

Employment and Unemployment Trends in Post-*Apartheid* South Africa

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2nd Draft

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Introduction

Following the onset of democratic rule in South Africa in April 1994, it soon became clear that the transition was a political one, in the narrowest sense of the term. Specifically, the new South African government has been, and indeed continues to be, beset with the longer term and more inertial consequences of *apartheid*. These consequences can be represented generically as the economic outcomes engendered by the policy of legislated racial exclusivity. Nowhere is this challenge more acute than within the arena of the labour market. The ability, or lack thereof, of the domestic economy to generate a sufficient quantum of jobs has constantly come under policymakers' scrutiny. The focus of this paper then is to attempt to document and identify the key trends in the labour market – in an attempt at hopefully understanding the factors that may be driving the performance of this factor market.

The Poverty and Inequality Challenge

Before proceeding to a detailed analysis of the labour market trends over the period 1995 to 2002, it may be useful to provide an overview of the existing welfare challenges the current government faces. The table below attempts a very brief sketch of the nature and extent of this social welfare challenge that the new government has inherited. It is clear that the extent of poverty and inequality, captured in the table below, has been a legacy inherited as a result of the official policy of racial exclusion. This racial exclusion has of course been the sole contributor to the imbalances in the society that ran the gamut of unequal access to education, differential coverage in, and levels of, welfare provision and the range of public social services such as housing, water and utilities. It is the combination of restricted access on the basis of race that over time have engendered this significant challenge that the society faces today.

South Africa's Gini coefficient has always served as the starkest indicator of the country's unequal distribution of income.² For a long time, South Africa's Gini was the highest recorded in the world. Table XXX presents a comparison of South Africa's Gini coefficient and income shares to countries with similar income levels³. It is clear that Brazil and South Africa are far less egalitarian societies than the other nations presented here⁴, but also that

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² The Gini coefficient always has a value between zero and one. The bigger the number, the more inequality exists.

³ The Gini and Headcount indices are drawn from the Income and Expenditure Survey of 1999 (IES99), which is an update of the IES for 1995. Both estimates are based on household income figures. It represents the latest available data set, at the time of writing, on household income and expenditure accounts in South Africa. More recent labour market statistics, such as those provided for in the Labour Force Surveys (LFSs), do not allow for the construction of inequality and poverty indices.

⁴ Note that because of variability in the date of data collection and differing methodologies, these figures should be taken as indicative only.

Brazil has a slightly higher level of income inequality compared to South Africa. Both these Gini values though are extremely high, indicating very skewed distributions of income. By comparison, Poland and Thailand have Gini coefficients of 0.41 and 0.32 respectively, showing that these economies have a significantly more equitable distribution of income.

Table XXX: Measures of Poverty and Inequality by Race & Gender of Household Head and International Estimates⁵

Household Head	Headcount	Poverty Gap Ratio (%)	Gini	Coeff. Of Variation
African	38.22 (0.021)	14.2 (0.142)	0.53	1.80
Coloured	21.51 (0.022)	6.6 (0.066)	0.48	1.13
Asian	3.73 (0.006)	0.9 (0.009)	0.47	1.23
White	3.03 (0.030)	0.8 (0.008)	0.46	1.25
Male	26.39 (0.029)	9.2 (0.011)	0.60	1.81
Female	43.52 (0.027)	17.0 (0.012)	0.53	1.81
Total	32.02 (0.029)	11.8 (0.011)	0.60	1.91
International Estimates				
Brazil	17.4 (1990)		0.607 (1998)	
Malaysia	15.5 (1989)		0.492 (1997)	
Venezuela	31.3 (1989)		0.495 (1998)	
Poland	23.8 (1993)		0.414 (1998)	
Thailand	13.1 (1992)		0.316 (1998)	

Source: Income and Expenditure Survey, 1999 & World Development Indicators, 2002.

Notes:

1. Standard Errors are in parenthesis, and are corrected for according to frequency weights, the primary sampling unit and sampling stratification.
2. Figures in parenthesis for international estimates refer to year survey was undertaken to derive estimate.
3. The headcount measures for the international estimates refer to the share of the population below the national poverty line of the individual country.

The Gini has also been isolated by race and gender for South Africa. It is therefore evident that by race, higher levels of inequality are found amongst African households, where the Gini stands at 0.53. In comparison, the Gini for non-African households is significantly lower – ranging between 0.46 and 0.48. This yields the well-known fact about South African society, namely that in recent years it has been growing inequality amongst African households that is driving the national inequality measure. More specifically, the post-*apartheid* trend of a growing African middle-class as a result of public sector transformation and indeed vastly improved access to skilled African workers within the private sector – has

⁵ The methodology employed for the measures of poverty, specifically the headcount index and the poverty gap ratio are provided in the appendix below.

driven this wedge within the African populace. It is an intra-racial division marked particularly by high-earning skilled African workers on the one hand, and a growing proportion of jobless (and less skilled) African workers on the other. Interestingly though, the highest recorded Gini in these sub-groups is for male-headed households, where the index stands at 0.60, while female-headed dwellings yield a lower level of inequality, measured at 0.53.

The poverty measures, based on the simple headcount index, yield equally disturbing trends⁶. Hence, the data shows that in 1999, just under a third of South African households were poor. Specifically, of the estimated 11.4 million households in the society, approximately 3.7 million were below the poverty line⁷. The racial breakdowns reveal the maldistribution of this poverty incidence. Hence, we find that while about 38% of African households are poor, only 3% of White homes and 4% of Asian households are earning below the poverty line. Coloured households though, reflect poverty figures much closer to those of Africans. Given that access to income is derived primarily through the labour market, the differing opportunities and options available to Africans and Coloureds in the labour market, remain key to understanding this differential poverty status. Indeed, the labour market trends outlined in the next section will reinforce this fact. Apart from the concentration of poverty amongst Coloured and African households, it is evident that female-headed households in addition bear the brunt of indigence. Close to 45% of these households then, are in poverty, compared with only 26% of male-headed dwellings – a figure below the national headcount measure.

One of the drawbacks of the headcount index is that it alludes only to the absolute number of agents below a specific poverty line. It does not provide one with a sense of *relative* poverty. It cannot reflect on how far below the poverty line a designated group may be for example. The poverty gap ratio measured in the table above, is an attempt at quantifying this relative poverty. Its formal derivation is provided in the Methodology Appendix below. What is evident from the table though is that the average poor household in the society, according to the 1999 estimates, is situated about 12% below the poverty line. This is differentially distributed across race though, where it is evident that the average poor African household is 14% below the poverty line, compared with less than 1% for poor White households. Hence, not only are they fewer White households in poverty (as illustrated by the headcount index), poor White households are also on average relatively better off than poor African households. Again, the gender dimension to poverty is critical, as the poverty gap ratio for female-headed households is 17%, compared with 9% for male-headed households.

Significant levels of absolute poverty and inordinately high levels of income inequality are two key features of the post-*apartheid* landscape. These poverty and inequality levels were also shown to be high by international developing country standards. In addition, the relative poverty and inequality levels suggest, as would be expected, that African- and female-headed households account for a disproportionate burden of the welfare challenge

⁶ The headcount measures the proportion of households living below a pre-determined poverty line.

⁷ The poverty line used here was an annual household income of R12982.5. This was based on the 1995 household poverty line of R903 per month, drawn from May *et al* (1995), and updated using the core inflation figures for the period 1995 to 1999.

facing the society. Ultimately though, it is the labour market that lies at the center of access to income (or lack thereof) in the long-run. A well-performing, job-generating labour market remains the key long-run mechanism for reducing the poverty and inequality levels in the domestic economy. It is to a more detailed analysis of these labour market trends that the paper now turns.

Post-Apartheid Trends in the Labour Market

The democratic government inherited a labour market that had been subject to the long-run effects of both structural shifts and technological change in the domestic economy. The former was represented by the shift in output away from the primary sectors, toward the services sectors, while the latter has of course been manifest in the onset of the microelectronics revolution as well as significant increases in capital-labour ratios. The labour market consequences of these changes has been to increase the demand for highly-skilled workers, combined with large-scale attrition at the bottom-end of the labour market⁸. The post-*apartheid* period has also been marked by the addition of one crucial causal variable – the relatively poor performance in economic growth. There can be no doubt that this low level of output expansion has impacted negatively on the propensity of the economy to create employment. We turn now to consider some of the labour market shifts in greater detail, against the backdrop of these tepid growth levels.

Table XXX below presents a snapshot of the key labour market statistics for the period 1995-2002. Concentrating on the labour force data according to the expanded definition of unemployment (the ‘unofficial’ definition), it is evident that over this period, the economy created about 1.6 million jobs. While the sectoral and skills detail of this growth did of course vary, it is clear that the notion of aggregate ‘jobless growth’ in the South African economy is erroneous. The economy, in the aggregate, has been creating jobs rather than shedding them.

It is important though to try and place this absolute expansion of employment into context. Specifically, it is necessary to assess the number of jobs that have been created, relative to the new entrants that have come into the labour market annually between 1995 and 2002. The data indicates that between 1995 and 2002, the number of new entrants increased by about 5 million individuals. This has meant therefore that about 3.4 million individuals – some of whom were first-time entrants into the labour market - have been rendered or have remained jobless since 1995. As a result of this employment performance, unemployment levels increased to over 7 million individuals in 2002.

⁸ For an historical account of these shifts and their impact on the South African labour market, see Borat & Hodge (1999), Borat (2000) and Edwards (2001).

Table XXX: A Snapshot of Key Labour Market Trends: 1995-2002

Category	1995	2002	Change	% Change	Target Growth Rate	Employment Absorption Rate
Employment	9 557 185	11 157 818	1 600 633	16.75		
Unemployment (expanded definition)	3 883 819	7 288 833	3 405 014	87.67		
Labour Force	13 441 004	18 446 651	5 005 647	37.24	52.38	31.98
Official Definition Estimates						
Employment	9 557 185	11 157 818	1 600 633	16.75		
Unemployment (strict definition)	1 909 468	4 271 302	2 361 834	123.69		
Labour Force	11 466 653	15 429 120	3 962 467	34.56	41.46	40.39

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

Notes:

1. The Official Definition Estimates are based on the assumption of the strict definition of unemployment, and hence conceive of a labour market that excludes the discouraged workseeker.
2. The 1995 data have been re-weighted with the 1996 Census weights to ensure comparability across the two time periods.

Much of the debate around employment trends in the post-apartheid period have become anchored around the notion of ‘jobless growth’ – that in combination with unspectacular economic growth jobs have been simultaneously shed across most sectors in the economy. The initial data here, makes it plain that the economy did not experience an absolute decline in employment. Put differently, the notion of ‘jobless growth’ to characterize post-1995 employment trends is simply wrong. However, it is important to note that while we did not have jobless growth in this period, we have clearly had employment growth that was insufficient relative to the growth in the labour force. In order to provide a basic litmus test for these labour market trends, we have used two very simple performance indicators, shown in Table XXX. These are the ‘target growth rate’ and the ‘employment absorption gap’. The ‘target growth rate’ summarises the desired employment growth rate for the economy as a whole, measured by simply allowing employment to grow from 1995 onwards by the full change in the labour force over the 1995-2002 period. Specifically the target growth rate is measured by:

$$\frac{EAP_{kt-1} - EAP_{kt}}{L_{kt}}$$

where EAP refers to the economically active population for group k and L is the number of employed individuals, by any given covariate. 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 new entrants, independent of the unemployment numbers existent in the base year, namely 1995. The employment absorption rate is the ratio between the actual employment growth and the desired (or ‘target’) rate, and is expressed as a percentage. The closer the employment absorption rate is to 100, the better the actual relative to the desired employment performance. These figures are critical as they are predictors of relative employment performance – something that the standard growth rates do not yield.

The data from Table XXX thus suggests that while employment grew at 17% over the period, if all the new entrants were to have been placed into employment since 1995, employment would have needed to have grown by 52% over the period. In other words in order to maintain unemployment at its 1995 levels, employment should have risen by just over three times the existing rate. In terms of the employment absorption rate, the data suggests that over the period the economy has been able to provide 32 jobs for every 100 economically active individuals in the labour market. Even by the strict definition of unemployment, which is government's official representation of the labour market, the economy has created only 40 jobs for every 100 members of the labour force.

How Poor Has Employment Growth Been?

The above figures clearly point to the growing numbers of unemployed individuals, as a result of employment growth not keeping pace with the growth in the labour force. It is important however to note that ultimately the demand for labour is a derived demand for labour – namely that growth in jobs is inextricably linked to the growth in output. Poor economic growth will ultimately (controlling for factor ratios) deliver a poor growth in employment. Indeed, this line of reasoning falls empirically within the domain of output-employment elasticities. Generation of these elasticities falls outside the domain of this paper, but what we do attempt to undertake here is indicative assessment of how poor employment growth has really been in the domestic economy since 1995. An important point of departure in this regard is to examine national economic growth rates over this period. Data reveals that over the 1995-2002 period economic growth rates hovered in a band between 0.8% and 4.3%, with an annualized mean of 2.8% over the period. Employment growth over this period grew, as indicated above, by 16.75% - which is a mean rate of about 2.1% per annum. In very simplistic terms this comparison indicates that for the level of output growth recorded for the economy, employment expansion has not been as dismal as often indicated.

The critical caveats to the above representation are four-fold. Firstly, that the relationship between output and employment will, and indeed does, vary across sectors. Hence, we may find that sectoral output growth in some sectors results, through changing factor proportions, in a relatively inelastic employment response. A sectoral division of the employment-output relationship may therefore reveal 'jobless growth' in some sectors. Hence, it remains important to keep in mind that while in the aggregate, the employment performance of the economy has not been as abysmal as often indicated, the sectoral details may in some cases reject this notion. Secondly, we cannot be sure if the growth in employment is primarily a function of informal sector expansion. Hence, output growth may in fact be associated with growing informal employment, but aggregate contraction of formal sector employment⁹. Thirdly, the growth in employment recorded is for all workers, irrespective of their supply characteristics. Hence, and it is something we turn to below, the nature of employment growth may be biased towards skilled and semi-skilled workers, with unskilled workers still losing their jobs over this period. Put differently, the basic output-

⁹ The poor coverage of the informal sector in OHS for 1995, makes this comparison of formal versus informal sector employment growth very difficult to determine. However, there would seem to be indicative evidence that both organic growth in informal employment and better capturing by Statistics South Africa, have yielded a rapid expansion in informal employment.

employment relationship referred to above may mask specific skills preferences in the labour demand trajectory of the economy. Finally, the above estimates does not reveal anything about possible changes in the quality of employment. Quality of employment may be affected through for example, the increased prevalence of part-time work, reduction in benefits offered to the workforce, greater outsourcing and so on.

Ultimately though, the aggregate data suggests that while employment expansion has been recorded since the first majority government, we need to be mindful that in terms of the economically active population and its growth over time, this job performance has been far from adequate. In the lexicon of this paper, what this suggests is that the current level and trajectory of economic growth has not been conducive to employment expansion. While this analysis falls well short of providing formal output-employment elasticities it provides fairly powerful, albeit initial, evidence for the fact that the growth-employment relationship in this period 7-year has been notably inelastic. Put differently, the economy's low and single-digit growth rates have been consistently unable to act as a generator of a sufficient quantum of employment in the domestic economy. It needs to be remembered though, and it is something we turn to in the data below, that there do continue to exist, in addition to the problem of low growth inhibiting labour demand expansion, significant labour supply-side constraints that also inhibit employment. These are manifest in the form of inadequate supply characteristics amongst a large number of the unemployed in the face of what has now been well documented for South Africa as skills-biased employment growth.

Employment Trends by Race, Gender and Sector

In attempting to provide a more textured analysis of employment patterns since 1995, we provide below employment and labour force shifts by race and gender. In terms of the employment by race figures, it is evident that for all groups the demand for labour increased. Hence, the highest increase in percentage terms was for Asian workers, followed by African, Coloured and then White workers. The racial distribution of the total employment shift between 1995 and 2002 therefore indicates that all groups gained from employment. In terms of the gender results, female employment grew by 33% over the 7 period, while the figure for males was 6%.

Table XXX: Employment and EAP Shifts, by Race and Gender

Category	Empl Change	EAP Change	Target Growth Rate	% Change in Employment	Employment Absorption Rate
Race					
African	1151396	4118973	66.88	18.69	27.95
Coloured	136292.9	346494.9	30.96	12.18	39.33
Asian	136942.3	242044.3	68.65	38.84	56.58
White	141178.6	254630.6	13.22	7.33	55.44
Other	34823	43504	n.a.	n.a.	n.a.
Gender					
Male	352642	1846391	31.74	6.06	19.10
Female	1247401	3158069	84.45	33.36	39.50
Total	1600633	5005647	52.38	16.75	31.98

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

Notes:

1. 'Other' for Unemployed in 2002, includes an unspecified category
2. For 2002, 590 (1187) individuals who were employed (in the labour force) for the weighted sample had an unspecified gender

As noted above however, what is critical are the relative employment shifts – as these calculations are better measures of labour market performance amongst the various cohorts under scrutiny. Using the approach identified above, while all employment growth rates were positive, the relative labour demand shifts, as approximated by the employment absorption rate, yield contrasting results. For example, while the African growth rate was higher than White employment growth, the employment absorption rate tells a very different story. Hence, we see that the relative performance of African employment, when considering the new African entrants into the labour market, was actually far poorer. While African employment should have grown at about 67% to absorb all the new entrants, White employment only needed to expand by 13%. The gap between the actual and desired job performance for Africans (27.95) was far wider than that for White workers (55.44). Put differently, employment was generated for only about 28% of all new African entrants into the labour market, relative to 55% of all White new entrants. The generic point though is that while positive employment growth was reported for all race groups, relative to the growing labour force, all races yielded poor or inadequate labour demand growth. The gender figures reinforce the importance of concentrating on relative employment shifts: despite the high growth in female employment, the employment absorption rate for this cohort was still only about 40%, although notably much higher for men at 19%.

The above table also yields an important consideration with regard to the growth-employment relationship: that the benefits to growth in terms of employment gains are almost always unevenly distributed. They will be unevenly distributed according to race, gender, age, education and perhaps most obviously, location. As we show in the data by education level for example, provided in the appendix below, while 64 out of every 100 tertiary educated individuals found employment in the 1995-2002 period, this figure was 35 for those with a matric and 14 for those with incomplete secondary education. In this instance, the point is that economic growth has managed to disproportionately create employment for more educated individuals. This would then necessarily, in the South

African context, explain the racial and to some extent the gender figures noted above. But herein lies a crucial sub-text in this argument: that economic growth is a necessary condition for employment growth, but it is clearly not a necessary *and* sufficient condition for employment growth that is at the same rate as the growth in the labour force. Additionally then, what the data suggests is that while greater output expansion is clearly a requisite for employment growth, the rapid growth in the labour force *together* with a labour force that in most cases possess inadequate supply characteristics, remain critical obstacles to long-run sustainable employment growth in the domestic economy.

In trying to provide some detail on the unevenness in these employment patterns, we attempt a brief analysis of the changing nature of sectoral employment patterns. Table XXX below provides an overview, at the main sector level, of the changing allocation of employment. Firstly, it is evident, that in terms of absolute employment, all sectors witnessed an increase in employment, with the exception of Mining & Quarrying, Community Services and Post & Telecommunications. The latter is predominantly represented by the public sector. Within this short time period, there were also noticeable shifts in sectoral allocation of employment.

Table XXX: Sectoral Share of Employment, 1995 and 2002

Main Sector	1995	Share	2002	Share	% Change
Agriculture, Fishing & Forestry	1184712	0.12	1477255	0.13	24.69
Mining & Quarrying	593000	0.06	481343	0.04	-18.83
Manufacturing	1420956	0.15	1596496	0.14	12.35
Utilities	84041	0.01	84550	0.01	0.61
Construction	433492	0.05	527678	0.05	21.73
Internal Trade	1650017	0.17	2191347	0.20	32.81
Transport & Communication	469200	0.05	550918	0.05	17.42
<i>Transport</i>	329194	0.03	434613	0.04	32.02
<i>Post & Telecommunications</i>	140006	0.02	116305	0.01	-16.93
Finance, Real Estate & Business Services	582897	0.06	1023373	0.09	75.57
Community, Social & Personal Services	2952269	0.31	3117365	0.28	5.59
<i>Domestic Services</i>	800887	0.08	1132666	0.10	41.43
<i>Community Services (excl Domestic Services)</i>	2151382	0.23	1984699	0.18	-7.75
Other Producers	186601	0.02	107493	0.01	-42.39
Total	9557185	1.00	11157818	1.00	16.75

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

Notes:

1. For 2002, community services is sum of community service and employment in private households
2. Other producers refers to those not classified, exterior organizations; foreign governments and other producers
3. Mining figures for 1995 adjusted using official Chamber of Mines figures, given the exclusion of hostel dwellers in the 1995 OHS.

While most sectors yielded unchanging shares of employment since 1995, there was clearly a reallocation of employment away from Community Services (23% to 18%) and Mining & Quarrying (6% to 4%), toward the Internal Trade (17 to 20%) and Finance, Real Estate & Business Services sectors (6 to 9%). In terms of the former sectors, the restructuring exercise within the public sector as well as the continued pressure on the viability of a number of mining enterprises, has contributed to this declining contribution to aggregate

employment. Furthermore, the economy's long-run pattern of output expansion in the services sectors, is again revealed here. A prime example of this expansion is to be found in the Finance, Real Estate & Business Services sector, where employment close to doubled over the 7-year period. Differential output expansion at the sectoral level therefore is one of the key reasons that aggregate economic growth will deliver an uneven growth in employment. The long-run labour demand trajectory of the economy, will thus hinge on the nature and extent of long-run output expansion at the sectoral level.

However, it is important to bear in mind, that together with output expansion at the sectoral level, 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. Table XXX below therefore documents the changing nature of employment by three broad skills categories at the main sector 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 labour force declined by 4 percentage points, from 31% in 1995 to 27% in 2002, while the share of skilled and semi-skilled employment both increased by two percentage points.

Table XXX: Share of Employment by Three Skills Categories and Main Sector

Main Sector	Year	Skilled	Semi-skilled	Unskilled
Agriculture	1995	0.01	0.22	0.77
	2002	0.01	0.56	0.43
Mining & Quarrying	1995	0.04	0.77	0.19
	2002	0.04	0.89	0.07
Manufacturing	1995	0.06	0.74	0.19
	2002	0.10	0.75	0.15
Utilities	1995	0.06	0.79	0.13
	2002	0.09	0.82	0.08
Construction	1995	0.06	0.74	0.19
	2002	0.06	0.74	0.20
Internal Trade	1995	0.14	0.66	0.20
	2002	0.10	0.60	0.30
Transport & Communication	1995	0.15	0.73	0.11
	2002	0.22	0.67	0.11
<i>Transport</i>	1995	0.19	0.69	0.12
	2002	0.23	0.64	0.12
<i>Communication</i>	1995	0.05	0.83	0.10
	2002	0.17	0.78	0.05
Finance	1995	0.17	0.77	0.06
	2002	0.25	0.67	0.08
Comm. Services	1995	0.13	0.71	0.15
	2002	0.19	0.70	0.11
Private Households	1995	0.00	0.03	0.97
	2002	0.00	0.16	0.84
Unspecified	1995	0.07	0.35	0.17
	2002	0.05	0.17	0.04
Total	1995	0.09	0.59	0.31
	2002	0.11	0.61	0.27

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

Notes:

1. Skilled refers to ISOC codes 1 and 2; Semi-Skilled refers to ISOC codes 3-8 and Unskilled refers to ISOC code 9, excluding code 9999.
2. 1995 unspecified includes armed forces who number 17399.
3. For 1995 and 2002, elementary occupations includes domestic workers
4. Private households for 2002, & domestic services for 1995 were treated as synonymous here

In turn, it is evident that at the sectoral level, these patterns of declining proportions of unskilled workers and higher shares of semi-skilled and skilled employees are reinforced. In Manufacturing for example, the share of skilled workers in employment increased from 6 to 10%, while that of unskilled workers declined from 19 to 15%. There was then essentially a redistribution of jobs within Manufacturing away from unskilled workers, toward skilled workers. This pattern is replicated noticeably in sectors that reported in the previous table, a reduction in aggregate employment. Hence in Mining & Quarrying, Communication and Community services there has been a movement away from unskilled workers toward semi-skilled and/or skilled employees. Interestingly, in the Internal Trade sector, the reverse

seems to have occurred, where the share of skilled workers declined and that of unskilled employees increased. A telling statistic from the above, is that in 7 of the 12 sectors above, there was a decline in the share of unskilled workers.

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 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 demand 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 Supply Characteristics of the Unemployed

The supply-side of the labour market was alluded to in the previous section, in terms of the tepid employment performance of the economy, which has ultimately resulted in a rising number of jobless in the society. We attempt here, a more nuanced assessment of the key markers of the unemployed. In particular, we try and focus on the supply characteristics of the unemployed and how these may in turn be a contributory factor to the economy's poor labour absorptive capacity.

Table XXX below provides unemployment rates by race for 1995 and 2002. As should have already been obvious from the preceding section, the low employment absorption figures for the economy, meant that unemployment levels and rates have risen in this post-apartheid period. Specifically, the national unemployment rate, according to the expanded definition, has risen by about 10 percentage points from 29% to 39%. This remains an astounding reflection of this economy's inability to engender sufficient employment.

Table XXX: Unemployment Rates by Race and Gender, 1995 and 2002

Year	1995	2002
Race		
African	36.16 (0.010)	46.62 (0.005)
Coloured	22.15 (0.011)	29.59 (0.011)
Asian	13.41 (0.017)	24.57 (0.018)
White	4.79 (0.004)	9.17 (0.005)
Gender		
Male	22.68 (0.009)	33.84 (0.006)
Female	37.32 (0.011)	45.32 (0.004)
Total	29.24 (0.097)	39.51 (0.005)

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

1. The 'Other' category for race groups as well as the 'unspecified' categories for race and gender are excluded in the estimates for 2002.
2. Standard Errors are in parenthesis, and are corrected for according to frequency weights, the primary sampling unit and sampling stratification.

Furthermore, the figures above reveal the maldistribution of unemployment incidence by race. Hence African unemployment rates by 2002 stood at 47% compared with 9% for White workers. Interestingly, the female unemployment rate is in fact lower than the African unemployment rate – a figure in contrast to the poverty measures outlined in Table 1 above. White unemployment rates increased at the fastest pace during this period, as they close to doubled from 4.8% in 1995 to 9.1% in 2002. While the absolute rates for Whites is still much lower than for Africans, this change is indeed a new phenomenon in the post-apartheid labour market.

The employment trends above re-affirmed the trend of skills-biased employment shifts across all main sectors of the economy. One would therefore expect that the supply characteristics of the unemployed in terms of educational levels, would match well with these labour demand preferences. Table XXX below therefore presents unemployment rates by education level for 1995 and 2002.

Table XXX: Unemployment Rates by Education Level, 1995 and 2002

Education Level/Year	1995	2002
No schooling	33.12 (0.019)	32.30 (0.012)
Primary	35.49 (0.013)	41.38 (0.010)
Incomp. 2ndary	33.85 (0.009)	48.39 (0.005)
Matric	25.28 (0.013)	39.51 (0.010)
Tertiary	6.44 (0.005)	15.37 (0.006)
Total	29.24 (0.097)	39.51 (0.005)

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

1. The 'unspecified' education category was omitted for the 2002 estimates.
2. 'Tertiary' for 1995 captures individuals with a diploma/certificate with Std. 9 or lower; diploma/certificate with Std. 10 or a degree
3. 'Tertiary' for 2002 captures individuals with the above qualifications, but with an additional 'post-graduate' degree or diploma' category added.
4. Standard Errors are in parenthesis, and are corrected for according to frequency weights, the primary sampling unit and sampling stratification.

The figures are startling. They suggest firstly that unemployment levels across all education levels (except for the 'no schooling' cohort) increased – a fact we would expect given that above evidence by race and gender. However, it is clear that the largest percentage growth in employment is found amongst workers with a matric or a tertiary qualification. In these two categories, unemployment levels grew by 56% for the unemployed with a matric and by 139% for those with a tertiary qualification. This is manifest in a significant increase in unemployment rates in the period, where matric unemployment rates went from 25 to 40% and tertiary unemployment rates from 6 to 15%. In the latter case, this represents a more than doubling of the unemployment rate over the 7-year period. In contrast, despite the fact that the absolute unemployment rates are lower in the remaining education categories, the rate of increase over the time period was not as significant as the two high-end qualifications. The high unemployment rates for matriculants can (and has been in the past) explained by the low labour absorptive capacity of the economy – the poor employment growth trends outlined above. However, the high unemployment levels amongst degreed individuals is a surprise, and puzzling. This is more so, given the skills-biased employment shifts noted for the long-run in South Africa.

The apparently contradictory and patently incorrect results, are perhaps explained to some degree by the two tables provided below. Table XXX provides tertiary unemployment rates by race, while Table XXX provides the unemployment rates for workers with a degree only. In the first of these tables, the racial unevenness in tertiary unemployment rates is telling. Hence we see that while there were increases in the tertiary unemployment rates across all racial groups, the burden of graduate unemployment has been borne by African individuals.

Table XXX: Tertiary Unemployment Rates, By Race, 1995 & 2002

Race/Year	1995	2002
African	10.01 (0.011)	25.95 (0.009)
Coloured	8.49 (0.019)	9.86 (0.020)
Asian	5.56 (0.013)	8.21 (0.017)
White	2.26 (0.004)	4.63 (0.005)
Total	6.44 (0.005)	15.37 (0.006)

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

1. Standard Errors are in parenthesis, and are corrected for according to frequency weights, the primary sampling unit and sampling stratification.

The figures show that that the African unemployment rate for individuals with a tertiary qualification went up from 10% to 26% over this period – an increase of about 160%. While the absolute levels of White unemployment continue to remain much lower than all other race groups, the rate more than doubled over this period. Note that it is the key result for Africans, which feeds the national unemployment rate increase, from 6 to 15%. The trend of growing national tertiary unemployment rates is thus essentially explained by growing joblessness amongst the African degreed population. As noted above, these figures for tertiary workers, captures individuals with a variety of qualifications including for example, diplomas with or without a matric, technikon qualifications (NTCI To NTCIII) as well of course a university degree. The unemployment rates were subsequently run for workers with university degrees only, and the table below presents these results¹⁰.

In the first instance, the figures indicate that there is an upward bias in the tertiary category when non-degreed workers are included. The figures for African and White participants therefore indicate that the estimates for individuals with degrees only, lie below the tertiary aggregates.

¹⁰ Note that in the OHS95, there was only a category for a university degree, whereas in the LFS Feb. 2002, this was split into a degree and a 'post-graduate degree'. We combined these two categories from the LFS Feb. 2002 to enable a comparison with the 1995 figures.

Table XX: Unemployment for Degreed Workers: African & White, 1995 & 2002

	African	White
Unemployment numbers		
1995	8834	5645
2002	45959	13597
% Change	420.25	140.87
Unemployment Rates		
1995	5.87 (0.015)	0.01 (0.006)
2002	16.41 (0.018)	3.15 (0.008)

Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

1. Standard Errors are in parenthesis, and are corrected for according to frequency weights, the primary sampling unit and sampling stratification.

For example, for African participants with a degree or post-graduate degree the unemployment rate stood at 16.41% in 2002, compared with a 26% unemployment rate for all tertiary qualified African participants. The figures for Whites were 3.15% and 4.63% respectively. However, despite these lower unemployment rates for degreed workers, it needs to be noted that the rate of increase in numbers of unemployed was greater for degreed workers. Hence the number of White unemployed increased by 141% over the 7-year period and more than quadrupled for African graduates. Both these figures are higher than the overall changes for African and White workers with a tertiary qualification. Indeed, while the figures from Table XXX 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 a growth in tertiary unemployment levels, but also as a sub-set, a growth in the number and rates of unemployed individuals with a degree or post-graduate degree. Put differently, there can be no doubt that we are witnessing the beginning of a graduate unemployment problem in South Africa.

A university degree remains a heterogeneous product, in that individuals will accumulate these degrees in different fields of study as well as at institutions of differing quality (perceived or actual). In trying to determine the distribution of these degreed unemployed according to fields of study, we exploit an excellent question in the LFS that asked all respondents to identify their field of study, if they had a tertiary qualification. The table below presents the results on the sample of unemployed with university degrees only. The aggregate (total) figures indicate that the majority of the unemployed with degrees, are in the education, training and development field. This is something alluded to above, and matches well with the public sector restructuring process, as it suggests that teachers have borne the brunt of the restructuring in the public sector.

Table XXX: Degreed Unemployed Distribution by Field of Study and Race

Area of Study	African	Coloured	Asian	White	Total
Communication studies & language	4.33	0.00	100.00	7.35	5.58
Education, training & development	32.87	41.37	0.00	10.47	28.04
Manuf.,engineering & development	3.9	0.00	0.00	0.00	2.87
Human & social studies	8.55	0.00	0.00	14.66	9.50
Law,military science, security	5.22	22.18	0.00	3.75	5.48
Health sciences & social services	11.43	36.45	0.00	10.57	12.08
Agriculture & nature conservation	2.2	0.00	0.00	0.00	1.62
Culture & arts	6.62	0.00	0.00	3.92	5.74
Business, commerce & management studies	21.5	0.00	0.00	30.32	22.46
Physical,mathematical, computer & life sciences	3.39	0.00	0.00	13.92	5.53
Physical planning & construction	0.00	0.00	0.00	5.02	1.10
Total	100.00	100.00	100.00	100.00	100.00

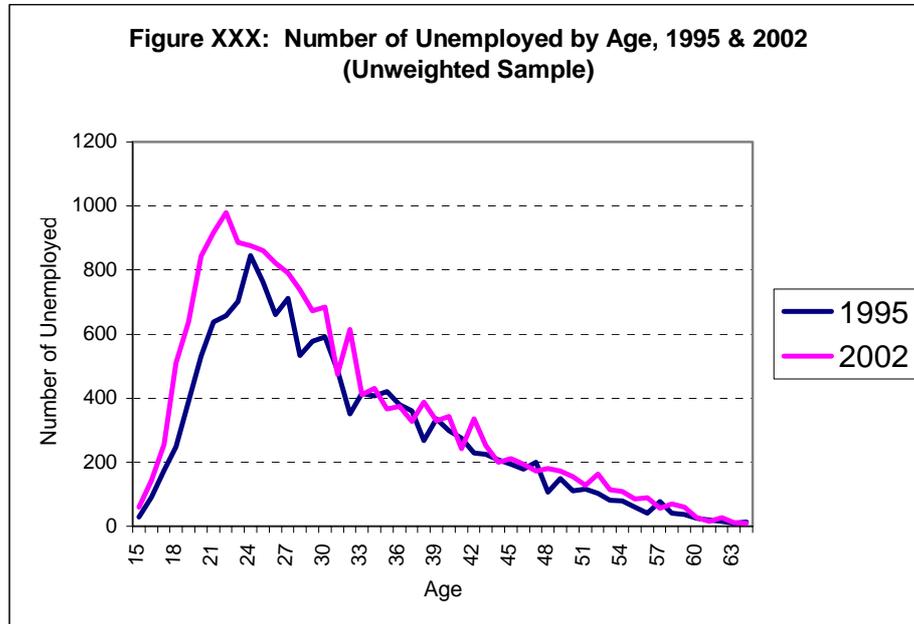
Source: Labour Force Survey, February 2002

This dominance of education, training and development as a field of study for the degreed unemployed seems to be concentrated amongst African and Coloured participants. Interestingly, the aggregate data, as well as those for Whites, show that the unemployed with degrees in business, commerce and management studies constituted a fairly significant share of degreed unemployment within those cohorts. The third dominant field of study (for Africans and the aggregate estimates) was health sciences and social services. Again, this may be picking up the contraction of employment opportunities within the public health service. A degree in human and social studies was also fairly dominant, as about 10% of the national sample of degreed unemployed had accumulated human capital in this area. Ultimately then, the data suggests that of the unemployed with degrees or post-graduate degrees - those in education, training and development; business, commerce & management studies and health sciences account for about 63% of the sample of degreed unemployed individuals.

The above points to two key deductions. Firstly, it is evident that the process of public sector restructuring has resulted in this poor employment performance amongst African workers, with a large share of these individuals being teachers and other large share occupations within the public sector, such as nurses. Secondly, the data points provisionally, to the importance of ensuring that the institutions of supply, namely the universities and technikons are producing graduates with a skills profile that matches current demand trends. This conclusion is derived particularly from the surprisingly large share of unemployed graduates with a commerce degree. Hence, this tentative evidence suggests that institutions of higher education are ostensibly not matching their curriculum design effectively enough with the labour demand needs of employers.

The economy's poor labour absorptive capacity noted at the outset, together with the growing graduate unemployment problem, suggest that unemployment rates and levels would be significantly correlated with age. Indeed, the data in Figure 1 below, which presents the number of unemployed by age, powerfully illustrates this fact. It also illustrates how this challenge has magnified in the post-*apartheid* period. The data represents the

(unweighted) number of unemployed, according the expanded definition, by age for 1995 and 2002.



Sources: October Household Survey, 1995 & Labour Force Survey, February 2002

If we define the youth population as those in the 15-24 age cohort, then it is amply evident that the rate at which the economy has been creating employment for new entrants into the labour market has been far from adequate. The maximum number of unemployed within each age group was found in 1995, at age 24 and age 22 for 2002. Indeed, the 15-24 age cohort accounted for 30% of all the unemployed in 1995, and by 2002 this had increased to 34%. The data thus confirms what is very well known about the South African labour market: namely that a poor labour absorptive capacity has ensured that unemployment in the economy, has a very strong youth dimension.

The Unemployable

The 7-year analysis above has reinforced results from longer run studies around the notion of skills-biased employment shifts in the domestic economy. Simplistically, the winners have been the highly skilled while the losers have been almost without exception, unskilled workers. In terms of the unemployed, this means that those individuals who are not skilled or, put differently, have low levels of education will in all probability not get a job. Furthermore those who are older and not well-educated will most likely never obtain a job in their lifetime. In contrast, young unemployed individuals with some form of education can be trained up and provided with some of the skills that firms may find useful. It needs to be remembered that in contrasting these two groups, whilst they are both officially unemployed, they present very different employment probabilities. In this context, the unemployed youth with some level of secondary education may, with the help of a skills development programme for example, find some form of employment. However, the middle-aged unemployed with very low levels of formal education will in all likelihood never find

employment in their lifetime. It is our employment trends observed above, that strongly indicate that such an outcome has an extremely high certainty.

If one dissects the unemployed in this way, the unemployed youth are a distinct category from the older unemployed. This has led to the notion that the latter cohort are in fact *unemployable* rather than unemployed (Bhorat, 2000). However, no detailed empirical analysis has in fact gone into assessing whether the cohort of older unemployed are in fact distinct from the unemployed youth. We briefly attempt an introductory analysis testing this hypothesis of the ‘unemployable’. The table below splines the unemployed into two categories: ‘non-youth’ and ‘youth’, where the former are the unemployed aged 40 and above and the latter under the age of 40. This division is utilized as the starting point for beginning to assess the different attributes of the older unemployable workers relative to their younger counterparts.

Firstly, it is clear from the table that of the 7.3 million unemployed recorded for February 2002, about 1.3 million of these are 40 or older. This reinforces the point that the economy’s unemployment problem has a very strong youth dimension. Probably the key attribute differentiating these 2 cohorts of workers though, is their level of education. Table XXX below makes it plain that the non-youth unemployed have a distinctly lower level of human capital accumulation than the youth. Hence we find that 54% of the non-youth, about 705 000 individuals, have accumulated between 0 and 7 years of education (primary schooling or less), while the figure for the youth is less than half this, at 24%.

Table XXX: Distribution of Unemployed by Age Cohort and Education Level

Education Level	Non-Youth	Youth	Total
No schooling	187058	163620	350678
	<i>14.37</i>	<i>2.73</i>	<i>4.81</i>
Primary	518693	1276156	1794849
	<i>39.85</i>	<i>21.31</i>	<i>24.62</i>
Incompl. 2ndary	445270	2582593	3027863
	<i>34.21</i>	<i>43.13</i>	<i>41.54</i>
Matric	90741	1651610	1742351
	<i>6.97</i>	<i>27.58</i>	<i>23.9</i>
Tertiary	46627	292771	339398
	<i>3.58</i>	<i>4.89</i>	<i>4.66</i>
Unspecified	13092	20602	33694
	<i>1.01</i>	<i>0.34</i>	<i>0.46</i>
Total	1301481	5987352	7288833
	100	100	100

Source: Labour Force Survey, February 2002

Put differently, while about 33% of the youth unemployed have a matric or tertiary qualification, only about 11% of the older unemployed possess these qualifications. The above analysis on employment trends since 1995, and longer-run analyses for South Africa, reinforce the notion of employment growth at the top-end of the occupational ladder. Skilled (better educated) workers have a significantly higher probability of employment than

less skilled (or less educated) workers. Given this, with a lower level of education and being older, the non-youth cohort of the unemployed are faced with vastly lower probabilities of employment than the youth unemployed. More specifically, we can perhaps nuance our definition of who the ‘unemployable’ are more than likely to be: the data suggests that those jobless individuals over the age of 40 with primary schooling or less best reflect the core of individuals in the labour market who, given the economy’s labour demand trajectory, are likely not to get a job in their lifetime.

We attempt here, a brief assessment of the other attributes of the cohort of unemployed aged 40 and over with primary schooling or less, identified as the ‘unemployable’. Their characteristics are then compared against those of the unemployed youth. Table XXX presents the period spent searching for a job by the two groups of unemployed. The figures across both cohorts allude to the strong structural nature of South Africa’s unemployment problem. Hence we find that about 38% of the ‘unemployable’ and 39% of the youth unemployed have been searching for a job for 1 year or more. Indeed, the predominant search period, across both cohorts, is 3 years or more.

Table XXX: Distribution of Unemployed by Period of Search and Age Cohort

Period of Search	Unemployable	Youth	Total
Less than 1 Month	4.38	4.81	4.72
1 to less than 2 months	2.09	3.59	3.36
2 to less than 3 months	1.78	3.20	3.00
3 to less than 4 months	1.67	1.94	1.94
4 to less than 6 months	1.24	1.98	1.89
6 months to less than 1 year	2.74	5.64	5.26
1 to 3 years	11.00	16.94	16.12
3 years or more	27.14	22.00	23.18
Don't know	0.24	0.24	0.23
Unspecified	47.47	39.67	40.31
Total	100.00	100.00	100.00

Sources: Labour Force Survey, February 2002

It needs to be noted that the response rate for this question in the survey was very poor. Hence close to half of the ‘unemployable’ did not respond compared with about 40% of the youth unemployed. If we assume however, that the distribution of the search period would remain the same with all observations included, then the table points clearly to the fact that the mismatch between demand and supply affecting the domestic economy has continued to filter down into the younger age cohorts, who have been searching for similar periods to the ‘unemployable’.

In trying to understand previous economic activity we took the above sample of unemployed and of those who reported having worked previously, asked when last it was that they worked. Table XXX below presents the results from these two questions. There is here a distinct difference in the past economic activity of the unemployable when compared with the youth unemployed.

Table XXX: Unemployed who have worked before: When last was this?

Time Period	Unemployable	Youth	Total
1 week to less than 1 month	1.15	2.72	2.23
1 to less than 2 months	2.20	3.67	3.15
2 to less than 3 months	2.74	4.37	3.75
3 to less than 4 months	1.55	3.48	2.79
4 to less than 5 months	1.46	2.56	2.19
5 to less than 6 months	1.33	2.52	2.11
6 months to less than 1 year	4.68	9.95	8.30
1 to less than 2 years	8.92	15.25	13.31
2 to less than 3 years	10.80	12.07	11.72
3 years or more	55.04	31.76	38.77
Don't know	0.84	1.41	1.30
No response	9.28	10.23	10.39
Total	100.00	100.00	100.00

Sources: Labour Force Survey, February 2002

The data reveals that about 66% of the unemployable who had worked before, had done so 2 years or more previously. This figure compares with 44% for the youth unemployed. This result tangentially suggests that a large number of the unemployable had in fact been employed as labourers and would have lost their jobs as structural changes and technological shifts in the domestic economy impacted on low-skilled employment.

Perhaps the most critical reflection of the likelihood that these 'unemployable' individuals will never find a job in their lifetime, is found in the table below, which reports on literacy levels for the two cohorts. Respondents were asked if they could read or write in at least one language. Remembering that the unemployable are already pre-defined as individuals with primary schooling or less, these figures are particularly important as they test functional literacy levels.

Table XXX: Literacy Levels of the Unemployed

Category	Unemployable	Youth	Total
Read in (at least) One Language			
Yes	524397	5800676	6905932
	<i>72.95</i>	<i>96.88</i>	<i>94.75</i>
No	194446	185819	382044
	<i>27.05</i>	<i>3.1</i>	<i>5.24</i>
Total	718843	5987352	7288833
	100	100	100
Write in (at least) One Language			
Category	Unemployable	Youth	Total
Yes	518824	5790814	6889753
	<i>72.17</i>	<i>96.72</i>	<i>94.52</i>
No	199752	195778	398053
	<i>27.79</i>	<i>3.27</i>	<i>5.46</i>
Total	1301481	5987352	7288833
	100	100	100

Source: Labour Force Survey, February 2002

Within the group of unemployable, about 27% of the sample could not read in any language, while 28% were unable to write in any language. These individuals amounted to about 200 000 amongst the unemployable. In addition, amongst the youth, less than 5% were functionally illiterate. This results brings into sharp contrast the notion of the youth unemployed as against the 'unemployable'. Hence, even within this latter cohort of workers with primary schooling or less, there exists a further sub-group whose levels of illiteracy would surely render it impossible to legitimately expect them to take up long-term employment in an economy that places a premium on highly skilled job-seekers.

One of the important policy issues that arises from these descriptors of the unemployed, is to understand the survival strategies of the unemployed in terms of the households they are attaching themselves to. Are the unemployed primarily found in households with no access to wage income or in households with one or more wage earners? Or are they evenly spread across all types of wage earning households? While in some quarters the relationship between the employed and unemployed has often been cast as conflictual in nature, it is obvious that income entering the households will be the key mechanism for ensuring the survival of the unemployed. With this in mind, Table XXX below examines the distribution of the unemployed, 'unemployable' and youth unemployed across wage-earning households. The latter are defined according to the number of wage earners within each household, ranging from 0 earners to 3 or more wage earners in a household.

Table XXX: Distribution of the Unemployed Across Wage-Earning Households

Number of Earners in Household	Number of Unemployed	Share of Unemployed
National Estimates		
0	3570244	48.98
1	2864673	39.3
2	683409	9.38
3+	170507	2.33
Total	7288833	100
Youth		
0	2834491	47.34
1	2389743	39.91
2	614050	10.26
3+	149068	2.49
Total	5987352	100
Unemployable		
0	446299	62.09
1	225804	31.41
2	36498	5.08
3+	10242	1.42
Total	718843	100

Source: Labour Force Survey, February 2002

At the national level and using the expanded definition of unemployment, the data suggests that 49% of the unemployed do not have access to a wage earner within a household. Alternatively, 51% of the unemployed have access to at least one wage earner in a household, with the majority located in a one wage earner household. The figures for the youth unemployed essentially mimic those of the national estimates. In terms of the unemployable though, there is a notable shift. Hence 62% of the unemployable do not have access to a wage earner within the household – conversely 38% of the unemployable have access to at least one wage earner within a household. The data then simultaneously suggests that on the one hand, large sections of the unemployed (and significant sections of the ‘unemployable’) are supported by wage earners within the same household, while on the other hand equally significant shares of the unemployed (and a disproportionate segment of the unemployable) are not supported by wage income.

While additional data analysis is required, it is clear that within the zero wage earner households, it is state transfers such as the old age pension, child support grant and so on that would be the main source of income to these households. Other important flows would be remittances, inter-households transfers and unrecorded economic activity. For the ‘unemployable’, the figures suggest that a disproportionate number of these individuals are forced to rely on income entering the household from sources generated through activities outside the labour market. More generally though, the table makes it plain that any wage moderation policy that does not engender expanded employment opportunities will make the unemployed worse off, through increased household poverty levels.

Conclusion

The above has attempted to present some of the key empirical co-ordinates that define the South African labour market in this post-*apartheid* period. The data shows that the notion of 'jobless growth' for the South African economy, is clearly erroneous. The important caveat to this reasoning though, is that the labour force has simultaneously grown at a higher rate than employment. In net terms then, employment expansion has been relatively poor. On the back of unspectacular economic growth, this result is not surprising. However, the cohort analysis of employment and labour absorption trends did make it clear that the labour market challenge cannot be overcome purely through the growth process. The paper also attested to the notion of the 'unemployable' as a distinct, more disadvantaged cohort amongst the unemployed. It is the unemployable then, who it would seem should be viewed more as a target for poverty alleviation strategies rather than labour market interventions, given the high probability that they will not find employment in their lifetimes.

Given the unevenness of the economy's growth generation – both in terms of sectoral expansion and skill requirements – a fair degree of intervention is required on the labour supply side. Put differently, the simultaneous existence of a skilled labour shortage *and* unskilled labour surplus, points to the importance of adhering to a policy framework that emphasises both the need to kick-start economic growth as well as ensuring that the characteristics of the suppliers of labour match those in demand by growing sectors.

Methodology Appendix

Measuring Poverty

The headcount index and the poverty gap ratio (and the squared poverty gap) are derived from the general class of poverty measures developed by Foster, Greer and Thorbecke (1984). The FGT index of poverty measures, can be represented in general form as:

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^n \left(\frac{z - y_i}{z} \right)^{\alpha} \Big| (y_i \leq z) \quad (1)$$

where n is the total sample size, z is the chosen poverty line, and y_i is the standard of living indicator of agent i . The parameter α measures how sensitive the index is to transfers between the poor units. Note that the index is conditional on the agent's income, y_i , being below the designated poverty line, z . The headcount index is generated when $\alpha=0$, and in this case equation (1) is then simply the share of agents below the poverty line. The poverty gap measure (PG) is generated when $\alpha=1$, and therefore for a given poverty line z' is presented as:

$$P_1 = \frac{1}{n} \sum_{i=1}^n \left(\frac{z - y_i}{z} \right) \Big| (y_i \leq z) \quad (2)$$

As is clear, the PG represents a direct measure of agents' incomes relative to the poverty line. It is a money metric of poverty in the group under scrutiny. A first advantage of the FGT index, is its additive decomposability, which allows for sub-group poverty measures to be summed to form a society-wide measure without any loss of generality. More directly though the PG allows a more nuanced assessment of relative poverty – something that the standard headcount index cannot provide.

¹¹ If we assume an infinite number of poverty lines, we can then trace what is known as the Poverty Deficit Curve, which is represented as $P_1 = \int_0^z \left(\frac{z - y}{z} \right)^{\alpha} f(y) dy$. This is the area under the Poverty Incidence Curve, which is associated with the headcount index.

Data Appendix

Table XXX: Employment and EAP Shifts, by Education Level

	Employment		EAP		Target Growth	Empl. Gap
	change	% Change	Change	% Change		
no educ	-40741	-5.25	-68325	-5.92	-8.81	59.63
primary	353393	16.15	969692	28.80	44.30	36.44
<matric	253612	8.52	1789828	40.06	60.14	14.17
matric	569706	27.15	1612411	57.63	76.84	35.33
tertiary	428386	29.74	669302	43.50	46.47	64.00
unspecified	36277	46.50	32739	28.41	41.96	110.81
Total	1600633	16.75	5005647	37.24	52.38	31.98

Sources: October Household Survey, 1995 & Labour Force Survey, September 2002

Notes:

Matric category includes individuals that may have an NTCIII qualification

Incomplete Secondary education includes individuals who may have an NTCl or NTCII qualification

Table XXX: Unemployed by Age Category and Location

Area	Unemployable	Youth	Total
Urban	339055	3273476	4053526
	<i>47.17</i>	<i>54.67</i>	<i>55.61</i>
Rural	379788	2713876	3235307
	<i>52.83</i>	<i>45.33</i>	<i>44.39</i>
Total	718843	5987352	7288833
	<i>100</i>	<i>100</i>	<i>100</i>

Source: Labour Force Survey, February 2002