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The extent of churn in the South African youth labour market: Evidence from NIDS 2008-2015

by

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1. Introduction

The transition from schooling to work for many South African youth (aged 15-34 years) is neither a smooth nor immediately successful one. This is apparent in the persistently high youth unemployment rate that has been an enduring feature of the labour market. However, what the unemployment rate does not reveal is the degree to which it is the same youth who remain persistently unemployed, rather than moving between labour market states. In other words the unemployment statistic does not give any indication of the degree of churn in the South African youth labour market. This paper explores the nature and extent of this churn by investigating patterns of persistence of employment, persistence of unemployment, and movement between these states.

To investigate these labour mobility issues, the first four waves of the National Income Dynamics Study (NIDS) are analysed. The data for the first wave of NIDS was collected in 2008, the second in 2010-2011, the third in 2012, and the fourth in 2014-2015. A balanced panel of Wave 1 youth is used to look at transitions in labour market states from Wave 1 to Wave 4.

The paper begins by setting the context with a brief literature review of the prevailing situation in the South African youth labour market. The remainder of the paper is then organised as follows: The data and sample used in the analysis are described, after which the analysis proceeds with an exploration of the labour market states of respondents over the waves, and an investigation into the characteristics of those who remained employed, unemployed or not economically active. The analysis then continues with a look at reservation wages of the employed and unemployed, and those who changed labour market states. In addition, new employment between the waves is then briefly examined after which the wages of the newly employed are compared to their previous reservation wage. The probabilities of moving into or out of employment or unemployment are then modelled in a probit regression analysis of the African and Coloured respondents in our sub-sample. This is followed by our conclusion.

2. Background and literature review

Youth entering the South African labour market with the hopes of successfully securing employment are entering a labour market characterised by high unemployment which is pronounced for youth. Over the period of the first quarter of 2008 to the first quarter of 2015, the official unemployment rate, and the broad unemployment rate (which includes discouraged workers among the unemployed), were higher for youth than their older working age counterparts. The official unemployment rate for South African youth aged 15-34 years increased from 33% in the first quarter of 2008 to 37% in the first quarter of 2015. Over the same period, the unemployment rate of adults aged 35-64 years also increased by 4 percentage points, albeit from a much lower base of 13% in 2008. When using the broad definition of unemployment, an increase from 38% to 45% was observed for the youth, and an increase from 17% in 2008 to 23% in 2015 for 35-64 year olds (Statistics South Africa, 2015)¹.

Disaggregating the official unemployment rate for different sub-sets of youth over this period shows that labour market experiences are heterogeneous amongst South African youth. Higher unemployment rates were experienced by youths in younger five-year age groups than those in older age groups. Female youth had higher unemployment rates than male youth, and African youths experienced higher unemployment rates than youths in other population groups. Education appears to play an important role in securing employment in South Africa. Youth with tertiary education experienced substantially lower unemployment rates than those with secondary education or less (Statistics South Africa, 2015)².

Further, many South African youths are unable to find employment for long periods of time, and experience unemployment for prolonged periods. 62% of unemployed South African youth (using the strict definition) in the first quarter of 2015 searched for work for a period of longer than a year (Statistics South Africa, 2015). Long durations of unemployment leads to discouragement, and depression (Mlatsheni, 2012).

While the total number of available jobs is an important constraint for youth labour prospects, the types of jobs that are available also plays a significant role (Mlatsheni & Leibbrandt 2014). Unemployment in South Africa has been described as largely structural where the skills possessed by job seekers do not match the skills required by employers (Bhorat et al. 2014). As a result, the employment response to a given rate of economic growth in South Africa has been sluggish and highly uneven across sectors (Altman, 2012).

Another kind of mismatch that has been advanced as a reason for persistently high unemployment is that the reservation wages of the unemployed are not consistent with what they can realistically receive in employment. However, Natrass and Walker (2005) find that reservation wages are not higher than predicted wages for the vast majority of their sample of African and Coloured working class individuals in Cape Town. On the other hand, when analysing a sample of African youth aged 20-34 years, and controlling for firm size, Rankin and Roberts (2011) find that, in their sample,

¹ Broad unemployment rates are from own calculations using figures in Statistics South Africa (2015).

² Statistics South Africa (2015) use the strict definition of unemployment.

reservation wages for about 60% of men and 40% of women were greater than even the most optimistic estimates of earnings, for firms of 50 or fewer employees.

Another aspect of available jobs which is relevant to churn in the youth labour market, is whether the nature of employment agreements that employed youth tend to find themselves in are conducive to maintaining stable, long term employment. In both 2008 and 2015, a smaller proportion of employed South African youth were employed on permanent contracts (as opposed to unspecified or limited duration contracts) than their older working age counterparts. The proportion of youth aged 15-34 years who were employed on permanent contracts was 54% in 2008 and 52% in 2015, as opposed to 70% for adults aged 35-64 years in 2008 and 68% in 2015 (Statistics South Africa, 2015).

3. Data and description of the sample

The issues that this paper aims to explore, are best investigated with panel data, as opposed to cross-sectional data. This is because panel data (where the same respondents are interviewed over multiple periods) can be used to investigate transitions of respondents between different states, over time. In light of this, the data used in this paper is from the first four waves of the National Income Dynamics Study (NIDS), a nationally representative South African panel study. Respondents in NIDS are interviewed approximately every 2 years, to date in 2008, 2010-2011, 2012, and 2014-2015.

For the analysis in this paper, the sub-sample of interest consists firstly of a balanced panel, that is, those who were successfully interviewed in all four waves of NIDS. Secondly, our respondents needed to have been youth (15-34 years old) in Wave 1. Thirdly, they also needed to have been interviewed as adults (as opposed to interviewed via proxy) in all waves, because some of our data of interest was not collected by the proxy questionnaire. Fourthly, since our focus concerns changes in their employment status across the waves, they needed to have an employment status recorded for each wave. There were 3575 such respondents³.

Since our subsample does not contain the whole cross-section of youth in any particular wave, this analysis should not be taken to be nationally representative of youth in South Africa. In the interests of adjusting for attrition of respondents between each consecutive wave, a balanced panel weight⁴ was used. However, the additional restriction of being interviewed as an adult, and having a valid employment status recorded for all waves, led to our subsample containing slightly more Africans and women than the balanced panel of Wave 1 youth would have if these restrictions are not imposed (summary statistics of the balanced panel of Wave 1 youth without these restrictions are available in Table 39 in Appendix 1).

³ For ease of reference, we will refer to this group as “our panel”.

⁴ This balanced panel weight was provided by Arden Finn.

Table 1: Summary statistics of our balanced panel of Wave 1 youth

	Wave 1	Wave 2	Wave 3	Wave 4
Age interval (%)				
15-19	29.7	15.5	3.5	
20-24	24.8	26.7	30.0	19.3
25-29	22.3	23.3	24.0	26.1
30-34	23.1	22.6	22.0	23.9
35-39		11.9	20.4	23.1
40-44				7.5
Gender (%)				
Male	42.4	42.4	42.4	42.4
Female	57.6	57.6	57.6	57.6
Race (%)				
African	88.9	88.9	88.9	88.9
Coloured	6.4	6.4	6.4	6.4
Asian/Indian	2.3	2.3	2.3	2.3
White	2.3	2.3	2.3	2.3
Education (%)				
Less than matric	66.6	62.2	57.9	56.1
Matric	25.1	24.5	25.7	23.1
Higher education	8.3	13.3	16.4	20.7
Location (%)				
Traditional	36.3	36.1	34.0	31.8
Urban	58.6	58.5	62.0	63.8
Farms	5.2	5.4	4.1	4.3
Employment status (%)				
Not economically active	40.2	42.1	30.1	22.7
Unemployed (strict & discouraged)	26.4	21.9	24.9	18.9
Employed	33.4	35.9	45.0	58.4

Notes: Estimates using a balanced panel of youth in Wave 1. Balanced panel weight used.

Though our panel were by definition aged 15-34 years in Wave 1, a little over 30% had aged beyond what would be classified as youth by Wave 4, and were 35 years or older. Thus the analysis in this paper concerns what happened to our Wave 1 youth, rather than people who were youths in all waves.

Females make up the majority of our panel, at 58%. This is compared to 53% of the panel if our restrictions are not imposed.

About 89% of our panel is African, and 6% are Coloured. The proportion of Indian/Asian and White respondents is relatively low in our panel, with only 2% of our panel made up of each. This is compared to a distribution across race groups of 87% African, 8% Coloured, 2% Indian and 4% White in the panel if our restrictions are not imposed (see Table 39 in the appendix).

The remaining characteristics of our panel, as shown in Table 1 were reasonably similar to the panel without our restrictions Education levels of our panel increased over the waves. By Wave 4, the

respondents with less than a matric level education had declined from 67% in Wave 1 to 56%, and by Wave 4, nearly 21% had completed some higher education, compared to only 8% in Wave 1.

The figures in Table 1 show that, from Wave 1 to Wave 4, our panel become increasingly urbanised, with the proportion living in urban areas increasing from 59% in Wave 1 to 64% in Wave 4.

We use the broad definition of unemployment in our study. We thus include discouraged work-seekers as unemployed, rather than not economically active. When using the broad definition of unemployment, as shown in Table 1, the proportion of our panel of Wave 1 youth in the labour force⁵ increased from 60% in Wave 1 to 77% in Wave 4. This is likely to be largely due to a movement of many in our panel into the labour force after exiting schooling, across the waves.

4. Descriptive analysis

4.1. Labour market states over the four waves

Since our balanced panel is made of respondents who were youth in Wave 1, it is expected that many in our sub-sample were not economically active (not available for work and thus not in the labour force) in at least some of the waves. Accordingly, we separate our panel into two mutually exclusive groups: Those who were in the labour force in at least three of the four waves, and those who were not economically active in at least two of the four waves.

When examining those who appear to be more or less employable over the waves, comparing those within the former group would likely be most useful as they have been observed in the labour force for most of the four waves. To facilitate this comparison, we separate those who were in the labour force in at least three waves into three groups, according to their employment or unemployment persistence. These three groups are: i) those who were employed in at least three waves (persistently⁶ employed), ii) those who were unemployed in at least three waves (persistently unemployed), and iii) those who were in the labour force in at least three waves, but were not employed or unemployed in more than two waves (neither persistently employed nor persistently unemployed) and thus in a state of churn.

The group of respondents who were persistently employed (unemployed) are thus composed of those who were: i) employed (unemployed) in all four waves; or ii) employed (unemployed) in three waves and not economically active in one wave; or iii) employed (unemployed) in three waves, and unemployed (employed) in one wave.

Table 2 shows the percentage prevalence of each of the main employment states in our panel.

⁵ The labour force consists of the employed and unemployed. Since we use the broad definition of unemployment the labour force thus includes the discouraged unemployed.

⁶ Since NIDS respondents are only interviewed approximately every 2 years, it is possible that some of our panel were employed (unemployed) in between the waves, but were not employed (unemployed) at the time that they were interviewed. Thus it is possible that some of those who we may think of as being in a relatively persistent labour market state may have changed states between two or more of the waves.

Table 2: Employment states

	Percentage
Employed in 3 or 4 waves	31.3
Unemployed in 3 or 4 waves	6.6
In the labour force in 3 or 4 waves (but not employed or unemployed in more than 2 waves)	20.2
Not economically active in at least 2 waves	41.9
Total	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

About 31% of our panel were employed in at least three of the four waves (employed persistently), compared with only about 7% who were unemployed in at least three waves (unemployed persistently). The remainder of those in our panel who were in the labour force in at least three of the four waves were neither employed nor unemployed for more than two waves (neither employed persistently nor unemployed persistently). These comprised 20% of our panel. The remainder, about 42%, were not economically active in at least two waves.

In the following table we delve deeper into the characteristics of those who were in the labour force in at least three waves. We consider whether certain demographic and geographic characteristics are correlated with greater employment persistence within this group. Those in our panel who were not economically active in at least two waves were not included in this comparison, as they would have only been in the labour force for one or two waves.

Table 3: Characteristics of those in the labour force in at least three waves

	In the labour force in 3 or 4 waves			Total
	Employed in 3 or 4 waves	Unemployed in 3 or 4 waves	No more than 2 waves employed or unemployed	
Wave 1 age interval (%)				
15-19 years	32.7	15.3	52.0	100
20-24 years	45.2	13.6	41.2	100
25-29 years	56.6	10.9	32.6	100
30-34 years	67.4	8.1	24.6	100
Wave 4 age interval (%)				
20-24 years	17.2	11.9	70.9	100
25-29 years	39.0	17.0	44.0	100
30-34 years	56.3	11.1	32.5	100
35-39 years	60.6	8.7	30.7	100
40-44 years	76.5	6.6	16.9	100
Gender (%)				
Male	62.0	6.5	31.5	100
Female	46.6	15.7	37.8	100
Race (%)				
African	51.7	12.2	36.1	100
Coloured	59.7	4.7	35.7	100
Asian/Indian	76.0	0.0	24.0	100
White	88.4	11.6	0.0	100
Wave 1 highest education level attained (%)⁺				
Less than matric	46.0	15.3	38.7	100
Matric	58.4	8.2	33.3	100
Higher education	77.0	1.3	21.7	100
Wave 4 highest education level attained (%)⁺				
Less than matric	47.0	15.8	37.2	100
Matric	52.0	9.6	38.4	100
Higher education	69.9	3.4	26.7	100
Wave 1 location (%)				
Traditional	39.7	15.4	44.8	100
Urban	58.8	10.3	30.9	100
Farms	69.4	2.0	28.7	100
Wave 4 location (%)				
Traditional	39.3	18.4	42.3	100
Urban	58.3	9.3	32.4	100
Farms	70.2	1.5	28.2	100
Moved between any of the waves (%)				
Did not move	53.5	11.4	35.1	100
Moved at least once	54.6	11.1	34.3	100
Total (%)	53.9	11.3	34.8	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used. ⁺We exclude respondents missing a response for the education variable in either Wave 1 or Wave 4 from the education figures.

Table 3 shows the different employment propensity paths of respondents in our panel who were in the labour force for at least three waves, by demographic and geographic characteristics.

Table 3 shows that the labour market prospects of the youth differs by age group. Of the youth who were in the labour force in at least three waves, those in older age groups were more likely to have been employed persistently (in three waves at least), and less likely to have been unemployed in at least three waves. Of the youth who were in the 30-34 age category in Wave 1, 67% were employed persistently, while only 45% of youth in the 20-24 age category were employed persistently. 8% of youth in the 30-34 age category were unemployed persistently, compared to 14% in the 20-24 age category. The rest were neither employed persistently nor unemployed persistently.

62% of the men in our panel who were in the labour force in at least three waves, were employed persistently. In contrast, 47% of women who were in the labour force in at least three waves, were employed persistently. In addition, 16% of women, were unemployed persistently compared to 7% of men. The rest were neither employed persistently nor unemployed persistently.

The majority of respondents in our panel are African, followed by Coloureds, then Asians/Indians and Whites. Of the respondents in our panel who were also in the labour force in at least three waves, 87% are African, 8% are Coloured, 3% are Indian/Asian, and 2% are White. The raw numbers of Asian/Indian and White observations in our panel are very low such that we report on the persistency of employment and unemployment of only African and Coloured youth. 52% of African youth were persistently employed, compared to 60% of Coloured youth. 12% of African youth were persistently unemployed compared to 5% of Coloured youth.

The benefits of education are evident, as 77% of those who had higher education in Wave 1 in our panel and were in the labour force in at least three waves, were persistently employed, whereas 58% of those with matric and 46% of those with less than matric were employed persistently. 16% of those with less than matric were unemployed in three or four waves, in comparison with 8% for those with matric only, and 1% of those with higher education.

Only 40% of those who lived in Traditional areas in Wave 1, and who were in the labour force in at least three waves, were employed persistently. 59% of those who lived in Urban areas and 70% of those who lived on Farms were persistently employed.

We consider having changed location between any of the waves as a proxy for migration for employment purposes and examine whether migration is correlated with greater employment persistence. Similar proportions of those who had moved and those who had not moved were persistently employed and persistently unemployed. 55% of those in our panel who had moved at least once and were in the labour force in at least three waves, were persistently employed, compared to 54% of those who had never moved. Furthermore, 11% of both categories were persistently unemployed. This may tempt one to think that this indicates that there is no clear pattern of employment advantage for individuals who move. However, the effect of migration would probably be more evident in a two wave comparison rather than in a three or four wave comparison. We explore this later in the paper when we compare employment outcomes for those who did and did not move between Wave 3 and Wave 4.

4.2. Who remains employed, unemployed and not economically active?

In the following section we shift our focus to a slightly different way of investigating the extent and nature of the persistence of different labour market states among the youth, as opposed to churn between them. We consider who, of those employed, unemployed, and not economically active in Wave 1, remained in that same state throughout the waves. Those who managed to remain employed in all four waves might be thought of as youth who have managed to successfully transition into the labour market. Those who were unemployed in all four waves may be trapped in unemployment, and be a particularly vulnerable group for consideration. Those who were not economically active throughout were not available for work in any wave. Though they were not in the labour force in any wave, their reasons for not being available for work can nonetheless shed light on the situations in which the youth find themselves.

4.2.1. Who remained employed?

We now focus on those in our panel who were employed in Wave 1. We first consider the number of waves in which these employed youth in Wave 1 were employed. We show the extent of regular employment among them. We then disaggregate this employment by sector and occupation, to gain a sense of which sectors and occupations absorb employed youth, and whether some of these sectors or occupations appear to offer more stable employment.

Table 4: Persistence of employment of those employed in Wave 1

	Percentage
Employed only in Wave 1	10.6
Employed in two waves	14.8
Employed in three waves	24.0
Employed in all four waves	50.6
Total	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Just over half of those in our panel who were employed in Wave 1 were employed in all four waves. The remainder were unemployed or not economically active in at least one of the subsequent waves. 24% were employed in three waves, and 11% were employed in Wave 1 only. These statistics reflect a positive picture, as three quarters of those employed in Wave 1 were employed in at least three waves.

Since Table 4 also captures those who were not available for work in any of the subsequent waves, we next cut this analysis finer to exclude those who were not employed in subsequent waves because they were not available for work. Table 5 shows the persistence of employment for only those who were in the labour force in all four waves.

Table 5: Persistence of employment of those employed in Wave 1 who remained in the labour force in all waves

	Percentage
Employed only in Wave 1 and unemployed in the three subsequent waves	0.8
Employed in two waves and unemployed in two waves	3.4
Employed in three waves and unemployed in one wave	21.1
Employed in all four waves	74.7
Total	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

As expected, the persistence of employment of those in our panel who were employed in Wave 1 is greater for those who remained in the labour force in all four waves. Three-quarters were employed in all four waves and only 1% were only employed in Wave 1 and then persistently unemployed in the subsequent three waves.

Table 6: Regularity of employment of those employed in Wave 1

	Percentage
In regular employment	67.3
Not in regular employment	32.7
Total	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

67% of our panel who were employed in Wave 1 were being paid a wage or salary to work on a regular basis for an employer that was not themselves (i.e. had what we will refer to as a regular job). Thus only 33% of our panel who were employed in Wave 1 were not working in a regular job. These respondents would have been engaged in the following activities: Self-employment, casual employment, working on a plot or food garden, and/or helping other people with their businesses.

Some of the 67% who did have at least one regular job, may have had a second regular job and also have had one or more of these other forms of employment. However, in Wave 1, most of our panel had some form of regular employment, and we therefore explore this regular employment in more detail, and compare the sectors and occupations of those who remain employed to those who lose jobs.

Table 7: Sector of main regular job in Wave 1

Wave 1 sector	Percentage
Private households exterritorial organisations representatives of foreign governments and other activities not adequately defined	5.8
Agriculture hunting forestry and fishing	7.3
Mining and quarrying	3.7
Manufacturing	16.6
Electricity gas and water supply	0.8
Construction	6.0
Wholesale and retail trade	23.5
Transport storage and communication	3.4
Financial intermediation insurance real estate and business services	11.0
Community social and personal services	21.9
Total	100

Notes: Individuals with no industry code were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

The most common sector for those regularly employed in Wave 1 in our panel is Wholesale and retail trade (24%), followed by Community, social, and personal services (22%), and Manufacturing (17%). Table 8 shows the proportion of those employed in these three sectors in Wave 1 who were regularly employed in all waves.

Table 8: Regular employment in all waves, by Wave 1 sector

Wave 1 sector	Had no regular job in at least 1 wave	Had a regular job in all waves	Total
Manufacturing	48.6	51.4	100
Wholesale and retail trade	49.2	50.8	100
Community social and personal services	33.8	66.2	100

Notes: Individuals with a missing answer for whether or not they had regular employment in any wave, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Nearly two-thirds (66%) of those in our panel regularly employed in the Community, social and personal services sector in Wave 1 had regular employment in all four waves (not necessarily all within the same sector). The corresponding proportion for both the Manufacturing sector and the Wholesale and retail trade sector was 51%. Table 8 also captures those who were not available for work in any subsequent wave, so to cut this analysis finer, Table 9 is restricted to those who were in the labour force in all waves.

Table 9: In the labour force in all waves: Regular employment in all waves, by Wave 1 sector

Wave 1 sector	Had no regular job in at least 1 wave	Had a regular job in all waves	Total
Manufacturing	33.2	66.8	100
Wholesale and retail trade	33.2	66.8	100
Community social and personal services	17.3	82.7	100

Notes: Individuals with a missing answer for whether or not they had regular employment in any wave, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

As expected, when excluding those who were not economically active in any wave, the proportion of the regularly employed in Wave 1 in our panel who had regular employment in all waves increases. Of those in the labour force in all waves, about 83% of those regularly employed in the Community, social and personal services sector in Wave 1 had regular employment in all four waves (not necessarily all within the same sector). The corresponding proportion for both the Manufacturing sector and the Wholesale and retail trade sector was 67%. Table 10 shows the proportion of those regularly employed in these sectors in Wave 1 and regularly employed in all four waves, who were regularly employed in this same sector in all four waves.

Table 10: Employment in the same sector in all four waves

Wave 1 sector	Same sector for main regular job in all waves?		Total
	No	Yes	
Manufacturing	83.8	16.2	100
Wholesale and retail trade	55.0	45.0	100
Community social and personal services	28.7	71.3	100

Notes: Those with a missing sector for their main regular employment in any wave were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

About 71% of our panel who were regularly employed in Community, social, and personal services in Wave 1, were regularly employed in this sector in all four waves (not necessarily also in the same occupation or job). The corresponding proportion for the Wholesale and retail trade sector was 45%

and 16% for manufacturing. So while the Wholesale and retail trade sector accounted for a slightly higher proportion of regular youth employment in Wave 1, those in Community, social and personal services seemed to be more stably employed.

Table 11: Occupational code of main regular job in Wave 1

Wave 1 occupation	Percentage
Armed forces occupations	0.2
Managers	5.0
Professionals	8.6
Technicians and associate professionals	6.4
Clerical support workers	5.7
Service and sales workers	25.3
Skilled agricultural, forestry and fishery workers	0.2
Craft and related trades workers	14.8
Plant and machine operators, and assemblers	8.0
Elementary occupations	25.5
Total	100

Notes: Individuals with missing occupation in Wave 1 were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

The most common primary occupations of the regularly employed in Wave 1 in our panel, were Elementary occupations and Service and sales work, followed by Craft and related trades. Table 12 shows the proportion of those employed in these occupations in Wave 1 who were regularly employed in all waves.

Table 12: Regular employment in all waves, by Wave 1 occupation

Wave 1 occupation	Had no regular job in at least 1 wave	Had a regular job in all waves	Total
Service and sales workers	44.9	55.1	100
Craft and related trades workers	61.8	38.2	100
Elementary occupations	62.8	37.2	100

Notes: Individuals with a missing answer for whether they had regular employment in any wave were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

55% of those in our panel who were regularly employed as Service and sales workers in Wave 1 had regular employment in all four waves (not necessarily all in the same type of occupation). The corresponding proportion for Craft and related trades workers and Elementary occupations was 38% and 37% respectively. Table 13 shows the same analysis as Table 12, but restricted to those who were in the labour force in all waves.

Table 13: In the labour force in all waves: Regular employment in all waves, by Wave 1 occupation

Wave 1 occupation	Had no regular job in at least 1 wave	Had a regular job in all waves	Total
Service and sales workers	33.8	66.2	100
Craft and related trades workers	52.3	47.7	100
Elementary occupations	40.7	59.3	100

Notes: Individuals with a missing answer for whether they had regular employment in any wave were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Nearly two thirds of those in our panel who were regularly employed as Service and sales workers in Wave 1 and were in the labour force in all waves, had regular employment in all four waves (not necessarily all in the same type of occupation). The corresponding proportion for Elementary occupations was and Craft and related trades workers was 59% and 48% respectively. Table 14 shows the proportion of those regularly employed in these occupations in Wave 1 and regularly employed in all four waves, who were regularly employed in the same type of occupation in all four waves.

Table 14: Employment in the same occupation in all four waves

Wave 1 occupation	Same occupation for regular job in all waves?		Total
	No	Yes	
Service and sales workers	62.2	37.8	100
Craft and related trades workers	83.4	16.6	100
Elementary occupations	64.0	36.0	100

Notes: Individuals with a missing answer for their primary regular employment in any wave were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

About 38% of those in our panel who were regularly employed as Service and sales workers in Wave 1, and were regularly employed in all four waves, had their primary regular employment with this type of occupation in all four waves (not necessarily also in the same sector or job). The corresponding proportion for the Elementary occupations and Craft and related trades workers was 36% and 17% respectively. Services and sales seem to play an important role in youth employment, as this was the second most common type of regular employment in Wave 1, and those who were regularly employed in this occupation, seemed to be more stably employed.

4.2.2. Those who are not economically active

If a respondent is not available for work, they are not economically active, and not in the labour force. As already mentioned, we expect that many respondents in our panel were not economically active in Wave 1 (and some in subsequent waves), as they would be in full-time schooling. In the following analysis, we explore what proportion of those who were not economically active in Wave 1 remained not economically active. We also examine whether reasons given in Wave 1 for being unavailable for work were different for those who remained not economically active in all four waves, and those who were employed or unemployed in at least one of the subsequent waves.

Table 15: Not economically active in Wave 1: Number of waves not economically active

	Percentage
Not economically active only in Wave 1	20.0
Not economically active in two waves	33.4
Not economically active in three waves	33.1
Not economically active in four waves	13.6
Total	100

Notes: Individuals with a missing answer for whether they had regular employment in any wave were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Only about 14% of those who were not economically active in Wave 1 were not economically active

in all four waves. The remainder, 86% were in the labour force in one or more of the subsequent waves. The following table shows a column-wise percentage comparison of the reasons for not being available for work (in the previous 4 weeks) in Wave 1 for our panel.

Table 16: Not economically active in Wave 1: Reason for not being available for work, by employment status in all waves

Wave 1 reason given	Not economically active in all waves?		Total
	No	Yes	
I am too old	0.3	0.0	0.3
I am a full-time student/learner	69.1	79.7	70.6
I am sick/disabled	4.3	6.4	4.6
I do not like the available jobs and would rather not work	0.9	0.0	0.8
I do not like working	1.5	0.2	1.4
I do domestic duties and look after children and or elderly	3.7	3.7	3.7
I look after children	7.7	4.4	7.2
It costs too much to look for work	3.3	1.1	3.0
The wages are too low, it is not worth my time working	0.6	0.0	0.6
I spend my time cooking and cleaning, shopping etc.	0.4	0.7	0.4
Other(specify)	8.2	3.6	7.5
Total	100	100	100

Notes: Individuals with a missing answer for reason for unavailability for employment in the last 4 weeks, in Wave 1, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Unsurprisingly, given that our panel is made up of youth in Wave 1, the last column indicates that 71% of those in our panel who were not economically active in Wave 1, reported that the reason was because they were full-time learners or students. Just over 7% said it was because they were looking after children, and about 5% because they were sick or disabled.

Table 17 shows whether those who reported one of these three reasons in Wave 1 and reported themselves as not economically active in all four waves, were not economically active for the same reason in all waves.

Table 17: Reason for not being available for work (all waves)

Wave 1 reason given	Same reason in all waves?		Total
	No	Yes	
I am a full-time student/learner	66.1	33.9	100
I am sick/disabled	65.2	34.8	100
I look after children	94.0	6.0	100

Notes: Individuals with a missing answer for reason for unavailability for employment in the last 4 weeks, in any wave, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

In our panel, the main reason for unavailability for work in the previous 4 weeks changed for 71% of those who were not economically active in all four waves (not reflected here). 35% of respondents who said that they were sick/disabled in Wave 1, cited this as the main reason they were not available for work in every wave. Just over a third of those whose main reason was that they were a full-time student/learner, reported this in every wave. Only 6% of those of those whose main reason was because they were looking after children, reported this in every wave.

4.2.3. The persistently unemployed

High youth unemployment is a concern in itself, but this is a greater concern if their unemployment is not transitory, and the same people remain unemployed over time. Table 18 shows the persistence of unemployment across the four waves for those in our panel who were unemployed in Wave 1.

Table 18: Persistence of unemployment for those unemployed in Wave 1

	Percentage
Unemployed only in Wave 1	39.2
Unemployed in two waves	40.8
Unemployed in three waves	16.3
Unemployed in four waves	3.8
Total	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

About 4% of those in our panel who were unemployed in Wave 1, were unemployed in all four waves. The remainder were observed as employed or not economically active (not available for work) in at least one subsequent wave. 39% of our panel were only unemployed in Wave 1. Since Table 18 also captures those who were not available for work in subsequent waves, in Table 19 we cut this analysis finer and exclude those in our panel who were not available for work in any of the subsequent waves.

Table 19: Persistence of unemployment for those unemployed in Wave 1 who remained in the labour force in all waves

	Percentage
Unemployed only in Wave 1 and employed in the three subsequent waves	37.6
Unemployed in two waves and employed in two waves	35.9
Unemployed in three waves and employed in one wave	17.4
Unemployed in all four waves	9.1
Total	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

When restricting the analysis to those of the unemployed in Wave 1 in our panel who were available for work in every wave, 9% were unemployed in all waves and 38% were only employed in Wave 1. The rest were observed in both employment and unemployment in the subsequent waves.

4.3. Reservation wages

At times, reservation wages are advanced as a reason for persistently high unemployment. As a means of gauging the role reservation wages play in persistent unemployment in our panel, we examine whether the reservation wages of the unemployed differ from those of the employed.

4.3.1. Reservation wages across the waves

Data on reservation wages was only collected in Waves 2, 3, and 4 of NIDS. The unemployed and employed are asked slightly different questions to ascertain their reservation wage. The unemployed were asked "What is the absolute lowest take-home wage that you would accept for any permanent, full-time work (per month)?" The employed were asked "Assume that you become unemployed,

what is the absolute lowest monthly take-home wage that you would accept for any permanent, full-time work?"

In the analysis that follows, nominal and real (adjusted for inflation) figures are reported. Where real figures are reported, they have been deflated to November 2014⁷ equivalents.

Table 20 shows the mean and median reservation wages for our panel, as well as their standard deviation in Waves 2, 3 and 4. When considering these reservation wages, we should bear in mind that our panel has aged, and some have become more educated, over the waves.

Table 20: Cross-sectional reservation wages for the employed and unemployed: Waves 2-4

	Real			Nominal			Obs
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Wave 2							
Unemployed Discouraged	2957.5	1882.6	(4253.3)	2362.8	1500.0	(3393.5)	200
Unemployed Strict	3103.0	2510.2	(3364.1)	2485.6	2000.0	(2690.4)	516
Employed	4563.1	3263.2	(4716.7)	3654.3	2600.0	(3768.0)	1017
Total	3990.5	3044.9	(4377.7)	3195.4	2500.0	(3497.9)	1733
Wave 3							
Unemployed Discouraged	2630.2	2235.2	(2281.6)	2314.8	2000.0	(2009.4)	94
Unemployed Strict	3367.2	2851.3	(2254.4)	2963.6	2500.0	(1984.1)	812
Employed	5013.4	3411.0	(5389.8)	4414.3	3000.0	(4737.3)	1413
Total	4398.0	3352.8	(4597.7)	3872.0	3000.0	(4041.9)	2319
Wave 4							
Unemployed Discouraged	2744.5	2873.4	(1265.7)	2788.4	3000.0	(1290.5)	55
Unemployed Strict	3455.5	2949.6	(3163.0)	3477.8	3000.0	(3169.1)	686
Employed	4924.6	3441.2	(5258.5)	4965.3	3500.0	(5299.2)	1864
Total	4548.0	3005.4	(4854.1)	4584.5	3000.0	(4889.3)	2605

Notes: Real reservation wages are deflated to November 2014 levels. Individuals with missing reservation wages, real reservation wages less than R200 or greater than R65000, in a wave, were excluded from that particular wave. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

The mean cross-sectional real reservation wages of the unemployed and employed combined, increased from Wave 2 to Wave 4. In each wave, the real reservation wages of those employed, were higher on average than those of the unemployed. The average real reservation wages of the employed were higher in Wave 3 than in Wave 2, but was slightly lower in Wave 4 than in Wave 3. The average real reservation wages of the strictly unemployed increased from Wave 2 to Wave 3, and again from Wave 3 to Wave 4.

Though we are considering a balanced panel of respondents, the above cross-sectional reservation wages contain different people in each labour market state across the waves, and if a respondent in our balanced panel was not economically active in one of the waves, they would not appear in the reservation wage figures for that wave. We therefore take advantage of the panel aspect of NIDS, and consider the sub-sets of our balanced panel who had the same employment status from Wave 2

⁷ November 2014 was the modal interview month for Wave 4 of NIDS.

to Wave 4, and those whose employment status changed between Wave 2 to Wave 3 and Wave 3 to Wave 4.

Table 21: Reservation wages for those unemployed in Waves 2, 3 and 4

	Real			Nominal			Obs
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Wave 2	3666.8	2507.3	(6574.1)	2934.5	2000.0	(5222.4)	73
Wave 3	2951.1	2288.1	(1817.6)	2597.5	2000.0	(1597.2)	73
Wave 4	2692.6	2007.2	(1493.0)	2712.6	2000.0	(1520.0)	73

Notes: Real reservation wages are deflated to November 2014 levels. Individuals with missing reservation wages, real reservation wages of less than R200 or greater than R65000, in any of the three waves, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Since data on reservation wages was not collected in Wave 1, Table 21 contains the mean and median real and nominal reservation wages for those in our panel who were unemployed for Waves 2, 3 and 4. The mean and median real reservation wage for this group has declined over the waves. This finding suggests that high reservation wages are not the reason why some individuals experience persistent unemployment. It seems that those who experience persistent unemployment revise their expectations downwards.

Table 22: Reservation wages for those employed in Waves 2, 3 and 4

	Real			Nominal			Obs
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Wave 2	5002.8	3752.5	(4999.6)	4005.8	3000.0	(3991.4)	586
Wave 3	5701.6	3535.6	(5846.7)	5019.0	3100.0	(5139.6)	586
Wave 4	5593.5	4000.0	(5208.4)	5636.5	4000.0	(5242.9)	586

Notes: Real reservation wages are deflated to November 2014 levels. Individuals with missing reservation wages, real reservation wages of less than R200 or greater than R65000, in any of the three waves were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Table 22 contains the mean and median real and nominal reservation wages for those of our panel who were employed in Waves 2, 3, and 4. The mean real reservation wages for this group increased between Wave 2 and Wave 3, and then decreased slightly between Wave 3 and Wave 4. Median real reservation wages for this group decreased slightly between Wave 2 and Wave 3 and then increased again from Wave 3 to Wave 4. The slight drop in real average reservation wages between Wave 3 and Wave 4 is surprising. However, this may be the result of deflating, as nominal average reservation wages have increased for this group.

**Table 23: Change in reservation wages by change in employment status:
Wave 2 to Wave 3**

	Real			Nominal			Obs
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Unemployed in both waves	-100.7	318.9	(4307.5)	149.5	500.0	(3479.3)	231
Unemployed then employed	691.5	210.0	(3248.3)	875.5	500.0	(2790.9)	237
Employed in both waves	557.7	287.4	(6108.3)	888.4	500.0	(5178.1)	711
Employed then unemployed	228.2	287.7	(3315.5)	481.4	500.0	(2742.4)	153
Total	446.2	283.9	(5192.1)	730.7	500.0	(4383.0)	1332

Notes: Real reservation wages are deflated to November 2014 levels. Individuals with missing reservation wages, real reservation wages of less than R200 or greater than R65000 in Wave 2 or Wave 3, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Table 23 contains the mean and median of the changes in real and nominal reservation wages for our panel who were in the labour force in both Wave 2 and Wave 3, split by their employment statuses in these two waves. The mean and median change in reservation wages from Wave 2 to Wave 3 is positive for all groups except for those who were unemployed in both waves, with the average increase in real reservation wages being the highest for those who changed from being unemployed to employed.

Table 24: Change in reservation wages by change in employment status: Wave 3 to Wave 4

	Real			Nominal			Obs
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Unemployed in both waves	34.2	220.0	(2394.0)	404.6	500.0	(2226.8)	258
Unemployed then employed	414.7	-274.0	(3683.7)	862.2	0.0	(3624.8)	367
Employed in both waves	320.4	291.2	(6119.8)	992.0	500.0	(5838.9)	1071
Employed then unemployed	-184.2	-45.8	(4311.9)	351.5	200.0	(4195.4)	163
Total	263.8	155.2	(5255.1)	845.8	500.0	(5033.7)	1859

Notes: Real reservation wages are deflated to November 2014 levels. Individuals with missing reservation wages, real reservation wages of less than R200 or greater than R65000 in Wave 3 or Wave 4, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

In Table 24 we see a slightly different pattern for the change in reservation wages from Wave 3 to Wave 4 by change in employment status. The mean and median change in reservation wages from Wave 3 to Wave 4 is positive for those who had the same employment status. However, this was negative for those who changed from being employed in Wave 3 to being unemployed in Wave 4. Similar to the change from Wave 2 to Wave 3, the highest increase in mean reservation wages was for those who changed from being unemployed to employed between Wave 3 and Wave 4.

However, in both sets of transitions (Wave 2-Wave 3 and Wave 3-Wave 4) the pattern of nominal reservation wages is as would be expected in a scenario where unemployment is not being driven by reservation wages. From Wave 2 to Wave 3 the least change in reservation wages are reported by those who were unemployed in both waves, followed by those who went from employment to unemployment, then by those who went from unemployment to employment, and finally by those who remained employed in both waves. A similar pattern is observed when looking at the transition from Wave 3 to Wave 4, the only difference being that those who transition from employment to unemployment report a lower change in reservation wages on average than those who remain unemployed over the two waves.

4.4. Employment status changes between Wave 3 and Wave 4

Table 25: Wave 3 to Wave 4 employment state transitions

Wave 3 employment status	Wave 4 employment status				Total
	Not economically active	Unemployed discouraged	Unemployed strict	Employed	
Not economically active	41.3	1.9	22.2	34.5	100
Unemployed discouraged	31.8	5.6	26.3	36.4	100
Unemployed strict	25.0	1.8	26.3	46.9	100
Employed	8.6	0.4	9.7	81.2	100
Total	22.7	1.3	17.6	58.4	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Nearly 47% of those who were unemployed (strict definition) in Wave 3, found employment by Wave 4, compared to 36% for the discouraged unemployed in Wave 3, and nearly 35% of those not economically active in Wave 3. Furthermore, 81% of those who were employed in Wave 3 were employed in Wave 4 as well.

4.4.1. Finding employment between Wave 3 and Wave 4

We now investigate who found employment between Wave 3 and Wave 4, and how they transitioned.

4.4.1.1. Migration between Wave 3 and Wave 4

We compare employment in Wave 4 by migration status for those who were not employed in Wave 3, but who were in the labour force in Wave 4. Table 26 shows Wave 4 employment status for those who were not economically active in Wave 3, and Table 27 shows this for those were unemployed in Wave 3.

Table 26: Wave 4 employment status of those not economically active in Wave 3 but in the labour force in Wave 4, by migration status

Moved between Wave 3 and Wave 4?	Unemployed in Wave 4	Employed in Wave 4	Total
Did not move	43.0	57.0	100
Moved	37.3	62.7	100
Total	41.2	58.8	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Table 27: Wave 4 employment status of those unemployed in Wave 3 but in the labour force in Wave 4, by migration status

Moved between Wave 3 and Wave 4?	Unemployed in Wave 4	Employed in Wave 4	Total
Did not move	40.0	60.0	100
Moved	31.8	68.2	100
Total	38.2	61.8	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Among those in our panel who were not employed in Wave 3, but in the labour force in Wave 4, those who moved between Wave 3 and Wave 4 were more likely to be employed in Wave 4, than those who did not move. Those who were unemployed in Wave 3 were more likely to be employed in Wave 4 than their counterparts who were not economically active in Wave 3. This pattern was also observed in previous waves (results not shown here).

Of those who changed from not economically active in Wave 3 to in the labour force in Wave 4, 63% who moved between Wave 3 and Wave 4 found employment, whereas only 57% of those who did not move found employment in Wave 4. Of those who were unemployed in Wave 3 and still in the labour force in Wave 4, 68% of the movers found employment in Wave 4, compared to only 60% of those who did not move.

Table 28 and Table 29 give a slightly different perspective on these statistics, showing migration status of the employed and unemployed in Wave 4. Data for those who were not economically active and those who were unemployed in Wave 3 are in shown in separately in Table 28 and Table 29 respectively.

Table 28: Migration status of those not economically active in Wave 3 but in the labour force in Wave 4, by Wave 4 employment status

Moved between Wave 3 and Wave 4?	Unemployed in Wave 4	Employed in Wave 4	Total
Did not move	71.3	66.1	68.3
Moved	28.7	33.9	31.7
Total	100.0	100.0	100.0

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Table 29: Migration status of those unemployed in Wave 3 but in the labour force in Wave 4, by Wave 4 employment status

Moved between Wave 3 and Wave 4?	Unemployed in Wave 4	Employed in Wave 4	Total
Did not move	81.9	76.0	78.3
Moved	18.1	24.0	21.7
Total	100.0	100.0	100.0

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Amongst those in our panel who were not working in Wave 3, migrants made up a greater proportion of those who found employment by Wave 4 than non-migrants in Wave 4.

34% of those who were not economically active in Wave 3, but were employed in Wave 4, had moved, whereas only 29% of those who were unemployed in Wave 4 had moved. 24% of those who were unemployed in Wave 3, but employed in Wave 4 had moved, compared to only 18% of those who were still unemployed by Wave 4.

4.4.1.2. How new jobs were found between Wave 3 and Wave 4

Table 30 shows the proportion of those who transitioned into employment between Wave 3 and Wave 4, who found regular employment.

Table 30: Regularity of new employment from Wave 3 to Wave 4, by Wave 3 employment status

	Was a job they found by Wave 4 regular?		Total
	Yes	No	
Not economically active in Wave 3	70.1	29.9	100
Unemployed in Wave 3	65.2	34.8	100
Total	67.5	32.5	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

70% of our panel who were not economically active but became employed between Wave 3 and Wave 4, found a regular job. A slightly lower proportion, 65% of the Wave 3 unemployed who found employment in Wave 4, found a regular job. Table 31 shows how these regular jobs were found and whether this varied by the respondent's labour market status in Wave 3.

Table 31: How Wave 4 main regular job was found for those not employed in Wave 3

	Not economically active in Wave 3	Unemployed in Wave 3	Total
Saw an advert in a newspaper or on the internet	14.7	16.8	15.8
Saw an advert on a notice board in a community centre or shopping centre, shop etc.	6.9	8.4	7.7
A household member told me about the job	6.5	2.2	4.3
A friend or relative (in a different household) told me about the job	51.0	47.0	49.0
I went to a factory and waited for a job	10.1	9.6	9.8
I knocked on factory gates and visited private homes and shops until I got the job	3.7	12.2	8.0
Through an employment agency	3.3	1.6	2.4
I asked someone who had employed me before about a job	3.1	1.2	2.1
Other (specify)	0.5	1.1	0.8
Total	100	100	100

Notes: Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Just over half of our panel who were not economically active in Wave 3 but found a regular job by Wave 4, found this employment through a friend or relative. Nearly 7% found their job through a

household member. These networks also played a role in helping those who were unemployed in Wave 3 to find a regular job. 47% of those who were unemployed found their regular job through a friend or relative, and another 2% through a household member.

4.4.1.3. Sector and occupation in which regular employment between Waves 3 and 4 was found

Table 32: Sector of Wave 4 main regular job if not employed in Wave 3

	Not economically active in Wave 3	Unemployed in Wave 3	Total
Private households	6.5	9.6	8.1
Agriculture, hunting, forestry and fishing	8.0	3.5	5.7
Mining and Quarrying	3.2	2.9	3.1
Manufacturing	8.9	9.6	9.3
Electricity, gas and water supply	0.4	1.8	1.1
Construction	6.6	10.9	8.8
Wholesale and Retail trade; repair etc; hotels and restaurants	32.8	22.4	27.6
Transport, storage and communication	2.3	3.5	2.9
Financial intermediation, insurance, real estate and business services	7.3	11.3	9.3
Community, social and personal services	23.9	24.3	24.1
Total	100	100	100

Notes: Those with a missing sector code for their main regular employment were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Almost a third of those in our panel who were not economically active in Wave 3 and had found a regular job by Wave 4, found their main regular job in the Wholesale and retail sector. 24% found their regular job in Community, social and personal services. 24% of those who were unemployed in Wave 3 and had found a regular job by Wave 4, found their main regular job in the Community, social and personal services sector, and slightly fewer, 22%, found this job in the Wholesale and retail sector.

Table 33: Occupation of Wave 4 main regular job if not employed in Wave 3

	Not economically active in Wave 3	Unemployed in Wave 3	Total
Armed forces occupations	0.0	0.6	0.3
Managers	0.8	2.4	1.6
Professionals	7.5	10.6	9.1
Technicians and associate professionals	3.1	3.3	3.2
Clerical support workers	7.9	7.1	7.5
Service and sales workers	26.1	25.6	25.8
Skilled agricultural, forestry and fishery workers	0.2	0.5	0.3
Craft and related trades workers	16.2	10.4	13.3
Plant and machine operators, and assemblers	4.9	8.2	6.5
Elementary occupations	33.4	31.1	32.3
Total	100	100	100

Notes: Those with a missing occupation code for their main regular employment were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

About a third of those in our panel who were not economically active or unemployed in Wave 3, but who found a regular job by Wave 4, found their main regular job in Elementary occupations, and about 26% in Services and sales.

4.5. Wages of those who moved from unemployed to employed, by wave

Given the wording of the reservation wage questions in NIDS, if we want to compare actual wages and reservation wages, we need to compare reservation wages to the monthly take-home wage (after any deductions) for those in permanent, full time employment. NIDS only collects data on whether the job is permanent for the main regular job. In the following analysis, the previous wave's reservation wage is compared to the net income from the primary regular occupation of those who had a regular, full time (40 plus hours per week) and permanent job.

When interpreting these results, it is relevant to note that there were approximately two years between the collection of data on respondents' reservation wages and their salary in their job. Figures were deflated to take into account inflation. However, by the time they found a job, respondents' reservation wages may have changed in real terms.

Table 34 and Table 35 show the mean and median real and nominal difference in wages minus the previous period's reservation wages for those in our panel who moved into regular employment from being unemployed.

Table 34: Unemployed in Wave 2: Wave 3 regular take home pay minus Wave 2 reservation wage

	Real			Nominal			Obs
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Wave 3 take-home pay minus Wave 2 reservation wage	482.1	69.1	(2742.8)	727.2	300.0	(2303.7)	48

Notes: Real reservation wages and wages are deflated to November 2014 levels. Individuals with missing or real reservation wages of less than R200 or greater than R65000 in Wave 2, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

Table 35: Unemployed in Wave 3: Wave 4 regular take home pay minus Wave 3 reservation wage

	Real			Nominal			Obs
	Mean	Median	Std.Dev.	Mean	Median	Std. Dev.	
Wave 4 take-home pay minus Wave 3 reservation wage	64.5	187.2	(2851.5)	548.2	470.0	(2760.8)	67

Notes: Reservation wages and wages are deflated to November 2014 levels. Individuals with missing or real reservation wages of less than R200 or greater than R65000 in Wave 3, were excluded. Estimates using balanced panel of youth in Wave 1. Balanced panel weight used.

The average difference between the take-home pay in Wave 3 and the Wave 2 reservation wage of those in our panel moving from unemployment in Wave 2 to regular, full-time employment in Wave

3 was about R482. The corresponding average difference in Wave 4 real take-home pay less their Wave 3 real reservation wage, was about R65. The difference between the reservation and actual wage is positive for both periods of comparison, suggesting that those who found employment did so at higher wages than their reservation wage reported previously. Thus their average reservation wage was not above the average wage actually earned.

5. Probit regression analysis

In this section, the probabilities of remaining in, or moving out of employment or unemployment are modelled with probit regression analysis. There are small numbers of Indian and White respondents in our panel. Therefore, because race is included as a control variable in our regressions, we exclude White and Indian respondents. Thus only Coloured and African respondents were included in the regressions.

For each of the regressions, the dependant variable is binary. The three dependant variables, on which probit regressions were run, are as follows:

- i) Employed all waves vs being unemployed at least twice
 - The dependant variable equals 1 if the respondent was employed in all waves and 0 if they were unemployed at least twice in the four waves (and were in the labour force in all four waves).
- ii) Employed in Wave 1: Employed all waves vs employed in Wave 1 but not in all waves
 - The dependant variable equals 1 if the respondent was employed in all four waves and 0 if they were employed in Wave 1, but not in all of the subsequent three waves (and they were in the labour force in all four waves).
- iii) Unemployed in Wave 1: Employed in Waves 2-4 vs unemployed in at least two of the subsequent three waves
 - The dependant variable equals 1 if the respondent was unemployed in Wave 1 and then employed for the subsequent three waves and 0 if they were unemployed in Wave 1 and unemployed at least twice in the subsequent three waves (and were in the labour force in all four waves).

For each of these dependant variables, a series of probit regressions are run, to test the sensitivity of the coefficients when other covariates are included. The average marginal effects from these regressions are included in the Appendix 2 for completeness. We only show the results of a few of the regressions for each dependant variable here.

Gender and race (Coloured and African) are demographic characteristics that are controlled for in all the regressions. Explanatory variables which were always included were the respondent's highest level of successfully completed education in Wave 1 (either less than matric, matric or higher education), and their age in Wave 1.

Other explanatory variables were included in some regressions, in order to test the sensitivity of the coefficients. We undertake regressions to control for migration, that is, whether the respondent

moved between any of the waves (either through the inclusion of dummies for moving in each wave, or a dummy for having moved in any wave). We also control for the respondent's location in Wave 1 (either Traditional areas or Farms, as opposed to a base case of Urban, or Urban with a base case of Traditional and Farms combined). Self-reported ability to write in English in Wave 1 was included in some regressions (through the inclusion of a dummy variable for writing in English very well/fair as opposed to not well/not at all).

We include a dummy variable indicating if the respondent had a regular job in Wave 1, in some of the regressions when modelling the probability of the respondent remaining employed or falling out of employment. We also include a dummy variable for the respondent having ever worked in Wave 1 in some of the regressions when modelling the probability of them exiting unemployment.

5.1. Employed in all waves vs being unemployed at least twice

The regressions in Table 36 reflect the probability of being employed persistently (measured by being employed in all four waves) as opposed to being unemployed in at least two waves (for those in the labour force in all four waves). We control for the other covariates, and examine the characteristics that are associated with a statistically significant higher probability of being employed in all waves, as opposed being unemployed at least twice. These characteristics are: being highly educated, being male, being Coloured rather than African, being older, moving between Waves 1 and 2, and between Wave 3 and 4 (at the 10% level of significance). Moving between Wave 2 and 3 on the other hand, was associated with a decrease in the probability of being employed in all waves, as opposed being unemployed at least twice.

The probability of being employed in all waves as opposed to being unemployed at least twice was not statistically significantly different between those living in Urban and those living in Traditional or Farms areas in Wave 1, as the Wave 1 location categories were not jointly significant.

Table 36: Average marginal effects: Employed in all waves vs being unemployed in at least two waves⁸

Variables	(1)	(2)
Wave 1 Highest Education = Matric (base case = less than matric)	0.138*** (0.0467)	0.131*** (0.0459)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.167** (0.0710)	0.163** (0.0717)
Female	-0.244*** (0.0478)	-0.250*** (0.0472)
Coloured (base case = African)	0.180*** (0.0608)	0.190*** (0.0583)
Best age in years	0.0253*** (0.00463)	0.0261*** (0.00460)
Moved between Wave 1 and Wave 2	0.151*** (0.0580)	0.150*** (0.0580)
Moved between Wave 2 and Wave 3	-0.174*** (0.0573)	-0.161*** (0.0577)
Moved between Wave 3 and Wave 4	0.0927* (0.0477)	0.100** (0.0476)
Wave 1 location = Traditional (base case = urban)	-0.0872* (0.0481)	
Wave 1 location = Farms (base case = urban)	0.0479 (0.0891)	
Wave 1 location = Urban (base case = Traditional/farms)		0.0533 (0.0446)
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)	0.00687 (0.0654)	0.00122 (0.0643)
Observations	685	685
Pseudo R-squared	0.162	0.158
p value from Wald test of Wave 1 education categories	0.0107	0.0131
p value from Wald test of Wave 1 location categories	0.125	

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

5.2. Employed in Wave 1: Employed in all waves vs employed in Wave 1 but not in all waves

The regressions in Table 37 show the probability of being employed persistently, measured by being employed in all four waves, as opposed to starting off in a job in Wave 1, but not remaining employed throughout all the waves (for those in the labour force in all four waves).

We first control for the covariates, other than being in regular employment in Wave 1. Characteristics which are associated with a statistically significant higher probability of being

⁸ These regression results correspond with those in the 9th and 10th columns in Table 40 in Appendix 2.

employed persistently include: Being older, having moved between Wave 3 and 4, and living on farms or urban areas in Wave 1, as opposed to living in a traditional area (at the 10% level of significance).

Our results are similar when we control for whether the respondent had regular employment in Wave 1. However moving between Wave 3 and 4 loses its significance. Being regularly employed in Wave 1 is associated with a greater probability of being persistently employed.

Table 37: Average marginal effects: Employed in Wave 1: Employed in all waves vs employed in Wave 1 but not in all waves⁹

Variables	(1)	(2)
Wave 1 Highest Education = Matric (base case = less than matric)	0.0356 (0.0526)	0.0184 (0.0526)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.0935 (0.0701)	0.0586 (0.0743)
Female	-0.00559 (0.0477)	0.0142 (0.0471)
Coloured (base case = African)	0.0762 (0.0654)	0.0423 (0.0702)
Best age in years	0.0186*** (0.00552)	0.0143*** (0.00550)
Wave 1 Regular Employment = Yes		0.174*** (0.0621)
Moved between Wave 1 and Wave 2	0.0751 (0.0629)	0.0805 (0.0620)
Moved between Wave 2 and Wave 3	-0.0268 (0.0724)	-0.0390 (0.0713)
Moved between Wave 3 and Wave 4	0.0939** (0.0469)	0.0773 (0.0473)
Wave 1 location = Traditional (base case = urban)	-0.102* (0.0546)	-0.0892* (0.0540)
Wave 1 location = Farms (base case = urban)	0.147*** (0.0542)	0.134** (0.0556)
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)	0.00885 (0.0673)	-0.00656 (0.0667)
Observations	620	620
Pseudo R-squared	0.0703	0.0913
p value from Wald test of Wave 1 education categories	0.450	0.749
p value from Wald test of Wave 1 location categories	0.00236	0.00760

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

⁹ These regression results correspond to those in the 9th column in Table 41 and Table 42 in Appendix 2.

5.3. Unemployed in W1: Employed in the subsequent three waves vs unemployed at least twice in the subsequent three waves

Table 38 shows the probability of moving from unemployment in Wave 1 to persistent employment over the subsequent three waves, as opposed to being unemployed in Wave 1 and unemployed at least twice in the subsequent three waves (for those in the labour force in all four waves).

The results of four regressions of this dependant variable are presented in Table 38 , and include two ways of controlling for Wave 1 location. Columns 1 and 3 include a dummy variable for the Wave 1 location being Traditional, and another for the Wave 1 location being Farms (as opposed to the base of Urban). The results in columns 1 and 3 should be interpreted with caution, as respondents who live on farms are very few for this analysis¹⁰. Columns 2 and 4 contain similar regressions: A dummy variable for urban location in Wave 1 (as opposed to the base case of Traditional or Farms combined) is used as another option to control for Wave 1 location. Bearing in mind the low number of observations of residents on farms in these regressions (and that the location variables are only jointly significant at the 10% level in Column 3), when controlling for other covariates, living on a farm is associated with a higher probability of moving from unemployment in Wave 1 to persistent employment.

When controlling for the other covariates, the other variables that are associated with a statistically significant higher probability of transitioning to persistent employment are: Having a post-matric education, being male (significant at the 10% level), and being Coloured. Whether the respondent had ever worked before Wave 1 was only significant in some regressions¹¹, and generally only at the 10% level of significance (see Table 44 in Appendix 2).

¹⁰ 8 respondents lived on farms, and only 1 of these had the value 0 for the dependant variable, and the rest had the value 1 for the dependant variable.

¹¹ It was significant in the regressions shown in Columns 1, 2, 5, 6, 7, 10 and 11 in Table 44.

Table 38: Average marginal effects: Unemployed in W1: Employed in the subsequent three waves vs unemployed at least twice in the subsequent three waves¹²

Variables	(1)	(2)	(3)	(4)
Wave 1 Highest Education = Matric (base case = less than matric)	0.131 (0.0858)	0.126 (0.0856)	0.116 (0.0847)	0.111 (0.0843)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.372*** (0.0651)	0.369*** (0.0657)	0.361*** (0.0663)	0.358*** (0.0668)
Female	-0.162* (0.0904)	-0.161* (0.0904)	-0.172* (0.0906)	-0.171* (0.0906)
Coloured (base case = African)	0.332*** (0.0797)	0.338*** (0.0741)	0.311*** (0.0851)	0.315*** (0.0807)
Best age in years	0.0141 (0.00942)	0.0143 (0.00943)	0.0121 (0.00958)	0.0121 (0.00960)
Moved between Wave 1 and Wave 2	0.140 (0.110)	0.144 (0.109)	0.139 (0.103)	0.141 (0.102)
Moved between Wave 2 and Wave 3	-0.139 (0.118)	-0.147 (0.119)	-0.0995 (0.118)	-0.103 (0.118)
Moved between Wave 3 and Wave 4	0.128 (0.0851)	0.132 (0.0846)	0.129 (0.0818)	0.131 (0.0812)
Wave 1 location = Traditional (base case = urban)	0.0289 (0.0857)		0.0541 (0.0862)	
Wave 1 location = Farms (base case = urban)	0.343*** (0.0728)		0.317*** (0.0879)	
Wave 1 dummy for ever worked			0.148 (0.0934)	0.157* (0.0921)
Wave 1 location = Urban (base case = Traditional/farms)		-0.0453 (0.0831)		-0.0671 (0.0829)
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)	-0.0972 (0.131)	-0.0939 (0.129)	-0.0831 (0.137)	-0.0804 (0.136)
Observations	205	205	205	205
Pseudo R-squared	0.152	0.146	0.169	0.166
p value from Wald test of Wave 1 education categories	0.000905	0.00110	0.00158	0.00187
p value from Wald test of Wave 1 location categories	0.0271		0.0721	

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using a balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

¹² The results shown in Table 38 correspond to those in the 9th and 10th columns in Table 43 and Table 44 in Appendix 2.

6. Conclusion

Our study reveals that there is a significant degree of churn in the South African youth labour market. This means that a significant proportion of youth move between different labour market states. This situation in the youth labour market has both positive and negative implications. Labour economics theory suggests that layoffs and voluntary quits improve matching between employers and employees. This can be positive for the market if a small proportion of youth are moving between jobs in any period. However, it is concerning when a significant proportion of youth do not keep their jobs. Our analysis indicates that the employment of youth in South Africa is unstable. The magnitude of this churn suggests that layoffs, rather than voluntary quits, are the main drivers of this employment instability. This is also likely given the high youth unemployment rate in the country. Individuals would not be voluntarily quitting their jobs to this degree in an environment of high unemployment.

In turn, layoffs are either driven by unfavourable economic conditions or employers' dissatisfaction with their employees. The unemployment rate in the sample in question has not worsened over the four waves, and this implies that economic conditions are not the main source of the continual movement by the youth between labour market states. This suggests that it is more likely that the source of the observed churn in the South African youth labour market is employers laying off some young people and hiring others. Policy intervention has to address this instability of employment for youth by first understanding the underlying cause. Probably a lack of soft skills is a major part of the problem in matching youth and employers.

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Appendices

Appendix 1: Summary statistics of the balanced Wave 1 youth panel without restrictions

Table 39: Summary statistics of the balanced Wave 1 youth panel without restrictions

	Wave 1	Wave 2	Wave 3	Wave 4
Age interval (%)				
15-19 years	32.5	17.0	3.7	
20-24 years	25.2	28.8	33.0	21.3
25-29 years	20.9	22.2	23.9	27.7
30-34 years	21.4	20.6	20.3	22.4
35-39 years		11.4	19.1	21.2
40-44 years				7.4
Gender (%)				
Male	47.1	47.1	47.1	47.1
Female	52.9	52.9	52.9	52.9
Race (%)				
African	86.6	86.6	86.6	86.6
Coloured	7.6	7.6	7.6	7.6
Asian/Indian	2.3	2.3	2.3	2.3
White	3.5	3.5	3.5	3.5
Education (%)				
Less than matric	67.3	61.4	57.1	55.9
Matric	24.8	25.5	27.1	23.3
Higher education	7.9	13.1	15.7	20.8
Location (%)				
Traditional	36.5	36.4	34.6	31.7
Urban	58.3	58.0	61.1	63.8
Farms	5.2	5.6	4.3	4.6
Employment status (%)				
Not economically active	42.0	42.8	29.5	22.6
Unemployed (strict & discouraged)	25.7	21.4	26.5	19.6
Employed	32.2	35.7	44.0	57.8

Notes: Estimates using a balanced panel of youth in Wave 1 (without the restrictions of only being interviewed with an adult questionnaire (as opposed to proxy questionnaire) in each wave, and having to have an employment status in all waves). Missing values are excluded. Balanced panel weight used.

Appendix 2: Average Marginal Effects from selected regressions

Table 40: Average marginal effects: Employed in all waves vs unemployed in at least two waves

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Wave 1 Highest Education = Matric (base case = less than matric)	0.117** (0.0462)	0.113** (0.0466)	0.134*** (0.0438)	0.139*** (0.0447)	0.132*** (0.0437)	0.120** (0.0471)	0.115** (0.0458)	0.131*** (0.0462)	0.138*** (0.0467)	0.131*** (0.0459)	0.113** (0.0492)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.163** (0.0739)	0.165** (0.0726)	0.170** (0.0702)	0.167** (0.0703)	0.163** (0.0711)	0.159** (0.0744)	0.155** (0.0752)	0.168** (0.0710)	0.167** (0.0710)	0.163** (0.0717)	0.160** (0.0755)
Female	-0.247*** (0.0493)	-0.252*** (0.0485)	-0.248*** (0.0471)	-0.244*** (0.0475)	-0.251*** (0.0468)	-0.246*** (0.0498)	-0.250*** (0.0490)	-0.248*** (0.0474)	-0.244*** (0.0478)	-0.250*** (0.0472)	-0.247*** (0.0496)
Coloured (base case = African)	0.208*** (0.0569)	0.211*** (0.0549)	0.201*** (0.0554)	0.183*** (0.0600)	0.192*** (0.0574)	0.188*** (0.0618)	0.196*** (0.0593)	0.199*** (0.0562)	0.180*** (0.0608)	0.190*** (0.0583)	0.206*** (0.0577)
Best age in years	0.0251*** (0.00483)	0.0255*** (0.00482)	0.0261*** (0.00457)	0.0251*** (0.00462)	0.0260*** (0.00459)	0.0242*** (0.00489)	0.0250*** (0.00486)	0.0263*** (0.00457)	0.0253*** (0.00463)	0.0261*** (0.00460)	0.0253*** (0.00483)
Moved between Wave 1 and Wave 2			0.156*** (0.0568)	0.151*** (0.0578)	0.149*** (0.0578)			0.155*** (0.0572)	0.151*** (0.0580)	0.150*** (0.0580)	
Moved between Wave 2 and Wave 3			-0.166*** (0.0589)	-0.174*** (0.0574)	-0.162*** (0.0579)			-0.166*** (0.0589)	-0.174*** (0.0573)	-0.161*** (0.0577)	
Moved between Wave 3 and Wave 4			0.0990** (0.0485)	0.0923* (0.0476)	0.0997** (0.0475)			0.0994** (0.0486)	0.0927* (0.0477)	0.100** (0.0476)	
Wave 1 location = Traditional (base case = urban)				-0.0886* (0.0487)		-0.102** (0.0502)			-0.0872* (0.0481)		
Wave 1 location = Farms (base case = urban)				0.0461 (0.0870)		0.00865 (0.102)			0.0479 (0.0891)		
Moved between any of the waves		0.0571 (0.0476)									
Wave 1 location = Urban (base case = Traditional/farms)					0.0540 (0.0447)		0.0732 (0.0471)			0.0533 (0.0446)	
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)								0.0174 (0.0662)	0.00687 (0.0654)	0.00122 (0.0643)	0.0234 (0.0694)
Observations	687	687	687	687	687	687	687	685	685	685	685
Pseudo R-squared	0.123	0.127	0.156	0.163	0.158	0.131	0.128	0.156	0.162	0.158	0.123
p value from Wald test of Wave 1 education categories	0.0239	0.0285	0.00712	0.00713	0.00881	0.00881	0.00881	0.0127	0.0107	0.0131	0.0423
p value from Wald test of Wave 1 location categories				0.129		0.110			0.125		

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

Table 41: Average marginal effects: Employed in all waves vs employed in Wave 1 but not in all waves

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Wave 1 Highest Education = Matric (base case = less than matric)	0.0216 (0.0542)	0.0120 (0.0539)	0.0200 (0.0517)	0.0372 (0.0511)	0.0178 (0.0518)	0.0374 (0.0537)	0.0192 (0.0543)	0.0192 (0.0534)	0.0356 (0.0526)	0.0185 (0.0534)	0.0211 (0.0563)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.0823 (0.0716)	0.0782 (0.0709)	0.0897 (0.0701)	0.0945 (0.0691)	0.0843 (0.0713)	0.0863 (0.0705)	0.0764 (0.0727)	0.0894 (0.0713)	0.0935 (0.0701)	0.0853 (0.0721)	0.0821 (0.0729)
Female	-0.00871 (0.0497)	-0.0102 (0.0493)	-0.0176 (0.0477)	-0.00674 (0.0475)	-0.0184 (0.0479)	0.00206 (0.0495)	-0.00965 (0.0499)	-0.0165 (0.0479)	-0.00559 (0.0477)	-0.0170 (0.0480)	-0.00761 (0.0499)
Coloured (base case = African)	0.112* (0.0597)	0.117** (0.0570)	0.116** (0.0570)	0.0796 (0.0646)	0.110* (0.0589)	0.0747 (0.0673)	0.105* (0.0616)	0.113* (0.0577)	0.0762 (0.0654)	0.106* (0.0597)	0.109* (0.0605)
Best age in years	0.0191*** (0.00567)	0.0193*** (0.00565)	0.0200*** (0.00540)	0.0183*** (0.00551)	0.0196*** (0.00546)	0.0172*** (0.00577)	0.0187*** (0.00573)	0.0202*** (0.00541)	0.0186*** (0.00552)	0.0198*** (0.00548)	0.0193*** (0.00568)
Moved between Wave 1 and Wave 2			0.0736 (0.0629)	0.0745 (0.0628)	0.0711 (0.0633)			0.0743 (0.0630)	0.0751 (0.0629)	0.0720 (0.0634)	
Moved between Wave 2 and Wave 3			-0.0107 (0.0710)	-0.0278 (0.0726)	-0.0104 (0.0713)			-0.00988 (0.0709)	-0.0268 (0.0724)	-0.0100 (0.0711)	
Moved between Wave 3 and Wave 4			0.0987** (0.0469)	0.0930** (0.0468)	0.0980** (0.0467)			0.0995** (0.0469)	0.0939** (0.0469)	0.0987** (0.0468)	
Wave 1 location = Traditional (base case = urban)				-0.103* (0.0542)		-0.109** (0.0548)			-0.102* (0.0546)		
Wave 1 location = Farms (base case = urban)				0.145*** (0.0535)		0.143*** (0.0533)			0.147*** (0.0542)		
Moved between any of the waves		0.0728 (0.0489)									
Wave 1 location = Urban (base case = Traditional/farms)					0.0428 (0.0471)		0.0477 (0.0476)			0.0421 (0.0478)	
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)								0.00312 (0.0654)	0.00885 (0.0673)	-0.00390 (0.0654)	0.00256 (0.0664)
Observations	622	622	622	622	622	622	622	620	620	620	620
Pseudo R-squared	0.0406	0.0466	0.0524	0.0698	0.0542	0.0585	0.0427	0.0529	0.0703	0.0546	0.0409
p value from Wald test of Wave 1 education categories	0.564	0.590	0.502	0.424	0.550	0.489	0.616	0.516	0.450	0.550	0.579
p value from Wald test of Wave 1 location categories				0.00226		0.00162			0.00236		

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

Table 42: Average marginal effects: Employed in all waves vs employed in Wave 1 but not in all waves (including a dummy variable for having a regular job in Wave 1)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Wave 1 Highest Education = Matric (base case = less than matric)	-0.000205 (0.0541)	-0.00629 (0.0538)	-0.000864 (0.0516)	0.0169 (0.0513)	-0.00231 (0.0518)	0.0162 (0.0539)	-0.00181 (0.0543)	0.00165 (0.0532)	0.0184 (0.0526)	0.00136 (0.0533)	0.00198 (0.0560)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.0404 (0.0762)	0.0391 (0.0752)	0.0486 (0.0750)	0.0569 (0.0736)	0.0445 (0.0758)	0.0479 (0.0748)	0.0359 (0.0770)	0.0513 (0.0758)	0.0586 (0.0743)	0.0481 (0.0764)	0.0427 (0.0772)
Female	0.0138 (0.0492)	0.0115 (0.0492)	0.00579 (0.0474)	0.0129 (0.0471)	0.00496 (0.0476)	0.0207 (0.0490)	0.0128 (0.0496)	0.00721 (0.0475)	0.0142 (0.0471)	0.00653 (0.0477)	0.0151 (0.0494)
Coloured (base case = African)	0.0731 (0.0657)	0.0792 (0.0631)	0.0778 (0.0634)	0.0465 (0.0694)	0.0723 (0.0648)	0.0412 (0.0715)	0.0671 (0.0671)	0.0736 (0.0642)	0.0423 (0.0702)	0.0675 (0.0658)	0.0693 (0.0666)
Best age in years	0.0142** (0.00566)	0.0145** (0.00573)	0.0153*** (0.00544)	0.0142*** (0.00549)	0.0150*** (0.00548)	0.0129** (0.00570)	0.0139** (0.00570)	0.0154*** (0.00545)	0.0143*** (0.00550)	0.0151*** (0.00549)	0.0143** (0.00566)
Wave 1 Regular Employment = Yes	0.197*** (0.0633)	0.186*** (0.0633)	0.190*** (0.0622)	0.175*** (0.0620)	0.188*** (0.0623)	0.180*** (0.0634)	0.194*** (0.0635)	0.190*** (0.0624)	0.174*** (0.0621)	0.188*** (0.0624)	0.196*** (0.0635)
Moved between Wave 1 and Wave 2			0.0790 (0.0621)	0.0796 (0.0620)	0.0770 (0.0624)			0.0801 (0.0622)	0.0805 (0.0620)	0.0781 (0.0624)	
Moved between Wave 2 and Wave 3			-0.0236 (0.0701)	-0.0391 (0.0715)	-0.0231 (0.0705)			-0.0238 (0.0701)	-0.0390 (0.0713)	-0.0237 (0.0704)	
Moved between Wave 3 and Wave 4			0.0815* (0.0476)	0.0766 (0.0472)	0.0811* (0.0473)			0.0819* (0.0476)	0.0773 (0.0473)	0.0814* (0.0474)	
Wave 1 location = Traditional (base case = urban)				-0.0894* (0.0537)		-0.0942* (0.0544)			-0.0892* (0.0540)		
Wave 1 location = Farms (base case = urban)				0.133** (0.0546)		0.130** (0.0545)			0.134** (0.0556)		
Moved between any of the waves		0.0525 (0.0492)									
Wave 1 location = Urban (base case = Traditional/farms)					0.0352 (0.0467)		0.0396 (0.0472)			0.0358 (0.0473)	
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)								-0.0122 (0.0648)	-0.00656 (0.0667)	-0.0176 (0.0648)	-0.0106 (0.0665)
Observations	622	622	622	622	622	622	622	620	620	620	620
Pseudo R-squared	0.0669	0.0701	0.0770	0.0910	0.0783	0.0811	0.0685	0.0774	0.0913	0.0786	0.0671
p value from Wald test of Wave 1 education categories	0.867	0.848	0.808	0.757	0.834	0.821	0.891	0.798	0.749	0.821	0.859
p value from Wald test of Wave 1 location categories				0.00726		0.00622			0.00760		

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

Table 43: Average marginal effects: Unemployed in Wave 1: Employed in the subsequent three waves vs unemployed at least twice in the subsequent three waves

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Wave 1 Highest Education = Matric (base case = less than matric)	0.126 (0.0892)	0.126 (0.0881)	0.119 (0.0843)	0.121 (0.0837)	0.116 (0.0837)	0.130 (0.0888)	0.124 (0.0890)	0.129 (0.0863)	0.131 (0.0858)	0.126 (0.0856)	0.139 (0.0911)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.371*** (0.0669)	0.374*** (0.0666)	0.368*** (0.0666)	0.366*** (0.0657)	0.364*** (0.0662)	0.371*** (0.0655)	0.368*** (0.0663)	0.373*** (0.0662)	0.372*** (0.0651)	0.369*** (0.0657)	0.377*** (0.0661)
Female	-0.185** (0.0924)	-0.203** (0.0852)	-0.177** (0.0874)	-0.175** (0.0870)	-0.173** (0.0870)	-0.185** (0.0923)	-0.184** (0.0924)	-0.162* (0.0908)	-0.162* (0.0904)	-0.161* (0.0904)	-0.168* (0.0961)
Coloured (base case = African)	0.362*** (0.0711)	0.358*** (0.0701)	0.334*** (0.0730)	0.331*** (0.0798)	0.339*** (0.0735)	0.359*** (0.0771)	0.366*** (0.0720)	0.334*** (0.0735)	0.332*** (0.0797)	0.338*** (0.0741)	0.361*** (0.0714)
Best age in years	0.0145 (0.00927)	0.0139 (0.00907)	0.0146 (0.00924)	0.0149 (0.00933)	0.0151 (0.00931)	0.0148 (0.00938)	0.0150 (0.00934)	0.0138 (0.00936)	0.0141 (0.00942)	0.0143 (0.00943)	0.0135 (0.00928)
Moved between Wave 1 and Wave 2			0.145 (0.110)	0.145 (0.110)	0.147 (0.110)			0.142 (0.110)	0.140 (0.110)	0.144 (0.109)	
Moved between Wave 2 and Wave 3			-0.146 (0.117)	-0.142 (0.118)	-0.150 (0.119)			-0.144 (0.117)	-0.139 (0.118)	-0.147 (0.119)	
Moved between Wave 3 and Wave 4			0.136 (0.0850)	0.133 (0.0851)	0.135 (0.0848)			0.132 (0.0849)	0.128 (0.0851)	0.132 (0.0846)	
Wave 1 location = Traditional (base case = urban)				0.0420 (0.0861)		0.0280 (0.0867)			0.0289 (0.0857)		
Wave 1 location = Farms (base case = urban)				0.344*** (0.0713)		0.367*** (0.0657)			0.343*** (0.0728)		
Moved between any of the waves		0.107 (0.0848)									
Wave 1 location = Urban (base case = Traditional/farms)					-0.0580 (0.0833)		-0.0472 (0.0846)			-0.0453 (0.0831)	
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)								-0.107 (0.130)	-0.0972 (0.131)	-0.0939 (0.129)	-0.127 (0.131)
Observations	205	205	205	205	205	205	205	205	205	205	205
Pseudo R-squared	0.104	0.113	0.141	0.149	0.144	0.113	0.105	0.145	0.152	0.146	0.109
p value from Wald test of Wave 1 education categories	0.000930	0.00151	0.00108	0.00110	0.00133	0.000850	0.00110	0.000942	0.000905	0.00110	0.000753
p value from Wald test of Wave 1 location categories				0.0216		0.0184			0.0271		

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

Table 44: Average marginal effects: Unemployed in Wave 1: Employed in the subsequent three waves vs unemployed at least twice in the subsequent three waves (including a dummy for ever having worked by Wave 1)

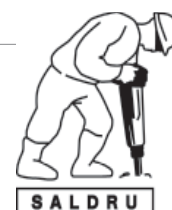
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Wave 1 Highest Education = Matric (base case = less than matric)	0.111 (0.0872)	0.110 (0.0859)	0.107 (0.0829)	0.106 (0.0822)	0.102 (0.0819)	0.113 (0.0870)	0.107 (0.0867)	0.117 (0.0852)	0.116 (0.0847)	0.111 (0.0843)	0.124 (0.0898)
Wave 1 Highest Education = Higher Education (base case = less than matric)	0.364*** (0.0688)	0.368*** (0.0681)	0.360*** (0.0677)	0.356*** (0.0668)	0.353*** (0.0673)	0.361*** (0.0675)	0.357*** (0.0681)	0.366*** (0.0674)	0.361*** (0.0663)	0.358*** (0.0668)	0.371*** (0.0681)
Female	-0.194** (0.0929)	-0.214** (0.0844)	-0.186** (0.0866)	-0.184** (0.0860)	-0.182** (0.0860)	-0.193** (0.0927)	-0.192** (0.0928)	-0.172* (0.0911)	-0.172* (0.0906)	-0.171* (0.0906)	-0.177* (0.0973)
Coloured (base case = African)	0.332*** (0.0805)	0.327*** (0.0811)	0.309*** (0.0803)	0.310*** (0.0852)	0.316*** (0.0801)	0.334*** (0.0840)	0.338*** (0.0804)	0.309*** (0.0809)	0.311*** (0.0851)	0.315*** (0.0807)	0.332*** (0.0808)
Best age in years	0.0115 (0.00952)	0.0106 (0.00925)	0.0123 (0.00943)	0.0128 (0.00952)	0.0128 (0.00952)	0.0121 (0.00958)	0.0120 (0.00958)	0.0115 (0.00953)	0.0121 (0.00958)	0.0121 (0.00960)	0.0104 (0.00948)
Moved between Wave 1 and Wave 2			0.141 (0.103)	0.143 (0.103)	0.144 (0.102)			0.137 (0.103)	0.139 (0.103)	0.141 (0.102)	
Moved between Wave 2 and Wave 3			-0.102 (0.118)	-0.101 (0.118)	-0.104 (0.119)			-0.101 (0.117)	-0.0995 (0.118)	-0.103 (0.118)	
Moved between Wave 3 and Wave 4			0.137* (0.0821)	0.133 (0.0821)	0.135* (0.0817)			0.132 (0.0817)	0.129 (0.0818)	0.131 (0.0812)	
Wave 1 location = Traditional (base case = urban)				0.0645 (0.0862)		0.0582 (0.0857)			0.0541 (0.0862)		
Wave 1 location = Farms (base case = urban)				0.317*** (0.0860)		0.338*** (0.0853)			0.317*** (0.0879)		
Wave 1 dummy for ever worked	0.175* (0.0963)	0.186** (0.0932)	0.151 (0.0923)	0.151 (0.0942)	0.160* (0.0930)	0.173* (0.0992)	0.184* (0.0975)	0.148 (0.0910)	0.148 (0.0934)	0.157* (0.0921)	0.173* (0.0953)
Moved between any of the waves		0.122 (0.0841)									
Wave 1 location = Urban (base case = Traditional/farms)					-0.0771 (0.0828)		-0.0732 (0.0829)			-0.0671 (0.0829)	
Wave 1 English writing ability = Very Well/Fair (base case is Not Well/Not at all)								-0.0980 (0.136)	-0.0831 (0.137)	-0.0804 (0.136)	-0.121 (0.141)
Observations	205	205	205	205	205	205	205	205	205	205	205
Pseudo R-squared	0.128	0.141	0.159	0.166	0.163	0.136	0.132	0.162	0.169	0.166	0.133
p value from Wald test of Wave 1 education categories	0.00117	0.00179	0.00169	0.00183	0.00216	0.00122	0.00148	0.00151	0.00158	0.00187	0.00101
p value from Wald test of Wave 1 location categories				0.0605		0.0652			0.0721		

Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Estimates using balanced panel of African and Coloured youth in Wave 1 who were in the labour force in all four waves. Observations with missing values for any of the covariates were excluded. Balanced panel weight used.

southern africa labour and development research unit

The Southern Africa Labour and Development Research Unit (SALDRU) conducts research directed at improving the well-being of South Africa's poor. It was established in 1975. Over the next two decades the unit's research played a central role in documenting the human costs of apartheid. Key projects from this period included the Farm Labour Conference (1976), the Economics of Health Care Conference (1978), and the Second Carnegie Enquiry into Poverty and Development in South Africa (1983-86). At the urging of the African National Congress, from 1992-1994 SALDRU and the World Bank coordinated the Project for Statistics on Living Standards and Development (PSLSD). This project provide baseline data for the implementation of post-apartheid socio-economic policies through South Africa's first non-racial national sample survey.

In the post-apartheid period, SALDRU has continued to gather data and conduct research directed at informing and assessing anti-poverty policy. In line with its historical contribution, SALDRU's researchers continue to conduct research detailing changing patterns of well-being in South Africa and assessing the impact of government policy on the poor. Current research work falls into the following research themes: post-apartheid poverty; employment and migration dynamics; family support structures in an era of rapid social change; public works and public infrastructure programmes, financial strategies of the poor; common property resources and the poor. Key survey projects include the Langeberg Integrated Family Survey (1999), the Khayelitsha/Mitchell's Plain Survey (2000), the ongoing Cape Area Panel Study (2001-) and the Financial Diaries Project.



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