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Trade and Industrial Policies in the New South Africa

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Lena Moritz
Stockholm, November 1994
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The transition to a democratic South Africa calls for redistribution of wealth and income and substantial upgrading of the living conditions for those previously neglected. However, the South African economy is only starting to recover from years of deep recession and is incapable of supporting sufficient improvements. The setting is a time bomb which seriously threatens a peaceful transition period and thus a future prosperous economy. Against this background, enhanced and sustainable growth is imperative, as is employment creation. The outstanding growth performance of the outward-oriented newly industrialized economies (NIEs) has led many to call for increased emphasis on exports to stimulate growth in the new South Africa.

The rationale for export promotion in South Africa is that it would help to overcome some of the short-term growth constraints in the formal sector of the economy. Specifically, the skewed distribution of income has resulted in a small domestic market which could be expanded by means of greater emphasis on exports. A second argument is the need to maintain a surplus on the balance of payments to service the foreign debt. Moreover, economic growth will continue to depend on imported intermediate and capital goods which in turn require an inflow of foreign exchange. Due to the political instability, foreign investment should not be expected to pour in and foreign borrowing will be associated with high interest rates. In this light, export earnings become essential. Finally, as a result of the apartheid system, protectionism, and other regulations, the South African economy suffers from poor resource allocation. A more outward-oriented trade strategy could possibly improve efficiency and enhance economic growth in the country.

This paper aims at presenting some of the difficulties facing South Africa as it strives for growth in a more outward-oriented economy. Following a brief review of the international debate on trade regimes, past industrial policies in South Africa are described.

1 See Lundahl & Moritz (1994) for an analysis of the redistribution problem in South Africa.
The complexities of the present trade regime are presented, followed by a discussion of different aspects of the competitiveness of South African goods. Next, the South African debate on export strategies is reviewed with special emphasis on the prospects for small- and medium-sized firms to participate in the pursuit of an export-led growth path. Finally, the role of trade and industrial policies in the new South Africa is considered.

The Debate on Trade Regimes

Following the decline in world markets for primary products and growing balance of payments deficits on the current account in the developing world, a debate was initiated during the 1950s and 1960s, concerning the relative advantages of inward-oriented policies (import substitution) and outward-oriented policies (export promotion) in developing countries. Essentially, it was argued that the presence of market imperfections made it difficult for developing countries to compete and develop which called for protection. For instance, the Economic Commission for Latin America (ECLA) saw protective measures as a means of preventing domestic demand from leaking abroad. Consequently, savings and fiscal revenues would remain at home and be used to finance domestic investment and government expenditure. Protection would ensure profitability of domestic production and thereby encourage further investment, leading to a self-sustained process of economic expansion.\(^1\) Moreover, according to the infant industry argument, tariff protection would enable an internationally competitive industry to evolve as, over time, the domestic industry reaped the benefits of large-scale production and cut costs.

Initially, the application of import substitution was quite successful, with output of domestically produced manufactures and industrial employment growing rapidly. However, as is well documented in many countries, problems were typically encountered over time.\(^2\) The standard pattern of import substitution began with consumption goods, and required that intermediate and investment goods be imported free of tariffs, or at least that a low tariff level be maintained for these categories. As the domestic market for consumer goods became saturated, once again growth was typically constrained by the necessity to import machinery. Hence, it was neces-

\(^1\) Cf. Blomström and Hettne (1984).
\(^2\) Little, Scitovsky and Scott (1970), Bhagwati (1978), Krueger (1978)
sary to proceed ‘backwards’ and raise tariffs for intermediate and investment goods as well, in order to keep the growth rate from falling. However, this, in turn, made it more difficult for the consumer goods industry to compete internationally. Lack of pressure from international competition worked in the same direction, inhibiting development of a competitive domestic industrial structure. After ‘the easy stage of import substitution’ was over, the countries thus got caught in a vicious circle.

...substituting domestic production for imports entails rising costs due to the loss of economies of scale in small national markets and the relatively capital intensive nature of the products involved. As a result, the domestic resource cost of saving foreign exchange through continued import substitution under protection will exceed the domestic resource cost of earning foreign exchange through exports and the difference will tend to increase over time.¹

Having experienced difficulties in the pursuit of inward-oriented growth strategies, attention was turned to more outward-oriented trade strategies. The logic behind the belief that export promotion is conducive to growth is as follows. By giving production for domestic and foreign markets similar incentives, export-oriented policies improve resource allocation in line with comparative advantage. Capacity utilization and factor productivity are thus increased and employment creation is stimulated in labour-abundant countries. Furthermore, by expanding the small domestic market, scale economies are encouraged, which in turn promote industrial development and competitiveness of exports. In response to foreign competition, technological progress is generated. As industrialization proceeds, comparative advantage is reinforced which in turn promotes export growth even further. This means that the development of manufacturing and the expansion of exports accompany and reinforce each other.²

Following the successful growth performance of the newly industrialized economies, a number of empirical studies were made on the relationship between trade and growth. There is a large body of literature on comparative multi-country case studies that attempt to link some proxy of trade orientation to growth performance.³ Moreover, an extensive number of time series studies concentrating on

¹ Balassa (1978), pp. 181-82.
the link between exports/export expansion and growth or between trade orientation and growth have been carried out.\(^1\)

The empirical studies suggest that a larger export share of GDP is correlated with faster growth. Moreover, a positive association has been found between a country’s trade policy and its growth performance. Together, these studies have been interpreted to document the merits of export-oriented policies, in particular over import-substitution measures.

However, the empirical studies suffer from a range of methodological weaknesses which seriously detract from their reliability. First, the results obtained by estimating simple relationships between exports and growth are very sensitive to the choice of samples and estimating techniques.\(^2\) Second, the studies fail to determine the direction of causality between exports and growth. Finally, and perhaps most importantly, the estimated trade-growth relationship has been limited to a static or short-run setting, although the association is inherently dynamic and long-run in nature. Thus, the empirical studies do not \textit{per se} provide any conclusive evidence of an association between trade policy and growth.\(^3\)

The theoretical underpinnings of the issue have also been weak. Whereas traditional trade theory has long recognized the static gains from free trade, a satisfactory model that captures the long-run dynamic aspects of international trade and economic development has been non-existent.

According to traditional neoclassical growth theory, technological progress is exogenous in nature, driven by time only. Increased savings and capital formation can enhance productivity and thus raise the level of production. However, since diminishing returns to capital are assumed, the steady-state per capita growth rate is bound to converge with the exogenous rate of technological progress. The exogenous character of technology means that government policies have no role to play in stimulating long-run growth.\(^4\)


\(^2\) See also Ram (1987), p. 52.

\(^3\) Salvatore and Hatcher (1991). See also Levine and Renelt (1991) for a review of these problems. Edwards (1989) gives an excellent description of the empirical studies that have been undertaken and also presents the associated methodological problems.

During the mid-1980s, however, the new growth theory recognized technological change and growth as endogenous phenomena, subject to private and social choices. As such, they could also be influenced by policy making. The central feature in this literature is that the assumption of diminishing returns to capital has been modified. Instead, constant or increasing returns to cumulable factors are considered, which in turn provides an opportunity for sustained per capita growth without exogenous technological progress. Increasing and constant returns have been motivated by ideas of spillovers from human capital and increasing returns to knowledge.

Increasing returns point to the significant role of market size and, consequently, of economic integration. Thus, in accordance with these ideas, openness, *per se*, could provide an important key to the trade-growth relationship. The essence of policy making and trade could simply be to increase access to human capital and ideas and thereby stimulate growth.

As for the potential of any trade regime to enhance growth, Rodrick states that ‘an abysmal trade regime can perhaps drive a country into economic ruin; but good trade policy cannot make a poor country rich.’ In other words, an appropriate trade regime may not create miracles, but poor policy making could be fatal and should be avoided. The question is: What is good trade policy? During the 1980s, many economists and institutions—including the World Bank and the IMF—advocated the implementation of ‘outward-oriented’ or ‘export-promoting’ strategies throughout the developing world in order to enhance growth. Regrettably, a clear definition as to the meaning of these strategies is lacking. While Bhagwati refers to a strategy of trade neutrality, Krueger stresses the importance of in-

\[ EER_x = EER_m \]

where:

\[ EER_x \] is the effective exchange rate for exports, equal to the number of units of domestic currency received for a one dollar international transaction plus the value of export encouragement schemes (such as tax credits or special credits) and subsidies to exporters.

\[ EER_m \] is the effective exchange rate for imports, equal to the number of units of domestic currency paid for a one dollar international transaction plus tariffs, import premiums resulting from quantitative restrictions, and surcharges.

In contrast, Bhagwati refers to a situation where incentives are biased in favour of exports as an ultra-promoting trade regime: $EER_x > EER_m$.

Import substitution, in turn, is present when incentives to produce an import-competing good exceed incentives to produce an exportable good: $EER_x < EER_m$.
centives in favour of exports. Some argue that import substitution and export promotion cannot be combined, whereas others maintain that a sound mix of the two is the key to success.

Some of the confusion in relation to the export-promotion versus import-substitution controversy springs from the underlying model used. Many analysts have been thinking in terms of a two-sector economy, with an export sector and an import-competing sector. This construction automatically leads to a negative association between export-promoting and import-substituting policies. Adding a third sector with a non-traded good, it becomes clear that the traditional separation between export promotion and import substitution is indeed an oversimplification. In particular, the two concepts should not be seen as mutually exclusive, but experience shows that a combination of the two could be a critical step toward economic development.

However, not only the bias of incentives determines the outcome of strategies. First, the sectoral orientation of the strategy is crucial. It makes a great difference whether a country chooses to expand a sector which exhibits comparative advantage that is limited to the present or to direct resources toward a sector which possesses a comparative advantage that persists or evolves over the long run. In this respect, Findlay distinguishes between ‘momentary’ and ‘long-run’ comparative advantage. Second, the market orientation is essential. If the leading sector directs sales to the domestic market only, gains connected with international trade will be foregone. Instead, by encouraging exports, efficient resource allocation can be secured. Moreover, gains from scale efficiency and technological spillovers can be reaped.

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1 Krueger (1985).
6 LDCs in which import substitution failed, typically limited sales to the domestic market. Production, therefore, could neither reap the benefits of scale efficiency, nor those of the technological stimuli connected with international trade. In contrast, countries like South Korea, although strongly protecting the import-competing sectors, succeeded by encouraging exports of these goods. In this way, efficient resource allocation was encouraged by exposing firms which had a static comparative advantage to international competition, at the same time as future strategic activities were fostered by protective measures in areas where the country did not yet have such an advantage.
Papageorgiou, Michaely, and Choksi define trade liberalization as ‘any act that would make the trade regime more neutral—nearer to a trade system free of government intervention’. Liberalization can, according to these authors, be achieved by abolishing quantitative restrictions or through a change in relative prices associated with a reduction in the average level of protection as well as a less complex and disperse protection structure.

The ambiguity of the debate is again reflected in the above paragraph where a neutral trade regime is described as one with a minimum level of government intervention. However, neutrality in the sense of neutral relative prices between exports and imports does not exclude intervention. This is illustrated by Greenaway:

Suppose we have a tariff-distorted relative price ratio of \( P_m(1+t)/P_x \), where \( P_m \) and \( P_x \) are domestic prices of importables and exportables respectively and \( t \) is an ad valorem tariff. Neutrality in relative prices could be achieved either by eliminating \( t \) or introducing an export subsidy of \( s \) where \( s=t \). The relative incentives to invest in importables and exportables would be the same in both cases. However, the degree of government involvement would be quite different as would be the resources devoted to directly unproductive activity.

Quite often, an association is made between outward-oriented policies and liberalism in the classical sense. However, most analysts today agree that intervention is a key component in the successful export-oriented countries.

Only in the case of...Hong Kong, ..., has something close to laissez-faire been practiced. In the case[s] of [Korea, Taiwan, and Singapore] there is extensive intervention and promotion in the form of state enterprises, subsidies, regulations, and other measures affecting the capital market, domestic savings, the trade regime, and indeed almost every aspect of the economy.

Thus, success could hardly be attributed to liberalism in the classical sense. However, it seems that the nature of government action in successful countries is crucial. ‘[I]nterventions were essentially in the form of incentives rather than imposition of direct controls.’ As such, government action supported the emergence and evolution of a dynamic and competitive industrial structure.

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As stated by Pack and Westphal, the object of industrial strategies, including trade regimes, should be to manage technological change in such a way as to secure dynamic industrialization. However, no universal rules on how to design such a policy exist; the design must be determined by prevailing circumstances. An interesting question, in relation to this, is how prospects for an export-oriented strategy are influenced by external as well as internal circumstances.

While Lewis has emphasized the importance of industrial country income growth for developing countries’ possibilities to expand exports, Riedel argues that supply factors are more crucial than external- and demand-related issues (see below). The fallacy of composition is another area of dispute. It refers to scepticism about whether the export-promotion strategy could be successfully implemented by all countries, simultaneously. Apart from protectionist threats, the capacity of world markets to absorb a drastic expansion in export volumes has been questioned.

To what extent was the impressive record of the NIEs a result of favourable circumstances in the world market? Following World War II, world trade grew at a remarkable speed which even exceeded growth in world income. The growth rates in both output and trade were unprecedented for such sustained periods. During the 1950s and 1960s there was a general decline in the level of protection in the industrial world as quotas were eliminated and tariffs reduced. In addition, most other developing countries practiced import substitution and did not compete with the NIEs for shares in the world market. As can be seen in the following table, Asian export expansion took place at a time when growth in world trade exceeded growth in world output significantly.

<table>
<thead>
<tr>
<th>Period</th>
<th>World Output</th>
<th>World Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953-63</td>
<td>4.3</td>
<td>6.1</td>
</tr>
<tr>
<td>1963-73</td>
<td>5.1</td>
<td>8.9</td>
</tr>
<tr>
<td>1973-83</td>
<td>2.5</td>
<td>2.8</td>
</tr>
</tbody>
</table>


3 Faini, Clavijo, and Senhadji-Semlali (1992), pp. 865-866, briefly review the discussion on fallacy of composition.
Since the 1970s, there has been a trend toward increased protectionism throughout the industrial world. The root of this is a combination of the Asian success stories and a number of external shocks to world trade such as the oil crisis, the debt crisis, and unstable exchange rates. Moreover, since the beginning of the 1990s, the world economy has experienced a deep recession. The result has been slower expansion in world trade compared to world output.

In accordance with Lewis’ reasoning, the recessionary conditions in the world market seriously inhibit exports from functioning as an engine for growth. However, the LDCs has maintained their growth rate of exports even during times of falling demand, which have led some to conclude that domestic incentives and supply factors were far more important in explaining export performance of the NIEs and others in the postwar period than were external- and demand-related conditions. For instance, Riedel points out that developing countries’ exports of manufactures increased almost twice as much as industrial world incomes in the 1960s, thus contradicting the view that developing country exports are dependent on industrial country income growth.

In relation to this, Krueger points out that if it is openness itself that conveys benefits due to competition and the nature of policy instruments employed, the gains from export orientation will be almost as great (provided the world economy remains open) with slower growth of world trade as with more rapid growth.

From the above, it is evident that neither empirical studies nor theoretical underpinnings suffice to establish the exact nature of the association between trade, trade orientation, and growth. New growth theory provides interesting implications for trade and trade policies but is still in the cradle. As for the design of ‘good’ trade policies, no certain guidelines exist. With this in mind, we turn to the South African case.

Past Industrial Policies in South Africa
During the mid-1920s, South Africa adopted an explicit industrial policy based on import substitution. In addition to tariff protection, the establishment of public corporations in strategic areas was an important part of the strategy. Import substitution was also strengthened by the Second World War, as well as via quantitative restric-

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1 Standish (1992), p. 104.
2 Lewis (1980), pp. 555-564.
tions for balance-of-payments reasons. Trade embargoes—especially those affecting defense-oriented industries, have worked in the same direction, justifying intensified protection of heavy industries.¹

The policy of import substitution effectively supported the South African transition from the production of consumer goods to that of capital and intermediate goods, or from light to heavy industry. Thus, between 1925 and 1985, heavy industry increased its share of total manufacturing value added from 36.4 per cent to 64.3 per cent.²

The emergence of heavy industries has resulted in increasing capital intensity at the expense of job creation, especially during the 1970s and 1980s. Fixed capital per worker within manufacturing grew at an annual rate of 4.6 per cent over the 1970-86 period, compared with 2.7 per cent during 1950-70.³ With a rise in the capital/labour ratio of nearly 75 per cent, combined with virtually no growth in employment, growth in manufacturing over the 1976-81 period was mainly the result of an increase in capital input.⁴

Not only has there been a shift towards more capital-intensive industries, but capital intensity within individual industries has also increased. This is partly explained by the tendency of government policy to favour capital-intensive production. From the 1970s up to the mid-1980s, real interest rates were low and often negative. The rand was overvalued (prior to 1983), and capital formation was also encouraged by a number of tax expenditure schemes. Notably, the tax system has favour the capital-intensive mining sector.⁵ The effect of these measures is a lowered price on capital vis-à-vis labour. The attractiveness of capital over labour is also a result of increased African wages. Increased labour militancy within the unions has also had the same effect. As a result, no new employment opportunities were created within the South African manufacturing sector between 1976 and 1988.⁶

The South African industrialization process required imports of capital. As shown in a study by Merle Holden, the average level of effective tariff protection in South Africa equaled 15 per cent on goods for domestic consumption, 6 per cent on intermediate goods and a mere 2 per cent on capital goods in 1963/64.⁷ In the quarter

³ Ibid, p. 454
⁷ Holden (1990), p. 262.
century after World War II, the use of import controls became the major device in support of import substitution: between 50 and 90 per cent of imports were subject to such controls. It has been shown that the system of import permits during the 1960s is also likely to have favour imports of capital goods and excluded a significant number of foreign consumer durables.

The import substitution policy encouraged local production of some consumption goods. These goods are mainly produced for the domestic market since protection has reduced incentives to be internationally competitive; the small fraction which is exported generally goes only to regional markets.

Dependence on imported intermediate and capital goods has remained, however—these categories represented 82 per cent of total merchandise imports in 1986-87.

Although there has been an overall secular decline in import penetration, the level of import penetration in the most crucial sectors of capital equipment and transport equipment has remained extremely high and the trend has not declined over time.

As a result, South Africa has failed to reduce the ratio of imports to GDP; the average import propensity has remained high at around 25 per cent of GDP since 1925. This should be compared with the Latin American countries that pursued import substitution—their ratio is generally around 10 per cent. The probable explanation for this difference is that in Latin America import substitution was practiced with respect to both consumer and capital goods, whereas in the South African case, import substitution virtually excluded capital goods. The import-substituting industries themselves are among the major contributors to the high South African propensity to import, as these industries tend to require a significant amount of imported capital and intermediate goods. The chemical industry imports more than 40 per cent of its material; the motor vehicle industry and electrical machinery over 34 and 30 per cent respectively.

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3 It has been found that industries operating under high levels of effective protection attracted resources from the rest of the economy and that it was within these industries that import substitution took place to a significant extent. Holden and Holden (1978), referred to in Holden (1990), pp. 262-63.
Since the manufacturing sector is by and large internationally non-competitive, it has remained a net user of foreign exchange. It has had to rely on the foreign exchange earnings from mining and agriculture as well as on an inflow of foreign capital to finance its substantial import requirements. Being reduced to the domestic markets, low domestic demand has severely limited the expansion of the manufacturing industry.

To sum up, the South African policy of import substitution has created a capital-intensive production structure which is strongly dependent on imports of intermediate and capital goods. The policy has failed to encourage the emergence of an internationally competitive manufacturing sector but exports have continued to rely on production within natural resource-based industries. Import substitution has also failed to generate employment. For these reasons, the merits of the policy to function as an engine for growth have been questioned.

In addition to the import substitution policy, the apartheid system per se has had a vital impact on South African industrialization. Starting with the Natives Land Act of 1913, and the Native Trust and Land Act of 1936, which limited African land to 7 and 14 per cent, respectively, a number of laws were introduced to restrict the mobility of African labour. Migration has in turn been restricted to meet the demand for cheap labour; migrant labour was to be used in mining as well as in manufacturing. Apart from securing the supply of cheap black labour, the strategy also aimed initially at protecting white workers from competition in higher-paid occupations and a statutory colour bar in skilled and semi-skilled occupations was introduced. The reservation of the best education for whites had the same effect by excluding Africans from skilled jobs. The supply of skilled labour was ensured by the training of white migrants and the encouragement of white immigration to the country.

While the large supply of labour was able to fuel economic growth before World War II and perhaps up to the end of the 1960s,

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1 See Lundahl, Fredriksson and Moritz (1992) for a more detailed analysis of the impact of apartheid on South African industrialization and economic growth.

2 Racial segregation was also strengthened by a number of complementary measures such as the Prohibition of Mixed Marriages Act (1949), the Population Registration Act (1950), the Group Areas Act (1950), the Urban Areas Amendment (1955), and the Bantu Self-Government Act (1959). Forced removals have also been practiced.

3 Lipton (1985), p. 34.
its capacity to generate growth gradually ebbed. As the manufacturing sector expanded its share of the economy and mechanization proceeded, the demand for skilled labour increased. Since the beginning of the 1960s, there was full employment among whites who also were attracted from manufacturing to the expanding service sector. In the 1970s, the influx of white migration also slowed down. A skill bottle-neck evolved which was particularly troublesome for manufacturing. Since the 1970s, the lack of skilled and semi-skilled labour has pushed up real wages, a tendency which has been reinforced by the strong influence of the African trade unions. Lack of skill has also hampered labour productivity and explains the combination of high wages and high unemployment found in South Africa today.

The high speed of mechanization resulting from industrial policies and high labour costs required capital formation. However, over time, the apartheid system became an obstacle in this regard as well. Traditionally, South Africa had been a net importer of capital, but with the failure of the manufacturing sector to increase exports, the outflow of capital caused by political factors and the increasing foreign debt to be serviced, this came to an end in the mid-1980s. Capital formation thus largely turned into a domestic affair. However, as a result of the overall reduction of economic growth and the prevailing uneasy business climate, capital formation seriously suffered and interest rates rose.

Financial sanctions made it impossible to balance the balance of payments with foreign credits. To service its foreign debt, South Africa has therefore had to run a surplus on the current account of its balance of payments. Imports of intermediates and capital goods needed in the manufacturing sector have had to be kept down (by means of import surcharges and strict monetary policies), which in turn has hampered productivity within manufacturing and economic growth.

With the exception of a short period in the early 1980s, exchange controls have been pursued in South Africa since 1961 to prevent or neutralise major fluctuation in foreign exchange reserves. In response to the debt crisis in 1985, a dual exchange system was reintroduced in order to control capital outflows.

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2 1961 is the year of the Sharpville massacre.
3 Foreigners selling their South African interests get paid in financial rands that in turn can only be bought by another foreign citizen. The system thus
South Africa has recently regained access to foreign capital markets which will ease the pressure on the capital account. Still, uncertainty will remain in the near future and limit foreign direct investment, and foreign borrowing will be associated with high interest costs. Thus, the capital account is likely to remain negative and the need to maintain a surplus on the current account will persist and continue to constrain imports and economic growth.

Over time, the very mechanisms that promoted economic growth in South Africa turned into obstacles. From having increased at an average annual rate of 2.4 per cent during 1946-1975, GDP per capita has, with the exception of a few years, been falling ever since.

The South African transition from an inward-oriented to an outward-oriented economy is to take place within the constraints created by past industrial policies. To sum up, import substitution, the apartheid system and other regulations have resulted in a non-competitive manufacturing sector and distorted markets. Lack of skilled labour and capital will make it difficult to establish an internationally competitive manufacturing sector. Besides, the macroeconomic position is weak and the socio-economic position unstable which hampers productive investment.

The Call for Trade Reform

Since the early 1970s, some of the bias against exports that was created in the 1950s and 1960s has been reduced and uniform incentives have been offered to exporters. However, the effective exchange rate for imports still exceeds that of exports. In other words, the actions taken did not result in export promotion in the sense of Bhagwati’s definition (see footnote 15). It has been suggested that powerful political and economic interests inhibited a substantial trade policy reform.2 To some extent, trade liberalization in South Africa took place parallel to a further rise in import protection. For instance, the reduction of quantitative restrictions in the 1980s was accompanied by increasing emphasis on formula duties and the introduction of an

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1 Holden (1990), p. 166. According to Bhagwati, an export-promoting strategy occurs when the effective exchange rate for exports and imports is equal. In other words, this regime refers to a trade-neutral strategy.

import surcharge in 1988. The devaluation of the rand implied increasing protection for domestic producers of import-competing goods although the anti-export bias was also reduced.1

Apart from nominal tariffs, protection received by producers depends on any taxes or subsidies on inputs. The net effect of protection can be estimated by the effective rate of protection 2 which is defined as the difference between value added per unit of output in domestic prices and value added in world market prices, expressed as a percentage of the latter. This measure can then be used to measure the bias of a particular trade regime as compared to a situation with free trade.3 In South Africa nominal protection of inputs averaged around 13 per cent and nominal protection of outputs averaged about 18 per cent in 1989. The effective rate of protection in turn has been estimated at around 30 per cent.4

As for the structure of tariffs, the system of protection does not favour any particular sector or factor of production intentionally. However, tariff-based protection is relatively low in mining, followed by agriculture, and highest within manufacturing. Within

\[
\frac{v' - v}{v} \times 100
\]

where \(v'\) is value added at domestic prices and \(v\) is value added at world market prices.

Consider the effect of a tariff on the sweater industry. In a free trade situation, the sweater sells for $100. With the cost of inputs (wool and buttons) equal to $60 in world market prices the value added at world market prices is $40. A nominal tariff of 20 per cent on output (sweaters) rises the price of sweaters to $120. If inputs remain duty free, the value added in domestic prices is $60. The effective rate of protection is then 50 per cent. If the tariff on sweater production is combined with a tariff of 10 per cent on inputs, the domestic cost of inputs rises to $66, which decreases the effective rate of protection to 35 per cent. (The effective rate of protection for production of exports can be obtained in the same way, only now \(v\) includes subsidies to exports.)

The ratio of the average effective rate of protection for importables to the average effective rate of protection for exportables can be used as an indicator of trade orientation. If the ratio is greater than unity, there is a bias in favour of import substitution, whereas there is a bias in favour of exports, if the ratio is less than unity. Neutrality in turn is characterized by a ratio equal to one. World Bank (1987), p. 79.

2. To capture the net effect of protection, the effective rate of protection is defined as the difference between value added per unit of output in domestic prices and value added in world market prices, expressed as a percentage of the latter.
3. Ibid.
manufacturing, consumer goods enjoy the highest protection, followed by capital goods and intermediate goods. Among the subsectors, Textiles, Apparel, and Leather are the most protected, followed by the Non-Metallic Minerals subsector.¹

As shown by Table 1, effective protection varies widely across subsectors. At 93.6 percent, Textiles, Apparel, and Leather enjoy the highest protection, whereas Food, Beverages and Tobacco is found at the very bottom with effective protection of 8.8 per cent. Metal Products and Equipment is found at a modest 20.3 percent. The figures in Table 1 refer to subsectors at the 2-digit level of aggregation. At the 4-digit level, the effective rates vary even more, ranging from -21 per cent for Meat Processing to 421 per cent for Pottery, China and Earthenware. Reflecting an intention of increased processing, rates typically vary according to the degree of processing in closely related industries. For instance, the effective rate of protection for Grain Mill equals -21 per cent, while the corresponding figure for Bakery Products is 139 per cent.²

Table 1. Estimates of Effective Protection (Percentages)

<table>
<thead>
<tr>
<th>Subsector</th>
<th>Inputs</th>
<th>Output</th>
<th>Effective Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, Beverages and Tobacco</td>
<td>15.2</td>
<td>13.7</td>
<td>8.8</td>
</tr>
<tr>
<td>Textiles, Apparel, and Leather</td>
<td>27.8</td>
<td>43.6</td>
<td>93.6</td>
</tr>
<tr>
<td>Wood and Wood Products</td>
<td>14.0</td>
<td>21.7</td>
<td>39.7</td>
</tr>
<tr>
<td>Paper and Paper Products</td>
<td>9.5</td>
<td>13.3</td>
<td>22.2</td>
</tr>
<tr>
<td>Chemicals</td>
<td>7.5</td>
<td>18.9</td>
<td>50.6</td>
</tr>
<tr>
<td>Non-Metallic Minerals</td>
<td>5.2</td>
<td>19.8</td>
<td>34.3</td>
</tr>
<tr>
<td>Basic Metal</td>
<td>4.7</td>
<td>11.2</td>
<td>23.2</td>
</tr>
<tr>
<td>Metal Products and Equipment</td>
<td>17.1</td>
<td>18.2</td>
<td>20.3</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>2.8</td>
<td>10.9</td>
<td>62.8</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>12.6</td>
<td>17.8</td>
<td>30.2</td>
</tr>
</tbody>
</table>


At an average of 27.5 per cent, the tariff-based protection in South Africa today is about average for developing countries. The problem with the trade regime is rather due to its instability and complexity. From a sample of 32 developing countries, the World Bank finds that South Africa has the largest number of tariff rates. Moreover, the range of tariff rates is at the very top (while many items are not protected at all, a large proportion enjoys very high protection). A lack of

² Ibid, pp. 18-19.
transparency in the South African tariff system adds to the problem with tariff collection being carried out in a number of ways. There are *ad valorem* tariffs, specific duties, “formula duties”, as well as combinations thereof. Finally, with the tariff schedule changing from week to week, there is clearly a lack of continuity in the system which causes uncertainty. Apart from these problems, it can be assumed that, as in many other countries, protection gives rise to lobbying, so-called *Directly Unproductive Profit-Seeking Activities (DUP).* The probable result from such activities is a less efficient allocation of resources.

In practice, protection functions as a tax on exporters, thus causing an anti-export bias. First, protection enables firms to raise prices in the domestic market and, therefore, it is simply more profitable to restrict sales to the domestic market. Second, protection raises prices on inputs, which in turn feeds into higher production costs. In South Africa, input costs have been estimated to be as much as 34 per cent higher due to protectionism. As a result, producers find it difficult to compete in international markets. The anti-export bias tends to hurt smaller firms to a greater extent than larger ones. The reason is that main exporters (larger firms) usually have access to inputs at prices equivalent to free-trade prices—not because of government policy but as a result of company-to-company arrangements. Smaller firms, (such as producers of clothing and wood furniture), however, are not large enough to bargain the domestic price of inputs down but have to pay the full price.

To counteract the anti-export bias, various export incentive schemes have been introduced. These include duty rebates, duty drawbacks and export subsidies in various forms. The instrument that has proven most successful is the so-called General Export Incentive Scheme (GEIS) which was introduced in April 1990. The sys-

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2 Bhagwati (1982) defines directly unproductive profit-seeking (DUP) activities as ways of making a profit by undertaking activities which are directly unproductive, in the sense that they produce pecuniary returns but do not produce goods or services that enter a conventional utility function or inputs into such goods and services. Apart from tariff-seeking lobbying, which serves to earn rents by changing the tariff and thus factor incomes, revenue-seeking lobbying (aiming at attraction of government revenues), monopoly-seeking lobbying (which seeks to create an artificial monopoly that generates rents), and tariff evasion or smuggling are examples of DUP activities.
3 Trade Monitor (1993:3).
5 Cf. Ibid, pp. 20-22.
tem is formula-based and the size of the incentive is determined by
export turnover with adjustment for the degree of manufacture, ef-
efective exchange rate of the rand, and the local content of the ex-
ports.

Although the GEIS has proved to be an important stimulus to ex-
porters, it has some serious drawbacks. For one thing, it is not com-
patible with the GATT rules according to which tax concessions and
subsidies discriminating in favour of particular exports are not ap-
proved. Moreover, contrary to its aim, the GEIS appears to have
failed to encourage new investment in the manufacturing sector.
Part of this problem is the fear among industrialists that subsidies
may not last for long. This in turn means that the GEIS, to a large
extent, has benefitted those companies that were already interna-
tionally competitive instead of encouraging potentially new ex-
porters. Finally, the GEIS has turned out to be a costly affair: At R1.5
billion per year, it represents half the budget of the Department of
Trade and Industry and claims on incentives up to R500,000 have
been paid in cash.1 Because of all this, there are plans to phase out
the system by the end of 1995.2

The World Bank has estimated the net effect of export incentives
by comparing the extent to which policies increase value added in
production for the domestic market compared with the extent to
which policies increase value added in production for export (vis-à-
vis a hypothetical free-trade situation). Their result suggests that,
although the GEIS has had some success, the export incentive
schemes have on the whole only marginally reduced the anti-export
bias in the South African economy.3

In spite of the anti-export bias, the volume of exported manufac-
tures nearly doubled over the 1981-90 period, with an average an-
nual growth rate of 7 per cent. Between 1988 and 1991, there was a
50 per cent increase in the value of broad manufacturing exports
(non-ferrous metals, iron and steel, chemicals, other semi-manufac-
tures, machinery and transport equipment, textiles, clothing and
other consumer products) in current US dollars and a 90 per cent in-
crease in the value of narrow manufacturing exports (total machin-
ery and transport equipment, textiles, clothing and other consumer
products). To a significant extent, this was the result of improved

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2 Trade Monitor (1993:3) and Department of Trade and Industry (1993), p. 33.
capital goods (total machinery and transport equipment) exports which rose from 1.18 to 2.28 billion US dollars (current value). However, it is often argued that this increase was mainly a result of poor domestic demand conditions, which forced manufacturing firms to direct sales abroad. Moreover, export incentives (GEIS) and exports designed to make better use of installed capacity have fueled exports of manufactures. It has been shown that almost all the sub-sectors that expanded exports over the last decade exhibited lower levels of capacity utilization than the national average. Finally, the exchange rate was more stable and at a lower level than in the early 1980s. Consequently, there could be a risk that exports of manufactures stagnate as the domestic economy recovers unless appropriate steps are taken. It is generally recognized that the impressive export growth experienced over the 1980s is not sustainable unless South Africa changes its trade regime.

Although opinions on the content of trade reform differ, its necessity has been acknowledged by a range of South African economists and government institutions, in addition to the World Bank and the GATT. It seems likely that the South African reform will rely on export incentives to a higher extent than import liberalization, at least in the near future. First, past experience in South Africa indicates that liberalization has not helped competitiveness much, the clothing industry being a case in point. In contrast, export incentives and macroeconomic conditions have proved to be more important. Second, with the generally non-competitive nature of South African industries, employment, industrial growth and the balance of payments may suffer if liberalization is not carefully managed.

The industrial tariff offer made by South Africa to the GATT in August 1993 gives an indication of the direction of South African reform. It was prepared within tripartite institutions in which the government, business and labour are represented. The offer includes the rationalization of about 12 800 tariff lines into no more than a thousand lines, 99 per cent of which are bound. On average, industrial

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1 Trade Monitor (1993:1).
3 Ibid, p. 97.
4 Some argue, however, that the long and deep recession actually forced exporters to make adjustments to direct sales abroad of a magnitude that make the domestic market less attractive when domestic growth picks up.
tariffs will be cut by about 33 per cent by 1999.¹ Longer phasing-in periods (8 years) are suggested for the clothing and textiles sector, and the automobile sector. Moreover, higher terminal maxima are suggested for these sectors.² The aim of the offer is to promote the manufacture of potentially competitive higher value added products and to encourage specialization in areas in which South Africa has some comparative advantage.

Practical problems as to the design and implementation of reforms are of course always there. Tariff reform is a delicate issue and the need to reach consensus between Government, business and trade unions on the management of tariff reductions, as well as on incentives and other measures aiming at improved competitiveness, has been emphasized in the South African debate. For instance, tripartite task groups for the textile, clothing, and motor vehicle industry have been set up for this purpose.

Moreover, reforming the trade regime is not likely to suffice to achieve an expansion of exports or to improve efficiency within manufacturing. To make the South African export industry internationally competitive, supply constraints in factor markets need to be overcome—notably the lack of skill and capital. As will be discussed later in this paper, South Africa is also likely to face institutional difficulties on its way to export-led growth.

The Competitiveness of South African Goods

South Africa is a very open economy.³ The exports of goods and services comprise 25 per cent of GDP. Primary exports from the mining and agricultural sectors account for 70 per cent of all exports. Primary processed products such as basic food items, wood and pulp are also important, and make up another 5 per cent of total exports. Manufactures, in turn, amount to less than 25 per cent. A closer look at the export of manufactures shows that this share consists primarily of processed products from the primary sectors. Ten per cent

¹ The maximum tariff for a consumer good will be either 20 or 30 per cent; the maximum for intermediates and capital goods will be 10 or 15 per cent, and the maximum for raw materials will be 0 or 5 per cent. Trade Monitor (1993:4).
² A terminal maxima of 60 per cent for clothing, 30 per cent for textiles, 50 per cent for assembled motor vehicles and 30 per cent for components are suggested. Ibid.
³ Trade statistics cover the entire customs union, comprising South Africa, the BLS countries and Namibia and include both re-exports and direct exports.
(10%) of total exports thus consist of basic iron and steel sections and products. At 3.5 per cent, exports of chemicals have become increasingly important. Exports of textiles (2.4 per cent), machinery and equipment (1.3 per cent), and miscellaneous industries (6.7 per cent) account for only slightly more than 10 per cent altogether, and are mainly exported to neighbouring countries. In fact, the only industries that could be categorized to be entirely export-oriented are the basic metals industries and the paper pulp industry.\(^1\) At a time when South Africa’s traditional exports are declining and capital inflows remain negative, a rise in the level of non-traditional exports is crucial. Moreover, enhanced growth calls for an increase in the value added of exports. Thus, South Africa aims at a higher share of manufactured exports as well as more processing of existing exports.

Wood and Moll found that over the 1960-1987 period South Africa’s share in world trade declined, and that the growth of total exports was particularly slow compared to that of developing countries. This trend was due to slower growth in manufactured exports compared to other developing countries, and especially the weak performance of exports of machinery and transport equipment.\(^2\)

Although the time series is short, research by Hirsh suggests that South Africa’s share of world trade has continued to fall more rapidly than that of other developing countries: from 3.79 per cent in 1988 to 3.19 per cent in 1990. However, in contrast to the 1960-1987 period, this decline is almost entirely due to the poor performance within traditional exports—a consequence of deteriorating market conditions for primary exports rather than in manufactured exports, as seemed to be the case over the 1960-1987 period.

Table 2 gives a picture of the development of the South African export share of world trade by different product groups. As can be seen, South Africa has lost ground within traditional primary product-oriented exports, while its world share of intermediate and manufactured products has increased. Most of this improvement is attributable to narrow manufactures, particularly machinery and transport equipment and textiles.\(^3\)

Hirsch’s research could suggest two gratifying trends in South Africa’s export record. A first cause for content is the increased value added of South African exports—manufactures have grown as a percentage of world trade whereas the opposite is true for primary

\(^1\) Osborn (1992).
\(^3\) Hirsch (1993), pp. 95-97.
products. Moreover, the changing structure of export growth could indicate that, since the late 1980s, the competitiveness of South African manufactures has increased. The latter trend holds out hope for future exports. South Africa’s strongest export potential appears to be in intermediates and in engineering products and other capital goods.1 The expansion of trade in services is another area that has

Table 2. South African Exports as a Percentage of World Trade by Product Group

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>A. Food</td>
<td>0.402</td>
<td>0.554</td>
<td>0.497</td>
</tr>
<tr>
<td>B. Raw Materials</td>
<td>0.900</td>
<td>0.899</td>
<td>0.842</td>
</tr>
<tr>
<td>C. Ores and Other Minerals</td>
<td>3.821</td>
<td>3.657</td>
<td>3.432</td>
</tr>
<tr>
<td>D. Fuels</td>
<td>0.477</td>
<td>0.418</td>
<td>0.393</td>
</tr>
<tr>
<td>E. Non-ferrous Metals</td>
<td>1.260</td>
<td>1.172</td>
<td>1.003</td>
</tr>
<tr>
<td>F. PRIMARY PRODUCTS</td>
<td>0.783</td>
<td>0.807</td>
<td>0.701</td>
</tr>
<tr>
<td>G. Iron and Steel</td>
<td>1.804</td>
<td>1.862</td>
<td>1.970</td>
</tr>
<tr>
<td>H. Chemicals</td>
<td>0.301</td>
<td>0.319</td>
<td>0.282</td>
</tr>
<tr>
<td>I. Other Semi Manufactures</td>
<td>0.850</td>
<td>1.067</td>
<td>1.088</td>
</tr>
<tr>
<td>J. Machinery and Transport Equipment</td>
<td>0.117</td>
<td>0.122</td>
<td>0.157</td>
</tr>
<tr>
<td>K. Textiles</td>
<td>0.109</td>
<td>0.117</td>
<td>0.150</td>
</tr>
<tr>
<td>L. Clothing</td>
<td>0.054</td>
<td>0.055</td>
<td>0.074</td>
</tr>
<tr>
<td>M. Other Consumer Products</td>
<td>0.063</td>
<td>0.065</td>
<td>0.076</td>
</tr>
<tr>
<td>N. TOTAL</td>
<td>0.764</td>
<td>0.728</td>
<td>0.678</td>
</tr>
<tr>
<td>O. Broad Manufactures (E, G-M)</td>
<td>0.293</td>
<td>0.325</td>
<td>0.339</td>
</tr>
<tr>
<td>P. Narrow Manufactures (J-M)</td>
<td>0.103</td>
<td>0.108</td>
<td>0.137</td>
</tr>
<tr>
<td>R. Intermediates (E,G,H,I)</td>
<td>0.821</td>
<td>0.912</td>
<td>0.886</td>
</tr>
</tbody>
</table>

Source: Trade Monitor (1993:1)

been mentioned.2 However, as discussed above, the current trend towards manufactured exports is fragile, especially because of the political situation which inhibits investment.

Table 3 presents the distribution of South African merchandise exports over the world zones between 1989 and 1993.3 Exports to other African countries have increased significantly over the period. The African market absorbed around 8.7 per cent of exports in 1993 which may not appear very impressive. However, as much as 70 per

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1 Trade Monitor (1993:1).
2 Trade Monitor (1993:3).
3 Official trade statistics refer to trade of the entire South African Customs Union (SACU) which dims the picture somewhat. However, figures are indicative for South Africa. SACU includes Namibia, Botswana, Lesotho, Swaziland, and South Africa.
cent of total exports is made up of manufactures—a figure that reflects the importance of the African market.\(^1\) Although there is potential for increased trade with Africa, prospects are expected to lie mainly in the long run, partly because of the lack of foreign exchange in these countries.\(^2\)

Table 3. Distribution of Merchandise Exports* over the WorldZones

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>5.7%</td>
<td>6.6%</td>
<td>7.9%</td>
<td>8.9%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Europe</td>
<td>34.9%</td>
<td>37.6%</td>
<td>36.2%</td>
<td>34.1%</td>
<td>32.5%</td>
</tr>
<tr>
<td>America</td>
<td>6.1%</td>
<td>5.5%</td>
<td>7.7%</td>
<td>9.2%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Asia</td>
<td>17.9%</td>
<td>17.9%</td>
<td>18.3%</td>
<td>18.0%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Oceania</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Other unclassified goods and bal. of pay. adj.**</td>
<td>34.5%</td>
<td>31.6%</td>
<td>28.7%</td>
<td>28.2%</td>
<td>30.4%</td>
</tr>
<tr>
<td>Ships/aircraft stores</td>
<td>0.4%</td>
<td>0.2%</td>
<td>0.7%</td>
<td>1.0%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

* Not adjusted for balance of payment purposes.
** Includes exports of gold and platinum.


Europe is South Africa’s single most important export market, although its share of total exports has decreased by around 5 per cent over the 1990-1993 period. Apart from exports to the rest of Africa, South Africa primarily aims at increased exports to Europe. For the time being, the only South African non-primary products to be competitive in the European market include processed agricultural products, some engineering goods, and some clothing items.\(^3\) The idea of some sort of trade agreement with the European Community (which absorbed around 27 per cent of exports in 1990)\(^4\) has been much discussed. However, the gains from preferential trade regimes with the EC would be marginal because the bulk of South African exports consists of metals and minerals which already face low barriers. Specifically, it has been estimated that less than 20 per cent of present South African exports to the EC would benefit from standard trade preferences.\(^5\) (See appendix for a more detailed presentation of South Africa’s direction of trade and trade by products.)

\(^1\) Trade Monitor (1993:3).
\(^2\) See Maasdorp and Whiteside (1993) for a comprehensive review of prospects for trade with Africa.
\(^4\) Ibid, p. 28.
\(^5\) Ibid, p. ix.
If South Africa is to succeed in exports, the country has to be competitive in the world market. The South African manufacturing sector has been estimated to be, on average, about 15 per cent less competitive than that of most countries in the world. This is the result of several factors, in particular, high costs of factor inputs and intermediates in combination with low factor productivities.

This paper has already dealt with the price-increasing effects on South African intermediates resulting from protection and touched on the high cost of capital and labour in South Africa. Over the last decade, the increase of real earnings within manufacturing has exceeded productivity growth. Between 1981 and 1990, earnings increased at an average annual rate of 1.1 per cent, while labour productivity decreased with 0.3 per cent annually. Corresponding figures for Taiwan reflect a rise in earnings of 1.3 per cent while productivity rose 5.8 per cent. Nominal unit labour cost—the net effect of changes in labour productivity and in wages—increased on average by 15.6 per cent annually between 1981 and 1990 compared with 4.4 per cent in Taiwan, 1.1 per cent in the US, 0.1 per cent in Japan, 2.6 per cent in Germany, and 3.4 per cent in the UK. As discussed above, former government policies are much to blame for this trend of increasing unit labour costs: The statutory colour bar in skilled and semi-skilled occupations together with apartheid in the educational system gradually caused a skill bottle-neck in the economy which in turn pushed up wages and hampered productivity growth. Reducing unit labour costs by cutting wages is not a viable strategy. Given that the skill bottle-neck will remain for some time, lower wages are both unrealistic and politically unfeasible. Instead, to improve competitiveness, the focus must be on increased productivity.

The cost of capital is also relatively high in South Africa, mainly because lack of confidence in the South African market and poor macroeconomic development have constrained the supply of capital. Total gross domestic savings averaged less than 20 per cent of GDP over the 1989 to 1992 period, compared with a recommended gross investment level of 25 per cent. Furthermore, government dis-saving and capital outflows have absorbed large parts of these savings and thus limited the portion available for investment; net out-

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1 Trade Monitor (1993:3).
3 The ratio of gross domestic savings to GDP averaged 23.5 per cent in the 1960s, 25.5 per cent in the 1970s, and 24.5 per cent in the 1980s. SARB (1992), p. 16.
flow of capital has been between 2 and 3 per cent per year during the last decade and the deficit on the budget of the central government increased from 2.5 per cent of GDP in 1990/91 to 8.8 per cent in 1992/93.\(^1\) Table 4 shows the development of the interest rates and the inflation over the 1987-1983 period. To combat inflation, the Reserve Bank has pursued a tight monetary policy with high real interest rates as a key ingredient. Although inflation has started to fall recently, a decline in foreign reserves has prevented the Reserve Bank from bringing down interest rates.

Table 4. *The Development of the Interest Rates and the Inflation Rate over the 1987-1993 Period*

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Reserve Bank discount rate</td>
<td>9.5</td>
<td>14.5</td>
<td>18.0</td>
<td>18.0</td>
<td>17.0</td>
<td>14.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Long term corporate loan rate</td>
<td>17.1</td>
<td>17.1</td>
<td>18.0</td>
<td>17.8</td>
<td>21.2</td>
<td>18.1</td>
<td>18.4</td>
</tr>
<tr>
<td>(company loan securities)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term government stock rate</td>
<td>15.5</td>
<td>16.7</td>
<td>15.9</td>
<td>16.0</td>
<td>16.7</td>
<td>14.9</td>
<td>12.2</td>
</tr>
<tr>
<td>Commercial banks’ prime</td>
<td>12.5</td>
<td>18.0</td>
<td>21.0</td>
<td>21.0</td>
<td>20.3</td>
<td>17.3</td>
<td>15.3</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>16.1</td>
<td>12.9</td>
<td>14.7</td>
<td>14.4</td>
<td>15.3</td>
<td>13.9</td>
<td>9.7</td>
</tr>
</tbody>
</table>


Costs of inputs in the production process are thus relatively high in South Africa, making it difficult to be price competitive. There are also dimensions to competitiveness other than the price of products. A number of product-oriented features, such as quality, variety and differentiation, and the speed of innovation, have become increasingly important attributes of competition.\(^2\) These non-factor based determinants of competitiveness cannot, as in the case of product prices, be estimated by looking at factor productivities. Therefore, it is difficult to compare the performance of different countries in relation to these aspects of competitiveness. However, there are some indications that South Africa is doing poorly also in product-related dimensions of competitiveness. For instance, a South African firm within the small domestic appliance industry is reported to meet customer orders in 16-18 weeks, while its Australian counterpart

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\(^1\) South African Department of Finance Mission in Europe (1994).

meets orders the next day, even though the South African firm has a larger stock.¹

Table 5. Factor Productivities within Manufacturing, 1960-1990
(percentage growth per year)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Labour Productivity</td>
<td>3.32%</td>
<td>1.32%</td>
<td>1.40%</td>
</tr>
<tr>
<td>Capital Productivity</td>
<td>-0.20%</td>
<td>-2.12%</td>
<td>1.40%</td>
</tr>
<tr>
<td>Total Factor Productivity</td>
<td>-</td>
<td>-1.02%</td>
<td>1.40%</td>
</tr>
</tbody>
</table>


Turning to productivity, Table 5 shows the annual factor growth rates within the South African manufacturing sector between 1960 and 1990. Between 1983 and 1990, there was a decline in the value of capital stock and, consequently, on the margin, capital productivity rose. Thus, it has been concluded that the improvement in capital productivity over this period can be expected to reflect an absolute fall in the value of the capital stock rather than improved efficiency and that capital productivity has fallen over the last two decades.²

Labour productivity has grown throughout the 1960-1990 period, although at a decreasing rate. However, it has been shown that South African labour-productivity performance proves to be very poor compared to countries that have reached a similar level of development.³

TFP refers to the part of growth not caused by labour and capital and has been interpreted in terms of technical progress or increased efficiency.⁴ At aggregate levels, TFP growth performance is generally low throughout the South African manufacturing sector, although it varies significantly within subsectors. With the exception of non-ferrous basic metal industries, growth in TFP is marginal in all major sectors. Contrary to international experience, the more

¹ Joffe et al. (1993), pp. 7-8.
³ Ibid, p. 6.
⁴ Cornwall (1987), p. 661. Empirical evidence suggests that one-third to one-half of output growth can be attributed to TFP growth. Nishimizu and Robinson (1984), p. 178. In addition, TFP growth has been proved to be superior to capital deepening in contributing to improvements in labour productivity. In a study of Dollar and Sokoloff (1990), p. 310, the contribution of total factor productivity growth to labour productivity growth in the Korean manufacturing sector (1963-79) appeared to be much greater than that of capital deepening. Less than half of the average 11 per cent yearly increase in labour productivity in manufacturing was found to be due to capital deepening.
labour-intensive sectors perform above average, whereas the more
capital-intensive intermediate goods—specially industrial chemicals
and the capital goods sectors—show below average TFP growth.¹
This suggests an inefficient use of capital within these sectors. Stan-
dish and Galloway state that

...one of the most worrying features of the South African manufacturing
industry is its apparent over-capitalization and subsequent inefficient
use of capital. This is surely unacceptable given the relative shortage of
capital which exists. Not only is this an inefficient allocation of resources,
it is also in the majority of cases detrimental to the export effort. This is a
situation which cannot be allowed to endure if an export-led strategy is
to succeed.²

The combination of declining capital productivity and increasing
labour productivity at the aggregate level is typical for an economy
substituting capital for labour. What is striking in the South African
case is that, contrary to international experience, this process has
been accompanied by low or even negative TFP growth over the two
last decades.³ This means that any growth in real output stems more
from a rise in factor inputs than from improved efficiency. This is a
feature common to early stages of industrialization and thus appears
odd in the case of South Africa which embarked on the industrializa-
tion path in the mid-1920s.

The poor factor productivity within South Africa’s manufac-
turing industry has its roots in low rates of investment, both in
physical and human capital. Productivity and investment are, how-
ever, interdependent and, thus, low productivity also hampers
investment. The failure to invest over a number of years has hurt the
competitiveness of South African manufacturing; much of the capital
in the manufacturing sector is obsolete and the latest technology is
not utilized. It could be expected that lack of skilled workers makes
it difficult for companies to use advanced technology. As for labour
productivity, the most serious obstacle is probably the fact that
South African labour lacks education—a problem that cannot be
overcome in the short run. An inefficient use of production factors,
significantly due to regulations and government policies,
compounds the problem.

If industrialization is to speed up in South Africa and generate
growth and development, TFP growth has to be improved. As to the

¹ Joffe et al. (1993), pp. 6-7.
³ Belli et al. (1993), pp. 27-28, confirm this result.
sources of TFP change, a number of ambiguities persist. One possible link that development economists have focused on is between trade policies and productivity. Although the direction of causation has not been established, there is some empirical evidence of an association between outward-looking strategies and high TFP growth. Among other hypotheses, this relationship has been explained in terms of a positive impact of export expansion through economies of scale or competitive incentives as well as through positive external effects.

The World Bank broke down the sources of total factor productivity growth in South Africa into import substitution, expansion of domestic demand, and export expansion. An investigation was made over two periods, 1972-1983 and 1983-1990, the former period supposedly corresponding to a more protected era and the latter supposedly reflecting a more open economy with a lower real exchange rate. For the first period, export expansion was found to be positively correlated to TFP growth, import substitution contributed insignificantly or negatively, and demand expansion insignificantly or slightly positively. Over the 1983-90 period, a positive and statistically significant association between TFP growth and all three sources of growth was found. Although not very convincing, the

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1 Cf. Nelson (1981) for an extensive survey of the literature on productivity change.
2 Nishimizu and Robinson (1984) found strong links between the choice of trade policy and TFP growth. In particular, export expansion appeared to stimulate TFP growth through increasing competitive incentives and/or through economies of scale. Feder (1982) has shown that marginal factor productivities in the export sector exceeded those in the non-exporting sector for a sample of semi-industrialized countries over the 1964-73 period. Inter-sectoral externalities, such as development of efficient and internationally competitive management, the introduction of improved production techniques, training of higher-quality labour, steadier flows of imported inputs, etc., explained almost half of the gain in growth associated to higher factor productivity in exports. Dollar and Sokoloff (1990) found a positive association between the growth rates of exports and total factor productivity in Korea (1963-79), although there was no certainty as to the direction of causation. One explanation given by Dollar and Sokoloff is that the open trading regime increased the returns to innovation within light industries that exhibited a comparative advantage and thereby stimulated total factor productivity growth.
3 The method of breaking down demand growth into three sources: export expansion, import substitution, and domestic demand expansion, was first introduced by Cheenery (1960).
study does suggest a link between outward orientation and TFP growth.¹

Few would question whether past trade policies in South Africa have hampered both exports, industrialization, and productivity growth. The results of the World Bank study, however, are too weak to prove any causality between outward orientation and productivity growth in South Africa. The 1.40 per cent TFP growth recorded over the 1983-1990 period has also been explained as a “perverse” result in that it arises from a fall in the value of aggregate capital stock rather than from an increase in the efficiency of marginal investments.² Hirsch anticipates a link between output and productivity growth (rather than between outward orientation and productivity). Accordingly, the success of trade reform in South Africa would depend on its ability to speed up investment in production capacity and therefore productivity growth.³

To sum up, the expansion of South African exports is not an easy task and competitiveness needs to be improved. A point brought forward by business is that, as a result of the recession, there is significant spare capacity in companies that can be exploited. In the long run, export-led growth cannot rely on spare capacity, however. Attention must focus on fighting bottle-necks in factor markets. This in turn requires investment in human capital and technology. Although a more outward oriented trade regime may lead to more efficient resource allocation, it will not automatically increase investment to a satisfactory level. Private initiatives hinge on perceived market opportunities and require an improvement in business confidence and stabilization of the political situation. Initially, public investment will therefore play a crucial role. However, South Africa’s weak macroeconomic position does not allow for a massive rise in public spending.⁴ What is more, the size of the productivity gain from public investment in areas such as human development is difficult to predict, as is the time needed before such gains can be reaped. What is clear at this point is that South Africa cannot finance the investment needed on its own, and that foreign direct investments and international aid will play an important role.

¹ Holden (1990) also finds that over the 1947-87 period South African export expansion and development of manufacturing accompanied and reinforced each other.
⁴ See Lundahl and Moritz (1994) for a discussion of the macroeconomic constraints facing the New South Africa.
Export Strategies

Generally speaking, there is consensus about the need to increase value added of manufactures and to expand incomes from exports in South Africa. However, opinions as to how to accomplish these aims differ. Significantly, the debate draws on the experience of the export-oriented success stories in Asia. The role of industrial policies is increasingly emphasized as a means of initiating the process.

The theory of comparative advantage states that a country should specialize in goods which it can produce relatively more efficiently than other countries and then export these goods. Accordingly, since South Africa is rich in raw materials, one would expect South Africa to export goods that embody these. Moreover, South Africa is a labour-abundant country (compared to its major trading partners) and should thus be internationally more competitive in labour-intensive products than in capital-intensive ones.

In a study of South African competitiveness, Ariovich measures an industry’s competitiveness by its relative export share in the world market.1 His results confirm the generally accepted view that the advantages of South African goods are largely based on local natural resources, i.e. agricultural and mineral resources and raw materials. However, within manufactures, South Africa’s highest export shares are found for products which are produced with capital-intensive techniques.2 This would surprisingly suggest that South Africa has a comparative advantage in capital-intensive manufactured goods.

The explanation given by Ariovich is related to the “Leontief paradox”:3 Labour productivity could be relatively low in South

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1 Ariovich (1979), p. 188.
2 Standish and Galloway (1991) also conclude that the wood industry and possibly the metal products industry hold promise for export growth. Textiles and base metals are found to indicate some export prospects, although Standish and Galloway point out that their respective appetite for capital dins the picture.
3 Leontief (1953) found that 1947 US exports were more labour-intensive than US imports in the sense that the capital per man required to produce $1 million of exports was less than the capital per man required to produce $1 million in import substitutes. This discovery did not correspond well to the assumption that the US was a capital- rather than labour-abundant country and, according to traditional trade theory, would be expected to export capital-intensive goods. This so-called Leontief paradox has been explained in terms of (1) high productivity of US workers; (2) capital-biased consumption; (3) factor-intensity reversals; (4) tariffs; (5) abundance
Africa, which means that the country could be relatively capital-abundant after all. It could also be the case that high protection of labour-intensive goods leads to inefficiency in this sector, while lower protection within capital-intensive industries fosters international competitiveness. Moreover, scale advantages are present in the production of capital-intensive goods, which seems to be an important factor in international trade. Most importantly, the pattern of exports is explained by the fact that South Africa has a comparative advantage in production of goods that rely on non-competing production factors. The production of industrial goods that embody local raw materials is in turn capital-intensive.

The above suggests that an export-led growth path in South Africa will be capital- and skill-intensive. However, both capital and skilled labour are scarce in South Africa and, therefore, constitute constraints on future export expansion. Comparative advantage should, however, be regarded as a dynamic concept and future South African exports do not necessarily have to relate to the country’s current comparative advantage. In the NIEs, success was intimately linked to the creation of a comparative advantage or a competitive edge. As discussed in the review of the debate on trade regimes, the creation of ‘long-run’ comparative advantage rather than ‘momentary’ comparative advantage is, however, critical if this strategy is to succeed.

Creation of Industrial Clusters
One export strategy that has been advocated in South Africa involves identifying clusters of industries that show collective indications of some advantage and then directing resources to these clusters. Associated policies should be designed so as to stimulate the production of higher value added goods and processing within these clusters. However, a strategy of selecting winners and restricting support to these industries has its risks. In particular, it is not unreasonable to wonder whether the South African institutions do in fact have the capacity and knowledge required to target the right industries. Even competent policy makers can go wrong in a continuously changing environment where selected new export

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1 Ariovich, (1979), pp. 195-96.
goods may prove to have only limited prospects. From this perspective, a strategy which focuses on fostering a generally sound, non-discriminatory environment for firms to work in seems more viable.

**Exploitation of Revealed Comparative Advantage**

Some advocate an export-oriented strategy which focuses on exploiting the existing advantages within raw materials and maximizing value added of exports by means of processing. In keeping with this line of thinking, South Africa has invested heavily in large-scale, export-oriented projects in the metal and minerals sector—e.g. the *Columbus Stainless Steel Project* and the *Alusaf Aluminium Smelter Project*.¹ By increasing foreign exchange earnings, this strategy—it is argued—will strengthen the capacity of the whole economy. The projects themselves are capital- and skill-intensive and will not generate any substantial employment opportunities. The idea is instead that downstream industries will emerge for which processed mineral products will be a major input. Thus, it is hoped that the rest of the economy will benefit from trickle-down.

Increasingly, it has been recognized that the success of outward-oriented strategies in the Asian continent was closely related to the incentive structure and the institutional setting. The market and industrial structures effectively supported the creation of opportunities and initiatives and thus paved the way for dynamic industrialization and economic growth.² The size structure of firms in addition to close linkages between large-scale and small-scale industries appear to have played an essential role, as has the degree of market concentration.³

In countries such as Korea, West Germany and Japan, large firms are likely to have created dynamic comparative advantages. While large firms can benefit from scale advantages and can afford major investments in research and development, they nevertheless lack the flexibility of small firms. Thus, countries such as Taiwan and Italy provide evidence in favour of the importance of small scale firms as important impetus for industrial dynamism.⁴ Recent research sug-

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¹ *Alusaf* accounts for 32% and *Columbus* for 15% of total projected manufacturing investment over the 1993-1995 period. Farquharson (1993).
⁴ This argument is also maintained by Friedman (1988). According to Friedman, the wide dispersion of small- and medium-sized firms made
gests that it is the *links* between firms which are vital, rather than the array of firm sizes: Smaller firms have an important role to play as subcontractors to larger firms.¹

A related issue is that of competition. Experience from Asia suggests that not only is global competition important; fierce domestic competition can also play a crucial role in productivity growth. Competition does not, however, exclude inter-firm co-operation. On the contrary, co-operation between firms *within a competitive context*—as opposed to collusion when profits and market shares are being agreed upon between firms—has also proved essential for efficiency.

In light of the Asian experience, it has been questioned whether the market- and industrial structures in South Africa are supportive of the kind of trickle-down that export-oriented policies are hoped to generate. If not, there is a risk that the gains from trade will be confined to large companies and thus dim the prospects for growth throughout the economy. South Africa’s industrial structure is characterized by high levels of concentration, both in terms of ownership and production. The Macro Economic Research Group (MERG)² reports:

> For example, in the shoe industry, four firms account for 70 per cent of output. Less well-known, but probably equally significant, is the concentration of plant size. For example, the average number of employees in South African manufacturing plants is twice as large as in the UK (which is itself well-known for the relative absence of SMEs). In footwear and clothing, the average South African plant employs 175 and 101 workers respectively, whereas in Italy these figures were between 5 and 20 during the mid-1980s.³

There are indications that the market structure in South Africa is conducive to collusive rather than competitive conduct and it has been suggested that a disaggregation of many oligopolistic markets would reveal single firm domination of major product lines (e.g. pa-

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² On the initiative of the ANC, The Macro Economic Research Group (MERG), which involved a number of South African and foreign researchers, carried out research in areas ranging from macroeconomic modelling to policy proposals for manufacturing, mining, rural development and state structure reform. Their result is published in a report entitled ‘Making Democracy Work: A Framework for Macroeconomic Policy in South Africa’. To date, it is the most comprehensive strategy document produced in South Africa on economic policy.
per and pulp markets and telecommunications equipment). MERG blames collusion on the ownership structures in South Africa with a small number of shareholders, frequently families, controlling the lion's share of the South African economy.\(^1\)

In addition, poorly functioning inter-firm networks have been observed, particularly in relation to small- and medium-sized enterprises (SMEs).\(^2\) This circumstance reflects past interventionism which favoured large companies. In addition, historical repression of blacks has constrained the supply of entrepreneurs in South Africa and thus hindered the emergence of e.g. subcontracting networks.

The impact of repressive regulation cannot be under-estimated: Blacks were forbidden by law from engaging in manufacturing businesses, and access to business premises was strictly regulated with the explicit intention of preventing Blacks from operating businesses in 'White' areas. It was only in 1979 that official policy shifted from preventing Blacks from having manufacturing businesses.\(^3\)

As a response to international competition, openness is likely to encourage productivity in the South African manufacturing sector. However, the above features of the South African industrial structure do not exactly lend themselves to trickle-down and industrial growth in connection with export growth. To counteract structural and institutional shortcomings in South Africa, the MERG’s policy proposals assign a significant role to industrial policy.

The MERG view of industrial policy goes beyond getting the prices right. Rather, it seeks to identify and ensure the presence of the economic linkages and agencies which can create the benefits of comparative advantage in industrial development. The market alone cannot carry out this role and never has.\(^4\)

The building and rebuilding of institutions to facilitate trickle-down is essential, as is the direction of investment to productive areas. Apart from measures such as differential taxation, tariffs, subsidies, and accelerated depreciation allowances, the MERG also proposes interference in the way investment decisions are taken in large firms and also in the operation of their business: Their agenda includes state intervention in output and pricing decisions in the minerals sector, regulation of the housing and building supplies market, tightening and extending controls on mergers and acquisitions,

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\(^2\) Joffe et al. (1993), pp. 21-22.
monitoring the behavior of participants in oligopolistic markets, and creating supervisory boards for larger companies. Moreover, a Capital Issues Commission is recommended to consider company plans for new issues and to authorize them.¹

Policies such as those recommended by the MERG require a lot of state bureaucrats. Notwithstanding the likely efficiency of the South African bureaucracy, it seems that the skewed nature of South African markets would make it difficult to identify the true comparative advantage of the country—both at present as well as in a dynamic framework. Thus, ‘appropriate’ investment decisions would be most difficult to judge. Besides, too strong state intervention risks undermining the confidence of private investors and thus economic growth as well.

A Labour-Demanding Export Path
If South Africa’s prevailing export pattern is assumed to reveal the comparative advantage of the country, then the prospects of South Africa embarking on an export-led labour-demanding growth path seem rather bleak. As much as 49 per cent of total manufactured exports is attributed to four highly capital-intensive subsectors: iron and steel, selected basic chemicals, non-ferrous metals, and pulp and paper products. However, it has been argued that because of the significantly distorted character of the South African economy, which has been sustained over the past decades, it could be that the current pattern of trade, in particular trade of manufactures, does not accurately reflect the comparative advantage of the country:

The heavy weight of capital-intensive goods in output and exports, and the poor performance of some labour-intensive ones, may reflect economic policy, but may also be related to the past political situation and relations with labour.²

In other words, distortions in the economy have made the scarce factor (capital) seem cheap, while the abundant factor (labour) has appeared expensive. It has been argued that a labour-demanding export-oriented growth path could be possible if the distortions are tackled.³

¹ Ibid, p. 255.
² Page and Stevens (1992), p. 3.
³ See Levy (1992) for an analysis of the prospects of a labour-intensive export path.
If capital-intensive subsectors have been favour by means of protection, then tariff-reform—including low and uniform tariffs—could reduce the bias in favour of capital-intensive production techniques and enhance labour-demanding activities. However, there is some evidence that import protection has been distributed more or less randomly across capital- and labour-intensive subsectors.1

As shown in Table 6, the only correlation that can be distinguished is a somewhat higher share among the more capital-intensive sectors benefiting from middle-range protection, while more labour-intensive sectors appear to be subject to either unusually high or low protection.

Turning to investment policies, it is a generally accepted fact that capital investment in South Africa has not always been determined by productivity but has been subject to considerations such as strategic and political motives. Neither has low investment in certain sectors necessarily corresponded to low productivity within these sectors. Table 7 shows the relation between factor intensity and South African exports. As can be seen, the most capital-intensive subsectors (with a capital of R50,000 or more per worker) together with the least capital-intensive subsectors (with a capital below R10,000 per worker) stand out as having the highest export propen-

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Table 6. Protection and Exports
(Per cent of value added in each category)

<table>
<thead>
<tr>
<th>Capital per worker</th>
<th>Effective Protection</th>
<th>Under R10,000</th>
<th>R10-19,000</th>
<th>R20-49,000</th>
<th>R50,000 or more</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>High(^a)</td>
<td></td>
<td>27.3%</td>
<td>31.5%</td>
<td>19.8%</td>
<td>27.6%</td>
<td>26.7%</td>
</tr>
<tr>
<td>Medium(^b)</td>
<td></td>
<td>43.4%</td>
<td>21.6%</td>
<td>47.5%</td>
<td>45.3%</td>
<td>40.4%</td>
</tr>
<tr>
<td>Low(^c)</td>
<td></td>
<td>29.3%</td>
<td>46.9%</td>
<td>32.7%</td>
<td>27.1%</td>
<td>32.9%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

\(^a\) Effective Rate of Protection equals 50 per cent or more.
\(^b\) Effective Rate of Protection equals 20—49 per cent.
\(^c\) Effective Rate of Protection equals less than 20 per cent.

Source: Levy (1992), Table 2.13.

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1 Levy (1992), p. 15.
Table 7. Factor Intensity and Exports
(Per cent of value added in each category)

<table>
<thead>
<tr>
<th>Capital per worker</th>
<th>Export Propensity</th>
<th>Under R10,000</th>
<th>R10-19,000</th>
<th>R20-49,000</th>
<th>R50,000 or more</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low(^a)</td>
<td>28.7%</td>
<td>42.7%</td>
<td>46.5%</td>
<td>31.0%</td>
<td>36.5%</td>
<td></td>
</tr>
<tr>
<td>Medium(^b)</td>
<td>30.0%</td>
<td>27.4%</td>
<td>39.7%</td>
<td>13.5%</td>
<td>25.9%</td>
<td></td>
</tr>
<tr>
<td>High(^c)</td>
<td>41.3%</td>
<td>23.9%</td>
<td>13.8%</td>
<td>55.5%</td>
<td>37.6%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Exports comprise below 5 per cent of subsector output.
\(^b\) Exports comprise 5-14 per cent of subsector output.
\(^c\) Exports comprise 15 per cent or more of subsector output.

Source: Levy (1992), Table 2.13.

As Levy points out, the figures in Table 7 could suggest that there is industrial capability within the more labour-demanding subsectors of manufacturing although investment has been low over the past four decades. If so, a labour-demanding export path could be possible. On the other hand, it could be that the concentration of investment in capital-intensive segments of industry has indeed restricted competitiveness to capital-intensive activities only to an extent that lends little hope for other sectors to compete internationally, not only today but also over time. Under such conditions, it could be detrimental to the economy and to employment to pursue a labour-demanding export path by way of industrial policies.

Between 1974 and 1981, the capital/labour ratio increased by 5.3 per cent annually, followed by a yearly increase of 1.3 per cent over the 1981-89 period. To combat the unemployment problem, the Normative Economic Model, which is the main economic policy document presented by the National Party (NP), advocates industrial policies to promote the establishment of labour-intensive industries. The viability of these strategies has been questioned, as it is argued that it is only at the aggregate level that capital/labour ratios have increased and that it would be wrong to claim a general change in the factor mix throughout industry.\(^1\) The increase in capital intensity at the ag-

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1 There are large differences in the capital/labour ratios across the different subgroups of manufacturing industries. It has been found that over the 1974-1981 period, 35.8 per cent of the value added of the total of manufac-
aggregate level is very much a result of the extreme (strategic) capital-intensive investments within highly capital-intensive industries. Accordingly, the high growth in the early 1970s to a large extent resulted from massive investment in the capital-intensive basic iron and steel industry. Similarly, the increase in the late 1970s and early 1980s is attributable to the development in the chemical and chemical products industry (SASOL synthetic fuels industry), while growth in the mid-1980s is a result of investment in the paper and paper products industry (Sappi and Mondi), and the beverage industry. If the chemical industry is excluded, the average annual growth in the capital/labour ratio for the rest of the manufacturing industries is limited to 0.5 per cent over the 1974-81 period. Excluding beverages and the pulp and paper industry, the annual growth rate of capital intensity stops at 1.1 per cent over the 1981-1989 period. In other words, only a slight increase in capital intensity or a minimal increase in labour intensity has been implemented. In light of these figures, it is difficult to claim a general trend of increased capital intensity throughout South Africa’s manufacturing industry, but the rise in capital/labour ratios within each subsector could be expected to reflect technological improvement rather than a tendency to substitute capital for labour.

At the firm level, the room for change in the capital/labour ratio is limited, at least in the short run—a fact which dims the prospects for the promotion of labour-intensive production. The most serious constraint on the pursuit of a labour-intensive route, however, is the shortage of skilled labour in South Africa. It has been shown that the more labour-intensive the industry the greater the skill requirement of operators. The predominant labour-intensive industries in South...
Africa are clothing, footwear, and leather products. All these require skilled labour and involve a lot of training.\textsuperscript{1} Mainly due to the skill bottle-neck, incentives designed to encourage labour-intensive production techniques are not likely to have a significant impact on the factor mix, or on employment. Furthermore, South Africa would face strong competition from the economies of the Far East in the niche of labour-intensive production, finding it difficult to compete in the same segments since the wages of the Far East are relatively low compared to those of South Africa.

\textit{Labour-Intensive Activities and Protection of Small- and Medium-sized Enterprises (SMEs)}

It has been argued that future export gains can be reaped only by large companies. Small firms simply do not have the means to penetrate international markets, largely due to high transport costs. But they also lack other necessary facilities such as credit, management and marketing skills. In view of the threat of international competition within the domestic market and the difficulties facing small firms in entering international markets, it has been suggested that while large companies should be exposed to a more export-oriented policy framework, small and labour-intensive firms should be allowed to develop within a more inward-oriented context. However, the viability of such a policy must be questioned. South Africa has already had negative experiences with a dual economy as well as market regulations. Mixing inward- and outward-oriented policies may inhibit the industrial process due to inconsistencies in the factor markets.

To sum up the discussion of export strategies, heavy reliance on industrial policies and market regulations in the past makes it difficult to point out the true comparative advantage of South Africa. However, high wages and low labour productivity dim the prospects for competitiveness within labour-intensive sectors. A skill- and capital-intensive export strategy, mainly involving large firms, appears more viable. However, certain institutional inadequacies, such as high concentration and poorly functioning inter-firm networks, make it less likely that the gains from trade will trickle down to the rest of the economy. Increasingly, industrial policies are believed to be the remedy to such market failures.

\textsuperscript{1} Osborn (1993).
Small- and Medium-Sized Enterprises and Export-Led Growth

In South Africa, small- and medium-sized enterprises (SMEs) are often defined as businesses with less than 200 employees. Based on this definition, 91 per cent of all formal business entities in South Africa belong to this category. Together, they account for around 45 per cent of GDP and employ 17 per cent of the economically active population. If the informal sector is included, SMEs’ contribution to GDP has been estimated at 60 per cent and involves approximately 32 per cent of the labour force (subsistence agriculture included). This should be compared to large private enterprises that contribute to 25 per cent of GDP and employ 25 per cent of the labour force. The corresponding figures for public corporations, in turn, are 13 per cent of GDP and 14 per cent of the labour force.1 Within the manufacturing sector, 92 per cent of all business units are SMEs and provide 37 per cent of the total employment within the sector.2 Although large companies account for most of the employment opportunities in South Africa, it is widely recognized that most new employment is generated by small business.3

If industrial strategies in South Africa have indeed restricted competitive capability to relatively capital-intensive sectors, it means that, although outward-oriented strategies would probably fuel economic growth and employment, capital-intensive industries rather than labour-intensive ones are likely to benefit, at least in the short run. At the firm level, this means that it is mainly large firms that will gain, whereas prospects for SMEs to participate in an export-led growth path appear less bright. This circumstance is most unfortunate, both with respect to employment creation and redistribution: Not only do small firms tend to be relatively labour-intensive but a majority of the black-owned firms are small.4

SMEs could participate in an export-led growth path either directly by means of producing for the international market and ex-

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1 Courier (1993), pp. 20-21 and SBDC.
2 Alternatively, using R2 million gross output value as the benchmark, around 77 per cent of all manufacturing enterprises are SMEs, contributing to 21 per cent of all manufacturing employment. Basson (1990), p. 1.
3 Basson (1990), pp. 8-9. A total of 24 per cent of all labour within manufacturing is employed by establishments with more than 1000 employees, whereas enterprises with between 500 and 1000 employees account for 16 per cent of all manufacturing labour. Small businesses with 100-200 employees account for 13.6 per cent of employment in the manufacturing sector. Ibid.
port, or indirectly, by means of subcontracting. By and large, the direct participation of South African SMEs could, *a priori*, be suspected to be limited mainly to specific niche markets, at least in the short and medium term. The positive impact on economic growth associated with exports by SMEs could therefore be assumed to be marginal. The indirect participation of SMEs will be of vital importance, however. Linkages between SMEs and exporters are likely to facilitate the trickle-down sought in the South African economy and thus also reduce the unemployment problem and improve equity.

If manufactured exports mainly come from large, capital-intensive firms rather than from small, supposedly more labour-intensive ones, it would seem logical to assume that exports are capital-intensive. However, this may not necessarily be the case. For instance, if the exporting firms farm out parts of their production to labour-intensive subcontractors, exports could, after all, be fairly labour-intensive. In this regard, the experiences associated with export expansion in Korea as compared to Taiwan provide an interesting example which could have important implications for South Africa:

Taiwan and Korea both followed export-oriented growth strategies and experienced similar effects on GDP growth. However, their respective strategies differed in terms of strategic orientation and targeted niche markets. Korean export relied on large-scale production, whereas small-scale producers were the backbone in the Taiwanese case. The Korean firms concentrated on high-productivity manufacturing of standardized goods in large volumes at low price, whereas the small Taiwanese counterparts focused on non-standardized products. In the Taiwanese case, the use of subcontractors was widespread and resulted in high flexibility which became their competitive edge. It has been argued that the different size structure of

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1 For instance, South Africa has found a niche on the German market for clothes à la Karen Blixen's *Out of Africa*.

2 A study of the international competitiveness of a selection of South African SMEs and their prospects for expanding into the international market is currently being undertaken by the World Bank. The survey covers 150 SMEs in the footwear, furniture, auto-components, plastic products and metal-bending subsectors.

3 The effects on distribution from the structure of trade have not been widely studied; cross-country and time-series analyses are few. Based on the experience of Korea, Taiwan and Brazil, Berry hypothesizes that 'the steady-state distributonal impact of a high degree of outward orientation is in most cases probably modest in scope, that it depends on the setting, and that it depends on what policies are used to encourage exports'. Berry (1992), pp. 67-68.

exporters in Korea as compared to Taiwan could explain the differences with respect to income distribution recorded in the respective countries; whereas export growth has increased equality in Taiwan, inequality seems to have increased in Korea during the 1970s.\(^1\) Moreover, greater reliance on capital intensity of export-oriented firms in Korea as compared to Taiwan has also been used to explain the differences in distributional records.

Watanabe points to two conditions to interest larger firms in using small subcontractors: (1) industrial growth is so high that the required rate of capital investment exceeds the financing capacity of large firms and thus forces them to farm out certain activities to subcontractors, and (2) high competition provides an incentive to use small firms working with negligible overheads and cheap labour.\(^2\) According to Watanabe, subcontracting can function as an important opportunity for small firms to set up business. He argues that once established, a significant number of small producers are able to accumulate sufficient capital and know-how to expand.\(^3\) Based on the Japanese experience, Watanabe stresses the benefits of technology and know-how transfers from the parent firm to the smaller contractor as an argument in favour of subcontracting.\(^4\)

The ‘dual structure argument’, in turn, explains the use of subcontractors mainly in terms of exploitation where the burdens of economic adjustment are passed on to small manufacturers. According to this line of reasoning, lower wages make small firms attractive to larger ones as a source for parts. Small firms cluster around large enterprises and get subcontracting work in accordance with business cycles. The subsequent unstable production patterns in small firms in turn lead to difficulties in obtaining financial support. Thus, smaller firms become vulnerable ‘shock absorbers’, insulating the largest manufacturers from economic stress. They depend on low paid workers and cannot develop technical skills for themselves.\(^5\)

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4 Watanabe (1978).
5 Nakamura (1981), p. 175, observes that one of the principal reasons for the rapid spread of subcontracting in Japan in the 1950s was the widening wage differential gap between large and small firms. ‘Using the low-wage labour of the small firms indirectly via subcontracting was more profitable for the large concerns than producing goods themselves’.
The potential for subcontractors to grow is seen as marginal, since their surplus is mainly siphoned off by the parent firms.  

In South Africa, the issue of subcontracting is a hot political potato which has been opposed—in particular—by the labour unions on grounds of the dual structure argument mentioned above. Besides, an often expressed fear is that due to historical repression and past interventionist policies favouring large companies, the scope for fostering a flourishing small-scale sector is limited.  

The potential supply of black entrepreneurs with necessary management skills to operate their own businesses has been severely constrained and so too the foundation for the subcontracting of work from large enterprises to smaller concerns. Because of this, South Africa presently may lack one of the fundamental requirements for the growth of a flexible manufacturing subcontracting culture.  

Deregulation of black business began in the early 1980s and the regulations of apartheid are no longer a major impediment. However, the legacy of apartheid persists in the form of lack of adequate technical, administrative and managerial skills and lack of access to financing. In addition, highly competitive markets, lack of market infrastructure, and a politically unstable business environment have been identified as major constraints for small business. Although a democratic South Africa is likely to provide a more stable environment for small firms to operate within, other constraints—notably lack of skill—will remain in the short term.

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1 The dual structure approach to Japanese industrialization has been strongly opposed by Friedman (1988), pp. 128-152. Small firms did not insulate larger companies from adjustment costs; wage differentials were much less than supposed..., and the skills of small manufacturers frequently surpassed those of larger firms in specialized areas...In sum, a large number of Japanese small firms have escaped permanent dependence and technological inferiority by adopting flexible production strategies.  

Instead, Friedman emphasizes that political events are the key to understanding the Japanese miracle. It was the creation of institutions and practices that fostered a greater degree of flexible production in Japan. He argues that the greater diffusion of flexible manufacturing strategies in Japan is the explanation to Japanese growth.  


4 Manning and Mashigo (1993), pp. 54-59, group laws affecting the development of black business into 3 periods: First, pre-1976, was one of active hostility towards the emergence of black business. Second, 1976-1979 was characterized by state tolerance. Finally, post-1979, active promotion of black businesses was pursued.  

Apart from productivity-enhancing measures, such as training and co-operation between firms in areas such as R&D and marketing, a more supportive institutional environment has been pointed out as a critical step to counteract the bias which has been created by past policies against small (notably black-owned) firms in South Africa. This reasoning is fair enough. However, the design of an appropriate institutional setting is not easy and, again, the judgment of policy makers is central. A better understanding of the needs of SMEs and the impact of the institutional environment on SMEs in South Africa are prerequisites for success. For instance, the ability of South African SMEs to participate in and benefit from outward-oriented expansion by means of subcontracting still needs to be explored.

The Role of Trade and Industrial Policies in the New South Africa

Unemployment is one of the most severe problems facing the South African economy today. Around 40 per cent of the economically active African population is unemployed or has to work outside the formal economy.\(^1\) It is clear that any growth strategy must tackle this problem. By and large, the unemployment problem is due to stagnating economic growth. The slow growth of the South African economy since the mid-1970s, in turn, is partly explained by the slow growth in the manufacturing sector. Industrialization is generally recognized as the solution to the problem.\(^2\)

As described by McCarthy, the South African industrialization process has included a significant redistributive element. In short, income has been redistributed from capitalists to labour, and from white to black workers. Between 1925 and 1933, white labour benefited the most from the process; import substitution generated domestic jobs which, by racial protectionism, were reserved for whites. After 1933, industry became increasingly dependent on black workers who then became the main beneficiaries of industrial growth; the share of black labour in total manufacturing employment increased from 59.1 per cent in 1933 to 77.1 per cent in 1985. The share of black wages in total manufacturing wages rose from 27.7 per cent to 47.6 per cent over the same period. Parallel to increased trade union ac-

\(^2\) The importance of industrial growth in the development process has been stressed by, e.g. Cheenery (1960), Chenery (1979), and Kaldor (1967), p. 7.
tivism, real wage increases rather than increased employment favoured black workers from the 1970s and onward. As employment figures started to fall in the 1970s and 1980s, growth in black wages suggests a continued redistribution from white to black workers. However, simultaneously, the gap between black employees and blacks who were excluded from the labour market widened.\footnote{McCarthy (1992), pp. 456-57.}

The aspirations of the democratic movement are high, as are the expectations of the poor majority on the new South Africa. In this setting, it would be gratifying if industrial policies again could serve to redistribute income in favour of a specific group: the poor and the unemployed. As has been discussed in this paper, this aim is challenged by a number of factors, notably lack of skill, lack of capital, and the present institutional set-up, including the industrial structure.

South African labour costs most likely rule out export growth on the basis of labour-intensive industries, a fact which has caused some to reject a policy of export-promotion. However, the suspicion that a more outward-oriented trade regime may not help the unemployment problem in the short run cannot be taken as an argument against it.\footnote{Large, capital-intensive industries can indeed be major job creators. In South Africa, the chemical and machinery industries, for example, contributed to 28.4 per cent of the increase in real manufacturing value added and to 24.1 per cent of the employment increase between 1970 and 1982. Overall, light industries did not generate more employment than heavy industries. In fact, only the food industry made a significant contribution of 8.9 per cent to real output growth and of 11.3 per cent to employment growth. McCarthy (1988), pp. 12-13.} The building-up of labour-intensive production is restricted by poor labour productivity, which in turn is an effect of the low level of education. In the long run, equal opportunities to receive education is one of the most important factors, if not the most important factor, for achieving a more equal distribution of income and wealth in South Africa.

The primary aim of industrial and trade policies must be to encourage productivity and economic growth, thereby making it possible to mobilize the resources available for redistribution. Industrialization and economic growth in South Africa are dependent on imports of intermediate and capital goods. To finance imports, the country needs to increase export earnings. This is simple to grasp. However, to be able to compete internationally, productivity needs to be raised and this requires investment—in human capital as well as...
as in technology. Although a more outward-oriented trade regime may improve the prospects for private investments and thus fuel productivity, it is not likely to suffice. Uncertainty among investors with respect to the social and political stability in the country, in addition to future economic policies, will probably constrain investment.

Investment in housing and infrastructure in rural areas and black townships is the key to growth and employment creation in the African National Congress (ANC) economic policy document, Reconstruction and Development Programme, which draws on the MERG policy recommendations. A public works program will provide employment and training for about 2.5 million people over the next ten years through the building of roads and the provision of water, electricity, schools, clinics, housing, etc. For instance, in five years, one million houses will be constructed and electricity is to be made available to 2.5 million households. Moreover, ten years of free and compulsory schooling for all will be implemented.

The program has been blamed for being a populistic wish list, with the cost of the initial five years of the program estimated at 80 billion rands.\(^1\) ANC has not specified how the program is to be financed but states that an increased tax level and foreign borrowing will be avoided.\(^2\) Instead, increased productivity by means of dynamic trade and industrial policies will be in focus as will the development of human resources.\(^3\) The problem is that such strategies will not yield any income in the short run, whereas the lion’s share of the program needs to be financed immediately. The budget deficit reached 8.3 per cent of GDP in the 1992/93 fiscal year and a deficit of 6.9 per cent is estimated for 1993/94.\(^4\) The government debt has already climbed from 46 per cent of GDP last year to 55 per cent today and a further increase with the associated rise in interest payments will squeeze the room for future expansionary policies. Increased public spending that does not yield a corresponding

\(^1\) Säll (1994).
\(^2\) The tax level in South Africa is high by international standards and an increase risks causing inefficiencies in the economy. Foreign borrowing, in turn, is associated with high interest costs and thus reduces the room for future public spending. For a discussion of these issues, see Lundahl and Moritz (1994).
\(^3\) ANC (1994).
\(^5\) Säll (1994).
increase in growth would make it difficult to decrease interest rates and thus hamper the overall rate of investment.

To cover the short-run financing gap, the ANC encourages private investment. The need to attract foreign aid and foreign investment is also stressed. Whereas the interest within the international community to contribute by means of aid to the South African development process has been pronounced, foreign investors have adopted a wait and see attitude. Exchange controls make direct investments less attractive from the investors perspective. Due to the social instability in the country, the prospects of relaxing financial market control are limited, at least in the near future. As in the case of domestic investors, reluctance among foreign investors is mostly due to uncertainty. South Africa is entering a critical phase where the developments in the immediate future will be crucial for investment decisions, both foreign and domestic.

As revealed in the section on export strategies, the South African debate on future growth strategies reflects a persistent belief in the role of interventionism. The central idea in the ANC and the MERG’s development programs is that public investment will trigger the productivity of human and social resources and thereby improve the prospects for profitable private investments. This, in turn, will stimulate exports and reduce the balance of payments constraint on economic growth. To ensure trickle-down, the creation of new and reorganized institutions is essential as is state intervention to guide the allocation of investments to productive areas. Nicoli Nattrass rightfully poses two questions in relation to policies of this type: Does the South African state have the capacity and capability to implement potentially growth-enhancing policies? and Will the private sector respond positively to such policies? Given the critical role of private investment for productivity and growth in South Africa, these issues are highly relevant.

The most important assignment for policy makers in the immediate future is to signal a long term commitment to the creation of a favourable business climate, including socio-economic stability. The business community is probably still somewhat sceptical towards the democratic movement, and policies that may cause private investors to fear that ideology rather than sound economic policies will dominate the economy must therefore be avoided. As pointed out by Nattrass, some of the strategy recommendations made by the

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MERG, such as the imposition of a Capital Issues Commission, could challenge this aim.

Advocates of strategic industrial policies in South Africa often refer to experiences in Asia to justify their recommendations. However, the point of departure of the NIEs is substantially different from that of South Africa. One obvious difference is the lack of correspondence between domestic supply of production factors and the factor mix used in the production of exports in South Africa as compared to the Asian success stories. In the NIEs, the key to success was the exploitation of fairly skilled and cheap labour, that is, an abundant resource. In South Africa, export growth requires capital and skill, that is, resources that are short in supply. One could speculate that this difference has a major impact on the short-term prospects of pursuing an efficient strategic industrial policy and, consequently, that industrial policies should initially serve to counteract this constraint.

Perhaps most important, South Africa does not enjoy the political stability and national unity which appear to have been key for the legitimacy and continuity of the policies pursued in Asia.\(^1\) To reach consensus, MERG recommends that state intervention in South Africa be carried out through a tripartite structure involving government, labour, and capital.\(^2\) This is certainly sound; it will help establish confidence between government, business, and labour and facilitate policy implementation. As was pointed out in the first section of this paper, there are, however, no certain guidelines to ‘good policy making’ and the distorted nature of the South African economy is not likely to make things easier. Is it reasonable to believe that bureaucrats are capable of carrying out ‘appropriate’ investment decisions or ‘building institutions oriented to the needs of the new South Africa’ in this setting?\(^3\)

Investment in human development is undoubtedly an important task for the state. Technological investment decisions are more complex. For instance, the uncertainty of South Africa’s true comparative advantage does not lend too much hope to the creation of a competitive edge. Supporting a specific industry by means of subsidies or strategic public investments is costly and is always carried out at the expense of some other part of the economy; incorrect decisions at this point in time could have detrimental long-term effects on the

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South African economy. In a situation characterized by limited experience or knowledge among policy makers, coupled with high expectations on a democratic society, bureaucrats may be tempted to undertake short-run solutions that yield quick political scores rather than long-term sustainable growth. Besides, judging from international experience, such solutions seldom benefit the poor. The negotiating power of South Africa’s poor majority will remain weak, while it is the black middle class that can be expected to influence the political process in the new South Africa. Although intentions are good, there is an obvious risk that the interests of the poor will not always be first priority.

Following a long tradition of active interventionism in South Africa, continued regulations may appear as a natural solution to development. At the same time, it has been argued in this paper that many of the obstacles facing the South African economy today can partly be explained by past industrial policies, including the apartheid system. Against that background, this firm belief in the power of state interventionism is somewhat surprising. As South Africa stands at the cross-roads to a democratic society, it is time to reconsider the role of industrial policy and state regulations.

Growth and employment are probably best served by ensuring equal opportunities for participation in economic activity. However, this cannot be accomplished overnight. There is a risk that policy makers bite off more than they can chew in their eagerness to compensate for past mistakes. Instead of eliminating past distortions, too strong interventionism at an early stage may prove counter-productive. The above reflections are not to say that state intervention and strategic industrial policies are not for South Africa. The message is rather for policy makers to take one step at a time. It may well be that getting prices right is not sufficient for growth and equity to come about in South Africa. However, in the short run, it may not be realistic to go beyond that. Over time, as the knowledge of the South African economy grows and business confidence is gained, the prospects of strengthening economic linkages by means of strategic decisions and institutional design are likely to improve. Equally important, as the participation rate within South Africa’s poor majority grows, their possibility to take advantage of democracy will improve.


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### SOUTH AFRICA’S TRADE STRUCTURE

**Direction of Trade**

*Main Export Destinations*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Destination</th>
<th>Exports (R bn)</th>
<th>Imports (R bn)</th>
<th>Total Trade</th>
<th>Rank Tot Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Switzerland</td>
<td>5.4</td>
<td>1.2</td>
<td>6.6</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>USA</td>
<td>4.8</td>
<td>7.1</td>
<td>11.9</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>UK</td>
<td>4.5</td>
<td>5.4</td>
<td>9.9</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>3.7</td>
<td>5.6</td>
<td>9.3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Germany</td>
<td>3.0</td>
<td>8.6</td>
<td>11.6</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Taiwan</td>
<td>2.1</td>
<td>1.8</td>
<td>3.9</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Belgium</td>
<td>2.0</td>
<td>1.1</td>
<td>3.1</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>Netherlands</td>
<td>1.9</td>
<td>1.2</td>
<td>3.1</td>
<td>8</td>
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<tr>
<td>9</td>
<td>France</td>
<td>1.0</td>
<td>2.1</td>
<td>3.1</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>Zimbabwe</td>
<td>1.6</td>
<td>0.8</td>
<td>2.4</td>
<td>11</td>
</tr>
<tr>
<td>11</td>
<td>Hong Kong</td>
<td>1.5</td>
<td>0.8</td>
<td>2.3</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>South Korea</td>
<td>0.9</td>
<td>0.7</td>
<td>1.6</td>
<td>13</td>
</tr>
<tr>
<td>13</td>
<td>Spain</td>
<td>0.9</td>
<td>0.4</td>
<td>1.3</td>
<td>14</td>
</tr>
<tr>
<td>14</td>
<td>Israel</td>
<td>1.0</td>
<td>0.3</td>
<td>1.3</td>
<td>15</td>
</tr>
<tr>
<td>15</td>
<td>Zambia</td>
<td>1.1</td>
<td>0.04</td>
<td>1.1</td>
<td>16</td>
</tr>
<tr>
<td>16</td>
<td>Malawi</td>
<td>0.7</td>
<td>0.13</td>
<td>0.8</td>
<td>20+</td>
</tr>
<tr>
<td>17</td>
<td>Mozambique</td>
<td>0.7</td>
<td>0.05</td>
<td>0.7</td>
<td>20+</td>
</tr>
<tr>
<td>18</td>
<td>CIS</td>
<td>0.6</td>
<td>0.07</td>
<td>0.7</td>
<td>20+</td>
</tr>
<tr>
<td>19</td>
<td>Norway</td>
<td>0.5</td>
<td>0.03</td>
<td>0.5</td>
<td>20+</td>
</tr>
</tbody>
</table>

*Source: Trade Monitor 1993:3*
## Composition of Trade

### Foreign Trade by Products 1988-1992 (R million)

<table>
<thead>
<tr>
<th></th>
<th>Imports</th>
<th></th>
<th></th>
<th>Exports 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Live animals, animal products</td>
<td>264</td>
<td>225</td>
<td>270</td>
<td>443</td>
<td>376</td>
<td>405</td>
</tr>
<tr>
<td>Vegetable products</td>
<td>711</td>
<td>925</td>
<td>1,143</td>
<td>2,570</td>
<td>1,930</td>
<td>2,485</td>
</tr>
<tr>
<td>Animal/vegetable fats, oils, waxes</td>
<td>374</td>
<td>324</td>
<td>269</td>
<td>469</td>
<td>562</td>
<td>143</td>
</tr>
<tr>
<td>Prepared food, tobacco</td>
<td>1,009</td>
<td>927</td>
<td>1,018</td>
<td>1,138</td>
<td>997</td>
<td>1,579</td>
</tr>
<tr>
<td>Mineral products</td>
<td>491</td>
<td>570</td>
<td>574</td>
<td>574</td>
<td>588</td>
<td>6,617</td>
</tr>
<tr>
<td>Chemical and allied industries</td>
<td>4,754</td>
<td>4,778</td>
<td>5,397</td>
<td>5,789</td>
<td>6,600</td>
<td>1,975</td>
</tr>
<tr>
<td>Resins, plastic, other rubber</td>
<td>1,939</td>
<td>1,893</td>
<td>2,150</td>
<td>2,250</td>
<td>2,641</td>
<td>364</td>
</tr>
<tr>
<td>Leather, fur skins</td>
<td>263</td>
<td>270</td>
<td>250</td>
<td>262</td>
<td>294</td>
<td>408</td>
</tr>
<tr>
<td>Wood, cork, plaiting</td>
<td>324</td>
<td>337</td>
<td>381</td>
<td>410</td>
<td>525</td>
<td>256</td>
</tr>
<tr>
<td>Paper, paperboard</td>
<td>1,331</td>
<td>1,250</td>
<td>1,352</td>
<td>1,463</td>
<td>1,742</td>
<td>1,612</td>
</tr>
<tr>
<td>Textiles</td>
<td>1,914</td>
<td>2,009</td>
<td>2,494</td>
<td>2,437</td>
<td>2,662</td>
<td>1,556</td>
</tr>
<tr>
<td>Footgear, headgear</td>
<td>173</td>
<td>199</td>
<td>306</td>
<td>309</td>
<td>451</td>
<td>24</td>
</tr>
<tr>
<td>Stone, plaster, cement asbestos, ceramic, glass</td>
<td>517</td>
<td>616</td>
<td>642</td>
<td>702</td>
<td>782</td>
<td>206</td>
</tr>
<tr>
<td>Precious, semi-precious stones</td>
<td>500</td>
<td>469</td>
<td>350</td>
<td>351</td>
<td>1,472</td>
<td>5,436</td>
</tr>
<tr>
<td>Basic metals</td>
<td>2,422</td>
<td>2,223</td>
<td>2,231</td>
<td>2,502</td>
<td>2,610</td>
<td>9,093</td>
</tr>
<tr>
<td>Machinery, appliances</td>
<td>13,275</td>
<td>13,212</td>
<td>13,982</td>
<td>14,944</td>
<td>17,169</td>
<td>1,059</td>
</tr>
<tr>
<td>Vehicles, transport equipment</td>
<td>6,877</td>
<td>5,693</td>
<td>6,767</td>
<td>6,619</td>
<td>8,928</td>
<td>674</td>
</tr>
<tr>
<td>Professional, scientific equipment</td>
<td>1,702</td>
<td>1,819</td>
<td>2,138</td>
<td>2,242</td>
<td>2,720</td>
<td>103</td>
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<tr>
<td>Miscellaneous manufactured articles</td>
<td>430</td>
<td>486</td>
<td>601</td>
<td>632</td>
<td>707</td>
<td>143</td>
</tr>
<tr>
<td>Art</td>
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<td>31</td>
<td>19</td>
<td>28</td>
<td>42</td>
<td>27</td>
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<tr>
<td>Unclassified, balance of payment adjustment</td>
<td>5,428</td>
<td>5,869</td>
<td>5,855</td>
<td>6,380</td>
<td>5,275</td>
<td>24,558</td>
</tr>
<tr>
<td>Total</td>
<td>44,742</td>
<td>44,125</td>
<td>48,209</td>
<td>52,514</td>
<td>59,073</td>
<td>58,728</td>
</tr>
</tbody>
</table>

1Including gold and platinum.