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Unemployment in South Africa: The Nature of the Beast

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1. Introduction

According to official published statistics, the South African broad (narrow) unemployment rate was about 39% (26%) in 1998 and had been steadily increasing in the years prior to that (StatsSA, 2000). High and rising unemployment is of concern for a number of reasons. Unemployment reduces output and wastes productive power; it erodes human capital owing to the depreciation of unused skills; it leads to social exclusion, a deprivation that goes well beyond the fall in income associated with unemployment; unemployment can cause suffering, deterioration in family life and in social values; unemployment can induce discouragement, resignation, and loss of morale.

However, these potential costs of unemployment depend on the nature of the beast. Is unemployment voluntarily chosen leisure? Whether unemployment is voluntary or involuntary is an emotive question, with the Right and the Left taking predictable stances. It is an important question because the alternative interpretations of unemployment carry with them different ethical and policy implications. If unemployment is largely voluntary, its cure can be downgraded as a policy concern. Thus, the question is of momentous significance. Yet, studies of unemployment in South Africa have not addressed this issue rigorously.

2. Voluntary versus Involuntary Unemployment

Although the theoretical distinction between voluntary and involuntary unemployment is entrenched in the literature, the notion that one can judge whether unemployment is voluntary or involuntary has been questioned (Layard, Nickell, and Jackman, 1991). Their argument can be illustrated in Figure 1. For simplicity, the total labour force - the employed plus the unemployed - is assumed to be constant and equal to LL' on the horizontal axis. All workers are willing to work in the primary sector. The demand D_1 for primary sector employment is a

function of the primary sector wage, set at W_1 by efficiency wages or union bargaining. Thus primary sector employment is shown by LN_1. This leaves N_1L' workers available for the secondary sector. The curve D_2 shows the demand for labour in the secondary sector as a function of the wage in that sector. The secondary sector labour market is competitive, so that the wage adjusts to clear the market: N_2L' workers are employed at wage W_2. This leaves N_1N_2 workers unemployed. These people are willing to work in the primary sector at the going wage W_1 but cannot find work, but they are unwilling to work in the secondary sector at the going wage there, W_2. They are thus both involuntarily and voluntarily unemployed in this segmented labour market.

Notwithstanding the theoretical difficulties, Clark and Oswald (1994) and Theodossiou (1998) approach this question in the psychologists' tradition by examining the utility levels of the jobless. They find that unemployed persons in various developed countries have much lower levels of happiness or wellbeing than those in work, and accordingly reject the hypothesis that unemployment is voluntary. A number of economists refute the notion advanced by Benjamin and Kochin (1979) that a good proportion of interwar unemployment in Britain was voluntary and based on generous unemployment benefits (see papers by Cross; Collins; Metcalf, Nickell and Floros; and Ormerod and Worswick, in the *Journal of Political Economy*, 1982). Crafts (1987) argues that much of interwar unemployment in Britain was involuntary long-term unemployment which was not associated with high replacement ratios, with being well-off or with voluntary search: the lack of search was, for the most part, a result of discouragement - a choice made under duress.

The dominant view of unemployment in developing countries is that much open unemployment is due to search and is voluntary (Harris and Todaro, 1970; Harris and Sabot, 1982). Probabilistic models of rural-urban migration produce an equilibrium level of urban unemployment. The equilibrium condition is that, with the urban formal sector wage above the competitive level, the 'expected wage' (the formal sector wage multiplied by the probability of obtaining formal sector employment) equals the rural supply price. It might appear that the existence of a free-entry urban self-employment sector rules out the possibility of there being equilibrium unemployment. However, positive unemployment can arise because self-employment income is too low (as in Figure 1), or because the probability of securing wage employment is higher if search is conducted from open unemployment than from self-employment, or because self-employment is regarded with disdain.

If formal sector job-search from unemployment is more efficient than from informal employment, those able to afford unemployment remain openly unemployed. However, the poor cannot afford to do so. If most unemployment in the economy is of this search variety, the inter-household relationship between unemployment and income is likely to be positive insofar as the informal sector absorbs the poor.

3. The Nature of Unemployment in South Africa

The nature of unemployment is South Africa has attracted a literature. In the early 1980s, there was a heated debate over whether unemployment in rural areas was voluntary or involuntary. On one view, much of it was voluntary: at least part of the labour market cleared and rural-dwellers chose to be unemployed because of the income available from household agriculture (Kantor, 1980; Gerson, 1981). This view was challenged by others (Knight, 1982; Simkins, 1982) who pointed to the lack of productive activities available at the margin to rural dwellers. The issue was by no means settled and the debate has continued in recent times. For example, an ILO report on the South African labour market (ILO, 1996, p111) raises the notion that people with access to non-earned income may be voluntarily unemployed. The issue has also arisen in the debate about the appropriate definition of unemployment - whether to use the narrow measure (excluding the unemployed who wanted work but did not search actively in the reference period) or the broad measure (including this group). In 1998 it made a difference between an unemployment rate of 26 per cent and one of 39 per cent. The ILO report (ILO, 1996, p104) suggests that including the non-searching unemployed may exaggerate the level of unemployment, implying that the broad measure includes people who are neither unemployed nor in the labour force. Similarly, the South African Statistical agency's recent decision (StatsSA, 1998, p1) to drop the non-searching unemployed from the official definition of unemployment and from the denominator in calculating the unemployment rate implicitly assumes that such people have voluntarily withdrawn from the labour force.

South African workers can be found in three different states: wage employment, self-employment, and unemployment. Consider first the choice between self-employment and unemployment. In what circumstances would a worker be unemployed rather than self-employed? More specifically, why do unemployed workers in South Africa choose to remain unemployed and to search, or to wait, rather than join the free-entry informal sector? This

informal sector might be an end in itself or a means to wage-employment, i.e. a base from which to search, or wait, for wage-employment. We shall adduce evidence to show that income from wage-employment greatly exceeds income from self-employment. This suggests that wage-employment is the preferred state. However, income from self-employment will be shown to exceed income while unemployed. Why then do the unemployed not choose to search from the self-employed state? One explanation is that job-search is more efficient if undertaken while unemployed. In that case, unemployment might properly be regarded as voluntary. However, for many workers access to informal sector activities offering non-negligible income may be prevented by barriers to entry. In that case, there might be no viable alternative to unemployment for such people, and it would be misleading to label them as voluntarily unemployed.

Secondly, consider the choice between wage-employment and unemployment. Given the possibility of redistribution within the household, higher household income may lower jobless members' employment in the informal sector because of an income effect or a disincentive effect. Large intra-household transfers to unemployed persons in high-income households can produce an income effect because such transfers permit individuals to reduce their work effort and consume more leisure. If high-income households allocate income to their members according to need, this creates an incentive to remain needy and thus a disincentive to work. If this 'luxury unemployment' hypothesis is correct, unemployment may be regarded as voluntary. There is a second reason why workers might choose unemployment rather than wage-employment. It is that the unemployed hold unrealistically optimistic expectations of the 'expected wage' as defined in probabilistic models of migration. Those who, on account of imperfect information, have excessive expectations of securing wage employment and/or of the wage they will be offered, choose to remain unemployed even when it would be economically rational to accept available job offers[1]. Such unemployment could be interpreted as voluntary.

Unemployment is more likely to be involuntary when the probability of securing wage-employment is extremely low and when barriers to entry into part of the informal sector render the income from the remaining free-entry self-employment activities so low as to be discounted. Our concern in this paper is to examine the extent to which unemployment can be said to be involuntary. We pose two broad questions in the next two sections. Firstly, why do the

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[1] We abstract from the facts that, in an imperfectly competitive labour market, the unemployed may face a distribution of wage offers with probabilities attached, and that they need not be risk-neutral. Even without these complications, excessive expectations that are based on imperfect information - the 'Dick Whittington effect' - remain possible.

unemployed not enter self-employment - are they prevented by barriers to entry? Secondly, why do the unemployed not enter wage employment - are they deterred by their own unrealistically optimistic wage expectations? In a sense, economic behaviour is always voluntary: economic agents invariably have at least some room for manoeuvre. The real question is whether the available set of options is so limited as to render unemployment involuntary for practical and policy purposes.

Whereas in the past, the absence of reliable nationally representative household-level data has prevented empirical analyses of such issues in South Africa, the recent availability of rich household survey data collected by the South African Labour Research Unit (SALDRU) and the Central Statistical Service (now known as Statistics South Africa) allows us to explore these issues. We use household survey data collected in 1993, 1994, and 1997 described in Kingdon and Knight (2000b).

4. Why do the unemployed not enter self-employment?

There are two main possible reasons why the unemployed do not enter the informal sector. One is that they choose not to do so because they prefer unemployment and can afford it. The other is that the unemployed are constrained from entering because of barriers to entry. The former suggests that unemployment is voluntary, and the latter that it is involuntary. In this section, we explore the relationship between labour market states (unemployment or informal employment), on the one hand, and poverty and perceived quality of life, on the other, in order to choose between the alternative hypotheses.

While there is no commonly agreed definition of 'informal sector', for present purposes we take informal workers to be those not in regular employment, that is, workers who are in casual wage employment, domestic service, or agricultural/non-agricultural self-employment[2]. Table 1 shows that the informal sector absorbs only a very small proportion of the workforce by developing country standards (19% of the total labour force) and that open unemployment is

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[2] Since domestic service is low-paid and was until very recently unprotected (often exploitative) employment, we consider domestic servants as informal workers even if they report themselves as 'regular' employees, as some of them do. Self-employed professionals are excluded from the definition of the informal sector and are assumed to be regular, formal sector workers.

more common: the proportion of informal employment in total employment in South Africa is only about 30%. In India, it is estimated to be about 90% (Kulshreshtha and Singh, 1998) [3].

Figure 2 presents the probability distribution of monthly earnings of informal and formal sector workers and it shows that the distribution of informal earnings lies to the left of the distribution of formal earnings. We fitted earnings functions for workers in the formal and informal sectors - both OLS and functions taking into account selectivity into the two sectors on the basis of unobserved factors - and then predicted earnings of informal sector workers on the hypothetical basis that they faced the formal sector earnings equation. The results showed that a large part of the formal-informal earnings difference remained after controlling for characteristics, irrespective of whether we used the OLS or the selectivity corrected earnings functions and, within the latter, whether or not we took the selectivity correction term into account in the decomposition. The unexplained difference (*i.e.* the difference due to coefficients) was 50%, 98%, and 64% respectively of the actual difference in mean earnings between the two sectors.

Table 2 presents evidence on the relationship between labour market status and both poverty and wider measures of deprivation. It shows that, on virtually every indicator of well-being, unemployed people are very substantially worse-off than the informally employed. For example, per capita monthly household income (expenditure) of the unemployed is only 31.2% (48.2%) of the corresponding figure for the informally employed. Living conditions are also far worse for the unemployed than for the informally employed - in terms of living space, access to drinking water, and the availability of sanitation, electricity, *etc.* Their substantially greater deprivation than the informally employed rejects the luxury unemployment view - the unemployed are unlikely to *choose* to remain so deprived - and it casts doubt on the idea that unemployment is voluntary.

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[3] Bhorat (1999) rightly argues that the size of the informal sector in the early October Household surveys is underestimated because they count as formally employed all those persons who work for someone else, even though some of these work for informally self-employed persons. From 1997 onwards, the OHSs rectify this omission and while this raises the size of the informal sector substantially, it is still not a large share. For example, the size of the informal sector estimated from OHS94 accounts for 14.7% of total employment, but from OHS97 and OHS98 for 24.4% and 21.9% respectively. It is sometimes argued that the size of the informal sector in South Africa is underestimated and the unemployment rate overestimated because some people engaged in casual, small-scale self-employment or in illegal activities may not report these and they are counted as unemployed instead (Schlemmer and Levitz, 1998). However, the October Household surveys ask a detailed set of questions making such underestimation of self-employment and over-estimation of unemployment unlikely (Bhorat, 1999). Moreover, it is not clear that illegal activity such as theft (information on which is indeed likely to be suppressed) should be counted as employment. Such activity is to some extent endogenous, *i.e.*, the effect of unemployment and of consequent destitution, an income transfer rather than well-paying employment.

The voluntary unemployment hypothesis can be further tested following the approach of Clark and Oswald (1994), di Tella *et. al.* (1998), Theodossiou (1998), and Blanchflower and Oswald (1999) described earlier. Evidence in these studies suggests that the unemployed are substantially and significantly less happy than the employed. This evidence comes from across a range of 12 European countries and from the US, and it is used to suggest that unemployment must be involuntary because people would not choose to be unhappy[4]. Following this literature, we extend the notion that comparing well-being levels across individuals can shed light on the nature of their unemployment. We pose the question: are unemployed people any happier than informally employed people? If they are, then it might be possible to argue that their unemployment is the result of choice, and hence voluntary, rather than due to constraints on entry into informal sector work. Theodossiou (1998) does a similar exercise for the UK and rejects the hypothesis that people in unemployment are happier than people in both high-paid and low-paid employment.

We test the hypothesis for South Africa by examining the impact of the household unemployment rate and the household informal-employment rate on the household's perceived quality of life and poverty, controlling for other factors. The SALDRU survey (SALDRU93) asked households the question: 'Taking everything into account, how satisfied is this household with the way it lives these days?' The five possible responses were 'very satisfied', 'satisfied', 'neither satisfied nor dissatisfied', 'dissatisfied', or 'very dissatisfied'. In order to investigate the impact of unemployment and informal sector employment on perceived quality of life, an ordered probit model was used, with 'very dissatisfied' given the value of 0; 'dissatisfied' 1; 'neither satisfied nor dissatisfied' 2; 'satisfied' 3; and 'very satisfied' 4. Thus, the dependent variable can be interpreted as an index of happiness or of satisfaction with life.

The October Household Survey of 1994 (OHS94) also asked some questions about perceived quality of life. We utilise two: (1) 'In winter, how difficult is it to breathe where you live, because of smoke and pollution?' and (2) 'In the last year, has there ever been a time when you did not have enough money to feed the children in the household?'[5] This time the dependent variables are coded so that they represent an index of unhappiness or misery: the

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[4] It is possible to argue - given the cross-section nature of the data used in these studies - that causality may run the opposite way: unhappy people are less desirable to employers so that low well-being might be the cause of joblessness rather than its effect. While this objection is hard to overturn conclusively, Clark and Oswald (1994) cite longitudinal evidence collected by psychologists that sheds doubt on this reverse causality interpretation (see Warr, Jackson, and Banks, 1988).

[5] The other questions pertaining to quality of life in OHS94 were about the household's perceptions about how safe it feels living in its dwelling and its neighbourhood.

difficulty in breathing variable is coded as not difficult=0, slightly difficult=1, rather difficult=2, very difficult=3; and 'not having enough money to feed the children'=1 and having enough money=0. We use an ordered probit for the first and a binary probit for the second (0/1) outcome.

The analysis was carried out using household-level data since the quality-of-life code is available only at the household and not at the individual level[6]. The unemployment variable is the household unemployment rate, *i.e.* the percentage of labour force participants aged 16-64 within the household who are unemployed[7]. Other variables in this regression are household variables, cluster variables, or aggregated individual variables averaged across all household members (*e.g.* average age of all labour force participant members of the household, percentage of household members with higher education, *etc*).

Table 3 presents the ordered probit equation of quality of life (or happiness index) fitted on SALDRU93 data and Table 4 the probit equations fitted for other outcomes using OHS94 data. These show that, in general, happiness increases with income and education, as found in extant European and US studies, and is lower for each of the race groups African, coloured and Indian, than for whites. Table 3 shows that whereas the household unemployment rate significantly lowers household happiness - controlling for household per capita income and other factors - the household informal employment rate does not depress it. Table 4 shows that whereas the household unemployment rate greatly increases household misery (in terms both of breathing difficulties and in terms of not having enough money to feed children), the household informal employment rate has a very much lower impact on these outcomes, a difference that is statistically highly significant[8]. The fact that higher household unemployment rate increases breathing difficulties is probably due to household poverty, which cannot be directly measured in OHS94.

In summary, these findings show that the unemployed are substantially disadvantaged *vis a vis* the informally employed in terms of income, expenditure, living conditions, and

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[6] When using individual-level data in the initial runs, the household's quality-of-life code was assigned to each member in the household. The results were very similar to those reported in Tables 3 and 4.

[7] For example, in a household with three labour force participants where one is unemployed, the household unemployment rate is 33%. Thus, the household unemployment rate takes values such as 0, 0.20, 0.25, 0.33, 0.40, 0.50, 0.67, 0.75, 0.80, or 1.0 for most households.

[8] For the null hypothesis that the household unemployment rate has the same effect as the household informal employment rate on the probability of having breathing difficulties (being in poverty), the chi-square statistic is 13.4 (42.9). Thus both null hypotheses are easily rejected, since chi-square critical at 95%, 1 d.f. = 3.84.

quality of life, casting doubt on the luxury unemployment view. The results imply that the unemployed are unlikely to *choose* to remain disadvantaged and outside informal sector employment. This suggests that the assumption that the informal sector is generally a free-entry sector may be wrong in South Africa, and that there may be barriers which prevent the unemployed from entering much of this sector. Several authors note that many activities in the so-called informal sector of developing countries are highly stratified, requiring skills, experience and contacts, with identifiable barriers to entry. For example, petty trading often has highly structured labour and product markets with considerable costs of entry. Banerjee (1986) finds that in urban India, entry into the self-employment sector is not easy. Even when skill and capital are not required, entry can be difficult because of the presence of cohesive networks which exercise control over location and zone of operation.

There is a paucity of evidence on whether the informal sector is a free-entry sector and on why it is relatively small in South Africa. However, there are pointers. Historically the apartheid system repressed the informal activities of black South Africans through such restrictive legislation as the Group Areas Act, harsh licensing, strict zoning regulations, official campaigns to encourage consumer boycotts by white customers of black informal business, and the formation of special police squads dedicated to the persecution of informal enterprise (Rogerson, 1992). Bouts of slum clearance and other periodic attacks on the illegal spaces within which informal enterprise thrived, served to rid South African cities of black-dominated informal sector niches that were construed as hazardous to public health and stereotyped as unsightly and unsanitary (Rogerson 1992). While these restrictions have been progressively lifted since the mid-1980s, there were lingering licensing controls and restrictive bye-laws in many non-metropolitan urban centres at the time of the surveys[9]. Moreover, repression and disempowerment of Africans under apartheid would have inhibited the development of entrepreneurial and social skills and of social networks. These factors are important for confidence in entering the self-employed sector and for success in it[10].

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[9] A 1999 government document titled 'Ideas Paper No. 1: South African Labour Market and Job Creation' states that many local governments still put obstacles in the way of the self-employed and informal sector, or fail to provide the planning support and facilities needed for them to thrive.

[10] Maluccio, Haddad, and May (1999) using panel data from Kwazulu Natal find that social capital - as measured by the frequency of group membership - had increased very substantially between 1993 and 1998 following the dramatic political changes that occurred early in that period. While such increases in social networks should perhaps have increased the size of the informal sector since 1993, the available data suggest no marked increase. For example, between OHS94 and OHS98, the size of the informal sector (for comparability across years, defined as own account workers and excluding domestic workers and employees working in informal units) remained roughly constant or fell slightly over the four-year period - 10.1% in 1994 and 9.5% in 1998 (StatsSA Statistical Releases, various years), though this is a very inadequate definition of the informal sector.

Labour market institutions such as Industrial Councils (now called Bargaining Councils) and Wage Boards set sectoral minimum wages and stipulate working conditions in many industries in South Africa. These minimum wages and stipulations are applied to all firms in the industry and region, irrespective of size, *via* the 'extension' provision. There are serious penalties for flouting the agreements of these institutions. Such provisions impose a burden of high labour costs on small firms and it is likely that they would seriously inhibit the entry and growth of such firms (Black and Rankin, 1998, p461). This is one explanation for the large average size of firms in South Africa. These institutional features may inhibit small firms but should not inhibit individual entrepreneurship (owner-operators). Self-employment may be hampered by capital/land/credit constraints as well as by lack of infrastructure in black townships (Kaplinksy, 1995, p188). Moreover, both small firms and owner-operators are likely to suffer from the prevalence of violence and insecurity in the informal sector (Kaplinsky, 1995; Manning and Mashigo, 1993).

In sum, while it is possible that formal-work aspirations, greater effectiveness of search from the unemployed state (than from the informally employed state), and access to non-earned income are reasons why some persons choose to remain unemployed, the evidence of much greater deprivation associated with unemployment than with informal sector employment tells against the idea that much unemployment in South Africa is voluntary. It suggests that barriers-to-entry into the informal sector are a powerful factor in explaining high unemployment.

A possible objection to this inference is that unemployed formal-sector job-search is an investment in future higher incomes and people may be willing to endure temporary poverty and deprivation in order to engage in such job-search. If the unemployed are indeed engaging in such an inter-temporal optimisation strategy, then being in unemployment and poverty may still be consistent with voluntary unemployment. However, data on duration of unemployment cast doubt on this interpretation since it would probably not be possible for people to sustain themselves in poverty for long periods of search unemployment. The October Household Surveys include a question for unemployed persons on duration of their uncompleted spell of unemployment. The answers are recorded in categorised form rather than as a continuous variable - number of months. The categories in OHS97 are 'less than 1 month', 'between 1 and 6 months', '6 months to 1 year', '1 to 3 years' and 'greater than 3 years'. By assigning midpoints of the categories, a duration of unemployment variable 'number of months' DURMONTH has been created. For those who were unemployed for more than 3 years, an

arbitrary value of 48 months was assigned[11]. The survey also asked individuals whether they had ever worked previously. The upper panel of Table 5 gives the distribution of duration of unemployment and the lower panel reports the mean of the estimated duration of the uncompleted spell of unemployment in months, by age category. The top panel shows very long duration of unemployment (>3 years) for about 37% of the unemployed. A further 29% were unemployed for between 1 and 3 years, so that about two-thirds of all jobless workers were unemployed for more than a year. The second panel of Table 5 reiterates the message, showing an average unemployment duration of about 2 years and 2 months. Median duration of unemployment was 2 years. The distribution and long mean (and median) duration, together with the earlier evidence of poverty among the unemployed, casts doubt on the notion that a high proportion of the unemployed are in voluntary unemployment.

Finally, an ordered probit of duration of unemployment (not presented here) was fitted as a function of variables which would influence employability and the cost of search, using the OHS97 data. Even standardising for these variables we found a negative relationship between per capita household expenditure and unemployment duration. A Smith-Blundell test failed to reject the exogeneity of the per capita expenditure variable[12]. This evidence suggests that poverty increases unemployment duration, perhaps by inhibiting search. This is consistent with Kingdon and Knight's (2000a) results which show that poverty deters search in South Africa. These findings cast doubt on the hypothesis that unemployment while in poverty is a voluntary search strategy, and they support the hypothesis that unemployment is involuntary.

5. Why do the unemployed not enter wage-employment?

Another rationale for characterising unemployment as voluntary is the optimistic wage aspirations hypothesis. Persons whose reservation wages are greater than their predicted wages (*i.e.* the wage they can expect to get in the labour market) may be considered to be voluntarily unemployed. The SALDRU93 and OHS94 surveys both include a question on reservation wage (RW). The SALDRU survey asked: "What is the lowest wage in rand per month that

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[11] The mid-point values attached to the 5 duration categories 'less than 1 month', 'between 1 and 6 months', '6 months to 1 year', '1 to 3 years' and 'greater than 3 years' were 0.5, 3.5, 9.0, 24, and 48 months respectively. It is unfortunate that the last category is truncated at 3 years since a high proportion (36%) of all unemployed people fall in this category and many of them may suffer unemployment for much longer periods of time than 3 years. There is a loss of information and of variability in the duration variable because of this truncation. However, this is better than the duration information available in the OHS94 dataset where the truncation occurs at 1 year and where more than two-thirds of the unemployed were unemployed for more than 1 year!

[12] If we use predicted log of per capita household expenditure using variables such as household assets as instruments, the coefficient becomes close to zero. In other words, there is no positive relationship between prosperity and unemployment duration. These results are available from the authors.

…name… would accept for a permanent job?"[13]. The October Household Survey 1994 asked "What is the minimum salary or wage …name… is prepared to work for?: Specify per day/week/month/year"[14]. The SALDRU93 data has RW only for unemployed persons who searched for a job in the past week but the OHS94 has it for both the non-searching as well as the searching unemployed. Unfortunately, neither of the surveys (SALDRU or OHS94) asked unemployed persons a more precise question, for example a question specifying expected hours of work per week or month or a question specifying distance to work, say for 'work within 5 miles of your residence', or past wages or past wage offers rejected.

We predict wages of the unemployed by fitting log wage functions for employed persons and using the estimated parameters[15]. Thus, it is possible to construct a variable 'log reservation wage minus predicted log wage (PW)', ie logRW-logPW. We define a person as having 'high' reservation wages (HIGHRW) if their logRW exceeds their logPW. The variable HIGHRW is a 0/1 variable so that its mean represents the proportion of 1's in the sample. The reservation wage ratio (RWR) is the ratio of RW to PW.

Table 6 shows the mean values of RW, PW, RWR, and HIGHRW for unemployed persons in SALDRU and OHS94 datasets. OHS94 figures are more trustworthy because of the much larger sample sizes. Table 6 shows that about 50% of the unemployed have a RW that exceeds their PW. It also presents the cumulative distribution of the RWR, showing great dispersion in the RWR: nearly 29% of the all the unemployed have a RWR <=0.6, *i.e.* for this large proportion of individuals, RW is 40% or more below their PW. About 30% of the unemployed have a RWR>=1.4 (a RW that exceeds their PW by 40% or more).

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[13] SALDRU93 also asks the question "What is the lowest wage in rand *per day* that …name… would accept for a casual or day job". We have used the first question rather than the second since it seemed more reliable. For example, standardising the reported daily reservation wage figure to the month by multiplying the daily rate by 25 gave an average monthly reservation wage for casual jobs that was 45% higher than the reported monthly wage for a permanent job.

[14] The October Household Survey 1997 had no question on reservation wages.

[15] Since the reservation wage question asked for the minimum 'salary' or 'wage' that an individual will accept, it seems to refer to waged or salaried employment rather than to self-employment. In order to compare reservation wages with predicted wages, therefore, wage functions are fitted for regular waged employees who worked >=35 hours last week. In the SALDRU survey people stated whether they were regular (rather than casual) wage employees. In the OHS data, regular wage employees are taken to be those who reported monthly wages rather than weekly, daily, or annual wages. The wage equation used for predicting in the OHS94 data included variables for years of experience and its square, years of education and its square, race, household head, married, male, urban, homeland, and province. The equation was: $logpw=5.81819 + (0.02689*exp) - (0.000352*expsq) + (0.006158*edyrs) + (0.006572*edyrsq) - (0.58029*african) - (0.30398*colored) - (0.21978*indian) + (0.11894*head) + (0.12094*married) + (0.21839*male) + (0.33479*urban) + (0.32261*homeland) - (0.17554*wcape) - (0.22386*ecape) - (0.40607*ncape) - (0.10254*etvl) - (0.17127*ntvl) - (0.13739*natal) - (0.26492*nw) - (0.43401*ofs)$.

The suggestion in Table 6 that about 50% of all unemployment in South Africa is voluntary – in the sense that RW is greater than PW - is credible only if it is believed that the stated reservation wages make sense. Unfortunately, it is not possible directly to analyse the reliability of the replies to the RW question because we do not have previous wages or rejected wage offers with which to compare the reported RW. However, we attempt to evaluate the reliability of the RW by computing the mean of RWR for different worker groups, by gender, race, age, education, location, and whether the individual ever worked previously. We also regress logRW on logPW for each worker group separately, deriving the elasticity of RW with respect to PW, as well as the proportion of the variation in RW that is explained by PW. These figures are presented in Table 7.

Table 7 shows that African, rural homeland, low-education workers, females, the young, and persons who have never worked before have a higher mean RWR than their opposite numbers; they also tend to have a lower elasticity of RW with respect to the PW than do their opposite numbers, and the adjusted R-square is much lower for these groups.

These simple descriptive statistics suggest several potential explanations – other than the conventional search explanation - for why RW may be higher than PW for such a substantial proportion of the unemployed. Firstly, labour market ignorance or lack of knowledge: people living in rural homelands have by far the most unrealistic reservation wages in the sense that, among all groups, their RWR is the highest. Since these people live in remote areas, their contact with the labour market is the lowest and, thus, they are likely to be ill-informed about their labour market worth. Similarly, it is plausible that those who have never worked before, and less educated workers are less well informed than others about what their skills can fetch in the labour market. The evidence suggests that people who are likely to be less well-informed about what they can fetch in the labour market tend to have not only unrealistic but also unrealistically high RWs.

Secondly, reporting *expected* formal sector wage rather than the minimum acceptable wage: when asked about the minimum wage that they would accept for a job, workers may report expected wages instead, which are a positive function of observed wages. This is presumably what Polachek and Siebert (1993, p236) have in mind when they say that centralised collective wage setting prevents many people from setting a low RW. If wage employment in a given region is mostly of the high wage variety - for example, due to union

bargaining, efficiency wages, or institutional wage-setting - then people are likely to report high RW since they observe high actual wages. A corollary is that, since both the observed- and offer-wage distributions are usually much wider for low-skill than high-skill workers - the labour market being more segmented at the lower-skill end - less educated workers are more likely to have a high RWR than more educated workers if they form their wage expectations on the basis of the higher end of the wage offer distribution they face. Table 7 shows that low-education workers' RW is less well correlated with their predicted wages than are high-education workers'.

Thirdly, adopting a bargaining stance: when people are asked a question about the minimum wage they will accept for a job, they may imagine themselves in a bargaining context, since that is the context in which they are ever asked such a question ('what wage are you willing to work for?'). The RW they then report is the one they would start bargaining with - but in most cases, they would be prepared to come down considerably from that initial figure[16].

Fourthly, people may report a reservation wage for work in a geographical area other than the one in which they live. For example, a person living in a rural area but aspiring to work in an urban area may have a high reservation wage relative to his predicted wage because the wage equation predicts a lower than average wage for rural workers[17].

These explanations are not mutually exclusive. For instance, an African person who has never worked before and lives far from areas of employment may have a bargaining stance in mind or may report his desired or expected wage, or the minimum for which he will be willing to work. If there was a lack of common understanding of the reservation wage question across respondents, it would render the reported RWs unreliable. It is conspicuous in Table 7 that there is little correlation between RW and PW, with generally low values of the adjusted R-square.

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[16] There is anecdotal evidence for this explanation from researchers who have done field work collecting information on reservation wages. For example, personal discussion with Nicoli Nattrass revealed that in a survey she conducted, women trained as machinists who were asked the minimum they would be willing to accept initially quoted about R120 per week. But when a less hypothetical question was posed 'there is a factory nearby which is offering jobs to women machinists for R64 per week: would you accept it?' all the women in the sample were willing to take the job. Kingdon also found similarly in Nyanga township in Cape Town in Nov. 1999. Some young men (aged 24 with 3 years' education) quoted R 1000 per month as the minimum they would be willing to accept for a job but when asked whether they would accept a labourer's job at Rand 500 per month if they were offered it today, they said that if it was a regular permanent job, they would accept it.

[17] The wage equation used to predict wages included a dummy for urban residence which had a large positive and significant coefficient. Thus, the PW of a rural unemployed person would be significantly lower than that of an otherwise identical urban unemployed person. However, if he is reporting a RW based on a *desired urban* expected wage, his RW will be high relative to his *actual (rural)* PW.

RWs are not closely tracking PWs, and this casts doubt on their reliability and suggests that caution should be exercised in using these RW figures.

The explanations arising from Table 7 are based on descriptive statistics and, as such, may be spurious. It is possible to test these explanations further by examining the factors that make a person more likely to have a high RW (relative to her PW) in a multivariate context using the same dataset as in Table 7, *i.e.* OHS94 data. We fit two models – a binary probit of HIGHRW, *i.e.* of having a RW greater than one's PW, and an OLS equation of RWR, a continuous variable. The two dependent variables are similar to each other and, indeed, the probit and OLS equations yield similar results. The multivariate approach permits us to test further the various hypotheses identified above that may explain high RW after controlling for a number of personal characteristics.

Table 8 confirms most of the inferences from the descriptive statistics of Table 7. *Ceteris paribus*, low-education persons, the young, those with no previous work experience, and rural homeland persons have both a significantly higher probability of being in HIGHRW unemployment and a significantly higher RWR than their opposite numbers.

The effect of age in the RWR equation is consistent with an ignorance/lack-of-information explanation. Age has a U-shaped effect, with the turning point occurring at the high age of 48. Young people have little experience of the labour market and may have an unrealistically high RW for this reason. As they grow older, they become more realistic about what their skills can reasonably fetch in the labour market. The effect is also consistent with a search explanation. When people are young, their opportunity cost of search is lower and also they do not wish to get locked into low paying jobs. The fact that household heads are more likely than non-heads to be in HIGHRW unemployment and to have a higher RWR is consistent with a search explanation, namely that heads have greater economic responsibilities within the household than non-heads and may thus have a lower RW.

The apparently strong effect of African in Table 7 is wiped out in Table 8. This is not surprising since we now control for factors with which race is well correlated. In other words, it is not race but rather its correlates - such as rural homeland location and lack of education and labour market contact - that distinguish high and low RW behaviour.

Those with no education (reference category) have both a significantly higher RWR and a higher probability of being in HIGHRW unemployment than persons with any education. The effect of education is not monotonic, however. Wald tests show that persons with primary education have significantly higher RWRs than those with junior and secondary education, but that the difference between primary and higher education coefficients is not significant. This suggests that the effect of education on RWR is quadratic: it falls with years of education until the end of junior education (10 years of schooling) and then becomes flat. The effect of education is consistent with the lack of information explanation since more educated persons are generally better informed. Other research (Kingdon and Knight, 2000b) shows that the probability of employment increases very significantly with education, *i.e.* the unemployment rate is much lower among educated persons. People in tighter labour markets – such as the educated unemployed – are likely to have heard of more wage offers and to know better what wages they are likely to fetch. The effect of education is *not* consistent with a search explanation: since more educated persons have both a higher probability of employment and higher earnings in employment, we would expect education to raise returns to search and thus to raise RWR if the search explanation held true.

Rural homeland residence is associated with a significantly higher RWR and HIGHRW than any other location category – urban homeland, rural non-homeland, or urban non-homeland. This supports the explanation that people who live far away from centres of employment are ignorant about what wage they can fetch in the labour market. The effect is also potentially consistent with the explanation that people may be reporting expected rather than minimum wages: much of rural homeland formal wage employment is of the public sector high wage variety in education and health sectors and people there may be reporting expected wages, which are a function of observed wages. The effect of rural homeland residence is *inconsistent* with a search explanation since returns to search are likely to be the lowest for rural homeland dwellers, given that the probability of employment is the lowest for them (Kingdon and Knight, 2000b).

Table 8 also confirms the effect of previous labour market experience. Holding other characteristics constant, the RWR of people with previous work experience is significantly lower than that of others. This also supports the lack of information hypothesis, namely that people who are ignorant about their labour market worth are more likely to report

unrealistically high RWs. The effect of previous work experience is not consistent with a search explanation if people who have worked before have a higher probability of employment.

While the OHS94 dataset does not have information on household income, it asked households some questions about perceived quality of life. One of the questions was whether there was any time in the last year when the household did not have enough money to feed its children (*NMFCHILD*), and this has been used as a proxy for household poverty. Another question was 'in winter, how difficult is it for you to breathe where you live because of smoke and pollution'. The index of breathing difficulty (*DBREATHE*) is taken as a rough proxy for longterm deprivation. While the variable proxying poverty was insignificant in both regressions in Table 8, *DBREATHE* was significant. People who live in deprived conditions have significantly higher RWRs and a higher probability of being in HIGHRW unemployment than their opposite numbers. This is unlikely to lend support to a search explanation for high RWs since voluntary search is more plausible for those who are comfortably off.

In summary, while some of the findings of Table 8 are consistent with a search explanation, most are consistent with explanations based on lack of information, bargaining, or the reporting of expected rather than minimum wages. There is no conclusive evidence in favour of voluntary search unemployment as the explanation for RW>PW.

The evidence of this section is consistent with the following theoretical account. The probability distribution of income (y) next period that an unemployed worker faces may correspond to the curve in bold shown in Figure 3. There are three possible states: unemployment (at zero income, i.e. $y=0$), informal sector employment (the dotted distribution), and formal sector employment (the dashed distribution). The probability of an unemployed worker securing formal sector employment is of course far lower than the proportion of formal sector employees in the labour force: incumbents have a strong incentive to hold onto their jobs and are protected against competition from the unemployed, and many of the unemployed have characteristics which reduce their employability. Whatever search effort the unemployed worker undertakes, there is a strong probability that he will remain unemployed next period. Hence the high value of p at $y=0$.

The income to be derived from informal sector employment is generally low, reflecting the limited opportunities and the degree of competition for them. The reservation wage (y_1)

for entry into employment (based on the indifference map reflecting marginal rates of substitution between goods and leisure) precludes informal sector employment at income to the left of y_1. Hence the small probability of entering informal sector employment next period.

The probability distribution of formal sector income is derived on the assumption that the unemployed worker engages in optimal search, i.e. searches up to the point at which the expected benefit from search equals the marginal cost of search. The expected mean wage from formal sector employment conditional on obtaining such employment is y_2. It is y_2, rather than y_1, that the unemployed worker is likely to have in mind when asked the question: what is the wage at which you would be willing to take a job?

There are various reasons why the reservation wage may exceed even y_2. The standard explanation, stemming from Stigler (1962), is a willingness to remain unemployed longer in the expectation that a wage offer (say, at least y_3) greater than the mean predicted wage will eventually arrive. This is the concept, based on the expected returns from search, that corresponds to voluntary unemployment. However, it is also possible that workers who are poorly informed or optimistic may overstate their mean expected wage, for instance predicting y_3. The response may also be higher than y_2 (say, y_3) if the question is approached in a bargaining frame of mind. Thus, our estimate of the predicted wage of the worker, if employed, based on personal characteristics (y_2) may fall short of the reported reservation wage if the unemployed worker has unrealistic expectations based on ignorance, optimism, or a bargaining stance.

The significance of this analysis is three-fold. The reported reservation wage need bear no relationship to the minimum income based on the disutility of effort (y_1). The reported reservation wage may exceed the realistic mean expected wage for formal sector employment ($y_3 > y_2$), and this need not be the result of voluntary search activity. The most likely outcome facing an unemployed worker is to remain unemployed (*y*=0), whatever search he chooses rationally to undertake. Ultimately, one's view of the nature of unemployment is a matter of judgement. However, the larger the probability of unemployed workers remaining unemployed, the less plausible it is to regard them as voluntarily unemployed.

6. Conclusion

This paper has examined two questions about South African unemployment. Firstly, why do the unemployed not enter the informal sector? Secondly, why do the unemployed not enter wage employment more readily?

The findings provide little support for the idea that unemployed people choose to be unemployed. The unemployed are, on average, substantially worse off than the informally employed - both in terms of income and expenditure and in terms of a range of indicators of well-being. This contradicts the luxury unemployment interpretation of joblessness, whereby higher income reduces the incentive to obtain employment in the informal sector and increases the incentive to be unemployed, *i.e*. to consume greater leisure. It might be argued that, given the disutility of work, some people prefer to substitute leisure (unemployment) for higher monetary income, so that their apparent deprivation cannot be used to argue that they are constrained to be unemployed. However, in order to interpret unemployment as voluntary, such people should be happier (or less unhappy) than employed people. Our findings show that the unemployed are very substantially (and significantly) less satisfied with their quality of life than informally employed people. They suggest that their unemployment is not through choice but through constraints that prevent entry into informal work, and are at odds with the notion that unemployment is voluntary. Although this important issue deserves more research, there are various plausible reasons why the informal sector is inhospitable to newcomers in South Africa.

The test of the hypothesis that the unemployed have unrealistically high wage aspirations was inconclusive. While about half of the jobless had reservation wages that were higher than the wage they could reasonably expect in wage employment, caution is warranted in interpreting this as evidence that nearly half the jobless are voluntarily unemployed. The reported subjective reservation wages appear unreliable. Firstly, reservation wages bear little relation to predicted wages, and variations in the latter explain only a very small proportion of the variation in the former; secondly, lack of information about the labour market - because of living in remote areas, low education, or lack of previous work experience - causes people to be ignorant about their market worth, and they may well report high reservation wages for this reason; thirdly people may have reported their expected mean wage in the high-wage formal sector rather than the minimum they would accept; fourthly, they may imagine themselves in a bargaining context when asked a question about their reservation wage; fifthly, the question about the reservation wage was not hours- or location-specific; lastly, it was not possible to

judge the reasonableness of the reservation wage because it could not be compared with the previously received wage or with wage offers received - no data being available on these.

Taken as a whole, the evidence makes it implausible that much unemployment in South Africa is voluntary.

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Table 1
Percentage distribution of 'broad' labour force participants into unemployed,
informal workers, and formal workers, by gender, region, and race
SALDRU 1993 data

	Unemployed	Informally employed	Formally employed	Total (a + b + c)	
	(a)	(b)	(c)	N	%
Rural					
males	35	13	52	3038	100
females	48	25	27	2671	100
total	41	18	41	5754	100
Urban					
males	21	15	64	4121	100
females	27	26	47	3441	100
total	24	20	56	7562	100
Rural+urban					
males	27	14	59	7204	100
females	36	25	38	6112	100
total	31	19	50	13316	100
Race					
African	39	21	40	9578	100
Coloured	21	15	64	1302	100
Indian	11	15	73	451	100
White	5	14	81	1985	100
total	31	19	50	13316	100

	Unemployed	Informally employed	Formally employed
Household unemployment rate	0.751	0.134	0.105
Per capita household income:(Rand/month)			
Remittances received	13.67	11.32	5.87
Pension, dividends, etc.	37.71	37.22	23.67
Wage income (regular jobs)	117.10	262.33	960.95
Wage subsidies	7.22	24.48	86.26
Wage income (casual jobs)	5.71	50.32	12.02
Agricultural income	3.27	43.88	5.91
Total - mean	185.68	594.50	989.90
- median	104.26	200.00	549.25
Per capita household expenditure: (R/month)			
Housing	30.31	66.05	125.38
Food	97.48	147.20	186.39
Transport	11.45	21.93	57.45
School	5.66	15.05	19.17
Remittances sent	4.23	14.41	28.34
Total - mean	221.02	458.55	772.15
- median	147.30	242.02	440.53
Other indicators:			
Remittance income/Total income	0.17	0.07	0.01
Other non-earned income/Total income	0.26	0.10	0.04
Below international poverty line of $1/d	0.45	0.30	0.08
Number of assets*	3.16	4.11	5.25
Years of education	7.06	6.66	8.51
African	0.90	0.78	0.58
Household size	7.01	5.38	4.70
Perception of well-being:			
Dissatisfied or very dissatisfied with life	0.73	0.57	0.46
Thinks that the most important help by govt would be help with jobs	0.65	0.51	0.44
Living conditions:			
Lives in a house/part of house	0.50	0.56	0.66
Number of household members per room	1.95	1.61	1.27
Dwelling has corrugated iron roof	0.65	0.60	0.45
Piped water within or tap in yard	0.43	0.61	0.75
Has to fetch water daily	0.53	0.36	0.22
Distance to water (meters)	260.90	174.14	83.61
Dwelling has flush toilet	0.33	0.50	0.68
Dwelling has electricity connection	0.35	0.52	0.71
Community characteristics:			
Urban	0.43	0.58	0.65
Homeland	0.59	0.41	0.24
Number of facilities in community	2.90	3.43	5.80
Distance to facilities from home	98.89	74.37	65.17
Community has tarred roads	0.15	0.28	0.43
Roads impassable at certain times of year	0.51	0.43	0.27
N (% of labour force)	4154 (31.2%)	2542 (19.1%)	6620 (49.7%)

Notes: Apart from 'years of education', all the non-community variables above are coded at the household level in the dataset. For the purposes of this table, however, we have assigned the value of the household variable to each individual member of the household. Then we take the sub-sample of persons in each labour market 'state' and average the variables across individuals in that state. Similarly, the community variables are assigned to each individual living in that community before averaging across unemployed individuals in a given state. The very high household unemployment rate in the first column indicates that unemployed people are likely to live in households where other members are unemployed as well. *Number of assets owned by the family from among the following list: motor vehicle, bicycles, radio, electric stove, gas stove, fridge, primus cooker, TV, geyser, electric kettle, and telephone.

Table 3
Impact of unemployment and informal employment on perceived quality of life
SALDRU - Household level averaged data

Variable	coefficient	robust t-value	marginal effect**	coefficient	robust t-value	marginal effect**
Household unemployment rate	-0.326	-6.40	-0.117	-0.307	-5.38	-0.110
HH informal employment rate				0.038	0.73	0.014
Age	-0.030	-2.79	-0.011	-0.030	-2.75	-0.011
Age square	0.000	2.71	0.000	0.000	2.67	0.000
Education : primary*	-0.017	-0.28	-0.006	-0.017	-0.28	-0.006
junior*	0.018	0.29	0.007	0.020	0.32	0.007
secondary*	0.091	1.46	0.033	0.094	1.51	0.034
higher*	0.580	5.88	0.208	0.585	5.90	0.210
Training*	-0.392	-4.55	-0.141	-0.390	-4.54	-0.140
Migrate*	0.206	1.70	0.074	0.207	1.70	0.074
HH per capita income Quartile2	0.016	0.36	0.006	0.021	0.47	0.008
Quartile3	0.242	3.73	0.087	0.252	3.87	0.090
Quartile4	0.285	3.53	0.102	0.298	3.53	0.107
Lives in owned home*	0.120	2.73	0.043	0.120	2.73	0.043
Number of children<16 in HH	0.003	0.34	0.001	0.004	0.41	0.002
Number of elderly>64 in HH	0.030	0.98	0.011	0.029	0.96	0.011
Urban*	-0.201	-2.23	-0.072	-0.205	-2.30	-0.074
Male*	-0.026	-0.56	-0.009	-0.020	-0.44	-0.007
African*	-0.935	-8.74	-0.335	-0.935	-8.74	-0.335
Coloured*	-0.432	-3.65	-0.155	-0.429	-3.63	-0.154
Indian*	-0.253	-2.33	-0.091	-0.254	-2.34	-0.091
Racial minority in community*	0.178	1.78	0.064	0.173	1.76	0.062
Homeland*	0.003	0.02	0.001	-0.002	-0.02	-0.001
Cluster controls		yes			yes	
Province dummies		yes			yes	
N		7212			7212	
LogL		-9717.66			-9716.27	
Restricted LogL		-10657.14			-10657.14	
Pseudo R-square		0.0882			0.0883	

Note: * signifies a 0/1 variable. ** signifies marginal effect of variable on the probability that the household is satisfied or very satisfied with its quality of life. Cluster controls include cluster crime rate, cluster food-price index, and a dummy for whether cluster has roads that become impassable at certain times of the year.

Table 4
Impact of unemployment and informal employment on quality of life
OHS94 - Household level averaged data

	Difficulty in breathing due to smoke and pollution+ (Ordered probit)			Not enough money to feed children at some time in past year++ (Binary probit)		
	coefficient	robust t-value	marginal effect**	coefficient	robust t-value	marginal effect
HH unemployment rate	0.336	5.90	0.047	0.617	12.77	0.213
HH informal employment rate	0.064	1.34	0.009	0.132	2.35	0.046
Age	0.016	2.31	0.002	-0.009	-1.08	-0.003
Age square	0.000	-2.57	0.000	0.000	0.91	0.000
Education : primary*	0.089	1.37	0.012	-0.027	-0.47	-0.009
junior*	0.130	1.63	0.018	-0.108	-1.57	-0.037
secondary*	-0.036	-0.44	-0.005	-0.389	-5.14	-0.134
higher*	-0.167	-1.44	-0.023	-0.746	-3.43	-0.257
Training*	0.143	1.24	0.020	0.216	1.02	0.075
Lives in owned home*	0.034	0.49	0.005	-0.048	-0.92	-0.017
Number of children<16 in HH	0.007	0.76	0.001	0.057	6.99	0.020
Number of elderly>64 in HH	-0.031	-1.02	-0.004	0.000	0.01	0.000
Urban*	0.519	5.58	0.072	0.290	4.15	0.100
Male*	-0.036	-1.10	-0.005	-0.047	-1.16	-0.016
African*	0.873	6.78	0.121	1.099	9.86	0.379
Coloured*	0.377	2.79	0.052	0.550	4.76	0.190
Indian*	0.296	2.04	0.041	0.313	2.76	0.108
Homeland	-0.041	-0.32	-0.006	0.326	3.23	0.112
Constant				-1.213	-5.51	-0.419
Province dummies	yes			yes		
N	25672			21770		
LogL	-19707.68			-11096.03		
Restricted LogL	-21931.64			-13971.99		
Pseudo R-square	0.1014			0.2058		

Note: robust t-values reported.
+ not difficult=0; slightly difficult=1; rather difficult=2; very difficult=3
++ yes=1; no=0. Number of observations is lower than in the first column because households with no children are excluded.
** signifies marginal effect of variable on the probability that the household found it very difficult to breathe in the winter due to smoke and pollution.

Table 5
Percentage distribution of duration of unemployment, OHS97

Uncompleted duration	Frequency	Percent	Cumulative percent
0 - 1 months	1012	6.3	6.3
1 - 6 months	1694	10.6	16.9
6 -12 months	2794	17.5	34.4
12-36 months	4574	28.7	63.1
>36 months	5891	36.9	100.0
All	15965	100.0	100.0

Estimated duration of uncompleted spell of unemployment in months

Age category (N)	Men		Women	
	Worked previously	Never worked	Worked previously	Never worked
age 16-24	16.8	20.7	18.6	19.6
(4388)	(255)	(1675)	(260)	(2198)
age 25-35	23.1	29.2	23.7	28.5
(6767)	(693)	(1856)	(945)	(3273)
age 36-45	27.6	33.1	29.3	32.8
(3101)	(552)	(613)	(653)	(1283)
age 46-55	28.7	32.9	30.7	33.1
(1360)	(318)	(254)	(254)	(534)
age 56-64	35.7	31.3	30.2	34.4
(346)	(115)	(81)	(54)	(96)
All ages	25.2	26.8	25.8	27.0
(15962)	(1933)	(4479)	(2166)	(7384)

Table 6
Reservation wage minus predicted wage and voluntary unemployment

	N	Reservation wage (RW)	Predicted wage (PW)	Reservation wage ratio RWR=(RW/PW)	% of unemployed for whom HIGHRW=1
SALDRU93	1305	789	734	1.20	0.55
OHS94	13485	799	749	1.15	0.49
OHS94:			**Cumulative distribution of RWR**		
	<=0.6	**<=0.8**	**<=1.0**	**<=1.2**	**<=1.4**
Cumulative percentage distribution (%)	28.8	38.4	49.5	60.1	69.8

Table 7
Reservation wage ratio and elasticity of the reservation wage with respect to the predicted wage, by worker group, OHS94

	Average		Reservation wage ratio	Regression of logRW on logPW	
Type of worker	**RW**	**PW**		Elasticity of the RW with respect to the PW	Adjusted R-square
Female	736	672	1.16	0.763	0.1498
Male	889	860	1.13	0.615	0.0990
African	770	646	1.27	0.667	0.1075
Non-African	882	1048	0.81	1.269	0.3341
Low education (<=7 years schooling)	618	496	1.30	0.546	0.0400
High education (>7 years schooling)	932	935	1.04	0.801	0.1327
Young (age <=30 years)	761	694	1.18	0.700	0.1214
Older (age>30 years)	843	814	1.12	0.704	0.1464
Ever worked before	823	849	1.02	0.870	0.2060
Never worked before	784	687	1.23	0.608	0.0969
Urban homeland	916	978	0.98	0.773	0.0923
Rural homeland	771	587	1.37	0.567	0.0597
Urban non-homeland	844	863	1.04	0.755	0.1427
Rural non-homeland	515	460	1.12	0.911	0.1629

Note: The elasticity was calculated by regressing log of reservation wage on predicted log wage.

Table 8
Determinants of HighRW and RWR, OHS94 data

	Binary probit of HighRW		OLS regression of RWR	
	Coeff	robust t-value	Coeff	robust t-value
Age	-0.0116	-1.54	-0.0288	-4.22 ***
Age square	0.0001	1.29	0.0003	3.89 ***
Male*	-0.0073	-0.23	0.0091	0.36
Household head*	-0.2003	-4.67 ***	-0.1334	-5.07 ***
Married*	-0.0849	-2.62 ***	-0.0065	-0.21
Number of dependents	-0.0058	-0.69	0.0002	0.03
Race : African*	-0.0296	-0.30	0.0232	0.41
Coloured*	-0.5737	-4.91 ***	-0.3823	-6.95 ***
Indian*	0.1845	1.49	-0.0301	-0.39
Location: Urban homeland*	-0.4400	-3.46 ***	-0.3137	-3.71 ***
Rural non-homeland*	-0.4200	-3.18 ***	-0.2050	-2.43 **
Urban non-homeland*	-0.3281	-2.78 ***	-0.1795	-2.45 **
Numemp1*	-0.0258	-1.56	-0.0138	-1.10
Education : primary*	-0.2148	-3.46 ***	-0.1811	-3.78 ***
junior*	-0.3826	-5.08 ***	-0.3378	-6.34 ***
secondary*	-0.2528	-2.87 ***	-0.3406	-6.03 ***
higher*	-0.3580	-1.91 *	-0.2576	-2.62 ***
Vocational training*	0.0316	0.16	-0.0907	-0.93
Lives in owned home*	0.1627	2.75 ***	0.0615	1.57
Beforewk*	-0.1248	-2.76 ***	-0.0705	-2.03 **
Nmfchild*	0.0498	1.10	0.0396	1.25
Dbreathe	0.0615	2.64 ***	0.0360	2.00 **
Constant	0.8332	3.26 ***	2.0868	11.21 ***
Province dummies	yes		yes	
N	13485		13485	
Adjusted/pseudo R-square	0.0793		0.0709	
LogL	-8604.36		----	
Mean dependent variable	0.49		1.15	

Note: HIGHRW=1 if RW>PW, 0 otherwise; RWR=RW/PW; Number of dependents is the number of persons below16 and over 65 in the household; Numemp1=number of household members who are employed; Beforewk=1 for individual who ever worked in the past for pay, profit, or family gain, 0 otherwise. Variables marked with * are 0/1 variables; Nmfchild=1 in the last year, there was ever a time when the household did not have enough money to feed the children in the household; Dbreathe is an index of how difficult it is for members to breathe where the household lives because of smoke and pollution and it takes the value of 1 for not difficult and 4 for very difficult; Base category for region is rural homeland. SALDRU data has RW information only on those unemployed persons who searched in the past week, yielding a much smaller sample size of 1305 persons on whom RW data is available.
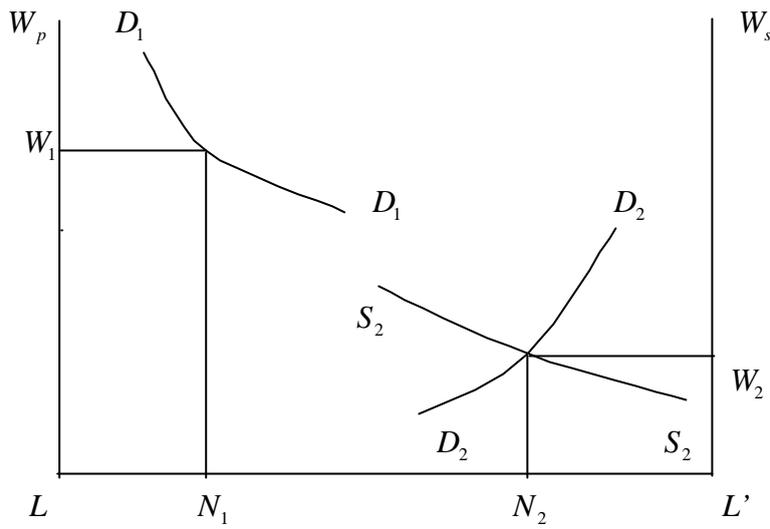
Figure 1
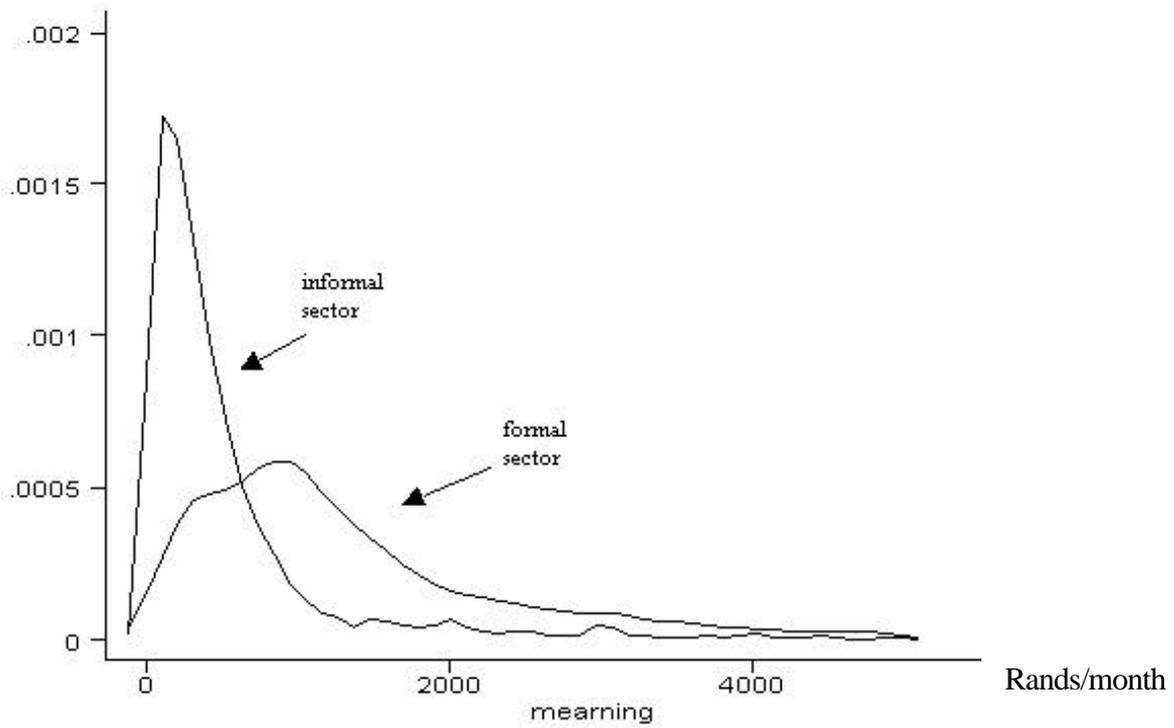The formal and informal sector of the labour market

Rands/month

Figure 2
Distribution of monthly earnings, by formal and informal sector work
(Epanechnikov Kernel Density Estimate)
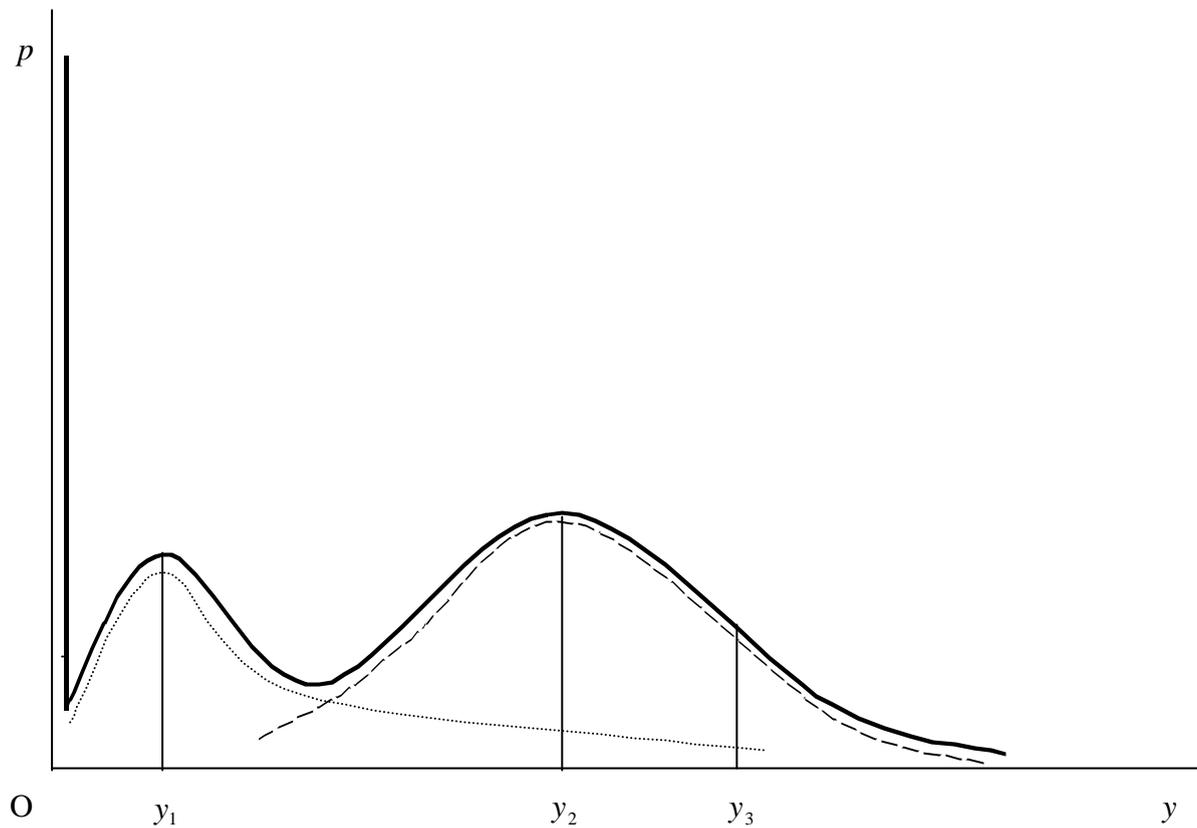(The area under each curve is equal to 1.0)

Figure 3
Distribution of earnings by unemployment, informal employment, and formal employment
(The area under the bold curve is equal to 1.0)