

# **Increasing Demand for Labour in South Africa**

Research Report

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## **EXECUTIVE SUMMARY**

South Africa emerged from the apartheid era in 1994 with an urgent need to complement its political liberation and its opening to global trade and investment with economic gains that would benefit all members of the population. As the country moves into the twenty-first century, however, its economy is stagnant, unemployment approaches 40%, and there are enormous racial, gender, and locational disparities in income and wealth.

This study examines how to increase the demand for South African labour, and reduce poverty and unemployment, within the context of the powerful forces currently shaping the economy. The study begins with a review of the problems that South Africa faces as it emerges from apartheid and tries to grapple with the multiple objectives of reducing poverty, increasing employment, restructuring the economy in a more open direction, and raising the rate of economic growth. The study describes the labour market situation in South Africa and its links with poverty. It also sets out different ways in which the demand for labour might be increased.

### **South Africa's Evolving Economy**

When the ANC government came to power in 1994, South African poverty and unemployment was heavily concentrated in the Black population, especially among Africans, and was seriously aggravated by heavy population pressure in the former homelands, poor infrastructure and social services in Black communities, lack of a viable informal sector in which to absorb excess labour, and inefficient, capital-intensive production behind high protective barriers. Furthermore, the demand for lower skill levels, in which Africans were heavily represented, was falling, while that for higher skill levels, dominated by Whites, was rising.

Very early on, the new ANC government renewed the commitment that South Africa had already initiated to reopen itself to the global economy and to join the newly created World Trade Organisation. The result of these reforms was a “cold bath of competition” from imports. Throughout the economy firms were faced with the necessity of cutting costs and becoming competitive. This resulted in the laying off of workers and the rehabilitation or renewal of equipment. On top of this was a continuation of the long-term decline in sectors that had traditionally employed a considerable amount of low- and semi-skilled labour – sectors such as agriculture, mining, and construction.

To compensate for trade liberalisation, the government introduced a series of WTO-friendly “supply side” measures to lower costs and move toward higher value-added production. Special programs were created for small, medium, and micro enterprises (SMMEs) to facilitate their access to loans and other supply-side incentives.

Restructuring the South African economy away from heavy dependence on primary product exports, particularly minerals, and on goods produced for the domestic market behind high protective barriers required a substantial depreciation of the real exchange rate. This was seen as dangerous, however, because of the impact that it would have on inflation and on investor confidence. Although South Africa ran a substantial current account deficit from 1995 to 1998, this deficit was initially offset by capital inflows. As a result, rather than depreciating to facilitate structural adjustment and soften the blows resulting from tariff reductions, the real exchange rate actually appreciated in 1994 and 1995. The following year, these flows were reversed, and South Africa began a tumultuous period during

which the exchange rate was buffeted by volatile fluctuations in both the direction and magnitude of short-term capital flows. All of this led the Reserve Bank to try to restrain increases in the money supply and maintain high interest rates in order to encourage net capital inflow, discourage the expansion of domestic credit, and maintain the lid on inflation.

Inflation was of concern because of the unsustainable situation regarding fiscal deficits, which reached 8.3% of GDP by 1992/93. A critical element in the Growth, Employment, and Redistribution (GEAR) strategy elaborated by the government in 1996 was to reduce these deficits to no more than 3% of GDP in order to take some of the pressure off of monetary policy, lower interest rates, and stimulate growth and investment

Although there were some efforts towards tax reform, the main thrust of reducing fiscal deficits fell on the expenditure side. Tightened expenditures not only would relieve inflationary deficits but also would release resources required for capital formation. This was especially important in order to provide infrastructure and social services in areas that had heretofore been deprived.

The other main element of the government's reform program involved labour market policies. These sought to provide greater flexibility in wage determination and conditions of employment at the same time that basic protection of workers was to be extended. The major instruments of these policies were the Labour Relations Act, the Basic Conditions of Employment Act, the Employment Equity Act, and the Skills Development and Skills Development Levy Acts.

## **Poverty and Unemployment**

The latest statistics on unemployment are available for February 2000 from Statistics South Africa's Labour Force Survey (LFS). This source indicates that, by the narrow definition of unemployment (counting only people actively looking for work), 26.7% of the work force was unemployed. By the expanded definition (not actively looking for work but would accept a job), the unemployment rate was 37.3%. Each of these figures is high by any standard.

The severity of the unemployment problem is indicated not only by its overall level but also by its distribution. The incidence of unemployment is much higher for Blacks, especially Africans, than it is for whites. It is also considerably higher for females than for males within each population group. Unemployment is particularly severe for Africans 16-24 years of age, especially young women. Although unemployment may be higher in urban than in rural areas, the incidence and depth of poverty are far higher in the countryside. Furthermore, labour force participation rates are lower in poor than in non-poor households, suggesting that poor people in rural areas tend to drop out of the labour force. In addition, agricultural labourers are the lowest-paid workers compared with other occupations.

There is relatively little difference in poverty and unemployment rates between those with no education and those who have less than seven years. After this, however, secondary education and above greatly decreases the probability of being poor. At this point, not only does additional schooling increase the probability of being employed but it also increases the probability of participating in the labour market and augments the earnings of those who are employed. A substantial, if not complete, reduction in poverty and unemployment can be achieved by correcting for location and educational disadvantages.

The central problem is how to generate sufficient jobs for the population and ensure that those jobs are fairly rewarded. A number of economists from outside South Africa argue that unions, which cover only a small part of the total work force, exert an adverse influence on employment for the work force as a whole, because they do not represent the interests of those who are employed in smaller enterprises and informal sector activities, as well as the unemployed. The problem is held to be especially acute in South Africa, where labour negotiations frequently occur under the auspices of industry-wide bargaining councils, which removes the flexibility of more localised negotiations at the level of the firm.

Even if decreasing union wages were a viable option, the relationship between wages and employment may not be very stable given all the turmoil that South African labour markets have undergone in recent years. Bhorat and Leibbrandt analyse econometrically the relationship between wages and employment and come to the conclusion that the relationship is unstable for all sectors covered. This is a rather controversial finding, but it could imply that considerable care should be taken before advocating the use of wage policy as an instrument to increase employment.

Furthermore, surveys reveal the important extent to which poor rural households depend on remittances from relatives with jobs in the cities. This raises serious questions regarding the viability of alleviating poverty by reducing wages in the formal sector so as to achieve some limited expansion of employment.

Expanding employment is probably linked less with wage determination than it is with a macroeconomic policy that encourages economic growth, an industrial strategy that stimulates business expansion in ways that contribute to increased employment, and an environment in which the private sector is induced to invest in the hiring and training of labour in addition to expanding plant and equipment.

### **Macroeconomic Policy and the Labour Market**

The new South African government was from the beginning strongly committed to increasing employment, reducing poverty, and improving opportunities for those who had been disadvantaged under apartheid. At the same time, there was a fervent desire to foster economic growth and earn the respect of potential overseas investors by reducing fiscal deficits, lowering the rate of inflation, maintaining exchange rate stability, decreasing barriers to trade, and liberalising external capital flows.

In 1996 macroeconomic policies were incorporated by the new government into a strategy to promote Growth, Employment, and Redistribution (GEAR). This strategy sought macroeconomic balance via a lower budget deficit and reduced inflation. The second important objective was to get the economy on a 6% per annum growth path by the year 2000, driven by improved performances in fixed investment and non-gold exports. The third objective was redistribution through job creation resulting from economic growth and labour market reforms. In addition, access to social services was to be increased by changing priorities and improving efficiency.

The GEAR strategy was sharply criticised as restricting economic growth to a level that was likely to have little impact on prevailing levels of unemployment, inequality, and poverty. The strategy was held to be deflationary because it called for a decline in government expenditure without corresponding policy measures to promote the expansion of investment or exports. These criticisms

appear to have been more applicable to the implementation of GEAR than to its conception. For example, expansion of investment was to be induced through less crowding out of private investment by the public sector and by lowering the rate of inflation and real rates of interest. Exports were to be stimulated by maintaining the real exchange rate at a competitive level, liberalising the capital account, and reducing further import tariffs.

Implementation of GEAR was not nearly as successful as had been hoped. One reason was the global financial crisis, which spread to South Africa in 1998, but even taking this into account, GEAR appears to have been overly optimistic regarding employment creation and other projections. In fact, instead of growing, employment in the formal sector has been declining rather steadily.

More important than fiscal policy in reducing economic growth and employment was the combination of monetary and exchange rate policy. To maintain investor confidence at a time when trade and capital flows were being liberalised, the monetary authorities tried to limit the depreciation of the rand by attracting foreign capital through high interest rates and by occasionally intervening directly in the foreign exchange market. Restrictive monetary policy was also used to control inflation in the face of a persistent expansion of demand for bank credit. The result was real rates of interest that varied between 12% and 16% (Predominant Overdraft Rate). This was particularly injurious to small and medium-size firms that depended on bank credit. Furthermore, the depreciation of the real exchange rate was at first insufficient to achieve real adjustment, and later subject to erratic fluctuations which increased investor uncertainty

The situation was vastly complicated by the instability of private capital flows. For a time the strategy of relying on capital inflow to sustain the current account deficit seemed to work, but the cessation of these inflows with the international financial crisis in 1998 provoked havoc on the domestic capital market. In addition, the decision to finance the government's fiscal deficits through domestic debt obligations made bond markets particularly sensitive to changes in foreign lenders' perception of exchange rate risk. Finally, what appears during this period to have been a structural increase in the demand for money complicated the situation for the monetary authorities, who worried about potentially inflationary consequences.

From the experience of the past six years, it appears that the days in which capital inflow can be counted upon to cover the current account deficit are over. This implies that exchange rate adjustment will have to play a much more important role in maintaining balance of payments equilibrium. In addition, it also appears that the Reserve Bank was attempting too much by trying to maintain both domestic balance and exchange rate stability. This was recognised in early 2000, when adoption of an inflation-targeted monetary policy framework was announced in the finance minister's Budget Speech. Adoption of this framework meant that the Reserve Bank would henceforth focus exclusively on maintaining balance between inflation and recession. It was also recognised that this would require nominal exchange rate flexibility.

Thus, at the beginning of the twenty-first century, South Africa seems poised to benefit at last from the restrictive policies that have been employed, even though these may have been costly in terms of reduced economic growth and employment. The rand has depreciated substantially in real terms and may now be at a level consistent with long-term internal and external equilibrium. Fiscal pressures have been tamed, and the tax burden has been reduced. Inflation has declined to reasonable levels, given the adjustments still taking place, though it has to be watched given the extraordinary expansion

of money and credit that has occurred. Real interest rates are coming down, and this should help to stimulate economic activity. Most important, a sound monetary, fiscal, and exchange rate policy framework is in place that can provide the appropriate macroeconomic policy environment for a renewal of economic growth.

### **South Africa's Changing Labour Demand**

South Africa's pattern of output and employment shows some similarities to other countries in the industrial world in terms of an increasingly predominant role for the services sector. Over the last three decades, primary sector output—mainly agriculture and mining—has declined in importance, with the secondary sector holding fairly steady and the tertiary sector making consistent gains. As for overall employment, at least in the formal sector, a long period of growth peaked in 1989, followed during the 1990s by a pronounced decline that differed by sector. While employment in agriculture has continued its familiar slow contraction, employment in manufacturing has fallen less rapidly, and that in services has increased.

These employment figures are based on the Survey of Total Employment and Earnings (STEE). This firm-level survey is quite unreliable in recording employment in new enterprises. It is also deficient in covering the SMMEs and unrecorded, informal activity. In comparison, the Labour Force Survey (LFS), launched for the first time in early 2000, records employment in formal, informal, and domestic service activities. This shows much greater employment in the services sector than appears in the STEE data.

Another employment trend crucial to any explanation of tertiary sector expansion is the rise in the number of jobs transferred from manufacturing to the tertiary sector, as manufacturing firms “contract-out” services to reduce costs. In this way, a whole range of corporate services previously provided “in-house” are now externalised. Precise figures are difficult to obtain. The jobs in question are not new but merely reclassified in the tertiary sector, representing a shift in the social division of labour arising from changes in the organisation of manufacturing production.

While the share of highly skilled employment in the services sector is identical to that for the economy as a whole, the shares for medium and low skills are quite different. While high-skill employment is in each case about 14% of the total workforce, medium-skill employment is only 16% of total service sector employment, far below the economy average of 47%. On the other hand, while the economy average for low-skill employment is 39%, the share in the services sector is 70%. Thus the services sector has a higher absorptive potential for low-skill labour than does the economy as a whole.

### **Job Potential of Large and Small Firms**

Promotion of SMMEs was considered to be a key element in the government's strategy for employment creation and income generation. Many observers see small and medium-sized firms as the main employment generators in the South African economy. This notion is based on the perception that employment intensity - defined here as the number of jobs per unit of output - in SMMEs is higher than in large firms. In addition, the inability of the formal economy to absorb new entrants into the labour market implies that many workers must fall back on the informal sector, including self-employment, as a viable option. This is partly because the absence of specialised training of most school-leavers, combined with the poor skill base of much of the potential workforce, results in a pool

of mainly unskilled or semi-skilled labour, whereas formal sector jobs increasingly require higher skill levels.

Empirical evidence presented in the study sheds light on whether small firms with less than 50 employees generate more direct and indirect income and employment per unit of final demand for the goods they produce compared with large firms. Based on cross-sectional StatsSA data for 1995, an input-output framework allows derivation of economy-wide and sector-specific coefficients and multipliers by size class for 44 SIC industry sectors.

Substantial evidence supports a policy emphasis on SMMEs. In two-thirds of the sub-sectors, the labour-absorptive capacity of small firms is higher than for other firms. Considering direct effects alone, small enterprises are on average more employment-intensive and generate more GDP per job than large firms. The return to capital per unit of output is relatively higher in small firms, while the import intensity is lower. Average wage per job, however, is lower in small than in large enterprises.

If we also take into account indirect effects resulting from backward linkages, the picture changes to some degree. On one hand, the relative employment intensity of small enterprises is enhanced. But in terms of the other variables, the earlier conclusions are reversed. For those variables, the backward linkages of small enterprises are such that relatively more imports are required and relatively less value added and wage income is generated than when direct effects alone are considered.

## **The Changing Legislative Environment**

The political transition in South Africa has created a new context within which labour relations operate. Unions and politicians responding to worker interests now have a significant voice in the political process. As a result, the government faces political pressure to follow a more labour-friendly policy. Simultaneously, employers constitute a strong pressure group to protect their interests. It is in this context that the study analyses various pieces of labour legislation. Key aspects of the Labour Relations Act (LRA), the Basic Conditions of Employment Act (BCEA), the Employment Equity Act (EEA), the Skills Development Act (SDA), and the Skills Development Levy Act (SDLA) are summarised and their impact on the labour market is assessed.

There is no doubt that the persistent decline in formal sector job opportunities has had enormous consequences for labour relations. In particular, job security has become a source of major concern to employees and unions. As a result, protection clauses are increasingly important in this legislation. This happens against a background of growing use of temporary and casual labour, much of it from the informal sector. This can be partly explained by the reluctance of firms to hire labour given increasingly high costs of dismissal.

Equally important is the rising demand for higher skills. Today's skills shortage presents an enormous challenge, especially for the 50% of the unemployed who are young people with more than nine years of schooling. To date, opportunities for technical and vocational education and training are inadequate.

Labour legislation strengthens and gives more power to the trade unions and lays the ground for industry-wide wage agreements. This is a source of concern given the need for competitiveness in South African industry. South African labour legislation is moving against the global trend towards

decentralised bargaining, The effect of the LRA on small business needs to be assessed. While providing for small business representation in bargaining councils and workplace forums with more than 100 employees, the law may nevertheless prove onerous to small business -- in particular, the potential extension of bargaining agreements and minimum wages and conditions of employment to smaller firms. This is problematic since small business is expected to generate new job opportunities, and restrictions on this sector may inhibit the expansion of employment.

While the Labour Relations Act sets out the general framework in which labour negotiations take place, the other laws cited above go much further in determining specific conditions of employment and how firms are to pursue social goals in addition to private profits. The overall burden of this legislation is thought by many firms to be quite heavy, though most of it has only begun to be implemented, so this burden may be more anticipated than experienced.

It is important to distinguish the employability of different individuals. Those who are older and not well educated will in all probability never find a formal sector job. There are simply too many others with greater potential to be absorbed into the workplace, particularly youth with some secondary school education who could become employable with the help of a skills development programme. For older, less well-educated individuals, some form of welfare grant is most practical.

The Skills Development Act may not be very well targeted. Although it should work effectively for skilled workers who only require some incremental training to increase their capabilities, it is inadequate for the huge task of increasing the skills of those with considerable potential who are as yet unskilled.

Another issue is the potential effect of the Basic Conditions of Employment Act on the demand for unskilled labour. The Act gives the Employment Conditions Commission the power to set minimum wages for workers not otherwise covered. But these are frequently the workers whom shifts in the labour market, decreasing the number of unskilled jobs, have made most vulnerable. Any effort to protect these workers by raising minimum wages will likely lower income through unemployment much more than it will raise it through wage increases.

### **Expanding Employment within the Firm**

Until recently, very little information was available on the behaviour of firms in response to their changing environment. However, a number of surveys conducted in the late 1990s and 2000 provide us with important insights into the constraints firms face and how they react to them. The study reports findings of an analysis of firm-level data from the second round of the South African Labour Flexibility Survey (SALFS2), along with a few conclusions from other recent enterprise surveys.

These surveys produced a number of important findings. One is that many firms reported labour slack, i.e. being able to produce the same level of output with fewer workers. Another is that “fairly extensive” use of temporary, contract, or part-time labour allows firms some flexibility not to pay fringe benefits associated with permanent hiring. Still another is that larger firms engaged in production tend to employ workers from historically disadvantaged populations in semi-skilled positions, whereas smaller firms have a larger percentage of white professional employees. Thus, the higher labour-intensity of smaller firms does not necessarily apply to the skill groups most likely to provide employment to the disadvantaged.

Industrial action due to disputes in the form of strikes, demonstrations, “go slows”, and “lock outs” are more frequent in larger establishments. This is expected given the higher degree of unionisation in larger firms. Larger firms are also somewhat more likely to participate in bargaining councils than smaller firms, giving them less flexibility in wage negotiations. Wage determination from outside the firm, on the other hand, is more likely in smaller firms.

Two other relationships are important. First, formal training of newly recruited production workers is more characteristic of larger firms, though smaller firms may engage in informal, on-the-job training. Second, larger firms are more likely to use temporary and casual labour – probably because they are more subject to restrictive labour practices and wage and benefit agreements with respect to permanent labour.

In many firms the low level of education and training also extends to management cadres. Managerial quality is undoubtedly a constraint on overcoming barriers to employment. For example, based on an opinion survey of several thousand businessmen around the world, South Africa ranked near the bottom in such areas as overall management performance, corporate performance, management efficiency, and productivity.

Other surveys of SMMEs find few of the firms having grown during 1994-98, and, of those that have grown, few have expanded their employment. Major constraints are lack of domestic demand, increased import competition, and increasing labour and other input costs. Most of these firms have never exported. Many firms have shown little initiative to increase their productive capacity, either by hiring more labour or through acquisition of new equipment, training of labour and management, upgrading their quality control, or improving internal operations. Those that have expanded have preferred to raise productivity as an alternative to hiring more labour. A number of firms have shed workers in an effort to remain competitive. There is a general sense among the firms interviewed that the new labour legislation makes employees a high fixed cost with unpredictable returns. A number of the firms therefore rely on subcontracting or casual labour to maintain flexibility in the face of fluctuating demand. Where hiring has occurred, it has generally involved skilled workers.

Some firms reported feeling constrained by the Employment Equity Act to achieve both the right skill and the right colour mix. SMMEs also feel burdened by the administrative costs of recovering skill development levies in the form of grants for training. They are particularly concerned with the high cost of designing workplace training programmes. Most are generally ignorant of the flexibility that exists within the South African labour legislation. Firms were also largely unaware of programmes administered by the Department of Trade and Industry (DTI). The few firms that had applied complained about red tape and lack of commitment by government officials.

In another survey in the Greater Johannesburg area, insufficient demand and the high cost and nonavailability of capital were listed by SMMEs as two of the four most important constraints on business expansion, the other two being crime and lack of infrastructure. The larger SMMEs rely more on bank capital and are more constrained by high interest rates than the smaller firms, for which access to bank credit is a bigger issue. The survey also demonstrated the problems that arise in using supply-side measures to offset the detrimental effects of macroeconomic policies on SMMEs. Only 10-20% of SMMEs are even aware of the existence of these government programs. A much lower percentage actually use them.

The Greater Johannesburg survey of large firms (50 or more employees) in eight manufacturing industries found that about 80% were operating at less than full capacity and almost 60% operated with only a single shift of labour. These firms identified the following as the leading constraints on growth: (1) crime and violence and (2) labour regulations, interest rates, and exchange rates, all three ranked equally. Skills shortages were a major problem. These firms find recent labour regulations to be particularly burdensome because they raise the implicit cost of labour. This is much more important to these firms than high wage rates and other normal non-wage costs of labour. The new “hassle factor” in South African labour markets requires large employers to comply with labour regulations associated with hiring and firing, extension of collective bargaining agreements, multiplicity of unions, etc. As a result, less permanent labour is hired, more machinery is used, temporary workers are hired, and subcontracting is common. It is the collective weight of labour legislation, not just one piece, that is the problem.

Access to bank credit is not an issue for large firms, but high interest rates is. Sixty-one per cent of the firms were negatively affected by high interest rates in 1998, leading to a decline in the rate of business investment. Even when investment did take place, it was usually jobless. Although 50-70% of large manufacturing firms export, exports amount to only 13-17% of their total output. Exchange rate volatility is an important impediment to growth. Among large firms, very few are aware of special DTI programs to promote exports, and fewer actually use them.

The CEOs of surveyed firms listed the following as top priorities for government: (1) establish efficient and flexible market wage policies, (2) maintain stability of macroeconomic and other policies, and (3) promote efficient and flexible interest rate policies. However, a key finding of the survey was that the marginal contribution of each of these measures is likely to be minimal unless the critical issue of labour costs is addressed. This requires a comprehensive approach to all three constraints linked to the labour market: excessive labour market regulation, shortage of skills, and crime and violence.

## **Conclusions and Recommendations**

Stimulate aggregate demand for labour with macroeconomic policies that encourage growth and investment. Recent changes have corrected most of the problems that plagued macroeconomic policy during the ANC government’s first six years. By making control of inflation as the primary target of monetary policy, the Reserve Bank is now freed of having too many objectives and not enough instruments. Most important is the decision to allow exchange rates to adjust freely, which dampens short-term capital movements and allows for longer term adjustment. Coupled with sound fiscal policy and realisation of the need to reduce real rates of interest, macroeconomic policy today seems well poised to encourage expanded investment, growth, trade, and employment in the future.

Identify the sectors in which expansion of employment is likely to be greatest and minimise barriers to growth in these sectors. The study demonstrates the importance of the services sector for employment. The Department of Trade and Industry has become increasingly cognisant of that sector. Also important are the privatisation and reorganisation occurring in a number of service sub-sectors. This will help make these activities more competitive and reduce barriers to entry, thereby encouraging investment and expansion of employment. Despite its importance, the services sector is perhaps the least-known sector in South Africa.

Establish an environment that encourages growth of SMMEs. The study points to the SMMEs' key role in creating employment. The government should concentrate on creating a general environment in which SMMEs are encouraged to invest and hire. This involves maintaining macroeconomic stability, low real rates of interest, safety, adequate infrastructure, and labour markets free of excessive regulation. Much less helpful are interventions that require SMMEs to deal directly with and obtain approvals from public officials.

Find ways of improving the skills of youth and other labour market participants so that the demand for skilled labour can be spread among a broader segment of the potential work force. The major reason why formal-sector employment of disadvantaged members of the labour force has not risen is that most of the growth in demand is at the higher skill levels. This is a world-wide phenomenon, apparently due primarily to the nature of technological change, increasing the demand for and returns to skilled labour. Although some countries circumvent this by specialising in the production and exportation of labour-intensive goods and services, this does not appear to be a viable option for South Africa. The main reason is that even unskilled and semi-skilled labour in South Africa is relatively costly by international standards. Given the very high level of unemployment that exists in South Africa, and the fact that roughly 50% of the unemployed are youths who have never had a job but who have at least some secondary schooling, it is important to target this group as the one likely to benefit most from further training. This implies identifying the jobs that are likely to become available, along with their skill requirements. The SETAs could be very useful for this purpose, but this may require refocusing away from upgrading skills of existing workers and paying more attention to training those just entering the labour market. Older workers who have lost their jobs should be assisted through some form of welfare payment.

Create a legislative and regulatory environment in the labour market that encourages firms to hire and train labour. While we recognise the need for labour legislation that (1) establishes a basic framework for collective bargaining and wage negotiation, (2) sets a standard for basic conditions of employment, (3) provides for non-discrimination in the workplace, and (4) facilitates the enhancement of worker skills, one must also recognise that this legislation may have a cost. This cost has been described by many CEOs as the "hassle factor", leading firms to forego hiring new workers and, instead, outsource many needs to sub-contractors, casual labourers, and others who can provide the services they require without imposing the obligations associated with new hiring under the current legislation.

Wage Policy as a Tool for Increasing Employment. The evidence presented here suggests that lowering wages is not a viable way to increase employment. The labour market is far too segmented and subject to too many imperfections to be able to make wage policy a cornerstone of employment creation. This does not imply that wage rates should be ignored. The risk of laying off more unskilled and semi-skilled workers, if wages increase, is constantly present in agriculture, mining, and even manufacturing and some services. The gain in income for those who keep their jobs is likely to be far outweighed by the losses of those who lose theirs.

## I. INTRODUCTION

South Africa emerged from the apartheid era in 1994 with an urgent need to complement its political liberation and its opening to global trade and investment with economic gains that would benefit all members of the population. As the country moves into the twenty-first century, however, its economy is stagnant, unemployment defined broadly approaches 40% of the economically active population, and there are enormous racial, gender, and location-specific disparities in levels of income and wealth.

To a large extent, these problems were inherited from the earlier era of apartheid. Racial segregation resulted in a highly segmented labour market, which reduced both efficiency and equity. African workers under apartheid were not free to move from sectors, occupations, and locations in which returns in the form of wages and other income were relatively low into those where returns were higher. Growing population pressure in the homelands severely limited the ability of African farmers to sustain themselves with subsistence agriculture. Restrictions on non-registered, informal activities prevented this sector from absorbing labour to the extent that it did in other African countries. The result was growing poverty and unemployment.

When it came to power in 1994, the ANC government was firmly committed to reducing poverty and unemployment and to decreasing the enormous disparity that existed in the distribution of income and wealth. At the same time it was also committed to liberalisation of trade and investment, deregulation of the agricultural and services sectors, macroeconomic stabilisation, and whatever else was required to encourage economic growth and maintain confidence in the economy at a time of momentous transition. Meeting all of these objectives was a formidable task even in the best of times. But South Africa was also faced with the need to adjust to a number of other changes in its economic environment, including declining gold exports, trade agreements being established with the European Union and within Southern Africa, and the international financial crisis of 1997 and 1998.

This study examines the issue of how to increase the demand for South African labour, and reduce poverty and unemployment, within the context of the powerful forces currently shaping the economy. The study builds on the International Labour Organisation's seminal 1996 work, *Restructuring the Labour Market: The South African Challenge*. It incorporates analyses of time-series data from Statistics South Africa and the South Africa Reserve Bank, household survey data from the 1993 SALDRU living standards survey and the October Household Surveys, a number of firm-level surveys, the recently constructed input-output table with a breakdown by firm size, and a variety of other data sources. Some of these analyses were undertaken for the study by South African researchers at Witwatersrand University and the University of Cape Town. Others were conducted independently. A major source of information was the papers presented at the 2000 Annual Forum, organised by the Trade and Investment Policy Secretariat, on the topic of Paths to Growth and Employment in South Africa.

The study begins in Chapter II with a review of the problems that South Africa faces as it emerges from apartheid and tries to grapple with the multiple objectives of reducing poverty, increasing employment, restructuring the economy in a more open direction, and raising the rate of economic growth – all in the face of a number of major constraints. It describes the labour market situation in South Africa and its links with poverty. It also sets out different ways in which the demand for labour might be increased. Chapter III then examines the macroeconomic situation in South Africa

and the contribution that monetary, fiscal, and exchange rate policies have made to growth and employment. The chapter reviews the macroeconomic goals embodied in the GEAR strategy and how these have been met. It also takes a longer-term perspective, as it looks at experience over the past 15 years with two critical variables: the rate of interest and the exchange rate. A major conclusion of this analysis is that the government's policy choices during its first six years had a high cost in terms of economic growth and lack of labour employment, but these policies also contributed to macroeconomic stabilisation in a more liberalised economy, which has set the stage for increased growth and employment in the future.

Chapter IV examines the evolution of South Africa's economy in terms of the sectoral allocation of employment. According to the official employment statistics gathered at the level of the firm, while wage employment in mining, agriculture, and, to a lesser extent, manufacturing has declined, employment in the services sector has shown a modest increase. More recent household-level data, however, suggest that the services sector, in which the number of new firms has been expanding rapidly, has increased its employment at an even faster rate than the older data suggest. Furthermore, it is now recognised that the official statistics have seriously underestimated the importance of subsistence agriculture and have not captured very well the expansion of employment in small, medium, and micro enterprises (SMMEs). Chapter V assesses the relative efficiency of small versus large enterprises in generating employment, wages, and value added, whether via the firm's direct activity or through input-output linkages. It finds that SMMEs are better than large firms at generating employment and value added, but they also pay lower wages.

Chapter VI looks at recent government legislation in South Africa, particularly the Labour Relations Act, the Basic Conditions of Employment Act, the Employment Equity Act, and the Skills Development and Skills Development Levy Acts, analysing their likely effect on employment. Chapter VII presents an analysis of the SALFS2 firm-level survey to see what barriers exist within firms to expanding employment. The results from other enterprise surveys are also analysed regarding the effects on these firms of macroeconomic policy, supply-side incentives, and recent labour legislation. These surveys suggest that macroeconomic policy is very important, supply-side incentives are unimportant, and the "hassle factor" associated with labour legislation is a major constraint on new hiring. Finally, Chapter VIII discusses the principal conclusions from this research effort and offers recommendations for policy. The Annexes provide additional background material on the estimation of wage/employment elasticities, the definition of firm size, and the results of a survey on the effects of South Africa's new bargaining councils.

Dirck Stryker and Fuad Cassim served as co-Principal Investigators of the study. Stryker prepared Chapters II (Evolving South African Economy) and III (Macroeconomic Policy and the Labour Market), and Cassim was the principal author of Chapters IV (South Africa's Changing Labour Demand) and VI (Changing Legislative Environment). Balkanapathy (Bala) Rajaratnam was the author of Chapter V (Job Potential of Small and Large Firms) and undertook the analysis of the SALS2 survey in Chapter VII (Expanding Employment within the Firm). Haroon Borhat and Murray Leibbrandt conducted the wage and employment analysis presented in Annex A. Extensive use was also made of much of their other research on poverty and unemployment, which is summarised and quoted throughout the paper. Finally, Daniel Plunkett helped with the revision and editing of the paper.

## II. THE EVOLVING SOUTH AFRICAN ECONOMY

### *Historical Background*

Some of the problems of poverty and unemployment in South Africa are inherited from the earlier era of apartheid. Racial segregation resulted in a highly segmented labour market, with marked discrimination based on race and gender. Blacks in rural areas were heavily penalised by restrictions on their movements outside the homelands, overcrowding in relation to meagre agricultural resources, and inadequate infrastructure and social services. Blacks everywhere suffered from insufficient and poor education, which denied them access to the best jobs even after these jobs were made available to them. The result was widespread and increasing poverty and unemployment.

Once restrictions on the rights of Africans to unionise were lifted in 1979, resulting in rapid growth in union membership, real wages of African workers in manufacturing rose approximately 50%, while the wages of White workers remained relatively constant. This resulted in some catching up of Africans to Whites – overcoming some of the discrimination of the past. But it also occurred at a time when the demand for lower skill levels, in which Africans were heavily represented, was falling, while that for higher skill levels, dominated by Whites, was rising (Bhorat and Hodge, 1999). With stagnant demand and an African labour force growing at about 2.8% per year (Sadie, 1991), rising wages for African workers contributed to growing unemployment. Indeed, by 1995, roughly half of all Black workers, the vast majority of them Africans, were without formal sector employment.

The situation would not have been so bad if the employment gap had been filled by rural agriculture or informal activities in urban areas, as occurred in most of sub-Saharan Africa, but once again the legacy of apartheid was felt. In rural areas, land was very unevenly distributed under apartheid. Furthermore, the government systematically encouraged capital-intensive agriculture and discouraged subsistence farming. This left many Africans crowded onto the homelands with land resources totally inadequate to their needs. Thus it was no accident that the 1991 population census found that in all the homelands -- both the TBVC countries and the self-governing territories -- African unemployment rates were higher and had risen more sharply over the previous decade than in the rest of South Africa.

Nor was the urban informal sector a better employment cushion. In the cities and towns, the relatively low level of informal activity reflected the restrictions that had been placed on Blacks in a whole range of urban activities. Statistics South Africa (StatsSA) estimated, in fact, that in 1989 less than 20% of the Black labour force was involved in statistically unrecorded activities, of which 12% worked on a full-time basis (Kirsten, 1988).

Growth of employment was also limited because agricultural and manufacturing production was protected from imports by high tariff and non-tariff barriers, and capital flows were highly restricted, discouraging the importation of private capital. In part this was a reaction to the sanctions imposed on the apartheid regime from outside. It also reflected an isolationist mentality that South Africa could go it alone. But whatever the reasons, the result was a failure to renew ageing equipment, growing obsolescence of technology, and management that was increasingly isolated from new ideas in relation to the evolving the global economy.

Over the years, the dependence of the South African economy on exports of gold, platinum, and diamonds led to overvaluation of the rand in relation to what the exchange rate should have been if there were a more diversified export base. In addition, protection against imports led to further overvaluation, as well as a bias against exports and in favour of import-competing activities. As a result, many South African products were not competitive in neighbouring countries or on the world market. To make exports competitive, the government relied on cash rebates to exporters under the General Export Incentive System (GEIS), a scheme that was highly biased in favour of larger, less labour-intensive firms.

Very early on, the new ANC government renewed the commitment that South Africa had already initiated to reopen itself to the global economy and to join the newly created World Trade Organisation. This had a number of important implications. First, it implied that tariff rates, which were at very high levels, would be reduced; that the structure of tariff rates would be simplified; that quantitative restrictions on trade would be eliminated; and that the General Exports Incentive Scheme (GEIS) would be replaced by supply-side incentives consistent with WTO membership. The result of these reforms was a “cold bath of competition” from imports pouring into the South African economy. Especially hard hit was the clothing and textile industry, which had been highly protected before, and, even though it had a transition period somewhat longer than the rest of the economy, nevertheless underwent a very painful adjustment. Throughout the entire economy firms were faced with the necessity of cutting costs and becoming competitive. This resulted in the laying off of workers and the rehabilitation or renewal of equipment. On top of this was a continuation of the long-term decline in sectors that had traditionally employed a considerable amount of low and semi-skilled labour – sectors such as agriculture, mining, and construction.

To compensate for trade liberalisation, the South African government announced its intention to introduce WTO-friendly “supply side” measures to lower costs and move toward higher value-added production. As part of this effort, the old Regional Industrial Development Programme (RIDP) was to be replaced by a new tax-based incentive scheme related to human resource development, labour absorption, and regional and sectoral priorities. Tax and other incentives were provided through accelerated depreciation allowances and tax holidays on new investment and through a number of special programs to encourage industrial innovation, strengthen the relationship between industry and educational institutions, facilitate access by firms to needed technologies, promote increases in productivity, and develop best practice work organisation. Special programs were created for small, medium, and micro enterprises (SMMEs) to facilitate their access to loans and other supply-side incentives (Government of the Republic of South Africa, 1996, pp. 12-14). SMMEs also benefited from the new export finance guarantee scheme implemented in November 1996, the small/medium manufacturing development program, the technology and human resources for industry program, and the support program for industrial innovation.

While initial attention was on cross-cutting programs, this shifted during 1996 as a series of sectoral/cluster studies were undertaken by the Industrial development Corporation (IDC) and the Department of Trade and Industry (DTI). The goal of these studies was to identify clusters of industries that were likely to be particularly competitive or non-competitive after trade liberalisation (NEDLAC, pp. 20-24, 39, 40). A key issue was the extent to which more labour-intensive small and medium enterprises would be encouraged through general incentives or by specific incentives geared to promoting clusters of activities in which they might play a role.

Restructuring the South African economy away from heavy dependence on primary product exports, particularly minerals, and on goods produced for the domestic market behind high protective barriers required a substantial depreciation of the real exchange rate. This was seen as dangerous, however, because of the impact that it would have on inflation (South African Reserve Bank Governor's Address, 1997). Furthermore, although South Africa ran a substantial current account deficit from 1995 to 1998, this deficit was initially more than offset by short-term capital inflows. As a result, rather than depreciating to facilitate structural adjustment and soften the blows resulting from tariff reductions, the real exchange rate actually appreciated in 1994 and 1995. The following year, these flows were reversed, and South Africa began a rather tumultuous period during which exchange rates were buffeted by volatile fluctuations in both the direction and magnitude of these flows. The difficulty was compounded by reductions in restrictions on international capital flows, which created some uncertainty as to what response would ensue, plus a strong structural increase in the demand for domestic credit. All of this led the Reserve Bank to try to restrain increases in the money supply and to maintain high interest rates in order to encourage net capital inflows and discourage the expansion of domestic credit. One of the principal fears was that inflation would erode South Africa's competitive position on global markets, given a reluctance on the part of the Reserve Bank to allow for full adjustment via changes in the exchange rate.

Inflation was also of concern because of the unsustainable situation regarding fiscal deficits, which reached 8.3% of GDP by 1992/93. Although these deficits could be financed fairly easily by borrowing during the rather depressed period prior to 1994, the goals of the ANC government required an increase in the rate of economic growth, which would have expanded the demand for credit on the part of the private sector. Under these conditions, the government's fiscal deficits would either have crowded out private investment through higher interest rates or have been financed through inflation, which would have had unfavourable long-term consequences on investment (South African Reserve Bank Governor's Address, 1994). Thus a critical element in the Growth, Employment, and Redistribution (GEAR) strategy elaborated by the government in 1996 was to reduce these deficits to no more than 3% of GDP in order to take some of the pressure off of monetary policy, lower interest rates, and stimulate growth and investment. Fiscal prudence was also thought to encourage foreign investors who might be interested in investing directly in South African industry and agro-industry (Government of the Republic of South Africa, 1996, p. 10).

Although there were some efforts towards tax reform, the main thrust of reducing fiscal deficits fell on the expenditure side. Tightened expenditures not only would relieve inflationary fiscal deficits but also would release resources required for capital formation. This was to be achieved through a restructuring of the public service, holding the annual increase of the government wage bill to no more than 2%, and strict containment of spending on other goods and services and on current transfers. This would allow an increase of discretionary spending of a capital nature within the government's Reconstruction and Development Program of up to 8% per year. Critical to this program were reprioritisation within the health and education budgets, expenditures on municipal infrastructure, restructuring of the welfare system, land reform, and small business support policies (Government of the Republic of South Africa, 1996, pp. 8-9).

The other main element of the government's reform program involved labour market policies. These sought to provide greater flexibility in wage determination and conditions of employment at same time that basic protection of workers was to be extended to a larger portion of economy. At the same time, there was to be continued promotion of productivity improvements aimed at increasing the skills of a

broad spectrum of workers in both the formal and informal sectors (Government of the Republic of South Africa, 1996, p. 17). ). The major instruments of this policy were the Labour Relations Act, the Basic Conditions of Employment Act, the Employment Equity Act, and the Skills Development and Skills Development Levy Acts.

What is clear from this analysis is that a wide variety of policies have been employed in South Africa over the past few years to stimulate economic growth and employment. Some of these have related directly to the labour market. Others have dealt with the structure of private sector incentives, especially in relation to the global economy, and the macroeconomic elements of GEAR. The policies employed have consisted essentially of two types. The first has been policies that affect the general economic environment in which private sector firms operate – policies such as the exchange rate, interest rates, tax structures, and tariff rates – both as these influence the firms directly and as they affect the overall structure and rate of economic growth. The other policies have applied more specifically to individual firms and have generally required specific approvals or administrative procedures involving those firms.

### ***Unemployment and Poverty in South Africa***

There are two major definitions of unemployment in South Africa: the narrow and the broad. The narrow definition requires that the individual, age 15 or over, was available for paid employment or self-employment in the reference week and had “taken some steps to find work during the past four weeks”.<sup>1</sup> The broad definition drops the job seeking condition (Standing, Sender, and Weeks, 1996, p. 108). Thus it allows for the fact that workers who find no jobs cease looking for work, though if offered a job, they would gladly take it.

This seems particularly relevant to South Africa. For instance, Dinkelman and Pirouz (2000) have analysed the results of the 1997 October Household Survey and find that there are varying degrees of labour force attachment, which depend on physical proximity to jobs, urban /rural location, level of education, local rates of unemployment, and other variables related to the cost of search in relation to the probability of finding a job. This cost determines not only whether an individual would be considered as unemployed under the broad versus the narrow definition but also whether he or she would be considered as part of the labour force. Kingdon and Knight (2000b) analyse data from the SALDRU survey and the 1994 October Household Survey (OHS), which show that the unemployed are substantially less satisfied with the quality of life than informally employed people. They are unemployed because they cannot find remunerative work.

The latest statistics on unemployment are available for February 2000 from the Labour Force Survey (LFS), which is currently being tested by Statistics South Africa. This source indicates that, by the narrow official definition, 26.7% of the work force is unemployed.<sup>2</sup> By the broader expanded definition, the unemployment rate is 37.3%. Each of these figures is high by any standard.

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<sup>1</sup> Even this definition is broader than that used in most countries, which requires the individual to have sought work during the past week

<sup>2</sup> The narrow definition has now been accepted as the official definition by Statistics South Africa because it is internationally recognised. However, both definitions are published. The LFS is considered by Statistics South Africa to be vastly superior to the Survey of Total Employment and Earnings (STEE) because the LFS is a survey of households whereas the STEE is a survey of firms. Household surveys are much better for gathering data on

Most analysts accept that unemployment rose sharply in the late 1970s and continued to rise in the 1980s and 1990s. However, this is difficult to verify because of changes in the definition of unemployment over time and because earlier estimates of employment tended to miss substantial numbers employed in new firms, in the unrecorded informal sector, and in subsistence agriculture. For example, the ILO labour review states that there is a “high probability that employment is underestimated, and that informal economic activities and indirect forms of labour have actually been growing by more than has been picked up in official statistics” (Standing, Sender, and Weeks, 1996, p. 127). Thus even though there are estimates of employment in the informal sector beginning in the mid-1990s, and these show a rise in the rate of unemployment from 31% in 1993 to 39% in 1998, according to the expanded definition (Kingdon and Knight, 2000a), there are no data with which to verify earlier trends over time (Standing, Sender, and Weeks, 1996, pp. 106, 122-27). Nevertheless, the high level of unemployment even in 1993 suggests that this rate had been rising for quite some time.

The severity of the problem of unemployment is indicated not only by its overall level but also by its distribution. The incidence of unemployment is much higher for Blacks, especially Africans, than it is for whites, as shown in Table 2-1 for the expanded definition of unemployment. It is also considerably higher for females than for males within each population group. Unemployment is particularly severe for Africans 16-24 years of age, especially young women (Standing, Sender, and Weeks, 1996, pp. 116-17, 22). In fact, unemployment decreases monotonically by age across the entire working age spectrum (Kingdon and Knight, 2000a, p. 19).

**Table 2-1: Expanded Unemployment Rates Amongst Males and Females Living in Urban and Non-Urban Areas by Population Group, February 2000 (%)**

	Urban Male	Urban Female	Non-Urban Male	Non-Urban Female
All population groups	31.0	39.3	33.3	39.3
African	39.8	48.2	35.5	40.4
Coloured	27.6	31.3	9.8	22.3
Asian	19.0	37.8	**	**
White	8.2	12.2	**	18.2

Source: Statistics South Africa, 2001. Based on Labour Force Survey.

Note: \*\* Number of responses too few for statistically reliable extrapolation.

The 1993 SALDRU Living Standards Survey found that unemployment is far more widespread in rural than in urban areas. This is contradicted by the LFS data, which finds higher rates of unemployment in urban than in rural areas, especially for Africans and especially according to the narrow definition. This may reflect a movement of Africans from rural to urban areas during the period 1993-2000, which could have increased the unemployment rate in urban compared with rural areas. It could also be because many people in rural areas have become discouraged to the point that they no longer actively seek work or have withdrawn from the labour force altogether.<sup>3</sup> This is corroborated

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employment in new firms and on informal sector activities, including subsistence agriculture (Statistics South Africa, 2001).

<sup>3</sup> Another reason for this difference is that the LFS is much better than the OHS, and especially the SALDRU survey, in identifying a large group of subsistence and small-scale farmers. The majority of these farmers were

by an analysis of the 1995 OHS and the 1995 Income and Expenditure Survey of Statistics South Africa found in Borat, *et al* (2000). This analysis shows that for a wide range of poverty lines, the incidence and depth of poverty are far higher in rural than in urban areas. Furthermore, labour force participation rates are lower in poor than in non-poor households, suggesting that poor people in rural areas tend to drop out of the labour force. In addition, agricultural labourers are the lowest earners compared with other occupations, so that the incentives to remain in the work force are weak. Despite the higher rates of unemployment overall in urban than in rural areas, residing in a former homeland contributes positively to unemployment, and for Africans more than offsets the negative effect of rural versus urban location (Kingdom and Knight, 2000a, pp. 12, 23).

Although there is a negative correlation between rates of unemployment and years of schooling, the correlation is hardly linear. There is relatively little difference in poverty and unemployment rates between those with no education and those who have less than seven years. After this, however, secondary education and above greatly decreases the probability of being poor. At this point, not only does additional schooling increase the probability of being employed but also it increases the probability of participating in the labour market and it increases the earnings of those who are employed (Bhorat, *et al*, 2000).

One important question is whether differences in poverty and unemployment by race are due to current discrimination or to differences in location, levels of education, and other variables that are the result of past discrimination. After controlling for location, demographic, and measured human capacity characteristics such as age and education, the difference in the probability of being unemployed that is due to race equals 8.7, 8.3, and 5.1 percentage points respectively for Africans, Coloureds, and Asians (Kingdon and Knight, 2000a, p. 15). Efforts to correct for education quality using test scores did not change the coefficients associated with race, though there may be problems related to the reliability of the test score data. As a policy matter, however, it is clear that a substantial reduction in poverty and unemployment can be achieved by correcting for location and educational disadvantages.

It is clear from this analysis that education is an important factor influencing poverty and unemployment. But this does not imply that expanded education will necessarily solve the unemployment problem. Aside from the problem of quality, schooling acts not only to prepare people for work but also to raise their expectations regarding the type of work that they are willing to do. Higher aspirations may give rise to higher unemployment. Education also gives employers an indicator by which to select those who are to be hired from a long queue of applicants. While greater equity in schooling may be perfectly justified in its own right, and may increase job opportunities for the disadvantaged vis-a-vis those with greater existing opportunity, it may not solve the overall unemployment problem unless it helps to create more jobs. This requires that education be carefully tailored to the needs of the economy, a subject to which we shall return.

### ***Alternative Paths to Increasing the Demand for Labour***

After years of a racially determined wage differential, African wages in South Africa began bridging the racial gap in the 1970s and 1980s. This was mainly in response to labour shortages that

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identified in the OHS and SALDRU survey as not economically active, thus increasing estimated rates of unemployment in rural areas (Statistics South Africa, 2001).

emerged in the 1970s, capping four decades of rapid growth. The pressure for continued real wage increases, however, became increasingly political during the 1980s, partly because political parties were banned, whereas African trade unions were allowed to function. Neither increases in productivity nor demand for new workers were able to keep pace. As a result, the number of jobs in industry stagnated. This situation was exacerbated by a history of incentives favouring the use of capital over labour in industry, as well as by apartheid's legacy of low levels of literacy, education, and occupational skills. Apartheid "sought to protect white interests from competition with blacks. It can be argued that until this legacy can be neutralised, the country has little chance of a stable and prosperous future. Thus the central problem is how to generate sufficient jobs for the population, and, furthermore, to ensure that those jobs are in some sense fairly rewarded (Hofmeyr, 1997)."

### **Employment through Wage Reduction**

A number of economists from outside South Africa propose a simple solution to this problem. They argue that unions, which cover only a small part of the total work force, exert an adverse influence on employment for the work force as a whole. This is because unions do not represent those who are employed in smaller enterprises and informal sector activities, as well as those who are unemployed. To the extent that the unions are successful in raising real wage rates in the unionised sector, this inhibits the expansion of employment. A large part of the labour force is left unemployed or underemployed, thus reducing wages for those outside the unionised sector. The problem is held to be especially acute in South Africa, where industry-wide labour negotiations are frequently held under the auspices of Bargaining Councils, which removes the flexibility of more localised negotiations at the level of the firm. The solution proposed is to move towards greater flexibility of wage determination (Moll, 1995).

This analysis depends on the existence of a highly segmented labour market. Making use of the SALDRU survey, Hofmeyr (1997, 1999) specifies a multinomial logit model to establish whether there exist wage differences due to unionisation, and between work in the formal or informal sectors, holding constant the effects of region, occupation, sector, employer type, educational level, marital status, and race, as well as duration of labour market experience. Results support the belief that strong segmentation does exist. Unionised employees are paid significantly more than non-unionised workers in the formal sector, who are in turn paid significantly more than the casually employed or those in the informal sector. Beyond the segmentation resulting from these formal sector categories, "there is evidence of substantial wage differentials associated with non-productive characteristics such as race and sector of employment." (Hofmeyr, 1997)

Several important questions regarding segmentation arise. For example, why does a large proportion of the population (especially black women) remain economically inactive despite the fact that the labour market is supposedly less constrained than it was under apartheid? Are formal sector workers overpaid due to their innate, employable qualities? Are informal sector workers in fact inferior due to difficult-to-measure variables such as motivation? For Hofmeyr, "the vast majority of the earnings differential between these two groups cannot be accounted for by measured characteristics. The tantalising question that remains is the extent to which the huge earnings differential is due to segmentation and to what extent due to unobserved characteristics."

Another critical question relates to the reservation price of South Africa's unemployed. At what wage would they be lured into the workforce if jobs were available? In other words, is there a

supply as well as a demand constraint? Although there is very little direct evidence, some interesting comparisons can be made. For example, even in the rural sector, wages are considerably higher in South Africa than in countries such as Madagascar and Bangladesh. The median wage rate for African agricultural labourers in 1995 was about R 400 per month (Bhorat, 2000d). This works out to perhaps \$4.50 per day at the prevailing exchange rate. This may be compared with a daily wage rate in countries such as Madagascar and Bangladesh of about \$1 per day.

The same is also true with respect to wages in neighbouring countries, which results in labour migrating from these countries to South Africa.

Why there should be this wage differential is unclear. Some have suggested that it is due to the high cost of basic wage goods such as food, resulting from price rigidities elsewhere in the economy. Others have noted the role that welfare and pension payments may play in setting a reservation price, though the SALDRU survey shows that remittances are even more important than pension payments, especially for the poorest families. Unrecorded gains from crime may also raise the reservation price of labour. Or the exchange rate at which international comparisons are made might be overvalued in relation to an equilibrium rate. Most of this reasoning suggests that South Africa is far from being a low-wage country even where trade unions do not operate. This seems to be generally accepted, since most people would argue that the quality and productivity of labour in South Africa need to be improved rather than wages decreased (Natrass, 2000).

Even if decreasing union wages were a viable option, the relationship between wages and employment may not be very stable given all the turmoil that South Africa has undergone in recent years. Labour market segmentation, such as exists in South Africa, can disrupt the normal relationship between wages and employment, which is usually quite complex in and of itself. Employment can take a longer or shorter period of time to adjust to changes in wage rates, depending on industry structure, employment regulations, and the process of wage determination. For South Africa, analysis of wage/employment elasticities by economic subsector potentially could reveal which industries suffer from the greatest structural distortions.

Fallon and Lucas (1997) endeavour to explain wage and employment parameters for South African workers through pooled cross-industry, time-series regressions. They formulate a Constant Elasticity of Substitution production function to estimate the wage elasticity of demand for labour using sectoral data. One of the admirable qualities of this work is the ability to differentiate between African and white labour supplies, since it is the former that is in need of stimulus.

Fallon (1992) previously estimated, on the basis of aggregate data in a macroeconomic labour model, a wage elasticity of demand for Black labour of 0.28. Fallon and Lucas (1997, p.10) conclude that employment is more sensitive to wage levels than previously believed, finding an average long-run wage elasticity of  $-0.71$  for Black formal sector workers. Calculating a shorter-term effect, the elasticity of employment with respect to wage changes over a one-year period (which they call an "impact" elasticity) is  $-0.156$ . Their estimated weighted average mean lag of adjustment for Black employees is 2.8 years, meaning that it takes that long for even half of the adjustment in employment to take place in reaction to a change in wages. In manufacturing, the half-life is only a bit more brief at 2.25 years. For services, they find a long-run elasticity of  $-0.948$ , stronger than for most other sectors, although the short-term elasticity of  $-0.147$  is somewhat weaker.

As part of the present study, Bhorat and Leibbrandt estimated wage employment elasticities using a cointegration approach for seven manufacturing sub-sectors, plus total manufacturing. Their full contribution appears in Annex A. For five of the eight categories, the monthly time-series data from Statistics South Africa cover January 1987 to December 1992. Data are available for other sub-sectors over other distinct periods, some of which go back to 1973. As opposed to Fallon and Lucas's more traditional econometric approach, the cointegration approach is more open-ended about the existence of a long-run stable parameter. Bhorat and Leibbrandt estimate both a long-run elasticity parameter and a series of lagged parameters that reflect short-run dynamics around the long-run relationship.

Key inconsistencies in the results, such as between the Engle-Granger (standard OLS) and Johansen tests, raise the strong possibility of unstable elasticity parameters. For example, there are a number of cases of oppositely signed derived elasticities. Bhorat and Leibbrandt's overall conclusion is that, whether using a long-run or short-run specification, the relationship between employment and wages is unstable for all sectors covered. This is a rather controversial finding. It could simply imply that the instability of South Africa's labour market over the last three decades precludes estimation of meaningful wage employment elasticities but that these elasticities are stable today. But it also could imply that labour market segmentation is so strong that instability in the links between employment and wages is still important, and considerable care should be taken before advocating the use of wage policy as an instrument to increase employment.

Furthermore, although the correlation between employment and poverty alleviation in South Africa tends to be quite high, it is far from 100%.<sup>4</sup> The relationship between household income and employment is in fact quite complex. Recent household surveys have revealed that there is a remarkable diversity of situations regarding employment, union membership, and dependency status across the members of most households. The SALDRU survey, as noted above, reveals the important extent to which poor rural households depend on remittances from relatives with jobs in the cities. This raises serious questions regarding the viability of alleviating poverty by reducing wages in the formal sector so as to expand employment.

At the same time, much of the work force that is employed has low levels of productivity, partly because of obsolete plant and equipment, but also because of poor management and because workers lack literacy and basic technical skills. South Africa is embarked on a major program of education and training, but with little knowledge of what skills are required to make labour employable and productive and how these skills can be most efficiently acquired. Nor is there a clear understanding of how improved management and more appropriate technology can contribute to increased labour productivity.

## **Other Approaches**

Expanding employment is probably linked less with wage determination and more with a macroeconomic policy that encourages growth and stability, an industrial strategy that stimulates business expansion in ways that contribute to increased employment, and an environment in which the

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<sup>4</sup> The SALDRU household survey found that unemployment rates were much higher in lower-income households, though only about one third of the unemployed were in households without any source of income (Standing, Sender, and Weeks, 1996, p. 111).

private sector is induced to invest in the hiring and training of labour in addition to expanding plant and equipment.

This study examines a number of these alternative paths to increasing the demand for labour. It first looks at the macroeconomic picture and analyses how monetary, fiscal, and exchange rate policy during the first six years of the ANC government restrained the rate of economic growth and thus the expansion of employment. At the same time, however, the basic conditions for increased growth have been established, and a number of important changes in policy have been made that could facilitate more rapid growth in the future.

The study then analyses the prospects for increased employment from the perspective of its sectoral allocation and its breakdown by firm size. The basic conclusion emerging from this analysis is that expanded employment is much more likely to come from increased output of the services sector than from agriculture, mining, or manufacturing. In addition, SMMEs could contribute substantially to growth of employment, both directly in response to improved macroeconomic and tax incentives and indirectly in terms of their production ties with larger firms.

The study looks at some of the recent legislation passed by the government to improve the efficiency and equity of labour markets. It examines the constraints to investment and employment that exist at the level of the firm, and analyses how labour legislation and government policy relate to these constraints and what their impact is likely to be on the demand for labour. The study concludes that the existing labour market environment is not at all conducive to increased investment and employment, and, unless corrected, this will have a very damaging effect on economic growth and employment at a time when the macroeconomic climate has greatly improved.

### III. MACROECONOMIC POLICY AND THE LABOUR MARKET

The new South African government was from the beginning strongly committed to increasing employment, reducing poverty, and improving opportunities for those who had been disadvantaged under apartheid. At the same time, there was a fervent desire to foster economic growth and earn the respect of potential overseas investors by reducing fiscal deficits, lowering the rate of inflation, maintaining exchange rate stability, decreasing barriers to trade, and liberalising external capital flows.

Reductions in tariffs and elimination of quantitative restrictions on trade were set in motion by the WTO agreement, signed in 1995 and to be fully implemented by 1999, with the exception of the clothing and textile industry, which had eight years rather than five to comply. For the most part, South Africa was well ahead of schedule in its compliance with the agreement. In addition, South Africa negotiated a trade agreement with the European Union and is a member of the South African Customs Union (SACU), the Southern African Development Community (SADC) trade protocol, and the Indian Ocean Rim Initiative (NEDLAC, p. 38). To offset the disruptive effects of these agreements, the supply-side measures described earlier were put into effect.

#### ***Growth, Employment, and Redistribution (GEAR)***

Macroeconomic policies were, in 1996, incorporated by the new government into a strategy to promote Growth, Employment, and Redistribution (GEAR). This strategy was firmly committed to the achievement of macroeconomic balance via a lower budget deficit and reduced inflation. The second important objective was to get the economy on a 6% per annum growth path by the year 2000, driven by improved performances in fixed investment and non-gold exports. The third objective was redistribution through job creation resulting from economic growth and labour market reforms. In addition, there were to be attempts to increase access to social services by changing priorities and improving efficiency.

Employment creation under GEAR was to be achieved in three major ways. First, economic growth would account for about one-third of increased job creation in both formal and informal sectors. Second, labour-intensive government programmes to build infrastructure and maintain public works in rural and urban areas would account for another quarter of new jobs. The rest of new employment creation would arise from “institutional reforms in the labour market, employment enhancing policy shifts, and private sector wage moderation”. Stronger growth of the more labour-intensive components of industry, facilitated by shifts in industrial policy, was considered vital, as was continuation of the thrust of economic policy towards greater openness and competitiveness within the global economy. The challenge facing labour market policy, therefore, was “to promote dynamic efficiency, skill enhancement, and the expansion of reasonably remunerated employment – while at the same time supporting a labour-intensive growth path which generates jobs for the unemployed, many of whom are unskilled and have never had previous employment.” (Government of the Republic of South Africa, 1996, p. 18).

The GEAR strategy compared two scenarios: one relating to how the economy could be expected to perform over the medium term if no policy changes were implemented, and the other relating to how the economy would perform if key policy changes were made. The government identified the following policy changes as necessary for higher economic growth and job creation:

- to reduce the fiscal deficit and contain debt service obligations, lower inflation, and hence free up resources for investments;
- to maintain an exchange rate policy with the objective of keeping the real effective rate stable at a competitive level;
- to maintain consistent monetary policy to prevent inflation;
- to further liberalise the capital account of balance of payments;
- to further reduce import tariffs;
- to introduce tax incentives to stimulate new investments in labour absorbing projects;
- to increase the pace of restructuring of state assets;
- to engage in infrastructural investment to address service deficiencies and backlogs;
- to introduce greater flexibility within the collective bargaining system.

GEAR provided quantitative estimates of the results of the two scenarios, as shown in Table 3-1. The core scenario (C) represented the results of unchanged policy while the integrated scenario (I) embraced the results of policy change.

As can be seen from the table, substantially higher growth was to be achieved under the Integrated Scenario over the medium term, with the main driving force behind growth being government's macroeconomic strategy, which was based on the premise that if the fiscal deficit could be reduced, real interest rates would decline, and greater investment would be encouraged and jobs created. It is important to note that, though the integrated scenario allowed for much higher growth and rising employment over the period, unemployment would only begin to decline marginally under this scenario to 32.6% in 2000 from roughly 33% in 1995. Hence it is only from the year 2000 onwards that one would see a reduction in the rate of unemployment.

The GEAR strategy was sharply criticised as restricting economic growth to a level that was likely to have little impact on prevailing levels of unemployment, inequality, and poverty (Standing, Sender, and Weeks, 1996, pp. 29-45). In particular, the strategy was held to be deflationary because it called for a decline in government expenditures without corresponding policy measures to promote the expansion of investment or exports (Gibson and van Seventer). As shown below, these criticisms appear to be more applicable to the implementation of GEAR than to its conception. For example, expansion of investment was to be induced through less crowding out of private investment by the public sector and by lowering the rate of inflation and real rates of interest. Exports were to be stimulated by maintaining the real exchange rate at a competitive level, liberalising the capital account, and reducing further import tariffs.

**Table 3-1: Core (C) versus Integrated (I) Scenario Projections, 1996-2000**

<b>CHARACTERISTICS</b>	C versus I 1996	C versus I 1997	C versus I 1998	C versus I 1999	C versus I 2000	C versus I Average
FY Fiscal deficit (% of GDP)	5.1 5.1	4.5 4.0	4.0 3.5	3.5 3.0	3.0 3.0	4.0 3.7
Real Government Consumption (% of GDP)	19.8 19.9	19.5 19.5	19.1 19.0	18.6 18.1	18.1 18.1	19.0 19.0
Average Tariff (%)	10.0 10.0	9.0 8.0	9.0 7.0	8.0 7.0	8.0 6.0	8.8 7.6
Average real wage growth, private sector	0.8 -0.5	1.5 1.0	1.7 1.0	1.3 1.0	1.4 1.0	1.4 0.8
Average real wage growth, government sector	4.8 4.4	0.4 0.7	0.4 0.4	0.3 0.8	0.0 0.4	0.2 1.3
Real effective exchange rate (% change)	-9.6 -8.5	0.7 -0.3	0.1 0.0	0.11 0.0	0.0 0.0	-1.8 -1.8
Real bank rate	7.0 7.0	6.0 5.0	5.0 4.0	4.5 4.0	3.7 3.0	5.2 4.4
Real government Investment growth	2.6 3.4	2.4 2.7	2.2 5.4	2.2 7.5	2.4 16.7	2.4 7.1
Real parastatal investment growth	3.0 3.0	2.5 5.0	2.5 10.0	2.5 10.0	3.0 10.0	2.7 7.6
Real private investment growth	6.3 9.3	4.2 9.1	4.4 9.3	5.8 13.9	7.1 17.0	5.6 11.7
Real non-gold export growth	9.6 9.1	7.5 8.0	6.4 7.0	5.5 7.8	5.3 10.2	6.9 8.4
Additional foreign direct investment (\$mn)	155	365	504	716	804	509
<b>RESULTS</b>	C versus I 1996	C versus I 1997	C versus I 1998	C versus I 1999	C versus I 2000	C versus I Average
GDP Growth	3.3 3.5	2.0 2.9	2.5 3.8	2.9 4.9	3.3 6.1	2.8 4.2
Inflation (CPI)	8.4 8.0	10.9 9.7	9.6 8.1	9.3 7.7	9.1 7.6	9.5 8.2
Employment growth (non-agricultural formal)	0.9 1.3	1.0 3.0	0.8 2.7	0.9 3.5	1.3 4.3	1.1 2.9
New jobs per year ('000)	97 126	101 252	84 246	103 320	134 409	104 270
Current account deficit (% of GDP)	1.8 2.2	1.3 2.0	1.1 2.2	1.1 2.5	1.6 3.1	1.4 2.4
Real export growth, manufacturing	12.5 10.3	10.4 12.2	7.5 8.3	6.6 10.5	5.4 12.8	8.5 10.8
Gross private savings (% of GDP)	20.5 20.5	20.7 21.0	20.8 21.2	20.8 21.5	20.6 21.9	20.7 21.2
Government dissavings (% of GDP)	3.1 3.1	2.6 2.3	2.0 1.7	1.4 0.7	0.9 0.6	2.0 1.9

Source: (GEAR) *Growth, Employment and Redistribution*. A Macro-Economic Strategy

Implementation of GEAR was not nearly as successful as had been hoped. One reason was the global economic crisis, which spread to South Africa in 1998, but even before this it was apparent that GEAR was not on track. Table 3-2 shows the evolution of some key variables from 1995 to 1999. Except for 1996, real GDP has consistently grown more slowly than even the core scenario projected by GEAR. Furthermore, outside of agriculture, which was favoured by good weather but continued to decrease its employment, real GDP in 1996 grew by only about two percent, followed by very slight improvement the following year before the impact of the financial crisis in 1998. Formal non-agricultural employment continued to decline throughout the period 1995-99, as South African firms shed labour in order to become more competitive. This is revealed by the continued increase in labour productivity, which seems to have been uninfluenced by the financial crisis. Except for 1998, growth

in real wages was less than the growth in labour productivity, resulting in some decline in unit labour costs.

**Table 3-2: Evolution of Key Macroeconomic Variables**

Variable	1995	1996	1997	1998	1999
Growth of real GDP (%)	3.1	4.2	2.5	0.6	1.2
Growth of non-agricultural, formal employment (%)	-1.1	-0.7	-1.7	-3.8	-2.0
Growth of labour productivity (%)	5.3	4.0	4.3	4.8	3.3
Average real wage growth, private sector (%)	0.9	1.7	2.3	8.7	2.3
Average real wage growth, government sector (%)	4.0	0.9	3.5	2.7	-2.1
Government surplus (% of GDP)	-4.9	-4.9	-4.6	-3.3	-2.5
Growth of real Gross Fixed Capital Formation by private business enterprises (%)	10.9	7.4	4.7	-2.9	-4.4
Predominant overdraft rate (%)	20.5	21.7	22.0	22.7	17.6
Inflation (% change in CPI)	8.7	7.4	8.6	6.9	5.2
Real rate of interest (%)	11.8	14.3	13.4	15.8	12.4
Gross private savings (% of GDP)	16.5	15.8	14.5	14.3	14.8
Gross inflows of Foreign Direct Investment (R millions)	4502	3515	17587	3104	8411
Real export growth, manufacturing (%)	10.4	9.3	5.5	2.3	0.0
Real effective exchange rate (% change)	-1.5	-6.3	6.4	-9.3	-5.1
Current account deficit (% of GDP)	-1.5	-1.3	-1.5	-1.6	-.004

Source: South African Reserve Bank, *Quarterly Bulletin*, various issues.

Growth of real wages in the public sector was even more restrained than in the private sector. This helped to halve the size of the fiscal deficit in relation to GDP from 4.9% in 1995 to 2.5% in 1999. Although reduced fiscal deficits were supposed to lead to greater investment by the private sector, this did not take place. Growth of real gross fixed capital formation by private business enterprises declined steadily from 1995 to reach a low of -4.4% in 1999. One of the reasons may have been high real rates of interest. Taking the predominant overdraft rate of interest minus the rate of inflation as a measure of the real rate of interest facing private firms, this rate climbed to a peak of close to 16% in 1998 and was never lower than about 12%. Whatever the sensitivity to interest rates, the ratio of gross domestic investment (GDI) to GDP continued to decline to its low in 2000 of 15.4% – far below the level of 27% attained during the 1970s. The ratio of gross domestic savings to GDP was even lower – reaching an all time low of 13% in the fourth quarter of 1998.<sup>5</sup> Meanwhile, the government's broad share of gross domestic fixed investment (GDFI) has only been about 12%, compared with 25% in 1986, and the share of net foreign direct investment (FDI) has only been about 1.2% (NEDLAC, pp. 63-77). Although net FDI shows sizeable fluctuations from year to year, gross inflows of FDI indicate some improvement in South Africa's ability to attract this type of investment. Nevertheless, FDI is dwarfed by portfolio and other types of foreign investment, which are much more susceptible to volatile shifts.

With respect to the balance of payments, gold exports continued to decline in absolute value and as a percentage of exports of goods and services, while non-gold merchandise exports reached about 30% of GDP in 1999 compared with 16.7% in 1995. Most of this increase was in chemicals, iron and steel, and non-ferrous metals -- sectors that employ relatively little labour. Furthermore, the export performance of the manufacturing sector was particularly disappointing, as its rate of growth

<sup>5</sup> South African Reserve Bank, *Annual Economic Report 1999*, plus additional data obtained from the Reserve Bank.

fell from over 10% per annum in 1995 to 0% in 1999. This was in spite of a substantial depreciation of the real effective exchange rate.<sup>6</sup> Despite this poor export performance, the current account deficit has been kept within reasonable limits in relation to GDP.

Even taking into account the global financial crisis, GEAR appears to have been overly optimistic, for employment creation and other projections were way below target even before the crisis spread to South Africa in the first half of 1998. Employment in the formal sector has in fact been declining rather steadily, which has to be a real source of concern in the context of the very high unemployment that exists in South Africa today. The question arises, therefore, as to whether an alternative set of macroeconomic policies might do more to stimulate growth, especially in sectors and among firms that are more labour-intensive. As we shall see later in this report, such firms are likely to be smaller in scale and located in sectors that have a comparative advantage in low-cost labour. This would suggest the importance of lowering the real rate of interest for firms that depend heavily on bank borrowing and of allowing the real rate of exchange to seek its equilibrium level in the face of the fundamental changes that are going on in the South African economy.

The latter is especially important given the decline in South Africa's gold production, the downward movement in world gold prices, and South Africa's recent reforms in trade policy. The falling value in real terms of gold exports suggests the need to reallocate resources into other sectors – into production of nontradables, import-competing products, and non-gold exports. The most important mechanism for doing this is depreciation of the real exchange rate. Lowering of tariffs and elimination of non-tariff barriers have a very similar effect on the balance of payments and require a similar response. Without a thorough analysis, it is difficult to know where the equilibrium level of the real exchange rate should be, given these fundamental changes in the economy, but it is clear that substantial depreciation is required.

### ***Longer Term Perspective***

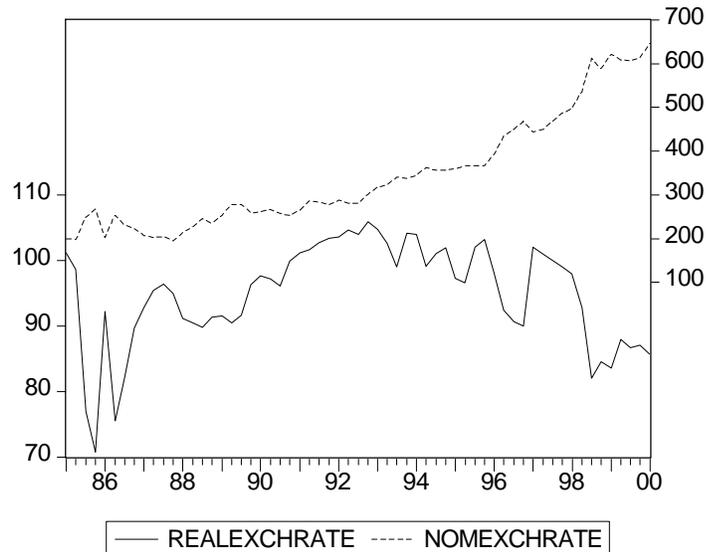
It is useful to look at the data over a longer period in order to put the more recent experience in perspective. The evolution of the nominal and real effective exchange rates is presented in Figure 3-1.

As is evident, the nominal value of the rand in terms of the U.S. dollar depreciated fairly continuously after 1988, with substantial acceleration of that depreciation in 1993 and again in 1998. The real value of the rand, on the other hand, appreciated with some fluctuations from 1985 until it reached a peak in the fourth quarter of 1992. Thereafter the real value fell until, by the beginning of the year 2000, it was approximately 19% below its peak value seven years earlier. This trend appears to have continued throughout much of the year 2000. This was during a period when the price of

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<sup>6</sup> Whereas the nominal exchange rate is expressed in terms of rand/U.S. dollar, the real effective exchange rate (REER) is measured as the ratio of the deflated value of a basket of currencies to the deflated value of the rand. A downward movement of the REER is therefore equivalent to a depreciation in the real value of the rand.

**Figure 3-1: Nominal and Real Effective Exchange Rate of South African Rand, 1985-2000**

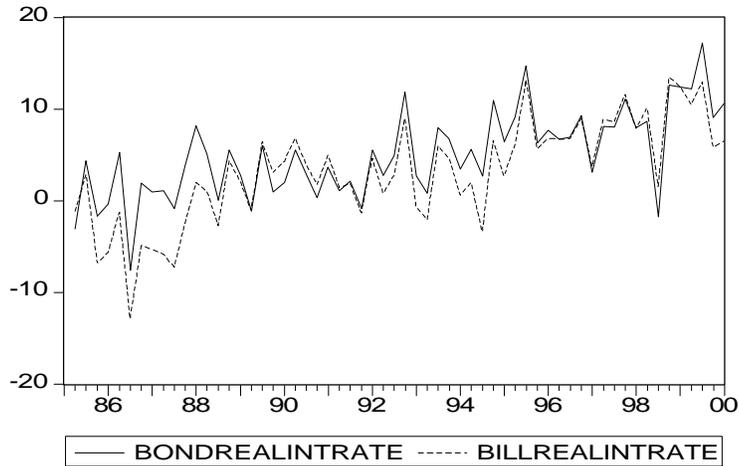


Source: South African Reserve Bank

gold on the world market fell by 23% and South African markets were opened wide to increased competition from abroad. The combination of declining terms of trade, tariff reduction, and trade liberalisation required a substantial depreciation of the REER to restore equilibrium. Whether this was sufficient remains uncertain, especially given the fact that the REER today is approximately at the same level as in 1985, when gold exports were more robust and imports more restricted.

The broader picture is shown in Figure 3-2 for long-term treasury bonds and 90-day treasury bills. Real rates of interest are calculated as nominal rates minus the rate of inflation as measured by the rate of change of the Consumer Price Index (CPI).

**Figure 3-2: Real Rates of Interest for 10 Years and Over Treasury Bonds and 90-Day Treasury Bills<sup>1</sup>**

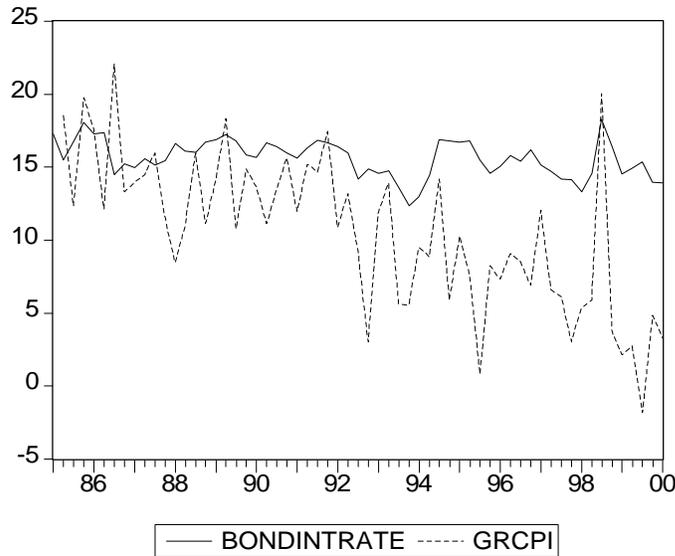


Source: South African Reserve Bank

Notes: <sup>1</sup>Real rates of interest were calculated by subtracting from nominal rate of interest the rate of change of the Consumer Price Index.

The two rates track each other fairly well. They both show a strong upward trend from 1985 until 2000, when the real bond rate was in the vicinity of 10%. The reason for the upward trend is that the nominal rates tended to remain relatively constant whereas the rate of inflation fell fairly steadily during this period. For example, as shown in Figure 3-3, the interest rate on treasury bonds remained relatively constant, averaging a little more than 15%, while inflation fell from about 15% to about 5%.

**Figure 3-3: Nominal Rate of Interest on 10-Year-Plus Treasury Bonds and the Rate of Change of the Consumer Price Index**



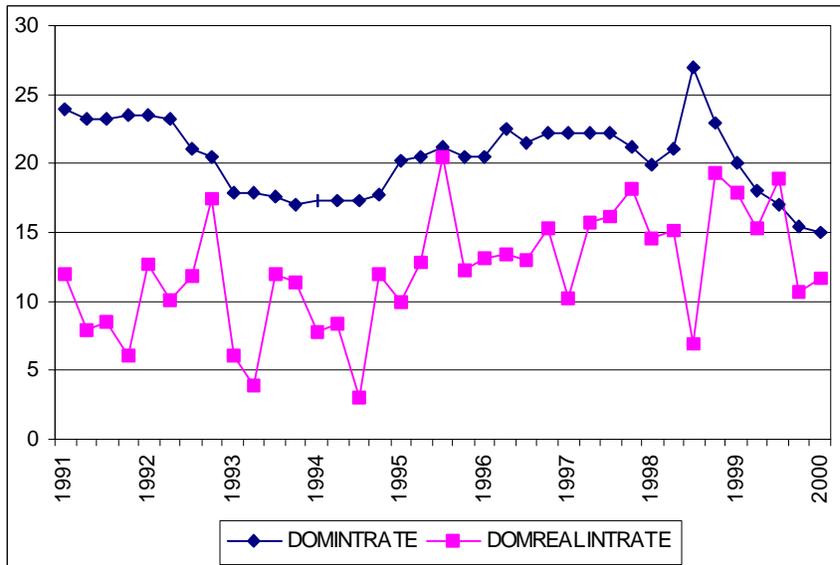
Source: South African Reserve Bank

The picture is little altered if one looks at a rate of interest that reflects better the cost of borrowing for private business, except that this cost is obviously somewhat higher than the cost of government borrowing. One such rate is the predominant overdraft rate on current accounts. Although this series is only available back to 1991, it shows a trend similar to those for the bond and bill rates. As seen in Figure 3-4, the nominal rate of interest fluctuated from 15% to 27%. The real rate fluctuated as well, but there was a definite upward trend, with the real rate averaging 12.4% in 1999.

One might ask at this point why real interest rates have been allowed to rise to the point where they would seem to have an adverse impact on business, especially for smaller firms, which are unable to take advantage of supply side incentives to the same extent as larger firms.<sup>7</sup> In part this seems to be because the South African monetary authorities were very concerned by the persistent expansion of domestic credit that was taking place over this period, with a consequent increase in the money supply and the potential for inflation (South African Reserve Bank Governor's Address, 1997). In retrospect this expansion appears to have been relatively insensitive to changes in interest rates and was probably related more to a structural shift in the amount of money people

<sup>7</sup> The reasons for this are discussed later in the report.

**Figure 3-4: Nominal and Real Predominant Overdraft Rates of Interest on Current Accounts, 1991-2000<sup>1</sup>**



Source: South African Reserve Bank

Notes: <sup>1</sup>Real rate of interest was calculated by subtracting from nominal rate of interest the rate change of the Consumer Price Index.

wanted to hold, given the changes that were taking place in the economy and especially in the development of its financial institutions. Another reason for keeping interest rates high was to influence capital flows and the balance of payments. With increasing liberalisation of the capital account, there was a fear that South African capital might move abroad. More realistically, removing restrictions on flows of capital owned by foreigners resulted in relatively volatile movements of short-term capital, which contributed to unpredictable fluctuations in the exchange rate and complicated the conduct of monetary policy.

The vulnerability of the South African economy to short-term capital outflows was especially acute because of the choice made by the government to finance its borrowing needs through the issuance of domestic bills and bonds rather than through substantial external borrowing. This had the advantage that debt service payments denominated in rand did not rise with depreciation of the currency. On the other hand, it shifted exchange risks to foreign lenders, who could anticipate the need for depreciation of the real value of the rand, given declining gold exports and liberalisation of the trade regime. This made the economy vulnerable to the vagaries of short-term capital movements prompted by uncertainties regarding the future pace of depreciation of the rand.

At the beginning of the year 2000, the loan debt of the national South African government totalled R 390.5 billion. Of this 93% was in the form of government bills and bonds denominated in rand, and less than 7% was denominated in foreign currency. Of the total domestic loan debt, R208 billion was held by the non-monetary private sector, an unknown proportion of which was made up of non-residents. Other outstanding public debt consisted of the bonds issued by local authorities, public enterprises, and other public-sector borrowers, which amounted to about R74 billion (South African

Reserve Bank, *Quarterly Bulletin*, June 2000). Other financial capital consisted of stocks and bonds issued by the private sector, as well as bank deposits.

Although the value of financial capital in South Africa that could be shifted abroad was sizeable, it also appears for the most part to have been relatively stable, at least in terms of annual changes. Over the period 1995-99, annual purchases of portfolio investment by foreigners increased fairly steadily from R10.651 million in 1995 to R82,389 million in 1999, with only a small dip in 1998, the year of financial crisis. At the same time, there was a fairly steady increase in South African purchases of foreign portfolio investment from R1,631 million in 1995 to R31,344 million in 1999, with a modest upward bump in 1998. Movements of other forms of capital were somewhat more volatile, though smaller in magnitude, but did not reveal a large overall outflow in 1998.

The quarterly data, on the other hand, indicate less stability, especially since 1998. As shown in Table 3-3, there was a sharp decline in the inflow of portfolio capital

**Table 3-3: Quarterly Movements of Portfolio and Other Non-Direct Investment, 1998-00<sup>1</sup> (R billion)**

	1998				1999				2000		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Foreign liabilities											
Portfolio	26.5	22.5	-1.1	2.5	9.1	26.2	29.9	18.7	4.6	-2.7	9.1
Other non-direct	-1.4	-2.3	1.4	8.9	0.1	-3.2	-9.0	-4.8	1.8	6.1	2.6
Foreign assets											
Portfolio	-7.1	-11.3	-5.5	-6.2	-6.8	-11.0	-6.1	-7.6	-11.2	-4.3	-7.0
Other non-direct	-5.1	0.0	3.8	-1.5	-2.6	-1.3	-3.9	-2.5	-3.1	2.4	-1.6

**Source:** South African Reserve Bank, *Quarterly Bulletin*, various issues.

**Notes:** <sup>1</sup>An increase in liabilities (inflow of capital) is indicated by a positive sign; an increase in assets (outflow of capital) is indicated by a negative sign.

during the third and fourth quarters of 1998. Coupled with a persistent purchase of portfolio investment abroad, this resulted in a net outflow of portfolio capital in each of these quarters. However, net inflows of other non-FDI capital increased, lessening the overall net outflow to R1.4 billion in the third quarter. By the fourth quarter, net flows of non-FDI capital were positive once again, though they did not return to their pre-crisis levels until the second quarter of 1999. These inflows decreased once again in the fourth quarter of 1999 and then again in the first two quarters of 2000. Coupled with sustained outflows of domestic capital and a persistent current account deficit, this resulted in a substantial drain on reserves and pressure on the rand, until the situation was corrected in the third quarter of 2000.

The decline in portfolio capital inflow led to an increase in the nominal rate of interest on treasury bills from 16.0% in the second quarter of 1998 to 21.6% in the third quarter. During the same period, the rate on bonds rose from 14.6% to 18.3%. The predominant rate of interest on overdrafts, which most affects business, rose at the same time from 21.1% to 27.0%. It averaged 23.0% during the fourth quarter, and then fell fairly steadily during 1999 and 2000, to reach 14.5% in September 2000 (South African Reserve Bank).

The most important target for monetary policy is the Reserve Bank's official money-market lending rate, the rate on repurchase transactions. This rate rose substantially, by more than 700 basis points from April to August 1998. This was a clear signal that the Bank was employing restrictive monetary policy in order "to stabilise the foreign exchange market and prevent a continuous spiral of depreciation and price increases from developing" (South African Reserve Bank, *Annual Economic Report 1999*).

The 1999 Annual Economic Report of the South African Reserve Bank makes it quite clear that the Bank reacted first and foremost to the threat of financial stability resulting from an exogenous decline in short-term capital inflows rather than to the immediate danger of economic recession.<sup>8</sup> Thus a major part of the burden of adjustment was thrown on those dependent on borrowed capital. As a result, GDP fell in the third quarter of 1998. Of particular interest in the 1999 Annual Report is the following statement:

Price movements in the South African securities market had been severely disrupted by the international financial turmoil of 1998. Market movements became highly volatile and began to correspond more closely with movements in emerging markets than those of mature markets. Money-market interest rates had increased sharply when the rand was under almost incessant downward pressure around the middle of 1998. This helped stabilise the foreign exchange market and, in a more general sense, all the other financial markets.... The rise in nominal bond yields from the early months of 1998 was apparently driven mainly by a reassessment of risk associated with investment in South Africa and, possibly, by higher expectations of inflation. (South African Reserve bank, *Annual Economic Report 1999*).

This statement suggests the limited ability of the authorities in South Africa to use monetary policy to achieve both internal and external stability. The fact that foreign portfolio investors face substantial risks associated with variations in the exchange rate means that they are not likely to be very sensitive to changes in interest rates alone. This implies that very substantial interest rate changes may be necessary to influence capital flows in periods of crisis, with potentially devastating effects on the domestic economy. Very high interest rates were in fact resorted to in 1998 only after the Reserve Bank tried unsuccessfully to defend the rand, increasing its net open foreign currency position from \$12.8 billion at the end of April 1998 to \$23.2 billion at the end of September. Interest rates peaked in early September and thereafter the currency crisis subsided, but it is difficult to say how much this was due to Reserve Bank monetary policy and how much to a general improvement in international financial conditions.

What is clear is that, had the international situation not ameliorated, the cost to the domestic economy would have been very severe. Part of the reason may have been the shifts that occurred in the Bank's policy. By attempting to defend the rand, when most speculators were betting against it, the monetary authorities undoubtedly increased the degree of uncertainty regarding future depreciation, and thus the risk premium associated with holding South African securities. This made the use of monetary policy less effective than it would have been if the rand had been allowed to depreciate as a result of market forces. Such a depreciation would have increased the cost to foreign investors of

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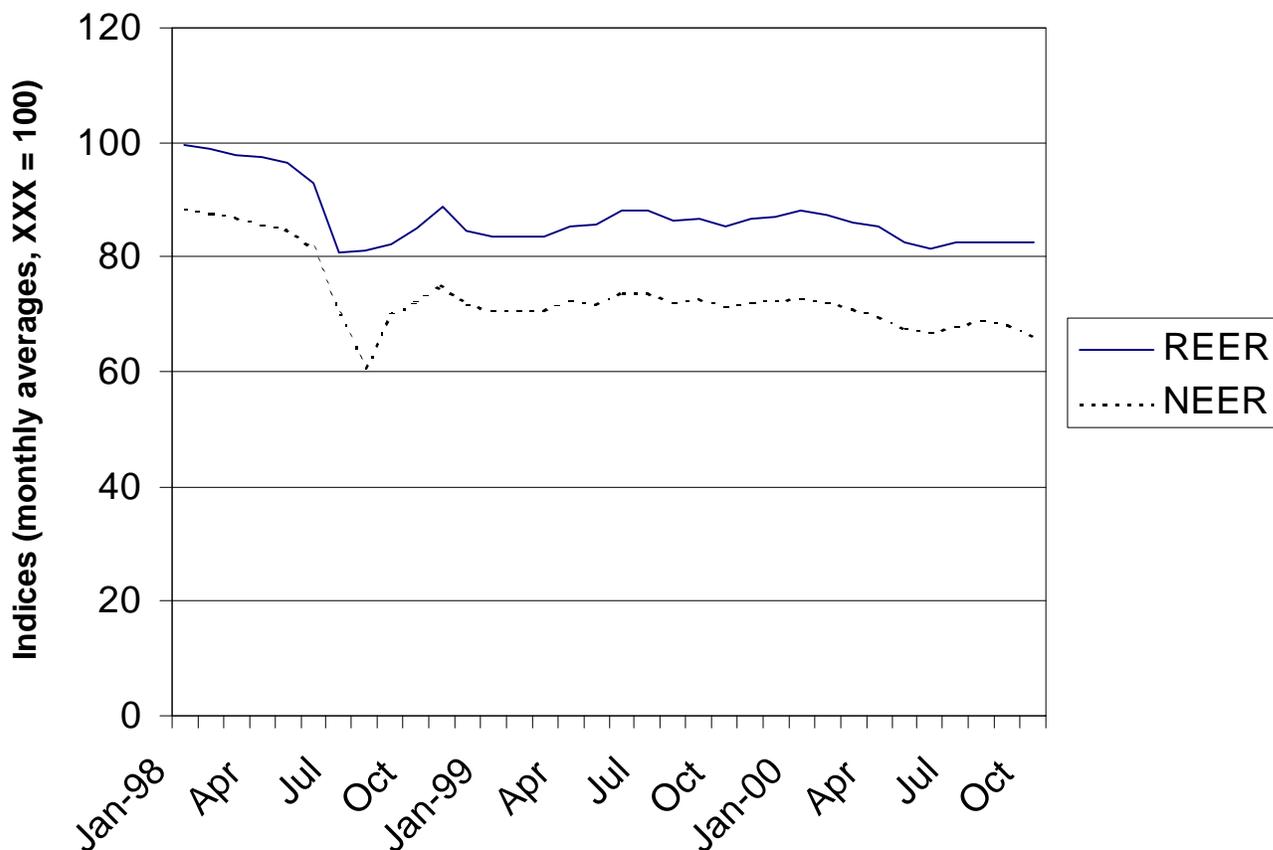
<sup>8</sup> The Bank believed that financial instability would in the long run be even more detrimental to the economy than a rise in interest rates.

selling their portfolio assets and converting the proceeds into foreign currency. This would have helped to dampen speculative outflows and would have meant that less of the adjustment would have had to be made in the domestic economy. There would have been some impact of depreciation on the real economy and on inflation, weighed against the advantages of allowing depreciation to take place. In the end, of course, depreciation of the rand did ensue, but in a pattern that was difficult to predict and unlikely to reduce the risk premium associated with holding rand-denominated portfolio investment.

This is evident from Table 3-4, which shows the monthly evolution of the nominal and real effective exchange rates of the rand from January 1998 to October 2000. The table shows a dramatic decline in the nominal effective exchange rate (NEER) in July 1998, followed by gradual recovery starting in September. The exchange rate resumed its depreciation in December of that year, and thereafter drifted up and down until by October 2000 it was at its lowest point. The real effective exchange rate (REER) followed a similar pattern, though its overall depreciation was somewhat less than for the nominal rate and it showed some signs of stabilising after June 2000.

Overall, it is clear that the capital account, exclusive of FDI, is a source of considerable instability in the balance of payments and the foreign exchange market. Furthermore, it appears that the days in which capital inflows can be counted upon to cover the current account deficit are over. This implies that exchange rate adjustment will have to play a much more important role in maintaining balance of payments equilibrium. In addition, it also seems clear that the Reserve Bank was attempting too much by trying to maintain both domestic balance and exchange rate stability. This was recognised in early 2000, when the adoption of an inflation-targeted monetary policy framework was announced in the Budget Speech of the Minister of Finance. The adoption of this framework meant that the Reserve Bank would henceforth focus exclusively on maintaining the balance between inflation and recession. It was recognised that this would require nominal exchange rate flexibility. Thus the rand was allowed to depreciate freely during the first half of 2000, and adverse effects of shifts in capital flows on interest rates and the domestic economy were minimised. This policy mix had the additional advantage that it has moved the real exchange rate towards its long-term equilibrium level by discouraging imports and encouraging exports, as required for structural adjustment.

**Figure 3-5: Nominal & Real Effective Exchange Rates,  
Jan. 1998 - Oct. 2000**



At the beginning of the twenty-first century, South Africa seems poised to benefit at last from the restrictive policies that have been employed, even though these may have been costly in terms of reduced economic growth and employment. The rand has depreciated substantially in real terms and may now be at a level consistent with long-term internal and external equilibrium. Fiscal pressures have been tamed, and the tax burden has been reduced. Inflation has declined to reasonable levels, given the adjustments still taking place, though it has to be watched because of the extraordinary expansion of money and credit that has occurred. Real interest rates are coming down, and this should help to stimulate economic activity. Most important, a sound monetary, fiscal, and exchange rate policy framework is in place that can provide the appropriate macroeconomic policy environment for a renewal of economic growth.

#### **IV. SOUTH AFRICA'S CHANGING LABOUR DEMAND**

Changing sectoral allocation of output is characteristic of the maturing process for industrial and middle-income economies. The rate of economic growth and the movement of capital and labour from the primary through the secondary into the tertiary sector is evidence of where new dynamic economic activity is taking place and where new jobs are being created.

##### ***Changing Structure of Final Demand and Labour Productivity***

In order to understand structural shifts in the labour market occurring in South Africa, one must take into account the changing structure of final demand and level of labour productivity that normally ensues as a country develops. First, as economies grow, rising productivity achieved through technological progress facilitates the movement of labour from one sector to another. For example, advances in agriculture are normally translated into a movement of labour out of that sector because the demand for agricultural products tends to be relatively limited. Second, as national income rises, the increase in demand generated varies across sectors because of differences in the elasticity of demand for the goods and services produced by those sectors, as well as the fact that these elasticities change with rising income. At very low levels of income, the income elasticity of demand for basic food is relatively high. This elasticity decreases as incomes rise and the demand for manufactured goods increases. Finally, at even higher levels of per capital income, the income elasticity of demand for services is greater than that for most manufactured goods. In addition, labour productivity in the production of manufactured goods generally rises faster than productivity in the services sector, so that relatively more workers are required in services.

##### ***Evolution of the South African Labour Market***

The pattern of output and employment in South Africa shows some similarities to many countries in the industrial world in terms of an increasingly predominant role for the services sector.<sup>9</sup>

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<sup>9</sup> There is no agreed definition of what comprises services. In general, services include all activities other than agriculture, mining, manufacturing, construction and public services such as electricity or water utilities. In terms of the International Standard Industrial Classification (ISIC), services comprise trade and finance, transport and communication, public administration, and other services. Classifying services in this way, however, is problematic. It treats services as a homogeneous group of activities when in fact there are huge differences between services regarding the kinds of labour involved, the type of work performed, and the nature of the product. In this regard, the classification system developed by Gershuny and Mile appears to be conceptually sound as well as empirically useful. They distinguish between four different uses of the term "services":

Service industries comprise the service sector. They are defined as firms or enterprises whose final output is in some sense non-material, irrespective of the types of occupation that make up a firm's labour force.

Service occupations are not restricted to the service industries. They are present in all sectors of the economy and refer to workers such as clerks, sales staff, cleaners, maintenance workers, accountants, lawyers, and health workers who are not directly employed in the production of material products.

Service products are also distinct from service industries. An example would be where the sale of a good includes a maintenance contract or an information service.

Service functions are a less familiar aspect of service activity. The term is used to draw attention to the fact that all products, whether material or immaterial, involve people in some kind of service activity.

Over the last three decades, primary sector output—mainly agriculture and mining—has declined in importance, with the secondary sector holding fairly steady and the tertiary sector making consistent gains. As for employment, at least in the formal sector, a long period of growth peaked in 1989, followed by a pronounced decline during the 1990s that differed by sector. While employment in agriculture has continued its familiar slow contraction, employment in manufacturing has fallen less rapidly, and that in services has increased.

Data on the changing shares of GDP from 1970 to 1998, as shown in Table 4-1, provide evidence that the structural change in the economy since the 1970's is fairly dramatic. The primary sector's share of GDP declined from its peak of 28.6% in 1980 to

**Table 4-1: Share of Economic Activity in GDP, 1970-98 (%)<sup>1</sup>**

Period	Agr/Fish/ Forest	Min&Qrr	Manufact	El, Gas & Water	Construct	Whols/ Retail/Catr	Fin/RE/ Bus Svcs	Other Services
1970	8.3	10.3	24.2	2.6	4.3	15.1	11.1	24.1
1975	8.1	12.1	22.8	2.3	5.21	14.0	12.5	23.0
1980	6.9	21.7	22.2	3.6	3.5	11.3	10.8	20.0
1985	5.7	14.9	22.0	4.1	3.6	11.5	13.5	24.7
1990	5.1	9.4	24.7	4.2	3.4	14.6	14.0	24.6
1995	4.3	7.8	24.3	4.0	3.1	16.3	17.0	23.2
1998	4.3	7.8	23.7	3.9	2.8	15.9	18.6	22.8
<b>Change 70-98</b>	<b>-4.0</b>	<b>-2.4</b>	<b>-0.5</b>	<b>1.3</b>	<b>-1.5</b>	<b>0.8</b>	<b>7.6</b>	<b>-1.2</b>

Source: Statistics South Africa

Note: <sup>1</sup>This table is based on national accounts data prior to their revision in 1999.

12.13% in 1998. The secondary sector's share of GDP remained relatively constant between 1970 and 1997. Standing out as the largest single SIC sector in South Africa's economy, the manufacturing sector remains a key generator of employment, but perhaps not the most promising in terms of directly expanding employment in the future.

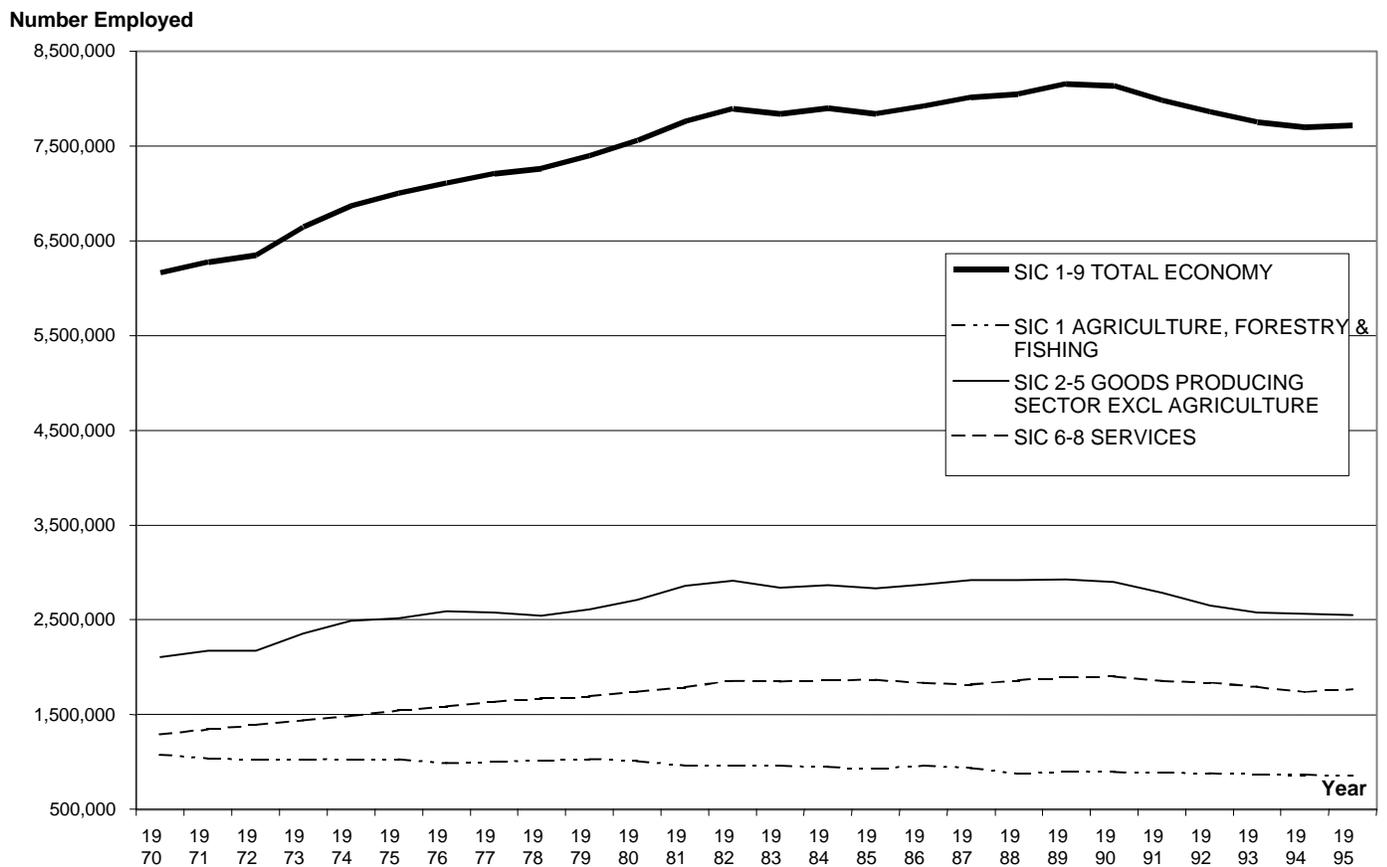
As the primary sector's contribution to national output has been declining, that of the services sector has been rising dramatically. Services as a whole has increased its share of GDP from a low of 42.1% in 1980 to 57.43% in 1998. This not only represents a huge increase, but also it means that services output is currently almost twice that of the secondary sector. The largest sub-sector of services is producer services (SIC sectors 7 and 8), with financial and business services making up the largest component.

These changes in the pattern of output have given rise to substantial shifts in the distribution of employment. As shown in Figure 4-1, as total employment in the country was rising from 1970 to 1990, for example, agricultural employment was declining. Manufacturing and industrial employment was growing in the 1970s, remained relatively constant in the 1980s, and thereafter declined significantly, back to the level of

the mid-1970s. Only the services sector was able to more or less maintain employment at a steady level during the 1990s.

It should be emphasised that these employment figures are based on the Survey of Total Employment and Earnings (STEE). As noted earlier, this firm-level survey is quite unreliable in recording employment in firms that have been recently established. It is also deficient in covering the SMMEs and unrecorded, informal activity. In comparison, the Labour Force Survey (LFS), which was launched for the first time in early 2000, recorded employment in formal, informal, and domestic service employment as noted in Table 4-2. This shows employment in services that is much greater than that shown by the STEE data.

**Figure 4-1: Employment in the South African Economy, Sector Trends, 1970-95**



**Table 4-2: Employment in Formal and Informal Sectors by Industry, February 2000 (000s)**

Industry	Formal	Informal	Domestic	Total
Agriculture	757	1,508	--	2,285
Mining	462	4	--	467
Manufacturing	1,277	178	--	1,469
Electricity	86	2	--	88
Construction	388	196	--	596
Trade	1,449	962	--	2,434
Transport	445	99	--	547
Business Services	770	62	--	837
Community Services	1,724	158	--	1,900
Private Households	30	156	1,001	1,187
Other/Unspecified	46	3		69
Total	7,434	3,329	1,001	11,880

Source: Statistics South Africa, 2001

The trends in output and employment in industry and services raise the question of whether South Africa is in a process of de-industrialising. If so, what are the implications for the labour market? De-industrialisation is a popular concept, usually used with reference to advanced industrial economies that have reached a certain stage of maturity, whereby the services sector increases its share of employment at the expense of manufacturing. But such a shift in the sectoral composition of labour depends on several dynamic changes occurring simultaneously. Some economists attribute it to an expansion of the public sector. In other words, the government's claim on employment and investment may have 'crowded out' competing demands of private industry. This does not appear to be the case in South Africa. Another hypothesis is that the income elasticity of demand for a country's exports may be significantly smaller than its income elasticity of demand for imports; hence, in the long run, a decline in manufacturing and industry is inevitable. But this neglects the fact that many services today are traded. In fact, much of South Africa's comparative advantage today would seem to be in service exports, especially to other African countries.

In truth, though, the term services covers such a broad range of activities that one should probably not lump these together. For example, the importance of informal sector employment in trade, shown in Table 4-2, undoubtedly implies, in the face of South Africa's high unemployment, that much of this employment is survival in nature and probably not very remunerative. The same can be said of domestic service. It is probably also true of some of the activities associated with increased outsourcing and subcontracting by formal sector firms. Nevertheless, it seems clear that the services sector is playing a very important role in South Africa's labour market.

For comparison purposes, it is useful to look at the experience in industrial countries. Employment in the industrial and manufacturing sectors typically shows a strong tendency to increase and then ultimately to decrease as capital substitutes for labour and services gain an increasing share of maturing economies. In the service sector, the trends are universally upward, both relatively and absolutely. The decline of manufacturing in the past two decades has been most pronounced in Britain, where manufacturing employment has dropped by almost half since 1970. In most other countries, the decline has been slower, but even so, the United States has shed 8 per cent of its manufacturing jobs, France 18 per cent, and

Germany 17 per cent. Japan, on the other hand, has been an outlier to this trend, adding 20 per cent to manufacturing employment over the same period (*Economist*, March 19, 1994)

In particular, it is in low-tech industries that the share of manufacturing employment has fallen in most developed countries. For the number of workers employed in high- and medium-technology industries has generally grown, a sign of a maturing industrial base. Hence, to take advantage of lower wage rates, most low-tech manufacturing jobs have shifted to developing countries, which are increasing their share of world manufacturing output. On the other hand, within the developed economies, employment has increasingly shifted to the service sector, with most new service sector jobs being provided by the private sector. It is in this context that they are being called the "service economies".

This trend varies between countries, and also manifests different patterns in different industries. But the general trends and changes can be understood in the broad context of structural change going on globally. What is less certain is the impact of information technologies on the structural change in the service sector as well as in the rest of the economy. For one thing, the distinction between goods and services is less clear in the IT sub-sector. The new information technologies will also have profound implications for the way in which the service sector is organised and will change the relationship between the manufacturing and service sectors in both developed and developing economies. How this may affect the relationship between the developed and developing economies is still unclear.

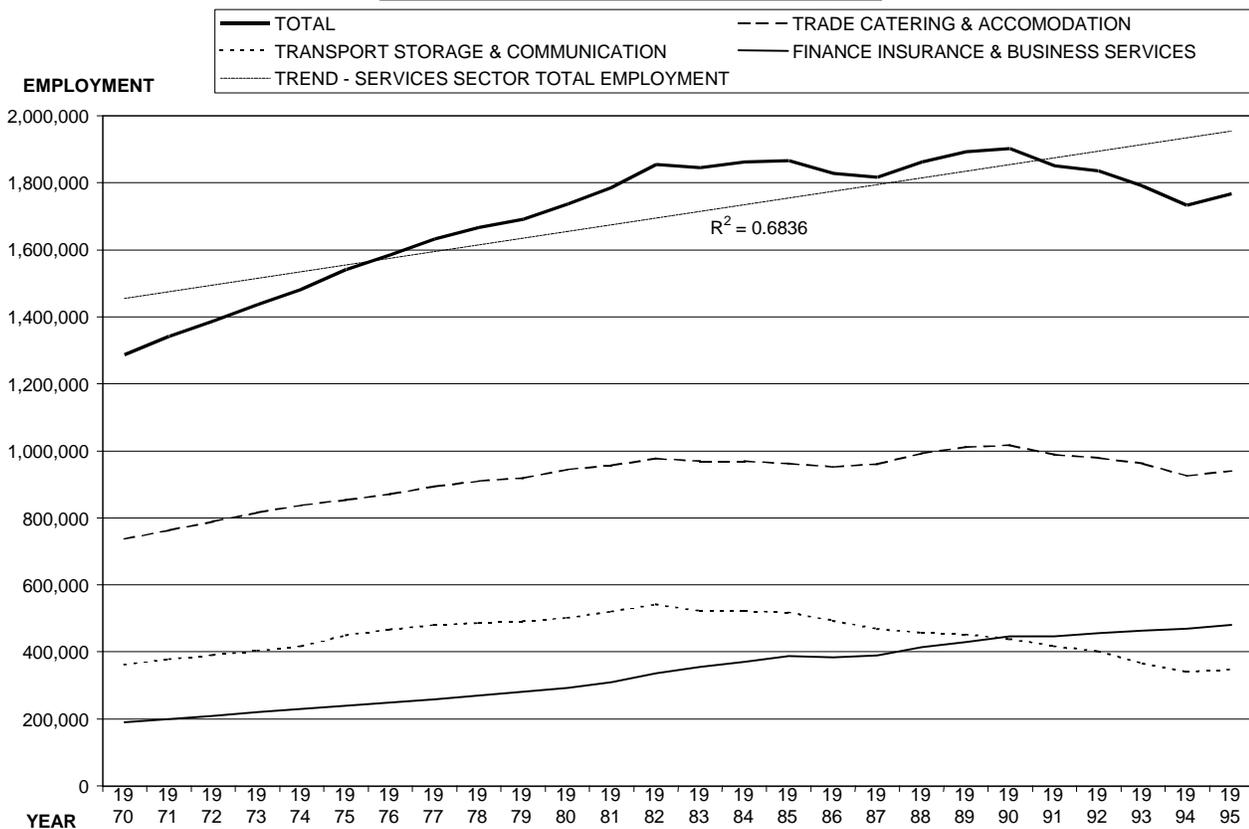
### ***Role and Competitiveness of the Service Sector***

Even according to the STEE, services has been the first sector in South Africa to show renewed employment growth following the slump in the early 1990s. If we add the likely effects of under-recording, it seems clear that more attention needs to be focused on the services sector and its potential for expanding employment opportunities.

This section examines in detail the relevant data by sector on key variables related to labour markets, for example levels of output, employment, real fixed capital stock, and factor productivity. One of the most salient findings is that the services sector appears to have a higher potential for absorbing low-skill labour than the rest of the economy.

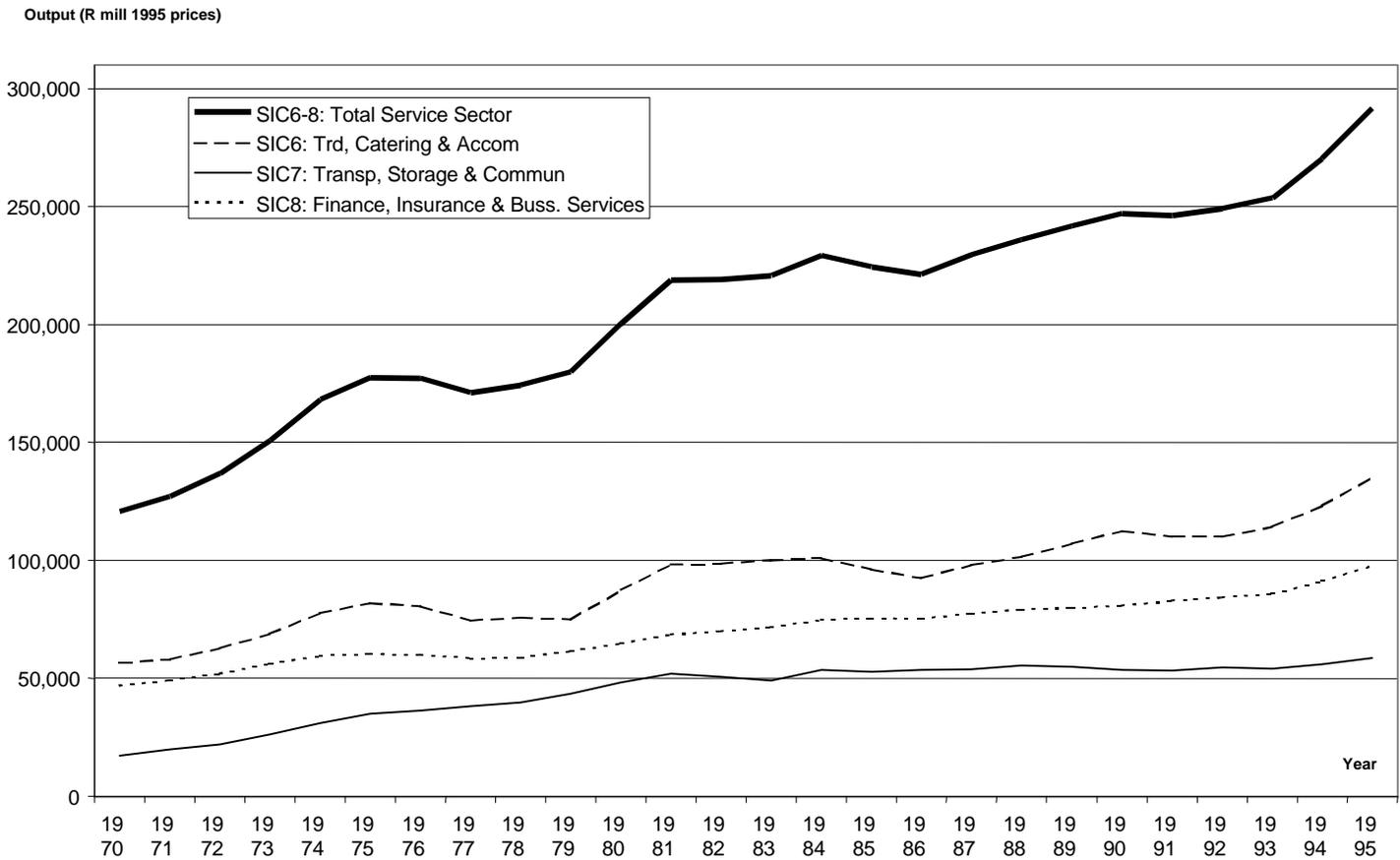
Output in the services sector has been on a strong growth path for the past three decades, so it is naturally a priority to determine what factors have been spurring this growth. On an aggregate level, the service sector has performed quite strongly, roughly doubling its output in the 20 years from 1970 to 1990, as shown in Figure 4-2. But since that time, while the rest of the economy has stagnated, there has been a significant acceleration of growth in services output. The trade, catering and accommodation sector (SIC6) led the recovery in 1992, while the finance, insurance, and business services sector (SIC8) began to pick up steam the following year. Output in the transport, storage, and communications sector (SIC7), which had been flat since about 1984, finally took an encouraging tick upward starting in 1994.

**Figure 4-2: Output of the Services Sector by Sub-Sector, 1970-95**



On the employment side, illustrated in Figure 4-3, the STEE data show only slight variations above or below 1.8 million workers for the total service sector since 1982. Bearing in mind that this coverage applies primarily to older firms in the formal sector, a simple linear regression run on the total number of employed in services from 1970 to 1995 indicates an upward trend with a relatively strong correlation coefficient of 0.68, suggesting stability regarding the half-million jobs in the sector created since 1970. Within the services sector, there are also some notable trends. Trade, catering, and accommodation have consistently accounted for the largest share of employment in the sector, which is explained by the lower labour productivity and higher labour intensity of this sub-sector. With respect to employment, a significant change occurred in 1990 when the finance, insurance, and business services sub-sector overtook transport, storage, & communication. This brings it in line with output trends in the service sector, where finance, insurance, and business services have historically accounted for a greater share of output than transport, storage, and communication. However, this leaves aside community services, which Table 4-2 indicates is the second most important subsector from the standpoint of employment.

**Figure 4-3: Employment in the Services Sector, by Sub-sector, 1970-95**



A fundamental question is the nature of the links between employment in different sectors of the economy. While one may wonder if labour shed from agriculture, mining, or manufacturing has been absorbed by the tertiary sector, this cannot be inferred from the sectoral trends shown above. The fungibility of labour is reduced by the work force's low level of education, training, and skill. Thus many of those members of the work force who lost their jobs are likely either to be unemployed or to have entered the informal sector.

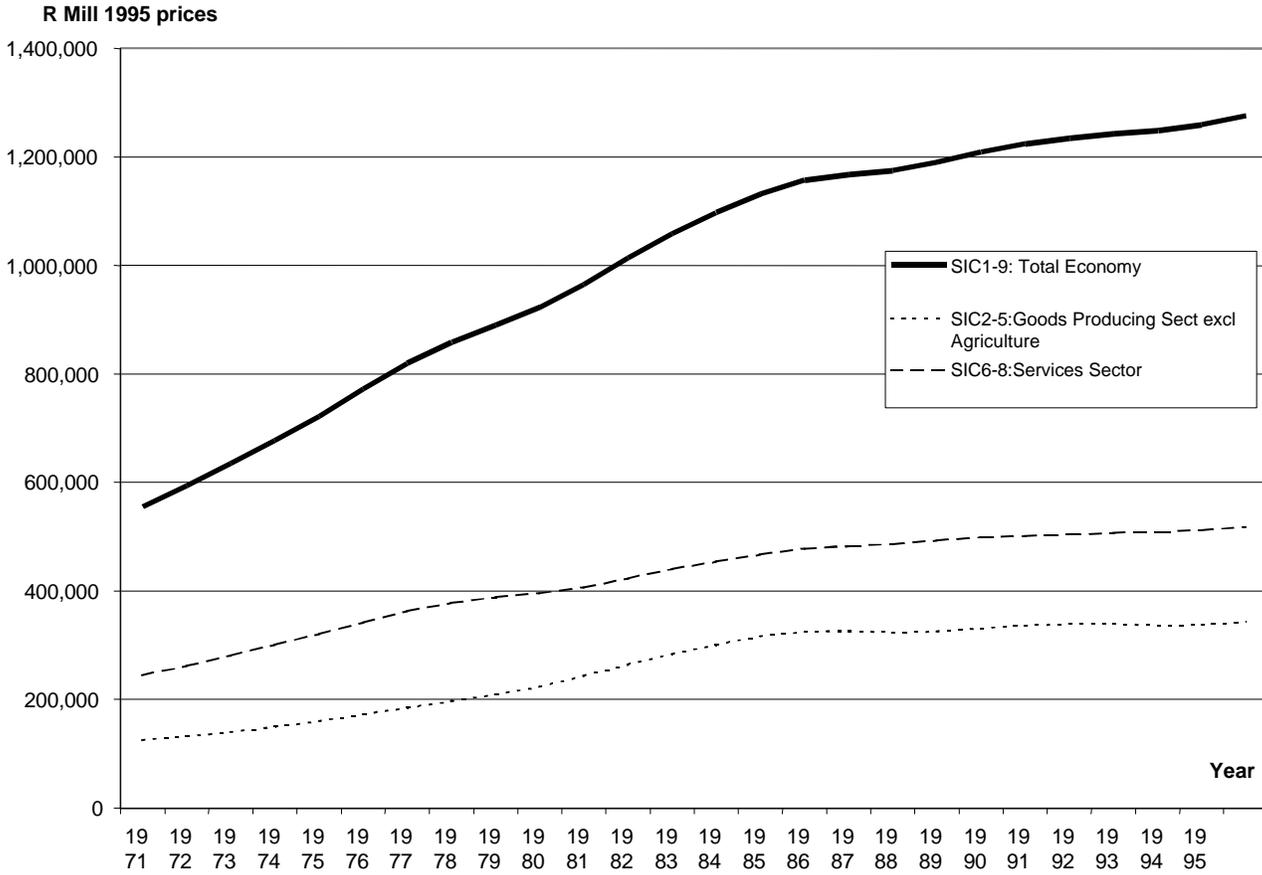
Although the STEE data have important limitations, they indicate some interesting trends during the last few years. One is that employment in mining continued to decline throughout the 1990s, and this finding is likely to be correct given that there is little informal activity in mining. Furthermore, while the tertiary sector has expanded as a whole, some job categories have decreased. These losses are mainly concentrated in the transport sector and in domestic services, though the latter is particularly badly measured. Employment by government also appears to have been decreasing in the late 1990s as a result of efforts to downsize the civil service. Employment in the financial sector, which expanded rapidly in the mid-1990s, declined towards the end of the decade, though here again there may be problems of measurement. On the other, employment in trade, catering, and accommodation continued to expand during the last half of the 1990s at about 3% per annum (South African Reserve Bank, *Quarterly Bulletin*).

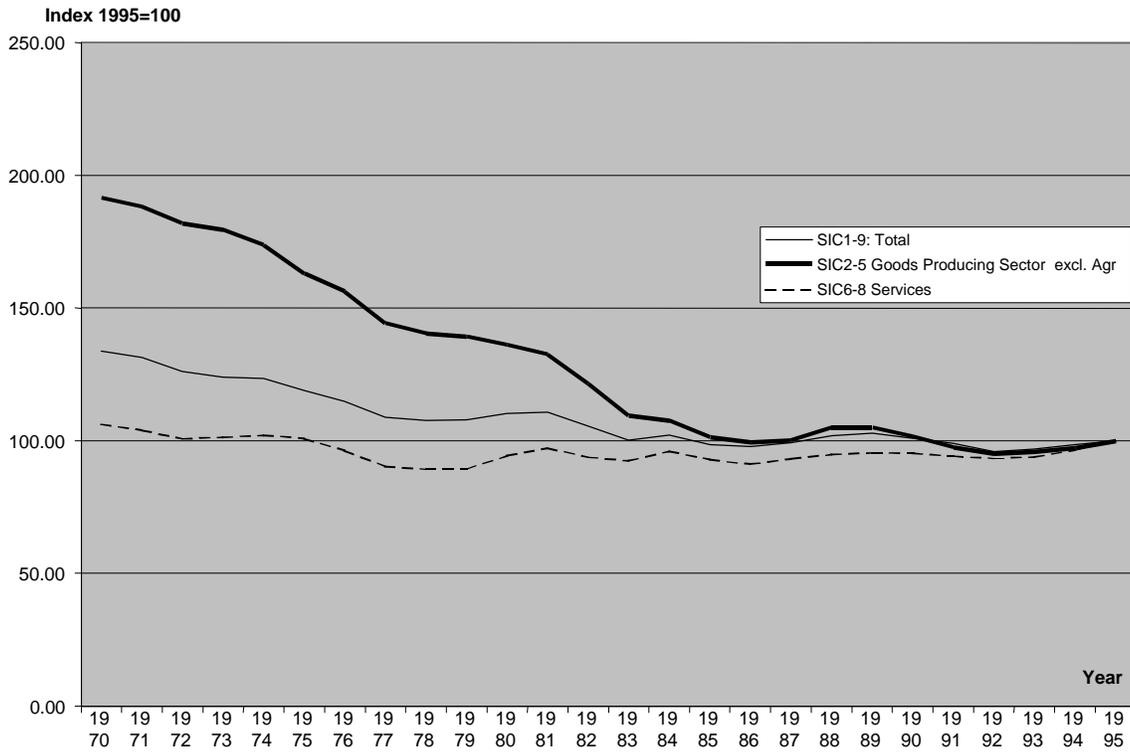
Another employment trend crucial to any explanation of tertiary sector expansion is the rise in the number of jobs transferred from manufacturing to the tertiary sector as manufacturing firms “contract-out” services to reduce costs. In this way, a whole range of corporate services previously provided “in-house” are often externalised. Precise figures for this trend are difficult to obtain. These need not necessarily be new jobs but rather may have been reclassified as tertiary sector jobs. This represents a shift in the social division of labour related to changes in the organisation of manufacturing production. This type of change suggests that the boundaries between the manufacturing and tertiary sectors are being reshaped.

Another indicator available to gauge the stability of the output and employment gains made in the service sector is the level of real fixed capital stock. As illustrated in Figure 4-4, the service sector has consistently outstripped and even widened the gap in real fixed capital stock in comparison with mining and industry (SIC2-5). While there is greater capital intensity in both mining and industry, aggregate output is higher in services, making this a very significant finding. Stronger growth in real fixed capital in the service sector is an indication of higher production capacity, and thus further evidence of the long-term importance of the service sector.

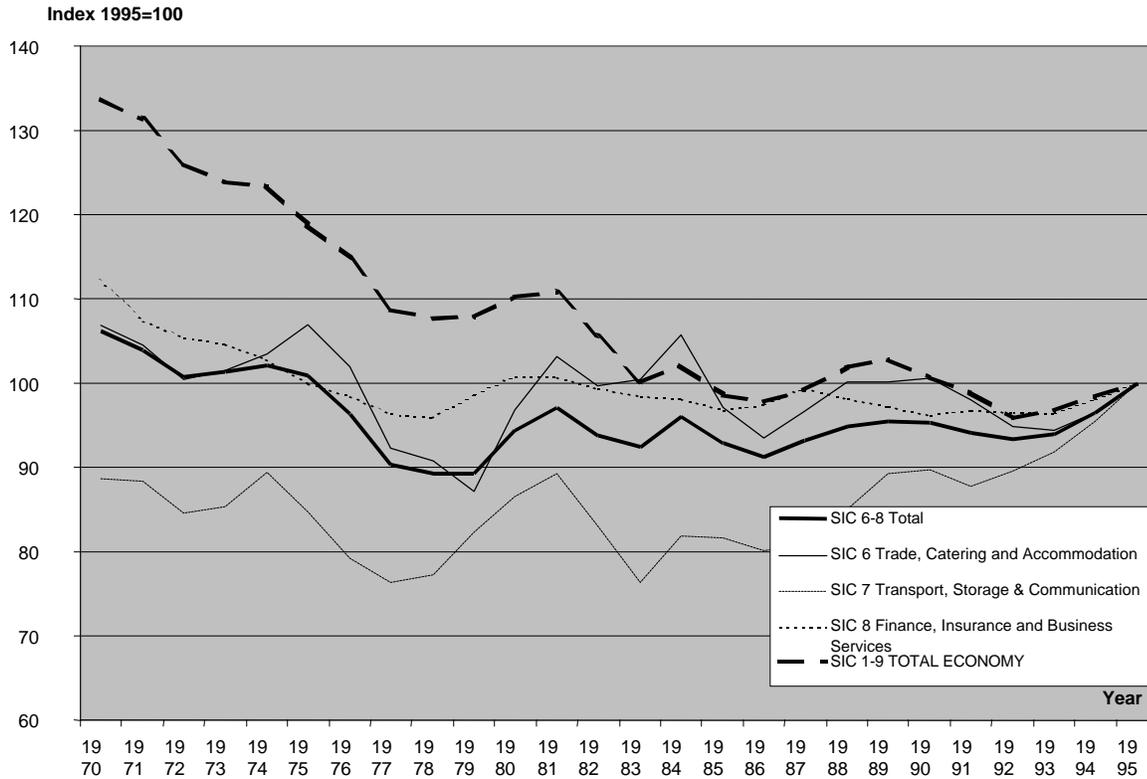
The relative productivity of the different factors of production often reveals how well an industry can compete. As shown in Figure 4-5, fixed capital productivity in the goods-producing sector fell by about 50% from 1970 to 1992. Although there was some decline in the services sector, this was much less pronounced and of shorter duration, productivity in services remaining more or less constant or growing slowly after the late 1970s. One reason for this difference in performance may have been the inward orientation of the goods-producing sector, which was highly protected against competition from imports. The recent capital deepening in the services sector, indicated by the trend in fixed capital stock shown above, has likely been in more appropriate technology than in the past, for fixed capital productivity has risen to the highest level in more than 20 years. As figure 4.6 indicates, all three services sub-sectors have experienced rising fixed capital productivity in recent years, with surprising gains in transport, storage, and communications (SIC7), generally considered an under-performing sector.

**Figure 4-4: Real Fixed Capital Stock by Sector, 1970-95**





**Figure 4-6: Fixed Capital Productivity by Service Sub-Sector, 1970-95**



The picture for labour productivity is very similar, with a reduction by one-half in the goods-producing sector and relative constancy or an increase in the services sector. The upward movement in labour productivity since 1992 appears to represent a shedding of workers in many sectors in the face of renewed competition from imports. This reinforces the prevalence of “labour slack”, an important finding from the SALFS1 survey, in which nearly half the firms reported being able to produce the same level of output with fewer workers (Standing, Sender, and Weeks, 1996, p. 334).

Differences in performance of the goods-producing sector and the services sector are perhaps best seen in terms of total factor productivity. As shown by Figure 4-7, there has been a strong long-term decline in total factor productivity in mining and industry (SIC2-5). A simple linear regression on the data results in a coefficient of determination equal to 0.81. By contrast, the services sector shows a long-term upward trend, with a coefficient of 0.48. These trends are particularly noteworthy in comparison with the world-wide trend for productivity in manufacturing to increase relative to productivity in services.

**Figure 4-7: Total factor Productivity, 1970-95**

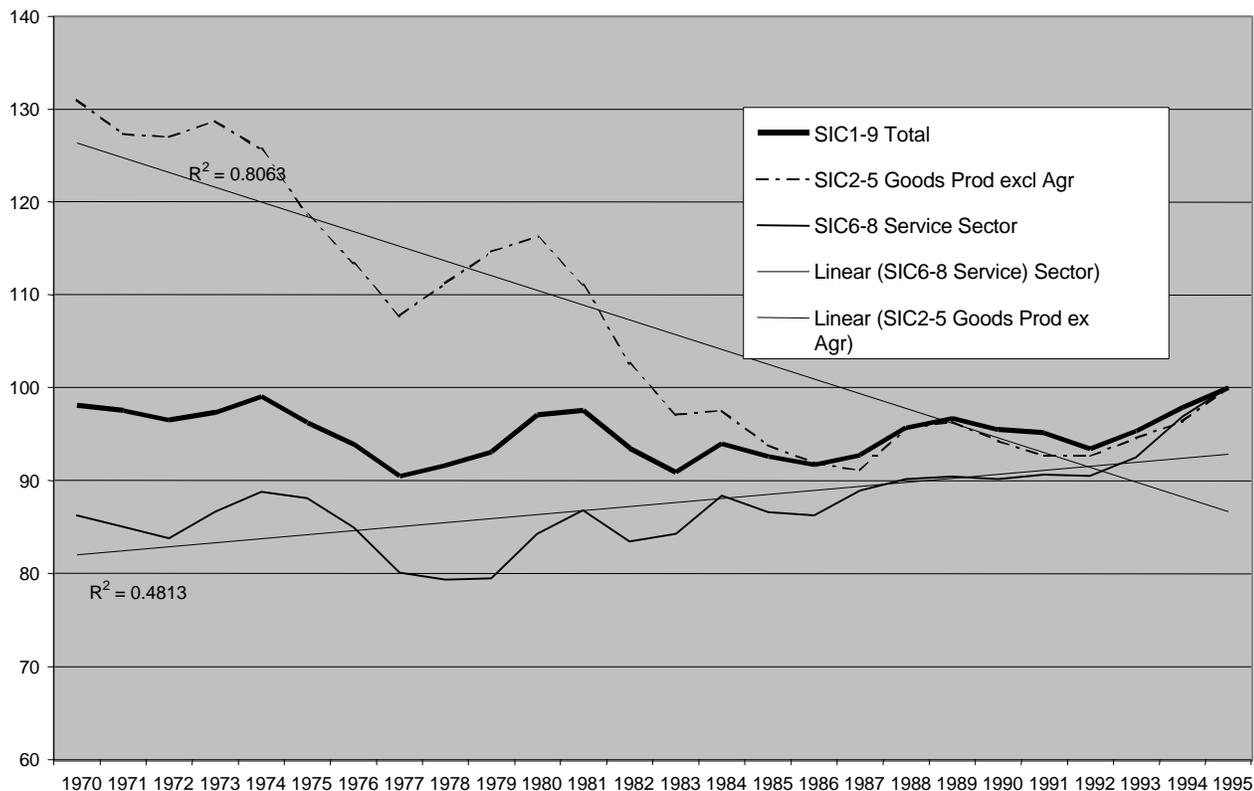


Table 4-3 provides an illustration of the skill structure of the economy. The most important aspect is that, while the share of highly skilled employment in the services sector is identical to that for the economy as a whole, the shares for medium and low skills are quite different. While high-skill employment is in each case about 14% of the total workforce, medium-skill employment is only 16% of total service sector employment, far below the economy average of 47%. On the other hand, while the economy average for low-skill employment is 39%, the share in the services sector is 70%. Thus the service sector appears to have a higher absorptive potential for low-skill labour than the economy as a whole.

**Table 4-3: Skill Composition of the Workforce by Service Sub-Sector, 1995**

Skill Level	Services				All Services	All Economy
	Trade, Cat, Accomodat	Trans, Stor, Communic	Fin, Insur, Bus Svcs			
High	11%	7%	24%		14%	14%
Medium	19%	20%	5%		16%	47%
Low	70%	73%	71%		70%	39%

Source: Statistics South Africa

Trade, catering and accommodation, which tends to dominate the services sector, has broadly the same distribution, with a slightly lower share of high-skill labour at 11%. Transport, storage, and communications shows a very low high-skill content, at 7%, a higher 73% low-skill content, and average medium-skill content. In finance, insurance, and business services, the level of low-skill employment is very high, and that of medium skill employment is extremely low, at 5%. This is probably due to the influence of business services employment, which has a lower skill content and higher labour intensity than finance and insurance, while the latter two, which are more skill-intensive, account for a larger proportion of output.

An alternative measure of skill employment is given in Tables 4-4 and 4-5, where average wage in each skill category is used as a proxy for skill requirements. A possible error in using such a proxy lies in the fact that wages reflect not only skill requirements but also relative scarcity of each category of labour as well as degree of unionisation. In the case of high-skill labour, shortages are particularly important for engineering skills. This skill category is especially intensive in higher skills, however, so that the upward bias in wage rates due to shortage is to some extent compensated by higher skill levels. Unionisation would be expected to raise wages mainly in mining and industry (SIC2-5), and mostly in the low-skill and middle-skill categories.

**Table 4-4: Skill Structure within the Economy, by Average Wage**

(AVERAGE WAGE = TOTAL WAGES/TOTAL NUMBER)					Rand per year
SKILL	SKILL STRUCTURE OF EMPLOYMENT IN SERVICE SECTOR: AVERAGE WAGE				
	SIC 6-8 Total	SIC 6 Trade, Catering and Accommodation	SIC 7 Transport, Storage & Communication	SIC 8 Finance, Insurance and Business Services	
HIGH-LEVEL	R 118,895	R 127,783	R 139,958	R 106,065	
MIDDLE-LEVEL	R 41,221	R 40,133	R 49,413	R 37,189	
SEMI-SKILLED & UNSKILLED	R 26,259	R 23,197	R 32,908	R 30,182	

Source: WEFA

It seems striking that, among the different sectors of the economy, the average wage of high-skill jobs is highest in manufacturing: R124,000 against R118,900 for services. This could be a reflection more of the scarcity of technical high-skill labour in this sector rather than higher skill requirements (in the sense that engineering professionals are scarcer than management personnel). In the other categories, average wages are higher in services than in manufacturing for medium-skill and low-skill employment. Within the services sector, transport, storage, and communications pay the highest wages in each category.

**Table 4-5: Skill Structure within the Services Sector, by Average Wage**

(AVERAGE WAGE = TOTAL WAGES YEAR/TOTAL NUMBER)

SKILL	SKILL STRUCTURE OF EMPLOYMENT IN ECONOMY: AVERAGE WAGE				
	SIC 1-8 PRIVATE ECONOMY	SIC 2-5 GOODS PRODUCING SECTOR EXCL AGRICULTURE	SIC 1-5 GOODS PRODUCING SECTOR	SIC 6-8 SERVICES	SIC 1 AGRICULTURE, FORESTRY & FISHING
HIGH-LEVEL	R 120,642	R 124,033	R 122,813	R 118,895	R 64,876
MIDDLE- LEVEL	R 39,287	R 37,455	R 36,800	R 41,221	R 24,205
SEMI-SKILLED & UNSKILLED	R 16,874	R 22,338	R 15,714	R 26,257	R 3,882

Source: WEFA

The above evidence, in conjunction with the relatively good performance of the service sector in terms of employment and output growth, as well as its proportionately larger share of GDP, points to the importance of the service sector as a *locale* for employment growth in the future. Furthermore, employment growth in this sector seems to occur proportionately more in the most important area from a policymaker's perspective, i.e., in the high unemployment population group of low-skilled and unskilled labour.

## V. JOB POTENTIAL OF SMALL AND LARGE FIRMS

The preceding chapter of this study suggested that encouraging efficient development of the services sector could be a promising avenue to absorbing excess labour. Moving beyond a focus on the tertiary sector, we now address whether employment effects differ according to the size distribution of firms.

Due to obstacles originating in the past, the small, medium, and micro enterprise (SMME) sector is severely underdeveloped in South Africa. Even before the apartheid era, the economic development of the country, based on extractive industries, was organised in an oligopolistic fashion. Under apartheid, with formidable disincentives to entrepreneurial activity for the majority of the population, it is easy to understand how only a few SMMEs got off the ground.

As part of its recasting of the legislative and fiscal environment for labour in the mid-1990s, the government announced the macroeconomic framework for growth, employment, and redistribution (GEAR) in June 1996. The promotion of SMMEs was considered to be a key element in the government's strategy for employment creation and income generation. The "White Paper on National Strategy for the Development and Promotion of Small Business in South Africa" and the subsequent National Small Business Act of 1996 aim to create an enabling environment for small business development, with various programmes and institutions established to give effect to this strategy.<sup>10</sup>

<sup>10</sup> GEAR points to 6 different channels for helping small and medium enterprises. The Centre for Small Business Promotion, attached to the Department of Trade and Industry, offers various services. The Ntsika Enterprise Promotion Agency provides non-financial assistance. Khula Enterprise Finance Limited wholesales loans. Khula

Many observers see small and medium sized firms as the main employment generators in the South African economy. This notion is based on the perception that the employment intensity - defined here as the number of jobs per unit of output - in SMMEs is higher than in large firms. In addition, the inability of the formal economy to absorb new entrants into the labour market implies many potential workers must fall back on the informal sector, including self-employment as a viable option. This is partly because the absence of specialised training of most school-leavers, combined with the poor skill base of much of the potential workforce, results in a pool of mainly unskilled or semi-skilled labour, whereas formal sector jobs increasingly require higher skill levels.

This section presents empirical evidence that sheds light on the question of whether small firms with less than 50 employees generate more direct and indirect income and employment per unit of final demand for the goods they produce compared with large firms. Based on cross-sectional StatsSA data for 1995, an input-output framework allows derivation of economy-wide and sector-specific coefficients and multipliers by size class for 44 SIC industry sectors.

While the conclusions should be treated with caution, in part due to difficulties in accounting for intermediate inputs, there is substantial evidence that supports a policy emphasis on SMMEs. In two-thirds of the sub-sectors, the labour absorptive capacity of small firms is higher than for larger firms. Small firms also seem markedly more profitable, based on a higher gross operating surplus per unit of output.

### ***Definition of Small Business***

In order to gauge the relative competitiveness of small versus large firms, it is necessary to arrive at a satisfactory classification methodology. Under the National Small Business Act, Parliament agreed on the first official definition of small business in South Africa, based on such criteria as ownership structure, turnover, employment, and asset value.<sup>11</sup> Because of the large differences across economic sectors, the criteria for turnover and asset value have been slightly “over-sized” in order to be as inclusive as possible. In general, this makes employment the most stringent of the criteria, while it is also one of the easiest to measure.

“Small” business is defined to include establishments that employ ten to 49 persons. The Act defines “very small” and “micro” enterprises as employing less than ten and five persons respectively. For some industries, notably mining and quarrying, manufacturing, and construction, the “very small” category is less than 20 employees. Medium sized businesses have at least 50 paid employees, with an upper limit of 100 employees, except for mining, electricity, manufacturing and construction, where the definition of medium size goes up to 200 employees.

An exclusive demarcation between small and large requires a methodological decision on where to place medium size firms. While medium size firms are usually still owner/manager controlled, the

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Credit Guarantee Limited provides loan guarantees. A pre-shipment export finance guarantee facility is intended to expand access to working capital. The Competitiveness Fund offers small firms consultancy advice on technology and marketing. There is now other work being done on big-small business linkage programmes and identification of partnerships between large and small firms.

<sup>11</sup> For a full description of the definition of employment and the different size criteria by economic sector, see Annex B.

ownership and management structure is more complex than with smaller firms. Often, a natural division between small and medium sized enterprises involves decentralisation of power to an additional management layer and/or division of labour and functions within the firm. On the other hand, the natural barrier between medium and large enterprises relates to the separation of ownership and management.

For the purposes of the input-output framework utilised in this chapter, medium size-firms are grouped with large firms. Further work could involve separating out medium-size firms, perhaps in an effort to highlight which tightly concentrated industries might benefit from new market entrants to encourage competitiveness among a broader base of firms.

### *Data Sources and Methodology*

The analysis was undertaken using a provisional input-output table for the year 1995, updated from the one published for the year 1993, which distinguishes small firms and large firms for each identified production activity. Details regarding the sources used for the construction of this input-output table are contained in Annex B. Due to the lack of additional data sources, only a limited number of the variables could be cross-tabulated by size class:

- gross value of production
- labour remuneration
- net value of production
- employment

The intermediate input structure for 1995 was derived using the average proportions from the 1993 input-output sub-matrix for each relevant sector. The breakdown was applied to an input-output sub-matrix that identifies 90 production activities. By breaking down the input structure of each production activity into a component representing small and large enterprises, the intermediate input-output sub-matrix was expanded to 90 rows and 180 columns.

With a given intermediate input structure, a specific intermediate output structure emerges for each aggregate production activity by reading along the rows of the newly expanded inter-industry sub-matrix. The row sum is defined as total intermediate output and is by definition consistent with the equivalent of the StatsSA input-output table. Due to lack of detailed information, the average output structure of the original input-output sub-matrix is assumed to apply to both small and large firms. The result is a 180 by 180 input-output table for the year 1995 fully consistent with the provisional 1993 input-output table as published by StatsSA. For reasons of convenience we aggregated the number of production activities from 90 to 44 so that we arrive at an 88 x 88 input-output framework.

Sectoral census data published by Statistics South Africa are the only comprehensive source on firm activity available in South Africa. Micro and very small enterprises, as defined above, are outside the census, and are therefore not included in the data presented below. Consistent with national accounting rules, input-output conventions in South Africa also rule out the coverage of micro and very small enterprises. The census data were adjusted to 1995 price levels using relevant deflators. Electricity and water, communications, and the financial institutions and insurance sector were considered as large firms for lack of detailed information.

## *Descriptive Analysis*

This section presents a descriptive analysis of small and large firms using the expanded input-output framework. A number of different criteria have been employed to investigate various characteristics of small and large enterprises. We start our analysis at the aggregate level with a presentation of economy-wide data from the input-output framework. The results are shown in Table 5-1.

In this table, it can be seen that small enterprises capture about 31% of total gross value of production, while accounting for 30% of total intermediate inputs, 21% of total intermediate imports, and 32% of wage costs. Small enterprises also account for 37% of total gross operating surplus, as well as 32% of employment. This suggests that small enterprises' share of the return to capital is high relative to their share of gross value of production. Their share of employment is about the same as the share of gross value of production.

**Table 5-1: Economy-Wide Input-Output Data (1995)**

(all figures except employment in Rand millions)

Firm size	Gross value of production	Intermediate Inputs	Imports	Wage costs	Gross Op. Surplus	Value added	Employment
Small	234,608	103,006	13,279	52,814	57,401	110,216	1,656,870
	31.2%	29.5%	20.7%	31.5%	37.4%	34.3%	32.3%
Large	516,451	245,872	50,853	115,104	96,113	211,217	3,468,822
	68.8%	70.5%	79.3%	68.5%	62.6%	65.7%	67.7%
Total	751,059	348,878	64,132	167,918	153,514	321,433	5,125,693

Source: provisional input-output table with size classes. Note: electricity, water, communication and financial services are excluded.

Table 5-2 below suggests that on average small firms use fewer intermediate inputs and fewer imports per unit of output than large firms. The share of wage income is about the same for both types of firms, but the average gross operating surplus and therefore value added per unit of output is larger for small than for large firms. In the next to last column it can be seen that small firms operate with lower wage costs per job. The reason may be that the average wage rate is lower. On the other hand, the average contribution to GDP per job is higher. Unfortunately, at this stage no data are available on capital stocks. This precludes investigating the average capital intensity and return to capital of small versus large firms.

**Table 5-2: Average Input-Output Coefficients (1995)**

	Intermediate Inputs per R million	Imports per R million	Wage Income per R million	Gross Op Surplus per R million	Value Added per R million	Employment per R million	Ave Wage Income per Job	Ave Value Added per Job
Small	0.44	0.06	0.23	0.24	0.47	7.06	31,876	66,520
Large	0.48	0.10	0.22	0.19	0.41	6.72	33,183	60,890
Total	0.46	0.09	0.22	0.20	0.43	6.82	32,760	62,710
Small/Large	0.92	0.57	1.01	1.31	1.15	1.05	0.96	1.09

Source: provisional input-output framework with size classes. Note: electricity, water, communication and financial services are excluded.

Table 5-3 shows sector-specific coefficients for selected variables. In the first row, for example, small firms (less than 50 employees), the amount of value added per one million rand worth of output is 0.33 million rand, while for large enterprises it is 0.58 million. Small agricultural enterprises maintain relatively more jobs per unit of output than large enterprises. Other typical labour-intensive sectors, where small enterprises appear to maintain more jobs per unit of output, are community and other social services, civil engineering, pottery, furniture, other non-metallic minerals, electrical machinery, and clothing. In the last two columns, we present ratios of value added to employment for small and large enterprises. Typical sectors where small firms generate significantly more (at least 10% higher) value added per job compared to large firms are: business services, health services, glass, construction, catering, wholesale, transport, wood, and “other industries”. Business services, to some degree, overwhelms the economy-wide ratios shown in the previous table. Clearly, if these data are accurate, the business services sector is dominated by a large number of small enterprises characterised by self-employed persons, low wage costs, and a relatively large operating surplus. This confirms some of the earlier analysis of the services sector.

**Table 5-3: Sector-Specific Coefficients (1995)**

SIC (old)	Sector	Value Added per R million		Wage Costs per R million		Imports per R million		Employment per R million		Value Added ('000) per job	
		small	large	small	large	small	large	small	large	small	large
1	agriculture, forestry and fishing	0.33	0.58	0.12	0.10	0.06	0.04	24.70	18.69	13.46	31.21
21	coal mining	0.45	0.44	0.11	0.23	0.12	0.12	2.30	5.51	194.12	79.93
24	gold mining	0.68	0.73	0.16	0.49	0.06	0.05	5.65	18.39	120.90	39.69
22/3/7/8	diamond and other mining	0.51	0.47	0.19	0.20	0.07	0.07	6.77	5.88	74.78	80.67
311/2	food	0.20	0.21	0.12	0.11	0.09	0.08	5.72	3.41	34.40	60.77
313	beverages	0.07	0.25	0.04	0.09	0.10	0.08	1.18	1.72	62.60	144.93
314	tobacco products	0.21	0.57	0.08	0.11	0.10	0.06	3.35	3.30	61.74	172.12
321	textiles	0.26	0.33	0.16	0.17	0.15	0.13	8.59	5.13	29.72	64.46
322	clothing	0.48	0.45	0.40	0.38	0.14	0.15	22.80	19.43	20.87	23.09
323	leather products	0.43	0.34	0.23	0.12	0.10	0.11	10.60	5.49	40.57	62.67
324	footwear	0.32	0.34	0.26	0.28	0.15	0.15	11.75	13.41	27.54	25.05
331	wood and wood products	0.42	0.40	0.32	0.26	0.08	0.08	13.60	16.38	30.65	24.13
332	furniture	0.45	0.39	0.39	0.32	0.12	0.13	18.64	11.24	24.08	34.73
341	paper and paper products	0.33	0.37	0.19	0.14	0.11	0.10	6.06	2.87	54.17	129.50
342	printing and publishing	0.50	0.44	0.30	0.25	0.06	0.06	7.41	4.63	66.99	95.85
351	industrial chemicals	0.28	0.31	0.10	0.11	0.15	0.15	1.75	1.91	159.29	164.17
352	other chemical products	0.33	0.37	0.23	0.23	0.12	0.12	5.17	3.94	64.35	94.37
353/4	petroleum refineries	0.13	0.24	0.06	0.08	0.35	0.30	2.41	0.96	54.78	252.28
355	rubber products	0.25	0.35	0.14	0.21	0.22	0.19	4.99	4.32	50.41	81.84
356	plastic products	0.36	0.36	0.23	0.21	0.20	0.20	7.68	6.63	46.77	53.74
361	pottery, china and earthenware	0.43	0.45	0.45	0.48	0.08	0.08	38.34	19.83	11.30	22.86
362	glass and glass products	0.37	0.48	0.21	0.25	0.08	0.07	0.72	5.15	517.27	93.07
369	other non-metallic minerals	0.50	0.54	0.30	0.30	0.09	0.09	12.09	8.31	41.45	65.10
371	basic iron and steel	0.41	0.43	0.18	0.22	0.09	0.09	3.48	3.39	117.51	125.66
372	basic non-ferrous metals	0.16	0.29	0.07	0.11	0.16	0.13	1.60	1.91	98.19	149.97
381	metal products	0.42	0.36	0.28	0.22	0.12	0.13	7.81	6.17	53.51	58.99
382	non-electrical machinery	0.29	0.25	0.23	0.20	0.17	0.18	5.61	3.98	52.04	62.84
383	electrical machinery	0.66	0.73	0.47	0.53	0.05	0.06	13.91	10.32	47.25	71.02
384	motor vehicles and parts	0.48	0.32	0.25	0.15	0.13	0.18	7.42	3.18	64.99	100.08
385	other transport equipment	0.21	0.24	0.13	0.18	0.14	0.14	2.56	2.90	83.27	84.45
386-390	other industries	0.22	0.36	0.13	0.20	0.30	0.11	4.22	8.05	52.70	44.47
41	electricity, gas and steam	0.00	0.51	0.00	0.13	0.00	0.02	0.00	1.97	0.00	258.04
42	water supply	0.00	0.34	0.00	0.12	0.00	0.08	0.00	1.97	0.00	171.64
51	building construction	0.31	0.31	0.25	0.26	0.08	0.08	7.78	12.52	40.41	24.50
52/53	civil engineering and other construction	0.38	0.35	0.24	0.26	0.07	0.08	19.53	6.61	19.57	52.51
61/2	wholesale and retail trade	0.59	0.52	0.37	0.31	0.03	0.03	6.71	8.54	87.39	61.45
63	catering and accommodation services	0.29	0.46	0.16	0.36	0.04	0.03	3.09	7.74	94.92	59.63
71	transport and storage	0.47	0.52	0.23	0.32	0.05	0.05	4.05	5.95	115.24	87.12
72	communication	0.00	0.70	0.00	0.35	0.00	0.04	0.00	7.03	0.00	100.20
81/8200	finance and insurance	0.00	0.58	0.00	0.52	0.00	0.02	0.00	9.36	0.00	62.50
831/2/3	business services	0.62	0.40	0.10	0.16	0.01	0.06	0.51	8.84	1215.12	45.60
9330	medical, dental & other health services	0.46	0.33	0.12	0.21	0.05	0.07	4.53	12.15	100.92	27.00
9700/9800	other community & social services	0.28	0.46	0.21	0.38	0.06	0.05	34.22	7.03	8.27	66.05
99	other	0.13	0.13	0.11	0.11	0.11	0.11	3.07	2.72	43.89	49.59

**Multiplier Analysis: The Leontief Input-Output Model**

The standard Leontief input-output model, in which output, employment and value added are determined as a result of exogenous changes in final demand, is given by

$$(1) \Delta X = [I - A_p]^{-1} \Delta Y$$

in which  $\Delta X$  is a column vector of endogenous change in value added,  $A$  is the matrix of direct coefficients, and  $\Delta Y$  is the exogenous change in final demand. In this simple

model, no substitution is assumed, i.e., the total impact can adequately be approximated with the Leontief input-output model. We also assume that technology and demand patterns remain constant.

The economy-wide multipliers, showing average direct and indirect requirements to satisfy a one million rand increase in final demand, are shown in Table 5-4 for the overall economy and in Table 5-5 for each sub-sector for both small and large firms. It can be seen that the output and import multipliers of small and large enterprises are very similar. The latter observation is rather surprising in that Table 5-2 shows that small enterprises are much less import-intensive than large enterprises. This suggests that the backward linkages of small enterprises are relatively more import-intensive. The opposite observation can be made with regard to the GDP or income multiplier. Whereas Table 5-2 shows that the direct

**Table 5-4: Economy-Wide Multipliers (1995)**

	Output	Import	Income	Wage Income	Employment
Small	1.97	0.19	0.77	0.42	14.48
Large	1.92	0.18	0.78	0.43	12.91
Small/Large	1.02	1.06	0.98	0.96	1.12

Source: provisional input-output framework with size classes. Note: electricity, water, communication and financial services are excluded.

impact of small enterprises on GDP is relatively greater compared to large firms, taking into account the indirect impact on income shows that the multipliers are about the same. In terms of both wage income and GDP, the stimulus of large firms is slightly higher given a one million rand increase in final demand of those enterprises. The average stimulus on employment of small firms' final demand, however, is higher than large firms and the gap is increased compared to the direct effects shown in Table 5-2.

From Table 5-5, sectors where the total output multiplier of small enterprises is at least 10% higher than for large firms are: agriculture, food processing, electrical machinery, catering and accommodation, and other social services. In the case of the GDP, or income, multiplier those sectors are: agriculture, leather, wood, paper and motor vehicles (which presumably manufacture parts). In terms of employment creation, at least half of the sectors listed in Table 5-5 display small firm employment multipliers that are more than 10% larger than those for large firms. One can see from the last row of the table that for more than two thirds of all sectors the employment multiplier is higher for small enterprises. Also shown in the last row is that in 60% of all sectors small firms have relatively lower import multipliers.

Caution should be exercised in assessing these results because of a limitation of the data. In particular, it is not possible to determine the extent to which small and large firms buy their intermediate products from small and large suppliers. Only sub-sector averages can be used. Further development of the data base is needed to achieve greater accuracy in this regard.

### ***Interpreting the Results***

Given the limitations of the data, conclusions have to be viewed with caution. The direct impact of small and large firms, as shown in Tables 5-2 and 5-3, is based on solid

**Table 5-5: Sector-Specific Multipliers (1995)**

SIC (old)	Sector	Output		Income		Labour Income		Import		Employment		
		small	large	small	large	small	large	small	large	small	large	
1	1	agriculture, forestry and fishing	2.16	1.73	0.79	0.87	0.35	0.24	0.16	0.10	32.59	23.61
2	21	coal mining	1.81	1.82	0.78	0.78	0.29	0.41	0.20	0.20	6.49	9.75
3	24	gold mining	1.33	1.28	0.82	0.85	0.23	0.55	0.09	0.08	7.39	19.87
4	22/3/7/8	diamond and other mining	1.82	1.87	0.84	0.82	0.36	0.39	0.15	0.15	10.79	10.16
5	311/2	Food	2.45	2.43	0.78	0.78	0.38	0.37	0.20	0.19	19.40	17.14
6	313	Beverages	2.82	2.47	0.73	0.78	0.36	0.35	0.25	0.20	10.65	9.40
7	314	tobacco products	2.29	1.70	0.78	0.88	0.32	0.24	0.20	0.11	10.68	7.29
8	321	Textiles	2.14	2.03	0.70	0.74	0.39	0.37	0.26	0.23	14.95	11.29
9	322	Clothing	1.69	1.73	0.75	0.74	0.54	0.53	0.21	0.22	27.01	23.85
10	323	leather products	2.04	2.20	0.80	0.77	0.41	0.33	0.19	0.21	17.32	13.23
11	324	footwear	1.98	1.96	0.70	0.70	0.45	0.47	0.25	0.25	18.13	19.68
12	331	wood and wood products	1.95	1.98	0.83	0.82	0.53	0.48	0.15	0.16	21.99	25.09
13	332	furniture	1.81	1.89	0.79	0.76	0.58	0.53	0.19	0.21	24.92	18.18
14	341	paper and paper products	2.10	2.03	0.78	0.79	0.40	0.34	0.20	0.19	12.33	8.74
15	342	printing and publishing	1.85	1.94	0.85	0.84	0.49	0.46	0.13	0.15	12.37	10.10
16	351	industrial chemicals	2.05	2.00	0.71	0.72	0.31	0.31	0.26	0.24	6.62	6.57
17	352	other chemical products	2.01	1.95	0.74	0.76	0.44	0.43	0.23	0.22	10.36	8.83
18	353/4	petroleum refineries	1.94	1.82	0.55	0.60	0.27	0.26	0.43	0.37	7.37	5.29
19	355	rubber products	2.01	1.87	0.65	0.70	0.34	0.37	0.32	0.27	10.28	8.89
20	356	plastic products	1.81	1.82	0.69	0.69	0.39	0.37	0.28	0.28	11.57	10.54
21	361	pottery, china and earthenware	1.86	1.83	0.82	0.83	0.65	0.66	0.15	0.14	42.95	24.28
22	362	glass and glass products	2.01	1.84	0.81	0.84	0.44	0.44	0.17	0.14	6.12	9.64
23	369	other non-metallic minerals	1.72	1.66	0.82	0.83	0.47	0.46	0.15	0.14	16.04	11.94
24	371	basic iron and steel	1.94	1.91	0.81	0.82	0.39	0.42	0.17	0.16	8.15	7.93
25	372	basic non-ferrous metals	2.34	2.14	0.70	0.75	0.33	0.34	0.27	0.23	7.56	6.96
26	381	metal products	1.86	1.94	0.78	0.76	0.48	0.43	0.20	0.22	12.06	10.75
27	382	non-electrical machinery	1.99	2.06	0.72	0.70	0.47	0.46	0.26	0.27	10.95	9.65
28	383	electrical machinery	1.55	1.37	0.88	0.89	0.59	0.61	0.10	0.09	16.61	12.23
29	384	motor vehicles and parts	1.72	1.94	0.78	0.70	0.41	0.36	0.21	0.28	11.06	7.92
30	385	other transport equipment	2.20	2.14	0.69	0.70	0.40	0.43	0.25	0.24	8.46	8.52
31	386-390	other industries	1.89	1.97	0.61	0.77	0.33	0.43	0.37	0.20	9.36	13.56
32	41	electricity, gas and steam	1.00	1.84	0.00	0.91	0.00	0.31	0.00	0.08	0.00	5.82
33	42	water supply	1.00	2.11	0.00	0.80	0.00	0.33	0.00	0.16	0.00	6.50
34	51	building construction	2.10	2.11	0.79	0.79	0.53	0.55	0.17	0.17	15.90	20.73
35	52/53	civil engineering and other construction	1.96	2.01	0.80	0.79	0.47	0.50	0.16	0.17	25.43	12.84
36	61/2	wholesale and retail trade	1.65	1.74	0.90	0.89	0.53	0.50	0.07	0.08	10.34	12.71
37	63	catering and accommodation services	2.34	2.02	0.84	0.88	0.39	0.53	0.13	0.10	11.05	13.81
38	71	transport and storage	1.81	1.73	0.82	0.84	0.42	0.49	0.13	0.11	8.40	9.88
39	72	communication	1.00	1.39	0.00	0.92	0.00	0.47	0.00	0.07	0.00	9.49
40	81/8200	finance and insurance	1.00	1.65	0.00	0.93	0.00	0.74	0.00	0.04	0.00	13.77
41	831/2/3	business services	1.43	1.79	0.83	0.77	0.21	0.36	0.04	0.11	3.07	13.62
42	9330	medical, dental & other health services	1.85	2.05	0.85	0.81	0.31	0.44	0.12	0.15	9.23	17.97
43	9700/9800	other community & social services	2.15	1.86	0.82	0.86	0.47	0.58	0.14	0.10	41.11	12.17
44	99	other	2.32	2.32	0.78	0.78	0.49	0.49	0.20	0.20	12.03	11.68
45		% small firms with higher multipliers	55.0%		40.0%		50.0%		60.0%		67.5%	

Source: Provisional Input-Output Table with Size Classes.

data from published data sources, and there is no doubt about the direction of the results. Small enterprises are on average more employment-intensive and generate more GDP per job than large firms. The return to capital per unit of output is relatively higher, while the import intensity is lower. It is also clear, however, that the average wage per job in small firms is lower than in large enterprises.

If we account for backward linkages, the picture changes to some degree. On the one hand, the relative employment intensity of small enterprises is enhanced. A comparison of Tables 5-2 and 5-4 reveals that, on average, small enterprises employ relatively more people than appears from comparing merely employment/output ratios. In terms of the other variables, notably contribution to GDP, wage income, and imports, the earlier conclusions are reversed. For those variables, the backward linkages of small enterprises

are less favourable in that relatively more imports are required and relatively less value added and wage income is generated.

Our mechanical methods of deriving intermediate suppliers by size class limit the robustness of the results. It is clear, however, that this analytical framework can make an important contribution to the analysis of small enterprises in South Africa. Notably, it is possible to use the framework for more sophisticated modelling purposes that would allow us to examine the impact of macroeconomic policy levers on small enterprises. Ideally, an input-output/social accounting matrix framework should be compiled from basic data. Given current policies for making detailed data available, this remains the responsibility of StatsSA. However StatsSA has been forced to trim rather than expand its activities, which will undermine effective policy formulation in the field of small enterprises, and therefore one avenue for understanding how to generate more employment in South Africa.

## **VI. THE CHANGING LEGISLATIVE ENVIRONMENT**

The political transition in South Africa has created a new context within which labour relations operate. Unions and politicians representing the interests of formal-sector workers now have a significant voice in the political process. As a result, political pressure is being exerted on the government to follow a more labour-friendly policy. Simultaneously, employers constitute a strong pressure group to protect their interests. Hence, new tripartite institutions like NEDLAC (National Economic Development and Labour Council) have appeared to accommodate the different interests.

The output of labour relations processes, such as the Labour Relations Act, the Basic Conditions of Employment Act, the Employment Equity Act, and the Skills Development and Skills Development Levy Acts, as well as various wage agreements, has important implications for economic growth, investment, and employment. Labour relations is a process of continuous interaction between the government, employers, and trade unions. While recognising that employment creation remains a central challenge, it is also equally important to understand that this cannot be attained by stringent legislative measures alone. Labour relations systems that work well should promote a stable and productive work environment. In the final analysis this should facilitate economic growth, investment, and employment creation

It is in this context that an analysis of these various pieces of legislation is undertaken. Key aspects of the Labour Relations Act (LRA), the Basic Conditions of Employment Act (BCEA), the Employment Equity Act (EEA), the Skills Development Act (SDA), and the Skills Development Levy (SDLA) are summarised and their impact on the labour market is assessed. Finally, some modest recommendations are made.

### ***Labour Relations Act***

#### **Content of the Act**

The new LRA applies to employers and employees in all economic sectors other than members of the National Defense Force, the National Intelligence Agency, and the South African Secret Service. The purpose of the LRA may be summed up as follows:

To advance economic development, social justice, labour peace, and the democratisation of the workplace by fulfilling the primary objectives of the Act, which are:

- to give effect to and regulate fundamental rights conferred by Section 27 of the Constitution;
- to give effect to obligations incurred by the Republic as a member state of the ILO;
- to provide a framework within which employees, trade unions, employers, and employers' organisations can collectively bargain to determine wages, terms and conditions of employment, and other matters of mutual interest, and formulate industrial policy; and
- to promote

- orderly collective bargaining;
- collective bargaining at a sectoral level;
- consultation and joint decision making in the workplace; and
- effective resolution of labour disputes.

In seeking to attain these objectives, the LRA makes significant changes in some of the institutions that influence labour policies and practices, and also introduces new institutions.

The institution that has been changed most dramatically is the former Industrial Court, which now becomes the Labour Court. Under the apartheid regime, the Industrial Court fell under the Department of Labour, but the Labour Court falls instead under the Department of Justice. In short, the LRA raises the status of the Labour Court to that of a Supreme Court. This represents a significant change from the previous system.

The most important new institution introduced by the new LRA is the Commission for Conciliation, Mediation and Arbitration (CCMA). Since all disputes declared under the Act have to be referred to the CCMA for attempted resolution, and since no legally sanctioned industrial action may be embarked upon until the CCMA has been given at least thirty days to try and resolve the dispute, this institution has a key role to play in managing conflict and dispute resolution within the new institutional framework prescribed by the Act.

Other new institutions that may be set up under the Act are workplace forums and statutory councils. Workplace forums may be constituted at the request of a representative trade union in any workplace employing 100 or more employees. Such forums consist of elected employee representatives and are empowered to perform certain organizing and constituent functions. Statutory councils have to be constituted in an industry by the Minister of Labour with the assistance of the CCMA, at the request of either employers or representative trade unions with a thirty per cent membership base in the industry. Once established, statutory councils perform similar functions to those of voluntary industry-wide bargaining councils except that they may not bargain over wages and working conditions without the agreement of all the parties.

Collective agreements and statutory councils may be extended to cover the rest of the industry, including non-parties to the agreement. However, the Act calls for “an independent body” to which non-parties can apply for exemptions from the collective agreement (LRA:37). This provision is intended to provide a degree of flexibility, particularly to small and medium businesses, which may apply for exemption from industry-wide agreements. Another important feature of the LRA allows for the conclusion of collective agreements to establish closed and agency shops in a workplace, sector, or area.

The creation of NEDLAC (National Economic Development and Labour Council) is an important institutional development, particularly in so far as labour market policy is concerned. It has a direct role in terms of the Act in that it has responsibilities inter alia for:

- demarcating the appropriate sector and area in which a bargaining council should be registered;
- nominating members and a chairperson to the governing body of the Commission;

- preparing codes of good practice relating to labour relations in the workplace, which must be published in the Government Gazette;
- advising the President on the appointment of judges to the Labour Court and Labour Appeal Court; and
- facilitating close consultation between the Minister of Labour and the Minister of Public Service Administration and NEDLAC on matters relating to the LRA.

### **Impact of LRA on the Labour Market**

The key question is what role the labour market institutions identified above play in addressing the labour market problems in South Africa, especially employment creation. The LRA increases the role and power of trade unions in the workplace and the economy in general. Under the LRA, unions acquire important new organisational rights, the right to strike, the right to picket employers' premises during strike action, the right to form industry-wide statutory councils, and the right to democratise the workplace. Many of these rights will undoubtedly have an impact on the labour market and over its future development. This will be discussed in greater detail below.

***Organisational rights.*** The LRA opens up significant new areas for union organisation, such as closed and agency shops. Where a closed shop is in place, every employee in that workplace, sector, or area has to belong to the union that has won the closed shop agreement. This means that any employee who refuses to join that trade union or is expelled from it automatically loses his/her job. Under an agency shop agreement, employees have to pay the equivalent of union dues into a separate account controlled by the union with whom the agreement exists, even though they are not members of that union. This means that not only non-unionised employees but also members of the minority unions have to pay money into the dominant union's account. These arrangements strengthen the dominant union's position within the workplace, sector, or area, since the union acquires access to funds currently beyond its control, and its power over all the employees is reinforced.

***The right to strike.*** The new LRA simplifies the strike procedure. Thirty days notice of a strike is required during which conciliation or mediation to resolve the dispute must be attempted. However, the Act waives the requirement on the union to ballot its members. Once a legal strike is declared under the Act, employees are protected from dismissal unless the business is in the throes of financial collapse. With regard to the right to strike, new provisions favor employees over employers. In particular, unions may call for a strike even though the majority of employees are not in favour. The implication of this is that employers might concede to union demands rather than face strike action that could be detrimental to business.

***The right to picket.*** In a strike situation, employers have the right to employ replacement labour. However, this right is largely cancelled out by the union's right to picket the employers premises. Again this strengthens a union's power in a strike situation and therefore places additional pressure on employers to make concessions to the union.

***The right to form statutory councils.*** The LRA does not impose industry or sector-wide bargaining on employers as far as wages or conditions of service are concerned. But it does specify that a union with thirty per cent membership in an industry or sector can apply to the Minister of Labour to set up a statutory council for the industry or sector. Under these circumstances, the Minister is bound to establish such a council.

The features of statutory councils include:

- They introduce centralised bargaining over non-wage issues to industries or sectors where no such bargaining presently occurs.
- They transform themselves into associative bargaining councils to negotiate wage issues in the industry or sector. A bargaining council, unlike a statutory council, has the right to bargain over wages. In addition, it can apply to the Minister to extend any agreement it reaches to embrace those employers and employees who do not participate in the council. Extending an agreement to cover the whole industry or sector (including non-members) drives up wages and raises working standards throughout the industry or sector.<sup>12</sup>

It is important to point out that the Act does make provision for representation on bargaining councils by small and medium businesses who could therefore use their position or voice in the bargaining councils to limit the coverage of council agreements. The Act also makes provision for bargaining councils to establish or appoint “an independent body to grant exemptions to non-parties and to determine the terms of those exemptions” (LRA, section 32(3)(e):37).

It appears more than likely that the LRA will encourage centralised bargaining throughout the economy, including those areas where it does not yet exist. This is contrary to the international trend to move away from industry-wide bargaining structures because of the rigidities they impose on the bargaining process.

***The right to democratise the workplace.*** The LRA enables trade unions to establish statutory workplace forums in any workplace employing 100 or more employees. These forums are granted broad rights, including joint decision-making with management and the right to demand information from management on a wide range of issues relating to the performance of the company and other matters relevant to employees. The implication of this is that trade unions are given the right to establish workplace forums that could be imposed on management. This creates an important new power base for trade unions, restricting management's ability to take decisions on behalf of the organisation. The issue is whether the unions will use this power to act in the wider interests of firms or simply their own interests. This will in all likelihood affect larger companies.

### ***Unfair Dismissals***

According to the LRA every employee has the right not to be unfairly dismissed. A dismissal is unfair if the employer fails to prove that the reason for dismissal is a fair reason related to the:

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<sup>12</sup> Many analysts, including Moll (1995), see removing the *ergo omnes* rule as a way of reducing disincentives for employers to hire the unemployed.

- Employee's conduct;
- Employee's incapacity to fulfil the job requirements; or
- Operational requirements of the employer.

In addition, the dismissal must be effected in accordance with a fair procedure. These procedures relate to misconduct and to incapacity of the employee to meet performance standards.

The new Code of Good Practice in the LRA states that normally the employer should conduct an investigation to determine whether there are grounds for dismissal. While the code states that this does not necessarily have to be a formal enquiry, certain requirements are necessary to ensure that the procedure is fair.

### ***Basic Conditions of Employment Act***

The Basic Conditions of Employment Act (BCEA) is limited to conditions of employment. The key objective of the BCEA is to regulate minimum conditions of employment for those employees who are not covered by existing legislation.<sup>13</sup> Provisions are made for:

- extending labour standards to workers in sectors not previously covered, e.g. state employees, farm workers, domestics, and employees of some parastatal and statutory bodies;
- removing exemptions from standards currently applying to workers with non-standard employment status, e.g. part-timers, temporaries, employees of contractors, non self-employed individuals working from home, and piece-work laborers;
- allowing employment standards to vary across sectors by permitting limited variance from national standards to be included in collective bargains and ministerial determinations;
- a decrease in maximum normal (pre-overtime) hours from 46 (or 48 in the case of shift workers) to 45 hours per week;
- an increase in the minimum overtime rate from one-and-a-third times basic hourly pay to one-and-a-half;
- compulsory double-time hourly pay for Sunday work (currently prohibited in many sectors and otherwise paid either at double time or at one-and-a-third plus a day off);
- 4 months maternity leave (currently 4 weeks before and 8 weeks after the birth of a child);
- replacing the Wage Board - an independent body that actively set minimum occupational rates in some sectors until the early 1990s, but is now defunct - with an Employment Conditions Commission (ECC), with similar powers but without independent resources;

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<sup>13</sup> SMMEs with fewer than 20 employees have received blanket exemptions from many of the provisions of the BCEA.

- a minimum period of notice for dismissal of 30 days for an employee with a year or more of service (currently one week for a weekly paid employee and 2 weeks for a monthly paid employee);
- tightening restrictions on the use of child labour through full adherence to ILO Convention 138 on the minimum working age;
- raising minimum annual leave from 2 to 3 weeks per year;
- switching the emphasis in enforcement of labour law away from the criminal courts and towards the efforts of an inspectorate.

The key objective of the BCEA is to redress the legacy of a racially segmented labour market, and hence it attempts to improve equity in the labour market. However, while this a legitimate and noteworthy attempt in the field of labour legislation, the fundamental problem that confronts the BCEA is the dilemma between improving labour standards and at the same time making the labour market more flexible.

While it marks a departure from the unfair labour legislation in the past, the BCEA does impose higher labour costs, particularly for less skilled sectors of the labour market. The implication of this is higher unemployment among groups where the rate of unemployment is already very high, since it may become less attractive to hire more labour.

There is little doubt that elaborate job and income protection measures discourage job creation and favour the substitution of capital for labour and the contracting out of services that were previously performed within the firm. In this regard, the BCEA reflects the voice of the insiders, i.e. those who have jobs and feel that they benefit from existing labour market institutions and regulations. The existing measures improve the bargaining position of insiders and raise real wages with little benefit to outsiders who are likely to remain unemployed. Instead, what is required are measures that give outsiders a better chance to compete for jobs, which would raise the effective supply of labour and at the same time increase labour demand.

Many analysts believe that protective labour market policy contributes to poor employment performance. The persistently high levels of unemployment in Europe during the last two decades are attributed by many to the growing rigidities in the labour market caused mainly by social labour legislation and practices.

### ***Employment Equity Act***

The purpose of the Employment Equity Act is to achieve equity in the workplace by

- eliminating discrimination;
- implementing affirmative action measures to redress the disadvantages in employment experienced by designated groups (black people, women, or people with disabilities) to ensure their equitable representation in all occupational categories and levels in the workplace.

The Act applies to any designated employer (defined as an employer who employs 50 or more employees or has an annual turnover as specified in Schedule 4 of the Act).

The affirmative action chapter of the Act requires each designated employer to prepare an employment equity plan and report to the Director General of the Department of Labour on progress made in implementing it. A designated employer must conduct an analysis of employment policies, practices, procedures, and working environment so as to identify employment barriers that adversely affect members of designated groups. The analysis must include the development of a workforce profile to determine to what extent designated groups are under-represented in the workplace. The plan to achieve employment equity must have numerical goals for achieving equitable representation and must have a timetable for each year.

A further requirement is that a statement of remuneration and benefits received in each occupational category and level of the workforce must be submitted by a designated employer to the Employment Conditions Commission. Where there are disproportionate income differentials, a designated employer must take measures to reduce them progressively.

### ***Skills Development Act and Skills Development Levy Act***

The purpose of the Skills Development Act is to develop the skills of the South African workforce, to increase the levels of investment in education and training in the labour market, to improve the return on that investment, to encourage employers to provide opportunities for their employees to acquire new skills, to encourage employees to participate in training programmes, and to improve the employment prospects of those not currently employed. This is to be accomplished through the establishment of a National Skills Authority and a number of Sector Education and Training Authorities (SETA). The National Skills Authority is to advise the Minister of Labour on the formulation and implementation of a national skills development policy and strategy, including the allocation of subsidies from the National Skills Fund, and to liaise with the SETAs. The SETAs, which are to be established within each sector, are to develop sector skills plans within the framework of the national skills development strategy and to implement these plans by establishing practical learnerships, approving workplace skills plans, collecting and disbursing the skills development levies in each sector to employers, education and training providers, and workers, and monitoring education and training in each sector. The members of the SETAs are to represent organised labour, organised employers including small business, relevant government departments, and other interested professional bodies and bargaining councils.

Skills programmes that qualify for funding under these Acts must be occupationally based and, when completed, constitute a credit towards qualification in terms of the National Qualifications Framework as defined by the South African Qualifications Authority Act. Anyone who has developed a skills programme may apply to the appropriate SETA for a grant or to the Director General of the Department of Labour for a subsidy.

Under the Skills Development Act, the Director General is to establish a Skills Development Planning Unit within the Department of Labour, which is

- to research and analyse the labour market in order to determine skills development needs;

- to assist in the formulation of the national skills development strategy and the sector skills development plans; and
- to provide information on skills to the Minister, the National Skills Authority, the SETAs, education and training providers, and organs of the state.

Employment services are to be provided by the Department to workers, employers, and training providers in order to improve the functioning of the labour market.

Funding of these programmes is to be provided by the National Skills Fund, which is to be credited with

- 20% of the skills development levies contemplated in the Skills Development Levies Act in sectors where there are SETAs;
- all the skills development levies in sectors in where there are no SETAs;
- money appropriated by parliament;
- interest, donations, and other sources.

The Skills Development Levy Act calls for every employer to pay a skills development levy at a rate equal to 0.5% of the total amount of remuneration to its employees as of 1 April 2000, and at a rate equal to 1.0% of this amount as of 1 April 2001. The levy is not payable where the total amount of remuneration will not exceed R250 000 and the employer is not required to register under the Income tax Act. The levies, interest, and penalties collected by the Commissioner are to be paid to the National Revenue Fund, from which 20% of the amount collected in respect of a SETA is to be allocated to the National Skills Fund (100% where there is no SETA) and 80% of the amount collected in respect of a SETA is to be allocated to that SETA.

### ***Assessment of Labour Legislation***

All of this labour legislation is still relatively new and will no doubt experience some initial problems, which may necessitate further amendments. Labour legislation will ultimately be judged by whether it facilitates economic growth and the creation of employment. Furthermore, it is not labour legislation alone but also the measures undertaken in its implementation that determine the legal and regulatory environment in which firms must operate.

While estimates of unemployment vary, depending on the precise definition used, there is no doubt that the persistent decline in formal sector job opportunities has had enormous consequences for labour relations. In particular, job security has become a source of major concern to employees and unions. As a result, protection clauses of the kind found in much of this legislation are becoming increasingly important. This happens against a background of a growing trend towards temporary and casual labour being employed, much of it in the informal sector. This can partly be explained by the reluctance of firms to hire labour because of increasing costs of dismissal.

Equally important is the increasing demand for higher skills. Between 1970 and 1998, the number of high-skill jobs increased by nearly 10% per annum, at the same time that the number of unskilled jobs declined. Part of this shift was due to the changing sectoral allocation of output described in Chapter IV, but more important were shifts in technology (Bhorat and Hodge, 1999). The shortage of skills today presents an enormous challenge. “Of the four million plus people who are

unemployed, some 50 per cent are young people who have completed more than nine years of schooling. Youth unemployment is aggravated by the inadequate provision of technical and vocational education and training opportunities. Just one per cent of secondary school students is enrolled in technical and vocational education programmes.” (Minister of Labour, 2001, p. 5) As a consequence, the Minister of Labour has set out a number of specific quantitative targets for skills development, to be achieved by March 2005 (Minister of Labour, 2001).

Labour legislation strengthens and gives more power to the trade unions and lays the ground for industry-wide wage agreements. This is a source of concern given the need for competitiveness in South African industry. While the global trend is towards decentralised bargaining, South African labour legislation is moving against this trend.

Some economists and union leaders propose expanded unionisation of the labour force and more industry-wide collective bargaining as a solution to the dual labour market. They suggest closing the productivity gap through training programs and incentives to increase both employment and labour productivity.<sup>14</sup> While accepting this broad strategy, the Labour Relations Act also provides for greater wage flexibility to take into account the need to expand the employment of youth and to take into account regional variations in production costs and the special needs of smaller and newer business.

There is evidence of substantial variation in the nature of collective bargaining across industries, firms, and regions in South Africa. Bargaining council agreements apply to only a few industries, and even here these allow for some flexibility at the firm level. One of the major issues today, in fact, is whether bargaining council agreements should set all wages or just set a minimum wage and allow actual wages to be determined at the firm level. For example, wages are often higher and benefits more substantial in larger than in smaller firms. Unions generally oppose this, but they might in fact be better off negotiating individually with firms. What is not well understood, however, is the actual impact that industry-wide agreements are currently having on the existing labour market.<sup>15</sup>

The effect of the LRA on small business also needs to be assessed. While the LRA makes provision for small business representation in bargaining councils and workplace forums with more than 100 employees, it nevertheless may prove onerous to small business -- in particular, the potential extension of bargaining agreements and the consequent fixing of minimum wages and conditions of employment. This is problematic since small business is expected to generate new job opportunities, and restrictions on this sector may inhibit the expansion of employment.

While the Labour Relations Act sets out the general framework in which labour negotiations take place, the other pieces of labour legislation described above go much further in determining what the specific conditions of employment are to be and how firms are to pursue social goals in addition to private profits. As we shall see in the next section, the overall burden of this legislation is thought by many firms to be quite heavy, though most of the legislation has only begun to be implemented, so this burden may be more anticipated than already experienced. Nevertheless, there are some comments that can be made regarding this legislation without waiting to see how it is implemented.

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<sup>14</sup> This is the general thrust of the *Report of the Presidential Commission to Investigate Labour Market Policy: Restructuring the South African Labour Market*, June 1996.

<sup>15</sup> Annex C presents the findings from a World Bank survey in 1997 on the effect of bargaining council regulations.

One relates to the potential for dealing with the problem of poverty and unemployment through a skills development program. Here it is important to make a distinction regarding the employability of different individuals. Those who are older and not well educated will in all probability never find a formal sector job. There are simply too many others with greater potential to be absorbed into the workplace, particularly youth with some secondary school education, who could become employable with the help of a skills development programme. For older, less well educated individuals, some form a welfare grant is the most practical solution (Bhorat, 2001c).

It also possible that the Skills Development Act is not very well targeted. Although it should work effectively for skilled workers, who only require some incremental training to increase their capabilities, it is far less than adequate for the huge task of increasing the skills of those who offer considerable potential but are as yet unskilled. These are primarily youth with some secondary school education but who need additional technical and vocational training (Bhorat, 2001b).

Another issue is the effect that the Basic Conditions of Employment Act could have on the demand for unskilled labour. The Employment Conditions Commission has, under the Act, the power to set minimum wages for workers not otherwise covered. But these are frequently the workers who are most vulnerable because shifts in the labour market have tended to decrease the number of unskilled jobs. Any effort to protect these workers by raising minimum wages is likely to lower income through unemployment to a much greater extent than it will raise income through wage increases (Bhorat, 2001a).

## VII. EXPANDING EMPLOYMENT WITHIN THE FIRM

Job creation and economic growth are at the heart of every developing country's economic strategy. But too often, good intentions result in undirected and untargeted support with limited or no impact. Government can be heavy-handed in attempting to "help" firms. Before embarking on any kind of employment strategy to promote job creation, whether it is by the government, implementing agencies, or development organisations, it is imperative to understand the environment within which firms operate and the factors that could induce them to expand employment.

The Growth, Employment, and Redistribution policy framework (GEAR) identifies, among others, an important objective: the creation of an enabling environment in which sustainable jobs can be created. GEAR's integrated medium-term strategy was to accelerate growth through a combination of overall fiscal and monetary restraint, accompanied by regulatory reform and a removal of distortions from the economy. The hope was for a "broad bridge between the present constrained economic environment and an improved growth and employment performance in the period up to 2000, while strengthening the competitive capacity of the economy in the long term" (GEAR, p.4).

Even if it had been successful, this process of stimulating employment through economic growth could run into the complex dynamics of the South African economy, in particular the specific constraints faced by individual firms. Until recently, there was very little information available on the behaviour of firms in response their changing environment. However, a number of surveys were conducted in the late 1990s and in 2000, which provide us with some important insights into the constraints firms face and how they react to them. Here we first undertake an analysis of a body of firm-level data from the second round of the South African Labour Flexibility Survey (SALFS2). We then present a few conclusions from other enterprise surveys that have recently been undertaken.

The International Labour Office (ILO) sponsored the initial SALFS1 survey in 1995, sampling 500 firms in the main manufacturing sectors, with 334 responding fully and another 55 partially. By asking firms about their needs and experiences, the SALFS1 methodology was designed to monitor the demand side of the labour market (Standing, p.1). The data generated by the SALFS surveys are intended to offer perspective regarding Standing's three main forms of labour flexibility. Employment flexibility relates to ease in changing the number of persons on paid staff. Functional flexibility involves being able to change the category of job at offer, with the accompanying requirements, remuneration, and accountability. Wage flexibility permits changes in the price determination of labour.

The ILO Review summarises the first survey, with some intriguing findings. For example, SALFS1 found that large firms tended to export more than smaller firms, a finding which has since been substantiated with other surveys. In addition, nearly half the firms reported labour slack, i.e. being able to produce the same level of output with fewer workers. Furthermore, there were indications that certain practices, such as informal methods of recruitment, contributed to paternalistic labour relations that reinforced segmentation and stratification. Another finding was that "fairly extensive" use of temporary, contract, or part-time labour allowed firms some flexibility regarding the social benefits associated with permanent hiring. The ILO also cites lack of good research into the skill constraints on productivity (Standing, Sender, and Weeks, 1996, p. 334-45).

The study undertook an analysis of SALFS2, a follow-on survey conducted in 1996 using similar methodology. SALFS2 permits us to estimate the influence on employment of such factors as firm size, age of establishment, capacity utilisation, export orientation, type of ownership, system of work organisation, formal training, unionisation, use of technology, use of alternative forms of labour, and other factors.

### ***Characteristics of the SALFS2 Sample***

The South African Labour Flexibility Survey (SALFS2) was a sample survey of 331 establishments in the manufacturing sector (Table 7-1). The firms surveyed consisted mainly of established businesses operating in formal markets. The majority of the establishments were concentrated in:

- Textiles, clothing and leather products
- Basic and fabricated metal products and machinery
- Chemicals, rubber, plastics and petroleum products.

**Table 7-1: Distribution of Enterprises by Sub-Sector**

<b>Sub-Sector</b>	<b>Total</b>
Food, Beverage and Tobacco products	32
Textiles, Clothing and Leather products	64
Wood and Paper products except Furniture	37
Furniture	13
Chemicals, Rubber, Plastics and Petroleum products	46
Other Non-metallic mineral products	13
Basic and fabricated metal products and machinery	48
Electrical machinery	25
Transport equipment	27
Scientific equipment and other manufacturing	6
Industries other than manufacturing	13
Unspecified	7
<b>Total</b>	<b>331</b>

The survey was conducted in the metropolitan areas and large cities around the country (Table 7-2). Rural or agricultural business were not targeted for the purposes of the survey. Approximately 41% of the establishments surveyed were in and around Johannesburg. Cape Town and Durban, being the next two largest cities, each accounted for 20% of the sampled establishments. The remaining firms were surveyed in Pretoria, Port Elizabeth, Uitenhage, and East London. The distribution conforms to the national and provincial enterprise density estimates (Department of Trade and Industry, 1997).

The focus of the surveys was on enterprises with less than 500 employees. Table 7-3 gives the size-class distribution of the total sample. Approximately 74% of the establishments surveyed were either micro, small, or medium enterprises (SMMEs) as defined by the National Small Business Act of 1996.

**Table 7-2: Distribution of Enterprises by City**

Sector	Total
Johannesburg	136
Cape Town	68
Durban	65
Port Elizabeth and Uitenhage	23
Pretoria	22
East London	9
Unspecified	8
Total	331

**Table 7-3: Distribution of Enterprises by Size-Class**

Sector	Total
0-20	109
21-50	45
51-100	32
101-200	58
201-500	52
Over 500	26
Unspecified or Not applicable	9
Total	331

As shown in Table 7-4, the majority of the firms sampled were locally owned. A few international companies were also sampled.

**Table 7-4: Distribution of Enterprises by Type of Ownership**

Type of ownership	Frequency
South Africa	201
Joint venture with foreign company	13
Foreign-owned	26
State	1
Unspecified	90
Total	331

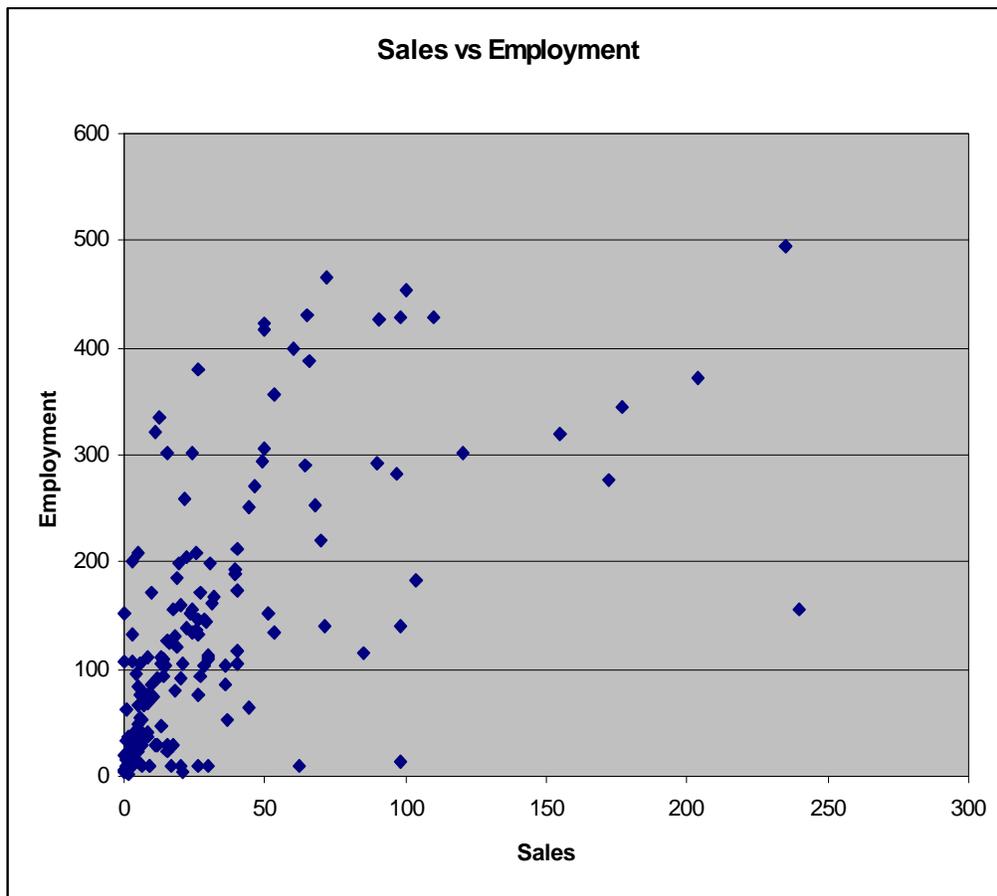
### ***Descriptive Statistical Analysis***

Several factors influence employment at the firm level. A first attempt to quantify these relationships is descriptive in that it highlights the importance of individual factors, using simple correlation analysis and Chi-squared tests.

The association between sales and employment is well established. Larger firms in terms of employment in general have higher sales values and the data from the SALFS2 survey are no exception. Figure 7-1 illustrates this relationship. In testing the correlation co-efficient of the bivariate linear relationship, the resultant p-value of less than 0.001 affirms the statistical significance of the relationship.

As expected, the dependence between age of firm and employment is also strong (see Table 7-5). Of the firms with 50 or fewer employees almost half have been in existence for less than 10 years. This contrasts sharply against an overwhelming 82% of firms with more than 200 employees that have been in existence for over 30 years. A Chi-squared analysis of the cross-tabulation yields a p-value of less than 0.001.

**Figure 7-1: Sales against Employment for Firms with Less than 500 Employees**



**Table 7-5: Distribution of Enterprise by Employment Size-Class and Age of Establishment**

Age of establishment vs size	50 or less employees	51-100 employees	101-200 employees	>200 employees	Total no. of ests.
1-10 years	49%	15%	21%	16%	68 100%
11-20 years	27%	9%	26%	38%	66 100%
21-30 years	30%	13%	25%	33%	40 100%
31-40 years	33%	13%	13%	42%	24 100%
Over 40 years	15%	13%	33%	40%	40 100%
<b>Total number of firms</b>	77	29	57	75	238
<b>%</b>	32%	12%	24%	32%	100%

The association between ownership and employment size-class is more subtle. Table 7-6 below demonstrates that foreign-owned enterprises are on average larger than their local counterparts. This relationship is to be expected as foreign-owned firms operating outside their national boundaries usually form part of larger conglomerates. A Chi-squared test, which measures the association between ownership and employment size, yields a p-value of approximately 0.05.

**Table 7-6: Distribution of Enterprises by Employment Size and Ownership**

Employees	South Africa	Joint venture with foreign company	Foreign-owned	Total
1-50	37%	15%	12%	33%
51-150	24%	38%	38%	26%
151-400	25%	38%	27%	26%
401+	15%	8%	23%	15%
<b>Total</b>	100%	100%	100%	100%

A strong correlation between export intensity and employment size is not apparent. This statement must be treated with caution, however, because only just over 11% of firms export more than 10% of their output. Therefore, the sample size is quite small and no conclusive statements can be made. A correlation co-efficient of 0.085 (p-value of 0.229) confirms that the relationship is not statistically significant. A closer examination of the data, however, reveals an interesting point. Of participating firms with less than 500 employees, 11 exported at least 30% of their output. Seven of those 11 came from the basic and fabricated metal products and machinery industry. It is the nature of the sub-sector, rather than characteristics of the labor force, that seems to dictate export intensity.

The association between wage rates and employment level is highly relevant. An important distinction between the wage/salary bill, benefits paid to employees, and costs of training needs to be made and investigated holding all variables but one constant. A simple correlation between employment and the average wage rate is not significant.<sup>16</sup> This appears counter-intuitive as experts have argued that smaller companies pay on average much less than their larger counterparts. For example, the larger companies are more likely to be party to bargaining council wage determinations, which regulate minimum wages in the country. Smaller companies are less compliant with this labour legislation, as illustrated by the Basic Conditions of Employment impact assessment conducted by Ntsika Enterprise Promotion Agency. The apparent paradox is resolved, however, when the relationship between employment size and benefits is compared. A correlation co-efficient of 0.125 marks this relationship. Even though the p-value for this relationship is not significant (p-value of 0.115), it is still a strong indication that larger firms provide more benefits to their employees. The expenditure on training for employees also seems to be marginally higher in larger firms, but the relationship is not statistically significant.

An examination of the racial structure of employment gives the expected results. Larger firms engaged in manufacturing tend to employ workers from historically disadvantaged populations in semi-skilled positions. Smaller firms have a larger percentage of white professional employees. A simple correlation analysis demonstrates that there is a positive relationship between employment size and percentage of workers from historically disadvantaged population groups ( $r = 0.085$ ;  $p = 0.109$ ). Furthermore, the association between employment size and percentage of management/professional staff is significantly negative (p-value of 0.022). This confirms the prevalence of more production-oriented work in larger firms and of professional work in smaller establishments.

The relationship between employment size and the level or use of technology at the firm level seems to be a rather complex one, as shown in Table 7-7. Of the sample, almost 70% of firms with less than 50 employees had introduced new technology into their production work in the past two years. This percentage drops to 55% as one enters the 51-150 employment size category. The percentage of firms in higher employment categories (151 and more) who had recently introduced new technology amounts to just over 70%. The exact nature of the relationship between employment size and technology is non-linear and in some cases sub-sector specific (plastics, electronics, etc.). It cannot be determined accurately due to the small sample size.

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<sup>16</sup> Average wage rate for the entire company. Calculating the average wage rate at the different skill levels was not attempted due to the small sample size.

**Table 7-7: Distribution of Enterprises by Employment Size and Use of Technology in Previous Two Years**

Employment	Yes	No	Total
1-50	69%	31%	100%
51-150	55%	45%	100%
151-400	72%	28%	100%
401+	70%	30%	100%
<b>Total</b>	67%	33%	100%

There are myriad other factors related to employment. One in particular is the use of shifts for workers. The use of shifts seems to be significantly related to employment size class (p-value of 0.021). In particular, larger establishments make more use of shifts and rotating work hours than smaller ones.

Labour conditions and their regulation are also different among firms of different size. Table 7-8 illustrates these ideas. Industrial action due to disputes in the form of strikes, demonstrations, “go slows”, and “lock outs” are more frequent in larger establishments as compared to smaller ones. This is expected as the degree of unionisation is significantly higher in larger firms. The democratically-elected ANC government has established several vehicles for settling industrial disputes. In particular, the National Economic Development and Labour Council (NEDLAC) and the Commission for Conciliation, Mediation and Arbitration (CCMA) have been specifically set up to deal with these matters.

**Table 7-8: Other Factors Related to Employment**

	50 or less employees	51-150 employees	151-400 employees	>400 employees
<b>Trade union participation</b>	73%	95%	100%	100%
<b>Industrial council agreement</b>	81%	69%	76%	89%
<b>Wage determination</b>	67%	59%	56%	49%
<b>Training of newly recruited production workers</b>	88%	91%	92%	100%
<b>Use of temporary/casual workers</b>	81%	88%	92%	92%

Larger firms are also somewhat more likely to participate in industrial councils (now bargaining councils) than smaller firms, giving them less flexibility in wage negotiations, though this relationship is far from linear. Wage determination from outside the firm, on the other hand, is more likely in smaller firms.

Two other relationships are also important. First, formal training of newly recruited production workers is more likely in larger firms, whereas smaller firms rely on informal, on-the-job training. Second, larger firms are more likely to use temporary and casual labour – probably because they are more subject to regulations and agreements governing restrictive labour practices, wages and benefits with respect to permanent labour.

Crankshaw and Macun (1997) investigate the prevalence of non-standard forms of employment to see how far South African firms may or may not be following the international trend towards increased use of temporary, casual, contract, and home workers. Cost factors favour non-standard arrangements, with the majority of firms employing temporary/casual workers, paying them lower wages, and offering them fewer benefits than regular workers (Crankshaw and Macun, 1997, p.4).

### ***Are Managers Part of the Problem?***

Firm surveys provide valuable insights regarding the people who bear major responsibility for resolving South Africa's labour surplus, i.e. the employers. But low levels of education and training also apply to management cadres within many firms. Managerial quality is undoubtedly a constraint on overcoming the barriers to employment within the surveyed firms.

Standing cites the country's poor showing in the *World Competitiveness Reports* of 1995 and 1996, which "do not make kind reading for a South African" (Standing, 1997, p.2). Based on an opinion survey of several thousand businessmen around the world, South Africa ranked near the bottom in such areas as overall management performance, corporate performance, management efficiency, and productivity. Thus, he notes, "it should not be *presumed* that low productivity or high labour costs are mainly the responsibility of workers, or labour regulations, or the system of industrial relations" (Standing, 1997, p.3).

### ***Other Firm-level Survey Results***

We present a few of the results from other firm-level surveys because of their importance for the issues at hand. These surveys apply both to SMMEs and larger enterprises.

#### **SMMEs**

The results of some of these surveys have been summarised by Kesper (2000). Looking at surveys of SMMEs undertaken in three separate regions – Western Cape, Vaal Triangle, and Gauteng/Witwatersrand -- she finds that few of the firms have grown during the period 1994-98, and, of those that have grown, few have expanded their employment. Major constraints are lack of domestic demand, increased import competition, and increasing labour and other input costs. Most firms have never exported.

Many firms have shown little initiative to increase their productive capacity, either by hiring more labour or through acquisition of new equipment, training of labour and management, upgrading their quality control, or improving internal operations. Those that have expanded have preferred to increase productivity as an alternative to hiring more labour. A number of firms have shed workers in an effort to remain competitive. There was a general sense among the firms interviewed that the new labour legislation is turning employees into a high fixed cost with unpredictable returns. A number of the firms therefore rely on subcontracting or casual labour to maintain flexibility in the face of fluctuating demand. Where hiring has occurred, it has generally involved skilled workers.

Some of the firms reported feeling constrained by the Employment Equity Act regarding getting both the right skill and the right colour mix. The SMMEs also felt burdened by the administrative costs of recovering skill development levies in the form of grants for training. They were particularly concerned with the high cost of designing workplace training programmes. Most were generally ignorant of the flexible character of South African labour legislation. Firms were also largely unaware of programmes being administered by the Department of Trade and Industry (DTI). Those few firms that had applied complained about the red tape involved and lack of commitment by government officials. "The perception prevails that government increasingly burdens small firms with regulations without delivering services in return." (Kesper, 2000, p. 19)

A desire to understand the structural factors contributing to limited investment, slow growth, and weak job creation stimulated an enterprise survey in the Greater Johannesburg metropolitan area, in the province of Gauteng, in late 1999. This survey was financed and undertaken by the World Bank in partnership with the Greater Johannesburg Metropolitan Council. It included both large firms and SMMEs.

Among the SMMEs, insufficient demand and the high cost and non-availability of capital were listed as two of the four most important constraints on business expansion (Chandra and Rajaratnam, 2000). The other two were crime and lack of infrastructure. The larger SMMEs rely more on bank capital and are constrained more by high interest rates than the smaller firms, for which access to bank credit is more of an issue. As a necessary condition for hiring ten additional employees, almost 80% of the SMMEs cited the need for increased demand for their products, while 44% required a fall in interest rates. Of the small, as opposed to very small and micro, firms, approximately two-thirds had borrowed from a bank within the past five years. High interest rates in 1998 were cited by 38% of the SMMEs as having prevented their expansion or inhibited their ability to repay old or acquire new debt.

The survey also demonstrated the problems in using supply-side measures to offset the detrimental effects of macroeconomic policies on SMMEs. According to the survey results, only 10-20% (depending on the program) of the SMMEs are even aware of the existence of these government programs. A much lower percentage of the firms had actually made use of them. This is consistent with the surveys cited by Kesper (2000). Instead, the SMMEs list policy stability, lower interest rates, and skills development (education and training) as the most important actions that national government can take to aid them. Safety/security and expansion of infrastructure are the most important actions that can be taken by local government.

### **Larger Firms**

The Greater Johannesburg survey of large firms (50 or more employees) in eight manufacturing industries found that about 80% were operating at less than full capacity and almost

60% operated with only a single shift of labour. These firms identified the following, in descending order, as the leading constraints on growth: (1) crime and violence and (2) labour regulations, interest rates, and exchange rates, all three ranked equally. Skills shortages were also a major problem. Other constraints included corruption in government, high tax rates, business and trade regulations, infrastructure, and environmental factors.

Especially important for this study is the fact that South African firms find recent labour regulations to be particularly cumbersome because they raise the implicit cost of labour. This is much more important to these firms than high wage rates and other normal non-wage costs of labour. The new “hassle factor” in South African labour markets requires large employers to comply with labour regulations associated with hiring and firing, extension of collective bargaining agreements, number of unions that firms must do business with, etc. For example, the average time required to retrench an entry level worker is about 2.7 months, with the cost in the least skilled occupational category being R2,160-2,900. This leads to hiring fewer permanent workers, greater reliance on machinery, hiring of temporary workers, and subcontracting. It is not just one piece of labour legislation that is the problem but the collective weight of all the pieces.

Access to bank credit is not an issue for large firms, but high interest rates are. Although two-thirds of the firms use internal savings as their main source of financing, 61% of the firms were negatively affected by high interest rates in 1998, leading to a decline in the rate of business investment. Even when investment did take place, it usually brought no additional employment. Only 14.6% of the firms that had an investment rate of 10% or more in 1998-99 also increased employment by 5% or more.

Although 50-70% of the large manufacturing firms export, foreign sales amount to only 13-17% of their output. Exchange rate volatility is an important impediment to growth, but larger firms that hedge against exchange rate risk find that it promotes export sales. Among large firms, very few are aware of special DTI programs to promote exports, and fewer actually use them. The programs used extensively by 55-60% of large firms are tax exemptions, including those on VAT and customs duty, and forward exchange rate cover.

The most likely candidate to find a job in South Africa’s current labour market, according to this survey, is one who has some secondary education and previous work experience. This raises serious questions for the large pool of youth who have the necessary education but no work experience. As discussed in the previous section, the government needs to pay particular attention to people in this group so that they do not fall into the category of long-term unemployables. The employment prospects of older workers who have been retrenched and do not have marketable skills are also dim, but are also likely to remain so no matter what efforts are undertaken. Here the answer probably lies in some form of welfare assistance rather than expensive training.

The CEOs of surveyed firms listed the following as top priorities for government: (1) establish efficient and flexible market wage policies, (2) maintain stability of macroeconomic and other policies, and (3) promote efficient and flexible interest rate policies. However, a key finding of the survey was that the marginal contribution of each of these is likely to be minimal unless the critical issue of labour costs is addressed. This requires a comprehensive approach to all three constraints linked to the labour market: excessive labour market regulation, shortage of skills, and crime and violence.

## VIII. CONCLUSIONS AND RECOMMENDATIONS

A number of important conclusions can be drawn from this analysis, along with the resulting recommendations that follow. These conclusions and recommendations relate to the various ways in which government policy can be used to stimulate the demand for labour:

- Follow macroeconomic policies that encourage growth and investment.
- Identify the sectors in which expansion of employment is likely to be greatest and ensure that barriers to growth in these sectors are minimised.
- Establish an environment that encourages growth of SMMEs.
- Finds ways of improving the skills of youth and other labour market participants so that the demand for skilled labour can be spread among a broader segment of the potential work force.
- Create a legislative and regulatory environment in the labour market that encourages firms to hire and train labour.

Each of these is discussed in turn.

### ***Macroeconomic Policies***

The macroeconomic policies employed in South Africa during the first six years of the ANC government were relatively conservative, emphasizing stability over growth, although it was thought that stability would in the long run foster economic growth. The principal problem was not that the fiscal and monetary policies employed were inappropriate. In fact, efforts to reduce the fiscal deficit, lower the rate of taxation, and limit inflation appear to have been very successful. The major problem was that the effort to do this was coupled with both a substantial reduction in barriers to trade and capital flows and an effort to avoid rapid depreciation of the real value of the rand.

This placed a heavy burden on monetary and exchange rate policy. The fact that real depreciation of the rand was necessary for the South African economy to restore equilibrium in the balance of payments after liberalisation of trade and capital flows does not appear to have been recognised by the monetary authorities. Instead, there seems to have been a sense that private capital inflows could be used to finance the current account deficit, which was bound to increase with the reduction in barriers to trade and the projected increase in the rate of economic growth, bringing with it increased demand for imports. The fact that the current account deficit did not increase in relation to GDP can probably be attributed, at least in part, to the fact that the projected growth did not ensue.

The situation was vastly complicated by the instability associated with private capital flows, especially given the crisis in world financial markets. For a time the strategy of relying on capital inflows to sustain the current account deficit seemed to work, but the cessation of these inflows provoked havoc in the domestic capital market. In addition, the decision to finance the government's fiscal deficits through domestic debt made bond markets particularly sensitive to changes in foreign lenders' perception of exchange rate risk. Finally, what appears to have been a structural increase during this period in the demand for money complicated the situation for the monetary authorities, who worried about its potentially inflationary consequences.

In the end, the situation was characterised by the prevalence of high real rates of interest and considerable instability of both interest and exchange rates. This increased the cost of investment and led to considerable uncertainty for investors. Small and medium-size firms were most affected.

Recent policy changes have corrected most of these problems. By focusing on control of inflation as the primary target of monetary policy, the Reserve Bank is now freed of having too many objectives and not enough instruments. Most important is the decision to allow exchange rates to adjust freely, which dampens short-term capital movements and allows for longer term adjustment. Coupled with sound fiscal policy and a realisation of the need to try to reduce real rates of interest, macroeconomic policy today seems well poised to encourage expanded investment, growth, trade, and employment.

### ***Sectoral Allocation of Employment***

The results of this study show the importance of the services sector for employment. Even the official STEE employment figures indicate that employment in services has increased whereas it has decreased or at best remained constant in other sectors. Considering that these data understate the growth occurring in the services sector, the contribution that this sector can make becomes even clearer. This is especially true in the unskilled and semi-skilled category, where most unemployment is concentrated.

The services sector is quite heterogeneous. Some activities are quite intensive in use of unskilled and semi-skilled labour. Trade, catering, and accommodation appears to be notable in this respect. So is business services, as distinguished from finance and insurance, which tend to be much more skill-intensive.

The Department of Trade and Industry has become increasingly cognisant of the importance of the services sector. In part this is because producer services such as transportation, energy, and telecommunications are very important in determining the international competitiveness of South African industry. In part it is also because services related to tourism, education, information technology, and other areas are increasingly traded internationally. Also important are the privatisation and reorganisation occurring in a number of the services sub-sectors. This will help to make these activities more competitive and reduce barriers to entry, which should encourage investment and expansion of employment.

Despite its importance, the services sector is perhaps the least understood sector in South Africa, or indeed in much of the world. Thus the emphasis that the Trade and Industrial Policy Secretariat (TIPS) has placed on learning more about it seems highly warranted. In this way, the bottlenecks to its expansion can be identified and overcome.

### ***Size Distribution of Employment***

Chapter V of this study points to the importance of SMMEs in providing employment. This has been widely recognised. This chapter, and Annex B, describe the enormous variation that exists among SMMEs. At one end of the spectrum are the survivalist micro enterprises, mainly concerned with keeping the unemployed and their families alive. At the other end are medium-size enterprises

with several layers of management, which differ from large firms primarily in not separating ownership from management.

What is perhaps most significant about the SMMEs is that they provide an important arena for entrepreneurship. In South Africa, as in many other countries, the failure rate among SMMEs is high. But those that do succeed often exploit market niches that were previously unidentified. In this way they pave the way for other firms to follow. This is becoming increasingly important in today's world of rapid technological change.

What are the SMMEs' requirements? The firm-level surveys undertaken recently in South Africa provide some important answers. The major constraints that have inhibited investment by SMMEs are lack of domestic demand and the high cost and lack of availability of capital. Each of these may be attributed in some measure to the policy of high interest rates pursued by the monetary authorities, as described earlier. Other constraints mentioned are high crime rates, lack of infrastructure, increased import competition, and increasing labour costs associated with the new labour legislation. Most firms were not aware of special supply-side measures to aid SMMEs, and those that were found that they involved excessive red tape and officials who were unresponsive to their needs.

The major implication of this analysis is that the government needs to concentrate on creating a general environment in which SMMEs are encouraged to invest and hire new employees. This involves maintaining macroeconomic stability, low real rates of interest, a safe environment, adequate infrastructure, and labour markets free of excessive regulation. Much less important are interventions targeted at SMMEs that involve their dealing directly with and obtaining approvals from public officials.

### ***Skill Acquisition***

One significant finding is that a major reason why employment in the formal sector has not been expanding for disadvantaged members of the labour force is that most of the growth in demand for labour is in the higher skill levels. This is a world-wide phenomenon, which appears to be due primarily to the nature of technological change, which globally is increasing the demand for and returns to skilled labour. Although some countries are able to circumvent this by specialising in the production and exportation of labour-intensive goods and services, this does not appear to be a viable option for South Africa. The major reason is that even unskilled and semi-skilled labour in South Africa is relatively costly by international standards.

The solution lies in upgrading the skills of those who are most likely to be employed. This probably does not include many older workers who have lost their unskilled or semi-skilled jobs. Given South Africa's very high level of unemployment, and the fact that roughly 50% of the unemployed are youths who have never had a job but who have at least some secondary schooling, it is important to target this group as the one likely to benefit most from further training. This implies identifying the jobs that are likely to become available and their skill requirements. The SETAs could be very useful for this purpose, but this may require refocusing away from upgrading skills of existing workers and paying more attention to training those just entering the labour market. Older workers who have lost their jobs should be assisted through some form of welfare payment.

## ***Labour Market Legislation***

While we recognise the importance of enacting and implementing labour legislation that establishes a basic framework for collective bargaining and wage negotiation, sets a standard for basic conditions of employment, provides for non-discrimination in the workplace, and facilitates the enhancement of worker skills, one must also recognise that this legislation may have a cost. This cost has been described by many CEOs as the “hassle factor”, which results in firms avoiding the hiring of new workers and, instead, outsourcing many of their needs to sub-contractors, casual labourers, and others who can provide the services they require without the obligations resulting from new hirings under the current legislation.

Part of the problem is in the implementation of the legislation. For instance, there is considerable uncertainty as to what sectors will be covered by minimum wages and the status of smaller firms with respect to bargaining council agreements, the Employment Equity Act, and other pieces of legislation. There is also a problem of education. Many firms are not aware of the content of the legislation and how, in some cases, they are protected. All of this will take time.

But it is also important to be aware that every piece of paper that needs to be filled out, report submitted, approval required, or official consulted raises the cost of augmenting a firm’s work force. Although the objectives may be laudable, their fulfilment may pose major obstacles to increasing the demand for labour.

## ***Lowering Wages as a Means of Increasing Employment***

The evidence presented in this paper suggests that lowering wages is not a viable way of increasing employment. The econometric analysis that was conducted using cointegration techniques produced uncertain and ambiguous parameters regarding the relationship between wages and employment. The interpretation presented earlier in Chapter II is that the labour market is far too segmented and subject to too many imperfections to be able to make wage policy a cornerstone of employment creation.

This does not imply that wage rates should be ignored. In particular, the dangers have been pointed out of applying minimum wage legislation to rural areas, where employment has for some time been declining. The risk of laying off more unskilled and semi-skilled workers is constantly present in agriculture, mining, and even manufacturing and some services. The gain in income for those who keep their jobs is likely to be far outweighed by the loss of those who lose theirs.

Nor does it imply that no attention should be paid to the effect on employment of union-employer negotiations. Unions represent existing workers, not the unemployed. They therefore are likely to be concerned only about workers being laid off if wages are raised. To the extent that unionised labour is protected against this, the danger may be thought to be minimal. But the impact on new employment may nonetheless be substantial.

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## ANNEXES

### ANNEX A: Estimates of Wage-Employment Elasticities for South Africa (Haroon Borat and Murray Leibbrandt)

Wage-employment elasticity parameters have been accorded a growing importance in recent debates over appropriate labour market policies in South Africa. It is therefore essential that such estimates be rigorously derived and that the limitations of such estimates be clearly stated by those who seek to use them.

The purpose of this research paper is to estimate wage-employment elasticities for manufacturing sectors in South Africa using a cointegration approach. The strength of this approach lies in the fact that it gives explicit consideration to the time series properties of the data. Up to this time, the estimation of such elasticities in South Africa has followed more traditional econometric approaches (See Fallon and Lucas (1996)). These approaches do allow for a variety of adjustment processes over time around a long-run estimated elasticity. However, they are constrained to deliver an estimated elasticity whether or not the movements of the employment and wage series support the existence of a long-run stable parameter of this sort. The cointegration approach is more open-ended in this regard in that it precisely defines a set of conditions under which the estimation of a stable elasticity is supportable and also conditions under which the processes driving the wage and employment series do not support the existence of such an elasticity. Given the volatility of the South African economy and labour market over the last three decades, the possibility of unstable elasticity parameters is highly likely and needs to be taken seriously.

The functional form of our estimated model is based on Constant Elasticity of Substitution (CES) technology. Following standard methodology in this literature, we represent the linear homogenous production function as:

$$Y = [\alpha L^{\rho} + (1-\alpha)K^{\rho}]^{1/\rho} \quad (1)$$

where L is employment and K the capital stock, at any level of output Y. We can represent the dual in any maximisation problem in the form of the cost function:

$$C = Y[\alpha^{\sigma}w^{1-\sigma} + (1-\alpha)^{\sigma}r^{1-\sigma}]^{1/1-\sigma} \quad (2)$$

where  $\sigma=(1/1-\rho)$  and the wage rate, w, and interest rate, r, represent the cost of labour and capital respectively. From equation (2), then, the demand for labour (L) is simply:

$$\partial C/\partial w = \alpha^{\sigma}w^{-\sigma}Y \quad (3)$$

Taking logarithms of the above, gives the estimation equation:

$$(\ln L - \ln Y) = \alpha'' - \sigma \ln w \quad (4)$$

where  $\alpha''$  is the constant and  $\sigma$  is the wage-employment elasticity and the dependent variable is the labour-output ratio (L/Y). Given that we did not have data on the capital stock and the price of capital to match our wage and employment series, it is fortuitous that the elasticity could be derived from such

a simple functional form. However, there is also some appeal in the fact that we are able to focus on the direct relationship between the employment and wage series.

The data that are available from StatsSA are time series on a monthly basis for a variety of different manufacturing sub-sectors. The number of data points and the periods involved vary according to sectoral data availability. We estimate equations for the following sub-sectors over the periods of time indicated:

- Beverages 01/87 – 12/92
- Clothing 01/73 – 06/83
- Food 01/87 – 12/92
- Textiles 01/87 – 12/92
- Paper 01/87 – 12/92
- Mining 01/75 – 12/96
- Non-metallic Mineral Products 01/73 – 06/80
- Total Manufacturing 01/87 – 12/92

Note that the figures for Y are the index of the volume of production for each sector, with the base year 1990. The wage rates are also real wages in constant 1990 prices.

What follows is a description of the methodology, a set of graphs depicting the wages and employment series for the different sectors, a statistical analysis of the individual series, and the estimation of elasticities derived for both monthly and quarterly data. We end with a very brief interpretation of the results.

### ***The Cointegration Approach***

The starting point for the cointegration approach was to take a hard look at the individual series of interest in order to discern their time series properties. The first step was to graph the series and inspect them. Both series had spikes in them reflecting seasonalities. For the  $\ln(L/Y)$  series, this was due to the fact that output rose sharply in October/November and fell in December and January in anticipation of the strong December sales and weak January and February sales. The  $\ln(W)$  series were less consistent across sectors but all had a spike in the second half of the year reflecting the annual wage setting round. To cope with these spikes we corrected for seasonalities in both series by comparing each variable with its moving average.<sup>17</sup>

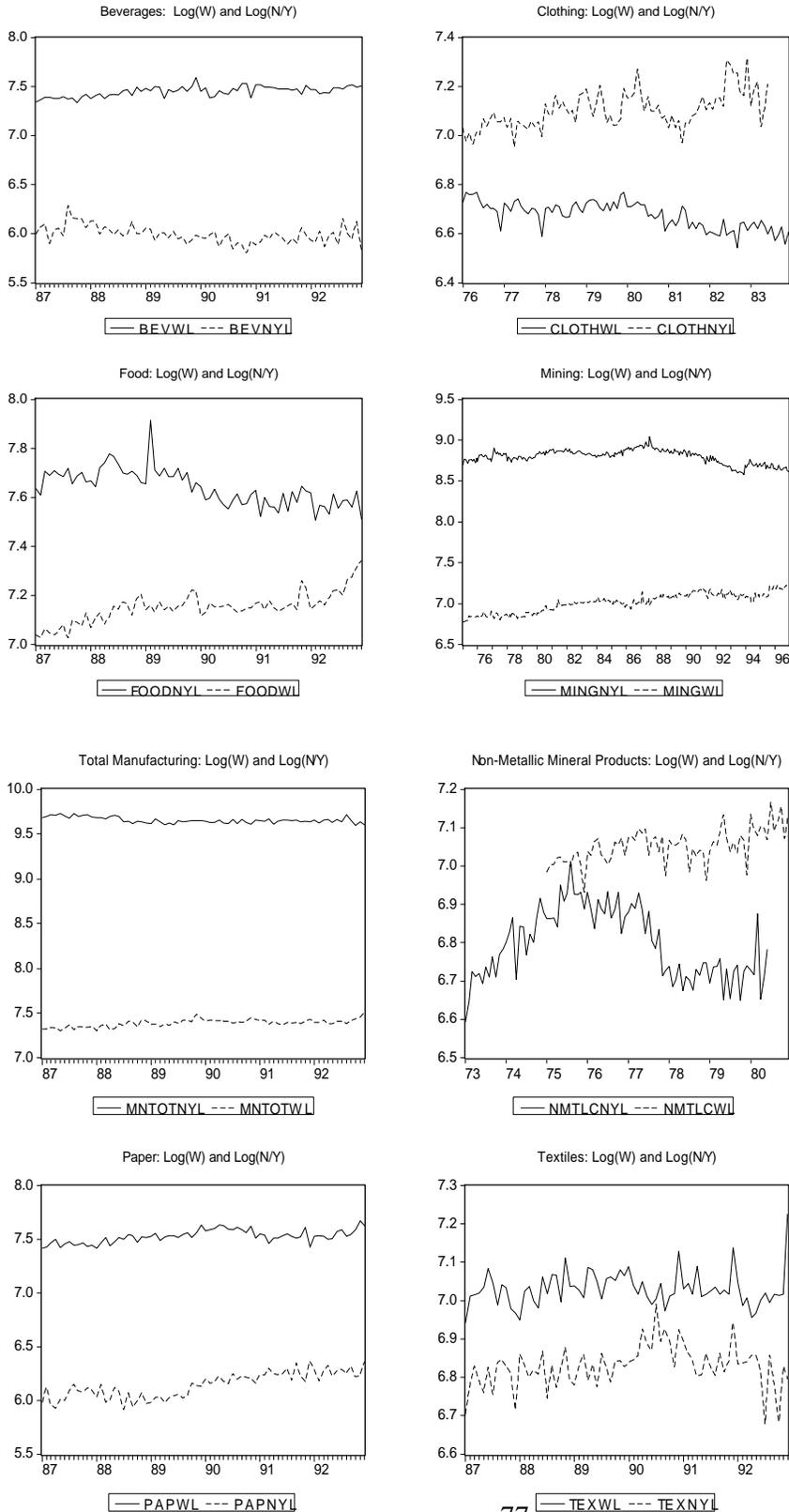
Even after deseasonalisation, both series remained quite volatile. In addition, inspection revealed the absence of any visible correlation (even trend correlation) between the two series in most cases. This served as an early warning of the fact that it might prove hard to statistically relate the two series to each other in a stable way.

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<sup>17</sup> Although it was the output (Y) series rather than the stable employment (L) series that exhibited seasonality, the influence of Y was certainly reflected in the (L/Y) series and it was this series that we deseasonalised. As a cross check on this process, we compared our deseasonalised  $\ln(L/Y)$  series to the deseasonalised  $\ln(L/Y)$  series derived from deseasonalising only Y. We found the two series to be near identical.

After graphing and scrutinising the two series, the next step was to test for the properties of each series in a more formal way. In line with standard time-series methodology, this was done by

**Figure A-1: Log(Wages) and Log(Employment/Output)**



differenced in order to be made stationary. This revealed the order of integration of that series. If the series is stationary before any differencing, it is integrated of order zero,  $I(0)$ , and is a random process around a fixed mean and has no systematic underlying data generation process. Obviously, such a series cannot sensibly be seen to be influenced or driven in the long run by any other series. If the series is not  $I(0)$ , then we test the first differenced form of the series. If this first difference is stationary,  $I(0)$ , then the series itself has been shown to be integrated of order one,  $I(1)$ . This process was continued until the order of integration of the each series was established.

The version of the econometric package E-Views that was used offered a choice of two order of integration tests; the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test. As a cross check we used both tests and set both of them up in a form that tested for the order of integration while controlling for a trend effect, a fixed mean (including an intercept term), and lagged values of the series.<sup>18</sup> The purpose of these restrictions is to focus narrowly on the contemporaneous properties of each series. If they are similar then this would allow for the firm conclusion that, at any point in time, the two series are being driven by similar data generation processes *in addition to* any similarities due to time trends or starting values and/or the autoregressive aspects of the two series.

The results of the ADF and PP tests are presented in Table 1 below. The first thing to note is that there are frequent and significant disagreements between the two statistical tests. The PP test is seen to be far more easily persuaded that any series is stationary (by rejecting the null hypothesis of a unit root) than is the ADF test. Our reading of the theoretical literature indicates that there is nothing in the formulation of the two tests that would always make this the case. We have therefore interpreted this as a loose indication of the fact that the data revealed ambiguous patterns that were dealt with differently by each of the tests.

As mentioned above, the purpose of these tests was to see whether there was potential statistical consistency between the processes driving the two series over time. This was particularly important as a prelude to an attempt to fit a simple regression equation to the two series because any version of the simple regression equation is always constrained to be a linear combination of only those two series and an error term (noise).<sup>19</sup> Thus, we were looking for evidence that the two series were not random noise ( $I(0)$ ) and that they were integrated of the same order.<sup>20</sup> Looking at the ADF test first, one can see that, with the exception of the food, and non-metallic mineral products sectors, there was some evidence to support the view that the  $\ln(L/Y)$  and  $\ln(W)$  are similar enough to warrant proceeding to the regression modeling stage. The PP test suggests a very different conclusion. With the exception of mining and food, all series appear to be random noise ( $I(0)$ ) with no underlying structure. Such a set of results suggests that the exercise of looking for a stable elasticity relationship be abandoned.

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<sup>18</sup> In the ADF case we selected 6 lags and in the PP case we selected a truncation lag of 3.

<sup>19</sup> In multiple regression and multiple equation contexts a range of more complex linear combinations of all the variables are possible and the order of integration tests on the individual series are less revealing of the possible structure of the joint linear combination of variables.

<sup>20</sup> In all cases we will use the rejection of the null hypothesis at the one percent level to be the benchmark for convincing evidence of stationarity.

**Table A-1: Order of Integration Tests, Monthly Results**

Sector	ADF Test ( $H_0$ :Presence of Unit Root)			Phillips-Perron ( $H_0$ :Presence of Unit Root)		
	I(0)	I(1)	I(2)	I(0)	I(1)	I(2)
<b>Beverages</b>						
Log (N/Y)	-2.17	-4.78*	n.a.	-7.28*	-17.62*	n.a.
Log W	-2.89	-4.84*	n.a.	-6.77*	-17.97*	n.a.
<b>Clothing</b>						
Log (N/Y)	-3.10	-4.80*	n.a.	-5.77*	-16.09*	n.a.
Log W	-2.26	-4.61*	n.a.	-6.06*	-17.22*	n.a.
<b>Food</b>						
Log (N/Y)	-2.34	-5.12*	n.a.	-6.09*	-16.49*	n.a.
Log W	-1.18	-3.10	-6.40*	-3.88**	-13.04*	n.a.
<b>Textiles</b>						
Log (N/Y)	-1.93	-2.98	-4.57*	-6.91*	-20.09*	n.a.
Log W	-3.28***	-3.38**	-5.43*	-6.31*	-13.68*	n.a.
<b>Paper</b>						
Log (N/Y)	-2.09	-3.23***	-6.07*	-6.30*	-17.24*	n.a.
Log W	-2.27	-2.42	-5.16*	-4.67*	-16.74*	n.a.
<b>Mining</b>						
Log (N/Y)	-1.62	-7.35*	n.a.	-2.82	-27.05*	n.a.
Log W	-2.40	-8.09*	n.a.	-6.30*	-29.50*	n.a.
<b>Non-Met. Min. Prods.</b>						
Log (N/Y)	-1.90	-2.80	-4.48*	-5.18*	-17.19*	n.a.
Log W	-2.27	-4.25*	n.a.	-7.31*	-17.50*	
<b>Total Manuf.</b>						
Log (N/Y)	-1.86	-3.83**	-5.41*	-5.14*	-16.72*	n.a.
Log W	-2.63	-3.09	-4.15*	-4.92*	-13.70*	n.a.

\*: Significant at the 1% Level

\*\*: Significant at the 5% Level

\*\*\*: Significant at the 10% Level

We responded to this mixed set of results in two ways. First, on the basis of the ADF test results (and in violation of the PP results) we moved on to the estimation of the regression model using the monthly data series. Secondly, we recognised that much of the volatility of the series might be due to the fact that we were using monthly data. We therefore redid the order of integration tests on quarterly data.

Inspection of this table revealed that again the ADF and PP tests assessed the properties of the series quite differently. In the quarterly case the PP test had a tendency to suggest that series were I(1) while the ADF test suggested that the same series were I(2). This is significantly different from the monthly case because neither of the tests suggested that the series were I(0) and both were therefore giving support to an attempt to derive a stable wage-employment elasticity using a simple regression

model. Indeed, there were a number of consistent signals coming out of the tests. In the cases of mining and clothing, both tests indicated a set of I(1) series; in the case of total manufacturing, both tests indicated a set of I(2) series; and in the case of clothing, neither of the tests established an order of integration at all. In sum, there is much more evidence in these quarterly results than in the monthly results to suggest that it is worthwhile to try and model a stable wage-employment elasticity.

On the basis of the ADF results for the monthly series and both ADF and PP results for the quarterly series, we proceeded to estimate a regression model of the two series that would generate the wage-employment elasticity estimate. In line with the cointegration approach, the estimated model generates a long-run elasticity parameter and also a series of lagged wage and employment parameters that reflect short-run dynamics around the long-run relationship. However, the cointegration approach is very new and the field is still not settled as to the best method to estimate these long-run and short-run parameters.

For the single equation case such as ours, the classic cointegration procedure is the two-stage Engle-Granger method. In this approach, the long run stable relationship between  $\ln(L/Y)$  and  $\ln(W)$  is first estimated as a simple regression. The residuals from this regression are then assessed to ensure that they are stationary, I(0), as a proof that the estimated regression equation does indeed reflect a cointegrated relationship between  $\ln(L/Y)$  and  $\ln(W)$ . If this is the case, then the short run dynamics are estimated as a second stage. A lagged set of residuals from the first stage (the estimation of the long-run equation) are included in this second stage to ensure that the short-run dynamics are constrained to fluctuate around the long-run relationship.

Although one can programme this two stage Engle-Granger technique manually using E-Views, there is no formal Engle-Granger routine in the package. There are good reasons for this. Recent time series literature has questioned the approach on the grounds that the two-stage procedure does not allow the short-run lag structure to influence the estimation of the long-run parameter(s). This is a serious accusation as it amounts to the charge that there is always an omitted variable bias in the estimation of the long-run parameter(s). Thus, contemporary practice prefers procedures that estimate the long-run and short-run parameters together.

The Johansen Vector-Error Correction Method (VECM) is one such method and it is offered as a routine in E-Views. This routine first tests to see whether a cointegrated linear combination (an Eigen Vector) of the two series could exist. This also involves a causality test as the procedure allows for the direction of the relationship to go both ways and tests for the most robust direction. On the basis of these findings, the Johansen VECM estimates a set of long and short-run parameters for the model. We allowed for the short run dynamics to span the course of a year in both the monthly and the quarterly cases.

The results are presented in Tables 2 and 3, for the monthly data, and Tables 4 and 5, for the quarterly data. As a loose test for the stability of the estimated wage-employment elasticities, we also estimated parameters using the first stage of the Engle-Granger method. These estimates are also presented and assessed in the tables. We did not go on to derive a set of Engle-Granger short-run (dynamic) parameter estimates because it was the long-run elasticity that was the primary focus of this research.

**Table 2: Engle-Granger and Johansen Estimates of Elasticities**

	Bevrag		Clothg		Food		Textile		Paper		Mining		Non-Mtlc Min		Total Manuf	
	E.G.	Jo	E.G.	Jo.	E.G.	Jo	E.G.	Jo	E.G.	Jo	E.G.	Jo	E.G.	Jo	E.G.	Jo
<b>Co-int. Equation</b>																
Log(N/Y)		1.00		1.00		1.00		1.00		1.00		1.00		0.58*		1.00
Constant	10.92	16.70	7.43*	2.69	4.44*	7.98	6.11*	-15.27	8.67*	-1.97	5.08*	-10.26	5.80*	2.83	13.19	15.86
	*														*	
Log(W)	-0.66*	-1.58*	-0.06	0.62*	0.46*	0.06	0.10	3.19**	-0.36**	0.94**	0.55*	2.83*	0.16	1.00	-0.48*	-0.84*
Trend	-0.00	0.00	0.00*	0.00*	-0.0*	-	0.00***	-0.00	0.01*	0.00*	-0.00*	0.00*	-0.00*	0.00*	-0.00	0.00
						0.00***										
<b>Error Correction Equation</b>																
Constant		-0.00*		-0.01		-0.01**		-0.00		0.01		-0.00		-0.01		-0.00
E.C. Term		-0.53*		-0.87*		-0.69		-0.34*		-0.55*		-0.00		-0.80*		-
																0.80***
Log(N/Y) <sub>t-1</sub>		-0.63*		0.26		-0.18		-0.51*		-0.39**		-0.47*		-0.35		0.01
Log(N/Y) <sub>t-2</sub>		-0.67*		0.41		-0.02		-0.39**		-0.42**		-0.26*		-0.37		0.25
Log(N/Y) <sub>t-3</sub>		-0.23		0.60*		0.00		-0.11		-0.30		-0.01		-0.32		0.27
Log(N/Y) <sub>t-4</sub>		-0.47**		0.55**		0.06		-0.06		0.07		-0.04		-0.16		0.13
Log(N/Y) <sub>t-5</sub>		-0.38		0.44***		0.02		0.21		0.06		-0.08		-0.09		0.44
Log(N/Y) <sub>t-6</sub>		-0.23		0.56**		0.06		-0.01		0.39***		-0.04		-0.15		0.38
Log(N/Y) <sub>t-7</sub>		-0.17		0.38***		-0.04		-0.13		0.34***		-0.01		0.07		0.25
Log(N/Y) <sub>t-8</sub>		0.04		0.40***		0.13		-0.25		0.12		0.01		-0.10		0.60***
Log(N/Y) <sub>t-9</sub>		0.04		0.14		0.08		-0.13		0.21		0.05		-0.21		0.64**
Log(N/Y) <sub>t-10</sub>		0.06		0.26		0.11		-0.25		0.18		0.04		-0.21		0.42
Log(N/Y) <sub>t-11</sub>		0.04		0.29		0.28		-0.04		0.19		0.02		0.06		0.22
Log(N/Y) <sub>t-12</sub>		0.12		0.36**		0.17		0.06		0.13		0.15**		-0.04		0.06
Log(W) <sub>t-1</sub>		0.89*		0.01		0.05		-1.14*		-0.39		0.01		0.10		0.59
Log(W) <sub>t-2</sub>		1.02*		0.12		0.13		-0.97**		-0.25		0.04		0.13		0.50
Log(W) <sub>t-3</sub>		1.34*		0.24		0.09		-		-0.46		-0.02		0.02		0.49
								0.87***								
Log(W) <sub>t-4</sub>		1.25*		0.20		-0.04		-1.05*		-0.54**		-0.07		-0.13		0.20
Log(W) <sub>t-5</sub>		1.18*		0.33		0.07		-		-0.40		-0.11		-0.12		0.18
								0.84***								
Log(W) <sub>t-6</sub>		1.14*		-0.25		0.29		-		-0.41		0.05		-0.25		0.11
								0.63***								

Log(W) <sub>t-7</sub>	1.28*	0.16	0.24	-0.88*	-0.41	0.08	-0.23	0.12
Log(W) <sub>t-8</sub>	1.58*	0.04	0.37	-0.41**	-0.32	0.09	-0.20	0.32
Log(W) <sub>t-9</sub>	1.41*	0.18	0.39	-0.44	-0.64**	0.01	-0.09	0.28
Log(W) <sub>t-10</sub>	1.33*	0.32	0.27	-0.59	-0.09	-0.04	-0.43*	-0.03
Log(W) <sub>t-11</sub>	0.63	-0.01	0.37	-0.42	-0.03	-0.06	-	-0.10
Log(W) <sub>t-12</sub>	0.35	0.24	0.43	-0.06	-0.30	-0.03	0.32***	-0.14
							0.34**	

**Table 3: Test Statistics for Engle-Granger and Johansen Models**

	Bevrag		Clothg		Food		Textile		Paper		Mining		Non-Mtlc Min		Total Manuf	
	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh
<b>Coint. Equation</b>																
Log(N/Y) Constant	10.92*	1.00 16.70	7.43*	1.00 2.69	4.44*	1.00 7.98	6.11*	1.00 -15.27	8.67*	1.00 -1.97	5.08*	1.00 -10.26	5.80*	0.58* 2.83	13.19*	1.00 15.86
Log(W) Trend	-0.66* -0.00	-1.58* 0.00	-0.06 0.00*	0.62* 0.00*	0.46* -0.0*	0.06 - 0.00***	0.10 0.00***	3.19** -0.00	-0.36** 0.01*	0.94** 0.00*	0.55* -0.00*	2.83* 0.00*	0.16 -0.00*	1.00 0.00*	-0.48* -0.00	-0.84* 0.00
<b>Cointegration Tests</b>																
ADF H <sub>0</sub> : No cointeg.	-2.54*		-2.98*		-2.65*		-2.26**		-2.20		-2.06**		-2.11**		-2.45	
Phillips-Peron H <sub>0</sub> : No cointeg.	-7.38*		-5.75*		-7.01*		-6.93*		-6.95*		-3.75*		-5.66*		-6.06	
<b>Johansen</b>																
H <sub>0</sub> : No coint. Vector		20.52		20.22		11.60		17.81		15.10		20.10		20.09		17.88
H <sub>0</sub> : At least 1 coint. Vector		5.73		5.36		2.73		4.38		5.59		5.63		5.32		4.08
<b>Model Statistics</b>																
R <sup>2</sup>	0.30	0.77	0.32	0.56	0.54	0.56	0.05	0.77	0.69	0.82	0.27	0.25	0.64	0.86	0.48	0.57
Adjusted R <sup>2</sup>	0.28	0.60	0.30	0.34	0.52	0.22	0.02	0.60	0.68	0.68	0.26	0.17	0.62	0.74	0.46	0.25
F-Statistic	14.63*	n.a.	20.36*	n.a.	40.60*	n.a.	1.77	n.a.	77.82*	n.a.	48.12*	n.a.	55.76*	n.a.	31.21*	n.a.
Akaike I.C.	-5.15	-11.32	-5.49	-12.40	-5.96	-11.62	-5.78	-11.89	-5.40	-11.88	-5.24	-14.01	-5.64	-12.87	-7.39	-14.23
Schwartz Crit.	-5.05	-9.38	-5.41	-10.72	-5.86	-9.69	-5.69	-9.95	-5.30	-9.94	-5.20	-13.24	-5.54	-10.82	-7.29	-12.30
DW	1.65	n.a.	1.07	n.a.	1.60	n.a.	1.50	n.a.	1.43	n.a.	0.28	n.a.	1.27	n.a.	1.32	n.a.
Log Likelihood	86.15	280.40	122.43	390.96	115.30	289.45	109.04	297.25	95.16	297.06	320.37	1351.7	95.60	298.7	166.78	366.48

\*: Significant at the 1% Level

\*\*\*: Significant at the 10% Level

\*\* : Significant at the 5% Level

**Table 4: Engle-Granger and Johansen Estimates of Elasticities**

	Bevrag		Clothg		Food		Textile		Paper		Ming.		Non-M Min.		Total Manuf	
	E.G.	Jo	E.G.	Jo.	E.G.	Jo	E.G.	Jo	E.G.	Jo	E.G.	Jo	E.G.	Jo	E.G.	Jo
<b>Coint. Equation</b>																
Log(N/Y)		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00
Constant	10.58*	-36.17	6.89*	-2.77	3.32**	-3.27	8.25*	61.61	8.64*	11.27	3.81*	14.44	1.86	-5.93	13.34*	-15.76
Log(W)	-0.61***	4.84**	0.01	-0.61*	0.62*	-0.75**	-0.20	-10.31	-0.36	-2.22***	0.74*	-3.45*	0.74**	-0.18	-0.62*	0.83*
Trend	-0.00***	-0.07	0.00*	-0.01*	-0.01*	0.01*	0.00	0.05	0.02*	-0.01***	-0.00*	0.01*	-0.01*	0.01*	0.00*	-3.82
<b>Error Correction Equation</b>																
Constant		-0.04*		-		0.02		-0.00		0.02**		-0.01		-0.01		0.01
E.C. Term		-0.18*		0.02***		-1.75*		-		-0.39**		0.01		-1.46*		-2.02*
				-1.62*				0.08***								
Log(N/Y) <sub>t-1</sub>		-1.15*		1.27*		0.85**		-0.37		-0.04		-0.08		0.96**		0.76***
Log(N/Y) <sub>t-2</sub>		-0.98*		1.01*		0.70***		-0.41		-0.11		-0.09		0.58***		1.04**
Log(N/Y) <sub>t-3</sub>		-0.26*		0.54***		0.90**		-0.19		0.17		0.09		-0.16		1.51***
Log(N/Y) <sub>t-4</sub>		-0.29*		0.80*		0.47		-		-		-0.04		0.40		0.73**
								0.47***		0.28***						
Log(W) <sub>t-1</sub>		0.93*		0.13		-		-0.81		-0.44		-0.03		0.94***		0.84**
						0.96***										
Log(W) <sub>t-2</sub>		1.28*		0.01		-0.37		-0.55		-0.98**		0.03		0.65		0.33
Log(W) <sub>t-3</sub>		1.45*		0.39		-0.01		-0.46		0.19		-0.03		1.44**		0.21
Log(W) <sub>t-4</sub>		0.61*		0.50***		0.30		-0.12		-		-0.01		1.11***		-0.46
										0.72***						

\*: Significant at the 1% Level  
 \*\*: Significant at the 5% Level  
 \*\*\*: Significant at the 10% Level

**Table 5: Test Statistics for Engle-Granger and Johansen Models**

	Bevrag		Clothg		Food		Textile		Paper		Mining		Non-Mtlc Min		Total Manuf	
	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh	E.G.	Joh
<b>Coint. Equation</b>																
<b>Log(N/Y)</b>		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00
<b>Constant</b>	10.58*	-36.17	6.89*	-2.77	3.32**	-3.27	8.25*	61.61	8.64*	11.27	3.81*	14.44	1.86	-5.93	13.34*	-15.76
<b>Log(W)</b>	-0.61***	4.84**	0.01	-0.61*	0.62*	-0.75**	-0.20	-10.31	-0.36	-2.22***	0.74*	-3.45*	0.74**	-0.18	-0.62*	0.83*
<b>Trend</b>	-0.00***	-0.07	0.00*	-0.01*	-0.01*	0.01*	0.00	0.05	0.02*	-0.01***	-0.00*	0.01*	-0.01*	0.01*	0.00*	-3.82
<b>Cointegration Tests</b>																
ADF	-1.32		-3.05		-1.99		-3.69**		-2.72		-1.88		-1.46		-3.39***	
H <sub>0</sub> : No cointeg.																
Phillips-Peron	-2.85		-2.58		-4.08**		-4.34**		-3.31***		-2.05		-2.55		-3.49***	
H <sub>0</sub> : No cointeg.																
<b>Johansen</b>																
H <sub>0</sub> : No coint. Vector		14.20		17.95		15.01		14.91		22.89		17.83		14.09		14.79
H <sub>0</sub> : At least 1 coint. Vector		5.81		4.14		4.91		3.14		10.44		5.52		4.61		5.40
<b>Model Statistics</b>																
R <sup>2</sup>	0.48	0.90	0.43	0.53	0.74	0.66	0.09	0.47	0.80	0.66	0.32	0.03	0.80	0.58	0.74	0.67
Adjusted R <sup>2</sup>	0.43	0.80	0.39	0.25	0.72	0.32	0.01	-0.06	0.78	0.31	0.30	-0.09	0.78	0.05	0.72	0.34
F-Statistic	9.77		10.17		30.43		1.07		40.99		19.78		38.06		30.49	
Akaike I.C.	-5.96	-7.69	-5.84	-6.07	-6.66	-6.50	-6.27	-6.31	-5.80	-6.48	-5.31	-7.04	-6.22	-6.52	-7.79	-7.37
Schwartz Crit.	-5.82	-7.19	-5.70	-5.59	-6.51	-6.00	-6.12	-5.82	-5.65	-5.98	-5.23	-6.75	-6.07	-6.03	-7.64	-6.88
DW	1.20		0.84		1.62		0.71		0.81		0.25		0.82		1.28	
Log Likelihood	40.53	56.11	48.10	50.45	48.85	44.76	44.20	43.03	38.50	44.60	111.96	184.35	40.24	41.32	62.39	53.10

\*: Significant at the 1% Level

\*\*\*: Significant at the 5% Level

\*\*\*: Significant at the 10% Level



## Interpretation

The analysis reveals the danger in too easily accepting these and other wage-employment estimates that have been derived for South African industry. The monthly results reveal, for example, that in the paper industry, while the standard OLS (Engle-Granger) estimate provides an elasticity of  $-0.36$ , the estimate using the Johansen approach is  $0.94$ . For the same sector, two different techniques report differently signed coefficients. In addition, using the ADF test on the residual for stationarity, according to the two-step Engle-Granger approach for the sector, it is clear that the relationship is unstable since the null hypothesis of no cointegration cannot be rejected. Using the Phillips-Peron test on the error term, however, the variables can be claimed to be cointegrated.

The Johansen Cointegration Tests cannot guarantee that no cointegration vector exists, nor does it accept that at least one vector is present. Using the quarterly results, we find for example in mining, that opposite signed coefficients are again derived: whereas the EG approach gives an elasticity of  $0.74$ , the Johansen technique estimates the elasticity to be  $-3.45$ . The stationarity tests on the error term show that the relationship is unstable when using either the ADF or the Phillips-Peron Unit Root Tests. The Johansen Cointegration Tests are agnostic on both counts again.

Indeed, the Johansen Cointegration Tests for all the equations, in both the monthly and quarterly case, make it plain that the while the null hypothesis of no cointegrating vector cannot be accepted, it is also true that the null of at least one cointegrating vector can also not be accepted. Hence, for this data set, there can be no strong claim that employment is cointegrated with wages. Even if these two variables are cointegrated, the relationship is unstable for all sectors covered, and no legitimate and robust estimates can be derived. It could therefore be argued that significant estimates of wage-employment elasticities using these data for the sectors covered represent incidental correlations and are therefore spurious.

Additional support for this view lies in the contradictory positive wage-employment elasticities derived for certain sectors using the Engle-Granger approach and negative coefficients when using the Johansen technique. In addition, the causalities in the Johansen technique went the wrong way in at least one sector, namely non-metallic mineral products.

The short-run results are relatively poor when using monthly data. Only two sectors (beverages and textiles) reported relatively strong results. In the case of beverages, lagged wages were positive and significant. For textiles, these coefficients were negative, although the corresponding long-run estimate was positive ( $3.19$ ). The VECM results using the quarterly results were marginally better. The lagged dependent variable was significant in at least three sectors (beverages, clothing, and food), while lagged wages were significant again for beverages, and also for non-metallic mineral products. In both sectors, though, the coefficients were all positive.

It is evident, then, that whether the long-run model or the short-run model is used, whether quarterly data is preferred to monthly or indeed a different cointegration approach is taken, the estimates for wage-employment elasticities in South African industry do not hold up well to rigorous tests for stability over time. As a consequence, not much confidence should be attached to these or other estimates of the relationship between wages and employment.

Of course, some might claim that our data series were too short to derive the long run relationships that are the basis of the cointegration approach. While this may be true, they are no shorter than the data series used in the estimation of South African wage-employment elasticities to date. Fairly sophisticated econometric approaches have been adopted in this work. Yet no other study has paid attention to the time series properties of the data or the possibility of spurious correlation in regression models. Therefore, from the outset, these studies have not fully allowed for the possibility that the instability of South Africa's labour market and the broader economy over the last three decades precludes the estimation of stable wage-employment elasticities by sector or by manufacturing as a whole. Our work has supported the fact that even in the most simple elasticity model this is indeed the case.

## **ANNEX B: Details for Chapter V (Job Potential of Small and Large Firms)**

### ***Definition of Small Business***

The National Small Business Act (Act 102 of 1996) was passed by Parliament to enhance the important role of small business. The Act offers the first official definition of small business in South Africa. This definition covers all sectors of the economy as well as all types of enterprises and consists of two parts, breaking down qualitative and quantitative criteria. The first part of the definition is a paragraph in the Act which defines the qualitative criteria, relating to the ownership structure of the business. The second is a table (see Table B-1) showing the sectors and sub-sectors of the economy along with the limits for employment, turnover, and asset value. This is referred to as the quantitative criteria, which relates to the size of the business.

The qualitative criteria require that an enterprise must be a separate and distinct business entity and therefore cannot be part of a group of companies. If the company does own subsidiaries or is part of a group of companies, then all these must be included in the measurement of its size. A further requirement is that the enterprise must be managed by its owner or owners. The enterprise can either be a natural person, a sole proprietorship or partnership, or it can be a legal person, such like a close corporation or company. The quantitative criteria define four size-classes: micro, very small, small and medium enterprises. The criteria that must be complied with are employment, turnover and asset value. To fully qualify as a certain size, the enterprise must be less than all three of the relevant criteria opposite the size-class. Different criteria have been defined for different sectors of the economy for maximum fairness. Because of the large differences across sectors, the criteria for asset and turnover have been slightly “over-sized” in order to be as inclusive as possible. For this reason the employment criterion are the most stringent criterion and that is why, for this study, we used the employment criterion to distinguish between small and large firms.

Employment in each case is defined as the total full-time equivalent of paid employees. Note that:

- Total full-time equivalent refers to the total number of full-time employees as well as converting the number of part-time or casual employees into full-time equivalents. For example, two employees, each working half day, will be the equivalent of one full time employee.
- Paid employees is the broadest definition of employment and includes all paid employees that contribute towards turnover. It includes casual labour, seasonal labour, and contract labour from all sources. It does not, however, include unpaid labour, such as family workers.
- Employees excludes the “employer” (or owner-manager or working proprietor).

Annual turnover refers to the total gross income in the past year, which is the total sum of sales, excluding VAT *before* any deductions. Asset value refers to the gross

**Table B-1: Schedule to the National Small Business Act**

Column 1	Column 2	Column 3	Column 4	Column 5
Sector or Sub-sectors In accordance with the Standard Industrial Classification (SIC)	Size - Class	Total full-time equivalent of paid employees Less than	Total annual turnover Less than	Total gross asset value (fixed property excluded) Less than
Agriculture	Medium	100	R 2.80 m	R 2.80 m
	Small	50	R 1.25 m	R 1.25 m
	Very small	10	R 0.25 m	R 0.25 m
	Micro	5	R 0.15 m	R 0.10 m
Mining and Quarrying	Medium	200	R 40.00 m	R 30.00 m
	Small	50	R 10.00 m	R 7.50 m
	Very small	20	R 4.00 m	R 3.00 m
	Micro	5	R 0.15 m	R 0.10 m
Manufacturing	Medium	200	R 25.00 m	R 7.50 m
	Small	50	R 6.00 m	R 1.75 m
	Very small	20	R 2.00 m	R 0.60 m
	Micro	5	R 0.15 m	R 0.10 m
Construction	Medium	200	R 18.00 m	R 3.50 m
	Small	50	R 4.00 m	R 0.80 m
	Very small	20	R 0.50 m	R 0.20 m
	Micro	5	R 0.15 m	R 0.10 m
Retail and Motor Trade and Repair Services	Medium	100	R 25.00 m	R 3.00 m
	Small	50	R 12.50 m	R 1.50 m
	Very small	10	R 2.50 m	R 0.25 m
	Micro	5	R 0.15 m	R 0.10 m
Wholesale Trade, Commercial Agents and Allied Services	Medium	100	R 70.00 m	R 12.00 m
	Small	50	R 35.00 m	R 6.00 m
	Very small	10	R 6.00 m	R 1.00 m
	Micro	5	R 0.15 m	R 0.10 m
Catering, Accommodation and Other Trade	Medium	100	R 8.00 m	R 1.50 m
	Small	50	R 5.00 m	R 0.60 m
	Very small	10	R 1.00 m	R 0.15 m
	Micro	5	R 0.15 m	R 0.10 m
Transport, Storage and Communications	Medium	100	R 12.00 m	R 3.00 m
	Small	50	R 6.00 m	R 1.20 m
	Very small	10	R 1.20 m	R 0.25 m
	Micro	5	R 0.15 m	R 0.10 m
Finance And Business Services	Medium	100	R 10.00 m	R 2.00 m
	Small	50	R 3.00 m	R 0.60 m
	Very small	10	R 0.50 m	R 0.20 m
	Micro	5	R 0.15 m	R 0.10 m
Community, Social and Personal Services	Medium	100	R 9.00 m	R 4.50 m
	Small	50	R 4.50 m	R 2.25 m
	Very small	10	R 0.45 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m

moveable asset value before any deductions, such as depreciation. It excludes fixed property which is land and buildings but includes items such as tools, machinery, and motor vehicles.

The economic activity of a survivalist enterprise is mainly directed at providing minimal means to keep the unemployed and their families alive. This group might be indicated as pre-entrepreneurial and is formed by hawkers, vendors, household industry, etc. A number of entry barriers keep the survivalists from becoming micro-enterprise: lack of skills and experience, shortage of financial resources, social barriers and norms, and lack of access to markets. The main characteristic that distinguishes survivalists from micro-enterprises is that income generated is less than the minimum income standard. Annual turnover is therefore less than R 1000 per month. There are no paid employees and asset value is minimal. This type of enterprise has not been defined separately from micro-enterprises in the National Small Business Act.

Micro-enterprises usually lack 'formality' in terms of registration for tax-purposes, compliance with labour legislation, location of business premises, and accounting and operating procedures. They include enterprises with informal characteristics, e.g. metal workers, furniture makers, spaza-shops, mini-taxis etc. The major criterion is a turnover limit equal to the VAT registration limit of R 150 000. As such it is unlikely that there are more than five paid employees, which is the employment limit. The threshold downward from micro to survivalist enterprise is very permeable, especially for the smallest and least capable members of this category.

The very small enterprise category refers to self-employed and enterprises employing a limited number of employees that operate formally and have access to modern technology. The lower limit is the self-employed with no employees, such as artisans and professionals. The upper limit is less than ten paid employees, except for the mining, electricity, manufacturing, and construction sectors, where it is 20 employees. The threshold between micro-enterprise on the lower end and small enterprise on the upper end may be somewhat fluid.

Compared with very small enterprises, enterprises in the small enterprise category are in general more established. The processes and the organisational structures of these enterprises are more complex. The upper limit of this category is less than 50 employees. When an enterprise outgrows its simplest state, that of direct supervision by the entrepreneur, it needs to turn to a secondary co-ordinating mechanism. This distinguishes the small enterprise from very small enterprise. Growth past the upper threshold into a medium-scale enterprise requires an accumulation of resources as well as the appropriate incentives for enterprise expansion.

The largest small enterprises are difficult to demarcate *vis-à-vis* the medium enterprise category. Although still owner/manager controlled, the ownership and management structure is more complex. Often decentralisation of power to an additional management layer, division of labour, and functional division signify the natural division between small and medium enterprise. On the other hand, the separation of ownership and management is a natural barrier between medium and large enterprise. The upper limit of medium enterprises is 100 employees, except for the mining, electricity, manufacturing, and construction sectors, where it is 200 employees.

## Data Sources for Chapter V

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**Table B-2: Statistics South Africa Census Data Sources Employed to Break the 1993 Input-Output Table down into Small and Large Production Activities**

Description	Report No.
Census of Agriculture, 1993	
- Western Cape	11-02-02(1993)
- Eastern Cape	11-02-03(1993)
- Northern Cape	11-02-04(1993)
- Free State	11-02-05(1993)
- Kwazulu-Natal	11-02-06(1993)
- North West	11-02-07(1993)
- Gauteng	11-02-08(1993)
- Mpumalanga	11-02-09(1993)
- Northern Province	11-02-10(1993)
Census of mining, 1993	20-01-01 (1993)
Census of manufacturing, 1993	30-01-01 (1993)
Census of construction, 1994	50-01-01 (1994)
Census of wholesale trade, commercial agents and allied services, 1993	61-01-01 (1993)
Census of retail trade, 1993	62-01-01 (1993)
Census of the motor trade and repair services, 1993	63-11-01 (1993)
Census of catering and accommodation services, 1993	64-01-01 (1993)
Census of transport and allied services,1993	71-01-01 (1993)
Census of letting of own fixed property, 1993	83-02-01 (1993)
Census of renting and leasing of machinery and equipment, 1977	04-09-01 (1977)
Census of Professional and Business Services,1993	
- Data Processing	86-01-01(1993)
- Legal Services	88-01-01(1993)
- Accounting, Auditing and Bookkeeping Services	88-02-01(1993)
- Consulting Engineering Services	88-03-01(1993)
- Architectural and Quantity Surveying Services	88-05-01(1993)
- Advertising Practitioners and Allied Services	88-06-01(1993)
- Employment Placement Agencies, Recruiting Organisations and Labour Broker's Services	88-07-01(1993)
- Security Services	88-08-01(1993)
- Cleaning Services	88-09-01(1993)
- Hairdressing and Beauty Services	95-01-01(1988)
Census of Medical, Dental and other Health Services, 1994	
- Doctors	93-02-01(1994)
- Chiropractors, Homeopaths, Naturopaths,	93-03-01(1994)
- Herbalists	93-06-01(1994)
Census of Veterinary Services, Animal Hospitals and Care Centres	93-04-01(1994)

## **ANNEX C: Survey of Effects of Bargaining Councils**

The World Bank conducted a survey in March 1997 on the effect of bargaining council regulations. For logistic reasons the survey focused on two of the largest manufacturing sub-sectors, namely, the motor industry and the iron, steel, engineering, and metallurgical industry. The choice of these two sub-sectors is substantiated by the governments desire to expand employment and raise exports. These two sub-sectors have the capacity to do both. Both sub-sectors have relatively high numbers of workers and employers.

Fifty-three percent of the firms in the sample produced goods that are exported. The export industry is concentrated in urban areas such as the Witwatersrand. Sixty-five percent of firms are members of an employer association.

The sample covered 6 905 employees, of which 32% were rural based. Unionisation in the overall sample was 31%, and 95% of firms were registered with their respective Bargaining Council. Over 85% of the firms submitted monthly returns to the Bargaining Council. The high level of returns indicates that there is a high level of compliance to Bargaining Council regulations.

### ***Exemptions***

Exemptions are obtained from Bargaining Councils on application. The granting of an exemption for an employer means the relaxing of regulations in respect of any agreements pertaining to wage and non-wage conditions. Of the firms in the sample, 40% applied for exemptions but only 58% of these were granted full and 11% partial exemption.

The firms that had not applied for exemptions were asked why they had not applied. Of these, in the motor industry, 86% of firms said the union would not permit it and 78% said it would not be worth it. Seventy-eight percent said they did not need an exemption, and all respondents said the wages that they paid were fair and that in paying lower wages they would end up with lower quality of workers. All the firms said that they felt that their applications would be rejected so there was no point in applying. The responses in the iron and steel industry were as follows: 79% said they did not need it, 96% said the wages that they paid were fair, and 85% felt that lower wages would lower quality. Seventy-eight percent said the unions would not grant exemptions, 78% said it would not be worth the trouble, and 75% believed their application would be rejected.

What is evident from the survey is that the conditions and procedures for exemptions and perceptions of these are vastly different for different industries. The results also suggest that wages are not a problem and that the wage paid is considered to be fair. Finally, the perception of Bargaining Councils is relatively unfavourable with respect to their willingness to allow for individual exceptions.

### ***Extension to Non-Parties***

Firms were asked what would happen to unskilled wage levels if the Bargaining Council agreements were no longer extended to non-parties. Fifty- seven percent believed that wages would hold steady, and 43% thought wages would decrease in some or most of these firms. When asked

what would happen to employment, 81% believed that employment would rise if the agreements were no longer extended.

Firms were then asked whether output would increase if Bargaining Council agreements were no longer extended to non-parties. In the motor industry, 80% believed that output would increase. Similar results were reported in the iron and steel industry. Hence, in both sectors employment and output would likely rise.

Firms were then asked what they would do if agreements were no longer extended to non-parties. They were given the options of paying lower wages, changing working hours, and changing provident/pension funds. In this connection, 94% of the motor industry indicated they would not lower wages or change working hours, but 42% of the respondents indicated that they would change provident/pension funds. In the iron and steel industry, 90% said they would not lower wages, 74% said they would not change working hours, and only 33% would change provident/pension funds.

Finally, in order to establish the market for unskilled labour, firms were asked if they would hire labour on a piece rate. The results in both sectors were the same -- 87% said they would not. When asked whether they would convert to this if they were allowed to by the Bargaining Council, 76% of the motor industry and 64% of the iron and steel industry said they would not. Firms were then asked whether, if they could and wanted to convert to piece rate, they would be able to hire people to work on this rate. In the motor industry, 89% of urban firms and only 54% of rural firms said they would be able to hire workers under those conditions. In the iron and steel industry, 71% of urban and 65% of rural firms said they would be able to do so. This would appear to indicate that there is a greater supply of labour in urban areas relative to rural areas.

### ***Conclusions***

From the returns, it appears that Bargaining Council regulations are binding and are followed by the majority of firms in the respective industries.

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