship, on the job training, institutional
- C internal labour market training: retraining for performance, retraining for upgrading/ mobility
- C adjustment training: retraining for retrenchment (external mobility), unemployment training
- C flexibility training: institutional, multi-tasking, multi-skilling

Training of the unemployed is also considered and some of the options proposed are:

- C training for wage employment;
- C training for self employment;
- C training in building related skills;
- C training for people with disabilities; and
- C entry level computer programmers.

In sum then, the Department of Labour has gone some way towards creating a labour market which is increasingly skills based and governed by accepted predictable disciplinary procedures and outcomes. However, one must guard against inflated expectations of the short term results to flow from these measures. Labour market policies take time to effect changes and it would be unrealistic for anyone to expect these policies to lead to immediate skills upgrading. The best that one can hope for is that these policies will lead to an acceleration of skill development in the medium term.

The Macro-economic Context For Industrial Development

Appendix 1

THE MACRO-ECONOMIC CONTEXT FOR INDUSTRIAL DEVELOPMENT

Macroeconomic policy creates the environment within which industry must operate, and as such is a fundamental part of 'industrial policy'.

This section examines the extent to which present government macroeconomic policy is supportive of the objectives of industrial policy as detailed in this document. It will look at fiscal policy and monetary policy as contained in the government's guiding economic strategy, GEAR. Specific reference will be made to an evaluation of the complementarities between broad macroeconomic policy goals and those of industrial policy. In effect, this section raises the question of whether present fiscal and monetary policies are likely to support or constrain the export-led manufacturing growth, employment and redistribution objectives of industrial policy.

As such, an exhaustive analysis of macroeconomic policy will not be attempted, but rather the focus will be on its implications for industrial policy.

1. Fiscal policy

1.1 Theoretical issues

The central issue in fiscal policy is the appropriate level of the fiscal deficit. This ties together decisions on government spending, taxation levels, and public debt management. Appropriate levels of the fiscal deficit for development and growth has been an ongoing and contentious issue in economic literature.

The orthodox view that has come into prominence under the auspices of multinational institutions such as the World Bank and IMF is that in order to promote the stability and investor confidence needed to stimulate a private-sector investment-fed growth spree, the lower and more stable the government's fiscal deficit the better.

This is a two-pronged school of thought based on:

- 1) The argument that public spending is likely to 'crowd-out' private investment. A higher deficit induces more volatility in terms of higher inflation rates and hence higher interest rates. Higher costs of capital and greater uncertainty discourage private-sector investment.
- 2) The case that in the current environment of integrated global trade and investment, a national government's efforts at demand management are severely restricted by the global rules of the game. Any initiatives on the government's behalf to boost the economy through demand

stimulation, which are deemed destabilizing by global capital markets, will result in capital flight and stalled investment. The result is a balance of payments crisis and corrective adjustment measures that could well leave the economy worse-off than in the initial condition.

The government's present stance on fiscal policy, as spelt out in its policy document, GEAR, follows a strategy that can be defined as roughly following this approach. The government has set about briskly reducing the overall deficit with a target of 4% for 1997/98, with further declines of 0.5% per annum thereafter. The target is a deficit of 3% in the year 2000. The guiding principle is the perceived crucial importance of fostering a stable macro-economic environment in which to promote domestic and foreign investment by private agents.

This stance has been criticised by an alternate school of thought, as most prominently contained in COSATU's policy proposals. This school of thought - often referred to as the structuralist school - focuses on the importance of public investment. In the case of COSATU's policy proposals, the focus is chiefly in the area of spending on **social infrastructure**. The chief drive of this school of thought is the 'crowding-in' of private investment. In general, it is argued that government spending will be complimentary to private investment in that, firstly, it creates a direct increase in the demand for goods and services in the economy. Furthermore, public infrastructure investment such as providing electricity to areas not previously covered, will have the direct effect of creating new demand in certain markets (for example, demand for electrical goods in this case). On the supply-side, private investment increases in response to greater consumer demand through the accelerator effect. Further, capacity utilisation improves, leading to greater productivity and self-sustaining economic growth.

The obvious concern in this instance is the type and quality of government spending. Increased government spending on current expenditure items will not be self-sustaining. What is called for is spending on capital items - with the further qualification that this spending must be in projects which are productive and result in satisfactory social returns.

Social investment by the government is seen as having a direct and indirect effect on economic growth. The direct effect is an increase in the productivity of existing labour and capital, thus increasing output. The indirect effect is that a more productive labour and capital stock coaxes an increase in demand for these more productive factors, increasing private investment and labour employment, and thus indirectly increasing the capacity of the economy. This supply side effect is complemented by a demand side effect - a more developed and productive workforce allows for greater employment and higher real wages, thus creating sustainable demand for products. Thus, social investment, it is argued, helps ease both the supply and demand constraints on economic growth.

Such thinking has support in endogenous growth theory. This body of theory stresses the positive externality effects of public investment in human capital and technological innovation.

The two schools of thought, as can be expected, are variously critical of each other's policy prescriptions. The orthodox school warns against the hazards of deficit-led growth strategies. It cites capital flight, balance of payments constraints, diminishing investor confidence, inflation

and spiralling real interest rates as market reactions which will automatically choke off any attempt to boost the economy in this way. On the other hand, the structuralist school bemoans the current wisdom of relying on ethereal investor confidence concerns in driving growth. Laying the groundwork for private investment, it is argued, does not automatically result in such investment actually taking root. Investment needs a more direct impetus, it is argued, especially if the result is to be employment creating.

Some empirics claim to show there is no clear relationship between deficit levels and rates of economic growth. On the other hand, recent World Bank studies conclude that the virtuous cycle between growth and good fiscal management is one of the strongest arguments for a policy of low and stable fiscal deficits. Some cases have been cited whereby high fiscal deficits were concurrent with high rates of growth (such as Malaysia in the 1960's), but there are equally other cases where the opposite was so. The World Bank's 1994 empirical survey of the relationship between fiscal adjustment and macroeconomic performance in 10 developing countries found that only 3 countries (Pakistan, Zimbabwe, Morocco) provided direct evidence of the presumption that public sector investment is good for private investment. From this it is argued that it is reasonable to infer that, for countries with a negative relationship (Chile, Colombia, Ghana and Mexico) or no relationship at all (Argentina), public investment is concentrated in activities which substitute directly for private investment. **The composition of government spending would thus seem to be the crucial factor.**

The neo-liberal/structuralist debate extends to other concerns of fiscal policy, namely taxation and public debt management. The market-based school emphasises low taxation as a means of encouraging investment and attracting foreign direct investment. Similarly, public debt reduction is targeted in order to bring down debt-servicing costs and improve investor confidence. Lower public debt also reduces competition by the government for savings (reduced financial crowding-out). It also reduces the risk premium on international debt. Structuralists argue that such increased lending is justified in that it can help boost growth and development through appropriate social investment.

1.2 Historical overview:

Inherited domestic macroeconomic conditions set a framework within which the restructuring of South Africa's industry must operate.

South Africa's fiscal deficit reached a high of 7,9% in 1992/93. The high fiscal deficit resulted from irresponsible government spending in the late apartheid era, and poor tax collection systems. The high fiscal deficit coincided with a period of extremely low economic growth. The causality between the two phenomena is not straightforward. Low economic growth can in fact be the cause of a fiscal deficit, because of lagged lower than expected tax returns resulting in lower revenue than expenditure. However, what is perhaps more informative is the constituents of public spending at this time. Government spending in this era was clearly not conducive to industrial growth and investment. South Africa's economic stagnation in recent years was characterised by a slowdown in industrial growth as one of its key features.

Government policy was centred on the strategy of import substitution at this time. Fiscal deficits were high because of the large scale of public expenditure in parastatals and strategic industries. Public spending did lead to some industrial growth because much of it was investment oriented. However, much of this investment was in low productive capacity, and led to a skewed distribution of industry around a minerals-energy complex. This investment did not lead to a significant improvement in industrial competitiveness. Firstly, much of the investment was in sectors in which South Africa did not have a comparative advantage (such as Sasol in the petrochemical field) and which also yielded limited benefits in terms of externalities and spillovers for the manufacturing sector. In those strategic sectors that did hold potential for positive externalities (Isacor, in the steel industry, being one), such benefits were largely squandered due to uncompetitive behaviour. Industries were characterised by low levels of beneficiation (such as the paper and pulp industry), and in some instances, discrimination against domestic users of raw materials in favour of lower prices for export markets (as observed in Isacor's pricing structure). This uncompetitive behaviour was supported by the blanket protection from international competition afforded to most industries through import tariffs. The long-term results were slower growth and a larger debt burden. This public investment was also the type of investment that the private sector may have been in a position to undertake had the returns been appropriate. It is in these circumstances that it is true to say that private investment was most probably crowded out.

Since the new government came into office, fiscal policy has focused on: cutting the budget deficit and the level of government dis-saving; avoiding permanent increases in the overall tax burden; reducing government consumption expenditure relative to GDP and strengthening the general government contribution to gross domestic fixed investment. Important steps have been made in bringing the fiscal deficit under control. This has been concurrent with an improvement in the economy's performance. Industrial growth has picked up, as has real fixed investment. Improved discipline in fiscal policy has contributed to greater financial stability and lower inflation. It also enhanced local and international business confidence, contributing to capital inflows and investment.

1.3 Analysis

The question to be analysed is whether the government's strategy of fiscal restraint has been successful in promoting the type of job-creating manufacturing growth that is the aim of industrial policy.

Present industrial growth does not fully satisfy the objectives laid out in either GEAR or the DTI's industrial policy framework. The question remains as to what form of fiscal policy would best support a solution to this situation.

The debate hinges on the determinants of private investment, and the relative weights attached to the predicted effects of government spending. As has been outlined, the neo-liberal school would argue that the best approach that fiscal policy can take to encourage the desired transformation of industry is to continue the pattern of fiscal restraint. The emphasis of

economic policy then lies with microeconomic, supply-side, interventions designed to improve the productivity of industry, thus allowing for greater competitiveness and growth.

However, this approach relies heavily on an autonomous response by private agents to price 'signals' in the market. There is some evidence in developing countries that a productivity slowdown is often a consequence rather than a cause of slower growth in the manufacturing sector. Further, low investment in the past also results in facilities using old capital equipment and technology. For instance, in South Africa's textile industry, low levels of investment in the past have meant that most facilities are not equipped with the ground-breaking technical innovations that have led to substantial productivity improvements in other countries in recent years. Furthermore, some industries have embarked on growth paths that utilise inappropriate technologies in terms of their compatibility with global norms. The South African chemical industry's use of coal-based rather than oil-based technology is an example of this. It is argued that, in these circumstances, productivity-enhancing micro-level measures may have little effect if they are not accompanied by a sufficient boost in output demand to justify the installation of new capital and markedly improve capacity utilisation. In this view, it is argued that the much-cited South East Asian model of industrial success was based on massive resource mobilisation rather than increases in efficiency.

Fiscal deficit:

The fact that growth in itself can be a powerful stimulus of productivity improvement and foreign investment motivates the move to promote exports as a means of expanding output demand. However, this approach relies heavily on an exogenous response to export strategies. Under these circumstances, there is a severe temptation to use fiscal policy to stimulate domestic demand.

There are, however, numerous arguments against this approach. The fact that the reform of government institutions and structures is not yet complete casts doubt on the capacity of the public sector to absorb significant additional resources and on the prospects for the efficient re-prioritisation of spending to continue unless the budget imposes constraints. A fiscal expansion at this stage may therefore invite a return to the unacceptable level of wastage in the public sector inherited from the past that has been the target of so much recent government effort.

There is also the traditional crowding-out argument based on higher interest rates. This link, however, is not straightforward. Some empirics claim to show that the deficit has little influence on the interest rate, and that, in addition, the interest rate may not be the chief investment criteria for business. If the country has access to foreign capital, then this crowding-out effect is even less important.

But this ignores the main argument against expansionary fiscal policies. A key precondition for successful integration with the global economy is macroeconomic stability, including relative price stability, fiscal discipline and competitive tax rates. Modern financial markets are aware of the fact that unsustainable increases in government expenditure cause balance of payments and debt servicing problems. These expectations, given South Africa's relatively large public

debt and limited foreign reserves, would precipitate capital flight at an early stage of expansion. The outcome would be further currency instability and a possible monetisation of the budget deficit.

Perhaps the strongest argument that fiscal restraint has helped South African industry can be found in South Africa's recent performance as compared with other emerging economies in the face of the East Asian economic crisis. South Africa's currency, bond and stock markets held up well in the face of an emerging market contagion. Perhaps this is the strongest measure of the market's perceived confidence in South Africa's fundamentals.

It could be argued that with a higher deficit, and weaker balance of payments position, South Africa might have been that much more vulnerable to the contagion. As such, the long-term effects on industry would have been that much more damaging than the somewhat austere environment that they now face. The coming year will tell whether the South African economy reaps the benefits of this more evident fundamental soundness.

Social spending

This does not mean, however, that there is no place for selective social investment. Investment decisions rely on a wealth of other factors that could have a more pervasive effect on industrial growth than the mere creation of a sound playing field, such as social stability and growth potential. Further, it is widely recognised that manufacturing growth is unlikely to bring about a direct increase in job opportunities of a sufficient magnitude to make a significant impact on unemployment. Labour-intensive social investment schemes would help in this regard.

In this regard, the recently announced (March 1998) three-year Medium Term Expenditure Framework (MTEF) reveals a tendency towards increased social investment in the medium term, which is thus expected to be supportive of industrial growth. The more so because many of the infrastructure projects will be undertaken in partnership with the private sector. The government has prioritised investment in physical infrastructure, particularly that related to transport, water and public buildings (such as hospitals and prisons). The government has recommitted itself to delivery through Private Public Sector Partnerships (PPPs) both to conform to fiscal constraints and to crowd-in private investment. Furthermore, social investment is not confined to just physical infrastructure; government expenditure on human capital is also to be increased, notably through a larger contribution to skills development and the creation of the Umsobomvu Fund to tackle job creation. Other measures that demonstrate the government's commitment to crowding-in private investment through selective intervention include the spatial initiatives, which address the infrastructural problems that often limit the expansion of industry in certain geographical areas.

Revenue

The GEAR framework states that it is widely acknowledged that the overall tax burden in

South Africa is high. It thus commits to avoiding permanent increases in the overall tax burden, and to maintaining a target ceiling for the tax burden to GDP ratio of 25%.

Moderate tax rates are important to a strategy of industrial growth in terms of promoting both foreign and domestic investment. Domestic tax rates affect the returns that foreign firms receive on their investments in South Africa. In terms of competing for such funds, South Africa's corporate tax rates should not be misaligned with those of competing developing nations. In this respect, taxation policy is supportive of industrial policy as current corporate tax rates place South Africa in the middle range with respect to other developing countries.

Corporate tax rates affect domestic investment by the private sector through its impact on the user cost of capital. The firm will continue to expand its capital stock as long as the marginal product of capital exceeds the real user cost of capital. The notion of user cost of capital includes variables such as inflation, interest rates, tax rates and depreciation rates. Higher tax rates require a higher pre-tax return in order for an investment project to be profitable - thus increasing the number of projects that are not approved.

The negative impact of a rising effective corporate tax rate on real fixed investment is illustrated by the investment slowdown in the mid-1980s when effective tax rates more than doubled (from 11% to 23% over a period of 5 years). The lowering of the corporate tax rate from the early 1990s can be linked to the upward trend in fixed investment over the same period. Further declines in corporate tax rates could be expected to boost this trend, but such a move is currently constrained by fiscal deficit considerations. Improved efficiency in revenue collection and a widening tax base are aimed at providing relief in this regard in the future.

The tax incentives and tax holidays announced in the macroeconomic strategy (GEAR) aimed at encouraging investment in certain geographical areas and industrial sectors are likewise expected to contribute to a higher level of fixed investment spending.

The latest Budget Review also acknowledges that middle-income households are heavily taxed. Adjustments to personal income tax rates aimed at addressing this situation are estimated to put R3,4 billion back into the pockets of middle and lower income earners. Through the multiplier effect, this expanded demand should also provide a significant boost to industrial growth in the year to come.

Conclusion

It would seem that the best strategy in support of industrial growth, therefore, is to continue the present strategy of fiscal restraint. At the same time, however, the role of social investment in promoting sustainable growth has also been recognised. Empowerment is important not just to keep the economy politically feasible, but because it releases energies previously excluded from enterprise and entrepreneurship which will be the mainspring of future economic growth.

1.2 Monetary policy

1.2.1 Theoretical issues

Monetary policy can be defined as steps designed to manage both the internal and external value of the rand. In terms of the external value of the rand, this amounts to exchange rate policy, including direct intervention in the price mechanism through exchange controls. In terms of the domestic value of the rand, the chief instrument is management of interest rates by the Reserve Bank.

Through the determination of interest rates and guidance of exchange rates, monetary policy obviously has a direct impact on the climate within which industrial policy must operate. Given GEAR's emphasis on export-led growth in manufacturing, exchange rate policies are a particularly important policy instrument in terms of the industrial sector.

With respect to the exchange rate, monetary policy is a far less contentious area amongst economists. It is commonly accepted that a stable and appropriate real exchange rate is crucial for the promotion of export-led growth. An important element in the success of the NICs was the maintenance of a stable real exchange rate. Nominal exchange rates must respond to changes in underlying competitiveness, and the job of authorities is to monitor such developments. Arguments as to why a stable, yet not-overvalued, exchange rate policy is preferable to a periodical devaluation are developed below.

There are certain arguments for keeping the currency undervalued through periodical devaluation. Devaluation has an effect on industrial growth through the real exchange rate (RER). The RER is a good proxy for a country's competitiveness in international markets. It is defined as the relative price of tradable with respect to non-tradable goods (e.g. building materials, water and labour). The RER measures the cost of domestically produced tradable goods. A decline in the RER, or real exchange rate appreciation, reflects an increase in the domestic cost of producing tradable goods. If there are no changes in the relative prices of tradables in the rest of the world, this decline in the RER represents a rise in the price of non-tradable goods (reflecting a differential in the level of inflation between the domestic and world economy), and thus a decline in the country's competitiveness. The country now produces tradable goods in a relatively less efficient way.

A domestic currency nominal devaluation changes the RER by making the price of tradables more expensive and thus the price of the domestic country's non-tradables lower and more competitive by comparison. The devaluation changes the relative price of imports in terms of exports. This has an expansionary effect on the economy for the following reasons:

- 1) Because imports are now more expensive in terms of domestic goods, the purchasing power of domestic residents declines. This, however, has a positive multiplier effect on domestic output. This is because the devaluation has an expenditure shifting effect. Local residents shift their expenditure from imports towards the now relatively cheaper domestic goods.
- 2) Similarly, foreign residents shift their expenditure from their own domestic goods and other countries' exports towards those of the devalued country, which are now relatively cheaper.

3) The switch in expenditure has a multiplier effect on domestic output. The extent of this multiplier effect though depends on the demand elasticities for imports and exports.

Exchange rate management as a tool of export promotion was applied in the post-war Japan and in the East Asian NICs, especially South Korea. The maintenance of a high export growth rate in Japan in particular was achieved partly by undervaluation of the yen in terms of its purchasing power parity. This promoted exports in general and provided blanket protection for infant industries (both infant exporting as well as infant import-competing industries).

The strategy of continued devaluation is not sustainable however. Strict limits exist on how far the real exchange rate as well as the growth rate can be pushed. As these limits are approached, upward adjustments in the exchange rate, not matched by price rises, are only likely to be feasible to the extent that there are still under-utilised factors of production that can be brought into the production of tradable goods; for example underemployed labour or capital equipment. Once these limits are reached, any further attempt at a real devaluation will lead only to further inflation.

A strategy of constant devaluation also has the disadvantage of resulting in overprotection of domestic industry. Domestic producers will not take the difficult productivity-enhancing route that is at the core of our industrial strategy, if they believe that their underlying weakness will be constantly compensated by a currency devaluation. Export promotion, on the other hand, has the beneficial effect of providing a testing ground for local manufacturers. It increases their potential market; forces the adoption, learning and mastering of more cutting-edge techniques and technologies; builds up the skill base of human resources and, through linkages with the domestic economy, provides for a multiplier effect on employment growth.

Essential Imports

It is also important to note the inter-relationship between monetary and fiscal policy. The IMF has found that disciplined domestic financial policies are a prerequisite for the maintenance of relatively stable exchange rates and the avoidance of restrictions. In cases of relatively large fiscal deficits and/or rapid credit expansion, assessments have found that unsustainable balance of payments deficits are likely to emerge, which without policy correction, would lead to the intensification of exchange restrictions, the emergence of a parallel exchange market, rising inflation, and a depreciating exchange rate in some combination. Similarly, exchange rate policy can support fiscal policy. Whilst having fiscal restraint, it is useful to have a devaluing currency as it means that resources are switched to the export sector (switching of output pattern) in response to increased demand (expenditure switching) as tradables prices are now lower in international terms. This switching of resources means that unemployment is avoided, thus allowing for the continued support of the domestic non-tradables sector, which would have otherwise suffered from a marked decline in demand due to the fiscal constraint. This switching exercise also helps the balance of payments, as exports increase and imports decrease.

The success of this strategy, however, depends on having sufficient supply side measures in

place to assist in the mobility of resources. It also relies on there being sufficient economic discipline and co-operation to prevent inflation through higher wage demands which aren't linked to productivity increases - otherwise the competitive advantage of the devaluation is eroded.

The other, inter-connected, side of monetary policy is the management of domestic price levels, or inflation. The global trend, and by far the accepted wisdom, has been towards stringent inflation targeting. Global inflation rates are at their lowest levels in decades, even to the extent of there being some concern of deflation. The across-the-board assault on inflation is because of its pernicious effect on investment, interest rates and the distribution of income. For industrial growth, low inflation introduces an environment whereby there is greater stability and hence more incentive to invest. However, in the pursuit of low inflation, authorities often impose high real interest rates. The concern is that this in itself can choke off higher investment. And that once this investment is choked off it is an unrecoverable loss, with the resultant under-utilisation of capital and human resources having a high cumulative social cost.

The effect that interest rates have on investment is given varying emphasis by different schools of thought in economic theory. With regard to discretionary demand management, fiscalists would argue that investment decisions have little to do with interest rates, being more dependent on other factors such as expectations of demand. As such, fiscal expansion could succeed in driving investment with no financial crowding out. Interest rates may rise, but this does not greatly impact investment decisions. Alternatively, monetarists believe that the interest rate is a key factor in investment decisions - a lower interest rate could bring about a substantial shift in the composition of output towards private investment.

1.2.2 Historical overview

Until 1988, exchange rate policy in South Africa was directed at stabilising the real Rand gold price. After 1988, the objectives changed with emphasis being more on helping in the overall fight against inflation. At the same time, the successful changeover to a new political dispensation paved the way for the normalisation and the expansion of the country's international financial relations. This included rescheduling of its foreign debt, re-establishment of South Africa's credit rating and abolition of the financial rand mechanism in March 1995. Since the sharp depreciation of the rand in early 1996, greater confidence and short-term capital inflows in 1997 saw the rand strengthen considerably. Despite the global turbulence of October 1997, the rand has held up remarkably well. In fact, the South African rand was ranked the third best performing currency versus the US dollar in 1997 (barring the dollar pegs), losing just 4%.

The current approach to exchange rate policy, as outlined in GEAR, reflects the view that the exchange rate of the rand is best protected through consistent application of anti-inflation policies as this brings stability to the average value of the rand against the currencies of trading

partners.

The monetary authorities have not attempted to fix a specific exchange rate of the rand. Because the variables that impact on the balance of payments are continuously in flux, it is felt that a flexible rate is appropriate. The Reserve Bank can, to some extent, smooth erratic movements in the exchange rate, but it cannot override fundamental market perceptions. Nevertheless, an unsustainable appreciation can be countered by appropriately relaxing controls and accelerating the Reserve Bank's withdrawal from the forward exchange market.

Although the exchange rate is primarily market determined, its value at any moment cannot be said to be a true reflection of the underlying value of the rand while exchange controls exist. As such, the government has stated repeatedly that it is committed to phasing out controls in a prudent manner.

In terms of domestic interest rates, following a period of negative real interest rates in 1986/87, monetary policy has been kept relatively tight. A consistent anti-inflationary stance was maintained throughout the 1989-93 cyclical downturn, bringing broad money supply growth down from 28% to single-digit levels at the end of this period. The lower rates of increase in monetary aggregates, with sustained surpluses on the current account, enabled nominal interest rates to decline. The Bank rate was reduced in steps from a maximum of 18% in 1989 to a low point of 12% in late 1993. However, following 1994, there was a resurgence of money supply and credit growth. It was necessary to increase interest rates to prevent inflation raising its head again - with the result that the new official interest rate measure, the repo rate, has only recently been reduced to 15% (March 1998).

The consistent application of monetary policy and the maintenance of positive real interest rates over the past few years have not only brought inflation down to single-digit levels, but have also reduced the volatility of a number of financial variables including interest rates. This helps in facilitating business planning and reduces the intensity of cyclical movements in the economy.

1.2.3 Analysis

Exchange Rate

Exports of manufacturing goods benefited from the depreciation of the rand in 1996 and have continued to grow through 1997. The rise in volume of exports contributed to a higher growth in GDP in recent years, yet employment rose only moderately. Employment reaction to export growth has been poor and this is most probably attributable to the high capital intensity of the South African export sector. It is also related to the current levels of capacity utilisation. The current capacity utilisation rate of 81% is still well below the 86% level achieved in 1981. It is likely that there has been a period of spare capacity absorption and replacement of obsolete equipment as a precursor to new, job-creating fixed investment.

Depreciation is also expected to have an impact on the structure of the economy, developing the export sector. In theory, a RER depreciation reduces the product wage in the exportable sector and thus increases the short-run profitability of exportables. Since this increases the marginal product of capital in this sector, a prolonged and sustained RER depreciation should induce investment in the exportable sector and thus the long-run expansion of capacity for the production of exportables.

Historically, the responsiveness of exports to exchange rate changes, which is measured by the elasticity of exports with respect to the exchange rate, has been found to be significantly positive. However, in the short-run, such elasticity is likely to be smaller than in the long-run due to the need to expand capacity in the export sector.

At the present moment, whilst there has been growth in exports, widespread investment in further capacity for the production of exports does not seem to be forthcoming. Whilst the capacity utilisation factor has already been mentioned, there is a wealth of other factors that influence investment decisions, not least of which is uncertainty. With this in mind, it is recommended that, as suggested by the theory, the best approach that the authorities can take to exchange rate policy is to continue with the maintenance of a stable and appropriate real exchange rate. This can be supplemented by export promotion efforts, which will aim to facilitate the ease with which domestic producers can penetrate international markets.

There are a number of reasons why relying on continued devaluation would not be sustainable in the South African case. South Africa is import-dependent for production as well as consumption, and expensive imported capital and intermediate goods raise domestic production costs, including production for export. Empirical studies show that the benefits of a large depreciation do not last long in the South African setting - the depreciation leads to a sharp rise in domestic inflation. The inflation rate reacts immediately to the depreciation of the rand and continues to be substantially higher than when the rand is stable. This is because of both a direct effect - more expensive imported consumer products - and an indirect effect through imported intermediate goods. The extent to which these last price increases are passed on to the consumer depends on the market structure and the state of the economy, as well as the flexibility of wages. If wages rise due to the higher prices, this in turn will be passed on in terms of even higher prices. This begins to erode the advantage gained by the devaluation in terms of lower export prices as the costs of inputs gradually escalate. If domestic prices rise in the same proportion as the depreciation, then there is no advantage in terms of international competitiveness.

This said, during 1997 the inflation-adjusted effective exchange rate appreciated by approximately 3% from December 1996 to December 1997. There is a growing concern that this appreciation of the real exchange rate is harming exports, especially in the face of rapidly depreciating currencies in other developing countries, notably East Asia. In the absence of a market correction, the Reserve Bank may have to consider corrective actions to pre-empt a sustained appreciation of the currency while continuing to strengthen the credibility and predictability of exchange rate policy.

Real Interest Rate

In terms of domestic monetary policy, South Africa has had high interest rates for a number of years now because of inflation concerns. Bringing down inflation has, on the one hand, built stability for investment, but on the other hand been a constraint on expansion. Real interest rates are very high - in the region of 10%. In most of South Africa's competitors, the real interest rate ranges between 2% and 5%. As has already been mentioned, interest rates are a key component in the user cost of capital. A clear relationship has been established between the user cost of capital and real private sector fixed investment. The rapid depreciation of the rand, and subsequent increase in interest rates, contributed to a sharp decline in fixed investment. When the user cost of capital began to decline in 1992 it was soon followed by a rising level of real gross fixed investment. Despite the hike in interest rates in 1994 in response to inflation fears, fixed investment has continued to grow, if at a slow pace. This may have more to do with the necessity to replace obsolete capital equipment in the face of increased global competition than the cost of capital. There is growing concern that high real interest rates are constraining a more widespread and substantial investment boom. Evidence would also seem to disprove the theory that high interest rates lead to more labour-intensive investments.

Now that some success in the battle against inflation can be claimed, there is pressure to decrease interest rates rapidly, providing a boost to industry in times of low demand. This would represent a policy shift from price stability to demand support. However, the South African economy has a dual nature. Despite low inflation figures, credit and money supply growth has remained stubbornly in double figures since 1994, even with high interest rates. However, late 1997 saw a marked decrease in credit extension to the private sector (the main culprit behind high money supply growth) contributing to expectations of lower interest rates in the future. Broad money supply growth is also increasingly being viewed as an unreliable and non-critical indicator of inflationary pressures - as reflected in the call for a shift to direct inflation targeting. With this in mind, the climate would seem ripe for the aims of industrial policy to be provided greater support by a move to lower real interest rates as has begun, but not at the expense of reawakening potentially damaging inflation levels.