

The Post-Apartheid South African Labour Market

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Abstract

Since the demise of apartheid, the South African economy has undergone significant changes with the government implementing various policies aimed at redressing the injustices of the past, fleshing out the welfare system and improving competitiveness as the country becomes increasingly integrated into the global economy. These policies have, directly or indirectly, impacted on the labour market and, consequently, on the lives of millions of South Africans.

This paper provides an analysis of some of the important changes that have occurred in the South African labour market since 1994. The paper presents the broad changes in employment, unemployment and labour force participation, finding substantial increases in unemployment and labour force participation rates for all race and gender groups. Employment performance is investigated in the context of economic growth and it is shown that recent economic growth cannot accurately be termed 'jobless growth', particularly given doubts about the consistency of the datasets. Employment change is also analysed by sector, occupation and skill category, as well as by various demographic and locational variables. The characteristics of the unemployed are presented, as are those of households in which the unemployed locate themselves. An important finding here is the rapid increase in the number of unemployed individuals with relatively high levels of education (e.g. complete secondary and tertiary education). Furthermore, unemployed individuals appear to be increasingly marginalised in households with no wage or salary earners, raising the demands placed on elderly household members' state old age pensions and other grants. The paper ends with a brief discussion of the group of individuals referred to as 'discouraged work-seekers', namely those individuals who are unemployed according to the expanded definition of unemployment, but who are defined as outside the labour force by the official definition.

Acknowledgements

This paper was produced under the auspices of the Strategies and Analysis for Growth and Access (SAGA) and Cornell University. We would like to thank Ravi Kanbur and Stephen Younger for their valued comments. We would also like to thank the Secretariat for Institutional Support through Economic Research in Africa (SISERA) for their contribution.

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1. Introduction

Since 1994, the South African economy has undergone significant changes with the government implementing various policies aimed at redressing the injustices of the past, fleshing out the welfare system and improving competitiveness as South Africa becomes increasingly integrated into the global economy. These policies have, directly or indirectly, impacted on the labour market and, consequently, on the lives of millions of South Africans.

The chief objective of this paper is the analysis of some of the changes in the South African labour market in the post-apartheid era. The period, between 1995 and 2002, began with much promise and many challenges as the economy liberalised and normal trade relations were resumed with the rest of the world. Soon after the African National Congress came into power, the macro-economic strategy named “Growth, Employment and Redistribution” (or GEAR) was unveiled in 1996. This strategy predicted, amongst other things, employment growth averaging 270 000 jobs per annum from 1996 to 2000, with the number of new jobs created rising over time from 126 000 in 1996 to 409 000 in 2000 (GEAR 1996). Unfortunately, for a variety of reasons, these projections were not realised. In fact, in terms of the labour market, the experience of the second half of the 1990s appears to have fallen short of even the baseline scenario contained in the GEAR document, which projected a net increase in (non-agricultural formal) employment of slightly more than 100 000 jobs per annum.

Consequently, the performance of the labour market and the various policies that impact on this critical factor market have come under increasing scrutiny. At the same time, there is a certain degree of confusion as to the actual performance of the labour market since 1994/5. This is due largely to the flaws that exist in the period’s early surveys and the consequent refinement and improvement of the questionnaires. Furthermore, different groups of surveys estimate different employment numbers for the same period, due to differences in their design.

In this paper, developments in the South African labour market over the period 1995 to 2002 are analysed. Section looks at the labour force, quantifying employment, unemployment and thereby the labour force, and investigates some of the changes in the labour force participation rates of various groups. In section, employment is analysed, with reference specifically to sector, occupation, skills and education, and location. Section focuses on the characteristics of the unemployed, as well as the households in which they find themselves, while section investigates some contrasting characteristics of the employed and unemployed that did not necessarily emerge clearly from the previous two sections. Finally, a brief initial look at the group of individuals who have given up looking for employment, termed ‘discouraged work-seekers’, is provided in section.

2. The South African Labour Force

2.1 The Data

Before proceeding with the analysis, it is worthwhile to speak briefly about the data used in this study. Two main data sources were utilised in this study, namely the October Household Survey (OHS) and the Labour Force Survey (LFS). Both groups of surveys are nationally representative household surveys conducted by Statistics South Africa. The surveys are weighted, or have been re-weighted, using the 1996 Census weights. The OHSs were conducted on an annual basis between 1994 and 1999, while the LFSs are biannual surveys, the first usable round of which was conducted in September 2000.¹ In Table 1, a brief description of the main datasets used is presented.

Table 1: The Datasets

	<i>OHS</i> <i>1995</i>	<i>LFS</i> <i>2000:2</i>	<i>LFS</i> <i>2001:1</i>	<i>LFS</i> <i>2001:2</i>	<i>LFS</i> <i>2002:1</i>	<i>LFS</i> <i>2002:2</i>
Unweighted						
- Households	29 583	26 648	28 170	27 355	29 011	26 474
- Individuals	126 283	105 371	107 726	106 434	109 410	102 480
Weighted						
- Households ('000s)	9 472	10 943	11 102	10 899	- ¹	10 853
- Individuals ('000s)	38 205	44 043	44 365	44 665	45 080	45 624

Source: OHS 1995, LFS 2000:1 – LFS 2002:2 (Statistics SA)

Notes: 1. The LFS 2002:1 (February 2002) does not include a complete set of household weights and the weighted number of households can consequently not be determined.

The OHS 1995 is the largest of the surveys, covering nearly 30 000 households and more than 126 000 individuals. The LFSs are slightly smaller in terms of household coverage, although cover 13 percent-19 percent fewer individuals than the OHS of 1995. These figures, once weighted up, translate to population estimates rising from 38.2 million in 1995 to 45.6 million in late 2002. The total number of households is estimated by the LFSs to be around 11 million, up from around 9.5 million in 1995. Although the latest LFS of March 2003 has recently been made available, its release came too late for inclusion in this study.

¹ The first LFS was actually conducted in February 2000 but, since it was a pilot survey covering a relatively small number of households, it will not be utilised in this paper.

2.2 Employment And Unemployment Trends

In 1995, 24.2 million South Africans, representing 61.2 percent of the total population, were between the ages of 15 and 65 years and thus eligible to form part of the labour force (see Table 2). By 2002, this had risen to 28.0 million (61.5 percent of the population). During the period between 1995 and 2002, total employment in South Africa expanded from 9.5 million to just over 11 million, an increase of around 16 percent and equivalent to a growth rate of 2.1 percent per annum.

Table 2 : The South African Labour Force, 1995 and 2002

	1995	2002	Total Change	
			Number	Percentage
15-65 year olds ('000s)	24 231	27 984	3 753	15.5
Employed ('000s)	9 515	11 029	1 514	15.9
Narrow Unemployed ('000s)	2 032	4 837	2 806	138.1
Broad Unemployed ('000s)	4 239	7 925	3 686	87.0
Narrow Labour Force ('000s)	11 547	15 866	4 320	37.4
Broad Labour Force ('000s)	13 754	18 954	5 200	37.8

Source: OHS 1995, LFS 2002:2 (Statistics SA)

The number of broadly unemployed individuals increased by 87.0 percent between 1995 and 2002, from 4.2 million to 7.9 million.² Over the same period, narrow unemployment more than doubled from 2.0 million to 4.8 million, representing a 138.1 percent increase in their numbers. The narrow and the broad labour forces have grown by around 37.5 percent over the period, or around 4.7 percent per annum, to 15.9 million and 19.0 million respectively in 2002.

The combination of these two trends – slow employment growth relative to labour force growth – has resulted in both the official and broadly defined unemployment rates rising between 1995 and 2002. The official unemployment rate has risen from 17.6 percent to 30.5 percent, while broad unemployment has increased from 30.8 percent of the labour force to 41.8 percent. Both of these increases in the unemployment rate, as indicated in greater detail in section , are highly statistically significant. At the outset, therefore, it is clear that the South African economy faces an important challenge in terms of job creation. The labour force, however it is defined, has been growing at a rapid pace that will see it double every 16 years or so. At the same time, employment growth has been subdued at around 2.1 percent per annum. This gap between employment growth and labour force growth has resulted in rapidly rising numbers of unemployed individuals. What is important to note is that employment

2 This paper uses two standard definitions of unemployment, namely the narrow definition of unemployment (used as the official definition in South Africa by government) and the broad definition of unemployment. Individuals are narrowly unemployed if they "(a) did not work during the seven days prior to the interview, (b) want to work and are available to start work within a week of the interview, and (c) have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview" (Statistics SA *Statistical Release P0210 2002: xv*). The expanded (or broad) definition of unemployment does not include criterion (c).

growth has managed to keep up with the growth of the 15-65 year age-group, and the unemployment problem can therefore, in part, be linked to increased labour force participation.

The composition of the broadly defined labour force is presented in Table 3.³ As mentioned above, the broad South African labour force grew by some 5.2 million individuals between 1995 and 2002. The labour force is dominated by African individuals (more than 70 percent), with Whites accounting for around 12 percent in 2002, down from 14.4 percent in 1995. Their dominance within the labour force and faster rate of entry into the labour force means that Africans account for about 85 percent of the increase in the size of the labour force over the period. By 2002, the labour force was almost evenly split between males and females (50.7 percent vs. 49.3 percent). This marks a continuation of the trend of labour force feminisation identified by Casale and Posel (2002: 164), who estimated the 1999 female share of the broad labour force at 48.2 percent based on OHS 1999. This rise in the female share of the labour force is due to a very rapid rise in the female labour force participation rate and means that females account for more than 61 percent of the net increase in the labour force. This pattern is in evidence within all race groups.

3 Although the narrow definition of unemployment is the official definition, there is a strong argument that in developing countries such as South Africa it is more appropriate to use the expanded definition of unemployment. Thus, although details of narrow unemployment are provided, most of the analysis that follows will use the expanded definition.

Table 3 : Snapshot of the South African Labour Force (Broadly Defined), 1995 and 2002

		1995		2002		Change	
		'000s	Share	'000s	Share	'000s	Share
TOTAL		13754	100.0	18912	100.0	5158	100.0
By Race...	African	9875	71.8	14271	75.5	4396	85.2
	Coloured	1485	10.8	1837	9.7	352	6.8
	Asian	417	3.0	572	3.0	156	3.0
	White	1976	14.4	2231	11.8	254	4.9
By Gender...	Male	7598	55.2	9587	50.7	1989	38.6
	Female	6155	44.8	9325	49.3	3169	61.4
By Age...	15-24 years	2403	17.5	3704	19.6	1301	25.2
	25-34 years	4977	36.2	6523	34.5	1545	30.0
	35-44 years	3670	26.7	4900	25.9	1231	23.9
	45-54 years	1941	14.1	2798	14.8	857	16.6
	55-65 years	762	5.5	991	5.2	229	4.4
By Education Level...	No education	1182	8.6	1138	6.0	-43	-0.8
	Incomplete Primary	2441	17.8	3070	16.2	628	12.2
	Complete Primary	1017	7.4	1378	7.3	361	7.0
	Incomplete Secondary	4573	33.2	6471	34.2	1898	36.8
	Complete Secondary	2873	20.9	4562	24.1	1689	32.7
	Tertiary	1430	10.4	1962	10.4	532	10.3
	Other/Unknown	237	1.7	335	1.8	98	1.9
By Location ...	Urban	8734	63.5	11820	62.5	3085	59.8
	Rural	5020	36.5	7134	37.7	2115	41.0

Source: OHS 1995, LFS 2002 (Statistics SA)

About three in five labour force members are between the ages of 25 and 44, with the proportion in 2002 slightly lower than that of 1995. This change is due to increases in the proportions of workers in the 15-24 year and 45-54 year age-groups. Most of the growth in the labour force (around 55 percent) was located in the two youngest age-groups.

It appears that the South African labour force is slowly becoming more educated on average. The proportion of individuals with completed secondary education rose from 20.9 percent in 1995 to 24.2 percent in 2002, while completely uneducated individuals now account for only 6.0 percent of the labour force, compared to 8.6 percent in 1995. However, the increase in the number of tertiary educated labour force members has barely kept pace with the rate of total

labour force growth, while 19 percent of the net increase in the labour force is comprised of individuals with complete or incomplete primary education. Those with incomplete and complete secondary education accounted for almost 70 percent of the growth in the labour force.

The bulk of the labour force is located in urban areas, with less than 38 percent in rural areas in 2002. However, the proportion in rural areas increased slightly between the two surveys, with rural areas accounting for 41 percent of the growth in the labour force. What makes this interesting is that the rural labour force grew more rapidly over the period despite the continuing urbanisation of rural jobseekers. This phenomenon is likely to be linked to the increased labour force participation of females identified by Casale and Posel (2002). In fact, rural African females account for almost one-quarter of the increase in the labour force between 1995 and 2002, although it is impossible to determine this group's full contribution due to migration to urban areas.

In summary, therefore, the surveys indicate that growth in the labour force during the post-*apartheid* era can be broadly ascribed to predominantly African new job-seekers who are increasingly female, living in urban areas with some level of secondary education (either incomplete or matric) and, in the main, under the age of 35 years.

The trends presented above are not independent of race and therefore sometimes very different patterns can be observed within race groups. Table 4 presents the age and education breakdowns for African and White individuals.⁴ The gender breakdowns for the four race groups are very similar with females accounting for around 61 percent of the growth in the labour force, and are therefore not included here.

Population growth rate differences amongst the race groups have resulted in marked differences in the age structure of the labour force and in the contribution of different age-groups to labour force growth. The bulk of the African and White labour force is between the ages of 25 and 44 years. The major difference between these two groups lies in the age-groups responsible for labour force growth. Amongst Africans, nearly one-third of labour force growth occurred in the 25-34 year age-group, with a further 28.9 percent and 22.0 percent occurring in the 15-24 year and 35-44 year age-groups. The three youngest age-groups therefore account for over 82 percent of African labour force growth. In contrast, the bulk of net White labour force growth occurred in the three oldest age-groups: 40.9 percent was in the 45-54 year age-group, 31.5 percent in the 35-44 year age-group and 27.0 percent in the 55-65 year age-group. Together, the increase in the size of these three age-groups is almost exactly equal to the total growth in the White labour force, even though growth of the labour force amongst 25-34 year olds was equivalent to 14.6 percent of the net increase. However, this growth was negated by the fact that amongst 15-24 year olds, the White labour force shrank. This could be partly due to the declining birth rate amongst Whites and partly due to young individuals continuing with their education longer than in 1995.

4 The full table for African, Coloured, Asian and White individuals and including the gender breakdown can be found in Appendix A.

Table 4: Snapshot of the SA Labour Force (Broadly Defined) by Race, 1995 and 2002

		1995		2002		Change	
		'000s	Share of Race Total	'000s	Share of Race Total	'000s	Share of Race Total
<i>By Race and Age-group...</i>							
African	15-24 years	1628	16.5	2898	20.3	1270	28.9
	25-34 years	3728	37.8	5115	35.8	1387	31.6
	35-44 years	2678	27.1	3647	25.6	969	22.0
	45-54 years	1317	13.3	1950	13.7	633	14.4
	55-65 years	524	5.3	664	4.6	140	3.2
White	15-24 years	312	15.8	276	12.4	-36	-14.1
	25-34 years	576	29.2	614	27.5	37	14.6
	35-44 years	541	27.4	621	27.8	80	31.5
	45-54 years	388	19.6	492	22.1	104	40.9
	55-65 years	159	8.0	227	10.2	69	27.0
<i>By Race and Education...</i>							
African	No education	1087	11.0	1060	7.4	-27	-0.6
	Incomplete Primary	2133	21.6	2778	19.5	645	14.7
	Complete Primary	844	8.5	1192	8.4	348	7.9
	Incomplete Secondary	3375	34.2	5177	36.3	1803	41.0
	Complete Secondary	1574	15.9	2888	20.2	1314	29.9
	Tertiary	682	6.9	973	6.8	291	6.6
	Other/Unknown	179	1.8	206	1.4	27	0.6
White	No education	1	0.0	2	0.1	1	0.4
	Incomplete Primary	7	0.3	6	0.3	-1	-0.3
	Complete Primary	1	0.1	9	0.4	8	3.0
	Incomplete Secondary	423	21.4	374	16.8	-50	-19.5
	Complete Secondary	900	45.6	981	44.0	80	31.6
	Tertiary	599	30.3	792	35.5	193	75.8
	Other/Unknown	45	2.3	67	3.0	23	8.9

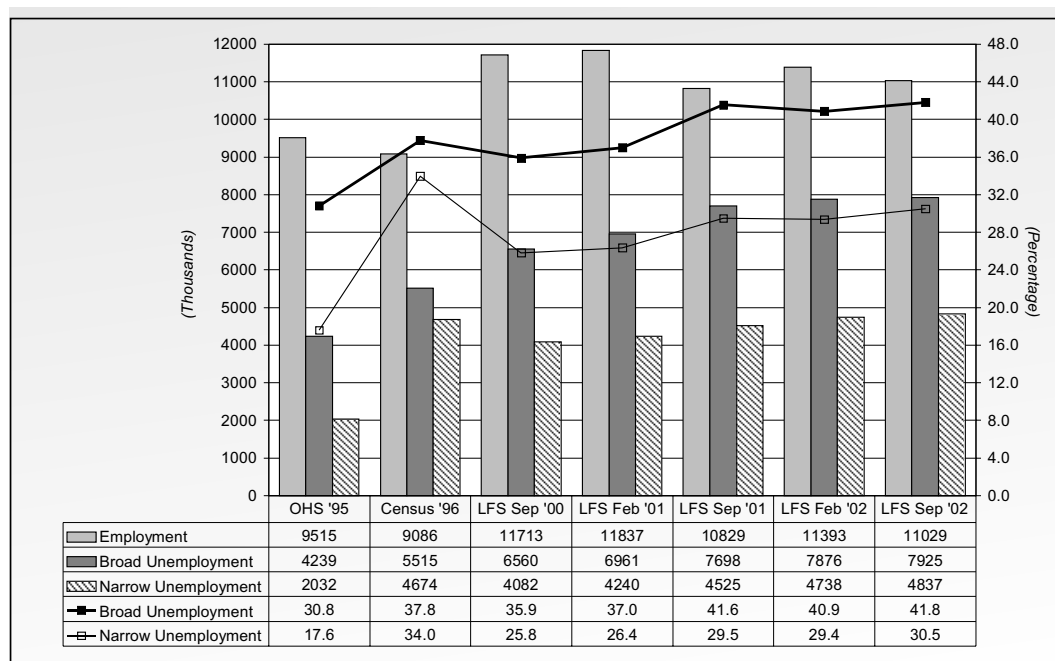
Source: OHS 1995, LFS 2002 (Statistics SA)

The validity of the latter possibility is confirmed by the fact that tertiary educated individuals accounted for more than three-quarters of net White labour force growth over the period, with those with completed secondary education accounting for nearly one-third. This was balanced out by a decline in the number of White labour force participants with incomplete secondary education. This meant that by 2002, almost 80 percent of the White labour force could boast either complete secondary (44.0 percent) or tertiary (35.5 percent) education. African labour force growth, in contrast, derived largely from the rapid increase in the number of African labour force participants with incomplete and complete secondary education (with growth rates of 41.0 percent and 29.9 percent respectively). Only about 27 percent of African labour force participants had completed secondary or tertiary education, with the proportion of tertiary educated individuals falling slightly to 6.8 percent of the African labour force.

By definition, labour force growth translates into a combination of two phenomena, namely increased absolute employment and/or increased absolute unemployment. While employment has expanded, it has not been able to keep pace with labour force growth, meaning that the increase in the labour force has largely translated into increasing unemployment. Less than three-tenths of the net increase in the broad labour force represents expanded employment, while for the narrow labour force the proportion is around one-third. As a consequence, both broad and narrow unemployment rates have increased since 1995 (see Figure 1). Broad unemployment has risen to 41.8 percent of the labour force in 2002, from 30.8 percent seven years earlier, while the narrow unemployment rate increased from 17.6 percent to 30.5 percent. These unemployment trends are confirmed in

all five of the LFSs presented in the figure. Estimates of total employment of individuals between the ages of 15 and 65 years fluctuate within a narrow band of around 10.8 million to 11.8 million jobs. Once agriculture (commercial, subsistence and small-scale), the informal sector and domestic workers are excluded, this variability becomes less pronounced (Statistics SA *Statistical Release P0210 2003a: iv*).

Figure 1 : Employment and Unemployment, 1995-2002



Source: OHS 1995, Census 1996 10 percent Sample, LFS 2000-2002 (Statistics SA)

While the 1996 Census estimate for broad unemployment seems to be in line with the trend formed by the estimates from the rest of the surveys, the former's estimate of both employment and narrow unemployment seems to be inaccurate. This problem relates to Census' main purpose of quantifying the national population and collecting basic information over a wide range of areas, as opposed to the OHSs and LFSs where the measurement of employment is one of the main objectives. Muller (2003: 2) refers to the fact that "[only] a few questions on labour force participation are asked, and as a result the measurement of employment status is likely to be crude". Consequently, the deviations of the Census 1996 estimates from the observed trend are highly unlikely to be accurate.

This inability of the economy to create jobs at the same pace at which the labour force has been growing is clearly illustrated in Table 5. The table compares employment, broad and narrow unemployment and the total labour force over the seven years between 1995 and 2002. Growth in unemployment over the period has been rapid, with the rates of broad and narrow unemployment growth exceeding that of employment growth by factors of 5.5 and 8.7 respectively, albeit from a relatively smaller base.

Table 5: Employment and Labour Force Growth, 1995-2002

Category	1995 (Oct) ('000s)	2002 (Sep) ('000s)	Change		Target Growth Rate	Employment Absorption Rate
			Absolute ('000s)	Percent		
<i>Broad Definition Estimates</i>						
Employment	9 515	11 029	1 514	15.9	54.6	29.1
Unemployment (broad)	4 239	7 925	3 686	87.0		
Labour Force	13 754	18 954	5 200	37.8		
<i>Official Definition Estimates</i>						
Employment	9 515	11 029	1 514	15.9	45.4	35.0
Unemployment (narrow)	2 032	4 837	2 806	138.1		
Labour Force	11 547	15 866	4 320	37.4		

Source: OHS 1995, LFS 2002:2 (Statistics SA)

The table also presents the target growth rate of employment and the employment absorption rate for the period. The target growth rate (TGR) indicates how fast employment would have had to expand in order to provide jobs for all net entrants to the labour market over the period (say between time t and $t + 1$), and is defined as follows:

$$TGR_k = \frac{EAP_{k,t+1} - EAP_{k,t}}{L_{k,t}}$$

where EAP_k refers to the economically active population of group k , defined by any given covariate, and L_k is the number of employed group k individuals (Bhorat 2003: 11). Note that because this target growth rate captures the growth required to provide employment to only the new entrants since 1995, it is essentially the rate of growth required to absorb all net entrants, independent of the unemployment numbers existent in the base year (1995). Employment growth at the target rate would serve to reduce the relevant group's overall unemployment rate. The employment absorption rate (EAR) is the ratio between actual employment growth and the desired or target rate, expressed as a percentage:

$$EAR_k = \frac{\frac{L_{k,t+1} - L_{k,t}}{L_{k,t}}}{\frac{EAP_{k,t+1} - EAP_{k,t}}{L_{k,t}}} = \frac{L_{k,t+1} - L_{k,t}}{EAP_{k,t+1} - EAP_{k,t}}$$

The closer the employment absorption rate is to 100, the better the actual relative to the desired employment performance.

It can be seen from Table 5 that if all net entrants to the labour force between 1995 and 2002 were to have found work, employment would have had to increase by more than half, using the broad definition of unemployment. Using the official definition, employment would have had to grow by more than 41 percent. In reality, however, actual employment grew at less than one-third of the rate required, based on the broad definition, and using the official definition of unemployment, the EAR was only 40.4. These figures call into question the notion of jobless growth since they indicate that employment has increased and, by extension, more jobs were created over the period than lost.

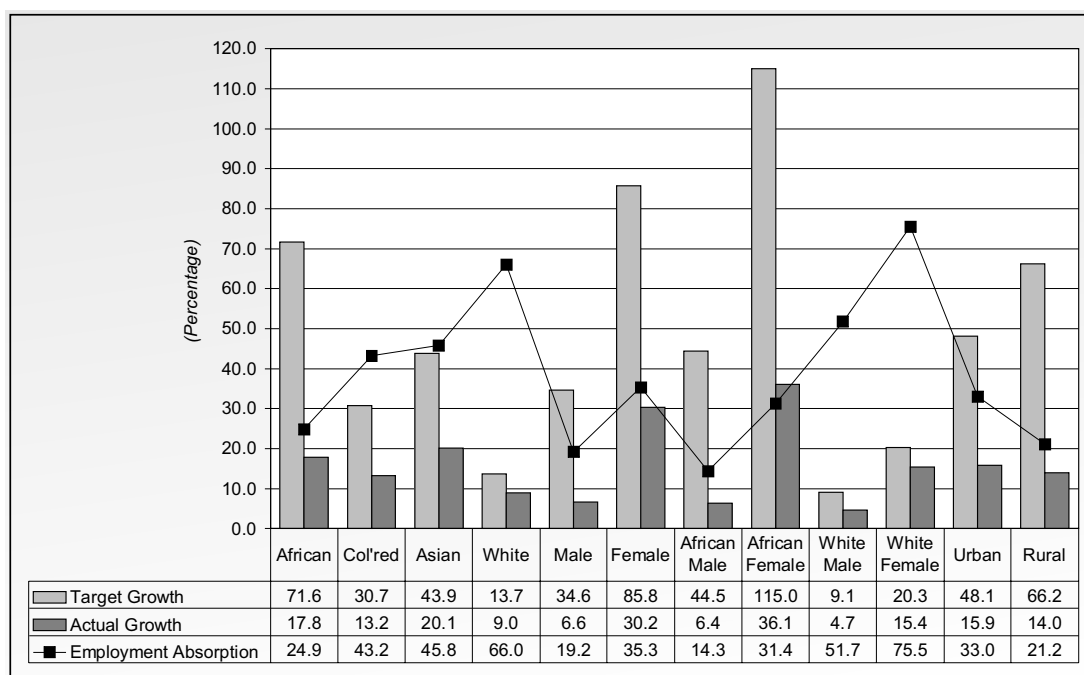
However, this aggregated view obscures the varied experiences of groups defined according to race, gender and other covariates. In Figure 2, the target and actual rates of employment growth, and the resultant employment absorption rates, for groups defined by race, gender and province are presented. Unsurprisingly, the target growth rates for non-White workers are relatively high, at 30.7 percent for Coloureds, 43.9 percent for Asians and a staggering 71.6 percent for African individuals. This translates to an annual growth rate target of between 3.9 percent and 8.0 percent. The target growth rate for White workers is significantly lower at under 14 percent. These differences may be traced to demographic differences, specifically the relatively low birth rate amongst Whites compared to the other race groups during the 1980s, as well as changed labour force participation rates. Actual employment growth has been higher amongst Africans and Asians. However, the interaction between target and actual employment growth means that employment absorption has been significantly higher for White individuals at 66 percent. The EARs for Africans, Coloureds and Asians are 25 percent, 43 percent and 45 percent respectively. Thus, for example, actual employment of Africans has grown at around one-quarter of the target rate. Simply stated, Whites are reaping more of the benefits in the post-*apartheid* era in terms of employment growth than any other group, while African job-seekers seem, still, to be marginalised in this respect.

The seven years up to the end of 2002 has seen a large increase in the number of female labour market participants in South Africa. As a result, the target growth rate to ensure that all female net entrants are employed is more than 85 percent, or more than 9 percent annually. In contrast, the target growth rate for male workers is only 35 percent. Employment of women has increased more rapidly than that of men, with the former increasing by 30 percent over the period. As a result, employment absorption has been almost twice as high amongst women, at 35 percent, reflecting the increased feminisation of the South African workforce. However, the relatively high rate of employment absorption amongst females obscures marked racial differences. A comparison of employment absorption amongst African and

White males and females reveals a substantial gap in the employment absorption rates between African females and White females (31.4 percent vs. 75.5 percent respectively) and between African males and White males (14.3 percent vs. 51.7 percent respectively). This means that target and actual employment growth are most closely matched for White females and least closely matched for African males. The rapid growth in the number of female labour force participants is evidenced by the target employment growth rate for African females of 115.0 percent, indicating that employment would have had to more than double to accommodate the net increase in the number of African females in the labour force.

Urban areas have proved more able to create the jobs required by the growing labour force. Target employment growth is, interestingly, lower in urban areas (48.1 percent) than in rural areas (66.2 percent), despite continued urbanisation. The actual increase in employment in these two types of areas occurred at similar rates, with urban employment expansion slightly out-pacing rural expansion, although in both cases falling far short of the required rate. Consequently, urban employment absorption was more than 50 percent higher than in rural absorption (33.0 percent vs. 21.2 percent respectively).

Figure 2: Target and Actual Employment Growth, 1995-2002



Source: OHS 1995, LFS 2002:2 (Statistics SA)

Notes: The broad definition of unemployment is used here

The overarching message to be gleaned from these figures is, therefore, that the growth in the number of jobs has been far outstripped by the expanding labour force. While employment for some groups has grown rapidly relative to the increase in the size of the labour force, resulting in relatively high labour absorption rates (specifically, non-Africans and White females in particular), none of the groups investigated experienced actual employment growth even in the region of the target growth rates. Thus, unemployment rates have continued to rise for these groups. The fact that the economy has been unable to provide sufficient employment opportunities for the South African population means that even greater demand for job-creating growth will be placed on the economy in the medium-term.

2.3 Labour Force Participation

The initial evidence presented above suggests that an important root of unemployment is the fact that the labour force is growing at a rate far greater than both the population between the ages of 15 and 65 years and total employment. In particular, growth in the number of labour force members has to a large extent occurred mainly amongst the younger sections of the population (this will also be discussed in more detail in section 5). This means that the probability of an individual being a member of the labour force is increasing over time. This overall probability is measured by the labour force participation rate (LFPR) and is defined as the proportion of labour force members within the total number of individuals between the ages of 15 and 65 years.

Table 6 presents broad labour force participation rates for the South African economy in 1995 and 2002 by various demographic and locational characteristics. Overall, the proportion of individuals between the ages of 15 and 65 years who are members of the broadly defined labour force rose from 56.8 percent in 1995 to 67.7 percent in 2002, with the narrow LFPR increasing by 9.0 percentage points to 56.7 percent. In general, labour force participation is highest amongst Coloured and White adults⁵ at 70.9 percent and 69.6 percent respectively in 2002. Just less than two-thirds of females are labour force members, compared with 72.0 percent of males. This gap may be overestimated due to the fact that the female retirement age is 60 years, five years earlier than that of males. Labour force participation amongst urban dwellers, at 72.2 percent in 2002, is more than ten percentage points higher than in rural areas, although this gap has narrowed substantially since 1995. This urban-rural pattern is manifest in the provincial LFPR variations, with provinces with more urbanised adult populations such as Gauteng, the Western Cape, the Free State and Northern Cape having higher LFPRs than those with more predominant rural adult populations. As expected, labour force participation is lowest amongst the youngest and oldest age-groups (in the low 40 percents in 2002), due respectively to relatively higher rates of attendance of educational institutions and retirement. In 2002, approximately 56 percent of 15-24 year olds were attending some type of educational institution, with around 95 percent of these individuals being outside of the labour force. Almost nine in ten 25-44 year olds are economically active, up from around eight in ten in 1995.

5 For the sake of convenience, individuals between the ages of 15 and 65 years are referred to as 'adults', those below 15 years as 'children' and those over 65 years as 'elderly'.

Several groups have seen substantial increases in labour force participation over the period. The key group here is probably African females, whose LFPR increased from 47.0 to 64.4 between 1995 and 2002. The reason why it is regarded as 'key' is that the impact of increased labour force participation amongst this group is evident in groups defined according to other characteristics. Adult females accounted for 54 percent of all rural adults (African adult females alone are 51 percent of the rural adult population) and consequently, the rural LFPR increased by almost fourteen percentage points, from 47.6 percent to 61.5 percent. At the same time, provinces with more rural adult populations, e.g. Limpopo, KZN, the Eastern Cape and Mpumalanga, experienced the greatest increases in labour force participation. Large increases were also found to have occurred amongst the two youngest age-groups, namely 15-24 year olds and 25-34 year olds. Relative to 1995 levels, labour force participation has increased most rapidly amongst Limpopo adults (equivalent to a 55 percent increase on the 1995 LFPR), Asian females (40.3 percent), 15-24 year olds (40.3 percent), African females (37.1 percent), females in general (31.6 percent), rural adults (29.1 percent), Eastern Cape adults (26.2 percent) and 55-65 year olds (25.8 percent).

Table 6: Broad Labour Force Participation Rates in South Africa, 1995-2002

<i>Category</i>	<i>1995</i>	<i>2002</i>	<i>Change</i>	<i>Category</i>	<i>1995</i>	<i>2002</i>	<i>Change</i>
African	54.3	67.1	12.8	15-24 years	29.4	41.2	11.8
Coloured	65.4	70.9	5.5	25-34 years	77.5	88.9	11.4
Asian	58.4	67.4	9.0	35-44 years	79.1	86.8	7.7
White	64.6	69.6	5.1	45-54 years	69.9	76.2	6.3
Male	65.8	72.0	6.2	55-65 years	34.6	43.5	8.9
Female	48.5	63.9	15.3	Western Cape	66.5	69.9	3.4
African Male	62.5	70.1	7.6	Eastern Cape	47.3	59.6	12.4
African Female	47.0	64.4	17.4	Northern Cape	59.7	68.3	8.6
Coloured Male	73.9	77.9	4.0	Free State	62.6	69.1	6.5
Coloured Female	57.6	64.7	7.2	KwaZulu-Natal	53.1	66.5	13.4
Asian Male	77.9	79.2	1.3	North-West	56.4	66.2	9.8
Asian Female	40.2	56.3	16.2	Gauteng	68.7	77.3	8.6
White Male	76.3	77.9	1.6	Mpumalanga	54.9	65.7	10.7
White Female	53.2	61.3	8.2	Limpopo	39.9	61.8	21.9
Urban	63.8	72.2	8.4	Total Broad LFPR	56.8	67.7	11.0
Rural	47.6	61.5	13.8	Total Narrow LFPR	47.7	56.7	9.0

Source: OHS 1995, LFS 2002:2 (Statistics SA)

The enormous task in terms of job creation is clearly evident. The economy, while still experiencing disappointingly low, though positive, rates of economic growth, has to deal with the original deficit in jobs from 1995 as well as the rapid increase in the number of labour force members. Thus, the target is not a stationary one, but continues to move seemingly outside the reach of policymakers. In order to address the rapidly increasing unemployment rate, it is key for analysts to focus on understanding the reasons underlying the dramatic increase in labour force participation in a relatively short period, particularly in this context in which unemployment has been high and rising for an extended period of time.

3. Employment

3.1 Economic Performance and Employment

The general perception of the performance of the South African economy in labour market terms is rather negative. It is widely held that despite improved economic growth rates during the 1990s and 2000s, these have not been matched by increased utilisation of South Africa's labour resources. With slow rates of employment expansion, much of which tends to be in the informal sector, government has come under increasing pressure to correct the situation with appropriate policies. It is widely held that the South African economy has experienced 'jobless growth' during the current expansionary phase.

Conceptually, jobless growth can be defined in two broad ways, although generally the distinction is not explicitly made. Firstly, jobless growth may refer to a situation whereby the overall economy is growing, but the absolute employment level is stagnant or falling, rendering near-zero or negative employment growth rates. Alternatively, the term may be used to describe a situation whereby the overall economy is growing, while the rate of unemployment is rising, equating to employment growth lagging labour force growth (Altman 2003: 12). These two definitions respectively represent a very strict and a very broad interpretation of the term, with the latter not precluding an increase in the number of employed individuals. Given these definitions, can the economic growth of the past decade be accurately said to have been jobless?

Output and employment have, historically, tended to move together (see Table 7). In fact, the correlation coefficient between the indices of output (real GDP) and non-Agricultural formal employment between 1970 and 1990 is 0.989 (between 1967 and 1990, it is even higher at 0.993), indicating a close positive relationship between output and employment. However, since the early 1990s, this pattern has changed. Output and employment moved in almost exactly opposite directions between 1990 and 2000, with the correlation coefficient being -0.916. The early 1990s was a key period in this regard, since it is here that the relationship between production and employment changed from strongly positive to strongly negative.

Table 7: Output and Employment Change, 1970-2002

	Annual Percentage Change in:		Correlation Coefficient	$\frac{\Delta Employment}{\Delta GDP}$
	Non-Agricultural Formal Employment	GDP		
1970-1980	2.96	3.4	0.975	0.88
1980-1990	1.14	1.5	0.940	0.76
1990-2000	-1.84	1.7	-0.916	-1.05
1970-1990	2.05	2.4	0.989	0.84
1990-1995	-1.55	0.9	-0.431	-1.79
1995-2002	-1.73	2.7	-0.951	-0.64
Annual Percentage Change in:				
	Total Employment	GDP	Correlation Coefficient	$\frac{\Delta Employment}{\Delta GDP}$
1990-1995	0.13	0.8	-	0.16
1995-2002	2.19	2.7	0.824	0.81

Source: Own calculations using SARB Quarterly Bulletins, Statistics SA (2000, 2002), and Borat (2003). Loots (1998: 331) for 1990-1995 total employment figures.

Note: See Appendix B for underlying total employment figures.

The table also presents, in the final column, simple elasticity estimates that attempt to establish the relationship between output and employment since 1970, without recourse to any formal modelling framework, something which is essential to control for the variety of variables that may affect the relationship. Following Loots (1998), these are calculated as the ratio of the percentage change in employment to the percentage change in GDP. Technically, therefore, these figures are not output-employment elasticities, but they have nevertheless been used to provide evidence for the notion of jobless growth. The simple elasticities indicate a positive relationship between output and non-Agricultural formal employment in the 1970s and 1980s, with a 1 percent increase in GDP being accompanied by a 0.88 percent and 0.76 percent increase in employment respectively. During the 1990s though, the simple elasticity estimate was negative and a 1 percent increase in output implied a decrease in employment of just over 1 percent. The elasticity was especially negative during the early 1990s (at -5.42), a period characterised by large declines in employment and stagnant output.

However, the employment data underlying these figures are based on the Manpower Surveys and, from 1998 onwards, the Survey of Employment and Earnings, which for a number of reasons may not provide an accurate picture of employment in the South African economy. Firstly, although the survey covers both private and public enterprises, it only covers the formal non-agricultural business sector. This means that agriculture and the informal sector are excluded from the employment figures, both sectors being major employers. Apart from these exclusions, there exist other gaps in terms of sectoral coverage

that result in the Survey of Employment and Earnings (SEE) being flawed as a measure of national employment. The most recent list of sector omissions (SSA 2002: 7) lists the following sectors:

- agriculture, hunting, forestry and fishing
- restaurants and other eating and drinking places, boarding houses, caravan parks, guest farms
- water and air transport
- telecommunication services
- financial institutions other than banking institutions, building societies and insurance companies
- real estate and business services
- educational services
- medical, dental and other health services
- welfare organisations
- religious organisations
- recreational and cultural services and informal industries

The SEE, therefore, cannot claim broad sectoral coverage, nor is coverage consistent. For example, the December 2000 SEE includes telecommunication services (excluded in December 2002) and excludes household services. Varying coverage has serious implications for the comparability of this data series over time. The SEE is also unable to properly detect employment in newly established firms and is “deficient in covering the SMMEs” (Stryker *et al.* 2001: v). The latter problem stems from the SEE explicitly excluding all firms with VAT turnover below R300 000 per annum (Statistics SA 2003: 3). As a result of this threshold, it is likely that a dynamic subset of firms with arguably above average rates of employment change is overlooked.

Data from the SEE is, therefore, not suitable to substantiate jobless growth. Firstly, the data suffers from a lack of coverage of two key job-providing sectors, namely Agriculture and the informal sector. Furthermore, coverage of the rest of the economy is not complete, a problem which is compounded by the fact that the omitted categories vary over time, making comparisons over time prone to error. The omitted sectors and sub-sectors predominantly form part of the service sector, which previous research has found to be the most significant job-generator in post-*apartheid* South Africa. For example, Bhorat (2003:2) estimates from OHS data that employment rose by 61 percent in the Finance sector, 31 percent in Construction and 22 percent in Domestic Services between 1995 and 1999.

The earlier Manpower Surveys do not seem to be of much better quality. Roukens de Lange (1993) has found a number of problems with the Manpower Surveys, some of which are listed below:

- As with the SEE, the Manpower Surveys' coverage of the economy was incomplete with major gaps being agriculture (although not fishing), domestic workers and the informal sector.
- Employment breakdowns according to occupation are unstable over time, particularly from the mid-1980s onwards, a problem which is not eliminated even by using very aggregated occupational or skill categories.
- Manpower Survey data matches very poorly with national population census data.

Employment series based on these two surveys are therefore unlikely to be a true reflection of aggregate employment changes over the period. Major coverage gaps as well as definitional and coverage changes have resulted in comparability problems over time. It is possible, though, to construct a picture of total employment in the South African economy between 1995 and 2002 using the October Household Surveys and the recent Labour Force Surveys, conducted by Statistics SA. Coverage in these surveys that sample households do not suffer from the coverage problems experienced in firm-sampling surveys. Using these total employment figures to calculate the GDP elasticity of *total* employment, a picture very different from the notion of jobless growth emerges (see Table 7).

According to the household survey figures, it appears that total employment has grown by an average 2.2 percent per annum, a figure that is very close to the rate of expansion of real GDP. Consequently, the simple output elasticity of total employment for the period 1995-2002 is positive 0.81, indicating that for every 1 percent growth in GDP, total employment increased by 0.8 percent. This stands in sharp contrast to the elasticity of -0.64 for formal employment between 1995 and 2002 and is also higher than Loots' (1998) estimate for 1990-1995. At the same time, the correlation between output and employment over the period is slightly weaker compared to the 1970s and 1980s, although still relatively high.

It therefore appears that the empirical basis for the phenomenon of jobless growth seems shaky. Output has expanded over the *post-apartheid* period and so has total employment, indicating that growth has not been jobless. However, this is not to say that the quantity of jobs is necessarily the only criteria by which the labour market should be judged. It is critical to investigate the source of the growth in employment over the period as well as its net impact on 'job quality'.

3.2 Formal and Informal Sector Employment

The differentiation between formal and informal sector employment is a difficult task, both in South Africa and internationally. This is due to a number of reasons, such as the fact that individuals may not always view their informal sector activities as work. Furthermore, surveys that aim to provide estimates of the size of the informal sector are almost certain to underestimate the importance of the sector, not least because of the overlap between the informal sector and illegal economic activities.

In South Africa, survey estimates of the size of the informal sector are often incomparable because of the evolution of the questions that attempt to identify informal sector employment. As a consequence, for example, the 1995 OHS is unable to provide a reasonable estimate of the size of informal employment. Improved questions designed to pick up informal work have enabled the LFSs to better distinguish between the formal and informal sectors. Estimates of these sectors are provided in Table 8. According to the LFSs, between 20 percent and 30 percent of total employment in South Africa is to be found in the informal sector, representing 2.2 to 3.3 million workers.

Table 8: Formal and Informal Sector Employment, 2000-2002

	<i>Formal Employment (thousands)</i>	<i>Informal Employment (thousands)</i>	<i>Total Employment * (thousands)</i>	<i>Informal Employment as Share of Total Employment</i>
LFS 2000: 2	7 509	2 899	11 713	24.7
LFS 2001: 1	7 377	3 319	11 837	28.0
autoLFS 2001: 2	7 539	2 232	10 829	20.6
LFS 2002: 1	7 771	2 559	11 393	22.5
759LFS 2002: 2	7 845	2 223	11 029	20.2

Source: Own calculations, various LFSs (Statistics SA)

Notes: * Total employment includes domestic workers and those with unknown/unspecified sectors

In her study on the measurement of the informal sector, Muller (2003) investigates the ability of a number of recent South African national household surveys to identify informal sector employment. The surveys investigated were the 1993 Project for Statistics on Living Standards and Development survey, the October Household Surveys for 1995, 1997 and 1999, and Labour Force Surveys 2, 3 and 4 (September 2000, and February and September 2001). Muller (2003: 17) used the definition that “employed persons with only one job, who are not classified as domestic workers or agricultural workers and who work in an unregistered (registered) enterprise are classified as informally (formally) employed”, and her estimates for formal and informal employment from 1997 to 2001 are presented in Table 9.

Table 9: Formal and Informal Employment, 1997-2002

	<i>Formal Employment (thousands)</i>	<i>Informal Employment (thousands)</i>	<i>Total Employment * (thousands)</i>	<i>Informal Employment as Share of Total Employment</i>
<i>Estimates by Muller (2003), individuals 16 years and older</i>				
OHS 1997	6 881	1 181	9 177	12.9
OHS 1999	7 083	1 635	10 562	15.5
LFS 2000: 2	6 818	1 865	11 955	15.6
LFS 2001: 1	6 627	2 679	12 134	22.0
LFS 2001: 2	6 946	1 892	11 014	17.2
<i>Own estimates, individuals between the ages of 15 and 65 years</i>				
LFS 2000: 2	6 768	1 820	11 713	15.5
LFS 2001: 1	6 574	2 547	11 837	21.5
LFS 2001: 2	6 883	1 841	10 829	17.0
LFS 2002: 1	7 102	1 699	11 393	14.9
LFS 2002: 2	7 156	1 690	11 029	15.3

Source: Muller (2003: 12); Own calculations, various LFSs (Statistics SA).

Notes: Own estimates are based on Muller's (2003) methodology, with slight changes.

* Total employment includes formal and informal employment, *plus* domestic workers, agricultural worker and individuals with multiple jobs.

Muller's figures seem to suggest that informal employment as a share of total employment may be rising slightly, particularly if one excludes the February 2001 LFS whose reliability is questionable due to problems of interviewee fatigue during that survey (Muller 2003: 3). At the same time, it appears that the actual number of people employed in the informal sector rose between 1997 and 2000 and seems to have levelled out at just under 1.9 million workers. Updating the figures using the 2002 LFSs reveals the proportion of informal sector employment in total employment to have returned to around 15 percent, roughly the same level as in 1999/2000. Whatever the period one uses, it is evident that the number of informally employed workers identified at the end of the period is higher than the number identified in OHS 1997. The problem here is that it is impossible to discern the extent to which this increased number is due to the surveys' improved ability to correctly identify informal sector workers, as opposed to an organic growth in the sector.

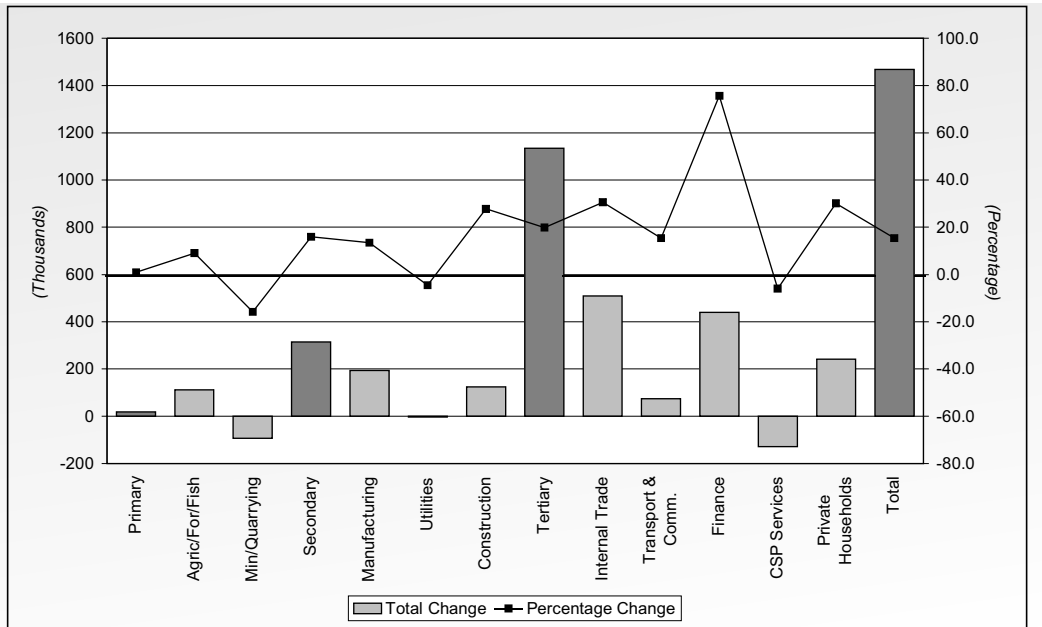
3.3 Sectoral, Occupational and Skills Breakdown of Employment Change

The sectoral shift that characterised the South African economy from the 1970s through the mid-1990s, from primary and secondary activities to tertiary activities, continued after 1995. It is evident from that employment growth since 1995 was unevenly distributed between the various sectors, with most growth occurring in the tertiary sector. Tertiary sector employment grew by 1.1 million, representing more than three-quarters of the total increase in employment over the period.

Within the primary sectors, employment change was minimal with the total increase in Agriculture, Forestry and Fishing employment balancing out the decrease in employment in Mining and Quarrying. This is a reflection of recent economic trends in these sectors, whose growth has been relatively low or unstable and conditions difficult. Secondary sector employment grew by 16.0 percent over the period, equivalent to 2.1 percent annually. Between them, Manufacturing and Construction added more than 300 000 jobs, while employment in the Utilities sector, which is very small in terms of employment, was barely changed. Overall, the rate of employment change was marginally higher than the rate for the entire economy.

The bulk of employment expansion between 1995 and 2002 occurred in the tertiary sectors, which added more than 1.1 million jobs, equivalent to an average annualised rate of 2.6 percent per annum. Three sectors added jobs at a rate higher than the tertiary sector average, namely Finance, Internal Trade and so-called Private Households (the Domestic Worker sector). Employment in Finance expanded by three-quarters over the period, representing an increase of 440 000 jobs, while growth in the Internal Trade sector of 500 000 jobs occurred at a rate of 30.5 percent (or 3.9 percent annually). The rapid growth of employment of domestic workers between 1995 and 2002 seems contradictory to general perceptions, perhaps more related to an improvement in the ability of the surveys to correctly identify domestic workers than to real and rapid growth in employment in this sector. This would be consistent with the decline in employment in Community, Social and Personal Services, of which Private Households would generally form part. While employment expansion in Finance and Internal Trade was most rapid, these sectors also accounted for a net increase of almost 950 000 jobs over the period.

Figure 3 : Employment Expansion by Sector, 1995-2002



Source: OHS 1995, LFS 2002:2 (Statistics SA).

- Notes:**
1. Mining figures for 1995 adjusted using official Chamber of Mines figures, given the exclusion of hostel dwellers in the 1995 OHS.
 2. Individuals whose sectors were insufficiently defined or unspecified, or who are classified as working in the Exterior Organisations and Foreign Government sector were omitted.

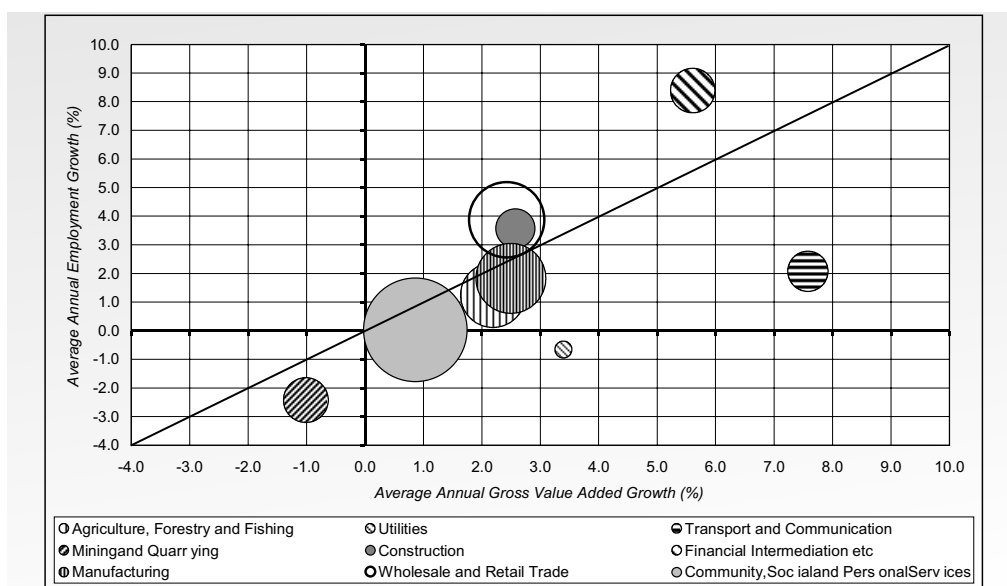
Employment changes are closely related to the general and sector-specific economic conditions prevalent during a given period. Thus, one would expect that sectors that experience favourable economic conditions and increasing output would be more likely to create jobs than sectors that face a less favourable set of conditions. In Figure 4, growth in output and growth in employment are related sectorally in a manner that better identifies sectors that have performed best in terms of creating employment. Each of the nine major sectors is represented by a circle in the figure. For each sector, the rate of growth of real gross value added (GVA) and the rate of sectoral employment growth are used for the co-ordinates of the centre of the relevant circle. The size of each circle represents the relative size of employment in that sector in 1995. Thus a large circle represents a sector employing more people than a smaller circle.

The figure can be divided into four quadrants. The upper right quadrant is characterised by both GVA and employment expansion, while the lower left quadrant will contain sectors where both GVA and employment have been in decline. In the lower right quadrant, GVA is growing but employment is declining, while the opposite is true of the upper left quadrant. Further, the 45° line divides the figure into two sections. The upper section represents points where employment expansion is more rapid than GVA expansion, while the lower section represents points where employment expansion has been slower than GVA growth. Naturally, on this line employment growth and GVA growth are identical. The interpretation of

these two areas can be extended further and conclusions may be reached regarding the labour intensity of gross value added and labour productivity. For example, GVA in a sector above the 45° line has become more labour intensive over the period, since employment has grown more rapidly than GVA. Put differently, such a sector will have seen GVA per worker decline over the period. The opposite is true for sectors below the 45° line, which will have seen a decline in the labour intensity of GVA or a rise in GVA per worker.

Most sectors in the South African economy have experienced growth in both GVA and employment over the period. Only two sectors saw declining employment between 1995 and 2002, namely Utilities, despite average GVA growth of 3.4 percent per annum, and Mining and Quarrying which also saw GVA fall by 1.0 percent annually over the period. Employment in the aggregated Community, Social and Personal Services sector was stable. At the same time, gross value added per worker has risen in six of the nine sectors. In the Finance, Wholesale and Retail Trade and Construction sectors, GVA per worker has fallen as employment has grown at a higher rate than has GVA over the period. Interestingly, according to our calculations, GVA per worker has grown fastest in the Transport and Communications (34.9 percent over the period), Utilities (24.6 percent) and Mining and Quarrying (11.9 percent) sectors, despite the latter two being sectors that have shed jobs.

Figure 4: Gross Value Added and Employment Growth by Sector, 1995-2002



Source: OHS 1995, LFS 2002:2 (Statistics SA); SARB (2003).

Notes: 1. Community, Social and Personal Services include domestic workers in Private Households, and individuals whose sectors were insufficiently defined or unspecified, or who are classified as working in the Exterior Organisations and Foreign Government sector.

2. GVA data is calculated as a three-year moving average of the SARB's GVA estimates, where possible (for 2002, the value is an average for 2001/2002).

3. While the location of sectors in specific quadrants is generally clear from the figure, that of CSP Services is not. CSP Services is located almost exactly on the line between the upper and lower right-hand sector with GVA growth of 0.86 percent and employment growth of 0.03 percent.

While output expansion or contraction at the sectoral level is an important correlate of sectoral employment change, what is also relevant in terms of labour demand patterns is the particular configuration of skills needs that can be identified within each sector. This provides another important layer in understanding the unevenness of economic growth at the sectoral level. The evidence shows that while different sectors have fared differently in respect to the relationship between output change and employment change, these responses mask significant differences within individual sectors when employment is divided into skilled, semi-skilled and unskilled employment.⁶ Appendix C replicates for the three categories of employment for all the sectors except Mining.

Of the eight sectors, the experience of four indicates a substitution process whereby lower-skilled workers are 'replaced' by more skilled workers. In the Agriculture and Manufacturing sectors, skilled and semi-skilled workers are replacing the unskilled workforce, while in CSP services and Utilities skilled workers are replacing semi- and unskilled workers. Large losses of unskilled jobs occurred within Agriculture, CSP Services and Manufacturing. In the Wholesale and Retail Trade and Construction sectors, interestingly, the reverse appears to have occurred, with the employment of less skilled workers growing more rapidly than that of skilled workers. The two fastest growing sectors in terms of GVA, Finance and Transport and Communication, have seen employment growth in all three skills categories. Thus, growth in output over the seven years continued the trend of skills-biased employment growth.

Table 10 also documents the changing nature of employment by three broad skills categories at the sectoral level. The national figure reflects the continuation of the long-run labour demand trend, namely that output growth continues to be skills-biased. Hence, we see that despite the evidence garnered above of aggregate employment growth, the share of unskilled workers in the workforce declined by three percentage points, from 31 percent in 1995 to 28 percent in 2002, while the share of skilled and semi-skilled employment both increased by around two percentage points.

In turn, at the sectoral level these patterns of declining proportions of unskilled workers and higher shares of semi-skilled and skilled employees are reinforced. In Agriculture, Mining and Quarrying, and Private Households, employment shifted significantly in favour of semi-skilled occupations and against unskilled occupations. In these sectors, the proportions of semi-skilled workers increased by 14, 7 and 14 percentage points respectively, while those of unskilled workers declined by 15, 7 and 13 percentage points. In Manufacturing, Utilities, Finance and Community, Social and Private Services, the pattern was one of skilled jobs displacing semi-skilled jobs and often unskilled jobs too. Only one sector bucked the trend with a significant rise in the proportion of unskilled workers relative to other workers: Internal Trade. Both skilled and semi-skilled workers gave way as the share of unskilled in total employment rose by 11 percentage points.

6 Skilled refers to ISOC codes 1-3; Semi-Skilled refers to ISOC codes 4-8; Unskilled refers to ISOC code 9.

Table 10: Skills Breakdown of Employment by Sector, 1995 and 2002

	<i>Year</i>	<i>Skilled</i>	<i>Semi-Skilled</i>	<i>Unskilled</i>	<i>Total</i>
Agriculture, Hunting, Forestry and Fishing	1995	0.01	0.22	0.77	1.00
	2002	0.02	0.46	0.52	1.00
Mining and Quarrying	1995	0.07	0.74	0.18	0.99
	2002	0.07	0.81	0.11	1.00
Manufacturing	1995	0.12	0.68	0.19	1.00
	2002	0.19	0.64	0.16	1.00
Utilities (Electricity, Gas and Water Supply)	1995	0.18	0.67	0.13	0.98
	2002	0.23	0.63	0.12	0.99
Construction	1995	0.09	0.71	0.19	1.00
	2002	0.06	0.76	0.18	1.00
Internal Trade	1995	0.17	0.64	0.20	1.00
	2002	0.13	0.56	0.31	1.00
Transport, Storage and Communication	1995	0.26	0.62	0.11	0.99
	2002	0.28	0.61	0.11	1.00
Financial Intermediation, Insurance, Real Estate and Business Services	1995	0.38	0.56	0.06	1.00
	2002	0.43	0.48	0.09	1.00
Community, Social and Personal Services	1995	0.45	0.39	0.15	0.99
	2002	0.52	0.36	0.12	1.00
Private Households	1995	0.00	0.02	0.97	1.00
	2002	0.00	0.16	0.84	1.00
Other and Unspecified	1995	0.20	0.48	0.31	0.99
	2002	0.22	0.50	0.28	1.00
Total	1995	0.01	0.22	0.77	1.00
	2002	0.02	0.46	0.52	1.00

Source: OHS 1995, LFS 2002:2 (Statistics SA).

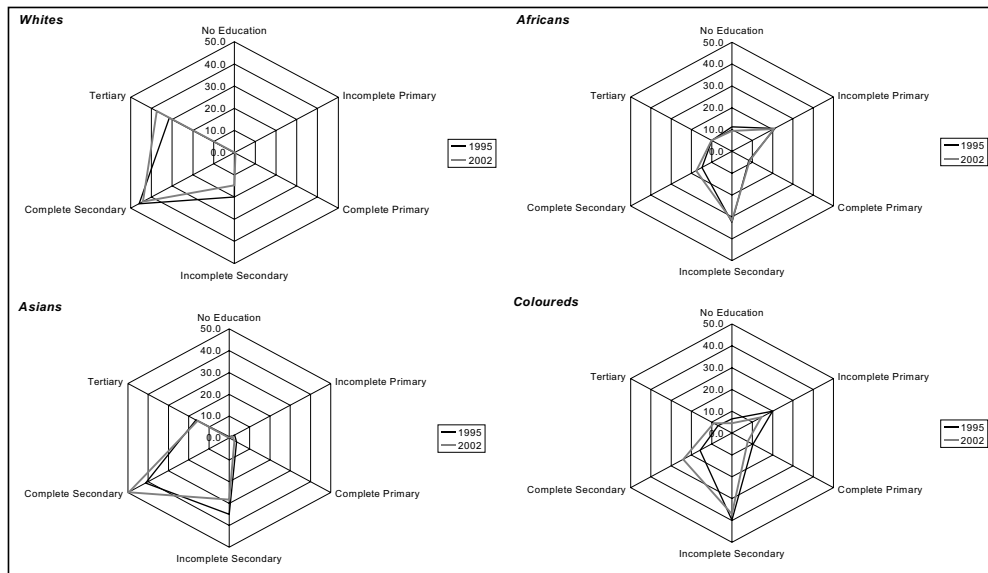
Notes: Skilled refers to ISOC codes 1-3; Semi-Skilled refers to ISOC codes 4-8; Unskilled refers to ISOC code 9. Unspecified occupations were omitted from the analysis.

Pressures on the South African stock of skills are likely to continue to mount in the near future, as several of the sectors with the fastest employment expansion (e.g. Finance and Construction) are also increasing their employment of skilled and semi-skilled workers relative to unskilled workers. Internal Trade, while the second fastest growing sector in terms of employment, has seen a rise in the proportion of unskilled workers at the cost of employment of more highly skilled workers. This highlights the impact that informal sector growth has on aggregate employment data. Since informal vendors are classified as part of the Internal (or Wholesale and Retail) Trade sector, informal sector growth has resulted in a deterioration in the skills profile of this sector. Similarly, the two sectors where total employment has fallen over the period, namely Mining and Quarrying and Utilities, are cutting unskilled jobs at a higher rate than skilled and semi-skilled jobs, as is evident from the shift in the skill composition of employment.

The above indicates a dual challenge for the domestic economy, in terms of producing an adequate economic growth strategy. Firstly, there is the challenge noted above of converting the current relatively low and erratic levels of economic growth to higher and more consistent rates of output expansion. Secondly, though, it remains likely that the nature of labour uptake as a result of economic growth will continue: namely the disproportionate uptake of semi-skilled and skilled workers, relative to unskilled workers. This unevenness of growth requires the upgrading of the supply characteristics of those individuals entering the labour market each year in search of employment.

The skill levels of the employed are largely reflected in breakdowns of employment by individuals' level of education (see Figure 5). Six educational categories are presented, namely no education, incomplete primary, completed primary, incomplete secondary, completed secondary and tertiary education. Here again the apartheid legacy is easily discernable. White workers are, in general, much better educated than average. Between 30 percent and 40 percent have a tertiary qualification and a further 45 percent or so have completed matric, with very few that have lower levels of education. The profile of White employment has also shifted markedly between 1995 and 2002, such that the proportion of the employed with tertiary education grew, while that with incomplete secondary declined.

Figure 5: Educational Breakdown of Employed by Race (percentage), 1995 and 2002



Source: OHS 1995, LFS 2002:2 (Statistics SA)

Overall, the pattern of Asian employment in the figure most closely resembles that of White employment, although there are marked differences between the two. Specifically, amongst Asian workers there are, relative to White workers, fewer with tertiary education and significantly more with complete and incomplete secondary education. The 1995-2002 period has seen an increase of around ten percentage points in the share of employment of Asians with matric certificates, with falls in the share of workers with less than matric education.

The patterns of African and Coloured employment are quite similar and differ markedly from the other two population groups. Graphically, the weight of African and Coloured employment is to the right and bottom of the figures, while that of Asian and White employment is almost exclusively on the left of the figures. African and Coloured employment, in line with the skills profile, consists of large proportions of individuals with education levels ranging from no education to incomplete secondary education. A larger proportion of Coloured workers have matric certificates, relative to Africans, while the proportions of tertiary educated workers are similar, particularly in 2002. While Coloured employment has shown a marked increase in the proportion of workers with completed secondary education, the change has been less substantial within African employment.

Overall, in 2002, 15 percent of the employed had a tertiary qualification, 25 percent had a matric certificate and a further 29 percent had an incomplete secondary education. Thus, around 40 percent of the employed had a complete secondary or tertiary education, up from 36 percent in 1995. At the same time, the proportion of workers with a primary education or less fell slightly from 31.0 percent in 1995 to 28.8 percent in 2002. The education levels of the employed as a group have changed since 1995, with a larger proportion of workers with tertiary and completed secondary educations. However, changing education levels amongst

the employed are a manifestation of demand trends and before judgement can be passed on whether the South African population is adjusting to the greater demand for more highly skilled workers, attention must be focussed on education levels amongst the unemployed as well.

3.4 Other Demographic and Locational Characteristics of the Employed

Generally, the net increase of 1.5 million jobs has been concentrated in certain demographically and geographically defined groups (see Table 11). For example, 1.1 million (or almost three-quarters) of these jobs were filled by Africans, which is more or less in line with the group's 76 percent share of the adult population. At 7.2 million, employed Africans account for 65.6 percent of all employed individuals in 2002, with Whites accounting for another 2.0 million or 18.4 percent. Similarly, the net increase in female employment over the period also totalled 1.1 million jobs, thereby raising females' share of employment to 43.9 percent in 2002 from 39.1 percent seven years earlier.

The bulk of the net increase in employment occurred amongst individuals in the 35-44 year and 45-54 year age-groups, with both groups recording employment gains in excess of half a million jobs. These two groups represent just over 40 percent of total labour force growth (see Table 3) and 71 percent of employment growth. The major losers were individuals younger than 35 years who accounted for 55 percent of total labour force growth between 1995 and 2002, but only 18.5 percent of employment growth. The evidence therefore seems to point towards the ageing of the South African workforce, with older cohorts experiencing an increase in their relative shares of total employment.

Employment remains concentrated in Gauteng, KZN, the Western Cape and the Eastern Cape. In 2002, these provinces were home to almost 70 percent of all employed adults, which is at best slightly lower than the 1995 proportion. Three provinces account for the bulk of employment expansion over the 1995-2002 period, namely KZN, the Eastern Cape and Limpopo. These regions saw a net increase in employment of around 950 000, or 63 percent of the total. Employment increased at rates lower than the national average in the Western Cape, Free State, North-West and Gauteng, which meant that these provinces have lost ground in terms of employment shares. It is encouraging that much of the employment growth has occurred in some of the country's poorer provinces where, as will be discussed below, unemployment is such a pressing concern.

Table 11: Demographic Characteristics of the Employed, 1995 and 2002

	1995		2002		Change	
	000s	Share (percent)	000s	Share (percent)	000s	Share (percent)
Total	9 515.0	100.0	11 028.7	100.0	1 513.7	100.0
By Race &						
African	6 145.3	64.6	7 239.3	65.6	1 094.0	72.3
Coloured	1 147.4	12.1	1 299.4	11.8	152.0	10.0
Asian	359.5	3.8	431.8	3.9	72.3	4.8
White	1 862.8	19.6	2 030.8	18.4	168.0	11.1
By Gender &						
Male	5 798.4	60.9	6 184.0	56.1	385.6	25.5
Female	3 716.6	39.1	4 840.8	43.9	1 124.2	74.3
By Age-Group &						
15 to 24 years	1 126.1	11.8	1 159.6	10.5	33.5	2.2
25 to 34 years	3 281.0	34.5	3 528.5	32.0	247.5	16.3
35 to 44 years	2 862.6	30.1	3 432.2	31.1	569.6	37.6
45 to 54 years	1 589.6	16.7	2 100.8	19.0	511.2	33.8
55 to 65 years	655.6	6.9	807.6	7.3	152.0	10.0
By Province &						
Western Cape	1 355.5	14.2	1 523.8	13.8	168.3	11.1
Eastern Cape	919.0	9.7	1 234.9	11.2	315.9	20.9
Northern Cape	213.7	2.2	247.8	2.2	34.1	2.3
Free State	753.6	7.9	793.4	7.2	39.7	2.6
KwaZulu-Natal	1 715.7	18.0	2 090.8	19.0	375.1	24.8
North-West	750.6	7.9	801.6	7.3	51.0	3.4
Gauteng	2 639.4	27.7	2 777.5	25.2	138.0	9.1
Mpumalanga	585.4	6.2	711.7	6.5	126.3	8.3
Limpopo	582.0	6.1	847.3	7.7	265.2	17.5
By Education Level &						
None	772.1	8.1	740.4	6.7	-31.7	-2.1
Incomplete Primary	1 541.3	16.2	1 687.4	15.3	146.0	9.6
Complete Primary	637.5	6.7	749.5	6.8	112.1	7.4
Incomplete Secondary	2 949.8	31.0	3 203.9	29.1	254.1	16.8
Complete Secondary	2 096.8	22.0	2 715.7	24.6	618.9	40.9
Tertiary	1 335.7	14.0	1 681.2	15.2	345.6	22.8
Other/Unspecified	181.8	1.9	250.6	2.3	68.8	4.5

Source: OHS 1995, LFS 2002:2 (Statistics SA)

Fewer people with no education at all were employed in 2002 than in 1995. This is arguably due to the changing mix of skills required by employers, as well as the fact that individuals that lack any form of education tend to be significantly older than those with some or other level of education. In 2002, the average adult without education was aged 46 years, compared to just over 33 years for all adults.

3.5 Summary

This section has focussed on national employment trends between 1995 and 2002. Although growth in the South African economy during the post-*apartheid* period is often described as 'jobless', a close look at the data reveals this adjective to be misleading. The empirical basis for this description, namely the SEE data, has been found to be incomplete and ignores the informal sector completely. Total employment, as recorded in the 1995 October Household Survey and the September 2002 Labour Force Survey, rose by 1.5 million over the period. Unfortunately, it is not possible to determine the extent to which improved questions and data collection are responsible for this increase. Despite this, jobless growth cannot be said to have characterised the post-*apartheid* South African economy, unless one uses the broader definition of the phenomenon, whereby economic growth is accompanied by rising unemployment rates. However, whether or not growth was jobless, the South African labour market faces the problem of falling *quality* of employment with the rise of low paid, insecure and unprotected employment in the informal sector.

Employment growth over the period was concentrated in the tertiary sectors, with the greatest absolute and percentage increases occurring in Internal Trade, Finance and Private Households, while it was respectively stagnant and moderate in the primary and secondary sectors. The rapid increase in employment in Internal Trade provides some handle on employment change in the informal sector, since this sector includes informal sector traders and other such groups. Employment growth continued to be biased towards individuals with higher levels of education and skills.

A worrying trend observed in section is that, while 15 to 24 year olds accounted for 11.8 percent of employment in 1995 and 25 to 34 year olds accounted for 34.5 percent, only 2.2 percent and 16.3 percent of the net increase in employment accrued to these age-groups respectively. More than 70 percent of net new jobs over the period were filled by individuals between the ages of 35 and 54 years. Unless individuals between 15 and 34 years of age are remaining out of the labour force in greater numbers, unemployment for these groups is likely to rise rapidly. The implications of this phenomenon in terms of unemployment are investigated below.

4. Unemployment

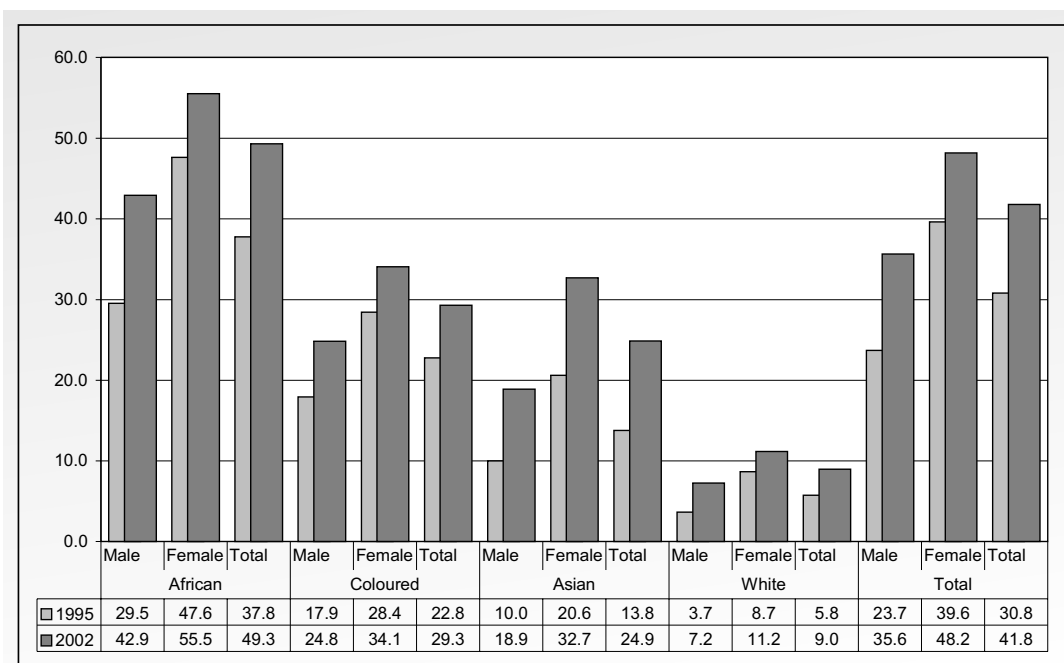
In order to be effective, labour market policy aimed at addressing the problem of unemployment in South Africa needs to be informed as to the characteristics of this part of the labour force. In this section, the most important attributes of the broadly unemployed are presented.

4.1 Demographic Characteristics of the Unemployed

In section , it was shown that the rate of broad unemployment rose dramatically between 1995 and 2002, from 30.8 percent to 41.8 percent of the labour force, to 7.9 million unemployed individuals between the ages of 15 and 65 years. In terms of race and gender, the picture is very consistent with all race-gender groups experiencing higher rates of unemployment in 2002 than in 1995, and females being more often unemployed than males (see Figure 6). The highest rates of unemployment are experienced by African labour force members at almost 50 percent in 2002, up more than 11 percentage points since 1995. Unemployment rates amongst the other races are significantly lower at 29.3 percent, 24.9 percent and 9.0 percent for Coloureds, Asians and Whites respectively in 2002. All race groups have seen a rise in unemployment rates over the period.

Within each race-group, females experience higher unemployment rates than do males. In 2002, more than 55 percent of African females were unemployed, more than any other group. They are followed by African males, almost 43 percent of whom were unemployed in 2002 and the race-gender group with the largest percentage point increase in unemployment (more than 13 percentage points). At the other end of the spectrum, the lowest unemployment rates were experienced by White males and females (7.2 percent and 11.2 percent respectively in 2002).

Figure 6: Unemployment Rates by Race and Gender, 1995 and 2002



Source: OHS 1995, LFS 2002:2 (Statistics SA).

Note: Standard errors may be found in Appendix D

The distribution of unemployment across race and gender has remained generally constant between 1995 and 2002 (see Table 12). Females, with their higher unemployment rates, account for around 57 percent of total unemployment. This is quite a large proportion seeing that their share of the labour force was about 49 percent in 2002 and only 45 percent in 1995. Similarly, almost nine in ten unemployed people are African, five of whom are female. Asian and Whites make up less than 5 percent of the unemployed, while Coloureds constitute around 7 percent to 8 percent. What is clear from this is that unemployment is concentrated amongst African members of the labour force in general, and African females in particular.

Table 12: Distribution of Unemployment by Race and Gender (Percent Shares), 1995 and 2002

	1995			2002		
	Male	Female	Total	Male	Female	Total
African	37.4	50.6	88.0	38.2	50.5	88.8
Coloured	3.4	4.6	8.0	3.0	3.8	6.8
Asian	0.6	0.7	1.4	0.8	1.0	1.8
White	1.0	1.7	2.7	1.2	1.4	2.5
Total	42.5	57.5	100.0	43.1	56.7	99.9

Source: OHS 1995, LFS 2002:2 (Statistics SA).

Notes: Subtotals may not add to 100 due to 'unspecified' and 'other' categories.

Unemployment is also unevenly spread across geographical areas. Overall, urban residents are less often unemployed than rural people. In 2002, 37.1 percent of urban adults were broadly unemployed as opposed to 49.6 percent of rural adults, a difference of 12.5 percentage points (see Table 13). This gap is actually wider in 2002 than it was in 1995 when urban unemployment was 26.6 percent as opposed to 38.2 percent in rural areas. The urban-rural difference in unemployment is manifest in the provincial dispersion of unemployment rates. Unemployment in both years was lowest in the Western Cape (20.0 percent in 1995, rising to 25.1 percent in 2002). Other provinces where unemployment was below the national average include the Northern Cape, the Free State and Gauteng. The provinces with the highest unemployment rates are the Eastern Cape (42.6 percent and 47.4 percent in 1995 and 2002 respectively) and Limpopo (42.2 percent and 56.5 percent).

Table 13: Unemployment by Location, 1995 and 2002

	1995				2002			
	Urban	Rural	Diff.	Total	Urban	Rural	Diff.	Total
Western Cape	22.7	4.4	-18.3	20.0	26.5	13.7	-12.9	25.1
Eastern Cape	34.7	50.4	15.7	42.6	42.3	51.5	9.2	47.4
Northern Cape	37.8	13.7	-24.1	29.5	41.7	25.0	-16.6	35.1
Free State	33.0	17.8	-15.2	26.8	41.1	31.7	-9.4	38.1
KZN	25.0	44.4	19.3	34.3	37.8	52.1	14.3	44.1
North-West	25.9	41.4	15.5	33.8	41.2	49.4	8.3	46.3
Gauteng	24.8	11.6	-13.2	24.1	38.4	27.3	-11.1	38.1
Mpumalanga	30.9	36.7	5.8	34.7	38.6	46.0	7.3	42.7
Limpopo	25.7	45.8	20.0	42.2	34.1	60.6	26.5	56.5
Total	26.6	38.2	11.6	30.8	37.1	49.6	12.4	41.8

Source: OHS 1995, LFS 2002:2 (Statistics SA).

Notes: 1. Subtotals may not add to 100 due to 'unspecified' and 'other' categories.

2. Differences are calculated by subtracting the urban unemployment rate from the rural rate.

The differing histories of the provinces under apartheid also seem to have influenced unemployment rates. Specifically, provinces that include areas previously designated as 'homelands' or 'self-governing territories' under the apartheid system have higher rates of unemployment than other provinces, particularly in rural areas. The Western Cape, Northern Cape, Free State and Gauteng – provinces containing no or relatively small homeland areas – have higher unemployment in urban areas than in rural areas. This is due to the fact that in these areas there is virtually no subsistence agriculture and individuals not employed in commercial agriculture had little option but to move elsewhere in search of work. The other provinces have significantly higher rates of unemployment in rural areas, especially Limpopo (a difference of 20.0 percentage points in 1995) and KZN (19.3 percentage points). In 2002, the highest rates of unemployment were to be found in rural Limpopo (60.6 percent), rural KZN (52.1 percent) and rural Eastern Cape (51.5 percent). It is therefore clear that previous governments' neglect of homeland areas continues to manifest itself in high levels of unemployment in those areas, while economic decentralisation policies seem to have had limited employment effect.

An individual's level of education has been found to be an important indicator of whether he or she is unemployed or not. The South African economy's increasing appetite for highly skilled labour, its continued mechanisation of manufacturing and industrial processes and its pursuit of international competitiveness means that lower skilled and poorly educated workers are likely to bear the brunt of unemployment (Bhorat 2003, Oosthuizen 2003). This is clear from Table 14, which presents unemployment rates by individuals' highest level of education. What is immediately evident is that unemployment rates have increased across every education category over the period. Higher than average rates of unemployment were experienced in both periods by individuals in the four categories below matric. By 2002, one in two individuals with incomplete secondary education were unemployed (up from 35.5 percent in 1995) while two in five matriculants were unable to find employment (up from 27.0 percent). The former group numbers almost 3.3 million individuals and constitute more than 41 percent of the unemployed. High levels of unemployment amongst those with matric certificates are rather disturbing in that although education (with a matric certificate being seen as an important goal for learners) is promoted as a 'ticket' to a job and a better life, unemployment amongst matriculants has increased by 13 percentage points (or 50 percent). Thus, in 2002, 1.9 million of the 7.9 million individuals without a job (23.4 percent) were holders of matric certificates.

Tertiary educated individuals are least often unemployed, although unemployment for this group has risen substantially from 6.6 percent in 1995 to 14.6 percent in 2002. In total in 2002, 287 000 members of the labour force with tertiary education were unemployed, representing less than 4 percent of the unemployed.

Table 14: Unemployment Rates by Highest Level of Education, 1995 and 2002

	<i>None</i>	<i>Incomplete Primary</i>	<i>Completed Primary</i>	<i>Incomplete Secondary</i>	<i>Completed Secondary</i>	<i>Tertiary</i>	<i>Other/ Unspecified</i>	<i>Total</i>
1995	34.7 (1.984)	36.9 (1.405)	37.3 (1.388)	35.5 (0.991)	27.0 (1.294)	6.6 (0.566)	23.3 (2.349)	30.8 (1.004)
2002	35.0 (1.661)	45.0 (1.198)	45.6 (1.426)	50.6 (1.079)	40.7 (1.749)	14.6 (1.268)	25.5 (2.250)	41.8 (1.174)

Source: OHS 1995, LFS 2002:2 (Statistics SA).

Notes: 1. In 1995, tertiary education comprises 'diploma/certificate with Std 10' and 'degree'. In 2002, in addition to these categories, tertiary education includes 'postgraduate degree or diploma'. Completed secondary in both periods comprises 'Grade 12/Std 10/Form 5/Matric' and NTC III. 'Diploma/certificate with less than Grade 12/Std 10' is classified with Other/Unspecified education.
2. Standard errors are in parentheses, and are corrected according to frequency weights, the primary sampling unit and, in the case of 2002, sampling stratification.

Table 15: Secondary and Tertiary Unemployment Rates by Race, 1995 and 2002

		<i>African</i>	<i>Coloured</i>	<i>Asian</i>	<i>White</i>	<i>Total</i>
Completed Tertiary	1995	10.1 (1.128)	8.3 (1.814)	5.6 (1.361)	2.5 (0.448)	6.6 (0.566)
	2002	25.0 (1.705)	7.4 (1.378)	4.8 (1.804)	4.0 (1.047)	14.6 (1.268)
Completed Secondary	1995	42.1 (1.689)	20.3 (1.675)	13.7 (2.545)	4.9 (0.519)	27.0 (1.294)
	2002	55.7 (1.241)	23.8 (1.950)	24.1 (2.252)	8.6 (0.741)	40.7 (1.749)

Source: OHS 1995, LFS 2002:2 (Statistics SA)

Notes: Standard errors are in parentheses, and are corrected according to frequency weights, the primary sampling unit and, in the case of 2002, sampling stratification.

The persistence of inequality in terms of access to employment by individuals of different racial groups is evident from Table 15, which presents unemployment rates for individuals with completed tertiary and completed secondary education according to their race. Amongst tertiary educated members of the labour force, Africans have the highest unemployment rates, followed by Coloureds, Asians and Whites in that order. In 1995, at 10.1 percent, the unemployment rate amongst African graduates was four times that of Whites, while in 2002 it was more than six times higher (25.0 percent vs. 4.0 percent). At the same time, the gap between African graduates and non-African graduates generally widened over the period, with unemployment amongst Coloured and Asian graduates declining slightly. Similarly, unemployment rates amongst matriculants were highest for African labour force members, rising from 42 percent in 1995 to over 55 percent in 2002, far higher than any other race group. Coloured graduates experience the second-highest unemployment rate, which at 20 percent-24 percent is more than 20-30 percentage points lower. Again, White graduates are most likely to find employment, with more than 90 percent of them able to do so in 2002. In the cases of unemployment amongst graduates of both secondary and tertiary education, it is the rapid rise of African unemployment rates that drives the national unemployment rates for these groups.

It is clear that White individuals with completed secondary or tertiary educations are more likely to find employment than similarly qualified individuals of different race groups. This difference may often be linked to employers' perceptions of the quality of a certain individual's education. Specifically, potential workers who have qualifications from previously disadvantaged educational institutions are likely to find themselves the victims of perceptions of poorer quality education, thus hampering their ability to compete in the labour market.

The growth of joblessness amongst tertiary educated individuals stands in sharp contrast to the stated structural shifts in the South African economy towards more highly skilled labour. However, the group of tertiary educated individuals includes individuals with a variety of qualifications, including, for example, diplomas with or without a matric, technikon

qualifications (NTCI to NTCIII), as well as university degrees. In Table 16, unemployment rates for degreed African and White workers are presented.⁷

Table 16: Unemployment of Degreed African and White Workers, 1995 and 2002

		<i>African</i>	<i>White</i>	<i>Total</i>
1995	Thousands	9.5	6.0	18.0
	Unemployment Rate	6.2 (1.626)	2.3 (0.560)	3.9 (0.638)
2002	Thousands	48.7	11.4	62.6
	Unemployment Rate	16.8 (2.239)	2.6 (0.690)	7.8 (1.081)
Change	Thousands	39.1	5.3	44.6
	Growth (percent)	411.0	88.6	247.6

Source: OHS 1995, LFS 2002:2 (Statistics SA)

Notes: 1. Standard errors are in parentheses, and are corrected according to frequency weights, the primary sampling unit and, in the case of 2002, sampling stratification.
2. The total column includes individuals of all races.

It is immediately evident that degreed workers are substantially less likely to be unemployed than other individuals in the tertiary education category, with the unemployment rate amongst the former, at 7.8 percent, almost seven percentage points lower in 2002 than that for the latter. However, unemployment rose rapidly between 1995 and 2002, both in numbers and in rates. As was seen earlier, unemployment rates differ markedly by race. White degreed unemployment was barely changed over the period (2.3 percent in 1995 compared to 2.6 percent in 2002) although it nearly doubled in absolute terms from around six thousand to over eleven thousand (growth of almost 89 percent). In contrast, the number of unemployed Africans with degrees more than quadrupled from under ten thousand to around forty-nine thousand over the period, with the unemployment rate rising from 6.2 percent to 16.8 percent. Consequently, while Africans accounted for slightly over half of degreed unemployment in 1995, this proportion had risen to 78 percent in 2002. While the figures from Table 15 are suggestive of a growing unemployment problem amongst participants with some tertiary qualification, these figures here are more worrying. They suggest that the labour market is being marked not only by growth in tertiary unemployment levels, but also, as a sub-set, growth in the unemployment of degreed individuals. There can therefore be no doubt that we are witnessing the beginning of a graduate unemployment problem in South Africa.

The current chosen growth path for the South African economy has as one of its key requirements significant increases in the numbers of Science, Engineering and Technology (SET) graduates. However, such growth has not yet been forthcoming and enrolments have not begun to reflect the urgent need of SET graduates (see Table 17). In 1993, less than

7 Note that in the OHS 1995, there is only a category for a university degree, whereas in the September 2002 LFS, this is split into a degree and a 'post-graduate degree or diploma'. We combined these two categories from the September 2002 LFS to enable a comparison with the 1995 figures.

one-quarter of enrolments at higher education institutions were in SET fields, with more than half in the Humanities. By 2001, enrolment in Business and Commerce fields had grown at the cost of Humanities, which accounted for around 45 percent of total enrolments, with only a marginal rise in the enrolment share of SET fields. This rise is largely due to the combination of rapid growth in technikon enrolments since the 1990s and these institutions' greater SET enrolments – almost 33 percent in 2001, compared to 22 percent for universities. While management and entrepreneurial expertise remain vital to the country's growth prospects, the rapid growth in Business and Commerce fields is slightly worrying, with many graduates finding themselves unable to find employment, particularly where their qualifications are more non-technical in nature.

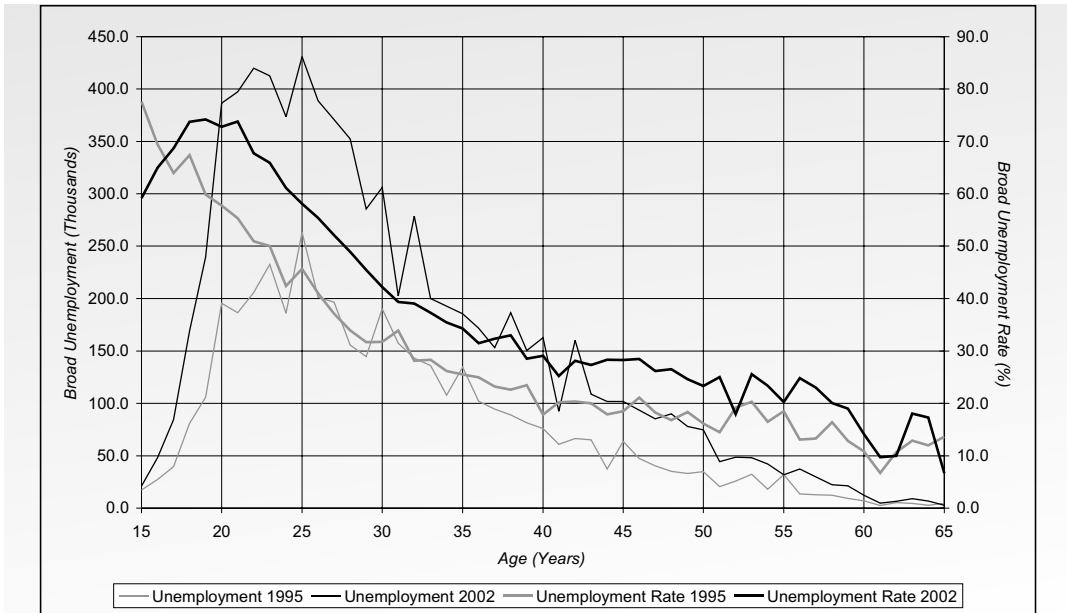
Table 17: Headcount Enrolments at Public Higher Education Institutions, 1993-2001 (percent)

<i>Year</i>	<i>Institution</i>	<i>SET</i>	<i>Humanities</i>	<i>Business/Commerce</i>
1993	All	24.0	57.0	19.0
1999	All	25.0	49.0	26.0
2001	All	25.5	45.3	29.2
	Universities	22.0	57.5	20.5
	Technikons	32.8	20.0	47.2

Source: DoE & DoL (2002: 26), own calculations from DoE (2003: 37)

The South African economy has been shown above to be unable to absorb new labour market entrants. Analysis of the number of employed and unemployed labour force participants shows that it is particularly amongst younger individuals that absorption has been too low (see Figure 7). The largest increase in the number of unemployed individuals has clearly been amongst the youth below the age of 30. Of the total increase in unemployment between 1995 and 2002, those aged between 18 and 28 years account for more than 52 percent. The number of unemployed 18-28 years olds has almost doubled from 2.0 million in 1995 to 3.9 million in 2002. When it is considered that the total number of individuals in this age-group increased by less than 1 million over the same period (from 8.4 million to 9.4 million), the extent of the problem becomes clear. Admittedly, there is a certain proportion of unemployment amongst younger labour force members that is frictional, as these individuals move into and out of educational institutions, however, it is unlikely to be a significant proportion of total unemployment numbers.

Figure 7: Broad Unemployment by Age, 1995 and 2002



Source: OHS 1995, LFS 2002:2 (Statistics SA)

While unemployment rates have increased for virtually every age-group between 1995 and 2002, the increases have been particularly large for 19-30 year olds and have ranged between 10 and 19 percentage points. In 2002, unemployment amongst 18-21 year olds was over 70 percent, with broad unemployment rates dropping below the average rate of 41.8 percent for individuals over 30 years of age. In 1995, the broad unemployment rates were below the average of 30.8 percent for individuals aged 32 years and older. presents unemployment rates for the five main age-groups. The pattern of falling rates of unemployment as age increases is confirmed. In 2002, the unemployment rate for 15 to 24 year olds was 68.8 percent, falling to 30.0 percent for 35 to 44 year olds, and to 18.6 percent amongst 55 to 65 year olds. This reflects a similar pattern to that in 1995, although all at higher levels respectively. The increases in unemployment rates for each age-group are highly significant (at the 1 percent level).

The differences in the age profiles of the employed and the unemployed are manifest in mean and median age statistics. The average employed person in 1995 was 36 years and 8 months old, compared to only 30 years and 9 months for the broadly unemployed⁸, a difference of almost six years. In 1995 the median age of an employed individual was 35 years, as opposed to 29 years for the unemployed. These median ages changed to 37 years and 28

⁸ Interestingly, the average age of the unemployed is not statistically different whether the unemployed are defined according to the official (narrow) or broad definitions, indicating that there is no correlation between the decision to stop looking for work and an unemployed individual's age.

years respectively in 2002, implying a widening age-gap between the employed and the unemployed. This difference in ages is related to the high proportion of young people who have left school and other educational institutions amongst the unemployed. It also appears that individuals in their fifties and sixties who do not have employment, may opt out of the labour force, instead of remaining unemployed, and hence the low unemployment rates amongst this group.

Table 18: Unemployment Rates by Age-group, 1995 and 2002

	15 to 24 yrs	25 to 34 yrs	35 to 44 yrs	45 to 54 yrs	55 to 65 yrs	Total
1995	53.1 (1.472)	34.1 (1.213)	22.0 (0.867)	18.1 (0.889)	14.0 (1.003)	30.8 (1.004)
2002	68.8 (1.514)	46.0 (1.519)	30.0 (1.048)	25.2 (0.996)	18.6 (1.110)	41.8 (1.174)
Difference: t-statistic	-20.409	-20.645	-13.831	-10.215	-4.743	-33.926

Source: OHS 1995, LFS 2002:2 (Statistics SA)

Notes: 1. Standard errors are in parentheses, and are corrected according to frequency weights, the primary sampling unit and, in the case of 2002, sampling stratification.
2. All t-statistics are significant at the 1 percent level.

Labour force growth in South Africa since 1995 has been rapid, outpacing population growth and rendering the labour market incapable of absorbing labour force members into employment. This has resulted in a substantial increase in broad (and narrow) unemployment between 1995 and 2002. Broad unemployment rose eleven percentage points to 41.8 percent, with increases recorded for both males and females as groups, and within race groups. African's have by far the highest unemployment rates, with 55.5 percent of African females and 42.9 percent of African males unemployed. This means that almost nine-tenths of the unemployed nationally are African. Locationally, unemployment is higher in rural areas at almost 50 percent and, consequently, in those provinces with relatively large rural populations. Specifically, Limpopo, the Eastern Cape and the North-West have the highest provincial unemployment rates, although even the Western Cape's 25 percent unemployment rate is very high compared to international standards.

Perhaps the most disturbing trend uncovered in this section is the rising number of educated unemployed people, particularly since the South African economy is skills constrained. Unemployment amongst tertiary and high school educated individuals is significantly higher in 2002, with the tertiary educated unemployment rate more than doubling from 6.6 percent to 14.6 percent over the period. The large jump in tertiary educated unemployment is due largely to the rapid increase in the number of unemployed African graduates. Variation in unemployment rates along racial lines indicates that, across races, graduates differ or are perceived to differ resulting in varying probabilities of employment. Such differences may range from employers' perceptions of differences in the quality of qualifications, which may be real or not and are related to the institutions attended, to the mix of graduates' fields of study within individual race groups. SET enrolments remain at only one-quarter of enrolments at public higher education institutions and a greater emphasis ought to be placed on technikons (or "universities of technology" as they are now known) in their role in providing SET graduates to the economy.

4.2 Household Attachment and the Unemployed

In the absence of a fully-developed social security system, it seems that for unemployed individuals an important source of resources would be the households in which they find themselves. However, there is a critical question surrounding the ability of these households to provide support to their unemployed members. Hence, the focus in this section is the analysis of the characteristics of households in which the unemployed find themselves.

A large proportion of the broad unemployed are members of households with few or no wage-earners, and this proportion has increased over the 1995-2002 period (see Table 19). In 2002, 3.9 million unemployed adults (48.6 percent of the total) were members of households without any wage-earners, up from 1.8 million (42.0 percent) in 1995. Thus, the number of unemployed adults living in non-wage-earning households rose by 2.1 million, at a rate of 11.7 percent annually. A similar, though slightly slower, increase in number of unemployed adults in households with only one wage-earner also occurred. This means that in 2002 less than 12 percent of the unemployed were members of households with two or more wage-earners, down from 16.6 percent in 1995. The evidence, therefore, points to the increased marginalisation of the unemployed in households that have no or very little access to wage-income.

Table 19: Distribution of the Unemployed across Wage-Earning Households, 1995 & 2002

<i>Number of Employed in Household</i>	1995		2002		Change	
	'000s	Share	'000s	Share	'000s	Growth Rate
0	1 780	42.0	3 852	48.6	2 072	11.7
1	1 563	36.9	3 153	39.8	1 590	10.5
2	541	12.8	709	9.0	169	4.0
3	120	2.8	153	1.9	33	3.5
4 +	43	1.0	57	0.7	15	4.3
Total	4 239	100.0	7 925	100.0	3 879	9.4

Source: OHS 1995, LFS 2002:2 (Statistics SA)

Notes: Figures are based on weighted household samples in these two surveys

It has been observed that, in the South African context, old-age pensions are often used to support the whole household, rather than only the pension recipient, and that pensioners often represent the centre around which poorer households are constituted. Table 20 indicates that the unemployed have experienced increasing access to pension income over the 1995-2002 period, in contrast to the case of wage-income. Overall, the proportion of households with access to old-age pensions has increased from 10.5 percent (1.0 million households) to 19.8 percent (2.2 million households), a remarkable achievement with the number of households involved more than doubling. Access rates have increased for households irrespective of the number of unemployed members, the largest increases being amongst households with relatively large number of unemployed members. Specifically, households with three unemployed members saw access rates rise from 19.4 percent to 31.1 percent, while access rates for households with four unemployed members grew by 11.1 percentage points to 36.1 percent. It is also evident that old-age pension access rates rise as

the number of unemployed household members rises, providing some confirmation of the formation of poorer households around pensioners.

Table 20: Household Access to Pensions according to Number of Unemployed in Household, 1995 & 2002

<i>Number of Unemployed in Household</i>	<i>1995</i>			<i>2002</i>			<i>Change</i>		
	<i>'000s</i>	<i>Access Rate</i>	<i>Share</i>	<i>'000s</i>	<i>Access Rate</i>	<i>Share</i>	<i>'000s</i>	<i>Access Rate</i>	<i>Growth Rate</i>
0	601	8.9	60.3	1 148	18.4	53.3	548	9.4	9.7
1	228	12.6	22.9	530	18.1	24.6	303	5.5	12.8
2	95	15.8	9.6	274	25.9	12.7	178	10.1	16.2
3	41	19.4	4.2	116	31.1	5.4	75	11.7	15.9
4+	30	25.0	3.0	84	36.1	3.9	54	11.1	15.8
Total	996	10.5	100.0	2 153	19.8	100.0	1 157	9.3	11.6

Source: OHS 1995, LFS 2002:2 (Statistics SA)

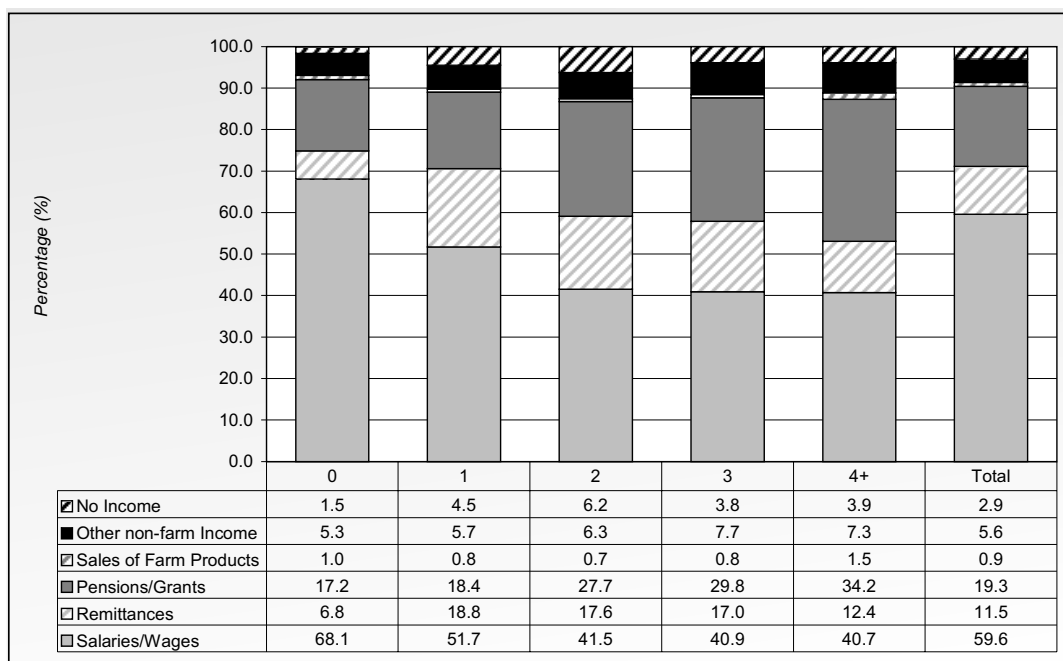
Notes: 1. 2002 figures exclude households where respondents did not specify whether or not a household member was receiving an old-age pension.
2. Growth Rate is the average annual growth rate of the number of households with access to pensions.

With access rates rising most rapidly for households with two or more unemployed members, households with no unemployed members in 2002 represent 53.3 percent of all households with access to old-age pensions, down from 60.3 percent seven years earlier. In contrast, household with two or more unemployed members represent 22.0 percent of all households with old-age pension access, up from 16.8 percent in 1995.

In a similar vein, the September 2002 LFS provides information on households' main income sources. Households' answers to this question are presented in Figure 8 according to the number of broadly unemployed household members. Salaries and wages are the main source of income for the majority of households in South Africa (59.6 percent). Amongst households with no unemployed members, salaries and wages are the main income source for 68.1 percent, while for households with one unemployed member, the figure is 51.7 percent. For households with two or more broadly unemployed members, only around 41 percent report salaries and wages to be their main source of income.

What is clear is that as the proportion of households reporting salaries and wages to be their main source of income declines as the number of broadly unemployed household members rises, the proportion of households identifying pensions and grants as their main income source rises. In households with four or more unemployed members, pensions and grants are the main source of income for more than a third, declining slightly to 29.8 percent and 27.7 percent of households with 3 or 2 unemployed members respectively. Fewer than one in five households with less than 2 unemployed members report pensions and grants as their main income source.

Figure 8: Households' Main Income Source by Number of Broad Unemployed Household Members, 2002



Source: LFS 2002:2 (Statistics SA)

The third and final major source of income is remittances. As is fair to expect, very few households with no unemployed members (only 6.8 percent) receive remittances as their major income source. Between 17 percent and 19 percent of households with one to three broadly unemployed members identify remittances as their main source of income, although this proportion falls for households with more than three unemployed members. Most of the latter households are to be found in the more rural, poorer provinces such as KZN (33.9 percent), Limpopo (18.7 percent) and North-West (7.4 percent). This may reflect a combination of forces, including the disillusionment and return to rural areas of migrant workers or the greater ability in these areas to earn income through the sale of farm products. However, the main cause of this phenomenon is likely to be that in the areas where these households are concentrated, there are very few income generating activities that can compare to the value of the welfare grants and pensions received.

This section points to the continued, and indeed increased, marginalisation of the unemployed in households with no or very few wage earners. Further, increasing numbers of the unemployed are clustered in households with access to old age pensions and it was also found that households with one or more unemployed members have pensions, grants and remittances as their main source of income. Consequently, it is evident that the social security system is coming under increasing pressure to support destitute households, a trend which will continue, at least, over the medium term. Policymakers are becoming aware of this trend and require a greater understanding of the formation of households and how grants are

utilised to support non-recipients if the social security system is to cope in the current context of rising joblessness.

4.3 Multivariate Analysis of Unemployment

Various factors influence to differing extents whether a labour market participant will be employed or unemployed in a given period. Further, the relative influence of a given factor may change over time. The results from unemployment probits for 1995 and 2002 are presented in Table 21 (the STATA output can be found in Appendix E). A number of person-specific variables have been included in these unemployment probits, which estimate the probability of a labour force member being unemployed relative to a White, male matriculants living in Gauteng.

The results of the estimations indicate that race continues to be an important predictor of unemployment, with African, Coloured and Asian individuals all being more likely to be unemployed than Whites. The coefficients are positive in both 1995 and 2002, with an individual's probability of being unemployed being almost 28 percent and 34 percent higher in 1995 and 2002 respectively if they are African than if they were White. The probits suggest that African labour force participants were even more likely in 2002 to be unemployed, relative to White participants, than in 1995.

Table 21: Probability of Being Unemployed, 1995 and 2002

		1995		2002	
		<i>Marginal Effects</i>	<i>x-bar</i>	<i>Marginal Effects</i>	<i>x-bar</i>
Race	African	0.2791*	0.7165	0.3394*	0.7535
	Coloured	0.1915*	0.1089	0.2285*	0.0961
	Asian	0.0933*	0.0305	0.1684*	0.0305
Gender	Female	0.1504*	0.4472	0.1286*	0.4937
Years of Education	0-3 years	-0.0037	2.7052	0.0127*	2.7896
	4-9 years	0.0058*	4.4650	0.0050**	4.6811
	10-11 years	-0.0378*	0.8782	-0.0361*	0.9921
	13 years or more	-0.1510*	0.1729	-0.1181*	0.2048
Age	Age (years)	-0.0405*	34.8402	-0.0458*	34.6423
	Age squared	0.0004*	1325.6000	0.0004*	1317.9800
Province	Western Cape	-0.0051	0.1241	-0.0971*	0.1064
	Eastern Cape	0.1545*	0.1171	0.0273*	0.1242
	Northern Cape	0.0624*	0.0220	-0.0118	0.0203
	Free State	-0.0218**	0.0754	-0.0349*	0.0680
	KwaZulu-Natal	0.0578*	0.1898	-0.0068	0.1983
	North West	0.0354*	0.0827	0.0177	0.0786
	Mpumalanga	0.0504*	0.0647	-0.0176	0.0659
	Limpopo	0.1400*	0.0715	0.1000*	0.1029
<i>Observed Probability</i>		0.3079		0.4195	
<i>Predicted Probability (at x-bar)</i>		0.2552		0.3901	
<i>Number Observed</i>		44305		42095	
<i>Chi²</i>		9805.96		9823.32	
<i>Pseudo R²</i>		0.1793		0.1716	

Source: Own calculations, OHS 1995, LFS 2002:2 (Statistics SA).

- Notes:
1. * Significant at 1 percent.
 2. ** Significant at 5 percent.
 3. Marginal effects are for discrete change of dummy variable from 0 to 1.

Higher unemployment amongst women relative to men is reflected in the positive coefficients for the female dummy in both periods. Further, it seems that the probability that female labour force participants are unemployed, relative to males, has declined (the coefficient has declined from 0.1504 to 0.1286). This is due to the fact that, although female unemployment rates are higher than male unemployment rates and both increased over the period, the male unemployment rate grew more quickly than that of females.

The education splines indicate that, in both years, individuals with up to 9 years of education are more likely to be unemployed than those with a matric certificate (although the 1995 coefficient for 0-3 years is not statistically significant). Individuals with thirteen years or more of education (i.e. some kind of higher education) are more likely than matriculants to find employment. However, the rise of unemployment amongst those with tertiary education is reflected in a decline in this probability. The coefficient for thirteen years or more of education in 1995 was -0.151 and -0.118 in 2002. Interestingly, the same is true of individuals with ten to eleven years of education. For both years, the coefficients for the education splines have been found to be statistically different from each other, indicating that the change in the probability of unemployment associated with an increase in years of education is not unaffected by an individual's original level of education.

Age is related non-linearly with the probability of unemployment, a relationship found in both years. Two age variables were included in the probits, namely labour force participants' ages and their ages squared. Looking first at the age variable, the negative coefficients indicate that as age increases, the probability of being unemployed declines. However, the age squared variable has small but positive coefficients, indicating greater probability of being unemployed at higher ages. In combination, at lower ages the effect of the age variable is dominant, while at higher ages, the effect of the age squared variable will dominate.

As would be expected, an individual's location can be a predictor of their (un)employment status. The 1995 probit rendered statistically significant coefficients for all provinces except the Western Cape, but in 2002 this was true for only four provinces, namely the Western and Eastern Cape, the Free State and Limpopo. In 1995, labour force members in most provinces (the Eastern Cape, Northern Cape, KwaZulu-Natal, North West, Mpumalanga and Limpopo) were more likely than their Gauteng counterparts to be unemployed. However, in 2002, this had changed slightly, with those in the Western Cape and Free State less likely than their Gauteng counterparts to be unemployed, while those in the Eastern Cape and Limpopo continued to be more often unemployed.⁹ One interesting change in coefficients is for the Eastern Cape, whose positive coefficient decreases quite significantly from 0.1545 to 0.0273 between 1995 and 2002, indicating that *relative to Gauteng labour force members*, those in the Eastern Cape are less likely to be unemployed than in 1995.

4.4 Summary

The inability of the South African economy to generate new jobs at the required pace combined with an increase in the size of the labour force of two-fifths between 1995 and 2002, has led to an almost twelve percentage point rise in the broad unemployment rate. Unemployment rates have risen for virtually every sub-group analysed and have become extremely severe in a number of cases. Amongst Africans, unemployment stood at almost 50 percent in 2002, up from 38 percent in 1995. More than 55 percent of African females are unemployed, as is half of the rural labour force.

9 An urban-rural dummy variable was initially included, but was later dropped as it yielded the incorrect sign (indicating lower probabilities of unemployment in rural areas), probably due to correlation with the provincial dummies.

The skills bias of employment growth is evident in the rising rates of unemployment amongst the poorly educated groups of the labour force. However, unemployment has risen across all educational categories, indicating that even higher levels of education do not automatically guarantee employment. This is particularly true for African labour force members: unemployment for those with tertiary education stood at 25 percent in 2002, compared to just 4 percent amongst White tertiary graduates. More than 55 percent of African matriculants were unemployed in 2002, compared to 8.6 percent of White matriculants.

Low employment growth amongst the youngest labour force members is reflected in a massive increase in the number of unemployed individuals, particularly for those between 17 and 30 years of age. Nearly 70 percent of 15 to 24 year olds and 46 percent of 25 to 34 year olds were unemployed in 2002. Population growth can only account for half of the increase in the number of unemployed 18 to 28 year olds. This trend has serious implications for individuals themselves and for the broader economy, since they are not raising their levels of education or skills nor are they acquiring work experience.

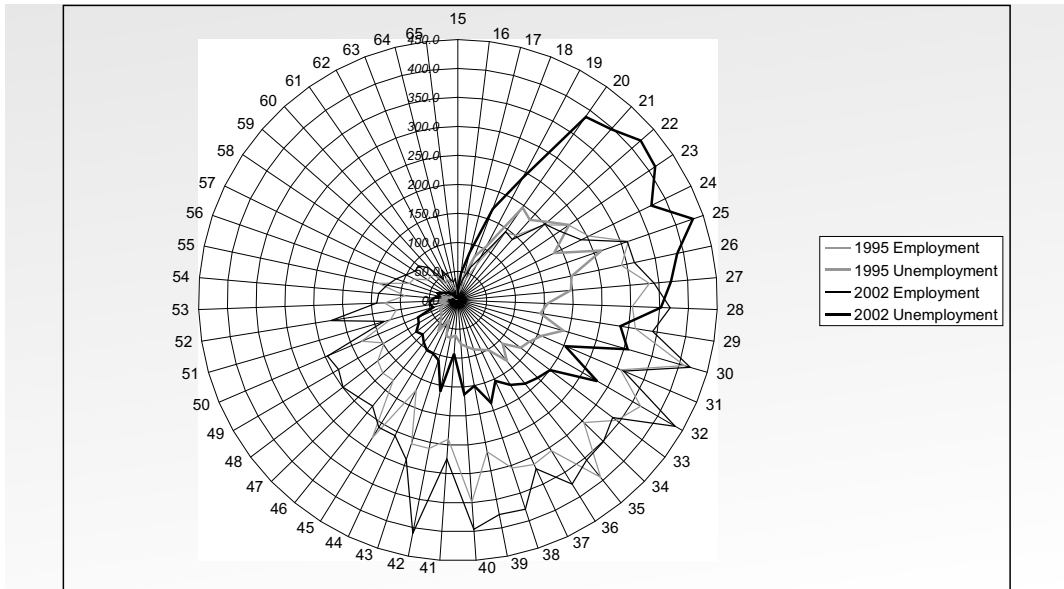
The unemployed are also increasingly marginalised in households with no or little wage-income, with nearly half of the unemployed residing in households without any employed members. At the same time, there is tentative evidence that the unemployed are increasingly clustered around pension recipients, although this does not indicate any causality. Overall, the access of households to pensions has increased with the increase being most marked for households containing two or more unemployed members. In terms of main income sources, pensions and, to a lesser extent, remittances are most often the main income sources for households with two or more unemployed members.

5. The Employed And Unemployed Contrasted

It seems logical that the employed and the unemployed will differ from each other in specific ways. This is also confirmed by the fact that certain individual attributes indicate increased or decreased probability of being unemployed as shown in the previous section. In this section, we aim to identify some of these key differences.

The absorption of young labour market entrants into employment in South Africa has been relatively poor, as demonstrated above. This has resulted in the age profiles of the employed and the unemployed differing substantially (see Figure 9). What is initially clear from the figure is the rapid expansion in the number of unemployed adults, while there has been relatively little change in employment over the period. The major difference between the age profiles of employment and unemployment is that the latter is concentrated largely amongst individuals between the ages of 20 and 28, while the employed are concentrated between the ages of 28 and 42 years.

Figure 9: Broad Employment Status by Age (Thousands), 1995 and 2002

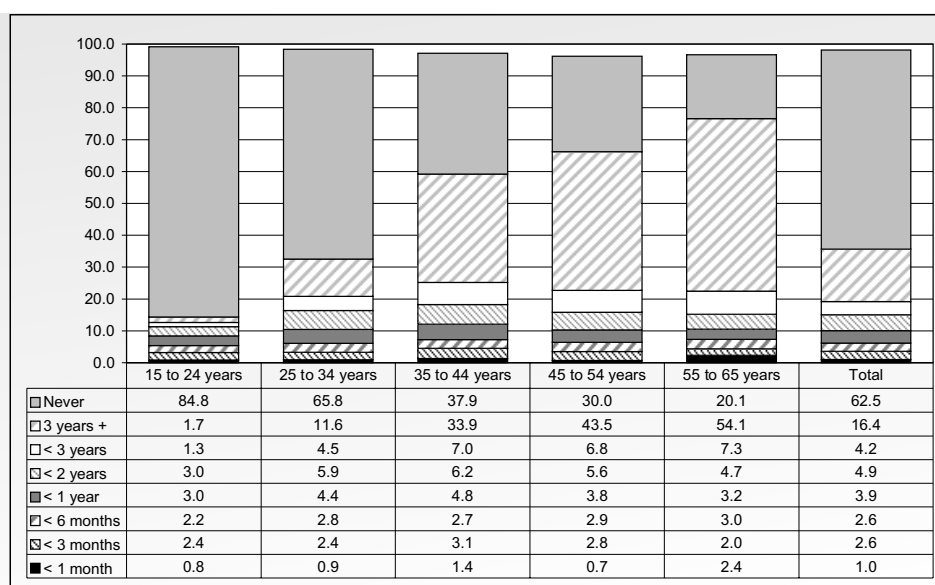


Source: OHS 1995, LFS 2002:2 (Statistics SA)

Here again, the economy's inability to absorb new jobseekers, specifically school-leavers, is evident. The surge in unemployment over the 1995-2002 period is particularly acute amongst labour force members in their twenties, with observed increases amongst older adults often a function of the seven year gap between the two datasets. In other words, the number of unemployed 32 year olds in 2002, for example, is closely related to the number of unemployed 25 year olds in 1995, and in some cases the 1995 and 2002 figures are virtually identical. This is a rather important finding in its suggestion that large proportions of individuals who have not found employment by their mid-twenties are unlikely to be employed seven years down the line. Although it is not possible to determine whether those employed in 2002 are the same individuals employed in 1995, it is likely that the two groups overlap to a large degree, particularly amongst older age-groups. This issue has wide-ranging implications and requires further investigation.

A disturbingly large proportion (62.5 percent) of the broadly unemployed has never been employed (see Figure 10). This amounts to approximately 5.0 million of the 7.9 million unemployed adults in 2002. The problem is, understandably, worst amongst the youngest unemployed individuals. Thus, amongst 15-24 year olds, nearly 85 percent have never been employed, while the proportion is 65.8 percent for 25-34 year olds. The broad definition of work utilised¹⁰ means that these figures are likely to underestimate the proportion of individuals who have never had remunerative employment, formal sector or stable employment.

Figure 10: Broad Unemployed according to Time since Last Worked, 2002



Source: LFS 2002:2 (Statistics SA)

Notes: 1. Figures do not add up to 100 percent since individuals who did not specify or did not remember when they last worked were omitted.

The gap between the age-groups is substantially narrowed if one looks at the proportion of the broadly unemployed who have either never had a job or who have been unemployed in excess of three years. This group accounts for 86.5 percent of unemployed 15-24 year olds, 77.4 percent of 25-34 year olds, 71.8 percent of 35-44 year olds, 73.5 percent of 45-54 year olds and 74.2 percent of 55-65 year olds. This means that 78.9 percent of the broadly unemployed in 2002 were broadly unemployed in 1999.

10 The question in the LFS 2002:2 defines work as "Formal work for salary, wage, profit or unpaid in family business; informal work such as making things for sale, selling things or providing a service; work on a farm or land, whether for a wage or as part of the household's farming activities; casual/seasonal work" (LFS September 2002 Questionnaire, question 3.11).

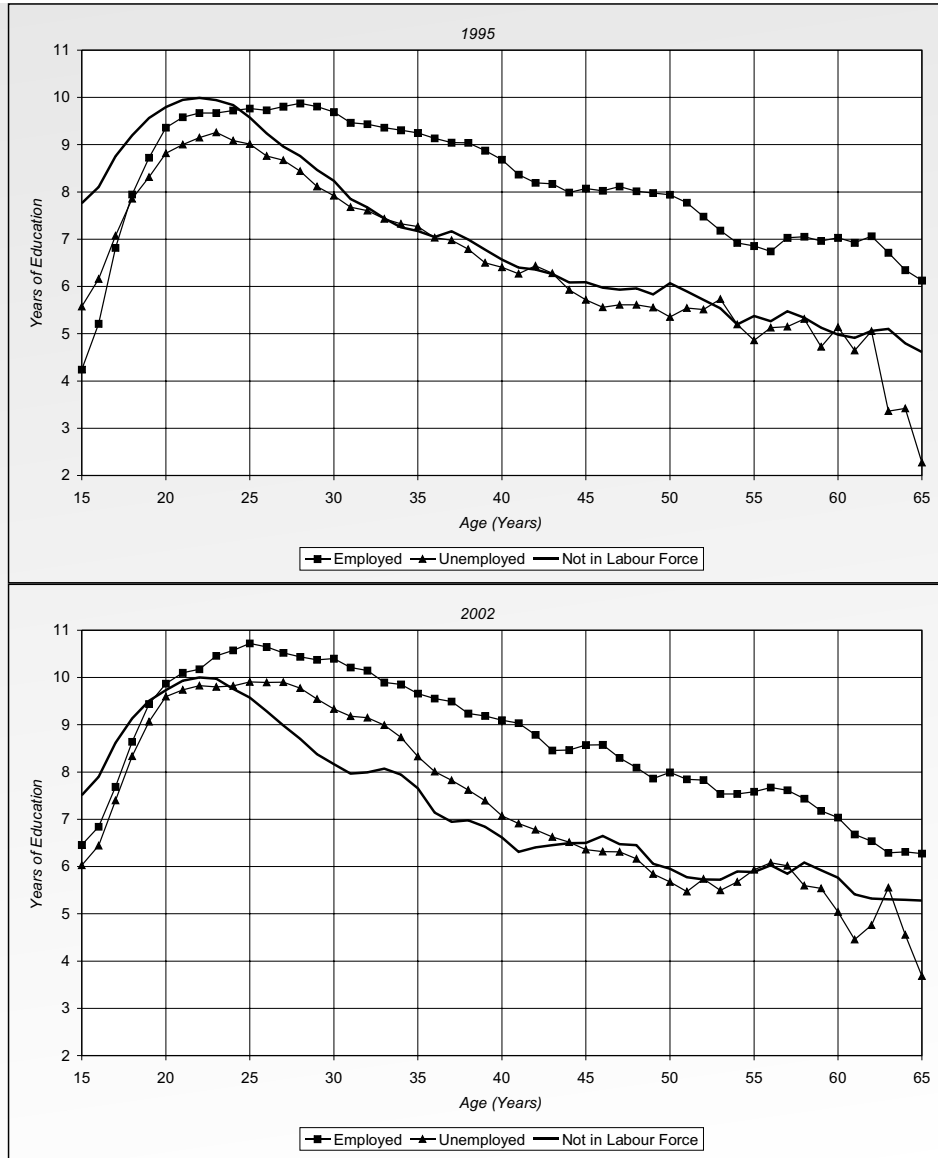
In terms of the age profiles of the employed and unemployed, the evidence seems to point to large proportions of the unemployed remaining unemployed for extended periods of time. Granted, it is not possible from the Labour Force Surveys to determine the extent to which adults move in and out of the labour force over time, specifically the movements from being broadly unemployed to being out of the labour force and vice versa, as well as movements from one state to the other and back again. If such movements are widespread, the assertion that a large proportion of the unemployed in 2002 were unemployed in 1995 is weakened. However, the existence of substantial proportions of the broadly unemployed who have never worked for pay, profit or family gain, even amongst the oldest groups, means that South Africa faces a serious problem where large numbers of working-age individuals are chronically unemployed, a problem which has long-term ramifications as chronically unemployed individuals reach retirement age having been unable to provide for their old age.

The brief description of the labour force presented in section 2.3 found evidence of increasing levels of education amongst labour force members. Over the period, employment gains have been biased towards higher skilled, and therefore generally better educated, workers, while unemployment is highest amongst the less educated. An interesting question is how the mean years of education vary by age for individuals according to their employment status. Figure 11 presents the mean years of education by individuals' age and labour force status, the latter referring to whether an individual is employed, broadly unemployed or not a member of the labour force.

Generally speaking, within each age cohort, employed individuals have more years of education on average than those who are unemployed or not members of the labour force. This is not surprising given the evidence on education levels presented above. As one would expect, mean years of education decline as age increases, irrespective of labour market status from a peak during the mid-twenties. The general pattern shows a rapid increase in the average years of education between the ages of 15 and 20 years as individuals pass through the education system, peaking amongst the 20-30 year olds, and declining thereafter. The patterns for the unemployed and those outside the labour force are quite similar. Amongst the youngest, though, those outside the labour force have significantly more years of education on average than unemployed (and employed), this difference being composed merely of individuals at educational institutions who only enter the labour market later on.

What is interesting is the fact that mean years of education have increased between 1995 and 2002 for virtually every age cohort whether employed or unemployed, particularly for the youngest labour force members. Education peaks around age 25 in 2002, compared to age 28 in 1995 amongst the employed. For the unemployed, the age at which mean years of education peaks rose from around 23 in 1995 to 25-27 in 2002. For those individuals who are not members of the labour force, mean years of education are basically unaltered. This means that while the employed are on average more educated in 2002 than they were in 1995, the same applies to the unemployed, indicating again that higher levels of education are less likely in 2002 than in 1995 to stave off unemployment. These changes were confirmed by investigation of the patterns derived from the September 2000 LFS.

Figure 11: Mean Years of Education by Broad Labour Force Status, 1995 and 2002



Source: OHS 1995, LFS 2002:2 (Statistics SA).
Notes: 1. Mean years of education is calculated as a three year moving average for each age.

6. Discouraged Work-Seekers

The two definitions of unemployment, the broad and the narrow, while establishing the criteria for being defined as unemployed, also define two 'labour forces', with the broad labour force being, necessarily, larger than the narrow labour force. A person who is narrowly unemployed is by definition also broadly unemployed, although the opposite is not true. The group of individuals who are broadly unemployed but are regarded as outside the narrow labour force forms the focus of this section. These individuals are the discouraged work-seekers, who no longer actively seek employment.

Table 22 presents a description of South Africa's discouraged work-seekers according to various correlates. The rapid growth in the number of broadly and narrowly unemployed individuals since 1995 has meant that there has been substantial, although relatively slower, growth in the number of discouraged work-seekers over the period, from 2.2 million in 1995 to 3.1 million in 2002. This represents an increase of about 40 percent for the period, which equates to a growth rate of 4.9 percent per annum.

More than three-fifths of discouraged work-seekers are female, with the proportion rising slightly from 60.4 percent in 1995 to 62.3 percent in 2002. Unsurprisingly, more than nine out of ten discouraged work-seekers are African, while a further 5.5 percent are Coloured. Whites and Asians form a very small proportion of the group. Consequently, the largest group of discouraged work-seekers, defined by race and gender, are African females, constituting 56.9 percent of the total in 2002, up two percentage points from 54.9 percent in 1995.

Table 22: Discouraged Work-Seekers (percentage breakdowns), 1995 & 2002

		1995			2002		
		Male	Female	Total	Male	Female	Total
TOTAL	<i>'000s</i>	875.0	1332.2	2207.2	1163.1	1924.4	3087.5
	<i>percent</i>	39.6	60.4	100.0	37.7	62.3	100.0
African		37.2	54.9	92.1	34.5	56.9	91.4
Coloured		1.9	3.5	5.5	2.0	3.5	5.5
Asian		0.2	0.5	0.7	0.4	0.5	0.9
White		0.3	1.4	1.7	0.8	1.3	2.2
15 to 24 years		12.5	16.1	28.6	14.2	19.6	33.8
25 to 34 years		15.2	24.5	39.6	12.2	22.3	34.5
35 to 44 years		6.9	13.1	20.0	6.0	12.5	18.5
45 to 54 years		3.6	5.4	9.0	3.8	6.4	10.2
55 to 65 years		1.5	1.4	2.9	1.5	1.5	3.0
Total		39.6	60.4	100.0	37.7	62.3	100.0
No Education		10.6	13.2	12.2	6.2	7.7	7.2
Incomplete Primary		26.1	22.2	23.8	24.5	19.3	21.2
Complete Primary		8.6	9.8	9.3	8.7	9.5	9.2
Incomplete Secondary		35.4	37.0	36.4	38.7	42.3	40.9
Complete Secondary		16.0	14.8	15.3	18.9	18.3	18.6
Tertiary		1.4	1.5	1.5	2.1	2.3	2.2
Total		100.0	100.0	100.0	100.0	100.0	100.0
		Urban	Rural	Total	Urban	Rural	Total
TOTAL	<i>'000s</i>	1011.6	1195.6	2207.2	1202.8	1884.7	3087.5
	<i>percent</i>	45.8	54.2	100.0	39.0	61.0	100.0
Western Cape		5.3	0.2	5.5	3.8	0.4	4.2
Eastern Cape		6.0	11.5	17.5	4.3	12.6	16.8
Northern Cape		1.3	0.2	1.6	1.0	0.8	1.8
Free State		5.6	2.1	7.7	3.6	1.6	5.2
KwaZulu-Natal		5.6	14.8	20.4	5.7	12.3	18.0
North-West		3.2	7.1	10.3	2.3	7.8	10.1
Gauteng		15.1	0.5	15.6	14.9	0.3	15.2
Mpumalanga		2.5	6.3	8.9	2.0	5.4	7.3
Limpopo		1.2	11.5	12.7	1.4	19.7	21.2

Source: OHS 1995, LFS 2002:2 (Statistics SA)

In terms of age, there has been a slight shift in the distribution of discouraged work-seekers across the age-groups. At the start of the period, almost 40 percent of the discouraged work-seeker population was between the ages of 25 and 34 years, with just under 29 percent being 15-24 years of age. This meant that slightly less than one-third were 35 years or older. The seven-year period that followed saw a significant increase in the proportion that are 15-24 years old, up to nearly 34 percent, with a corresponding decline in the proportion aged 25-34 years (down to 34.5 percent). The proportions of discouraged work-seekers in the older age-groups have remained relatively stable over the period. The predominance of females amongst the group means that females aged between 25 and 34 years accounted for between one-fifth and one-quarter of the group.

A rather disturbing trend is revealed when looking at the discouraged work-seekers according to their highest level of education. Increasingly, discouraged work-seekers are coming from the ranks of the relatively well educated population. In 2002, nearly 60 percent of discouraged work-seekers had at least some kind of secondary education (specifically, 41 percent had an incomplete secondary education with a further 19 percent having completed their secondary educations). This is a rise of around eight percentage points from 1995, when 36.4 percent had an incomplete secondary education and 15.3 percent had matriculated. The rise in the number of unemployed individuals with these educational characteristics has been particularly stark amongst females. In 2002, 42.3 percent of female discouraged work-seekers had incomplete secondary education, 18.3 percent had complete secondary education and 2.3 percent had tertiary education, up from 37.0 percent, 14.8 percent and 1.5 percent respectively in 1995. The proportion of female discouraged work-seekers at least some secondary education therefore rose from 53.3 percent to 62.9 percent over the period, a difference of nearly ten percentage points. Overall, this shift is in line with the trend observed in the composition of the labour force, which is shifting towards higher levels of education.

Although discouraged work-seekers are predominantly poorly educated – around 80 percent have not completed matric – there is also an increasing proportion that have completed secondary or tertiary education, a group which is often assumed to be more able to find employment than less educated individuals. This again points to the education system, which seems unable to produce the type of skills required by the labour market in the necessary quantities. Clearly, then, the education system in general and the schooling system in particular has engendered graduates who are increasingly transiting from schooling into unemployment. More worryingly though, the time comparison suggests that these individuals are also, with an increased probability, likely to form part of the group of discouraged work-seekers – the marginalised within the cohort of unemployed individuals.

Most of the discouraged work-seekers are resident in rural households (61.0 percent in 2002, up from 54.2 percent in 1995), and are concentrated in relatively few provinces. KZN, the Eastern Cape, Gauteng and Limpopo province are home to the largest numbers of discouraged work-seekers. Combined, they account for more than 71 percent of the total in 2002, up from 66.2 percent seven years earlier. Limpopo saw the biggest surge in its share, from 12.7 percent in 1995 to 21.2 percent in 2002, a rise of 8.5 percentage points. This has meant that Limpopo has taken over from KZN as the province with the most discouraged work-seekers in the country. These two provinces accounted for almost 40 percent of the national total in 2002.

The group of individuals who have given up actively seeking work – referred to in this section as discouraged work-seekers – deserves further attention. This state is for many the final step before exiting the labour force. In fact, to a large degree, these individuals are already not active participants in the labour force. The problem of unemployment in South Africa can clearly not be properly addressed without improved understanding of this group and their reasons for terminating their search for employment.

7. Conclusion

The South African economy today, like that of 1995, faces some important challenges. Probably the most important, and one which has characterised the economies of both 1995 and 2003, is the challenge of generating job opportunities in sufficient numbers so as to first halt the rise in unemployment and then reduce it. It has been shown that, while not jobless, economic growth has been unable to provide the necessary employment opportunities, resulting in a rapidly rising rate of unemployment, which stands at 41.8 percent of the labour force. The problem has been exacerbated by the high number of new entrants into the labour force, with labour force participation rates rising across the board. This has meant that actual labour absorption has been far lower than the rates required just to keep unemployment levels constant.

Equality in the labour force is still a far way off in terms of access to employment. Unemployment is concentrated in specific demographically and geographically defined groups. Thus, those worst affected by unemployment are African, female, poorly educated, and the young (15-24 year olds specifically). Rural areas, specifically those of the former homeland areas, are the worst hit regions. Even amongst groups who, in the past, would have found employment relatively easily, for example Whites or highly educated people, jobs have become relatively scarcer. Unemployment in 2002 is also quite a permanent feature of life for many individuals, with almost nine in ten unemployed individuals having been unemployed for more than three years or having never had a job at all. This phenomenon has serious implications for the human capital of these individuals as extended periods of unemployment erode their skills or make their skills outdated, reducing their chances of re-employment even further.

Many of the trends discussed have been previously identified. However, this paper has also highlighted a number of new issues. Firstly, evidence has been presented that questions the validity of the jobless growth argument. The argument rests on an incomplete data set of inconsistent coverage and, although October Household and Labour Force Survey data are unable to refute the argument with total certainty, there are now serious doubts regarding the accuracy of this description of the post-*apartheid* South African economy.

Secondly, this paper has found there to be a rapidly growing number of unemployed workers with relatively high levels of education (specifically matric and tertiary qualifications), despite the 1995-2002 period seeing a continuation of previous employment trends biased towards tertiary sectors and more highly skilled and better educated workers. This problem is particularly acute amongst Africans, which seems to indicate perceived differences in quality of graduates from different race groups and may relate more to perceptions of inferior quality of education provided at historically disadvantaged tertiary education institutions. Thus, despite a skills shortage in South Africa, there are increasing numbers of highly educated people without employment. This represents one of the most important challenges facing government: ensuring that the education system produces the mix of skills required by the labour market, as well as ensuring quality education at all educational institutions. However, addressing these problems may still be insufficient as employers may still have misconceptions and stereotypes about certain institutions in terms of education quality.

The labour market, as stated earlier, is arguably the most important factor market with changes in it impacting on the lives of millions of people. Although jobs may have been

created over the period, it is important to remember that many were created in the informal sector, where jobs are often of low quality and are less stable and lower paying than formal sector jobs. The third issue highlighted in this paper is the fact that the unemployed are also increasingly marginalised in households with no wage or salary earners and are relying more and more on state transfers (pensions and other grants). These transfers are increasingly used to support the entire household, resulting in their dilution and making the state's aim of poverty alleviation via these transfers more difficult to achieve. Ten years after the end of apartheid, it is clear that much remains to be done in order to consolidate economically what has been achieved politically, with the labour market being key.

References

- Altman, M., 2003. *Jobless or Job Creating Growth? Some preliminary thoughts*. Paper presented at the TIPS/DPRU Annual Forum, 8-10 September, Johannesburg.
- Bhorat, H., 2003. The Post-Apartheid Challenge: Labour Demand Trends in the South African Labour Market, 1995-1999. *Development Policy Research Unit Working Paper No. 03/82*. Available [online]: <http://www.commerce.uct.ac.za/dpru/WorkingPapers/wpapers.asp>.
- Bhorat, H., & Leibbrandt, M., 2001. Modelling Vulnerability and Low Earnings in the South African Labour Market. In: H. Bhorat, M. Leibbrandt, M. Maziya, S. van der Berg and I. Woolard, *Fighting Poverty: Labour Markets and Inequality in South Africa*. Cape Town: UCT Press.
- Casale, D., & Posel, D., 2002. The Continued Feminisation of the Labour Force in South Africa: An Analysis of Recent Data and Trends. *South African Journal of Economics* 70(1): 156-184. March.
- Department of Education, 2003. *Education Statistics in South Africa at a Glance in 2001*. June. Available [online]: <http://education.pwv.gov.za/content/documents/308.pdf>.
- Department of Education & Department of Labour, 2002. *Human Resource Development Strategy for South Africa: A Nation at Work for a Better Life for All*. Pretoria: Government Printers.
- Loots, E., 1998. Job Creation and Economic Growth. *South African Journal of Economics* 66(3): 319-336.
- Muller, C., 2003. Measuring South Africa's Informal Sector: An Analysis of National Household Surveys. *Development Policy Research Unit Working Paper No. 03/71*. Available [online]: <http://www.commerce.uct.ac.za/dpru/WorkingPapers/wpapers.asp>.
- Oosthuizen, M.J., 2003. Expected Labour Demand in South Africa: 1998-2003. *Development Policy Research Unit Working Paper No 03/81*. Available [online]: <http://www.commerce.uct.ac.za/dpru/WorkingPapers/wpapers.asp>.
- Roukens De Lange, A., 1993. Occupation and Skill Structure of Manpower in South Africa: A Critical Analysis of Manpower Survey Data. *Journal for Studies in Economics and Econometrics* 17(3): 53-64. November.
- SARB, 2003. Quarterly Bulletin. No 228. June.
- Statistics South Africa, 2000. October Household Survey 1999. *Statistical Release P0317*. Pretoria: own publication.
- _____, 2002. *The South African Labour Market: Selected Time-based Social and International Comparisons*. Pretoria: own publication. Available [online]: <http://www.statssa.gov.za>.
- _____, 2002. Survey of Employment and Earnings, December 2002. *Statistical Release P0271*. Pretoria: own publication.

- _____, 2003a. Labour Force Survey: September 2002. *Statistical Release P0210*. Pretoria: own publication.
- _____, 2003b. Survey of Employment and Earnings, March 2003. *Statistical Release P0275*. Pretoria: own publication.
- _____, various years. *Labour Force Survey*. Pretoria: own publication.
- _____, various years. *October Household Survey*. Pretoria: own publication.

Appendix A

Snapshot of the South African Labour Force (Broadly Defined), by Race, 1995 and 2002

		1995		2002		Change	
		'000s	Share of Race Total	'000s	Share of Race Total	'000s	Share of Race Total
African	Male	5374	54.4	7058	49.5	146	38.3
	Female	4501	45.6	7213	50.5	206	61.7
Coloured	Male	804	54.1	950	51.7	58	41.4
	Female	682	45.9	888	48.3	98	58.6
Asian	Male	269	64.5	327	57.1	101	37.3
	Female	148	35.5	246	42.9	153	62.7
White	Male	1152	58.3	1253	56.1	1989	39.7
	Female	825	41.7	978	43.9	3169	60.3
African	15-24 years	1628	16.5	2898	20.3	1270	28.9
	25-34 years	3728	37.8	5115	35.8	1387	31.6
	35-44 years	2678	27.1	3647	25.6	969	22.0
	45-54 years	1317	13.3	1950	13.7	633	14.4
	55-65 years	524	5.3	664	4.6	140	3.2
Coloured	15-24 years	366	24.6	414	22.5	48	13.8
	25-34 years	538	36.2	598	32.5	59	16.9
	35-44 years	349	23.5	493	26.8	144	40.9
	45-54 years	172	11.6	258	14.1	86	24.5
	55-65 years	61	4.1	75	4.1	14	3.9
Asian	15-24 years	98	23.5	116	20.2	18	11.5
	25-34 years	134	32.2	196	34.2	62	39.7
	35-44 years	103	24.6	140	24.5	38	24.2
	45-54 years	64	15.3	97	17.0	34	21.7
	55-65 years	19	4.4	25	4.4	7	4.3
White	15-24 years	312	15.8	276	12.4	-36	-14.1
	25-34 years	576	29.2	614	27.5	37	14.6
	35-44 years	541	27.4	621	27.8	80	31.5
	45-54 years	388	19.6	492	22.1	104	40.9
	55-65 years	159	8.0	227	10.2	69	27.0
African	No education	1087	11.0	1060	7.4	-27	-0.6
	Incomplete Primary	2133	21.6	2778	19.5	645	14.7
	Complete Primary	844	8.5	1192	8.4	348	7.9
	Incomplete Secondary	3375	34.2	5177	36.3	1803	41.0
	Complete Secondary	1574	15.9	2888	20.2	1314	29.9
	Tertiary	682	6.9	973	6.8	291	6.6
	Other/Unknown	179	1.8	206	1.4	27	0.6
	No education	92	6.2	75	4.1	-17	-4.8
	Incomplete Primary	289	19.5	275	15.0	-14	-4.0
	Complete Primary	157	10.6	164	8.9	7	1.9
Coloured	Incomplete Secondary	625	42.1	738	40.2	113	32.1
	Complete Secondary	227	15.3	412	22.4	185	52.5
	Tertiary	86	5.8	126	6.8	40	11.4
	Other/Unknown	10	0.7	48	2.6	38	10.9
	No education	2	0.5	2	0.3	0	-0.2
	Incomplete Primary	13	3.1	11	1.9	-2	-1.1
Asian	Complete Primary	14	3.4	13	2.3	-1	-0.8
	Incomplete Secondary	150	36.0	182	31.8	32	20.7
	Complete Secondary	172	41.2	282	49.2	110	70.9
	Tertiary	63	15.1	71	12.4	8	5.4
	Other/Unknown	3	0.8	13	2.3	10	6.5
White	No education	1	0.0	2	0.1	1	0.4
	Incomplete Primary	7	0.3	6	0.3	-1	-0.3
	Complete Primary	1	0.1	9	0.4	8	3.0
	Incomplete Secondary	423	21.4	374	16.8	-50	-19.5
	Complete Secondary	900	45.6	981	44.0	80	31.6
Tertiary	599	30.3	792	35.5	193	75.8	

Source: OHS 1995, LFS 2002:2 (Statistics SA)

Appendix B

Employment Estimates, 1995-2002

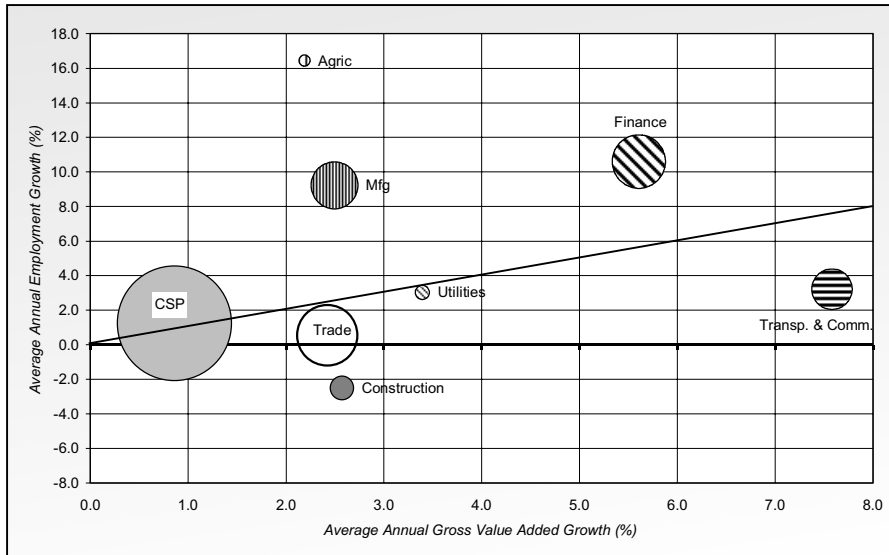
	Formal Non-Agricultural Employment	Total Employment					Real GDP
		P0317 (1999)	LFS	SSA (2002)	Combined Series		
	Index	('000s)	('000s)	('000s)	('000s)	Index	Index
	SARB	SSA	SSA	SSA			SARB
1995	111.34			9 632	9 632	82.24	87.78
1996	110.59	9 287			9 287	79.29	91.56
1997	108.68	9 247			9 247	78.95	93.99
1998	104.90	9 390			9 390	80.17	94.70
1999	102.80	10 369		10 369	10 369	88.53	96.62
2000	100.00		11 712		11 712	100.00	100.00
2001	98.39		11 335*		11 335	96.78	102.83
2002	98.54		11 211*		11 211	95.72	105.89

Source: SARB Quarterly Bulletins, Statistics SA (2000, 2002), Bhorat (2003), and own calculations using LFSs (Statistics SA 2000-2002) and SARB Quarterly Bulletins.

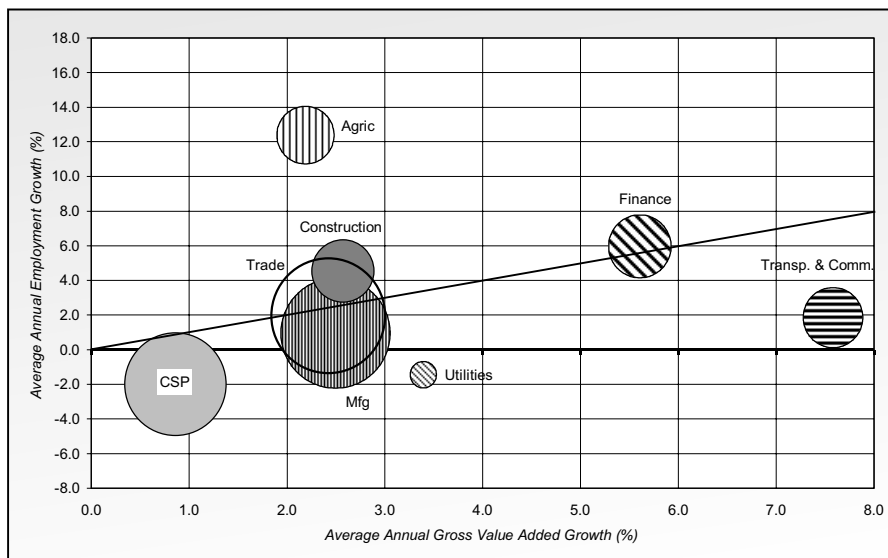
Notes: * Average of each year's February and September estimates.

Appendix C

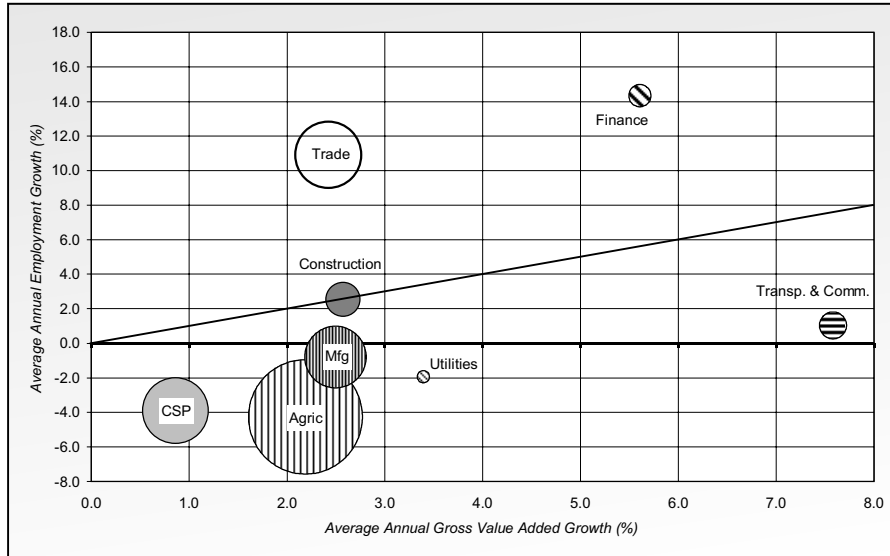
Gross Value Added and Employment Growth by Sector, 1995-2002: Skilled Workers



Gross Value Added and Employment Growth by Sector, 1995-2002: Semi-Skilled Workers



Gross Value Added and Employment Growth by Sector, 1995-2002: Unskilled Workers



Source: OHS 1995, LFS 2002:2 (Statistics SA)

Appendix D

	1995					
	Male		Female		Total	
African	29.5	(1.092)	47.6	(1.119)	37.8	(1.060)
Coloured	17.9	(1.027)	28.4	(1.548)	22.8	(1.122)
Asian	10.0	(1.406)	20.6	(2.989)	13.8	(1.798)
White	3.7	(0.318)	8.7	(0.729)	5.8	(0.386)
Total	23.7	(0.925)	39.6	(1.168)	30.8	(1.004)
	2002					
	Male		Female		Total	
African	42.9	(1.116)	55.5	(0.978)	49.3	(0.944)
Coloured	24.8	(1.418)	34.1	(2.177)	29.3	(1.489)
Asian	18.9	(2.355)	32.7	(2.568)	24.9	(2.248)
White	7.2	(1.016)	11.2	(1.108)	9.0	(0.905)
Total	35.6	(1.169)	48.2	(1.276)	41.8	(1.174)

Source: OHS 1995, LFS 2002:2 (Statistics SA).

Notes: Standard errors are in parentheses, and are corrected for according to frequency weights, the primary sampling unit and, in the case of 2002, sampling stratification.

Appendix E

Unemployment Probits (STATA Output), 1995 and 2002

1995							
				Number of obs		44305	
				LR chi2(18)		9805.96	
				Prob > chi2		0	
Log likelihood =			-22449.733	Pseudo R2		0.1793	
	dF/dx	Std. Err.	z	P> z	x-bar	[95 percent C.I.]	
African*	0.27910	0.00616	34.61	0	0.71646	0.26702	0.29117
Coloured*	0.19145	0.01448	14.09	0	0.10887	0.16308	0.21982
Asian*	0.09327	0.02019	4.9	0	0.03054	0.05370	0.13283
Female*	0.15037	0.00445	33.84	0	0.44715	0.14165	0.15909
0-3 years	-0.00369	0.00364	-1.01	0.311	2.70516	-0.01083	0.00345
4-9 years	0.00581	0.00182	3.18	0.001	4.46499	0.00223	0.00939
10-11 years	-0.03782	0.00349	-10.85	0	0.87823	-0.04467	-0.03098
13+ years	-0.15099	0.00712	-20.71	0	0.17295	-0.16495	-0.13704
Age	-0.04054	0.00134	-30.29	0	34.84020	-0.04318	-0.03791
Agesq	0.00038	0.00002	21.58	0	1325.60000	0.00035	0.00042
WCape*	-0.00512	0.00954	-0.53	0.593	0.12414	-0.02382	0.01358
ECape*	0.15447	0.00898	18.38	0	0.11712	0.13688	0.17206
NCape*	0.06238	0.01788	3.66	0	0.02201	0.02734	0.09742
FState*	-0.02185	0.00896	-2.39	0.017	0.07537	-0.03941	-0.00429
KZulu*	0.05777	0.00735	8.1	0	0.18977	0.04336	0.07218
NWest*	0.03537	0.00923	3.93	0	0.08272	0.01727	0.05347
Mpuma*	0.05039	0.01042	5.02	0	0.06475	0.02997	0.07083
Limpopo*	0.13996	0.01076	13.94	0	0.07147	0.11888	0.16104
cons	0.36543	0.02684	13.76	0	1.00000	0.31283	0.41803
Obs. P	0.30785						
Pred. P	0.25519	(at x-bar)					
2002							
				Number of obs		42095	
				LR chi2(18)		9823.32	
				Prob > chi2		0	
Log likelihood =			-23717.938	Pseudo R2		0.1716	
	dF/dx	Std. Err.	z	P> z	x-bar	[95 percent C.I.]	
African*	0.33936	0.00777	34.94	0	0.75351	0.32413	0.35460
Coloured*	0.22851	0.01468	15.28	0	0.09614	0.19974	0.25728
Asian*	0.16841	0.01960	8.6	0	0.03052	0.13000	0.20682
Female*	0.12856	0.00509	25.06	0	0.49371	0.11860	0.13853
0-3 years	0.01269	0.00450	2.82	0.005	2.78958	0.00387	0.02151
4-9 years	0.00499	0.00211	2.37	0.018	4.68113	0.00086	0.00912
10-11 years	-0.03611	0.00389	-9.28	0	0.99215	-0.04374	-0.02848
13+ years	-0.11813	0.00575	-20.4	0	0.20479	-0.12940	-0.10685
Age	-0.04582	0.00154	-29.8	0	34.64230	-0.04884	-0.04279
Agesq	0.00042	0.00002	20.24	0	1317.98000	0.00038	0.00046
WCape*	-0.09705	0.01082	-8.57	0	0.10644	-0.11826	-0.07585
ECape*	0.02730	0.00917	3	0.003	0.12417	0.00933	0.04526
NCape*	-0.01180	0.01961	-0.6	0.549	0.02027	-0.05024	0.02663
FState*	-0.03491	0.01102	-3.13	0.002	0.06799	-0.05651	-0.01331
KZulu*	-0.00682	0.00799	-0.85	0.394	0.19833	-0.02248	0.00885
NWest*	0.01766	0.01061	1.67	0.094	0.07863	-0.00312	0.03845
Mpuma*	-0.01761	0.01116	-1.57	0.117	0.06587	-0.03949	0.00427
Limpopo*	0.09997	0.00992	10.21	0	0.10291	0.08053	0.11942
cons	0.55249	0.03133	17.74	0	1.00000	0.49108	0.61389
Obs. P	0.41947						
Pred. P	0.39010	(at x-bar)					

Source: OHS 1995, LFS 2002:2 (Statistics SA).

- Notes:
- (*) dF/dx is for discrete change of dummy variable from 0 to 1.
 - z and P>|z| are the test of the underlying coefficient being 0.