Job search and the measurement of unemployment in South Africa

Dorrit Posel, Daniela Casale and Claire Vermaak

Abstract

We interrogate the distinction between searching and non-searching unemployment in South Africa using data from the first national panel survey that tracks the individual. In particular, we test whether the non-searching unemployed display a weaker commitment to the labour market than the searching unemployed; and we investigate what counts as search activity. We find that over the panel, the search status of the unemployed does not predict their subsequent employment status, a result which is robust also for sub-samples that vary by age cohort, gender and location. Moreover, social networks are the most important job-finding strategy of the employed. These findings challenge the exclusion of the non-searching unemployed from the measure of 'genuine' work-seekers.

Key words: Unemployment incidence; job search; employment transitions; South Africa
JEL classification: J64

An article based on this paper was published on the online forum *Econ3x3* in February 2013

The **Research Project on Employment, Income Distribution and Inclusive Growth** is based at SALDRU at the University of Cape Town and supported by the National Treasury. Views expressed in REDI3x3 Working Papers are those of the authors and are not to be attributed to any of these institutions.

Job search and the measurement of unemployment in South Africa

Dorrit Posel, Daniela Casale and Claire Vermaak[1]

(University of KwaZulu-Natal)

1. Introduction

In this study, we interrogate the distinction between searching and non-searching unemployment in South Africa, and thereby we evaluate the restriction of the official measure of unemployment to the searching unemployed. This restriction is justified if searching and non-searching unemployment are conceptually distinct states, and in particular, if the two groups of unemployed are behaviourally different, with non-searchers being less committed labour force participants. We revisit these grounds for excluding the non-searching unemployed from the official measure of unemployment in South Africa using household survey panel data, collected in the recent National Income Dynamics Study (NIDS).

The question of the appropriate measure of unemployment is particularly important to interrogate in the South African context. In countries with relatively low levels of unemployment, the inclusion of the non-searching unemployed increases the unemployment rate by only decimal percentage points (Suryadarma *et al*. 2007). However, this is not the case in South Africa, where from 2000 to 2012, the inclusion of the non-searching unemployed would raise an already high unemployment rate by an average of approximately ten percentage points.[2]

Although differences between searching and non-searching unemployment in South Africa have been explored in a number of studies (see particularly Kingdon & Knight 2004, 2006, 2007, as well as Dinkelman & Pirouz 2002; Ranchhod & Dinkelman 2008; Verick 2012), we contribute to this literature in several ways. First, earlier seminal research analysed cross-sectional data, and therefore tested for differences in labour market attachment among the unemployed by comparing their characteristics at a single point in time. In contrast, with panel data we can compare labour force commitment more directly, by testing whether the search status of the unemployed in one wave of the panel predicts their employment status in a subsequent wave. Second, the NIDS panel is also distinctive because, in contrast to other national household panels in South Africa which track dwelling places, NIDS tracks individuals. Our findings are therefore more robust to the effects of migration and the reorganisation of households.

Third, in contrast to earlier household surveys, NIDS also collects information on how those with wage employment found their job, including active methods of job search (such as

[1] Dorrit Posel is a professor in Development Studies at UKZN and holds an NRF/DST Chair in Economic Development; Daniela Casale is a senior research fellow in Development Studies and Claire Vermaak a lecturer in Economics. The authors thank anonymous reviewers for their helpful comments on earlier drafts of this paper.

[2] Based on own calculations from the bi-annual Labour Force Survey of 2000-2007, and Statistics South Africa estimates from the Quarterly Labour Force Survey of 2008-2012 (Stats SA, 2013).

"through an employment agency" and "I went to a factory and waited for a job") and passive job search ("a household member told me about the job" or "a friend/relative (in a different household) told me about the job"). This makes it possible to investigate the extent to which the unemployed in one period access employment in a subsequent period through passive job search methods, and whether successful job-finding strategies differ by the search status of the unemployed. Fourth, with the data collected in NIDS, we are also able to compare the employment expectations of the unemployed by search status, and thereby test whether the non-searching unemployed display signs of being discouraged work-seekers.

In the next section, we briefly review the measurement of unemployment, particularly in the South African context, and in section 3, we describe the data that are used in this study. Section 4 compares the average characteristics of the non-searching unemployed with the searching unemployed and the not economically active. In section 5, we examine the role of search status in predicting employment outcomes over the panel and we test the robustness of our findings for different sub-samples and regression specifications. Section 6 describes the method by which the employed accessed information about their current employment, and compares job-finding methods among those who had been unemployed (searching or non-searching) and not economically active at the start of the panel. The final section summarises the key findings of the study and considers the implications for the measurement of unemployment in South Africa.

2. The measurement of unemployment

The appropriate definition of unemployment has long been debated (cf. Mincer 1973; Buss & Redburn 1988; Jones & Riddell 1999; Benati 2001; Brandolini *et al.* 2006). When measured using micro-data collected in household surveys, the unemployed include individuals who report that they are not working but that they want, and are available, to work. However a key issue is whether this group should then be restricted to those individuals who report also searching for work in some period prior to the survey. If the unemployed include only those who engaged in job search, then two related questions are how recent this search activity should have been undertaken, and what counts as searching for employment?

At the heart of the debate over the exclusion of non-searchers from the measure of unemployment is why people, who say that they want to work, are not also searching for work? Three possible explanations include first, that individuals are misreporting their employment intentions: individuals who are not searching for work, or not searching actively over a certain period, have a low level of commitment to being employed or have a 'taste for unemployment' (Kingdon & Knight 2006). Second, individuals may cease job search, or search far less intensively, if the costs of searching are too high relative to the likely benefits – that is, they become discouraged. Third, individuals may be searching for work, but not in ways that are identified in survey questions about job search activity.

Following the general guidelines set out by the International Labour Office (ILO)[3], many national statistical agencies exclude the non-searching unemployed from the official definition of unemployment (Brandolini *et al.* 2006). The ILO definition of the labour force is based on the activity principle, in which a person's activities during a reference period are used to define labour force status. The stated motivation for this principle is a practical one: "to make labour force measurement as objective as possible" and to avoid subjectivity and interviewer or respondent bias (Hussmanns *et al.* 1990: 38). However, the ILO also recommends that the inclusion of the non-searching unemployed should be considered depending on the adequacy of a country's labour absorption, the previous work experience of the non-searching unemployed, and on how the labour force attachment of the non-searchers compares to the not economically active and the searching unemployed (Hussmanns *et al.* 1990; Suryadarma *et al.* 2007).

From 1998, the official statistical agency of South Africa (Statistics South Africa, or Stats SA) adopted the international standard definition (also referred to as the strict or narrow measure) of unemployment as the "official" measure for South Africa, requiring the unemployed to have "taken active steps to look for work or to start some form of self-employment" (Stats SA 1998: 1). In explaining the preference for the strict unemployment rate over the broad rate (which would include the non-searching unemployed), Stats SA cites both the desire for international comparability and measurement issues. In particular, the broad or expanded unemployment rate is argued to "introduce more subjectivity into the measure of the unemployment rate, and instability in tracking trends, as it is more difficult to distinguish what constitutes 'wanting' a job than to say whether someone has engaged in definite actions to find one" (Stats SA 1998:63). The implication is that by not searching for work, individuals fail to signal that they are committed labour force participants or that they have strong work aspirations.

However, a low probability of finding employment, together with high rates of poverty and the economic marginalisation of rural areas in South Africa, warn against conflating work aspirations and job search. For example, given resource constraints, job-seekers may not search actively or intensively for work, and they may rely rather on social networks to provide information about when an employment opportunity becomes available (Kingdon & Knight, 2006; Schöer & Leibbrandt, 2006). The grounds for excluding the non-searching unemployed from the measure of unemployment in South Africa therefore need to be carefully assessed.[4]

A number of studies have subsequently interrogated whether assumptions about the labour force attachment of the non-searching unemployed are supported empirically (see Kingdon & Knight 2004, 2006). With only cross-sectional national data available, however, this research compared the characteristics of the unemployed at one point in time, and studies could not

[3] These guidelines were established at the Thirteenth International Conference of Labour Statisticians, held in 1982 (Hussmanns *et al.* 1990).

[4] In the same report in which Stats SA motivates the adoption of the strict rate of unemployment as the official rate, Stats SA also acknowledges the existence in South Africa of various labour market conditions, such as a lack of labour absorption, that make an expanded or "broad" definition, which includes the non-searching unemployed, appropriate (Stats SA 1998: 63).

examine whether transitions into employment or inactivity differed according to search status of the unemployed. Later work compared the labour market behaviour of the unemployed using South African panel data (Ranchhod & Dinkelman 2008; Verick 2012). This research points to considerable churning between the searching and non-searching unemployment states (Ranchhod & Dinkelman 2008); and, consistent with the discouraged worker hypothesis, an increase in the odds of non-searching unemployment during the economic contraction in South Africa between 2008 and 2010 (Verick 2012).

The panel data analysed in these later studies are derived from a rotating panel of dwelling places, so that individuals who move dwelling places are lost from the panel. If the searching or non-searching unemployed are more likely than the employed to change their place of residence and attrite from the panel (for example because they gain access to employment by migrating from their household), then the sample is likely to underestimate transitions from searching or non-searching unemployment into employment.

In this paper, we analyse data from the first national panel survey that tracks the individual, and which is therefore sensitive to these migration effects. We also provide a more direct test of the labour force attachment of the unemployed than has been considered in previous studies for South Africa. In particular, we estimate whether the initial search status of the unemployed predicts their subsequent employment. In so doing, we evaluate whether, following the ILO's recommendations (Hussmanns *et al.* 1990), there are good grounds for excluding the non-searching unemployed from the official measure of unemployment.

3. Data and definitions

The data for the study come from the first two waves of the National Income Dynamics Study (NIDS), conducted by the Southern Africa Labour and Development Research Unit (SALDRU) in 2008 and 2010/2011. Wave 1 collected information on approximately 28 000 individuals (living in 7 300 households) and Wave 2 successfully re-interviewed just over 22 000 of these individuals (or 78 percent of the original sample).

In NIDS the unemployed are identified as those who said they would have liked to work for pay, profit or family gain in the four weeks prior to the survey. Search status is then determined by whether the individual reported having engaged in at least one of a number of activities either to search for work or to start a business over that same period.[5] In 2008, 74 percent of the unemployed had engaged in at least one of the activities detailed in Table 1. Enquiring at various workplaces (36.5 percent), seeking assistance from friends and relatives (28.6 percent), and answering advertisements (21.2 percent) were the three most popular job search strategies. However, more than a quarter (or 1.3 million individuals aged 18 to 59 when weighted) reported not undertaking any of the activities identified to search for work.

[5] The four-week search period criterion is also adopted in most OECD countries and in the United States (Brandolini *et al.* 2006).

Including these non-searchers in the measure of unemployment would increase the unemployment rate by eight percentage points, from 23 percent to 31 percent.

Table 1: Job search activity among the unemployed, 2008

Job search activity	%
Registered at an employment agency	14.69
	(1.18)
Enquired at workplaces, farms, factories, or called on other possible employers	36.54
	(1.62)
Placed advertisement(s)	11.04
	(0.99)
Answered advertisements	21.15
	(1.52)
Searched through job advertisement(s) on the internet	8.27
	(1.15)
Sought assistance from relatives or friends	28.59
	(1.51)
Looked for land, building, equipment or applied for permit to start own business	5.66
	(0.99)
Waited at the side of the road	8.70
	(0.90)
Sought financial assistance to start a business	0.98
	(0.28)
Other	1.40
	(0.38)
Nothing	26.02
	(1.19)
N	2667

Source: NIDS 2008
Notes: The data are weighted. The sample consists of the unemployed aged 18 to 59. Percentages do not add up to 100 because multiple response options were allowed.

The definition of job search in the NIDS question is relatively broad, and it includes activities that in some countries might be considered passive job search.[6] In the United States, for example, looking at job advertisements is classified as a passive method of job search (Jones & Riddell 1999). Nonetheless, it is possible that certain job-finding methods are not identified in the question. One likely omission, particularly in the context of high unemployment rates and limited resources for job search, concerns the role of social networks. Although social networks are included as a response option, this is phrased in the active voice - individuals have "*sought assistance* from relatives or friends" (own emphasis). Consequently, the more passive act of waiting for a friend, relative or previous employer to contact the person about a job might not be captured.

[6] The question on search activity in NIDS includes the same response options as those in the official labour market surveys conducted by Statistics South since 2008 (the Quarterly Labour Force Surveys).

4. Descriptive statistics

Table 2 reports the average characteristics of the unemployed, according to whether they reported searching for employment in the four weeks prior to the survey. For comparison purposes, the table also describes the average characteristics of the not economically active (adults who were not working and not wanting to work). The samples consist of individuals aged 18 to 57 years in Wave 1 who were successfully interviewed in both waves of the panel.[7]

The descriptive statistics suggest that the characteristics which distinguish the non-searching from the searching unemployed are related to the costs and expected benefits of job search. In comparison to the searching unemployed, a larger proportion of the non-searching unemployed in 2008 were female, living in a rural tribal area, in households with children, particularly very young children, and experienced difficulty performing certain daily activities. The constraints imposed by childcare responsibilities, ill health and living further away from areas of employment would raise the costs of job search. Analogously, lower levels of education and a longer duration of unemployment (larger proportions of the non-searching unemployed had not completed secondary education and had been unemployed for five years or more) would lower the expected benefits of searching for work. However, only education and tribal location are significantly different by search status.

In NIDS, all the unemployed are also asked whether they think there is a realistic possibility that they will get a job in the next month, six months, year, or two years. Table 2 shows that the non-searching unemployed clearly had lower expectations regarding their employment prospects than the searching employed. In comparison to the searchers, the non-searchers were significantly less likely to expect employment within the next month (10 percent compared to 22 percent), and significantly more likely to expect their unemployment to continue beyond two years (44 percent compared to 26 percent). Lower employment expectations among the non-searching unemployed would support the argument that non-search is associated with discouragement rather than weak labour force attachment. The non-searchers also do not live in households that are better off, discounting the alternative hypothesis that non-searchers have a 'taste for unemployment' (Kingdon & Knight 2006). While there is a concern with the direction of causality for the above-mentioned variables, these results are at the least consistent with a discouraged worker effect.

There are very few significant differences in the average characteristics of the non-searching unemployed and the not economically active. However, one particularly stark difference concerns previous work experience: almost 40 percent of the non-searching unemployed reported having worked before, compared to only 16 percent of the not economically active. In contrast, previous work experience does not differ among the unemployed by their search status.[8] In a similar vein, searchers and non-searchers live in households with far lower per capita

[7] We chose this upper age range so that we are able to use a balanced sample of working-age individuals when we explore employment transitions two years later (by 2010 the pension had been equalised for men and women at 60 years of age).

[8] Information on duration of unemployment and employment expectations was not collected for the not economically active.

income than the not economically active (suggesting that both groups are less able to afford being out of the labour force). These comparisons imply that regardless of whether they are searching for work, the unemployed have a different attachment to the labour market than those who report not wanting to work.

Table 2: Characteristics of the searching unemployed, the non-searching unemployed and the not economically active (NEA), 2008

	Searching unemployed	**Non-searching unemployed**	**NEA**
Female	0.687	0.741	0.680
	(0.019)	(0.030)	(0.015)
No schooling	0.035	0.062	0.084
	(0.007)	(0.010)	(0.008)
Grade 1 to grade 7	0.141*	0.205	0.209
	(0.013)	(0.024)	(0.012)
Grade 8 to grade 11	0.451	0.502	0.514
	(0.021)	(0.031)	(0.017)
Matric	0.254**	0.168	0.145
	(0.018)	(0.024)	(0.013)
Diploma/degree	0.119*	0.062	0.047
	(0.014)	(0.019)	(0.011)
Difficulty in daily activities	0.157	0.217	0.272
	(0.017)	(0.026)	(0.015)
Presence of very young children	0.393	0.461	0.355**
	(0.020)	(0.031)	(0.015)
Presence of young children	0.455	0.500	0.413*
	(0.021)	(0.031)	(0.016)
Urban formal	0.424	0.402	0.397
	(0.021)	(0.032)	(0.017)
Urban informal	0.199	0.128	0.093
	(0.021)	(0.026)	(0.012)
Rural formal	0.055	0.062	0.065
	(0.009)	(0.011)	(0.008)
Rural tribal	0.322*	0.408	0.445
	(0.018)	(0.029)	(0.016)
Previous work experience	0.387	0.400	0.171**
	(0.021)	(0.031)	(0.014)
Unemployed < 1 year	0.218	0.207	
	(0.019)	(0.026)	
Unemployed 1-4 years	0.408	0.368	
	(0.021)	(0.030)	
Unemployed 5 years or more	0.330	0.375	
	(0.019)	(0.030)	
Expect a job in 1 month	0.215**	0.103	
	(0.018)	(0.022)	
Expect job not in 2 years	0.259**	0.435	
	(0.017)	(0.030)	
Per capita household income	708.90	659.54	1151.44*
	(45.14)	(88.81)	(170.99)
N (unweighted)	1157	560	2020

Source: NIDS 2008 and 2010/2011.

Notes: Standard errors in parentheses. The data are weighted. The samples consist of unemployed or not economically active adults aged 18 to 57 in Wave 1. Although not shown here, the three samples do not differ significantly by age, race or marital status, or in the expectations of employment in the next six months, year, or two years. The reference group for comparisons of means or proportions is the non-searching unemployed. ** $p<0.05$ * $p<0.10$

5. Employment transitions among the unemployed

We further explore differences in the labour market attachment among the unemployed by exploiting the panel nature of the NIDS data. In particular, we test whether the searching unemployed in Wave 1 are more likely than the non-searching unemployed to transition into employment in Wave 2.

There are two possible concerns that may compromise this analysis of employment transitions. First, although NIDS tracked individuals, bias might still result if there was non-random attrition from the panel by the search status of the unemployed. In Wave 2, 78 percent of the sample from Wave 1 was successfully re-interviewed.[9] To reduce the effects of attrition over the waves, we use the panel weights provided with the NIDS dataset, which measure the probability of being re-interviewed in Wave 2, given the Wave 1 characteristics of the individual (Brown *et al.* 2012). If this correction fails to control adequately for non-random attrition by search status then our results may still be biased. However, we do not find evidence of non-random attrition from the panel by the search status of the unemployed. We use logit regressions to estimate the likelihood that individuals who appeared in Wave 1 of NIDS did not also appear in Wave 2. These regressions, shown in Appendix Table A.1, indicate that there are no significant differences in attrition between the searching and non-searching unemployed, or between the unemployed and the not economically active.[10]

The second concern pertains to the labour force classifications of the non-employed in Wave 2 of the NIDS panel. In analysing employment transitions, we initially identified four labour market states: not economically active; unemployed but not searching for work; searching unemployed; and employed. However, the NIDS data show large outflows, from both the searching and non-searching unemployed states in Wave 1, into the not economically active state in Wave 2. The level of employment falls across the waves by approximately one million jobs (or by 4.1 percentage points)[11], which is consistent with findings from the Quarterly Labour Force Survey (QLFS) over this recession period (Verick 2012), and which suggests that the employment classification in Wave 2 is largely robust.[12] However, the sizeable increase in the number of adults who are not economically active results in both the narrow and broad rates of unemployment falling substantially between waves. Stats SA statistics over this period do not show a similar decline, and there are concerns that fieldwork errors may

[9] This attrition rate falls within the range found across seven household panels in developing countries, where the average attrition rate ranged from six to fifty percent (Alderman *et al.* 2001). The causes and likely consequences of attrition between the first two waves of NIDS are explored in detail by Baigrie and Eyal (2013).

[10] Attrition bias could also arise if the likelihood of finding employment among the attritors is correlated with search status of the unemployed, but it is not possible to test for this.

[11] This estimate is obtained by comparing the two waves at a cross-sectional level. Using the waves as a panel, and after accounting for attrition by applying the panel weights, 720 000 fewer individuals aged 18 to 59 are employed in Wave 2 than in Wave 1.

[12] While the overall decline is consistent with what would be expected over this period, there are concerns with the classification of employment categories (Cichello *et al.* 2012). In particular, far fewer of the employed were captured as subsistence farmers in 2010/11 (1.3 percent of the employed aged 15 to 65 compared to 6.5 percent in 2008). However, the key finding that we present in this section, that search status does not predict employment, remains robust when subsistence farmers are not classified as employed.

have resulted in the misclassification of some individuals among the searching, non-searching and not economically active categories (Cichello *et al.* 2012).

The transitions between the four labour market states from Wave 1 to Wave 2 are shown in Table 3. At a descriptive level, the transition matrix does not suggest very large differences in the likelihood of entering any one of the four states between the searching and the non-searching unemployed (none of the differences is significant).[13] There is also very low persistence in both searching and non-searching unemployment, a finding which is broadly consistent with what Verick (2012: 402) identifies in his transition analysis using the rotating panel from the QLFS from 2008 and 2009 (see also Ranchhod & Dinkelman 2008). It is to be expected that a greater degree of churning among labour market states would be evident in NIDS than in the QLFS, as a result of the longer period between waves. However, given the concerns over the quality of the non-employment data in Wave 2, the transitions out of the labour force displayed in Table 3 are likely to be overestimated.

Table 3. Transition matrix of employment status between W1 and W2 (percentages)

	Wave 2 employment status				
Wave 1 employment status	NEA	Non-searching	Searching	Employed	Total
NEA	**59.4**	5.58	14.95	20.07	100
Non-searching	44.04	**10.09**	18.59	27.28	100
Searching	39.37	6.36	**21.51**	32.76	100
Employed	18.92	3.32	7.063	**70.69**	100
Total	34.82	4.87	12.41	47.9	100

Source: NIDS 2008 and 2010/11

Notes: The data are weighted using the panel weights that account for attrition. Sample includes those aged 18 to 57 in Wave 1 who were successfully re-interviewed in Wave 2. The percentages in bold represent persistence in employment status across the two waves.

In light of possible errors in the classification of non-employment status in Wave 2, we further explore transitions into employment in a multivariate context using a logit model rather than a multinomial logit. The dependent variable indicates whether the individual was employed in Wave 2 compared to being in one of the three non-employment states. The sample is all adults who were unemployed and aged 18 to 57 years in Wave 1 (20 to 59 years in Wave 2) and who appear in both waves. Our key variable of interest is the Wave 1 search status of the unemployed, as our objective is to test whether the searching unemployed have a different attachment to the labour market, and hence are more likely to transition into employment, compared to the non-searching unemployed. We include controls for gender and race, which are unchanged between the waves. For the other explanatory variables, we use their Wave 1 values to help address possible endogeneity in these variables.

[13] When we disaggregate the transition matrix further by type of employment in Wave 2 (regular, self-employment, casual, subsistence and unpaid help in a family business), we also find no significant differences according to search status of the unemployed in Wave 1. In other words, the searching unemployed were no more or less likely than those not searching, to transition into regular work or any of the other type of employment.

In Table 4, we report the results for three regressions which estimate the employment status in Wave 2 of working-age adults who were unemployed in Wave 1 (odds ratios are displayed). The first specification (Regression I) contains a comprehensive set of controls, including the individual's expectations about finding employment. However, because of concerns with collinearity, particularly between search status, expectations and the other explanatory variables, we also report the results for two other specifications - one which includes a far more reduced set of controls consisting of basic demographic characteristics (Regression II), and one which includes all the variables except for those on employment expectations (Regression III).

In none of the specifications is search status in the first wave a significant predictor of finding employment in the second wave: among those who were unemployed in Wave 1, the searching are no more likely than the non-searching to be employed in Wave 2. The size of the effect, while positive, is also very small. The odds ratio for search status is 1.098 in Regression III (i.e. the odds of being employed for searchers are just under 10 percent higher than for non-searchers), whereas the odds ratios for those with a degree or diploma and with previous work experience are 2.333 and 1.418 respectively. Indeed, the key determinants of transitioning into employment seem to reflect the individual's human capital: the likelihood of employment is higher among those with tertiary education and work experience[14], but lower among those with a longer duration of unemployment.

In addition, women and those living with young children aged 4 to 8 years were less likely to be working in Wave 2, with odds ratios of 0.559 and 0.728 respectively. These findings are robust across the different specifications.

In the full specification (Regression I), employment expectations do not independently predict employment status. Among the unemployed in Wave 1, those who reported positive employment expectations were no more likely than others to be employed in Wave 2. In model III, when we exclude expectations from the full specification due to the possibility that they are collinear with other labour market characteristics, there are no significant changes to the results.

[14] Some of those who were unemployed in both Waves 1 and 2 might have worked in the intervening period. The data from Wave 2 suggest the numbers are likely to be negligible, however. Over 90 percent of the unemployed in both waves said they had never worked before in response to this question in Wave 2, and of those who had, the majority (64%) reported that more than a year had lapsed since they last worked. (Unfortunately the response categories do not correspond to the lag between the waves, but the numbers are so small in any case).

Table 4. Logit regressions on Wave 2 employment status among the Wave 1 unemployed; odds ratios displayed

Dependent variable = 1 if employed in Wave 2; = 0 if not employed	I	II	III
Searching unemployed in Wave 1	1.096	1.110	1.098
	(0.201)	(0.198)	(0.195)
Expect a job in 1 month	0.985		
	(0.232)		
Expect a job in 2 months	1.117		
	(0.233)		
Expect a job in 1 year	1.065		
	(0.230)		
Expect a job in 2 years	1.159		
	(0.321)		
Female	0.556***	0.525***	0.559***
	(0.093)	(0.086)	(0.094)
Age	1.119*	1.096	1.116*
	(0.070)	(0.066)	(0.071)
Age2	0.847*	0.871	0.850*
	(0.076)	(0.076)	(0.076)
Grade 8 to grade 11	1.076	1.127	1.087
	(0.225)	(0.235)	(0.227)
Matric	1.218	1.311	1.226
	(0.294)	(0.317)	(0.295)
Diploma/degree	2.315***	2.537***	2.333***
	(0.722)	(0.791)	(0.734)
Urban formal	1.331	1.414**	1.309
	(0.231)	(0.242)	(0.227)
Urban informal	1.492*	1.611**	1.477
	(0.360)	(0.384)	(0.356)
Rural formal	1.453	1.589	1.467
	(0.427)	(0.454)	(0.427)
Work experience	1.431**		1.418**
	(0.245)		(0.240)
Unemployed 1-4 years	0.918		0.917
	(0.177)		(0.176)
Unemployed 5 years or more	0.647*		0.643*
	(0.147)		(0.145)
Presence of very young children	1.041		1.042
	(0.162)		(0.162)
Presence of young children	0.728**		0.728**
	(0.112)		(0.111)
N	1896	1896	1896

Source: NIDS 2008 and 2010/2011.

Notes: Standard errors are in parentheses. The sample consists of the unemployed aged 18 to 57 in Wave 1. Although not shown here, all three regressions also controlled for the race and marital status of individuals. Specifications I and III also controlled for whether individuals experienced difficulty in performing daily activities, whether they lived in a household with other unemployed members and with older children, and the district unemployment rate. None of these variables had a significant effect on employment. The data are weighted using the panel weights that account for attrition. *** p<0.01 ** p<0.05 * p<0.10.

We test the robustness of our key finding - that the search status of the unemployed is not a significant predictor of finding employment - in a number of different ways.[15] First, we estimate the regressions separately by sub-group to explore whether certain groups are more likely to find work than others if they were searching for work in Wave 1. We disaggregate the sample into youth (24 years and younger) and non-youth (25 to 50 years) cohorts, men and women, and those living in urban and rural areas in Wave 1. While there are some differences across the other variables, we do not find significant or higher employment probabilities among the searching unemployed for any of the subgroups we examined.

Second, we investigate whether the likelihood of finding employment differed by the type of search activity undertaken by the unemployed in Wave 1. We include the ten search activities described in Table 2 as dummy variables in Regression III (with the not searching unemployed as the omitted category), and find that only those who answered advertisements were more likely to be employed in Wave 2 than the non-searching unemployed at the 5 percent level of significance (with an odds ratio of 1.672). The other results remain much the same, except that the odds ratio for tertiary education falls from 2.333 to 1.997 and for prior work experience from 1.418 to 1.375. As we might expect, this suggests that the type of search activity an individual engages in is correlated with their human capital attributes.

Third, although a logit model is more appropriate to estimate labour market outcomes given concerns with the Wave 2 non-employment data, we also tested whether our key finding persists in a multinomial logit regression. The results are presented in Appendix Table A.2. The results need to be treated with some caution, but it is interesting to observe that search status in Wave 1 is not a significant predictor of being in any of the three labour market states in Wave 2, compared to being out of the labour force. Consistent with the findings from the logit regressions, the likelihood of moving into employment relative to inactivity increases with the individual's human capital (age, tertiary education and work experience all have positive and significant effects), while women and those with young children are less likely to be working in Wave 2. The unemployed who were living in urban areas in 2008 are also more likely to be in employment in 2010 rather than being out of the labour force. In contrast, few of the variables in our model are useful in distinguishing transitions into searching and non-searching unemployment, relative to inactivity.

In a further analysis of employment transitions, we also consider the impact on our results of using the NIDS panel which tracks individuals, rather than the Quarterly Labour Force Survey (QLFS) which is a rotating panel of dwelling units. Unlike the NIDS panel, the QLFS does not capture individuals who are not living in the same dwelling in subsequent waves. We therefore reran Regression III from Table 4 above, excluding the movers, i.e. those who reported in Wave 2 that they had not been living in the same dwelling in Wave 1. In so doing, we lose a not insubstantial portion of our regression sample (11 percent of 1896 observations). The results, displayed in Appendix Table A.3, show that search status in Wave 1 is still

[15] Not all the regressions discussed in the remainder of this section could be shown here due to space constraints; these are available from the authors.

not a significant predictor of employment in Wave 2. However a number of the other variables in the estimation lose significance and strength. For example, we find that the effect of tertiary education on the likelihood of finding employment is now considerably smaller and only marginally significant, suggesting that among the more educated, those who move are the most likely to find a job. Another noteworthy change is that the relationship between employment likelihood and living in a formal rural area in 2008 compared to a tribal area is now significant, indicating that people in a formal rural area, who were least likely to find work, were also more likely to move dwelling. However, even in cases where the movers have identical characteristics to the non-movers, they may experience different outcomes if they are differently affected by random luck. Thus, while the key finding in our paper does not change substantively when the movers are excluded, bias may be imposed in other studies that use datasets that do not track individuals, even if inverse probability weighting or other methods are used to correct for attrition.

The main finding from the panel analysis therefore remains robust to a range of tests: there is no evidence that employment transitions among the unemployed differ significantly by the search status of the unemployed. This finding is not consistent with the argument that searching and non-searching unemployment are distinct states and that by not searching for work, the unemployed signal a lower level of commitment to the labour force. Rather, the large degree of fluidity in whether or not the unemployed report searching for work, identified over a similar period by Verick (2012) using an alternative data source, may be one explanation for why search status does not predict employment status. A further explanation, which we explore in the next section, is that individuals find employment through passive search methods, which are not recorded as search activity in the survey.

6. Job-finding strategies of the employed

In NIDS, all those individuals who reported having wage employment are asked how they found out about their job. The response options, detailed in Table 5, largely mirror those provided to identify the job search activity of the unemployed. However, an important difference concerns how social networks are identified. Whereas the job search question requires individuals actively to have sought assistance from friends or relatives, the response options for the job-finding question are framed in the passive voice: "A household member *told me* about the job" or "A friend/relative … *told me* about the job".

Table 5 compares the job-finding strategies of the wage employed in Wave 2 of the panel. We consider four samples. The first sample, in column one, represents all those (aged 18 to 59 in Wave 2) who had wage employment in Wave 2. The remaining columns are restricted to those who had wage employment in Wave 2 but who were either searching unemployed, non-searching unemployed or not economically active in Wave 1.

Table 5. Job finding strategy of the wage-employed (Wave 2)

	All (regardless of labour force status in Wave 1)	Searching unemployed in Wave 1	Non-searching unemployed in Wave 1	NEA in Wave 1
Advert in newspaper/internet	18.43	7.02	6.31	11.39
	(1.15)	(1.57)	(3.38)	(2.63)
Advert on notice board e.g. in shopping centre	5.00	4.10	12.33	6.06
	(0.59)	(1.48)	(5.16)	(2.24)
Household member told me about the job	3.81	3.45	5.69	3.75
	(0.43)	(1.13)	(2.13)	(1.12)
A friend/relative (in a different household) told me	43.51	51.50	54.50	52.30
	(1.46)	(4.49)	(7.71)	(4.53)
Went to a factory and waited for a job	7.52	11.73	8.11	7.49
	(0.75)	(3.45)	(5.45)	(2.60)
Knocked on factory gates, visited shops and homes	6.00	6.25	2.76	5.71
	(0.64)	(1.67)	(1.55)	(2.01)
Through an employment agency	6.60	5.17	2.78	1.50
	(0.88)	(2.51)	(2.21)	(1.00)
Asked someone who had employed me before	6.28	5.63	6.66	8.31
	(0.66)	(1.60)	(3.47)	(2.44)
Waited on the side of the road	2.36	3.39	0.86	3.50
	(0.40)	(1.84)	(0.62)	(1.30)
Other	0.49	1.75	0.00	0.00
	(0.19)	(1.14)	(0.00)	(0.00)
N	2618	257	100	257

Notes: The data are weighted using the panel weights that account for attrition. Standard errors are in parentheses. The full sample includes those aged 18 to 57 in 2008, who had wage employment in Wave 2 of NIDS; and the three sub-samples are restricted to those who also reported being unemployed or NEA in Wave 1.

Among all those with wage employment in Wave 2, the modal job-finding strategy, accounting for 44 percent of responses, is a "friend or relative (in a different household) told me about the job". A further four percent of the employed reported that they found out about their employment from a member of their own household. Social networks therefore are the single most important job-finding method of the employed. However, this method may include the more passive 'waiting' to be told about a job, and therefore may not be reflected in the job search responses of the unemployed.

Among the employed who had been unemployed or not economically active in Wave 1 of the panel, social networks accounted for over half of all job-finding responses. The percentage was even higher among those identified as non-searching in Wave 1, with more than 60 percent reporting that they found out about their jobs from friends, relatives or household members (compared to 55 percent of the searching unemployed and 56 percent of the not economically active). This difference would be consistent with a greater reliance on passive job search among the non-searching unemployed, although given small sample sizes, the differences between the sub-samples are not statistically significant (and not for any of other the job-finding methods).

7. Conclusion

In this study we revisit the debate on whether the non-searching unemployed should be recognised in the official rate of unemployment in South Africa. We do this using new data on employment transitions and job search strategies from a recently released national panel survey that tracks individuals. Our findings suggest that the non-searching unemployed form a legitimate part of the labour force, and therefore should be included in both academic and policy discussions about the extent and causes of South Africa's persistent unemployment problem, as well as the potential responses.

First, the descriptive findings suggest that regardless of whether they engaged in active job search, the unemployed have a different attachment to the labour market than those who report not wanting to work. In particular, both groups of unemployed are far more likely to report having previous work experience, and to live in poorer households, than those classified as not economically active. Moreover, a descriptive comparison of the searching and non-searching unemployed suggests that the characteristics distinguishing the non-searchers from the searchers are related to the costs and expected benefits of job search, and that the non-searching unemployed have lower employment expectations, which would be consistent with non-searchers being discouraged from actively searching for employment.

Second, a key finding of the study is that initial search status is not a significant predictor of subsequent employment: the non-searching unemployed are no less likely to obtain employment than the searching unemployed. This finding is robust for different sub-samples of the unemployed and for different methods of job search (with the exception of responding to advertisements), and casts doubt on the premise that search status reflects the individual's labour market commitment or success. This may be partly due to a large degree of movement between the searching and non-searching states over time. But it may also be related to our third finding, that the modal job-finding strategy among the unemployed is through social networks: many of the unemployed wait for relatives, friends or employers to contact them about work, a legitimate search strategy in the context of persistent long-term unemployment and high job search costs in South Africa. If these individuals are classified as non-searching because this strategy is not recognised in the definition of search behaviour, then the distinction between the searching and non-searching unemployed becomes even less meaningful.

A distinguishing characteristic of the South African panel we use in this study is that it tracked individuals rather than dwelling units and the panel sample therefore includes individuals who moved place. We also considered the implications of this panel design for our key finding, by re-estimating the predictors of entry into employment for the restricted sample of individuals who did not move across the waves. We found that although search status remains an insignificant predictor of employment for the reduced panel based on dwelling units, a number of correlates of entry into employment differ from estimations based on the full sample of tracked individuals. This finding suggests that individuals who move across waves are a non-random sample of labour force participants, and it highlights the need for further research on how tracking individuals informs our understanding of labour market dynamics in South Africa.

* * *

Appendix

Table A.1. The likelihood of attrition between Waves 1 and 2, logit coefficients displayed

	Regression I	Regression II	Regression III
Employed	0.366***	0.226***	0.151**
	(0.057)	(0.065)	(0.068)
Searching unemployed	0.044	0.021	-0.008
	(0.078)	(0.081)	(0.083)
Non-searching unemployed	-0.050	-0.044	0.005
	(0.101)	(0.104)	(0.107)
Female		-0.340***	-0.240***
		(0.050)	(0.052)
African		-1.774***	-1.375***
		(0.101)	(0.110)
Indian		-0.694***	-0.323
		(0.196)	(0.207)
Coloured		-1.209***	-1.196***
		(0.112)	(0.119)
Married		-0.130**	-0.077
		(0.063)	(0.064)
Age		0.003	0.005
		(0.017)	(0.017)
Age^2		-0.040*	-0.049**
		(0.023)	(0.023)
Grade 8 to grade 11		-0.244***	-0.309***
		(0.066)	(0.068)
Matric		-0.098	-0.220***
		(0.078)	(0.082)
Diploma/degree		-0.041	-0.148
		(0.090)	(0.094)
Urban formal			0.303***
			(0.077)
Urban informal			0.234**
			(0.110)
Rural formal			0.223**
			(0.094)
Eastern Cape			-0.061
			(0.109)
Northern Cape			-0.333***
			(0.107)
Free State			-0.476***
			(0.132)
KwaZulu-Natal			-0.612***
			(0.110)
North West			-0.463***
			(0.126)
Gauteng			-0.173*
			(0.105)
Mpumalanga			-0.834***
			(0.134)
Limpopo			-0.540***
			(0.132)
Presence of very young children			-0.160***
			(0.056)
Presence of young children			-0.271***
			(0.056)
Presence of older children			-0.398***
			(0.054)
Constant	-1.445***	0.922***	1.170***
	(0.046)	(0.291)	(0.309)
N	10 509	10 461	10 461

Source: NIDS 2008 and 2010/2011.
Notes: Standard errors are in parentheses. The sample consists of those aged 18 to 57 in Wave 1. *** p<0.01 ** p<0.05 * p<0.10.

Table A.2. Multinomial logit of Wave 2 labour market status among the Wave 1 unemployed, relative risk ratios displayed

	Wave 2 status		
Reference category: NEA	Non-searching	Searching	Employed
Searching unemployed in Wave 1	0.672	1.196	1.100
	(0.175)	(0.245)	(0.205)
Female	1.345	0.901	0.559***
	(0.477)	(0.191)	(0.104)
African	2.087	5.616	1.832
	(2.263)	(6.623)	(1.459)
Indian	24.471**	2.618	4.946
	(36.473)	(3.934)	(5.811)
Coloured	2.319	5.524	1.985
	(2.670)	(6.930)	(1.713)
Married	1.172	0.551**	0.799
	(0.404)	(0.130)	(0.186)
Age	1.041	1.161**	1.157**
	(0.099)	(0.080)	(0.077)
Age2	0.881	0.773***	0.794**
	(0.116)	(0.076)	(0.074)
Grade 8 to grade 11	0.620	0.880	0.998
	(0.217)	(0.219)	(0.220)
Matric	0.546	0.876	1.109
	(0.238)	(0.255)	(0.286)
Diploma/degree	1.350	1.580	2.956***
	(0.670)	(0.657)	(1.000)
Urban formal	0.925	1.163	1.377*
	(0.266)	(0.247)	(0.261)
Urban informal	1.893	1.431	1.825**
	(0.783)	(0.438)	(0.514)
Rural formal	0.227**	0.711	1.189
	(0.159)	(0.273)	(0.363)
District unemployment rate	0.393	3.174	1.145
	(0.438)	(2.480)	(0.794)
Work experience	1.134	1.174	1.529**
	(0.353)	(0.242)	(0.282)
Unemployed 1-4 years	1.060	1.149	0.972
	(0.406)	(0.298)	(0.207)
Unemployed 5 years or more	1.454	1.170	0.711
	(0.642)	(0.337)	(0.178)
Other household member employed	0.630*	0.787	0.790
	(0.166)	(0.148)	(0.134)
Presence of very young children	1.047	0.856	0.999
	(0.288)	(0.159)	(0.170)
Presence of young children	0.714	1.077	0.722*
	(0.188)	(0.196)	(0.121)
Presence of older children	0.781	0.998	0.990
	(0.194)	(0.189)	(0.168)
Difficulty in daily activities	0.572	1.120	0.873
	(0.221)	(0.290)	(0.212)
Constant	0.227	0.008***	0.060**
	(0.428)	(0.015)	(0.080)
N	1896		

Source: NIDS 2008 and 2010/2011.

Notes: Standard errors are in parentheses. The sample consists of the unemployed aged 18 to 57 in Wave 1. The data are weighted using the panel weights that account for attrition. *** p<0.01 ** p<0.05 * p<0.10.

Table A.3. Logit regressions on Wave 2 employment status among the Wave 1 unemployed with and without movers; odds ratios displayed

Dependent variable = 1 if employed in Wave 2; = 0 if not employed	With movers	Without movers
Searching unemployed in Wave 1	1.098	1.252
	(0.195)	(0.242)
Female	0.559***	0.685**
	(0.094)	(0.120)
African	1.257	0.899
	(0.953)	(0.702)
Indian	1.887	1.732
	(2.159)	(2.038)
Coloured	1.352	1.092
	(1.097)	(0.910)
Married	0.916	0.955
	(0.203)	(0.224)
Age	1.116*	1.074
	(0.071)	(0.072)
Age2	0.850*	0.891
	(0.076)	(0.084)
Grade 8 to grade 11	1.087	0.958
	(0.227)	(0.209)
Matric	1.226	1.259
	(0.295)	(0.317)
Diploma/degree	2.333***	1.809*
	(0.734)	(0.622)
Urban formal	1.309	1.339
	(0.227)	(0.250)
Urban informal	1.477	1.523
	(0.356)	(0.398)
Rural formal	1.467	1.923**
	(0.427)	(0.604)
District unemployment rate	0.857	0.718
	(0.553)	(0.499)
Work experience	1.418**	1.362*
	(0.240)	(0.248)
Unemployed 1-4 years	0.917	0.998
	(0.176)	(0.209)
Unemployed 5 years or more	0.643*	0.805
	(0.145)	(0.191)
Other household member employed	0.902	0.817
	(0.142)	(0.138)
Presence of very young children	1.042	1.062
	(0.162)	(0.176)
Presence of young children	0.728**	0.677**
	(0.111)	(0.110)
Presence of older children	1.020	1.051
	(0.158)	(0.172)
Difficulty in daily activities	0.889	0.869
	(0.204)	(0.210)
Constant	0.080**	0.182
	(0.101)	(0.242)
N	1896	1684

Source: NIDS 2008 and 2010/2011.

Notes: Standard errors are in parentheses. The sample consists of the unemployed aged 18 to 57 in Wave 1. The data are weighted using the panel weights that account for attrition.*** p<0.01 ** p<0.05 * p<0.10.

References

ALDERMAN, H., BEHRMAN, J.R., KOHLER, H.P., MALUCCIO, J.A. and COTTS WATKINS, S. (2001). "Attrition in Longitudinal Household Survey Data." *Demographic Research* 5(4): 79 – 124.

ARDINGTON, C., LAM, D., LEIBBRANDT, M. and WELCH, M. (2006). "The sensitivity to key data imputations of recent estimates of income poverty and inequality in South Africa." *Economic Modelling* 23: 822-835.

BAIGRIE, N., and EYAL, K. (2013). "An evaluation of the determinants and implications of panel attrition in the National Income Dynamics Survey (2008 – 2010)." *Southern Africa Labour and Development Research Unit (SALDRU) Working Paper Number 103*. Cape Town: SALDRU.

BENATI, L. (2001). "Some empirical evidence on the 'discouraged worker' effect." *Economics Letters* 70: 387 – 395.

BRANDOLINI, A., CIPOLLONE, P. and VIVIANO, E. (2006). "Does the ILO definition capture all employment?" *Journal of the European Economic Association* 4(1):153-79.

BROWN, M., DANIELS, R.C., DE VILLIERS, L., LEIBBRANDT, M. and WOOLARD, I., eds. (2012). "National Income Dynamics Study Wave 2 User Manual", Cape Town: Southern Africa Labour and Development Research Unit.

BUSS, T.F. and REDBURN, F.S. (1988). *Hidden unemployment: Discouraged jobseekers and public policy*. New York: Praeger.

CICHELLO, P., LEIBBRANDT, M., and WOOLARD, I. (2012). "Labour Market: Analysis of the NIDS Wave 1 and 2 Datasets." *Southern Africa Labour and Development Research Unit (SALDRU) Working Paper Number 78 / NIDS Discussion Paper 2012/1*, Cape Town: SALDRU.

DINKELMAN, T. and PIROUZ, F. (2002). "Individual, household and regional determinants of labour force attachment in South Africa: Evidence from the 1997 October Household Survey." *South African Journal of Economics* 70(5): 865 – 891.

HUSSMANNS, R. MEHRAN, F. and VERMA V. (1990). *Surveys of economically active population, employment, unemployment and underemployment: An ILO manual on concepts and methods*. Geneva: International Labour Organization.

JONES, S.R.G. and RIDDELL, W.C. (1999). "The measurement of unemployment: An empirical approach." *Econometrica* 67(1): 147 – 162.

KINGDON, G. and KNIGHT, J. (2004). "Unemployment in South Africa: The nature of the beast." *World Development* 32(3): 391 – 408.

KINGDON, G. and KNIGHT, J. (2006). "The measurement of unemployment when unemployment is high." *Labour Economics* 13: 291 – 315.

KINGDON, G. and KNIGHT, J. (2007). "Unemployment in South Africa, 1995 – 2003: Causes, problems and policies." *Journal of African Economies* 16(5): 813 – 848.

MINCER, J. (1973). "Determining who are the 'hidden unemployed'." *Monthly Labor Review* March 1973: 27 – 30.

RANCHHOD, V. and DINKELMAN, T. (2008). "Labour market transitions in South Africa: What can we learn from matched Labour Force Survey data?" Southern Africa Labour and Development Research Unit, Working Paper 14, Cape Town: SALDRU.

SURYADARMA, D., SURYAHADI, A. and SUMARTO, S. (2007). "Measuring unemployment in developing countries: The case of Indonesia". *LABOUR* 21(3): 541-62.

SCHÖER, V. and LEIBBRANDT, M. (2006). "Determinants of job search strategies: Evidence from the Khayelitsha/Mitchell's Plain survey."" *South African Journal of Economics* 74(4): 702-724.

STATS SA (2013). "Quarterly Labour Force Survey: Quarter 1 (January to March), 2013." Press Statement 6 May 2013, Pretoria: Statistics South Africa.

STATS SA (1998). Unemployment and employment in South Africa. Pretoria: Statistics South Africa.

VERICK, S. (2012). "Giving up job search during a recession: The impact of the global financial crisis on the South African labour market." *Journal of African Economies* 21(3): 373 – 408.

The **Research Project on Employment, Income Distribution and Inclusive Growth (REDI3x3)** is a multi-year collaborative national research initiative. The project seeks to address South Africa's unemployment, inequality and poverty challenges.

It is aimed at deepening understanding of the dynamics of employment, incomes and economic growth trends, in particular by focusing on the interconnections between these three areas.

The project is designed to promote dialogue across disciplines and paradigms and to forge a stronger engagement between research and policy making. By generating an independent, rich and nuanced knowledge base and expert network, it intends to contribute to integrated and consistent policies and development strategies that will address these three critical problem areas effectively.

Collaboration with researchers at universities and research entities and fostering engagement between researchers and policymakers are key objectives of the initiative.

The project is based at SALDRU at the University of Cape Town and supported by the National Treasury.

Consult the website for information on research grants and scholarships.

Tel: (021) 650-5715

www.REDI3x3.org

REDI3X3

Research Project on Employment, Income Distribution & Inclusive Growth

Towards an integrated response to unemployment, inequality and poverty