



Growth, Employment and Unemployment in South Africa

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Abstract

The high rate of unemployment in South Africa stands out in an otherwise vastly improved set of macroeconomic fundamentals compared to the situation in the early 1990s. One might be tempted to argue that by this single indicator alone, government policies such as GEAR have been a failure. This paper explains why jumping to such a conclusion would be a mistake and focuses on the relationship between economic growth and employment and shows how estimates of the employment coefficient have changed over time. This paper finds that the main reason for the persistently high and rising rates of unemployment in South Africa over this period was the very large increase in the labour force and not a deficient growth or employment performance of the economy.

1 Introduction

In 1994, the first non-racial democratic government in South Africa inherited a stagnant economy with high levels of unemployment, a fiscal deficit of more than seven percent of gross domestic product (GDP), and persistently high inflation above ten percent per annum.

Since 2000, there has been a remarkable turnaround in the South African economy. For more than three years in a row to mid 2007, inflation was contained within the inflation targeting range of 3 – 6 percent per annum and last year's budget saw the country recording its first ever budget surplus. More importantly, over the last few years, economic growth has accelerated, decisively breaching what many had believed to be a structural three percent ceiling on growth. Despite various recent setbacks (such as the Reserve Bank's continued increases in interest rates in response to inflation piercing and remaining above the upper boundary of the inflation target, the electricity, oil and food price shocks, and the blow to business and consumer confidence resulting – albeit indirectly - from the foreign credit crisis), the economy by most accounts remains on course to avoid a prolonged recession and for growth to accelerate again leading up to the 2010 World Cup and beyond. The downturn in consumer spending is expected to be offset by the massive increase in planned investment spending, mostly on public sector projects to restore and extend the country's infrastructure.

Discouragingly however, despite the positive trend in growth and other economic fundamentals, unemployment has risen even further from its already high levels in the early 1990s. Between 1995 and 2003, the unemployment rate rose from 17 to 28 percent (based on the narrow definition of unemployment) and from 29 to 42 percent (based on the broad definition of unemployment), leading to a situation in which "South Africa now has one of the highest rates of unemployment in the world even on the official narrow (but potentially misleading) definition" (Kingdon and Knight (2005: 3); see also Burger and Woolard (2005) regarding unemployment in South Africa over this period.)

The high rate of unemployment in South Africa sticks out like a sore thumb in an otherwise vastly improved set of macroeconomic fundamentals compared to the situation in the early 1990s. Indeed

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one might be tempted to argue that by this single indicator alone, government policies such as the Growth, Employment and Redistribution (GEAR) programme have been a failure (for example, see Weeks (1999)). For what good are pretty numbers like low inflation, fiscal surpluses and even high economic growth rates if this has coincided with large increases in unemployment?

This paper explains why jumping to such a conclusion would be a mistake. Trends in growth, employment, the labour force and the unemployment rate are examined from a longer-term macro-economic perspective, before commenting on the more recent numbers. Section 2 describes the growth performance of the South African economy while section 3 analyses employment trends. Section 4 focuses on the relationship between economic growth and employment and shows how estimates of the employment coefficient have changed over time. This is the main focus and contribution of the paper. Section 5 examines the more recent trends in unemployment in South Africa in the context of the growth and employment performance of the economy. Section 6 concludes.

2 Economic growth

Figure 1 shows annual and six-year moving average trend growth from 1947 to 2007. Growth in real gross value added was used instead of the more usual GDP numbers (although there is little difference between them, measuring output from the production side gives a more direct conceptual link in examining the relationship between output and employment and in estimating employment coefficients.) Six years is roughly the average length of a full business cycle (upswing and downswings) in South Africa; this has been the case since the early 1970s (see also section 3.) Figure 1 shows the relatively high levels of growth enjoyed during the 1950s and 1960s, the extended declining trend from the early 1970s reaching a nadir in the early 1990s, and the sustained recovery since this historic low.

[Insert Figure 1 about here]

For the 1990s as a whole, the average growth rate was not much different to that experienced during the siege economy of the 1980s, at an unimpressive 1,4 and 2,1 percent increase in real GDP per annum respectively. Nominal GDP growth during the 1980s was much higher than in the 1990s, but this was almost entirely due to the much higher rate of inflation experienced in the former decade compared to the latter. Both nominal and real GDP growth were much more volatile during the 1980s than in the 1990s, reflecting the stop-go nature of monetary policy and the 'boom-bust' economy of South Africa in the 1980s (see Hodge, 2001).

Growth was much weaker in the first half of the 1990s than in the second half of the decade. From 1990 to 1994, the economy grew on average by only 0,1 percent per annum compared to the 2,6 percent per annum growth achieved from 1995 to 1999. The relatively higher growth experienced over the latter half of the decade was achieved despite the disinflationary and alleged contractionary effects of the government's GEAR programme (announced in 1996) on the economy.

Still, in a developing or emerging market economy like South Africa, growing at 2,6 percent is not very impressive. For the government's orthodox policies to gain any credence, there should be evidence of at least a growth dividend in the form of a much larger increase in the longer-term trend growth rate. Since 2000, there is indeed evidence of such a turnaround in the South African economy, with growth decisively breaking through what many had believed to be a three percent per annum 'structural' ceiling on the growth rate. For the period 2000 to 2007, the average annual growth rate rose to 4,3 percent. Moreover, this renewed growth has emerged in an environment of sustained low inflation within the inflation targeting framework of monetary policy. Although growth will no doubt continue to fluctuate, this suggests less volatility around a higher trend growth rate than in the past (see Hodge (2006) for an analysis of the relationship between inflation and growth in South Africa).

3 Employment

Despite the relatively good growth performance of the economy since the mid 1990s, unemployment has, until quite recently, continued to rise substantially from pre-existing high levels. It is the stark increase in the numbers of unemployed that, perhaps more than anything else, has created the impression that the economy is suffering a prolonged period of 'jobless growth' (often with the accompanying belief that the restrictive policies entailed by GEAR must be to blame). It is argued here that such an impression, although readily understandable, is largely mistaken. Changes in unemployment are the result of changes in both the demand and the supply side of the economy: in particular, unemployment can rise if the labour force is growing faster than growth in employment. As shall become clearer in the following sections, this has indeed been the main reason for the continued rise in unemployment in South Africa and not any prolonged decline in employment or jobless growth.

Thus, before tackling the unemployment issue, we need a rough idea of the main trends in employment in South Africa. It is helpful to put the more recent trends in employment in the context of a longer-term perspective: for this task, consistent time series data on employment is desirable. Up to 1994, probably the best data series in this regard is the Standardised Employment Series (SES) originally estimated and subsequently revised by Roukens de Lange and van Eeghen in various reports and articles (Roukens de Lange and van Eeghen, 1984, 1990; Roukens de Lange, 1993). In their 1990 publication, which further updated and revised the data in their original 1984 report for the National Manpower Commission, the authors quote Moll (1989: 3, 14) as stating that the figures published in their original 1984 report are "an impressively comprehensive source of formal sector employment data" and "far more comprehensive than similar attempts by Simkins (1977) and Abedian and Schneier (1987)" (Roukens de Lange and van Eeghen, 1990: 26).

The SES estimates total formal sector employment in South Africa (including the then Transkei, Bophuthatswana, Venda and Ciskei independent states), built-up from the estimates for the major SIC divisions of the economy and the different population groups, including commercial agriculture and domestic workers. It thus excludes subsistence agriculture and the informal sector. De Lange and van Eeghen (1990: 31-32) used input-output (I-O) tables in their coverage of formal sector employment and followed the major SIC classification except where necessary for comparability with the I-O categories. The main change was in Major Division 9 of the SIC where the I-O tables require government and domestic service to be categorised separately from the broad "Community, Social and Personal Services" SIC category. Their report thus includes eleven rather than the nine major divisions of the SIC. The categories they used were:

1. Agriculture, Forestry and Fisheries (SIC-1).
2. Mining and Quarrying (SIC-2).
3. Manufacturing (SIC-3).
4. Electricity, Gas and Water Supply (SIC-4).
5. Construction (SIC-5).
6. Trade, Catering and Accommodation (SIC-6).
7. Transport, Storage and Communication (SIC-7).
8. Finance, Insurance, Real Estate and Business Services (SIC-8).
9. Non-Government Community, Social and Personal Services (part of SIC-9).
10. General Government (part of SIC-9).

11. Domestic Services (part of SIC-9).

The data are available on an annual basis for the period 1946 to 1994 as published by the then Central Statistical Service (CSS, since September 1998 renamed Statistics South Africa or StatsSA) in successive annual issues of *South African Labour Statistics* (SALS), ending with the 1995 edition.

After 1994, the labour statistics previously published in SALS were replaced by the annual October Household Surveys (OHS). (The first OHS was undertaken in October 1993 but it excluded the former TBVC states. The 1994 OHS was the first to cover the entire country, including the TBVC states). The OHS, in turn, was replaced by the biannual Labour Force Survey (LFS) from 2000 onwards. With the introduction of the OHS in 1994, the SES was discontinued the following year.

However, it is possible to extend the SES using the employment data reported in the subsequent OHS and LFS publications. This has been done here for the annual total formal sector employment numbers with due care taken to ensure that the resulting time series, for the period 1946 to 2007, is as consistent as possible. As an aid to other researchers in the field, this time series data (in both level and percentage change form) as well as annual growth (percentage change in real gross domestic value added) is reported for convenience in Appendix A. This paper is concerned with the broad macroeconomic trends in employment, therefore only the total numbers and annual percentage changes are reported. However, formal sector employment in the main SIC divisions of the economy such as manufacturing and mining can be found using the same sources by researchers interested in a more disaggregated analysis of employment. In both the OHS and LFS surveys, Major Division 9 of the SIC is used without separating government services from "Community, Social and Personal Services". However, "Domestic Services" remains as a separate category throughout.

The SES, OHS and LFS thus all try to measure the same thing, an estimate of total formal sector employment from bottom-up estimates of formal employment in the major SIC divisions of the economy. However, the way in which the estimates are made differs, especially between the SES and the OHS/LFS. The SES estimates were derived eclectically from various sources which "have been compared, adjusted and combined in this study to produce a single set of best estimate time series" (Roukens de Lange and Van Eeghen, 1990: 32). The sources included the decennial population censuses, the Current Population Surveys and periodic censuses of the industrial and service sectors carried out by the CSS, and the Manpower Surveys conducted by the Department of Manpower and the CSS (after 1986) as well as unsystematic sources of information where deemed appropriate. By contrast, the OHS and LFS employment data are estimates derived from responses to a discrete survey questionnaire conducted periodically on a nationwide sample at a specific time. The LFS is conducted twice a year in March and September (while the OHS was conducted annually in October). In this study, the September LFS estimates are used instead of the March estimates, for better comparability with the OHS and SES data. However, the different methodologies of the OHS/LFS and SES imply that comparisons between the different time series data must be treated circumspectly. Moreover, the OHSs/LFSs are themselves subject to various revisions and refinements over time, the most important of which are the result of the re-weightings that take place after a population census (the latest being Census 2001) and changes to the questionnaire used to elicit responses. In this study, all the LFS employment estimates from 2000 onwards are benchmarked to Census 2001 as published by Statistics South Africa [*Statistical Release P0210*, September 2000 to March 2005 (Historical series of revised estimates) and *Statistical Release P0210*, September 2007]. Notwithstanding the above, the numbers presented in Appendix A are the best available estimates of total annual formal sector employment with due regard to consistency, given the inescapable constraints and limitations of the time series data.

While the aggregate levels of formal sector employment are of some interest in themselves, depending on the question being asked and the purpose of the study, the main concern here is the pattern of *changes* in such employment over time. This is because we want to compare over time how employment growth has responded to economic growth and calculate the employment coeffi-

cients accordingly (see Section 3). One advantage of concentrating on the proportionate changes in employment rather than their levels is that some of the problems with the comparability and consistency of the employment data gathered from different sources becomes less important even though they do not, of course, disappear completely. Thus, comparing the employment levels reported in Appendix A is subject to possible error when comparisons are made *between* the SES, OHS and LFS data. Errors may also arise from measurement mistakes and sample oddities *within* each data set. Taking annual percentage changes in the employment data lessens the effect of such inconsistencies because most of the error is confined to the individual years where the switchover to the new survey occurs (in Appendix A: from the SES to the OHS in 1995 and from the OHS to the LFS in 2000) or where the measurement/sampling anomaly within a data set occurs. The point here is essentially the same as the distinction between total and marginal magnitudes: at the individual year where the switchover point or measurement error has occurred, a discrete jump in the total magnitude is noticeable but the change (slope) of the total function remains unchanged.

As an example of how the conversion of employment data from levels to proportionate changes resolves some of the inconsistencies, consider the observation by Casale, Muller and Posel (2004: 7-8) who showed that trends in employment are very sensitive to the reference points selected for analysis. They argue that the sudden jump in employment reported in the March 2003 LFS may have been due largely to the change in population weights based on the 2001 Census whereas the previous LFSs used weights based on the 1996 Census. They conclude that, “the March 2003 LFS cannot reliably be compared to estimates from the earlier LFS surveys which are possibly biased downwards by inaccurate weights” (*ibid*: 8). (Note that subsequent to Casale *et al* (2004), all the relevant employment and other labour force data have been re-weighted and benchmarked against Census 2001 information by Statistics South Africa. As noted above, in this paper all the LFS employment numbers are benchmarked against the Census 2001 weightings).

[Insert Figure 2 about here]

Figure 2 shows the annual and six-year moving average trend in formal sector employment growth from 1947 to 2007. This follows a similar pattern to that of economic growth described in Section 2: an extended downturn in the trend of employment growth from the early 1970s reaching a nadir in the early 1990s and recovering strongly thereafter. The recovery in employment was particularly strong in 1995/1996, 1999/2000 and 2006/2007. However, given the various limitations on the time series data, such as the switchover from the SES to the OHS in 1995 and from the latter to the LFS in 2000, as well as other inconsistencies and inaccuracies within and between the data sets, it is a good idea to conduct a reality check on those years where employment growth was so strong (especially in 1995/1996 and 1999/2000 which include the years when the switchovers took place, but also in the non-switchover years 2006/2007 when formal sector employment growth reached its highest ever annual growth in 2007). Does our knowledge of what was happening in the economy at these times add to or detract from the credibility of the total formal sector employment estimates?

1995/1996

As noted above, the switchover from the SES to the OHS took place in 1995. Thus the sharp increase in formal sector employment growth in that year, compared to the five preceding years of negative employment growth reported in the SES, may simply have been a statistical artefact due to the different methodologies used to derive the estimates. However, this does not explain why employment also grew sharply in 1996. The main driver of the higher employment in both 1995 and 1996 appears to have been the resurgence of aggregate demand and economic growth that began in 1993 and accelerated after the historic 1994 elections. Economic growth rose to 4.2 percent in 1996, the highest annual growth rate since 1984. Since employment is a lagging indicator, it is not surprising that employment also grew strongly in 1995 and 1996. A similar story may also help to explain much (but not necessarily all) of the strong rises in employment in 1999/2000 and 2006/2007.

1999/2000

Although there was a switchover from the OHS to the LFS in 2000, economic growth was also very strong in that year, rising to 4.4 percent from the 0.7 percent recorded in 1998. However, the strong rise in employment growth in 1999, the last year of the OHS, is somewhat of an anomaly given the relatively low rates of economic growth in the preceding two years. The main contributor to the rise in formal sector employment in 1999 compared to 1998 was a 280 000 or nearly twenty percent increase in the category "Employed in the formal sector in activities not covered in STEE (*Survey of total employment and earnings*)."

(The list of formal sector activities not covered by STEE included: employment in agriculture, hunting, forestry and fishing; restaurants and other eating and drinking places; boarding houses, caravan parks and guest farms; water and air transport; financial institutions other than banks and insurance companies; real estate and business services; private educational services; medical, dental and other health services; welfare and religious organisations; and recreational and cultural services). The large increase in this category is all the more surprising given that formal sector employment under the STEE itself actually recorded a slight *decline* in 1999. A possible explanation for the big difference between the two categories of formal sector employment (and hence the otherwise inexplicable rise in total formal sector employment in that year) is the change in sampling design that occurred in the 1999 OHS (Statistics South Africa, *Statistical Release P0317*). In the endnotes thereof, it is explained that small enumeration areas (EAs) consisting of fewer than 100 households were combined with adjacent EAs to form primary sampling units (PSUs) of at least 100 households. This, for the first time, was to form the basis of a master sample to allow for repeated sampling of households within each PSU envisaged for a variety of future surveys, including the LFSs. The master sample was further stratified by province and by urban versus non-urban areas within each province. Independent PSUs were then drawn for each explicit stratum, with a disproportionately larger number of PSUs being allocated to the smaller provinces. These changes to the sample design may have boosted the estimates of formal sector employment activities not covered by the STEE. It might also have had the effect of boosting the estimate of informal employment and this indeed seems to be borne out by the numbers. Informal employment rose by nearly 600 000 or a massive forty five percent increase on the estimate for 1998.

2006/2007

The big increases in formal sector employment in 2006/2007 are readily explained by the above trend economic growth enjoyed in South Africa around this time. Economic growth had already perked up in 2000 and accelerated to above 5 percent per annum in each of the three years up to 2007. Again, with employment a lagging indicator, it is hardly surprising that formal sector employment also grew strongly over this period.

This paper is concerned more with macroeconomic trends rather than the pattern of growth and employment at the industrial level. Also, the formal sector employment numbers do not consider developments in the informal sector. However, it may add to the credibility of the total formal sector employment estimates to check briefly whether they are consistent with changes at the informal and industrial sector level over this time. The first item of interest is that the strong increases in formal sector employment in 2006 and 2007 were accompanied by actual *declines* in employment in the informal sector (by 84 000 and 257 000 in each year respectively). A similar pattern of employment is discernible for the whole period 2001 to 2007, with formal sector employment (excluding agriculture) increasing by 1 758 000 persons compared to a small 155 000 increase in informal sector employment (excluding agriculture). This pattern of employment is what we would expect given the high and sustained growth experienced by South Africa over this period. There would be a tendency for the sustained high levels of economic growth to attract workers from the informal sector into better paid and more secure jobs in the growing formal sector of the economy (with these workers in turn being replaced in the informal sector from the bottom up by previously marginalised and unemployed persons).

At the industry level, the biggest contributors to the increases in formal sector employment in 2007 compared to 2005 were (numbers in parentheses) Services (267 000), Trade (180 000),

Manufacturing (123 000) and Construction (101). In relative terms, the biggest changes were in (percentage changes in parentheses) Construction (17) followed by Services (14), Trade (10) and Manufacturing (9). A similar pattern is discernible for the period 2001 to 2007 as a whole, with the notable exception of employment in Mining which actually *fell* by 101 000 persons or nearly a fifth over this period (employment in the mining industry would have been even worse were it not for a bounce-back increase of 40 000 in 2006/2007).

This pattern of changes in formal sector employment at the industrial level is consistent with what we would expect given the macroeconomic environment and growth sectors of the economy in South Africa at this time. The inflation targeting framework for monetary policy had been successful in bringing down inflation to historically low levels within the 3 – 6 percent target range and this led to significant reductions in nominal interest rates. At the same time, the real value of the rand appreciated and remained relatively strong for considerable periods. These factors, in turn, led to a consumer and construction boom, as reflected in the growth and employment performance of the economy over this period. It explains the exceptional performance by the Construction and Trade sectors of the economy (which tend to move strongly counter-cyclically to changes in interest rates), as well as the relatively weaker performance by Manufacturing and especially Mining between 2001 and 2007 as the strong currency crimped manufacturing and mining exports and domestic production by the import-competing industries. The big increase in formal employment in the Services sector is also consistent with the measured shift from the informal to the formal sector of the economy alluded to above.

To sum up, despite the various data collection and other problems in estimating employment, the big increases in formal sector employment in 1995/1996, 1999/2000 and 2006/2007 are nonetheless credible given the growth performance and other changes in the macroeconomic environment in South Africa since 1994.

Since 1998, annual formal sector employment growth has averaged 2,8 percent per annum which clearly indicates that the worsening unemployment picture over this time has little to do with the demand side of the economy and much more to do with supply side factors. Before turning to the unemployment issue, however, it is helpful to quantify the relationship between economic growth and employment growth and how this has changed over time. This is done by calculating employment coefficients in the following section.

4 Employment and economic growth

A concise measure of the relationship between employment and growth is the employment coefficient (E), defined here as the ratio of employment growth (e) to economic growth (g): $E = e/g$

E is thus a measure of the responsiveness of employment to growth or employment elasticity. From sections 2 and 3 above, it is apparent that employment growth and economic growth tend to move together over time, as one would expect. However, this relationship is not a constant. There are periods when employment growth is faster than economic growth ($E > 1$, employment is elastic) and periods when employment growth is slower (but still positive) than economic growth ($0 < E < 1$, employment is inelastic.) There are also periods when employment growth is zero or negative despite positive economic growth ($E \leq 0$, zero or negative employment elasticity). It is only this category that, strictly speaking, constitutes ‘jobless growth’. On an annual basis, since 1990 there have been five instances of such ‘jobless growth’: 1993, 1994, 1997, 1998 and 2001. (It is also possible for E to be negative over periods when, despite negative economic growth, positive employment growth is recorded. The longer the time period over which E is measured, the less likely is such an occurrence. On an annual basis, this has occurred only twice in South Africa, in 1977 and 1982.)

For the entire period, E averages roughly 0.5 suggesting that a one percentage point increase in economic growth is associated with a half a percentage point increase in employment growth. However, this sixty-year average masks considerable sub-period variations. Because of the lagged

response of employment to changes in demand and output, the employment coefficient varies considerably over the business cycle. Thus in looking for structural changes in the responsiveness of employment to economic growth within the sample period, it is necessary to use an interval long enough to smooth out such cyclical fluctuations. The average duration of the combined upswings and downswings of the business cycle in South Africa from September 1972 until August 1999 is about five and a half years (South African Reserve Bank, December 2006). Given that the latest upswing, which commenced in September 1999, has by itself already exceeded this average, it was felt appropriate to round this number up to six years. Thus, a six-year moving average was used to smooth the data (a moving average is preferable to using discrete consecutive six-year intervals as less information is lost). Figure 3 shows how the employment coefficient has changed over time accordingly.

[Insert Figure 3 about here]

For most of the 1950s up until the mid 1980s, E calculated on this six-year moving average basis was relatively stable, fluctuating in a range of roughly 0.8 to 0.4. The early 1990s heralded a precipitous decline in the employment coefficient with E recording negative values from 1992 until 1995, falling to a low of -1.7 in 1994. For the six years up until 1994, real economic growth averaged 0.5 percent per annum while average annual employment growth declined by 0.8 percent per annum. For the six years to 1994 as a whole, real gross value added increased by 2.3 percent while formal sector employment declined by 4.7 percent. Put another way, despite positive economic growth, 380 000 formal sector jobs were lost over this period. However, E turned positive again in 1996 and by 1999 had returned to its 0.5 longer-term average value where it has roughly stabilised to date (the latest available value for E being 0.8 for 2007.)

Clearly, from a longer-term perspective, the early to mid 1990s marked an exceptional period in South Africa as regards employment. It was only during this period that E turned negative, indicating that a significant number of formal sector jobs were shed while the economy was still growing (albeit sluggishly.) From Figure 2, it is evident that employment growth had started to decline about a decade earlier, after the commodity boom ended in the early 1980s. However, much of this decline coincided with a similar decline in economic growth, thus preserving the longer-term average of E at around 0.5 over this earlier period as shown in Figure 3 (the secular decline in economic growth is noticeable from the mid-1970s, thus preceding the decline in employment growth: this is because employment growth tends to lag economic growth as noted above.) To conclude this section, the structural relationship between employment and growth in South Africa as measured by the employment coefficient has been relatively stable over long periods. This stability was punctuated by a dramatic but short-lived collapse in E in the early to mid-1990s, after which the longer-term relationship between employment and growth was re-established and has remained relatively stable to date.

5 Unemployment

From the above, it is evident that both economic growth and employment rebounded strongly after a period of stagnation and decline in the 1990s. The puzzle of persistently high and even rising unemployment despite a growing economy thus cannot be explained convincingly in terms of deficient demand or a structural decline in the labour absorption capacity of the economy as measured by the employment coefficient. Both economic growth and the responsiveness of formal sector employment to such growth have returned to and even exceeded their longer-term average since the late 1990s. As indicated in the introduction, it is clearly to the supply side and sustained increases in the labour force that we must look for the main explanation of the high and rising rates of unemployment in South Africa.

[Insert Table 1 about here]

From 1995 to 2007, the working age population (WAP, age 15-65) and the labour force (LF)

grew by 48 percent and 26 percent respectively (the reason that LF increased by so much more than WAP is the large increase in the labour force participation rate over this period). Over the same period, formal sector employment grew by 32 percent. In a nutshell, it was the huge increase in the labour force that led to the increase in the narrow (broad) unemployment rate from 17 (29) to 23 (36) percent over the period. This increase in the labour force completely swamped the substantial increase in employment over this period which, if labour force growth had been more moderate, would have otherwise led to a significant decline in the unemployment rate.

From table 1, it can be seen that most of the increase in the labour force occurred from 1995 to 2000, where it grew on average by 7.1 percent per annum compared to employment growth of 1.7 percent per annum over the same period. This period saw the biggest jump in the unemployment rate, from 17 percent to 25 percent by the narrow measure. In contrast, from 2000 to 2007, the increase in the labour force fell sharply to only 0.7 percent per annum while employment growth increased to 2.8 percent per annum. Accordingly, the official unemployment rate declined from 25 to 23 percent over this latter period. Although the numbers vary to some extent depending on preferred adjustments such as the inclusion of informal employment, the precise method of calculation and the time periods chosen for comparison, the basic message and orders of magnitude remain the same: from the mid 1990s, the main reason for the persistently high and rising rates of unemployment in South Africa was the large increases in the labour force - not declining employment which in fact grew steadily, especially after 2000 (pulled up by the resurgence in economic growth over this period).

Another way to put the South African labour force/employment/unemployment picture into perspective is to compare it with the experience in other countries over roughly the same period. For example, in Australia and Canada (also mining- and commodity-based economies against whom South Africa competes internationally and is often compared), labour force versus employment growth over the period 1995 to 2004 were as follows: Australia (13 percent versus 18 percent); Canada (15 percent versus 19 percent). Thus, in both these countries over this period, employment growth exceeded (by a significant margin) the labour force growth resulting in a decline in the unemployment rates from 8.5 percent to 5.5 percent and from 9.6 percent to 7.2 percent respectively. In South Africa, employment grew by 14 percent over the same period, a similar increase to that experienced by both Australia and Canada. But in stark contrast, the labour force in South Africa increased almost twice as fast (36 percent) over this period than the otherwise respectable 14 percent increase in employment. Thus, instead of unemployment rates falling, as enjoyed in Australia and Canada, they rose sharply as shown above (IMF International Financial Statistics Yearbooks).

6 Summary and conclusion

The main contribution and findings of this paper which may be helpful to other researchers in the field are as follows:

- a) Provision of a long and reasonably consistent annual time series of total formal sector employment (including commercial agriculture and domestic workers) in South Africa for the period 1946 to 2007, as set out in Appendix A.
- b) Calculation of the employment coefficient for South Africa, indicating the marginal labour absorption capacity of a growing economy and how this has changed over time. The main measure of the employment coefficient used here was the ratio or elasticity of the six-year moving average of formal sector employment to economic growth.
- c) The employment coefficient was found to have been relatively stable over long time periods with an average value of about 0.5 (that is, on average over a six-year period, a one percentage point increase in economic growth has been associated with half a percentage point increase in formal sector employment).

- d) This stability was punctuated by a sharp decline in the early to mid-1990s when the employment coefficient, for the first time ever, turned negative thus indicating a period of 'jobless growth' and job shedding despite sluggish but positive growth. However, by the late 1990s, the employment coefficient returned to its longer-term average value of 0.5 around which it has stabilised to date.
- e) Despite a strong recovery in both growth and employment, especially since 2000, the unemployment rate in South Africa rose even further from its already high levels in the mid 1990s. From 1995 to 2007, the narrow (broad) unemployment rate rose from 17 (29) percent to 23 (36) percent.
- f) Thus, the main reason for the persistently high and rising rates of unemployment in South Africa over this period was the very large increase in the labour force and not a deficient growth or employment performance of the economy. From 1995 to 2007, formal sector employment grew by 32 percent but this was completely submerged by an increase in the labour force of 48 percent.
- g) Most of the increase in the labour force over this period took place between 1995 and 2000. Since 2000, labour force growth has slowed sharply and the unemployment rate has gradually started to decline, responding to the strong increases in economic growth and employment. If labour force growth continues to moderate, there is good reason to expect further declines in South Africa's still high rates of unemployment. Economic growth, while subdued at present, is expected to resume strongly in response to greatly increased investment spending, by both the public and private sectors, to expand and maintain the country's infrastructure. As suggested by the employment coefficient, employment should respond accordingly.

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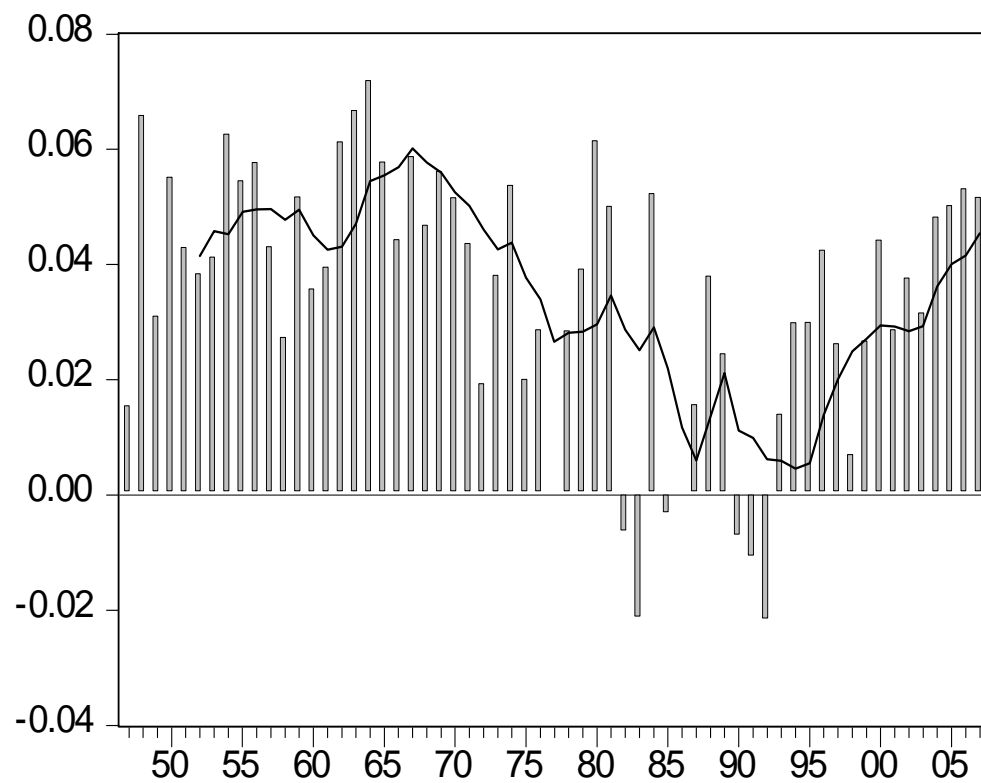


Figure 1: Annual and six-year moving average growth in real gross value added in South Africa, 1947-2007

Sources: see Appendix A.



Figure 2: Annual and six-year moving average growth in formal sector employment in South Africa, 1947-2007

Sources: see Appendix A.



Figure 3: Six-year moving average of the employment coefficient in South Africa, 1947-2007

Sources: see Appendix A.

| YEAR | LABOUR FORCE ('000) | WORKING AGE POPULATION ('000) | EMPLOYMENT ('000) | EMPLOYMENT GROWTH (% p.a.) | LABOUR FORCE GROWTH (% p.a.) | UNEMPLOYMENT RATE NARROW (BROAD) (%) |
|------|---------------------|-------------------------------|-------------------|----------------------------|------------------------------|--------------------------------------|
| 1995 | 11 628 | 24 232 | 8 069 | | | 17.0 (29.0) |
| 2000 | 16 400 | 27 807 | 8 790 | 1.7 (95-2000) | 7.1 | 25.4 (34.3) |
| 2005 | 16 788 | 29 697 | 9 425 | | | 26.7 (40.5) |
| 2007 | 17 178 | 30 413 | 10 658 | 2.8 (2000-07) | 0.7 | 23.0 (35.8) |

Table 1: Labour force, employment and unemployment in South Africa, 1995-2007

Source: October Household Survey 1996; Labour Force Survey (September 2007 and March 2005)

APPENDIX A

Annual Formal Sector Employment and Real Gross Value Added Growth Series,

1946-2007

| YEAR | EMPLOYMENT LEVEL | EMPLOYMENT CHANGE (%) | GROWTH (RGVA) |
|------|---------------------|--------------------------|------------------|
| 1946 | 3398600. | | |
| 1947 | 3496200. | 2.9 | 1.5 |
| 1948 | 3599900. | 3.0 | 6.6 |
| 1949 | 3711100. | 3.1 | 3.1 |
| 1950 | 3789600. | 2.1 | 5.5 |
| 1951 | 3881000. | 2.4 | 4.3 |
| 1952 | 4012900. | 3.4 | 3.8 |
| 1953 | 4106100. | 2.3 | 4.1 |
| 1954 | 4228600. | 3.0 | 6.3 |
| 1955 | 4366300. | 3.3 | 5.5 |
| 1956 | 4441800. | 1.7 | 5.8 |
| 1957 | 4473700. | 0.7 | 4.3 |
| 1958 | 4577400. | 2.3 | 2.7 |
| 1959 | 4712700. | 3.0 | 5.2 |
| 1960 | 4651700. | -1.3 | 3.6 |
| 1961 | 4852200. | 4.3 | 4.0 |
| 1962 | 4960700. | 2.2 | 6.1 |
| 1963 | 5011500. | 1.0 | 6.7 |
| 1964 | 5190200. | 3.6 | 7.2 |
| 1965 | 5439800. | 4.8 | 5.8 |
| 1966 | 5607700. | 3.1 | 4.4 |
| 1967 | 5723900. | 2.1 | 5.9 |
| 1968 | 5844700. | 2.1 | 4.7 |
| 1969 | 6023000. | 3.1 | 5.6 |
| 1970 | 6164100. | 2.3 | 5.2 |
| 1971 | 6268700. | 1.7 | 4.4 |
| 1972 | 6326300. | 0.9 | 1.9 |
| 1973 | 6596900. | 4.3 | 3.8 |
| 1974 | 6809300. | 3.2 | 5.4 |
| 1975 | 6941900. | 1.9 | 2.0 |
| 1976 | 7077900. | 2.0 | 2.9 |
| 1977 | 7145400. | 1.0 | 0.0 |
| 1978 | 7175700. | 0.4 | 2.9 |
| 1979 | 7297600. | 1.7 | 3.9 |
| 1980 | 7560400. | 3.6 | 6.1 |
| 1981 | 7761900. | 2.7 | 5.0 |
| 1982 | 7894700. | 1.7 | -0.7 |
| 1983 | 7843500. | -0.6 | -2.2 |
| 1984 | 7905900. | 0.8 | 5.2 |
| 1985 | 7842700. | -0.8 | -0.4 |
| 1986 | 7925000. | 1.0 | 0.0 |
| 1987 | 8017000. | 1.2 | 1.6 |
| 1988 | 8082000. | 0.8 | 3.8 |
| 1989 | 8157000. | 0.9 | 2.5 |
| 1990 | 8135000. | -0.3 | -0.8 |

| | | | |
|------|----------|------|------|
| 1991 | 7988000. | -1.8 | -1.1 |
| 1992 | 7866000. | -1.5 | -2.2 |
| 1993 | 7758000. | -1.4 | 1.4 |
| 1994 | 7702000. | -0.7 | 3.0 |
| 1995 | 8069000. | 3.8 | 3.0 |
| 1996 | 8291000. | 3.7 | 4.2 |
| 1997 | 8111000. | -2.2 | 2.6 |
| 1998 | 8074000. | -0.5 | 0.7 |
| 1999 | 8462000. | 4.8 | 2.7 |
| 2000 | 8790000. | 3.9 | 4.4 |
| 2001 | 8674000. | -1.3 | 2.9 |
| 2002 | 8878000. | 2.4 | 3.8 |
| 2003 | 9101000. | 2.5 | 3.2 |
| 2004 | 9199000. | 1.1 | 4.8 |
| 2005 | 9425000. | 2.5 | 5.0 |
| 2006 | 9876000. | 4.8 | 5.3 |
| 2007 | 10658000 | 7.9 | 5.2 |

Sources: Employment: Central Statistical Services, *South African Labour Statistics* (1990-1995); Statistics South Africa, *October Household Survey* (Statistical release P0317), 1995-1999; Statistics South Africa, *Labour Force Survey* (Statistical release P0210), 2000-2007.

Economic growth (real gross value added): South African Reserve Bank, *Quarterly Bulletin*, 1946-2008 (various issues), SARB: Pretoria.

TABLES & FIGURES

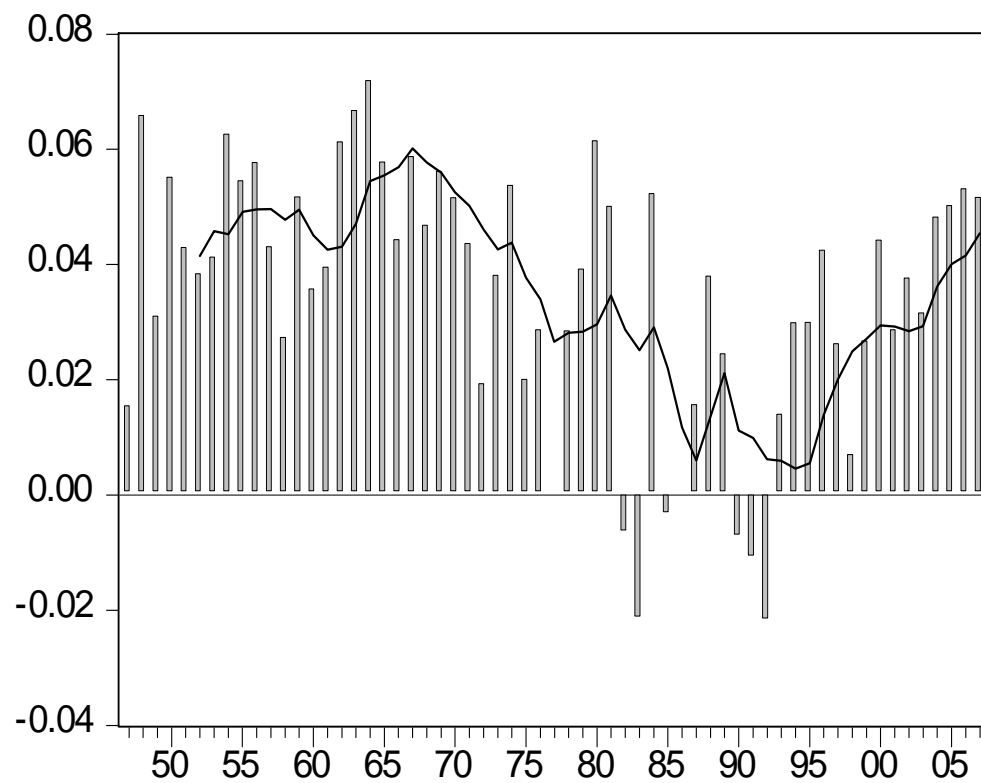


Figure 1: Annual and six-year moving average growth in real gross value added in South Africa, 1947-2007

Sources: see Appendix A.

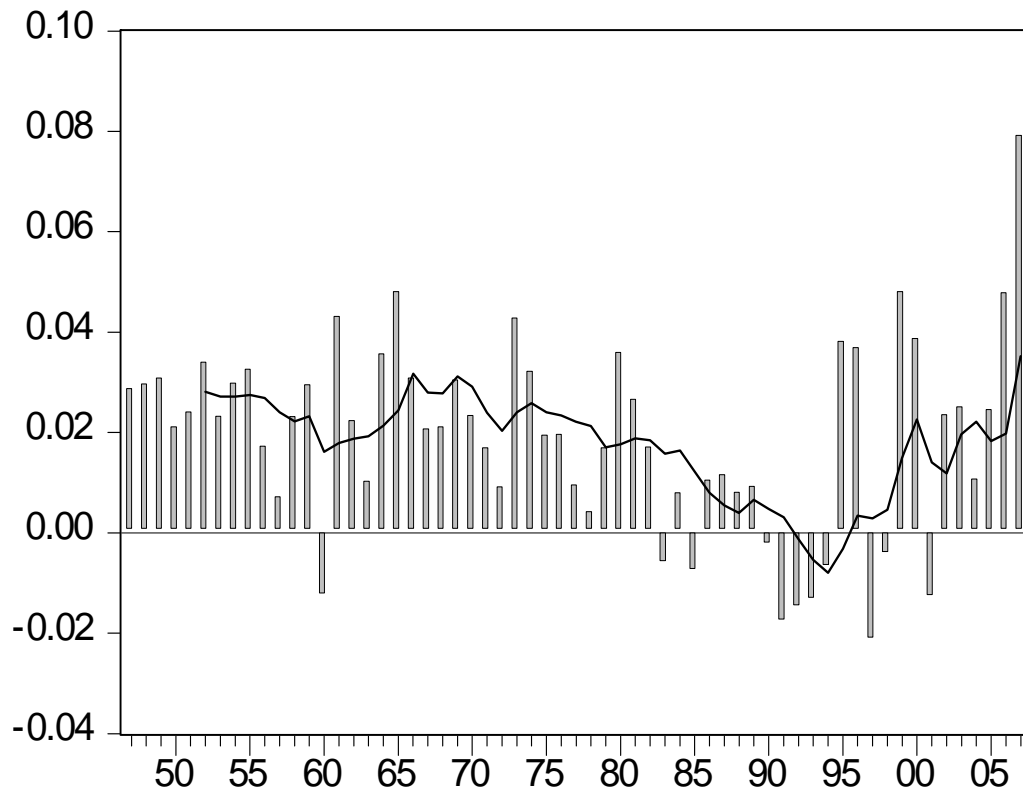


Figure 2: Annual and six-year moving average growth in formal sector employment in South Africa, 1947-2007

Sources: see Appendix A.



Figure 3: Six-year moving average of the employment coefficient in South Africa, 1947-2007

Sources: see Appendix A.

| YEAR | LABOUR FORCE ('000) | WORKING AGE POPULATION ('000) | EMPLOYMENT ('000) | EMPLOYMENT GROWTH (% p.a.) | LABOUR FORCE GROWTH (% p.a.) | UNEMPLOYMENT RATE NARROW (BROAD) (%) |
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| 2007 | 17 178 | 30 413 | 10 658 | 2.8 (2000-07) | 0.7 | 23.0 (35.8) |

Table 1: Labour force, employment and unemployment in South Africa, 1995-2007

Source: October Household Survey 1996; Labour Force Survey (September 2007 and March 2005)

APPENDIX A

Annual Formal Sector Employment and Real Gross Value Added Growth Series,

1946-2007

| YEAR | EMPLOYMENT LEVEL | EMPLOYMENT CHANGE (%) | GROWTH (RGVA) |
|------|---------------------|--------------------------|------------------|
| 1946 | 3398600. | | |
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| 1957 | 4473700. | 0.7 | 4.3 |
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| 1959 | 4712700. | 3.0 | 5.2 |
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| 1961 | 4852200. | 4.3 | 4.0 |
| 1962 | 4960700. | 2.2 | 6.1 |
| 1963 | 5011500. | 1.0 | 6.7 |
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| 1967 | 5723900. | 2.1 | 5.9 |
| 1968 | 5844700. | 2.1 | 4.7 |
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| 1970 | 6164100. | 2.3 | 5.2 |
| 1971 | 6268700. | 1.7 | 4.4 |
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| 1975 | 6941900. | 1.9 | 2.0 |
| 1976 | 7077900. | 2.0 | 2.9 |
| 1977 | 7145400. | 1.0 | 0.0 |
| 1978 | 7175700. | 0.4 | 2.9 |
| 1979 | 7297600. | 1.7 | 3.9 |
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| 1982 | 7894700. | 1.7 | -0.7 |
| 1983 | 7843500. | -0.6 | -2.2 |
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| 1986 | 7925000. | 1.0 | 0.0 |
| 1987 | 8017000. | 1.2 | 1.6 |
| 1988 | 8082000. | 0.8 | 3.8 |
| 1989 | 8157000. | 0.9 | 2.5 |
| 1990 | 8135000. | -0.3 | -0.8 |

| | | | |
|------|----------|------|------|
| 1991 | 7988000. | -1.8 | -1.1 |
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| 1993 | 7758000. | -1.4 | 1.4 |
| 1994 | 7702000. | -0.7 | 3.0 |
| 1995 | 8069000. | 3.8 | 3.0 |
| 1996 | 8291000. | 3.7 | 4.2 |
| 1997 | 8111000. | -2.2 | 2.6 |
| 1998 | 8074000. | -0.5 | 0.7 |
| 1999 | 8462000. | 4.8 | 2.7 |
| 2000 | 8790000. | 3.9 | 4.4 |
| 2001 | 8674000. | -1.3 | 2.9 |
| 2002 | 8878000. | 2.4 | 3.8 |
| 2003 | 9101000. | 2.5 | 3.2 |
| 2004 | 9199000. | 1.1 | 4.8 |
| 2005 | 9425000. | 2.5 | 5.0 |
| 2006 | 9876000. | 4.8 | 5.3 |
| 2007 | 10658000 | 7.9 | 5.2 |

Sources: Employment: Central Statistical Services, *South African Labour Statistics* (1990-1995); Statistics South Africa, *October Household Survey* (Statistical release P0317), 1995-1999; Statistics South Africa, *Labour Force Survey* (Statistical release P0210), 2000-2007.

Economic growth (real gross value added): South African Reserve Bank, *Quarterly Bulletin*, 1946-2008 (various issues), SARB: Pretoria.