INDIVIDUAL, HOUSEHOLD AND REGIONAL DETERMINANTS OF LABOUR FORCE ATTACHMENT IN SOUTH AFRICA:

EVIDENCE FROM THE 1997 OCTOBER HOUSEHOLD SURVEY

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THE PICTURE OF MASS UNEMPLOYMENT evident from the 1993 Saldru household survey has perpetuated in subsequent October Household Surveys (OHS), with both narrow and broad unemployment rates climbing every year except for 1995 and 1999 (Fig. 1 below). Unemployment rates for 1999 are quoted in the range of 23.3 per cent in terms of the narrow definition, and 36.2 per cent according to the broad definition. These figures are only marginally different from

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those for 1997 (Stats SA, OHS 1999).

Some debate has emerged about whether a definition of the unemployed should include only those jobless individuals who search (called the narrowly unemployed) or extend to those who claim they want work but are not searching (these are unemployed on the broad definition only).[2]
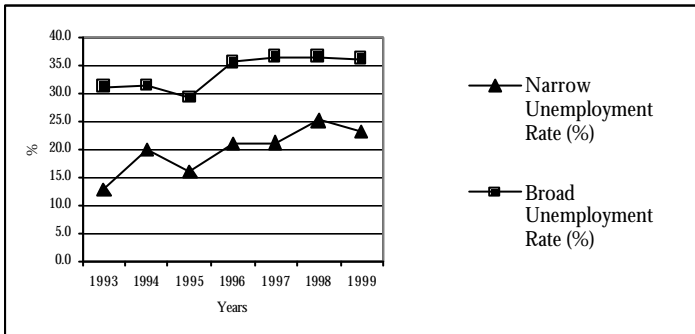

Figure 1. Narrow and Broad Unemployment Rates 1993-1999.
Sources: Saldru 1993; OHS 1994-1996; own Calculations from OHS 1997-99.

At present, Statistics South Africa (Stats SA) continues to report both broad and narrow unemployment rates, but since 1998 has adopted the narrow rate as the official measure of South African unemployment (OHS releases 1998 & 1999; Stats SA, 1998b). This decision is not uncontroversial, since a strict application of it effectively disregards the non-searching unemployed from the labour market. Such a definition ignores the argument that a person's choice of search activities is related to local labour absorption capacities and other labour market

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[2] These definitions are based on whether the person took some action to find work in the 4 week reference period prior to the interview (Stats SA, 1998a: Fig. 1 in Release).

characteristics.[3] Having an 'official' definition to some extent also suggests that labour market policy is more accurately formulated using this definition.

This paper takes the view that several degrees of labour force attachment are more relevant for studying the supply side of the labour market than a restricted focus on the searching unemployed. We define labour force attachment as the degree of participation by an individual in the labour market. A broad conceptual framework considering various types of attachments and movements between labour market states is presented in section 1 of the paper. With reference to search theory, it is pointed out that the motivation and decision to search for a job from a position of unemployment is contingent on the environment of search. When search costs and the potential for search success are taken into account, non-searchers can be distinguished from searchers and from non-participants.

In the empirical part of our study, we explore what motivates individuals to 'choose' a particular degree of labour force attachment and what bars them from being in certain states, given individual, household and regional characteristics.[4] A profile of the unemployed is combined

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[3]   The International Labour Organisation (ILO) recognises that the decision to stop searching may be affected by labour market conditions and suggests that the criterion of seeking work in the strict unemployment definition may be relaxed in circumstances "where the labour market is largely unorganised or of limited scope, where labour absorption is, at the time, inadequate or where the labour force is largely self-employed" (ILO, 1982, paragraph 10(2)).

[4]   We use 'choose' in a qualified sense, acknowledging that individuals face constraints on their objective functions. Given that individuals experience barriers to active participation in the labour market, we try to explain what makes them choose a particular labour market state in order to maximise utility.

with a discussion of the explanatory variables used in our econometric estimation. We specify multinomial logit models separately for African men and women predicting the effects of a set of individual, household and regional characteristics on the likelihood of being in any one of the three reported states of joblessness (defined as searching or non-searching unemployed, or not economically active (NEA)). Using marginal analysis, we then illustrate the effects on the probabilities of being in one of these states when each of the explanatory variables is changed. Not surprisingly, we ascertain the predominant influence of gender, household structure and location.

The paper concludes with the relevance of our findings for the continuing debate on different unemployment measures and degrees of labour force attachment.

1.   LABOUR FORCE ATTACHMENT - A CONCEPTUAL FRAMEWORK

We take labour force attachment to indicate the degree of participation by an individual in the labour market.[5] The measurement of this participation most often used in national unemployment statistics is that which distinguishes between four mutually exclusive labour market states. These four states, and the flows of individuals between them (indicating changes in the degree of attachment) are presented in Fig. 2 below.[6]

The flows and consequent states which are of interest in this paper are those labelled 'motivated', 'discouraged',

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[5]   This definition is based on that of Jones and Riddell (1999).

[6]   The flows approach to thinking about unemployment is prevalent in search theory (Devine and Kiefer, 1991:6). Our discussion of this framework is based on Wittenberg (1999b).

'drop-outs', 'entrants' and 'disheartened', which together describe the different experiences of unemployment.

'Entrants' include predominantly high school and tertiary-education leavers entering the job market as active searchers or passive non-searchers. Houseworkers re-entering the labour force would also qualify as 'entrants'. 'Drop-outs' are those who choose to remove themselves from the labour force entirely. 'Motivated' individuals move from non-searching to searching unemployment. Their status becomes active within the labour force. 'Disheartened workers' are theoretically distinguished from 'discouraged' workers in that the latter choose to stop searching after a period of unsuccessful search, whereas the former have never moved out of passive unemployment because of the perception that search activities will fail. They have never been encouraged to search. A high level of local unemployment is likely to generate both types of behaviours. Wittenberg (1999b:4) notes that discouragement is less likely the result of personal experience than of community experience - "entire groups of young people might convince each other that there are no jobs to be had". These young people would be the 'disheartened' in Fig. 2, while those ceasing search activities on the basis of personal failure coupled with a lack of search opportunities would remain the 'discouraged'.[7]

Whether an individual chooses to search for a job or not, and how to go about this search are decisions which can be modelled using a marginal benefit/cost analysis.

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[7]   It is important to note that demand-side factors play an important role in the extent of supply-side search, through the effect on the probability of being offered a job. However, we do not focus directly on demand-side rigidities acting as barriers to search-success in this paper.

This is the process described by conventional search theory.[8] To the extent that the relevant costs and benefits depend on the environment in which search takes place, the decision to search will be endogenous. This means that capabilities possessed by an unemployed individual, as well as labour market conditions facing an individual, will influence the decision to search or to stop searching.
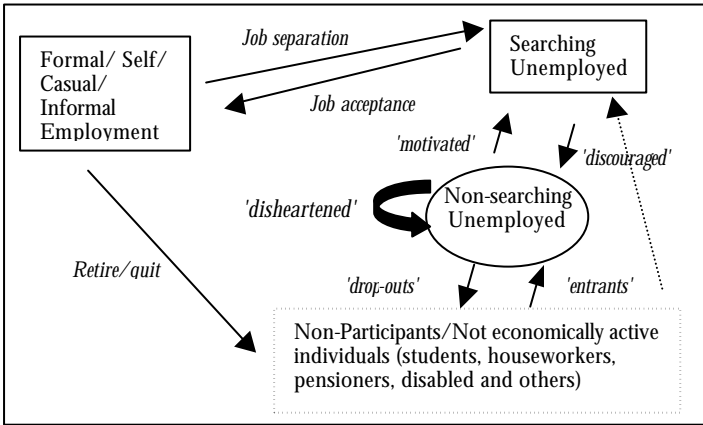
Figure 2. Labour Market Flows and States

In an environment of mass unemployment, it may be a rational strategy to not search, if the chances of locating a job offer are low and if the costs involved in searching are high. For this reason, a discouraged or disheartened non-searching worker may be willing to work, but simply does not consider search a worthwhile investment strategy. Thus, the search approach to understanding unemployment has enabled labour economists to consider the non-searching unemployed as legitimately part of the labour market, and relevant for analysis.

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[8]   For details of search theory as applied to the labour market, see any of the following: Devine and Kiefer (1991: *ch* 2), Lippman and McCall (1976), Mortensen (1986).

This approach suggests that searchers are more closely attached to the labour market than non-searchers. However, this is not necessarily the case. Labour force attachment may be evidenced by search activities, as in the conventional definition of narrow unemployment, but it may also be observed in the expressed willingness to work by individuals who are not searching. Furthermore, attachment may be described by the type and quality of labour market information about job opportunities available to jobless individuals. Especially in an environment of mass unemployment, better information about potential job and wage offers could imply a stronger attachment to the labour market, as it increases the probability of the jobless individual locating a suitable job match. Thus, non-searchers with contacts within the labour force - employed people or migrant workers in the household - may plausibly be more closely attached to the labour market than some searching individuals.

Even within groups of searchers, there may be different degrees of search intensity which will give rise to different types of labour market information. Jones and Riddell (1999) argue that considering search intensities with reference to search methods is one way to think about degrees of labour force attachment. The problem with pursuing this strategy with existing South African data on search methods is that it is probably not reliable enough to undertake such a search intensity classification of labour force attachments.[9]

In addition to considering the labour force attachment of searchers and non-searchers, we may also extend this idea to the group of NEA people. This heterogeneous

[9]   Much of this is due to the survey instrument. A detailed discussion of this problem can be found in a working paper available from the authors.

group consists, in part, of individuals who are studying or training. It is these individuals who may have a stronger link to the labour market through their educational institutions, compared to others of the NEA who are not pursuing further qualifications.

The implication of adopting a degrees of labour force attachment approach to the experience of joblessness is that all forms of labour market attachment become relevant for analysis. Furthermore, the lines between the searching and non-searching unemployed become less clear-cut, and it becomes more difficult to identify distinguishing features of pools of unemployed people. We try to do this in the empirical section, and see that the lines are more easily drawn on some explanatory variables than on others.

The fact that we find such a large proportion of the South African working age population to be non-searching unemployed demands attention. Two papers have attempted to describe and model the choice of search or non-search activity in South Africa. This work emphasises the importance of not focussing only on the searching unemployed as members of the labour market.

Kingdon and Knight (2000) examine to what extent searching and non-searching unemployment states are distinct from each other. In particular, they examine the validity of a luxury unemployment hypothesis compared to the discouraged worker hypothesis for the non-searching unemployed in South Africa. Using the Saldru 1993 and OHS 1994 surveys, their evidence convincingly rejects a "taste for unemployment" among the non-searching unemployed and instead suggests that lack of job search is an outcome of constraints. These constraints relate to lack of funding for job search and the high cost of search in remote locations (Kingdon and Knight, 2000:11).

Furthermore, high local unemployment rates appear to discourage search efforts. The conclusion that Kingdon and Knight reach is that the appropriate concept of unemployment in South Africa is the broad unemployment rate, rather than the narrow rate.

Although they show that the non-searching unemployed are 'involuntarily' in their predicament and are not choosing to remain unemployed for luxury reasons, they do not emphasise the continued relevance of separate categories for searchers and non-searchers. The fact that some individuals classify themselves as searching, while others consider themselves to be non-searching suggests that there may be some distinctions between these groups which could be relevant for policy analysis. In terms of our prior discussion, it is necessary to see whether searchers and non-searchers differ in the search costs and search benefits they face in the labour market. We identify some of these differences in section 3.

In another paper, Wittenberg (1999a) analyses job search behaviour without concentrating solely on the unemployment rate, broad or narrow. The paper explores the determinants of which individuals end up in which of four categories: employed, searching unemployed, non-searching unemployed and NEA. He suggests that it is useful to look at different degrees of labour force attachment, rather than concentrate on the employment/searching unemployment distinction, since "…a concern with the relationship between employment and unemployment only obscures the fact that the decision to search becomes dependent on the prevailing levels of unemployment." (Wittenberg, 1999a:47).

In making this point, the influence of the search environment on the search decision is recognised. For example, the paper shows that the search activities of all

individuals within a household matter for determining search status of members, and the location of the unemployed in urban or rural areas influences the propensity to search.

Our paper continues in the same vein as the above contributions. We use extensive cross-sectional information at the individual level to shed some light on the determinants of the decision to be in any one of the three non-working states: searchers, non-searchers and the NEA.[10] In the next section, we use fairly detailed individual, household and regional characteristics to describe how these three groups are different from each other, and to model the likelihood of an individual being in any one of the states of interest. We also consider how changes in the set of explanatory variables influence the likelihood of being in any particular state, and compare these effects across searchers and non-searchers.

3. SEARCHERS, NON-SEARCHERS AND NON-PARTICIPANTS: EVIDENCE FROM OHS 1997

(a) A profile of the Unemployed

Much South African labour market analysis seeks to untangle the structure of unemployment and employment across strata defined by gender, age, race and location.[11] Using household survey data from the OHS 1997, we identify individual labour market status and find that the incidence of unemployment in this particular year confirms the picture presented using data in previous years.[12]

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[10]   The limitation is obviously that the proposed continuum of labour force attachments remains fairly crude.

[11]   See, for example Klasen and Woolard (1999), Fallon and Lucas (1998), Chandra and Schaefer (1998) and Simkins (1996).

[12] The OHS is an annual survey gathering responses to a range of

In Table A1 (Appendix 1), narrow and broad unemployment rates are calculated for the entire country across a number of categories.[13] Additionally, non-searchers are expressed as a proportion of the total unemployed, and as a proportion of the total labour force. Finally, narrow and broad labour force participation (LFP) rates were added.[14]

The most striking feature of these figures is the large gap between the narrow and broad unemployment rate in most categories. At the national level, the gap is 14.8 per cent, but looking across the country, this pattern varies dramatically. Non-searchers are a much higher proportion of broad unemployment in the poorest provinces, which also have the largest concentration of former homelands and self governing territories (SGT's). Out of every 100 people in the working age population in rural homelands, 40 are in the labour force, 24 of these are unemployed and almost 16 of these people are not searching for work.[15]

As a further indication of the spatial spread of unemployment across the country, we calculated broad unemployment rates for each magisterial district (MD)

individual and household questions from about 30 000 households across South Africa. The sample of households has varied each year: the 1996 OHS only covered 16000 households and the 1998 OHS covered 20000 households. In 1999, there were again 30000 households.

[13]   In defining labour force participation (LFP) and unemployment in the OHS we have generally followed the steps set out by Klasen and Woolard (1999).

[14]   Narrow LFP is the total working age population in employment and strict unemployment; broad LFP is narrow LFP plus the non-searchers.

[15]   See Klasen and Woolard (1998); Wittenberg (1999a) and Kingdon and Knight (2000) for work on earlier OHS's which gives a similar spatial scenario to the 1997 OHS.

using the 1996 Census.[16] These unemployment rates are used in our estimations. The dramatic concentration of high unemployment in rural former homelands and SGT's can be seen most clearly from the map in Appendix 2.[17]

From Table A1, a story emerges that some sections of the population are more likely to be unemployed than employed; some sections are more likely to be non-searching than searching; and many of these sections are also less likely to be in the labour force in the first instance. Non-searchers are more probably female, African, young, and living in rural areas than searchers; non-labour force participants are even more likely to have these personal characteristics. While categorisation within any one of these groups raises the chances of an individual being a non-searcher, a combination of these features is likely to increase the effect.

Persons with these characteristics are also likely to have the worst access to information in the labour market and the weakest contacts - informal information networks of employed relatives and friends. Thus they may be destined to remain marginally attached to the labour force. Without better labour market information, many of them are unlikely to be absorbed into the working population, even if job creation improves. The additional fact that the picture has not changed substantially between 1993 and 1997 should be a warning that if policy is not based on a

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[16]   The 1997 OHS covers almost every magisterial district (329 out of 354).

[17]   It is questionable as to whether disaggregation of the national labour market at the magisterial district level is far enough - some districts may cover more than one homogenous labour market, in which case an alternative measure of local unemployment rates is necessary. However, unemployment rates calculated by enumerator area may tend towards the other extreme of being too narrow to define a local labour market.

recognition of this diversity, but instead on only the strict definition of unemployment, those who are most disadvantaged will continue to marginalised.

(b) Description of Sample Data and Econometric Method

For the purpose of our econometric analysis, a person's labour market status is considered as the outcome of a selection process between four distinct states: employed, unemployed and searching (narrowly unemployed), not searching but still wanting work (only the broadly unemployed), and not searching and not wanting work (NEA).[18]

The sample is restricted to the working age population (16 to 64 years). Table A2 (Appendix 1) presents the averages of plausible explanatory variables which might be used in a multivariate analysis. These variables are assumed to have an effect on the probability of being in one of four states. Among the individual characteristics age, population group, education level, whether the person ever worked before and household headship are considered. Household characteristics are comprised of the average household size, per capita household income from work, from other sources such as pensions, and from migrant workers' remittances, and the average number of children under 16 years of age living in the household. In addition some variables are used to reflect informal connections to the labour market, such as the average number of employed household members, the average number of migrant workers per household, and telephone access. Finally,

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[18]   Although the alternatives can be interpreted to reflect various degrees of labour force attachment they are not considered as being ordered. Additionally, this list is not exhaustive. There are obviously individuals who search while in employment; they do not concern us here.

three regional indicators are considered: the broad unemployment rate in the MD where the individual is residing, whether the district is classified as urban or rural and whether it belongs to a former homeland or SGT. Table A2 thus depicts the characteristics of the average man or woman in the sample who is employed, searching unemployed, non-searching unemployed or NEA.

An exploratory analysis of the sample data offers several noteworthy points. Firstly, the average age of the employed is late thirties. Given the age structure of the South African population, this appears quite high.[19] The mean age of the rest of the working age population in the other three states of joblessness in the sample ranges from 28-32 years. The older average age of the employed suggests that these individuals have some labour market advantage over younger job seekers.

The searching unemployed also have higher average education than non-searchers. More than sixty percent of the searching unemployed attained secondary level schooling and beyond. Education levels drop off for the non-searching unemployed with 50 per cent of men in this category and 48 per cent of women having less than secondary education. This confirms the findings of Wittenberg (1999a: 31) that better educated individuals have a higher propensity to search. This is probably because more education implies a higher probability of finding a job, and thus a higher value of search.

Large pockets of the unemployed have never worked before. However, more of the non-searchers have never worked before than the searchers. This suggests that work

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[19] The age structure of the population was considered using Census 1996. The majority of the population was observed to be in the age groups below 30 years. Of the working age population the 16-30 year old group is larger than the 30-50 year old group.

experience may be one factor which encourages search. Previous employment may establish links in the labour market, which can be exploited as search channels. Individuals who have never been employed therefore have a lower degree of labour force attachment. They may be even further disadvantaged in available labour market opportunities.

Those without jobs are more likely to live in larger households, and in poorer households, concentrated in rural former homeland areas. Searchers live with other searchers, while non-searchers live with other non-searchers, suggesting that search strategy is often conditioned by household structure. The tendency of the unemployed to 'cluster' in households has also been observed in Wittenberg (1999a:38) who points out that this 'clustering' might even extend to wider neighbourhoods. Table A2 further indicates that those with jobs are more likely to live in smaller households and employed men are more likely to be heads of households than not.

Household structure may however be an outcome of search behaviour, rather than a determinant of such behaviour. The direction of causality is very difficult to untangle in a single cross section.[20] What is possible to see from a cross-sectional snapshot is that high rural unemployment may be sustained by resources flowing into households in these areas. Since the state old age pension constitutes the most important source of non-wage income in South Africa and more pension receivers live in rural areas where basic living expenses are also cheaper

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[20] Klasen and Woolard (1999) attempt to show that households restructure around unemployed individuals moving back to rural areas. However, their strongest evidence only indicates that young unemployed people take longer to move out of their parental households than those young people with jobs.

(Case and Deaton, 1998: 1337), this could explain why large sections of the non-searching unemployed are residing in rural areas. In addition, non-searchers are also receiving higher remittances than searchers, as depicted in Table A2.

Non-searchers may also be relying on migrant members of the household - those who have a job or seek a job somewhere else - to supply them with information on job opportunities. This may be the least costly 'method' of search in an environment of mass unemployment. In that sense, unemployed individuals who have access to migrant workers and their information will have a stronger degree of labour force attachment than similar individuals without migrant workers in their households.

We would have liked to use several measures of remoteness, to proxy for the notion of search costs. To a large extent, the area variable probably does this. Rural former homelands are presumably the most distant from centres of information about jobs, and are also lacking in communication and other community facilities. We included one example of a modern labour market link: the telephone. Over 40 per cent of the employed in the OHS sample have access to either a landline or a mobile phone; less than 20 per cent of the searching unemployed have this facility; not quite 13 per cent of the non-searching unemployed have access; while 20 per cent of the NEA have access. So, over 80 per cent of the unemployed have no convenient way of contacting or being contacted by prospective employers. This puts them at a severe labour market disadvantage.

In characterising the searching and non-searching unemployed and non-labour force participants, the 1997 data confirms a number of observations and suggestions that have been made in work on earlier data sets, particularly the detailed 1993 Project for Statistics on Living

Standards and Development (Saldru). Firstly, non-searchers tend to have fewer qualities presumably desired by employers: with less labour market experience and lower levels of education; their employment prospects are worse than those of the searching unemployed. Secondly, massively high unemployment in the former homeland areas has persisted through to 1997 and can be interpreted as a sign of little policy impact in rural labour markets. Thirdly, there is strong evidence of discouragement across large sections of the labour force, for which there seem to be few links back into the active labour force.

We now turn to estimating the relationship between some of the variables presented in Table A.2 and individual labour market status.

(c)   Estimation   Results

To examine the effect of proposed variables in determining the labour market status of a jobless person, we specify a multinomial logit model. A number of explanatory variables can be seen as outcomes of labour market status, rather than as its exogenous determinants. Under this consideration, the labour market status of other household members (in particular the number of employed persons in the household), and whether the person is head of the household are omitted. Also, since the highest broad MD unemployment rates are concentrated in former homeland/SGT areas, the homeland variable is not used.

The likelihood of being in one of three labour market states is estimated separately for African women and men as it is postulated that their labour market behaviour is subject to different determinants. Tables 1 and 2 report the results of the multinomial logit estimation: coefficients on

the explanatory variables and their significance.[21]

Table 1. Estimation Results: African Men – OHS 1997

LABOUR MARKET STATE	Searching		Non-Searching		Joint Test	
Base category = out of labour force	Coeff.	SE	Coeff.	SE	F-statistic	p-value
Indiv. Characteristics						
Age	.556**	.016	.544**	.015	.41	.521
(Age)²	-.007**	.000	-.007**	.000	.55	.460
Yrs of Educ up to Std 1	.162**	.036	.114**	.031	1.91	.167
Yrs of Educ up to Std 5	-.040	.032	-.075*	.030	1.16	.283
Yrs of Educ up to Std 9	-.105**	.024	-.16**	.024	2.99	.084
Matric	1.013**	.095	.967**	.095	.27	.605
Yrs of Higher Educ	-.021	.098	-.374**	.121	8.20*	.004
HH Characteristics						
HH size	.006	.019	.040*	.017	2.60	.107
Children < 16 in HH	-.062*	.029	-.072*	.028	.07	.786
Per capita HH income from work	-.0004**	.000	-.000**	.000	.21	.644
Per capita other HH income	-.003**	.001	-.002**	.001	.31	.575
Migrant worker	-.276**	.074	-.141*	.067	2.31	.129
Telephone	-.200	.102	-.167	.108	.06	.801
Regional Characteristics						
Urban – Rural	.268**	.091	.217*	.089	19.62**	.000
Broad MD unemp rate	-.666*	.261	-.040	.244	4.14*	.042
Const	- 10.12**	.323	-9.84**	.308		
N	2770		2984			

** & * indicate significance at the 1 and 5 per cent level respectively. The joint test is a test of whether coefficients are different across categories. Out of the labour force is the base category. The effect of education has been estimated using linear splines. Using education splines in the estimation allows for different coefficients on primary, senior primary and secondary education, matric (senior certificate), and higher education.

From joint test results on whether coefficients are zero across all categories (not reported here) searching and non-searching individuals are observed to be distinct from people not in the labour force. We also tested whether all coefficients were equal across the two unemployment states; this test was strongly rejected. However, the similarity of many of the coefficients for the two

[21]   A Hausman test has been performed to examine whether independence of irrelevant alternatives does hold. The given data does not reject this assumption underlying the multinomial logit model.

unemployed states, particularly for African men, suggests that a distinction between searching and non searching unemployed is difficult on the basis of individual and household characteristics alone.

Table 2. Estimation Results: African Women – OHS 1997

LABOUR MARKET STATE	Searching		Non-Searching		Joint Test	
Base category = out of labour force	**Coeff.**	**SE**	**Coeff.**	**SE**	**F-statistic**	**p-value**
Indiv. Characteristics						
Age	.544**	.015	.453**	.012	28.81**	.000
(Age)^2	-.008**	.000	-.006**	.000	23.56**	.000
Yrs of Educ up to Std 1	.093**	.028	.053*	.021	1.84	.176
Yrs of Educ up to Std 5	.051	.028	-.012	.022	4.80*	.029
Yrs of Educ up to Std 9	-.095**	.021	-.137**	.018	3.01	.083
Matric	1.026**	.077	.865**	.074	15.71**	.000
Yrs of Higher Education	.050	.079	-.398**	.112	15.89**	.000
HH Characteristics						
HH size	.073**	.014	.047**	.013	2.26	.133
Children < 16 in HH	-.066**	.022	-.046*	.020	.61	.436
Per capita HH income from work	-.000**	.0001	-.001**	.000	1.24	.265
Per capita other HH income	-.001*	.001	-.001**	.000	.02	.886
Migrant worker	-.289**	.063	-.211**	.049	1.16	.281
Telephone	-.364**	.083	-.291**	.086	12.34**	.000
Regional Characteristics						
Urban – Rural	.687**	.079	.247**	.064	23.10**	.000
Broad MD unemp rate	-1.049**	.224	-.040	.177	16.95**	.000
Cons	-10.67**	.307	-8.48**	.239		
N	3594		4897			

** and * indicate significance at the 1 and 5 per cent level respectively. The joint test is a test of whether coefficients are different across categories. Out of the labour force is the base category. The effect of education has been estimated using linear splines.

These individual and household variables cannot explain the move from non searching to searching (or vice versa). For African men, it is the coefficients on the regional characteristics - whether the person resides in an urban or rural area and the broad MD unemployment rate - that differs markedly and seems to influence search behaviour. This reinforces the earlier picture of a primarily spatial segmentation of the jobless in South Africa.

The distinction between searchers and non-searchers

appears to be somewhat stronger for women. For African women in the sample, we find that age, education (except secondary and high school education), the presence of a migrant worker, larger households and more favourable regional characteristics (urban areas and lower MD unemployment rates) encourage searching and non searching status.

The magnitude and direction of the estimated coefficients in the multinomial logit cannot readily be interpreted.[22] Tables 3 and 4 thus demonstrate how changes in each variable in the model affect the probability of being in a particular labour market state, holding all other characteristics constant. We calculate changes in probabilities that are attributable solely to the variation of a single characteristic. We do so by setting the variable to a fixed value for all observations (*e.g.* area = 0, rural), predicting labour market outcomes using our model and then repeating the predictions for a second value (area = 1, urban) of the same variable. These changes are then expressed as proportions of the baseline probability for each jobless labour market state. The baseline predicted probability is measured as the actual proportion of African men and women in each of the defined states as weighted for the entire working age population in the OHS 1997 sample.

The marginal effects analysis shows that unemployed men and women are both more likely to be searching when living in an urban area with lower unemployment rates. Considering the effect of education: the senior certificate (matric) has the single largest positive effect on inducing people to participate in the labour force and tertiary education is most likely to drive men and women

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22   See Greene (1997:916) for a discussion of the model.

into search, if they do not already have jobs. The positive effect of education and location on active LFP comes out stronger in magnitude for women than for men in the predictions.

Table 3. Predicting the Effects of Changes in Explanatory Variables: African Men

LABOUR MARKET STATE: AFRICAN MEN	Searching	Non-Searching	Out of Labour Force
Base Probability	.235	.207	.558
1 yr of school up to Std 1	.065	.046	-.045
1 yr of school up to St d 5	-.029	-.047	.020
1 yr of school up to Std 9	-.031	-.080	.043
Matric	.458	.359	-.326
1 yr of training/tertiary educ	.084	-.214	.044
HH size (6 vs 4 members)	-.012	.053	-.014
Children<16 in HH (4 vs 2)	-.047	-.065	.044
HH income from work (*)	-.035	-.046	.030
Other HH income (*)	-.035	-.034	.027
Migrant worker (1 vs 0)	-.128	.030	.065
Telephone access (1 vs 0)	-.076	-.069	.058
Area: urban vs rural	.219	-.207	-.005
Broad MD unempl. Rate (30% vs 60%)	.118	-.048	-.032

(*) We have calculated the effect of a doubling of mean household income from work and mean other income respectively.

The other variables all behave as expected: an increase in household size increases the probability of women being in the labour force only slightly, while an increase in the number of young children in the household, an increase in household income from work and other sources reduces the probability of men and women being in the labour force - either searching or not searching - presumably because the pressure to find a job to earn an income is reduced, or because domestic responsibilities have increased.

A final interesting effect is that for both men and women, the presence of a migrant worker decreases the chance of being in searching unemployment. Since the additional income effect of remittances is already captured in 'other household income', this could be evidence that

migrant workers supply labour market information to other jobless individuals more cheaply than search would. This is supported by the result that the presence of a migrant worker increases the probability of men and women choosing non-searching unemployment.

Table 4. Predicting the Effects of Changes in Explanatory Variables: African Women

LABOUR MARKET STATE: AFRICAN WOMEN	Searching	Non-Searching	Out of Labour Force
Base Probability	.175	.183	.642
1 yr of school up to Std 1	.039	.028	-.019
1 yr of school up to Std 5	.036	-.021	-.004
1 yr of school up to Std 9	-.036	-.083	.034
Matric	.739	.345	-.300
1 yr of training/tertiary educ	.159	-.241	.026
HH size (6 vs 4 members)	.081	.039	-.033
Children<16 in HH (4 vs 2)	-.072	-.040	.031
HH income from work (*)	-.038	-.071	.031
Other HH income (*)	-.016	-.021	.010
Migrant worker (1 vs 0)	-.130	.111	.067
Telephone access (1 vs 0)	-.155	-.155	.087
Area: urban vs rural	.383	.054	-.120
Broad MD unempl. Rate (30% vs 60%)	.193	-.055	-.037

(*) We have calculated the effect of a doubling of mean household income from work and mean other income respectively.

4.   CONCLUSIONS

This paper has suggested that an important part of labour market policy should focus on the experience of unemployment on the supply-side of the labour market. Kingdon and Knight (2000) argue that non-searchers are a relevant part of the labour market, and should not be excluded from a definition of the unemployed. Using 1997 data, our econometric analysis decisively rejects the idea that non-searching individuals are like people out of the labour force. We argue that a single broad unemployment rate does not capture the full range of labour market attachments which individuals may currently experience in South Africa.

In the econometric model used, it was difficult to

distinguish searching and non-searching unemployment on the basis of individual and household characteristics, especially for African men. Although the descriptive analysis found that non-searchers fall more heavily into certain groups - women, youth, and working age individuals in former homelands - the multinomial logit results suggest that unemployed African men could primarily be distinguished in terms of their spatial characteristics: search and non-search behaviour is affected by local unemployment rates and whether the individual lives in an urban or rural area. For women however, our model showed that these regional characteristics as well as certain education variables, age and the presence of a migrant worker in the household are necessary to explain observed labour market states.

The marginal analysis indicated that as education improves and as regional unemployment rates fall, people are encouraged to search, most likely because the probability of finding employment is rising. These effects are stronger for women. We also showed that the presence of migrant workers is important for explaining why some people who want jobs are not searching for them.

From the evidence presented, it is clear that any attempt to address the constraints on the most marginalised who have the worst access to labour markets must involve a differentiated policy approach. Since non-searching and searching unemployed are distinct in terms of regional characteristics, a regional variation in policy is necessary. At the very least, any national unemployment strategy should take into account location effects. Furthermore, from our discussion of how other factors are also important in determining the labour market status of women, it may be necessary to differentiate labour market policies in terms of the gendered determinants of

searching and non-searching unemployment.

Finally, this paper has used the conventional definitions of labour force attachment because of data restrictions. We acknowledge that there are conceptual difficulties with not having a more nuanced view of labour force attachment, and suggest that further research on the supply-side of the labour market might look at how to differentiate the intensity of search activities among the searchers, non-searchers and the not economically active.

APPENDIX 1

Table A1. Narrow and Broad Unemployment (UE) Rates, Searching and Non-Searching, and Participation Rates (all %s)

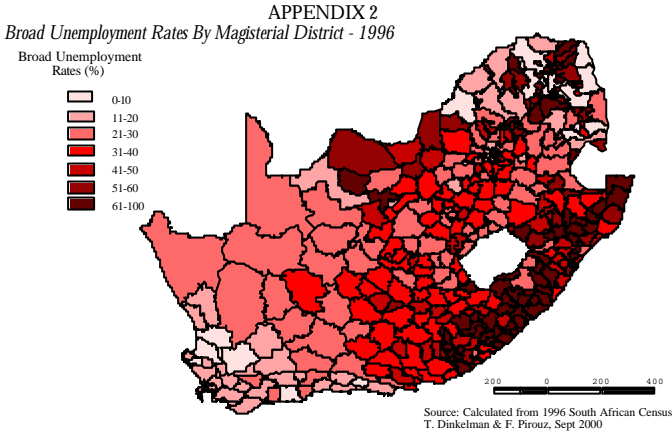| OHS 1997	Narrow UE Rate	Broad UE Rate (Searchers and Non-searchers)	Non-Searchers as % of broad UE	Non-Searchers as % of total Labour Force	LFP rate (narrow)	LFP rate (broad)
Total	21.2	36.0	52.1	18.8	47.2	58.1
By Gender: Male	17.5	29.1	48.6	14.2	57.4	66.8
Female	26.4	44.4	54.9	24.4	37.9	50.2
By Location: (1)						
Urban Old RSA	19.1	28.8	41.7	12.0	57.0	64.7
Rural Old RSA	17.0	35.2	62.2	21.9	46.2	59.1
Urban TBVC&SGT	24.2	40.7	53.7	21.9	48.2	61.7
Rural TBVC&SGT	33.6	58.2	63.8	37.1	27.0	43.0
By Race: African	27.1	44.7	53.9	24.1	42.6	56.1
Coloured	15.2	22.7	38.9	8.8	59.4	65.2
Indian	9.7	12.1	22.0	2.7	56.4	57.9
White	4.0	5.7	30.8	1.8	64.1	65.6
By Province:						
Western Cape	11.8	17.7	37.9	6.7	61.1	65.6
Eastern Cape	29.2	51.8	61.6	31.9	31.0	45.6
Northern Cape	18.5	25.6	34.0	8.7	52.4	57.4
Free State	19.2	32.4	50.4	16.3	51.0	60.1
KwaZulu-Natal	22.7	42.4	60.0	25.4	42.1	56.4
North West	21.4	40.9	60.6	24.8	44.4	59.1
Gauteng	21.5	30.8	38.5	11.8	62.2	70.6
Mpumalanga	22.6	34.2	44.1	15.1	46.1	54.3
North. Province	25.8	45.4	58.1	26.4	33.2	45.1
By Age group:						
16-20	44.7	63.3	53.2	33.7	10.3	15.5
21-25	36.9	54.0	50.2	27.2	40.3	55.3
26-30	27.1	42.9	50.5	21.6	59.8	76.3
31-35	20.2	34.5	52.0	17.9	65.1	79.2
36-45	14.7	26.9	53.2	14.3	65.9	76.9
46-55	10.7	21.8	57.0	12.4	56.1	64.0
56-64	7.1	16.4	61.0	10.0	30.0	33.2

Source: Own Calculations from OHS 1997

Notes: (1) The area variable is slightly different from the common urban/rural and homeland/non-homeland distinction. The rural/urban areas have been reclassified into either former urban South Africa, former rural South Africa (which would constitute mainly white farming land), former urban homeland and "Self Governing Territory" (SGT) and former rural homeland and SGT. This area variable therefore captures distinctions in unemployment rates between former labour reserves and other areas of the country reserved for whites, as well as rural/urban differences within each of these regions. We collapse these distinctions later in our table of explanatory variables, since the proportion of urban former homelands out of the total former homeland area is small.

Table A2. Descriptive Statistics for Explanatory Variables – Average Characteristics

Working Age Population – OHS1997 Sample	EMPLOYED		SEARCHING UE		NON-SEARCHING UE		NON-LFP	
VARIABLES	Men	Women	Men	Women	Men	Women	Men	Women
INDIVIDUAL CHARACTERISTICS								
Age	37.70	37.04	31.18	31.12	31.85	32.02	27.81	33.46
African	0.64	0.64	0.85	0.86	0.92	0.93	0.83	0.79
Education								
- None & Primary	0.12	0.11	0.08	0.09	0.14	0.15	0.10	0.16
- Sr Primary	0.24	0.22	0.29	0.26	0.36	0.33	0.26	0.25
- Secondary	0.32	0.32	0.38	0.38	0.33	0.36	0.51	0.46
- Matric (Senior Certificate)	0.20	0.21	0.21	0.24	0.16	0.15	0.10	0.10
- Diploma/Cert.	0.09	0.11	0.03	0.03	0.01	0.01	0.02	0.02
- Tertiary	0.04	0.04	0.01	0.01	0.00	0.00	0.01	0.01
Never worked before	-	-	0.64	0.73	0.76	0.81	0.69	0.72
Household Head	0.71	0.28	0.27	0.16	0.24	0.19	0.20	0.19
HOUSEHOLD CHARACTERISTICS								
HH size	4.91	5.37	6.08	6.40	6.61	6.57	6.40	6.17
Per capita HH income from work	952.11	885.90	176.13	215.47	119.97	141.70	229.20	279.54
Per capita other HH income	11.97	15.61	31.00	22.42	36.15	24.86	38.03	35.01
Per capita remittances	2.84	5.58	9.01	10.33	11.57	15.04	14.37	16.07
Number of children<16 in HH	1.62	1.89	1.83	2.42	2.18	2.70	2.13	2.36
LM status of other HH members								
- employed	0.77	0.97	0.69	0.77	0.57	0.60	0.75	0.77
- searching unemployed	0.20	0.20	0.96	0.86	0.10	0.13	0.25	0.21
- non-searching unemployed	0.20	0.18	0.17	0.11	1.11	0.81	0.31	0.26
- non-labour force participants	1.00	0.98	1.15	1.01	1.31	1.06	1.68	1.35
Migrant members of HH	0.06	0.10	0.16	0.19	0.23	0.27	0.26	0.27
Access to telephones								
- landline	0.33	0.37	0.19	0.19	0.13	0.11	0.21	0.22
- cellular phone	0.12	0.11	0.04	0.04	0.03	0.02	0.05	0.06
REGIONAL/SPATIAL INDICATORS								
Area								
- Urban old RSA	0.62	0.63	0.55	0.56	0.37	0.36	0.44	0.42
- Rural old RSA	0.20	0.16	0.12	0.13	0.16	0.18	0.14	0.16
- Old homeland or Self Gov.Territory	0.18	0.21	0.33	0.31	0.47	0.45	0.43	0.42
MD unemployment rate (broad)	0.34	0.35	0.43	0.42	0.49	0.48	0.46	0.45
Number of observations	15441	11184	3277	4182	3252	5295	12769	22816

Notes: For those variables that take on a value of either 0 or 1 the figures in Table A2 indicate proportions: for example, the proportion of Africans in each labour market category or of men/women with a certain education level.

APPENDIX 2
Broad Unemployment Rates By Magisterial District - 1996

Broad Unemployment
Rates (%)

0-10
11-20
21-30
31-40
41-50
51-60
61-100

Source: Calculated from 1996 South African Census
T. Dinkelman & F. Pirouz, Sept 2000

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