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EMPLOYMENT AND LABOUR MARKET TRENDS

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abstract | Structural and technological changes in the South African economy over the last three decades, have combined with the legacy of apartheid policies in education and labour, to create a labour market which is heavily segmented along racial lines, with high and growing levels of unemployment. Unemployment is particularly high among the unskilled, and is disproportionately affecting the African population.

To address this failure of the labour market, and its continued racial segmentation, interventions are required that recognise the heterogeneity of South African labour market participants. On the supply side, there is a need to increase the skills of African labour market participants by improving the quality and relevance of education at all levels, as well as a need for training to improve labour market mobility, particularly among the youth. Interventions are also required to increase labour demand through job creation and public works initiatives, to provide employment for segments of the labour force that the market alone will not reach.

INTRODUCTION

South Africa's labour market situation has been characterised as one of high unemployment and negligible job creation (Lewis 2001). This chapter examines employment and labour market trends over the last three decades in South Africa, and examines their causes with particular reference to the role of education. Employment trends from 1970 to 1995 are discussed, followed by developments in the post-apartheid period in order to explain the growing employment deficit. The chapter provides an analysis of the current labour market situation and the characteristics of the unemployed. It goes on to discuss factor-price issues in terms of wage differentials and wage premia. Next, the relationship between education and the labour market is outlined and conclusions are drawn regarding human capital accumulation, education policy and the labour market.

Formal employment trends between 1970 and 1995

The 1970s marked the end of the boom period of the 1960s and the beginning of a period of recession and structural crisis, which provoked major changes in labour market policy. During the previous 40 years, the state had intervened directly in the labour market in order to protect white interests through legislation which explicitly limited prospects for

black participation in the labour market process. Apartheid legislation undermined the ability of the black population to accumulate human capital, limited black earnings, excluded black workers from certain sectors and prohibited vertical and horizontal (physical) mobility.

From the 1970s onwards, pressures arising from international sanctions, the growth of black labour unions and poor domestic economic performance, led to the partial dismantling of legislated racism in the labour market. Wage-discrimination policies and limits on occupational mobility for black workers were revoked, leading to a rise in black wages in real terms and a reduction in racial wage differentials. While this represented a significant shift away from the formally racialised division of labour which characterised the labour market under apartheid, the legacy of racial labour market segmentation persists as an artefact of the education and labour market policy decisions of the past.

At the same time as the legislative environment was changing, the South African economy was undergoing significant structural shifts which had a major impact on employment trends. The two main drivers for change in the labour-demand pattern during the 1970 to 1995 period were changes in the structure of the economy and increasing capital intensity. These changes occurred in the context of a highly protected economy and a racially segmented labour market – factors which had a significant impact on the distribution of the resulting employment. This will be explored in detail in this chapter.

Changes in the structure of the economy entailed a shift in the productive base of the economy. Agriculture and mining, the two primary sectors, witnessed a long-term decline in their share of gross domestic product (GDP). At the same time, significant growth took place in the service sectors, notably the financial and business services sector, and the wholesale and retail trade sector. This change in the structure of the economy led to a shift in the composition of labour demand, reducing the demand for unskilled labour.

At the same time, capital intensity increased significantly throughout the economy. Capital/labour ratios rose, primarily as a result of technological change, leading to widespread replacement of labour with capital, further reducing demand for unskilled labour. In the primary sector, capital labour ratios increased significantly as a result of mechanisation, while in the service sectors the rise was linked to computerisation.

IMPLICATIONS FOR LABOUR DEMAND, 1970-1995

Structural economic change and increased capital intensity combined to bring about major changes in formal sector employment between 1970 and 1995. The two processes also had a profound impact on aggregate labour demand and the incidence of unemployment, both of which remain significantly differentiated by race, occupation, education and gender.

Impact by race

The decline in primary sector employment had a disproportionately negative impact on the demand for African workers who were intensively employed in this sector. At the same time, growth in the service sectors increased demand for non-African workers who dominated employment in this sector, skewing the demand for labour away from the African segment of the labour force. The structural shift away from the primary sector accounted for two-thirds of the fall in African labour demand between 1970 and 1995, while the remaining third was accounted for by the decline in labour demand arising from technology changes. The result was a collapse of demand for African labour during this period (Bhorat 2000b), based on Census 1970 and October Household Survey (OHS) 1995 data. Perversely, non-African workers gained from these changes in the structure of the economy.

Impact by occupation

Demand for skilled workers is a function of the technology employed within firms, and rising capital intensity during this period created a demand for more 'high-end' workers. As a consequence, labour demand became increasingly skills biased, shifting in favour of skilled occupations at the expense of unskilled elementary occupations.

The most significant factor influencing labour demand for low-skilled workers, however, was the fall in the share of agriculture and mining in national output, while the increasing skills bias of the domestic economy also had a significant negative impact.

Impact by education

When formal sector employment is disaggregated according to education levels, workers with low education (no education or primary schooling only) experienced a relative decline in demand for their labour during this period, while the largest relative demand increases were for workers with matric or tertiary-level education. These patterns mirror occupational employment trends and confirm the skills-bias of labour demand shifts.¹

At all education levels, the rising capital/labour ratio was a significant factor in determining labour demand, accounting for over 90 per cent of the increase in labour demand among those with matric and tertiary education. Structural shifts, however, were the most important determinant of employment among those with low education. The segment of the labour force with the least education, elementary and unskilled workers, has been particularly badly affected by structural change.

Impact by gender

During the period 1970 to 1995, labour demand was increasingly differentiated by gender. Overall demand for male workers fell marginally (1.7 per cent) while demand for females increased by 3 per cent. This reflects in part the decline in primary sector labour demand, where male labour is concentrated, and rising labour demand in the service sectors, which employ a higher percentage of female labour. The primary cause of this differentiated labour demand pattern was increasing capital intensity, which creates a greater demand for female over male labour.

AGGREGATE EMPLOYMENT TRENDS, 1995-2001

The labour market situation changed radically in the late 1980s when the ongoing long-term decline in the primary sectors was compounded by:

- trade and tariff liberalisation;
- accelerated adoption of new technologies; and
- public sector restructuring, entailing significant reductions in formal sector employment.

The economic liberalisation, which started in the late 1980s and accelerated during the 1990s, entailed a reduction in the protectionism of the apartheid period and led to pressure to increase competitiveness in both the domestic and export markets. A critical outcome of these policy changes was an increase in the process of capital intensification,² leading to an acceleration of bottom-end job losses within the formal labour market. This situation was compounded by the major public sector restructuring exercise carried out in the late 1990s under the GEAR strategy.

Net employment growth since 1994

Is South Africa experiencing jobless growth? The labour market situation, arising as a consequence of the policy changes outlined above, has been characterised as such, particularly since the GEAR employment-growth target of 400 000 jobs per annum has not been achieved. However, the actual employment situation needs to be examined in more detail in order to ascertain the reality underlying this assertion.

The quality of labour market data has improved significantly since 1994, but serious problems of consistency remain, rendering any analysis of major trends problematic, particularly with reference to the informal sector (for a detailed discussion of the data problems and their implications see Meth (2003) and Devey, Skinner and Valodia in Chapter 6). Labour market analysis is also subject to end point selection sensitivity, with data for different time periods offering significantly differing results. The discussion in this section highlights these problems as they arise and attempts to draw conclusions where possible, using the most reliable data available. Given these problems, however,

the conclusions drawn are necessarily tentative and should be seen as indicative of general trends.

Both formal and informal sector employment must be considered³ in order to establish net labour market trends. Analysis of OHS data for 1994 to 1997 indicates that South Africa experienced aggregate employment stagnation during this period, with total growth of only 0.3 per cent, or 20 000 jobs. The data indicate that this marginal employment rise was the consequence of informal sector growth, where employment increased by approximately 100 000 jobs, while formal sector employment decreased significantly (see Borat 2001a for a more detailed discussion of this trend).

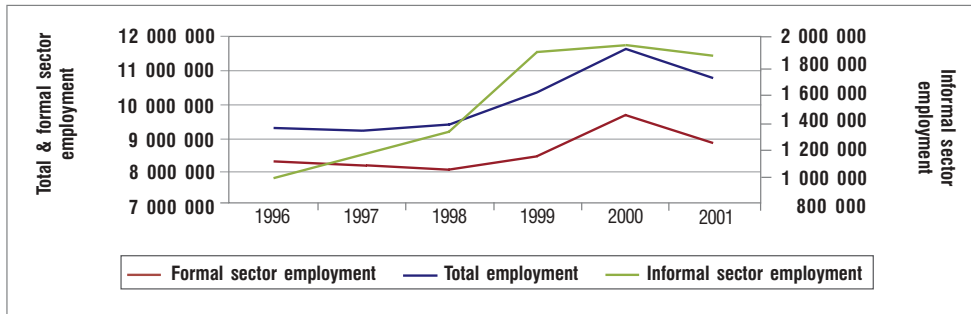
However, if the period of analysis is shifted to between 1995 and 1999, the data indicate a significantly different picture. During this period, aggregate formal and informal sector employment increased by 1.1 million, the major portion of the growth occurring in the informal sector, although all sectors except utilities and agriculture indicated some growth (OHS 1995 and 1999). The inference from this data is that stagnating aggregate employment performance between 1994 and 1997 may have been transformed into employment growth by 1999, a finding which coincides with analysis by Stats SA (2002: 54).⁴ This suggests that the characterisation of the South African growth path as one of 'jobless growth' may be erroneous, and that between 1995 and 1999 the economy was creating rather than shedding jobs. The 1995 to 1999 data indicate a possible formal sector labour-demand upturn – a finding confirmed if the analysis is extended to 2001. If agricultural and domestic employment are excluded to remove potential data inconsistencies, a net gain of 1.3 million jobs is suggested over the period 1995 to 2001. This is a robust challenge to the argument that South Africa is experiencing jobless growth, although scope remains for alternative interpretations of the data (see, for example, Altman and Mayer in Chapter 3 and Devey et al in Chapter 6).

The analysis outlined above may be criticised on the basis of problems with the 1995 survey data, which may have contributed to an inflated estimate of employment growth.⁵ If 1996 is taken instead as the base year,⁶ the data indicate the same employment growth trend. This growth is primarily attributable to the informal sector and may be explained either in terms of actual employment growth, or improved informal sector data collection since 1995. While data inconsistencies render it problematic to ascertain the relative importance of each explanation,⁷ Skinner and Valodia (2002) draw on the 1997 to 1999 OHS data sets and Labour Force Survey (LFS) data 2000 to 2001, to argue that significant employment growth may have occurred in the informal sector over this period, once data problems have been taken into account (see also the discussion by Devey et al in Chapter 6).

Data for 1999 and 2001 indicate a slowing of employment growth, with the creation of only 300 000 jobs over this period, excluding agricultural and domestic employment. (see the data tables for Chapter 5 in the HSRC's HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>). This suggests that the rapid growth in informal sector employment, which occurred during the 1990s, may be stabilising at approximately 1.9 million, having gained almost a million jobs between 1996 and 1999, although the inadequacy of informal sector data prohibits a confident assessment of the magnitude of this sector. At the same time formal sector job growth has showed some signs of

recovery since the low point of 1998, with an increase of 700 000 jobs in formal sector employment between 1996 and 2001, as Figure 1 indicates (see the data tables for Chapter 5 in the HSRC’s HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>).

FIGURE 1 Total, formal and informal sector employment, 1996-2001



Sources: Stats SA (2000b; 2002)

Notes:

- 1 For total and formal sector employment, read off the left-hand vertical axis; for informal sector employment, read off the right-hand vertical axis.
- 2 The spike in formal sector employment in 2000 may be due to errors in the implementation of the first Labour Force Survey.

While the OHS and LFS data give some indication of the relative functioning of the formal and informal labour markets, it is critical to note that lack of data on the South African informal sector inhibits further analysis of informal employment trends. Similarly, a clearer understanding of the relationship between the formal and informal sector labour markets and the key role of the informal sector in absorbing workers excluded from the formal sector requires more empirical data than is presently available.

Private and public sector employment growth

Despite data problems, it is possible to infer differential employment growth patterns in the private and public sectors during the period 1995 to 2001. Broad private and public sector trends are outlined in Table 1. While private sector employment increased by 32 per cent, or 1.6 million jobs during this period, public sector employment fell by 8 per cent, or 150 000 jobs, largely due to the major public sector restructuring exercise carried out after 1996. Given this public/private breakdown, it is evident that aggregate employment growth data masks the extent of private sector employment growth during this period.

TABLE 1 Private and public sector employment growth, 1995-2001

Sector	1995 employment	2001 employment	2001 as a percentage of 1995
Private sector			
Mining	432 857	487 000	113
Manufacturing	1 420 956	1 605 000	113
Construction	433 492	594 000	137
Trade	1 650 017	2 397 000	145
Transport	469 200	543 000	116
Financial	582 897	975 000	167
Total	4 989 419	6 601 000	132
Public sector			
Community services	2 151 382	1 988 000	92
Utilities	84 041	95 000	113
Total	2 235 423	2 083 000	93

Sources: Stats SA (1996; 2002)

Notes:

- 1 This table excludes agricultural and domestic employment due to data inaccuracies in these sectors. Public sector employment has been characterised as employment in utilities and services, while private sector employment is taken to comprise all remaining sectors. This simplifying assumption allows broad trends to be identified, but the limitation of this approach should be noted.
- 2 Community services comprises those employed in general government services and community, social and other personal services, of which government employees make up approximately 80 per cent.

Sectoral labour market implications

Having discussed aggregate labour market trends, shifts in sectoral employment will now be considered.

OHS data indicate employment growth in all sectors between 1995 and 1999, excepting agriculture and services. The data suggest that even the mining industry gained 45 000 workers during this period (although the additional jobs were primarily for skilled, rather than unskilled workers), a finding which is also indicated when the analysis is extended to 2001, with all sectors excepting agriculture and services experiencing employment growth (see Table 2). This represents a challenge to the long-run labour demand analysis that both primary sectors are in long-term decline, but further data is required to establish the significance of this finding, particularly since the 2000 and 2001 mining sector employment data indicate some employment volatility, but no significant sustained growth since 1999 (see the data tables for Chapter 5 in the HSRC's HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>).

TABLE 2 Sectoral employment totals, 1995 and 2001

Sector	1995	2001	2001 as a percentage of 1995
Agriculture	1 184 712	1 051 000	89
Mining	432 857	487 000	113
Manufacture	1 420 956	1 605 000	113
Utilities	84 041	95 000	113
Construction	433 492	594 000	137
Trade	1 650 017	2 397 000	145
Transport	469 200	543 000	116
Financial	582 897	975 000	167
Community services	2 151 382	1 988 000	92
Domestic	800 887	1 055 000	132
Unspecified	186 601	43 000	23
Total	9 397 042	10 833 000	115

Sources: Stats SA (1996; 2002)

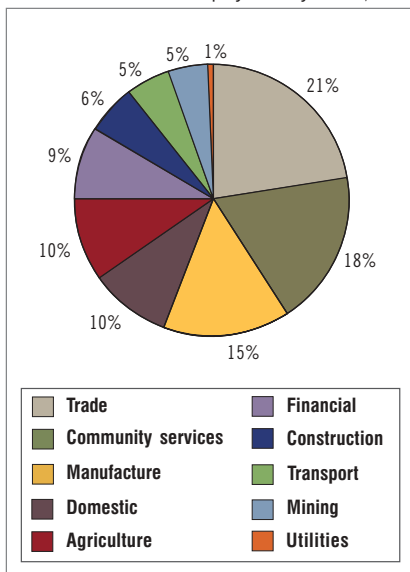
The main sectoral employment shifts during the period 1995 to 2001 are illustrated in Table 3.

TABLE 3 Dominant employment sectors by percentage share of total employment, 1995 and 2001

Dominant employment sectors	Percentage of total employment 1995	Percentage of total employment 2001	Change in share 1995-2001
Community services	22.89	18.35	-4.54
Trade	17.56	22.13	4.57
Manufacturing	15.12	14.82	-0.30
Agriculture	12.61	9.70	-2.91
Financial and business services	6.2	9.00	2.80

Sources: Stats SA (1996; 2002)

FIGURE 2 Share of employment by sector, 2001



Source: Stats SA (2002)

Table 3 indicates significant job reallocation from the primary sectors and some secondary sectors towards parts of the services industry during this period, with employment share shifting away from community services, manufacturing and agriculture towards trade and financial and business services.

During this period, the trade and financial services sectors increased their share of total employment significantly (by 4.6 and 2.8 per cent respectively), while construction, transport and the domestic sector experienced small increases and shares fell in the other sectors. The resulting share of total employment by sector is illustrated in Figure 2.

The largest sectoral increases in employment between 1995 and 2001 were in financial and business services, which experienced 67 per cent employment growth, and trade (45 per cent) on the basis of OHS and LFS data.⁸ This represents a continued expansion of the financial and business services sector, in keeping with global trends and long-run labour demand trends identified by Borhat and Hodge (1999) and Edwards (2001). Employment in manufacturing, the economy's largest contributor to GDP, increased by 13 per cent. Declines in employment levels were most marked in the agriculture sector (11 per cent decline) and services (8 per cent).

Relative employment demand⁹

The discussion has thus far been concerned with the absolute size of employment demand. However, the critical issue is the size of employment demand relative to labour supply, as this determines the employment rate. If aggregate employment growth is considered in relation to the growth of the economically active population, the labour market crisis currently being experienced in South Africa becomes apparent.

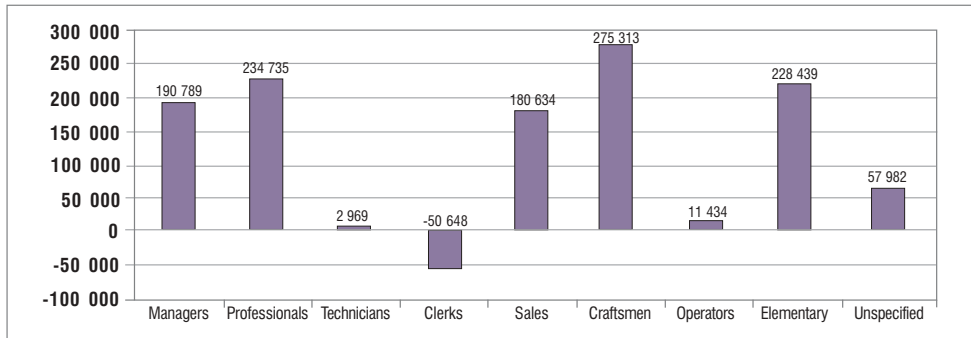
The analysis in this section reviews relative employment demand using data for 1995 and 1999, as more recent labour market data have not yet been analysed in detail. During this period, employment grew by 12 per cent, while labour supply grew by 33.4 per cent, indicating that employment did not increase in proportion to the growth of the economically active population. In real terms, 1.1 million jobs were created in the South African economy during this time, while 3.1 million individuals entered the job market, indicating a shortfall of two million jobs, a situation which may be characterised as one of poor employment growth. The critical question is how this limited employment is rationed and distributed across different segments of the workforce. This will now be explored by occupation, race, gender and education.

Share of employment by occupation

Between 1995 and 1999, employment increased in all occupational groups, excepting clerks, but changes in the pattern of demand had a differential employment impact on different occupational groups.

Labour demand increases were most marked for professionals and managers, for whom demand rose by 73 and 38 per cent respectively, accounting for 430 000 new jobs over this period (see Figure 3). Only in these occupations and the craftsmen category, did employment grow more quickly than the economically active population, which grew 24 per cent in aggregate. In all other categories job creation did not keep pace with the growth of the economically active population.

FIGURE 3 Changes in employment by occupation, 1995-1999

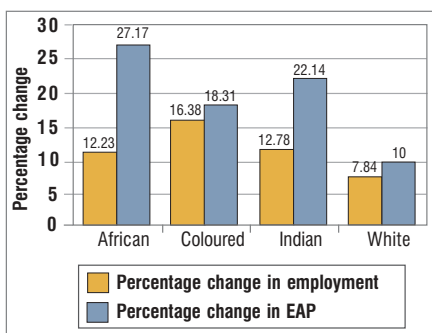


Source: Borhat (2001b) from Stats SA (1996, 2000a)

Share of employment by race

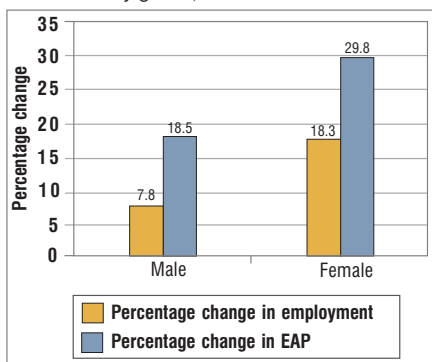
Employment increased for all races during this period, with coloured employment growing by 16 per cent, followed by Indian (13 per cent), African (12 per cent) and

FIGURE 4 Percentage change in employment and economically active population (EAP) by race, 1995-1999



Source: Derived from Borhat (2001b) from Stats SA (1996, 2000a)

FIGURE 5 Percentage change in employment and economically active population (EAP) by gender, 1995-1999



Source: Derived from Borhat (2001b) from Stats SA (1996, 2000a)

finally, white (8 per cent). However, the increase in the economically active population during this period was significantly greater for Africans, at 27 per cent, than for other groups (see Figure 4). When this is taken into account, racial differentials are revealed in the labour market's ability to absorb new entrants, with only 29 per cent of new African labour market entrants between 1995 and 1999 finding work (resulting in an African unemployment rate of 43.7 per cent and an additional 1.8 million unemployed), compared with 50 per cent of Indians, 70 per cent of coloureds and 75 per cent of whites. Hence, rising, but significantly racially differentiated unemployment is the consequence of labour force growth outstripping demand in a racially segmented labour market.

Share of employment by gender

Employment patterns by gender also changed significantly between 1995 and 1999. Figure 5 indicates the percentage change in employment and the economically active population by gender during this period.

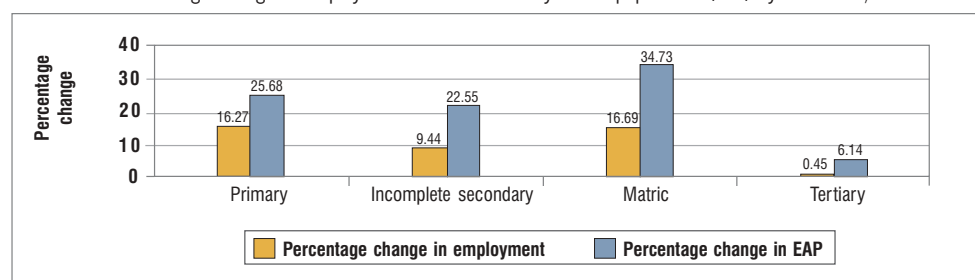
While both the male and female economically active population increased significantly during this period, female participation increased by 30 per cent, nearly double the male rate. Casale and Posel (2001) suggest that female labour force participation (women either working or seeking work in the labour market) is increasing due to chronic and increasing levels of unemployment, which are undermining traditional sources of household income and encouraging women to enter the labour force for wage income to supplement declining household revenue.

Although women took the majority of new jobs created between 1995 and 1999, the growth in the supply of the female labour force was faster than the growth in the demand for women workers, with the result that unemployment increased among women. Female unemployment increased at a rate of 42.8 per cent, compared with a male increase of 29.7 per cent.

Share of employment by education¹⁰

A comparison of unemployment data between 1995 and 1999 indicates employment growth for workers at all education levels. However, the rapid growth of the economically active population led to an increase in unemployment across all education levels, as illustrated in Figure 6.

FIGURE 6 Percentage change in employment and economically active population (EAP) by education, 1995-1999



Source: Derived from Borat (2001b) from Stats SA (1996, 2000a)

Note: For details regarding unemployment and economically active population changes between 1995 and 1999 by education level, see Appendix 5 of Chapter 5 in the HSRC's HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>.

The ability of the economy to generate sufficient jobs for new labour market entrants at each education level may be proxied by the 'employment effect',¹¹ which indicates the percentage of new labour market entrants at each education level that found employment between 1995 and 1999. On this basis, 41 per cent of primary level entrants into the labour market between 1995 and 1999 found work, 27 per cent of those with incomplete secondary education, 36 per cent of those with matric and only 7 per cent of those with tertiary education, indicating some labour market disequilibrium in relation to tertiary-educated job seekers (Poswell 2002).

There is a significant rise in unemployment among those with a matric or tertiary qualification between 1995 and 1999,¹² with matric unemployment rising from 25 to 35 per cent and tertiary-education unemployment from 6 to 12 per cent, doubling in just four years. While the absolute unemployment rates are low in higher education categories,

the rate of increase in unemployment over time is significant and surprising given the skills-biased employment shift in the South African economy discussed above. Borhat and Leibbrandt (2002) explain this anomaly by disaggregating tertiary employment by race (see Table 4) to reveal significant race differentials.

TABLE 4 Tertiary employment growth by race, 1995-1999

Race	Change in number employed	Percentage change
African	-77 121	-11.84
Coloured	2 606	3.10
Indian	9 193	15.16
White	66 741	10.52

Source: Borhat (2001b) from Stats SA (1996, 2000a)

Among those with tertiary education, African employment decreased by 77 121 during this period, coloured employment showed marginal growth, white employment rose by 66 741 and Indian employment showed significant growth. This suggests a racially polarised employment pattern, with a distinction between the African/coloured tertiary-educated segment and the white/Indian segment.

This racially polarised employment pattern may be explained in terms of two factors: (i) public sector restructuring and (ii) a decline in the real or perceived quality and relevance of African tertiary education.

The public sector restructuring exercise led to the loss of approximately 45 000 tertiary-educated African workers between 1995 and 1999, a loss which was not compensated for by the increased demand for skilled labour in the economy overall. Borhat and Leibbrandt (2002) argue that this is due to the fact that the expertise of African tertiary-educated workers is predominantly in fields of low labour demand rather than fields where the labour market is experiencing a skills deficit. This mismatch is related in part to the low numbers of African learners taking and passing maths or science at matriculation level, compared with other race groups, which has a significant limiting influence on the skills acquired at tertiary level (Van der Berg 2001). Borhat and Leibbrandt suggest that, while in terms of quantity, racial education inequality has been significantly reduced since 1994, the quality of education remains poorer among Africans, even when the level of formal qualification is equivalent. This compounds lower employment prospects for tertiary-educated Africans.

OVERVIEW OF UNEMPLOYMENT

Having discussed employment trends, an overview of the current unemployment situation resulting from these trends will now be presented.

While there is debate regarding the exact determination of unemployment rates, it is evident that South Africa currently suffers from higher unemployment levels than most developing countries in Africa, Latin America or Asia, and significantly higher unemployment rates than those of the middle- or high-income countries.¹³ The ability of the economy to absorb the growing labour supply has been deteriorating since the early 1970s, with unemployment rising consistently over the last three decades as labour supply has increasingly outstripped demand.

The preceding analysis indicates that the current economic growth path is exhibiting little change in terms of increased labour absorption, particularly among the unskilled. The characteristics of those whom the labour market is failing to absorb will now be discussed in detail.

The 2001 unemployment rate

The official unemployment rate for 2001 is 26.4 per cent (using the narrow definition of unemployment) while the broad rate is 37 per cent, a figure which includes 'discouraged' workers not actively seeking work. This level of unemployment implies a jobless total of seven million, with more than 40 per cent of the rural population unemployed (Stats SA 2001).

The use of narrow unemployment statistics by the government to denote the official unemployment rate is questioned by some economists (Kingdon & Knight 2001; Nattrass 2000), who argue that the exclusion of discouraged workers under the narrow definition leads to an underestimation of the actual level of unemployment. They suggest that in the context of persistent and elevated unemployment, particularly in rural areas, discouraged workers should be included among the unemployed since failure to engage in job search does not imply lack of desire to participate in the job market.

However calculated, the impact of such extreme levels of unemployment is particularly acute in South Africa, given the high dependence on formal sector wage employment,¹⁴ the close association between unemployment and poverty,¹⁵ and the skewed distribution of unemployment among different segments of the population. Aggregate unemployment statistics may be broken down by gender, location and race in order to explore the distribution of unemployment among these segments in more detail.

Unemployment by location and gender

An examination of unemployment data through the gender lens indicates that women consistently experience higher levels of unemployment than men in both urban and rural locations (see Table 5). Table 5 also indicates that while narrow rural unemployment rates are similar to urban rates, broad unemployment¹⁶ in rural areas is approximately ten percentage points higher, implying that in rural areas employment is generally less

available and job search activity reduced accordingly. This suggests that narrow employment statistics are likely to understate the extent of non-urban unemployment.

TABLE 5 Narrow and broad unemployment in South Africa by location and gender, 2001

Location	Narrow unemployment			Broad unemployment		
	Total	Male	Female	Total	Male	Female
Total	26.4	24.8	28.0	37.0	33.1	41.0
Urban	26.2	24.1	28.6	33.5	29.5	37.8
Non-urban	26.7	26.4	26.9	43.0	39.7	46.0

Source: Stats SA (2001a)

Note: The category non-urban includes both peri-urban and rural.

Unemployment by race

Race is a more significant determinant of unemployment than gender and location. Table 6 illustrates the racial segmentation of broad unemployment, together with the impacts of location and gender.

TABLE 6 Broad unemployment by race, location and gender, 2001

Race	Broad unemployment rate (percentage)		
	Total	Male	Female
All population groups			
Total	37.0	33.1	41.0
Urban	33.5	29.5	37.8
Non-urban	43.0	39.7	46.0
African			
Total	42.9	39.3	46.3
Urban	41.1	36.8	45.4
Non-urban	44.9	42.4	47.2
Coloured			
Total	30.3	27.6	33.0
Urban	31.7	30.5	33.0
Non-urban	22.6	14.0	33.3
Indian			
Total	22.5	18.0	28.8
Urban	22.0	17.6	28.3
Non-urban	*	*	*
White			
Total	10.1	7.6	13.1
Urban	10.2	7.8	13.1
Non-urban	9.1	*	*

Source: Stats SA (2001a)

Note: * Sample size is too small, hence no estimate is available.

Compared with international norms, unemployment is high among all racial categories. However, the level of unemployment experienced by Africans (42.9 per cent) is severe and significantly higher than for all other races. Female unemployment across all racial categories is higher than male.

If location and race are both taken into consideration, non-urban African unemployment levels are the highest at 44.9 per cent. When gender is added to the analysis, the group enduring the highest incidence of unemployment is found among non-urban female Africans, for whom the broad unemployment rate is 47.2 per cent. From this the conclusion may be drawn that involuntary unemployment is concentrated in the female non-urban African population.

Unemployment by age

Bhorat and Leibbrandt (2002) show that unemployment is also significantly correlated with age, as illustrated in Figure 7.

FIGURE 7 Number of unemployed by age, 1999 (thousands)



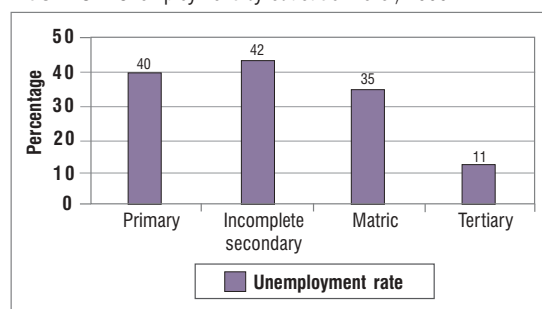
Source: Bhorat & Leibbrandt 2002 from Stats SA (2000a)

Individuals aged up to 30 years constitute 56 per cent of the total unemployed, while the 15 to 24 cohort comprises 30 per cent of the total unemployed, confirming the strong youth dimension of unemployment.¹⁷ This youth concentration is largely a function of the demographic structure of the South African population, reflecting the fact that the largest proportion of the population falls into this age group (see Bakilana 2002). Addressing the needs of this segment of the unemployed presents a critical social and economic challenge to the government.

Unemployment by education level

Unemployment by education is shown in Figure 8, which indicates that rates of unemployment are highest among those with primary or incomplete secondary education. The rate of unemployment decreases as education levels increase.

FIGURE 8 Unemployment by education level, 1999



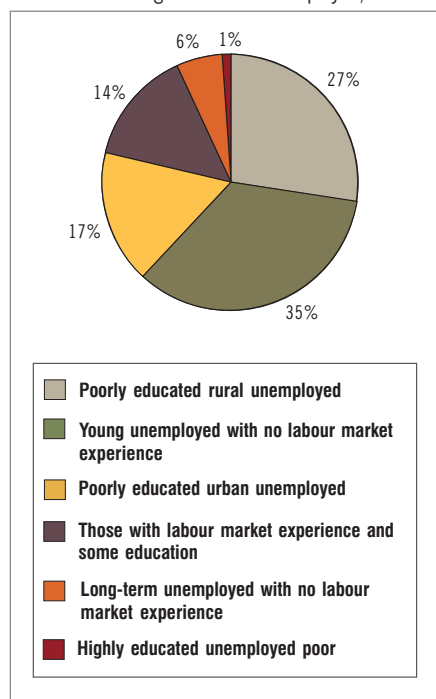
Source: Stats SA (2000a)

When age is added to this analysis, it is apparent that the supply characteristics of the different age cohorts differ dramatically. Among the African unemployed, the youth are better educated than their older counterparts: 34 per cent of the unemployed aged between 15 and 24 have a matric or tertiary qualification, compared with between 3 and 11 per cent for those aged 35 and above. By contrast, the human capital characteristics of the unemployed over the age of 45 are fairly homogenous, with over 69 per cent having either no education or only primary education (see the data tables for African unemployment by education for Chapter 5 in the HSRC's HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>). These age and education differentials highlight the heterogeneity of the unemployed and the need for distinct policy interventions for different segments of the unemployed.

Characterisation of the unemployed

By analysing the relationship between unemployment, age, race, gender and location, Klasen and Woolard (cited in May 2000: 82) identified six categories of unemployed. The largest group comprises the young unemployed with no labour market experience. The next largest is the poorly educated rural unemployed. This group is followed by the poorly educated urban unemployed, those with labour market experience and some education, the long-term unemployed with no labour market experience and finally, the highly educated unemployed poor. The relative size of each of these groups is illustrated in Figure 9.

FIGURE 9 Categories of the unemployed, 1997



Source: Derived from Klasen and Woolard (1997), quoted in May (2000)

Klasen and Woolard argue that the two groups finding the greatest difficulty in gaining formal sector employment are the young unemployed with no labour market experience and the poorly educated rural unemployed. The latter group is almost exclusively African, predominantly female, and concentrated in KwaZulu-Natal, the Eastern Cape, Limpopo and the North West – provinces with high concentrations of rural poverty.

This analysis implies a need for differentiated policy responses to address labour market failure in terms of the various categories of the unemployed. In the case of the inexperienced young unemployed, addressing supply-side factors by enhancing human capital through education and training is a critical policy response. In the case of the poorly educated rural unemployed, a group which

may be characterised as the 'unemployable' due to the lack of market demand for their labour, interventions to stimulate demand, such as public works programming, would be more appropriate, because demand constraints, rather than supply characteristics are the main determinant of unemployment in rural areas. The existence of provincially divergent unemployment characteristics also highlights the need for provincially differentiated labour market policy responses.

WAGE DIFFERENTIALS¹⁸

Having examined the quantity of employment, wages, the price paid for labour, will now be considered. The wage structure in South Africa is highly differentiated (experiencing a wide range of remuneration levels), most critically by race and education. Table 7 presents wage data by race for the employed (in both the formal and informal sectors), based on 1995 data.¹⁹ The median monthly wage²⁰ was R1 400, with white wages being significantly higher at R4 000. The median wages of Africans and coloureds are similar, at approximately one-quarter of white income, while the Indian median wage is above that of coloureds and Africans, but only just over half the white wage.

TABLE 7 Median monthly wage by race, 1995

Race	Median wage (Rands)	Percentage of white
White	4 000	100
Indian	2 310	58
Coloured	1 083	27
African	1 082	27
Average	1 400	35

Source: Stats SA (1996)

matric or more, (ii) those with incomplete secondary education and (iii) those with primary or no schooling. Those with matric or tertiary education earn significantly more (at the median) than those with less education. This pattern accords with labour demand trends between 1970 and 1999. The widening differential between workers with high and low education levels reflects declining demand for workers with low education levels and increasing demand for more highly educated workers.

TABLE 8 Median monthly wage by education level, 1995

Education level	Median wage (Rands)	Percentage of tertiary
Tertiary	3 500	100
Matric	2 420	69
Grades 8-11	1 248	36
Grades 1-7	631	18
No education	501	14

Source: Stats SA (1996)

This analysis confirms the existence of the two distinct labour markets discussed above, one for African and coloured workers and another for Indians and whites.

In wage terms, the labour market is also segmented by education (see Table 8), with three main segments: (i) workers with a

Location is also important in determining wage levels, with urban wages being highest, followed by peri-urban and then rural wages. The median rural wage is only one-third of the urban.

Sectoral analysis of wage distribution

There are significant sectoral wage differentials in the South African economy (see Table 9). Sectors requiring workers with high levels of expertise, such as financial services or electricity, reward top-end employees more than other sectors. This reflects the emergence of wage premia (higher levels of remuneration) in response to skill shortages. In comparison, the agriculture and community services sectors do not face skilled worker supply shortages of the same magnitude and hence similar premia do not occur.

TABLE 9 Median monthly wage by sector, 1995

Sector	Median wage (Rands)	Percentage of utilities sector wages
Agriculture	436	17
Mining	1 500	60
Manufacturing	1 500	60
Utilities	2 512	100
Construction	1 212	48
Wholesale and retail trade	1 346	54
Transport	2 177	87
Financial and business services	2 500	100
Community services	2 500	100

Source: Stats SA (1996)

The utilities, financial and business services, and community services sectors pay the highest median wages. Agriculture pays the lowest at 17 per cent of the utilities wage, followed by construction (48 per cent) and wholesale and retail (54 per cent).

The reason the three key service sectors yield the highest median wages is due in part to the public sector wage premium discussed below. The discrepancy between the two primary sectors (agriculture and mining) is partly a function of differing union density; the mining industry is highly organised compared with agriculture.

Significant wage differentials (a wide range of remuneration levels) are also evident at the sub-sectoral level, with capital-intensive sub-sectors tending to have higher wage inequality (range of wages) and premia, relative to labour-intensive manufacturers, due to their demand for skilled workers. In this way, sectoral technology choices are closely linked to wage differentials.

If sectoral wage data is disaggregated by race, additional insights are gained. While primary sector workers are paid relatively low wages overall, white workers in these sectors have the highest median wage across all sectors, partly due to the concentration of white workers in more senior or skilled posts. The race figures also indicate that across all sectors the median wages of African and coloured workers are similar, due to their concentration in certain occupations, while the sector differential for Indian and white workers is greater.

Occupational wage differentials

If wage data is examined by occupation, the lowest earners are domestic workers, followed by farm workers and then labourers in the mining industry. Mining labourers,

however, earn more than twice the income of domestic or farm workers, due in part to the density of union membership in this occupation.

If occupational wages are broken down by race, significant wage differentials are revealed between Africans and whites (see Table 10), even when they are employed in similar occupations. For example, African workers consistently earn less than their white counterparts, with African professionals earning 35 per cent of white professional earnings and 39 per cent of white machine operators' earnings.

TABLE 10 Median monthly wage by occupation and race, 1995

Occupation	African (Rands)	Coloured (Rands)	Indian (Rands)	White (Rands)	Total (Rands)	Total as percentage of managers	African as percentage of white
Managers	1 887	2 650	N/A	4 500	5 400	100	42
Professionals	2 646	3 000	5 000	7 500	4 670	86	35
Skilled agriculture	3 379	4 000	5 433	6 588	3 724	69	51
Technicians	2 646	3 085	3 500	4 670	3 180	59	57
Armed forces	1 600	1 500	2 000	2 500	2 177	40	64
Clerks	1 249	1 200	1 600	2 500	2 000	37	50
Craft	755	1 100	3 333	6 612	1 625	30	11
Services and sales	1 200	1 346	2 000	4 500	1 438	27	27
Machine operators	1 280	1 200	1 500	3 283	1 323	25	39
Transport labourer	1 140	950	900	4 667	1 115	21	24
Manufacturing labourer	1 000	900	1 325	2 000	1 000	19	50
Domestic helper	975	800	1 250	1 100	950	18	89
Mining labourer	900	800	1 520	2 600	900	17	35
Agricultural labourer	400	464	257	1 346	420	8	30
Domestic worker	380	360	750	750	380	7	51
Unspecified	1 150	1 900	1 500	4 057	1 399	26	28

Source: Stats SA (1996)

Note: The October Household Survey makes a distinction between 'domestic helper' and 'domestic worker', as is reflected in this data.

Education wage differentials

The primary reason for the wage differentiation between African and white skilled workers in the same jobs is the higher actual and perceived levels of education amongst white skilled workers, compared with skilled African employees with the same nominal qualifications. Consequently the rates of return for tertiary education are higher for white than African workers (see Bhorat 2000b for a full discussion of this issue). This racial differentiation of returns to higher education may be explained as a function of (i) the perceived lower quality of a tertiary degree obtained from historically black universities and (ii) the heterogeneity of tertiary degree qualifications, which implies that not all human capital accumulation at the tertiary level will result in the same labour demand responses from firms.

Bhorat and Lundall (2002) argue that African skilled employees disproportionately accumulate human capital in areas where labour demand is lower and consequently their human capital is rewarded with lower wages. For example, African skilled employees are concentrated in the teaching and nursing occupations and white skilled employees

in management and professional occupations. Borhat and Hodge (1999) argue that labour demand has shown a significant rise in the service sectors where white skilled workers are concentrated. Sectors of black skilled concentration (education and health) have not experienced similar growth and were subject to cutbacks during the public sector restructuring programme of the mid to late 1990s, leading to reductions rather than increases in demand for skilled workers in these areas.

In conclusion, there are two critical dimensions to racial and educational wage differentials. Firstly, skilled African workers are on average less educated than skilled white workers and, secondly, returns to tertiary education are lower for African workers. This is a consequence of the labour market response to:

- actual and perceived education quality differentials;
- the different types of human capital accumulated; and
- the concentration of white skilled workers in occupations which yield higher wages due to their high relative demand in the labour market.

As a consequence returns to education are significantly greater for white than African workers.

Wage distribution patterns

The segmentation of the labour market in South Africa is also reflected in wage distribution patterns. Coloured and African workers experience greater wage homogeneity than Indians and whites, owing to their concentration in a limited number of occupations.

However, if analysed dynamically, significant and increasing inequality among African households is revealed, partly as a result of the large number of African unemployed. This confirms the argument of Natrass and Seekings (2001) and Leibbrandt and Woolard (2001) that unemployment has a central role in generating and maintaining inequality in South Africa. The scarcity of highly skilled African workers with expertise to match labour market demand results in a significant premia on top-end wages. Together with high levels of African unemployment at the bottom end, this explains a large share of the aggregate wage inequality (variation in wage income across the employed) within the South African labour market.

Wage inequality is greater for men than women among all races, being most extreme amongst white and Indian men and lowest amongst African and coloured women. Upper-end wage inequality is greater than bottom-end for both rural and urban labour markets, but wage compression is greater in rural than urban labour markets due to the limited employment opportunities.

If inequality is considered in relation to education, the highest wage inequality is found amongst the employed with matric or tertiary education, which Borhat and Lundall (2002) account for in terms of the actual and perceived heterogeneity of tertiary education (type of degree, nature of institution providing the degree, and differential actual education levels among those with the similar nominal qualifications).

Wage differentials between the public and private sectors

Bhorat and Liou (2002) explore the question of wage differentials between the public and private sectors. The private sector median monthly wage in 2000 is R1 400 (Stats SA 2001a). This is 47 per cent of the median public sector wage of R3 000, suggesting the existence of a significant public sector wage premium.

When overall income distribution is examined, the public sector is found to be a more generous remunerator than the private sector for all workers and public sector income is more evenly distributed than private sector. This implies that in the public sector there is lower wage inequality with a lower overall range of wages, or less disparity between low and high earners (Bhorat & Liou 2002). However when this finding is disaggregated by race, significantly divergent patterns of wage differentiation are revealed. For African employees there is a significant disparity in incomes between the two sectors, with the median private wage being 48 per cent of the public sector wage. For white employees there is little differentiation between public and private sector wages, particularly for high-end white employees, with the median private wage being 83 per cent of the public sector wage. This is largely due to the concentration of white workers in more highly skilled professions with higher wage premia in both sectors.

Bhorat and Liou (2002) also disaggregate public/private wage differentials by occupation and have found that the public sector offers higher wages than the private sector for all occupations, with the exception of professionals, for whom the public sector median wage is 85 per cent of the private sector. This is largely due to the composition of the professional category in the public sector, with its concentration of relatively low paid professionals (teachers and health personnel).

In summary, race and gender wage differentials are significantly lower in the public sector than in the private sector and wages higher. After controlling for gender, race, experience, education, occupation, province and location, public sector employees earn 23 per cent more than their private sector counterparts, confirming the existence of a significant public sector wage premium (see the full Labour Force Survey regression results in the data tables for Chapter 5 in the HSRC's HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>).

International comparison of South African wage differentials

International comparison suggests that South Africa exhibits significantly higher levels of wage inequality than western Europe,²¹ experiencing aggregate levels of inequality which are comparable to those of the United States (Bhorat 2000b) (see Table 11).

TABLE 11 International comparison of wage differentials

Country	Summary measure of wage inequality
Germany	1.00
Britain	1.28
United States	1.59
Austria	0.90
Switzerland	1.24
Sweden	0.85
Australia	1.19
Hungary	1.12
Italy	0.96
Norway	0.75
Non-US average	1.00
South Africa	
Total	1.47
White	1.71
Indian	1.52
Coloured	1.26
African	1.27

Sources: Stats SA (1996) and Blau & Kahn (1996) in Bhorat (2000a)

Note: This summary measure of income inequality is based on the ratio of the earnings of the top and bottom deciles of log hourly male wages, the 90-10 differential.

If wage inequality within racial groups is examined, all races in South Africa experience significantly higher levels of wage inequality than the European country average. This indicates that in South Africa there are significant wage variations within racial groups and that wage inequality is not restricted to inter-racial differentiation.

Wage differentials conclusion

Wage differentials are informed by race, gender, education and public/private sector employment,²² with race being significantly stronger than other determinants. Occupational wage analysis reveals a discrepancy between Africans and whites ostensibly in the same skilled/semi-skilled occupations, which may be explained in terms of differential accumulation of human capital, as well as actual and perceived quality differentials in education, and possibly also unofficial racial discrimination. Across skill and race groups, women receive lower wages than men, while union membership increases wages, but only among semi-skilled workers (see Borat and Leibbrandt (2002) for a discussion of the impact of unionisation on wages). There is considerable public/private sector wage differentiation, with the median wage in the private sector being less than half that of the public sector.

Location, sector and union membership are also important earnings determinants. Wages are higher in urban than rural areas, and sectorally, wages are lowest in the agricultural sector, with the next lowest paid segment of the labour force being female domestic workers. Unionisation also affects returns and has been found to increase wages by approximately 20 per cent (Bhorat & Leibbrandt 2002), although the significance of this effect in terms of the wage-employment trade-off is an area of ongoing debate.

A provincial analysis indicates significant wage differentials, with African workers in the Eastern Cape, Northern Cape and the Free State likely to earn less than their counterparts in the Western Cape.

THE ROLE OF EDUCATION

The preceding discussion demonstrates that there is no single labour market in South Africa, but a series of linked labour markets, with diverse characteristics related to race, location, gender and education. Racially, the labour market can be divided into two segments, one comprising African and coloured workers and the other white and Indian workers, who engage in broadly separate labour market processes, characterised by educational and occupational differences. The spatial dimension within the labour market is also stark in South Africa, with the rural labour market being characterised by lower labour demand in terms of both quantity and quality, a factor which impacts more significantly on Africans than other races, due to the concentration of Africans in rural areas and the restricted mobility of rural workers.

In the context of persistent labour market segmentation, the key question is how to identify and address the causes of ongoing differentiation and increase the equity of

labour market outcomes. The labour market process may be broken into three components: participation, employment and earnings (Bhorat & Leibbrandt 2001). The next section considers the role of education and other key determinants of segmentation in relation to each of these components.

Determinants of participation in the labour market

The first component of the labour market process is the decision to participate in the market by seeking work. Participation levels are low in South Africa compared with international norms²³ (Winter 1998), but have increased significantly since 1995, particularly among women.

Education is a key determinant of the decision to participate, in both rural and urban locations, with the impact being particularly strong for women in urban areas. Increasing levels of qualification are associated with higher participation rates and consequently, those with tertiary education are more likely to be either employed or job seeking than those with less education.

Location also impacts on female participation (although not on males), with rural women having lower participation rates than urban women, largely due to the persistence of traditional household gender roles. Provincial location also determines participation, with the Northern Cape, KwaZulu-Natal, North West, Mpumalanga and Limpopo provinces having low levels of participation and high numbers of discouraged workers.

In terms of demographic determinants, participation increases with age, with older people more likely to have a job or be seeking work. The analysis suggests that a significant proportion of the youth cohort (16 to 24 years) may already comprise discouraged work seekers. Drawing this cohort into the labour market represents a major policy challenge. In terms of household characteristics, the number of children under the age of 16 is a determinant of participation for women in rural areas, although not for men, while in urban areas this is true only for those with younger children. The number of adults in a household is also correlated with labour market participation; an increase in the number of working age men is correlated with reduced female participation, while the presence of aged household members is negatively correlated with male participation. Wittenberg (2001) suggests that pensioner households may be augmented by workers unable to find employment, leading to a shift in patterns of household structure, particularly in rural areas.

Employment

The rationing process through which jobs are allocated determines employment, the second stage of the labour market process. Education is found by Bhorat and Leibbrandt (2001) to be important in determining employment as well as labour force participation.

Across both genders, individuals with lower levels of education have less chance of finding employment than those with higher levels. Primary schooling or less has little impact on employment prospects in rural areas and secondary education has little impact for males in rural areas. In both urban and rural areas, however, tertiary education is

crucial in predicting employment. Borhat and Leibbrandt (2002) argue that this labour demand pattern reflects the skills bias in the labour market and the stagnant demand for unskilled workers.

The probability of employment is also greater in older cohorts relative to the 16 to 24 age group, reflecting the large number of youth unemployed.

The earnings function

Earnings, the third component of the labour market process, are also influenced by education, although there is debate in the South African literature regarding the nature of the relationship.

In line with the international economic orthodoxy, Borhat and Leibbrandt (2002) suggest that Africans face diminishing returns to education.²⁴ Each year of primary and secondary schooling has a significant positive impact on earnings, while tertiary education has little impact on income and is primarily significant in terms of gaining employment, rather than determining the level of earnings. They also identify gender differences in earnings, arguing that men, but not women, gain higher returns to education in urban than rural areas and higher returns than women for secondary education, but lower returns for primary education.

By contrast, the findings of Hertz (2001), Moll (1996), Rospabe (2001) and others suggest a more complex pattern of returns to education in South Africa. They argue that primary and secondary education may be correlated with marginal or falling returns, while tertiary education is correlated with significantly increased returns. Keswell and Poswell (2002) take the argument further, arguing that returns are consistently lower at all levels of education for Africans, coloureds and Indians, compared with whites and that Africans experience the lowest returns.

The analysis offered by Hertz, Keswell and Poswell, and others implies a divergence in South Africa from the internationally reported norm of increasing returns to education. This may be explained in part by the extreme levels of unskilled and low-skilled unemployment in South Africa and the wage premium for skilled labour. If, as is suggested, returns for primary and secondary education are poor, particularly among the African population, and only tertiary education is significantly rewarded (in terms of wage levels) in the labour market, incentives for participation in primary and secondary education are poor and need to be addressed. This underscores the problematic nature of the current South African growth path, with its constrained demand for primary and secondary educated labour. This remains an area of controversy, the resolution of which may have significant policy implications in terms of the development of labour market interventions to improve returns to education among black South Africans.

The role of education

When the components of the labour market process are considered together, some broad conclusions may be drawn.

Primary and secondary education tend to increase the probability of participation, but are not sufficient to ensure employment, due to the skewing of labour demand

towards the skilled. Evidence regarding returns to schooling is currently the subject of debate, although the work of Borhat and Leibbrandt (2002) suggests that there are significant returns to primary and secondary education, in line with international norms. Tertiary level education increases the likelihood of employment, but its earnings-effect is subject to both racial differentiation and differentiation based on the quantity and quality of tertiary education.

POLICY IMPLICATIONS

The South African economy has not been creating jobs at a sufficiently rapid rate to absorb the growing economically active population, as illustrated by low labour absorption rates and rising unemployment. This is disproportionately affecting African workers. The technical and structural changes that have shaped the South African labour market over the last 30 years have been influenced by changes in the domestic and international policy environment, to create a situation of rising unemployment in the context of a low growth development path. This has resulted in particularly poor employment growth for unskilled workers in the primary sectors where African labour is concentrated.

This concentration of unemployment among unskilled African workers is exacerbated by the legacy of apartheid education and labour market policies, resulting in the continuing failure of African workers to acquire the human capital demanded in the current labour market.

Participation in the labour market is a key mechanism for the reduction of poverty and inequality in South Africa. Hence the trends of growing unemployment and a continuing skills bias are contributing to an increasingly segmented and, for many, inaccessible labour market, thereby exacerbating inequality and creating a growing polarisation between those who gain access to rationed employment and those who are excluded.

Education is a particularly important determinant of success in the labour market process in the context of employment rationing. The accumulation of education, however, is not in itself a sufficient condition for improving employment prospects. There is a need for a closer examination of the quality and content of education offered at all levels, including tertiary education, in order to address the apparent mismatch between the skills demands of the economy and the supply of workers (see Borhat and Lundall (2002) for more detail).

One key policy implication is the need for supply-side interventions to improve skills and education in order to promote employment prospects, particularly for the young; improving human capital will improve racial equity in terms of access to employment. However, this response will not reduce the growing intra-racial inequality arising from the growing employment deficit, or address the failure of the labour market to absorb nearly 50 per cent of those who aspire to participate in it. Given the heterogeneity of labour force participants and the importance of demand constraints, an HRD-oriented supply-side response will not be sufficient. For groups such as the poorly educated rural unemployed, comprising 28 per cent of the total unemployed, skills development in the

absence of increased labour demand would not be effective and an interventionist policy response promoting labour demand (such as public works programming) would be most appropriate.

Addressing these joint problems of supply- and demand-side constraints is the primary labour market challenge and has profound implications for equity and redistribution in South Africa. Improving supply-side characteristics will enhance employment opportunities for some segments of the unemployed, but as long as access to employment remains severely rationed, the need for complementary demand-side interventions to create additional employment will remain critical.

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Notes

- ¹ The general simplifying assumption is made here that 'skills' and 'education level' are synonymous, an argument which will be explored in more detail later in the chapter, as it is critical to decompose 'education' in more detail before any general conclusions about the relationship between education, skills and employment can be drawn.
- ² Whether greater openness has been a major factor reducing the demand for manufacturing labour is the subject of ongoing debate. Bhorat (2001a) argues that increased import penetration has continued to displace labour throughout the late 1990s; Jenkins (2002) and Edwards (2001) argue that post-1994 this has been more than offset by increased employment as a result of rising exports. This difference could be accounted for by the fact that Edwards and Jenkins use a Chenery type methodology, looking at total (direct plus indirect) employment effects, while Bhorat focuses on the static impact, using the Katz and Murphy methodology.
- ³ Labour market trends in this section have been calculated on the basis of October Household Survey data for the period 1995 to 1999 and Labour Force Survey data for 2000 and 2001, despite misgivings concerning the estimation and inclusion of the informal sector in the surveys. See Muller (2002) for a full analysis of the data problems relating to the informal sector.
- ⁴ The only inconsistency in the two analyses is that Bhorat identifies growth in all sectors except utilities and agriculture, while Stats SA also finds a decrease of 2.15 per cent as opposed to growth of 1.23 per

cent in the services sector, representing a difference of approximately 100 000 which may be attributable to the divergent location of domestic workers.

- ⁵ The main concerns with the 1995 data set are poor coverage of farm and domestic workers, and under-recording of mining employment.
- ⁶ This update of the 1995 to 1999 analyses is based on data from the newly introduced Labour Force Survey which replaced the October Household Survey in 2000. The consistency of the two surveys in terms of sampling framework and methodology has not yet been established, and this may contribute to some data set inconsistencies. For this reason the findings outlined earlier in this section should be treated as indicative. The unusual formal sector employment numbers for 2000 may be due to data collection errors in the 2000 LFS. For this reason, 2001 figures, rather than those for 2000, have been used as the reference year in the analysis in this section.
- ⁷ See Muller (2002) for a full discussion of the data problems and inconsistencies in National Household Surveys in South Africa.
- ⁸ It is interesting to note that the OHS and LFS data for this period also indicate employment expansion in the construction sector, although this does not concur with trends indicated by other data sources (see Altman and Mayer in Chapter 3).
- ⁹ This section draws on Borhat (2001b).
- ¹⁰ This section is largely based on Poswell (2002).
- ¹¹ The median values are used instead of mean values since outliers in the data set would distort the mean.
- ¹² Workers categorised as having a tertiary qualification are those who hold a variety of different qualifications ranging from a diploma or certificate with a matric or Grade 11 pass, NTC I, II and III certificates and of course a university degree (at the undergraduate or postgraduate level). The tables were run for the university degree categories only and revealed the same trends as those reported here for the broader classification of tertiary-qualified individuals.
- ¹³ Compared to global unemployment levels, South Africa is facing an extreme situation with regard to unemployment, with levels significantly in excess of those found in other developing and developed countries. The developed country average was 6.2 per cent in 2000, while the Latin American and Caribbean average was 8.9 per cent, Asia and the Pacific 4.6 per cent, and the Transition Economies 10.9 per cent (ILO 2001a). With specific reference to other developing and middle-income countries, South Africa is also an outlier, having unemployment rates which are only comparable to states engaged in or emerging from conflict, or facing extreme economic isolation. Brazil, which is frequently cited as an economic comparator for South Africa – enjoying similar levels of both GDP output and inequality – differs significantly from South Africa with respect to unemployment; it had an unemployment rate of nine per cent in 1999 (ILO 2001b).
- ¹⁴ Formal sector wage dependence is higher in South Africa than among other sub-Saharan African countries, particularly in rural areas where remittances continue to play a significant role in household economic survival (Leibbrandt & Woolard 2001). This situation resulted largely from the labour market distortions introduced under apartheid.
- ¹⁵ The close relationship between poverty and employment is discussed in detail in Leibbrandt and Woolard (2001).
- ¹⁶ The narrow definition of unemployment is the definition conventionally used by government and is comprised of economically active people actively seeking work; the broad definition of unemployment includes those not actively seeking work, for whatever reason.
- ¹⁷ For the 15 to 24 cohort the unemployment rate ranges between 50 and 63 per cent, with the highest rate, 63 per cent, being recorded for 17 year-olds.
- ¹⁸ This section draws heavily on Borhat and Liou (2002).
- ¹⁹ The 1995 OHS data is used for this analysis due to coding errors in more recent data.
- ²⁰ The median values are used instead of mean values since outliers in the data set would distort the mean.
- ²¹ These comparisons are based on comparator data from the mid to late 1980s.
- ²² For a full statistical analysis of wage differentials by these covariates, see the data tables for Chapter 5 in the HSRC's HRD Data Warehouse at <http://hrdwarehouse.hsrc.ac.za>.

²³ This is particularly true for male participation rates, see Lestrade-Jefferis (2002).

²⁴ This analysis conforms to the conventional Mincerian Earnings Function approach.

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