



# Snakes and Ladders and Loaded Dice: Poverty dynamics and inequality in South Africa between 2008-2017

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# **Snakes and Ladders and Loaded Dice: Poverty dynamics and inequality in South Africa between 2008-2017**

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## **1. Introduction**

In developing country contexts, poverty analysis is most often undertaken using cross-sectional survey data. If this data is representative at a certain geographical level (local, regional or national), it can give an indication of the extent, depth, severity, and correlates of poverty in a place, at a single point in time.

However, poverty is experienced not only at a point in time, but also over time. Poverty is not a static, timeless state – it is a dynamic and evolving phenomenon, with a past and a future (Calvo and Dercon, 2009). That is, households move into and out of poverty over time, remain trapped in poverty, or succeed in keeping their heads above water. In the world of risk and uncertainty in which poverty is lived (Dercon, 2006), poverty is experienced as a game of snakes and ladders. However, going beyond the element of chance, in this game factors that relate to the parental background or geographic location of the household, for example, have loaded the dice in favour of some individuals compared to others. In this sense, cross-sectional analyses remain blind to both the “snakes” that lead households or individuals to fall into poverty and the “ladders” which facilitate poverty escapes, as well as to the contextual factors that condition these transitions. Particularly with regard to the latter, it is important to note that the experience of poverty itself may affect not only the opportunities available to a household, but also its economic choices. By missing this dynamic element, a cross-

sectional perspective is fundamentally limited in understanding the nature and determinants of poverty.

Panel data, which follow individuals (or households) over time, provide a way of incorporating a dynamic perspective into the analysis of poverty. While nationally representative panel data are rare in developing countries, South Africa is fortunate to have a nationally representative panel study spanning almost 10 years. The National Income Dynamics Study (NIDS) collected its first round of data in 2008 from a sample of approximately 28,000 individuals, and returned to these individuals approximately every two years, with the latest round of data having been collected in 2017. The availability of these data provides researchers a unique opportunity to undertake poverty analysis which is not blind to the important dynamic element.

This paper aims to take stock of recent poverty dynamics research in South Africa and bring some of the main empirical findings up to date by exploiting the full five waves of NIDS panel data that are now publicly available (SALDRU 2018a,b,c,d,e). In doing so, this paper draws on a body of research which we have produced between 2016 and 2018 using the first four waves of NIDS data (Zizzamia, Schotte, Leibbrandt and Ranchhod, 2016; Schotte, Zizzamia and Leibbrandt, 2017, Finn and Leibbrandt, 2017; Schotte, Zizzamia and Leibbrandt, 2018).<sup>1</sup> It focuses on three important dimensions of poverty to enhance our understanding of the South African poverty landscape:

- a. Poverty persistence: By observing the same individuals at multiple points in time, we can quantify the extent to which the experience of poverty in South Africa is sustained over time, as opposed to being a transient, short-lived state, as well as to give an indication of the key channels through which poverty persists. Since persistent poverty and transient poverty represent distinctly different experiences which pose different challenges, understanding the correlates of persistent versus transient poverty is essential for designing effective policy tools to target poverty alleviation appropriately.
- b. Vulnerability: The adopted dynamic perspective furthermore reveals that poverty affects more households in South Africa than those that are observed to be poor at a given point in time. That is, we identify a group of *non-poor* households who find themselves in a position of economic precariousness where they are teetering on the brink of poverty. This non-poor but vulnerable group shares a number of structural commonalities with the transient poor, which would be overlooked in static analyses. Specifically, we observe that

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<sup>1</sup> In this paper, the key empirical findings of this existing body of work are brought up to date by exploiting the full five waves of data now available. Since methodological details are fully covered in the existing work, in this paper we do not cover these methodological specifics, and instead refer interested readers to the relevant papers.

these two groups which straddle the poverty line are confronted with a situation of economic insecurity and instability which can frequently be traced back to their volatile position in the labour market.

- c. The stable middle class: A central element of our work consists of the identification of a “stable” middle class in South Africa. Taking on a dynamic perspective, we define the middle class as the group of non-poor households who are also non-vulnerable – this is, who face a relatively low risk of falling into poverty over time. Using a model of poverty transitions fitted to NIDS panel data, we show that no more than 25 per cent of the South African population can be classified as stably middle class or elite.

Drawing on our previous work, the analysis presented in this paper brings into focus the multidimensional factors through which individuals and households are empowered to achieve upward mobility and prevent downward mobility. It illustrates how the risks to poverty and the available coping strategies to confront these risks are unequally distributed across the population. Framing poverty dynamics through the lens of social stratification hence facilitates an understanding of how these multiple factors, which reflect deeply rooted and structured inequalities, are consequential in determining mobility patterns. We conclude this paper by taking the opportunity to discuss potential avenues for future research that links the dynamic study of poverty and inequality. In particular, we suggest some ways in which the study of inequality dynamics in South Africa (and other countries in the Global South where panel data are becoming increasingly available) might be informed by the existing body of research on poverty dynamics.

The remainder of this paper is structured as follows: Section 2 surveys the existing literature on poverty and inequality dynamics in South Africa. Section 3 provides a brief description of the methods and data used for the analysis presented in this paper, which draws directly on our previous work. The empirical results are presented in the three subsequent sections. Specifically, Section 4 assesses the duration and persistence of poverty in South Africa, Section 5 focusses on vulnerability and the determinants of poverty transitions, and Section 6 covers issues relating to the definition and characteristics of South Africa’s stable middle class and elite. The final section concludes and raises several open questions in the intersection between poverty dynamics, social stratification, and inequality, and suggests some avenues through which future research may be able to find answers.

## **2. Literature review**

An established literature exists on the patterns and determinants of poverty in post-apartheid South Africa (see Finn, Leibbrandt and Levinsohn, 2014 for a review). The general consensus is that, since the democratic transition in 1994, substantial progress has been made in reducing the depth of

poverty in South Africa, largely due to redistributive transfers in the form of government grants (Leibbrandt, Woolard, Finn and Argent, 2011). While there has also been some progress in reducing the incidence of poverty, this has been slow, with poverty rates remaining exceptionally high for a middle-income country (Leibbrandt, et al., 2011). In 2017, Statistics South Africa (Stats SA) reported that in 2015, 55.5 per cent of the South African population could not afford to meet their basic needs – down from 66.6 per cent in 2006, but up from 53.2 per cent in 2011 (Stats SA, 2017).

However, as noted in the introduction, these aggregate poverty figures tend to mask the extent of mobility around the poverty line. The first dynamic analyses of poverty in South Africa were based on the KwaZulu-Natal Income Dynamics Study (KIDS), a longitudinal household survey that was conducted in 1993, 1998 and 2004, following 1,200 African households in the KwaZulu-Natal province, which historically has been marked by one of the highest poverty rates in the country (see, *inter alia*, Carter and May, 2001; Aliber, 2003; Woolard and Klasen, 2005; Adato, Carter and May, 2006; Adato, Lund and Mhlongo, 2007). Among these studies, Aliber (2003) focuses on the dynamics of poverty below the poverty line, decomposing poverty into chronic and transient components. He finds that between 1993 and 1998, between 18 and 24 per cent of households were chronically poor, and that structural unemployment was a key determinant of this poverty persistence. Alternatively, Carter and May (2001) propose a distinction between structural and stochastic poverty based on asset endowments, where structural mobility leads to a change in permanent income while stochastic mobility is expected to be temporary. Drawing on these distinctions, they find that the majority of those who either remained poor or fell into poverty between survey waves were “trapped” in structural poverty, whereas the majority of the movements out of poverty were stochastic.

Also using KIDS data, Woolard and Klasen (2005) investigate the determinants of poverty transitions. They find that about one quarter of movements are due to demographic events, while the rest can be attributed to economic events. Among the latter, changes in employment are clearly dominant – a symptom of unemployment and a high degree of “churning” in the labour market. Corroborating Aliber’s (2003) earlier results, they find suggestive evidence that those in larger households and those with no access to or experience in the labour market are more likely to be trapped in chronic poverty. There is also a small mixed-methods literature using KIDS which has shed light on the complex determinants of household dynamics and the role of social capital in determining economic resilience. Among these, Adato, Carter and May (2006) and Adato, Lund and Mhlongo (2007) combine qualitative methods with KIDS data to explore the role of social capital in determining resilience to poverty and upward mobility. They find that social capital tends to smooth consumption and stabilise welfare, thereby preventing downward mobility, rather than providing a mechanism for promoting upward mobility.

Due to the limited geographic coverage of KIDS, these early studies are, however, constrained to analyse poverty dynamics and risk factors in a predominantly rural setting, which may not speak for South Africa as a whole. Finn and Leibbrandt (2013, 2017) and Finn, et al. (2014) are the first to use the recently available, nationally representative NIDS data to investigate poverty dynamics in South Africa. They show that about 30 per cent of the South African population must be considered chronically poor, and that single parent households with children have the highest poverty rates. Like Woolard and Klasen (2005), Finn and Leibbrandt (2017) find that race, household size, and labour market insertion are the most important determinants of poverty status and that changes in the latter two dimensions dominate as determinants of poverty transitions.<sup>2</sup> However, using an endogenous switching model to predict poverty transitions, they also find that there is substantial genuine state dependence underlying poverty dynamics, meaning that, independent of other correlates of poverty, the experience of poverty itself is implicated as a determinant of poverty persistence.

Schotte, et al. (2017) also explore the temporal dimension of poverty using the first four waves of NIDS. Their analysis reveals that eight out of ten South Africans find themselves in a situation of poverty at least once over the six-year period between 2008 and 2014/15. They show that, of these eight, four are located persistently below the poverty line during this period. Furthermore, using a similar methodology to Finn and Leibbrandt (2017) to predict poverty transitions, they show that the chronically poor are characterised by exceptionally low levels of human capital and financial assets as well as geographical isolation from markets and employment opportunities. The transient poor, on the other hand, are more urban, better educated and rely more heavily on income earned in the labour market than the chronically poor. The economic instability this group experiences is closely linked to their vulnerable position in the labour market, since many rely on precarious forms of employment which are unlikely to be sustained, even once attained. Zizzamia (2018), who combines the analysis of NIDS with data from a qualitative case study of Khayelitsha, Cape Town, provides further support for this finding.

Using the same model of poverty transitions as Schotte, et al. (2017) and Finn and Leibbrandt (2017), Schotte, et al. (2018) extend the analysis of poverty dynamics to those above the poverty line. Specifically, Schotte, et al. (2018) propose a framework of social stratification that not only

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<sup>2</sup> While Finn and Leibbrandt find that an increase in household size plays a larger role in determining poverty entries relative to the findings of Woolard and Klasen, this is largely a mechanical issue with differences in poverty measurement. Woolard and Klasen use an equivalised measure of household income which derives a per capita measure which takes into account differences in consumption for adults and children and considers household economies of scale, while Finn and Leibbrandt use a measure where household consumption is simply divided by household size to derive a per capita figure. This means that in Finn and Leibbrandt's analysis household consumption is mechanically more sensitive to an increase in household size.

distinguishes between transient and chronic poverty, but also allows for the differentiation of a non-poor but vulnerable group from the stable middle-class and elite. Using this poverty-dynamics approach to social stratification, which includes the identification of a stable middle class,<sup>3</sup> their study engages with an emerging international literature in which growing attention has been paid to the study of vulnerability to poverty, broadly understood as the risk of remaining poor or falling (deeper) into poverty (see, *inter alia*, Klasen and Waibel, 2013; Dercon, 2001; Dercon, 2006; Cafiero and Vakis, 2006; Hoddinott and Quisumbing, 2003). The main argument common to these studies is the notion that being able to afford a certain basket of goods at a given point in time provides an insufficient indication of whether the same will be true in the future. In other words, some of those who are currently non-poor may face a non-negligible risk of falling into poverty over time. This position of economic insecurity is a source of considerable discomfort, bearing the risk of negative psychological and health effects (Cafiero & Vakis, 2006), and tends to affect people's economic choices. These pernicious dynamics work together to create a low-income trap. For example, if the vulnerable, in order to minimise risks, are forced to engage in economic activities which are low-risk and guarantee constant, but generate low returns (Cafiero & Vakis, 2006; Dercon, 2006).

Recognising the limitations of static consumption measures, Carter and May (2001) and Burger, McAravey and Van der Berg (2015) have previously advocated the use of alternative non-money-metric approaches to studying social stratification and poverty dynamics. Carter and May calculate an "asset poverty line" to distinguish structural from stochastic mobility, and Burger, et al. adopt a capability approach to identify various non-monetary capabilities which they argue represent the "substantive freedoms [one] enjoys to lead the kind of life he or she has reason to value (Sen, 1999: 87)". However, as Zizzamia, et al. (2016) argue, there are several reasons that these approaches go too far in moving away from monetary measures. First, in the South African context of deep retail penetration and market integration even in rural areas, households remain reliant on income from the labour market and state grants to survive. Because of this, the rapid expansion of state-provided services since 1994 means that using multidimensional measures at the expense of money metric

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<sup>3</sup> A debate has emerged in the economics literature on how to measure the middle class in developing country contexts, where those who fall in the middle of the consumption distribution often lie below the poverty line. For detailed discussion of this debate, see Zizzamia, et al. (2016). In the recent literature on the middle class in developing countries, scholarly opinions have begun to converge on the understanding that a meaningful definition of the middle class does not simply classify all non-poor households as middle class. Rather, the middle class is seen as a class which is distinct in terms of consumption behaviour, political participation, social norms, and economic empowerment and stability. These criteria are not automatically met when a poor household's income moves above the poverty line. Acknowledging this, an increasing number of researchers have adopted a vulnerability-based definition of the middle class, in which the middle class is distinguished from a non-poor but "vulnerable" group situated between the middle class and the poor (López-Calva & Ortiz-Juarez, 2014; Zizzamia, et al., 2016; Schotte, et al., 2018; Corral Rodas, Molini and Siwatu, 2018, *inter alia*).



measures may lead to an overly optimistic narrative of social progress (Meth, 2017). Second, Zizzamia, et al. (2016), Schotte, et al. (2018) and Zizzamia (2018) show that, for many households, economic fortune is crucially dependent on one's position in the labour market, and that this position is inadequately reflected or predicted by assets or by access to basic goods and services. Acknowledging both the limitations of purely monetary-based approaches to social stratification as well as multidimensional approaches which overlook the importance of income earned in the labour market, Schotte, et al. (2018) exploit the opportunity presented by the availability of NIDS panel data to develop an approach to social stratification to overcome the limitations of both money-metric and multidimensional approaches.<sup>4</sup>

Using an approach that links the dynamic study of poverty and vulnerability and the middle class literature in economics, Schotte, et al. (2018) show that, with an average population share close to 24 per cent between 2008 and 2014/15, the share of South Africans who can be considered as stably middle class or elite is considerably smaller than most other studies suggest. They further find that the transient poor and the vulnerable, at 27 per cent, constitute a considerable share of South Africa's population and that these two groups that straddle the poverty line are structurally more similar in terms of their average household characteristics than a dichotomous poor/non-poor distinction would suggest. In line with the previous literature, their analysis again exposes the labour market as a key determinant that differentiates class categories. Specifically, they find that, while most household heads in the middle class and elite are formally employed with a permanent work contract and union coverage, their equivalents among the transient poor and vulnerable are more often employed in precarious employment relationships and a larger share is either unemployed or economically inactive. Finally, Schotte, et al. (2018) also draw attention to the finding that approximately 50 per cent of the South African population is trapped in chronic poverty in that they are both poor and highly unlikely to escape poverty. Echoing the findings of Woolard and Klasen (2005), Aliber (2003), and Finn and Leibbrandt (2017), they show that chronic poverty is driven primarily by structural unemployment and geographical isolation from economic opportunity.

In what follows, we update the findings of this body of work using all five waves of NIDS data, focussing on the ways in which multidimensional inequalities are consequential in shaping mobility patterns.

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<sup>4</sup> More details on their approach are provided in Section 6.

### 3. Methods and data

This paper uses panel data from NIDS, South Africa's only nationally representative household panel study. NIDS began in 2008 with a sample of over 28,000 individuals in 7,300 households. It is these individuals that NIDS has followed since 2008 - tracking them across the length and breadth of South Africa - and it is their unfolding livelihoods that undergird the socio-economic dynamics that we reflect in this paper. There are currently five waves of data available spanning the nine years from 2008 to 2017, with each wave of data spaced approximately two years apart.

As our focus in this study is on poverty dynamics and transition patterns, individuals need to be successfully tracked over at least two consecutive survey waves. In most of the analysis in this paper, we pool data from pairs of consecutive waves ( $t - 1$  and  $t$ ), such that the analysis of changes over time represent changes between 2008 to 2010/11, 2010/11 to 2012, 2012 to 2014/15 and 2014/15 to 2017 respectively, controlling for period-specific changes (fixed effects). Only in Section 4, that investigates the duration of poverty, do we reduce the sample to the balanced panel of 15,673 respondents who were successfully observed in all five survey waves.

In line with the research upon which this paper draws, we use expenditure rather than income as a measure of economic welfare. This requires the assumption that expenditure is a good proxy for the resources which are available to individuals and hence reflective of their overall living standards and economic wellbeing.<sup>5</sup> Expenditure is used most often in South Africa to undertake analyses of poverty, since it is assumed that, to the extent that households are able to smooth consumption, expenditure is a better approximation of permanent household income.<sup>6</sup> To facilitate comparisons across time, all monetary figures are deflated using the Stats SA consumer price indices and are calibrated to March 2017.<sup>7</sup> To convert household income and expenditure to a per capita measure, household figures are simply divided by the number of members in a household. This follows an established precedent in the South African microeconomics literature (see, in addition to our own work, Stats SA, 2017; Budlender, Leibbrandt and Woolard, 2015).<sup>8</sup>

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<sup>5</sup> This is not to overlook expenditure's well-known limitations as a proxy for economic welfare. For instance, expenditure is measured at the household level, while our analysis is undertaken primarily at the individual level. This presumes that expenditure is divided equally within the household – an assumption which is almost certainly universally untrue (De Vrejer & Lambert, 2016).

<sup>6</sup> The consumption expenditure variable used excludes "lumpy" once-off expenditure items, such as motor vehicles and furniture.

<sup>7</sup> To adjust for inflation, for each line the food component (equal to the FPL) is inflated by using the food specific Stats SA CPI and the non-food component (equal to the difference between the FPL and the UBPL) is inflated by using the non-food specific Stats SA CPI.

<sup>8</sup> Recognising that income in a family of four is "stretched" further than a per capita equivalent in a single-person household, it may be prudent to use an "equivalence scale" to derive an "adult-equivalent" measure of individual income/consumption which is adjusted to account for differences in the consumption needs of

In this paper, households are classified as being poor versus non-poor using Stats SA's upper bound poverty line (UBPL) set at R1,503 per person per month in March 2017 Rands. In addition, extreme (food) poverty refers to those households falling below Stats SA's food poverty line (FPL) set at R515. The FPL captures the level of consumption below which individuals are unable to purchase sufficient food to fulfil their caloric requirements, even if all expenditure is dedicated to food.<sup>9</sup>

Panel weights are used to correct for the presence of panel attrition in NIDS. Of the 26,775 sample members who were successfully interviewed in 2008, 15,673 were re-interviewed in all four subsequent waves, giving an attrition rate for the balanced panel of 41.47 per cent. However, between-wave attrition, which is most important in this study, is substantially lower, ranging from 9.3 to 21.1 per cent. This is because it is fairly common that respondents who are missed in one wave are successfully contacted again in the next. We refer interested readers to Schotte, et al., (2017) and Schotte, et al., (2018) for further details on the construction of weights.

Before moving on to the analysis, it is important to briefly highlight some of the limitations of the data at hand. The 2008 sample was drawn on a nationally representative basis and the poverty headcount (UBPL) calculated from these data based on per capita household expenditure closely matches official statistics. However, the poverty trends observed over subsequent waves should be treated with caution (see Table 1). Using household expenditure, poverty increased in NIDS up to 2010/11, with a remarkable rise by five percentage points in the share of households being pushed below the food poverty line. From 2010/11 to 2014/15, poverty levels decreased, with the strongest fall observed from 2012 to 2014/15. This general trend is consistent across key variables and robust across subsamples (a similar pattern emerges when restricting the sample to respondents who were successfully interviewed in all five waves). However, the strong reduction in poverty over the last two years of NIDS in particular may raise doubts, given that it was not mirrored by a major event at the macro-level and it does not match with the official statistics on poverty trends as reported by Stats SA in 2017 (see Table 1).<sup>10</sup> There are thus good reasons to believe that the poverty dynamics observed in NIDS are not fully representative at the national level but rather apply to a certain sub-population that

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adults and children in a household. This can be further adjusted to consider economies of scale in larger households. However, since there is no consensus as to how to adjust for adult-equivalents and economies of scale, Deaton (1997) has suggested that the use of such scales may raise as many issues as they resolve, and their usefulness has been disputed in the South African context by Woolard and Leibbrandt (2006).

<sup>9</sup> We omit reporting results using Stats SA's lower-bound poverty line (LBPL) set at R1136. This line allows for spending on non-food items, but requires that households sacrifice some food consumption in order to fulfil these non-food needs. Considering this conceptualisation, this indicator appears conceptually weak as a cost of basic needs indicator (see Budlender, Woolard and Leibbrandt, 2015 for a more detailed discussion).

<sup>10</sup> By using a panel of pooled wave-to-wave transitions, we attempt to limit the influence of the last two survey waves.

was somewhat more likely to be upwardly mobile.<sup>11</sup> Nevertheless, our estimates can still offer important information on the household characteristics and events associated with movements into and out of poverty. It is important to note that our estimates of the chances of poverty exit should thus be treated as an upper bound. In other words, poverty will tend to be yet more persistent at the national level than we are recording here.

**Table 1: Poverty rates (%) for South Africa, 2008-2017**

Poverty Line (PL)	NIDS					Stats SA (2017)				
	2008	2010/11	2012	2014/15	2017	2006	2009	2011	2015	2017
Poor (<UBPL)	61.96	65.69	63.82	56.88	52.23	66.6	62.1	53.2	55.5	..
Food-poor (<FPL)	36.34	42.00	37.82	30.38	24.71	28.4	33.5	21.4	25.2	..

Source: StatsSA (2017) and authors' calculations using NIDS waves 1 to 5 (post-stratified weights applied).

Finally, it is important to note that NIDS is a panel study that tracks individual respondents. This implies that, although our poverty measure is defined at the household level, changes in poverty status over time will be observed at the level of the individual and will not necessarily be identical across members initially belonging to the same household, as this household composition almost always changes over time.

#### 4. Poverty persistence

The aggregate poverty trends and figures presented in the previous section mask a great deal of economic mobility both into and out of poverty, which NIDS allows us to illuminate. Table 2 presents five poverty transition matrices – for 2008 to 2010/11, 2010/11 to 2012, 2012 to 2014/15, 2014/15 to 2017, as well as the pooled sample of wave-to-wave transitions between time  $t-1$  and  $t$ . These matrices distinguish between states representing three gradations of economic wellbeing – the non-poor, the poor, and the food-poor – and illustrate the extent of movements between these states. The values on the diagonal of the transition matrices indicate the share of individuals who maintained their poverty status, whereas those below the diagonal were downwardly mobile, and those above the diagonal were upwardly mobile.

We find that, on average, those living below the FPL were the most likely to be trapped in extreme poverty. Their chance of moving out of poverty completely by moving above the UBPL was just above 10 per cent on average over the full time-horizon. In contrast, those with consumption levels between the FPL and the UBPL experienced particularly high levels of both upward and downward mobility, with only about 40 per cent of these individuals maintaining their poverty status

<sup>11</sup> We are grateful to Victor Sulla and Kanishka Kacker for pointing this out.

over time. In comparison, the food-poor and the non-poor display a greater degree of stability. Over the full time-horizon (see Table 2e on average, 63.4 per cent of the food-poor and 76.9 per cent of the non-poor remained in the same state. The trend in poverty dynamics over time (see Table 2a-d) suggests a gradual reduction in poverty, in accordance with Table 1, an increase in resilience to poverty, and a decrease in the persistence of extreme poverty. However, bearing in mind the inconsistency between cross-sectional poverty estimates and the trends displayed in the NIDS panel (Table 1), this optimistic finding should be interpreted with caution.

**Table 2: Poverty transition matrices**

		<b>2010/11</b>				
		<i>Food-poor</i>	<i>Poor</i>	<i>Non-poor</i>	<i>Total</i>	
<b>a)</b>	<b>2008</b>	<i>Food-poor</i>	73.07%	19.48%	7.45%	100%
		<i>Poor</i>	42.62%	37.36%	20.01%	100%
		<i>Non-poor</i>	11.41%	18.42%	70.17%	100%
		<b>2012</b>				
		<i>Food-poor</i>	<i>Poor</i>	<i>Non-poor</i>	<i>Total</i>	
<b>b)</b>	<b>2010/11</b>	<i>Food-poor</i>	65.51%	25.93%	8.56%	100%
		<i>Poor</i>	32.49%	40.86%	26.65%	100%
		<i>Non-poor</i>	9.16%	17.65%	73.19%	100%
		<b>2014/15</b>				
		<i>Food-poor</i>	<i>Poor</i>	<i>Non-poor</i>	<i>Total</i>	
<b>c)</b>	<b>2012</b>	<i>Food-poor</i>	55.21%	28.92%	15.87%	100%
		<i>Poor</i>	25.83%	39.39%	34.78%	100%
		<i>Non-poor</i>	5.67%	14.95%	79.38%	100%
		<b>2017</b>				
		<i>Food-poor</i>	<i>Poor</i>	<i>Non-poor</i>	<i>Total</i>	
<b>d)</b>	<b>2014/15</b>	<i>Food-poor</i>	54.56%	31.17%	14.28%	100%
		<i>Poor</i>	22.88%	45.92%	31.20%	100%
		<i>Non-poor</i>	5.79%	17.05%	77.15%	100%
		<b>Pooled wave-to-wave transitions</b>				
		<b>t</b>				
		<i>Food-poor</i>	<i>Poor</i>	<i>Non-poor</i>	<i>Total</i>	
<b>e)</b>	<b>t - 1</b>	<i>Food-poor</i>	63.41%	26.05%	10.54%	100%
		<i>Poor</i>	30.62%	40.65%	28.72%	100%
		<i>Non-poor</i>	7.18%	15.93%	76.89%	100%

Source: Author's calculations using NIDS balanced panel for waves 1 to 5 (weights corrected for panel attrition)

Table 2 shows little more than the extent of mobility across welfare categories over time. A means of obtaining more illuminating insight into mobility patterns is to exploit the full longitudinal scope of the NIDS data, and to disaggregate mobility patterns by demographic and household

characteristics. Table 3 does this by dividing the population into six groups according to the number of spells of poverty, with those in the leftmost row having been observed to be poor in all five waves, and those in the rightmost column having been observed as poor in none of the five waves. An obvious limitation is that Table 3 says nothing of the poverty status of households in the approximately two years between waves, meaning it is possible that some of those observed to be poor (or non-poor) in two consecutive survey waves were actually transitioning into and out of poverty between the points in time in which these households were surveyed. We interpret Table 3 with these limitations in mind.

The top row reports statistics for the population as a whole. Similar to Schotte, et al. (2017), who use the first four waves of NIDS, we find that only a small portion (14.7 per cent) of panel members remained consistently non-poor through the five waves of NIDS. In contrast, 36.1 per cent of all panel members remained consistently below the poverty line in all five waves, with an additional 21.3 per cent being poor in four out of five waves. In the rows below, results are reported for several sub-samples of households based on different household characteristics. Although the sample size is small, it is striking that of the 274 white individuals who were tracked in all five waves, none were observed to be poor in four or five waves, while 93.6 per cent were observed to be consistently non-poor. In the African sample, in contrast, 62.9 per cent were observed to be poor in four or five waves, with only 8.9 per cent remaining non-poor in all five waves. Education of the household head (as measured in Wave 1) is similarly strongly associated with mobility patterns. Those in households with household heads with less than matric are much more likely to experience multiple spells of poverty than those in households with better educated household heads. Those in households with heads who have post-matric qualifications are highly unlikely to experience prolonged spells of poverty and are much more likely to have remained stably non-poor between 2008 and 2017.

A clear distinction is also apparent in the dynamic poverty patterns across the urban/rural divide. A striking 2.5 per cent of rural households remained non-poor throughout 2008 to 2017, while 82.86 were poor in four or five waves. In contrast, 24.7 per cent of urban households remained stably non-poor (with 34.2 per cent being non-poor in four or five periods), and 42.7 per cent were poor in four or five periods. While it is clear that persistent poverty is widespread even in urban South Africa, it continues to dominate the poverty landscape in rural areas.

Confirming the findings of Finn and Leibbrandt (2017), we also find that single-parent households are substantially more likely to be poor in four or five periods, and are about half as likely as the population average to remain out of poverty in all five waves. However, in Table 3, household type is defined only on the basis of Wave 1 variables, meaning that household compositional changes may confound the relationship we observe between household type and mobility patterns. For

subsamples defined on the basis of the gender of the household head, we try to address this somewhat by applying the variable restriction in all periods. 71.8 per cent of households which are female-headed in all five waves remained in poverty in four or five waves, compared to only 29.1 per cent of those in male-headed households. It is worth noting that female-headed households are three times as likely as male-headed households to be single-parent households.

**Table 3: Number of spells poor by various characteristics**

	<b>No. of spells in poverty</b>						<i>No. of obs.</i>
	<b>Always poor</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>Never poor</b>	
<b>Total</b>	36.06%	21.27%	13.28%	7.78%	6.86%	14.74%	16786
<b>Race</b>							
African	40.08%	22.84%	13.80%	7.88%	6.57%	8.83%	14122
White	0.00%	0.00%	0.05%	1.94%	4.46%	93.55%	247
<b>Education (household head)</b>							
< Matric*	41.87%	23.41%	13.94%	7.88%	5.48%	7.41%	13558
Matric*	11.65%	13.19%	12.06%	7.09%	12.50%	43.50%	1104
Tertiary*	1.26%	5.33%	7.14%	8.94%	14.82%	62.51%	779
<b>Household type</b>							
Single parent household*	42.09%	26.30%	14.20%	4.82%	4.92%	7.67%	2773
Two-adult household*	30.10%	18.81%	12.58%	7.30%	7.28%	23.94%	1294
<b>Gender (household head)</b>							
Female	50.63%	21.14%	10.93%	4.96%	4.45%	7.89%	4916
Male	13.14%	15.94%	13.14%	9.90%	13.00%	34.88%	1503
<b>Area</b>							
Rural	59.61%	23.25%	8.71%	3.68%	2.23%	2.53%	6776
Urban	23.92%	18.75%	13.92%	9.24%	9.50%	24.67%	6644

Notes:

- a) All cell proportions are weighted using Wave 5 panel weights.
- b) Age variables are defined as described in Table 3 above.
- c) Single parent households are defined as households with a single adult and one or more children. Two-adult households are defined as households with at least two prime-aged adults, with or without children.
- d) \* denote those cases in which group variables are defined using Wave 1 values (2008). In these cases, where changes in household composition occur, these variables may not apply across waves for individuals. For example, we distinguish between households on the basis of the education of the household head in 2008. Household members of these households may move to other households where the household head is more (or less) educated, but here they remain classified as belonging to the group classified on the basis of the education of their household head in 2008.

While in Table 3: Number of spells poor by various characteristics Table 3 we look only at the number of spells spent in poverty, in Table 4 we attempt to account for the relationship between the severity of deprivation and time spent in poverty. To do so, in Table 4 we decompose the standard set of Foster-Greer-Thorbecke (FGT) (1984) poverty measures into persistent and transient components, following an approach developed by Foster (2009). This allows us to investigate the link between the duration of time spent in poverty and the standard FGT dimensions of incidence, depth, and severity. Since there are five periods, we can separately look at individuals who were poor in none, one, two,

three, four, or all five waves. If a minimum of four spells spent in poverty is specified as the duration cut-off for defining persistent poverty, then persistent poverty is observed to be responsible for between 76 and 85 per cent of the total poverty headcount. Even if we were to define as persistently poor only those who fell below the poverty line in all five waves, the persistently poor would still make up over 50 per cent of the overall poverty headcount.

When looking at the depth and severity of poverty – that is, when we take the distance of the poor to the poverty line into consideration – the share of poverty attributable to the persistently poor increases further. Those who were poor in four or five waves make up about three quarters of the total poverty gap and about nine tenths of the squared poverty gap or poverty severity index (see Table 4). That is to say that the persistently poor (i.e., those who were poor in four or five waves) tend to be those who experience the highest levels of deprivation. While distressing, this is also unsurprising, given that the further the distance to the poverty line, the lower the chances of escaping poverty.

**Table 4: Duration in poverty and contribution to poverty measures (UBPL), 2008-2017**

# of waves in poverty	share in poverty headcount (%)					share in poverty gap (%)					share in poverty severity (%)				
	2008	2010	2012	2014	2017	2008	2010	2012	2014	2017	2008	2010	2012	2014	2017
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	2.1	3.5	3.5	1.4	1.6	1.4	1.9	1.7	0.7	0.9	1.0	1.3	1.0	0.5	0.6
2	6.2	6.6	4.1	3.4	3.9	4.5	4.7	2.6	2.3	2.4	3.7	3.8	2.0	1.8	1.6
3	13.2	13.6	13.5	9.8	8.5	10.4	11.7	10.6	7.1	5.7	9.1	10.8	8.9	5.7	4.3
4	25.2	26.1	27.2	27.5	23.0	24.9	24.9	26.2	24.5	20.4	24.5	24.0	25.4	22.6	19.4
5	53.2	50.2	51.6	58.0	63.1	58.7	56.7	58.9	65.4	70.6	61.9	60.1	62.7	69.4	74.1
4+5	78.4	76.3	78.9	85.4	86.1	83.7	81.6	85.1	89.9	91.0	86.3	84.1	88.1	92.0	93.5

Source: Author's calculations using NIDS balanced panel for waves 1 to 5 (weights corrected for panel attrition).

## 5. Vulnerability

In Section 4 we saw that persistent poverty affects primarily African, single-parent, female-headed, and rural households. Members of these households are often poorly educated and long-term unemployed. However, we also see that, between 2008 and 2017, poverty affected many more South Africans than those who are persistently poor. The fact that 49.2 per cent of all panel members were observed to move into or out of poverty at least once over the nine-year period under study shows that poverty, experienced as a transient state, affects a large portion of the population. The urban African population, in particular, appears to be afflicted by transient poverty, with those who are poor often moving out of poverty, and those who are not poor often falling (back) into poverty over time.



In this section, we try to understand the determinants of vulnerability to poverty and the routes through which the poor escape poverty and the non-poor fall into poverty. We attempt to measure the strength of the association between various events and transitions across the UBPL using a methodology developed by Jenkins (2011). While this approach does not allow us to give a causal interpretation to the impact of these events, it does permit us to understand something of the strength and nature of the association between various shocks and poverty transitions. The results from this analysis are reported in Table 5 and Table 6.

The trigger events listed in Table 5 and Table 6 are split between labour market events, non-labour market income events, and demographic events. For each event, in the first column of the respective tables we report the prevalence with which the event occurred for those who were non-poor (Table 6) or poor (Table 7) in the initial period.

In the second column of each table, we report the poverty entry rate (Table 6) or exit rate (Table 6), conditional on event occurrence - that is, the poverty entry/exit rate among the subset of the population which experienced the trigger event in question. This can be compared to the *unconditional* population poverty entry rate of 23.1 per cent or exit rate of 18.0 per cent, as reported in the second column of the two tables. This second indicator is a measure for event “intensity” – the more “intense” the event, the more likely a transition out of or into poverty is, conditional on experiencing the event. However, here it is also worth noting one of the event intensity indicator’s limitations: Intensity rates are biased by the confounding impact of other factors not considered in this associational analysis. For example, while the results in Table 5 suggest that the loss of a formal job has no effect on the likelihood of entering poverty, this is merely because this applies only to those with access to formal jobs in the first place who also happen to be more likely to have access to other mechanisms which protect them from poverty descents.

The final column in Table 5 and Table 6 indicates the proportion of total poverty transitions which are associated with particular events. These figures are jointly determined by those reported in columns 1 and 2: The total share of poverty transitions associated with an event will be a function of how frequently an event occurs, and how often it leads to a poverty transition when it does occur.

These results are useful for getting a sense of the importance of various events in determining poverty transitions. The fact that more than one quarter of all poverty entries are associated with a job loss in the household suggests that a strong link exists between the ability to maintain a job and economic resilience. Similarly, approximately one third of all poverty escapes are associated with job gains in a household. A change in household size, on the other hand, is associated with approximately half of all poverty entries and poverty exits respectively. While this suggests that demographic events

are more important, this is at least partly explainable by the mechanical effect that a change in household size has on poverty measurement when household consumption is divided by household size to derive a per capita measure. Further, as noted above, this associational analysis fails to take into account that the strength of associations between job losses (gains) and poverty entries (exits) may be confounded by factors which the associational analysis fails to account for.

**Table 5: Trigger events and poverty entry (UBPL)**

	<b>Event prevalence</b>	<b>Poverty entry rate conditional on event</b>	<b>Share of poverty entries associated with event</b>
<b>Poverty entry rate</b>		23.13%	
<b><i>Labour market events</i></b>			
Fall in number of workers	27.37%	28.76%	27.37%
Fall in number of workers (formal)	20.01%	23.40%	20.01%
Fall in number of workers (informal)	24.71%	33.64%	24.71%
Fall in number of workers (household size constant)	9.87%	25.09%	9.87%
Fall in labour income (-10%) (number of workers constant)	12.90%	20.57%	12.90%
<b><i>Non-labour income events</i></b>			
Fall in income from public grants (-10%)	3.89%	43.40%	3.89%
<b><i>Demographic events</i></b>			
Change in gender of household head (male to female)	15.35%	23.03%	15.35%
Increase in household size	43.55%	41.24%	43.55%
Birth of a child (0 to 2 years)	33.15%	43.66%	33.15%
Death of a household member	7.96%	37.32%	7.96%
Death of a household member (with life insurance)	6.24%	14.49%	6.24%
Movement from urban to rural	1.39%	28.74%	1.39%

Notes: NIDS waves 1 to 5 pooled panel of wave-to-wave transitions (weights corrected for panel attrition)

**Table 6: Trigger events and poverty exit (UBPL)**

	Event prevalence	Poverty exit rate conditional on event	Share of poverty exists associated with event
<b>Poverty exit rate</b>		18.03%	
<b><i>Labour market events</i></b>			
Rise in number of workers	31.26%	18.55%	31.26%
Rise in number of workers (formal)	27.10%	23.08%	27.10%
Rise in number of workers (informal)	20.04%	16.29%	20.04%
Rise in number of workers (household size constant)	12.85%	21.17%	12.85%
Rise in labour income (+10%) (number of workers constant)	13.60%	25.57%	13.60%
<b><i>Non-labour income events</i></b>			
Rise in income from public grants (+10%)	4.80%	12.17%	4.80%
Rise in income from remittances (+10%)	0.62%	20.41%	0.62%
<b><i>Demographic events</i></b>			
Change in household head from female to male	14.78%	23.40%	14.78%
Decrease in household size	45.22%	25.03%	45.22%
Movement from rural to urban	8.05%	51.33%	8.05%

Notes: NIDS waves 1 to 5 pooled panel of wave-to-wave transitions (weights corrected for panel attrition).

Recognising the extent of mobility around the poverty line and how these mobility patterns reflect deep-rooted social and economic inequalities, we proceed to a more careful econometric modelling of the determinants of poverty entry and exit. Our approach to predicting future poverty status from current household and individual level characteristics follows a methodology developed by Cappellari and Jenkins (2002, 2004, 2008). Our application of this methodology to NIDS data is described in detail by Schotte, et al. (2017; 2018), to which we refer interested readers.

Simpler models of poverty risk overlook two key factors which our approach addresses. First, if the experience of poverty itself, independent of other characteristics, affects the likelihood of experiencing poverty in future, then controlling for these initial conditions will be necessary to yield unbiased results. Second, if attrition from the NIDS panel is non-random in the sense that more economically advantaged individuals are more (or less) likely to leave the sample, this may bias the risk estimates if this systematic attrition is not accounted for.

We address these issues by using a multivariate probit model that jointly estimates a system of three equations, these being (1) a first-order Markov process of poverty transitions between two consecutive panel waves,  $t-1$  and  $t$  (this being the equation of principle interest), (2) the poverty status at  $t-1$  (thereby accounting for the potential endogeneity of initial conditions), and (3) an equation predicting sample retention (thereby taking potential non-random attrition into account).

Results are reported in Table 7. Members of female headed households are on average up to 6.8 per cent more likely to slip into poverty and 1.5 per cent less likely to escape poverty than members of households where the head is male. Complementing the descriptive profile offered in Section 4, we observe that race remains a strong predictor of poverty in South Africa, with black Africans being at the highest risk of being poor. In comparison, whites are 26.6 per cent less likely to fall into poverty and 42.6 per cent less likely to remain poor, even after controlling for differences in education.

Higher levels of education of the household head are strong predictors for a lower vulnerability to poverty. The estimated effects differ considerably between initially poor versus non-poor households. For example, we find that those living in households where the head has attained at least some secondary education are on average 5.6 per cent less likely to remain poor, whereas the risk of falling into poverty is reduced by 14.8 per cent. For those where the head has completed secondary schooling, the average poverty risk is reduced by 11.1 per cent if initially poor and 20.9 per cent if initially non-poor. This divide in the marginal effect of education for initially poor versus non-poor households may be explained by a number of factors. For example, poverty may lead to a depreciation of human capital and employment skills, causing low-pay or unemployment spells and thus increasing the duration spent in poverty. We can also imagine that there is a difference in the quality of education between those observed to be poor versus non-poor. Lastly, there may be a sorting effect to the extent that those with higher ability or better motivation at the same level of education tend to be overrepresented in the non-poor group.

With respect to the household composition, the presence of economically dependent household members is in line with an elevated vulnerability to poverty. The number of employed household members, by contrast, has a vulnerability reducing effect, though this effect is smaller for the initially poor than the non-poor. In addition to the explanations suggested earlier, we may imagine that being poor leads to difficulties in finding good quality jobs, for example through social network effects, which in turn reduces the probability of exiting poverty.

With respect to labour market controls, we estimate that persons living in a household where the head is unemployed face a similar risk of poverty as those with an economically inactive head. However, having a working head is not necessarily in line with a lower vulnerability to poverty. The

effect rather seems to depend crucially on the type of employment that the head engages in, especially with regard to its stability and duration. Everything else being equal, we find that members of households where the head engages in personal agricultural work are just as vulnerable to poverty as those where the head is inactive. Those living in households where the head is casually employed or helps other people with their business are on average 4.1 per cent more likely to remain poor than those with inactive heads. More substantial yet is the difference among the presently non-poor, where such an unstable job position of the household head is associated with a 17.7 per cent higher risk of falling into poverty, thus constituting an important vulnerability factor. Self-employment of the household head can provide an avenue out of poverty. However, while self-employment of the household head in the informal sector has no statistically significant effect on the chance of poverty exit, those living in households where the head runs a formal sector business (registered for income tax and/or VAT) face an 11.3 per cent higher chance of making it out of poverty. Similarly, among the non-poor, self-employment of the household head in the informal sector is associated with an elevated risk of poverty, while self-employment in the formal sector is associated with a 13 per cent lower risk of poverty entry. A similar pattern is observed among those in wage employment. Here, a poverty risk-reducing effect of employment is only observed for those with a permanent work contract and union coverage. In terms of geographic patterns, having access to basic services is associated with a five per cent lower risk of vulnerability to poverty. We further observe that, for the initially non-poor, the risk to falling into poverty is about 8.1 per cent lower in urban than in traditional areas, whereas the chances of escaping poverty are not significantly different between regions.

**Table 7: Multivariate probit model**

Probability of being poor in t conditional on poverty status in t-1	Poverty persistence			Poverty entry		
	Average Marginal Effect	Coeff. Estimate	Std. Err.	Average Marginal Effect	Coeff. Estimate	Std. Err.
<b>Characteristics of the household head (HoH) in t-1</b>						
HoH age	0.003	0.011***	(0.004)	-0.003	-0.020***	(0.007)
HoH age squared (x0.01)	-0.005	-0.011***	(0.004)	0.003	0.010	(0.007)
HoH is female	0.015	0.057**	(0.025)	0.068	0.240***	(0.038)
HoH race group (base: African)						
Coloured	0.010	0.037	(0.051)	-0.075	-0.255***	(0.062)
Asian/Indian	-0.394	-1.176***	(0.177)	-0.269	-1.198***	(0.122)
White	-0.426	-1.272***	(0.268)	-0.266	-1.172***	(0.143)
HoH education (base: no schooling)						
Less than primary completed	-0.016	-0.067	(0.045)	-0.034	-0.106	(0.094)
Primary completed	-0.021	-0.089*	(0.051)	-0.075	-0.232**	(0.105)
Secondary not completed	-0.059	-0.235***	(0.038)	-0.148	-0.470***	(0.085)
Secondary completed	-0.110	-0.413***	(0.046)	-0.209	-0.687***	(0.092)
Tertiary	-0.209	-0.727***	(0.062)	-0.284	-0.991***	(0.099)
HoH employment status (base: inactive)						
Unemployed (discouraged)	0.009	0.036	(0.068)	-0.030	-0.111	(0.113)
Unemployed (strict)	-0.020	-0.076*	(0.041)	0.051	0.177**	(0.073)
Personal agricultural work	0.009	0.036	(0.076)	0.010	0.036	(0.144)
Paid casual work	0.041	0.163***	(0.060)	0.177	0.592***	(0.158)
Self-employed	-0.007	-0.026	(0.054)	0.062	0.214***	(0.080)
Self-employed # Formal <sup>a</sup>	-0.113	-0.387**	(0.165)	-0.130	-0.476***	(0.131)
Employee	-0.006	-0.024	(0.043)	0.055	0.191***	(0.069)
Employee # Permanent contract	-0.010	-0.039	(0.050)	-0.047	-0.163***	(0.062)
Employee # Union member	-0.068	-0.241***	(0.061)	-0.065	-0.229***	(0.055)
<b>Composition of the HH</b>						
No. of members in HH	0.015	0.054***	(0.009)	0.037	0.133***	(0.021)
No. of workers in HH (excl. HoH)	-0.016	-0.061***	(0.015)	-0.026	-0.092***	(0.028)
No. of children (<18 years)	0.012	0.046***	(0.011)	-0.014	-0.051**	(0.026)
No. of elderly members (60+ years)	-0.011	-0.040*	(0.022)	0.028	0.097**	(0.039)
HH has access to basic goods and services (shelter/water/sanitation/electricity)	-0.038	-0.141***	(0.033)	-0.025	-0.087**	(0.043)
Geographic location (base: traditional) <sup>b</sup>						
Urban	-0.006	-0.021	(0.033)	-0.081	-0.277***	(0.052)
Farms	0.022	0.083*	(0.050)	0.036	0.115	(0.095)
Constant		0.735***	(0.121)		0.689***	(0.194)
Province and time fixed effects		YES			YES	
Time fixed effects		YES			YES	
Log-likelihood			-98,265,170			
Model chi2 (d.f.=173)			19,756			
Number of observations			60,951			

Asymptotic standard errors are robust for the presence of repeated observations on the same individual.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Note: Simulated pseudo maximum likelihood estimation with 250 random draws. The sample has been restricted to all individuals aged 15 years and above.

<sup>a</sup> For self-employed, formal businesses are registered for income tax and/or VAT.

<sup>b</sup> In line with the 2011 census, three settlement types are distinguished in NIDS: Urban – A continuously built-up area that is established through cities, towns, townships, small towns, and hamlets. Traditional – Communally owned land under the jurisdiction of traditional leaders. Settlements within these areas are villages. Farms – Land allocated for and used for commercial farming, including the structures and infrastructure on it.

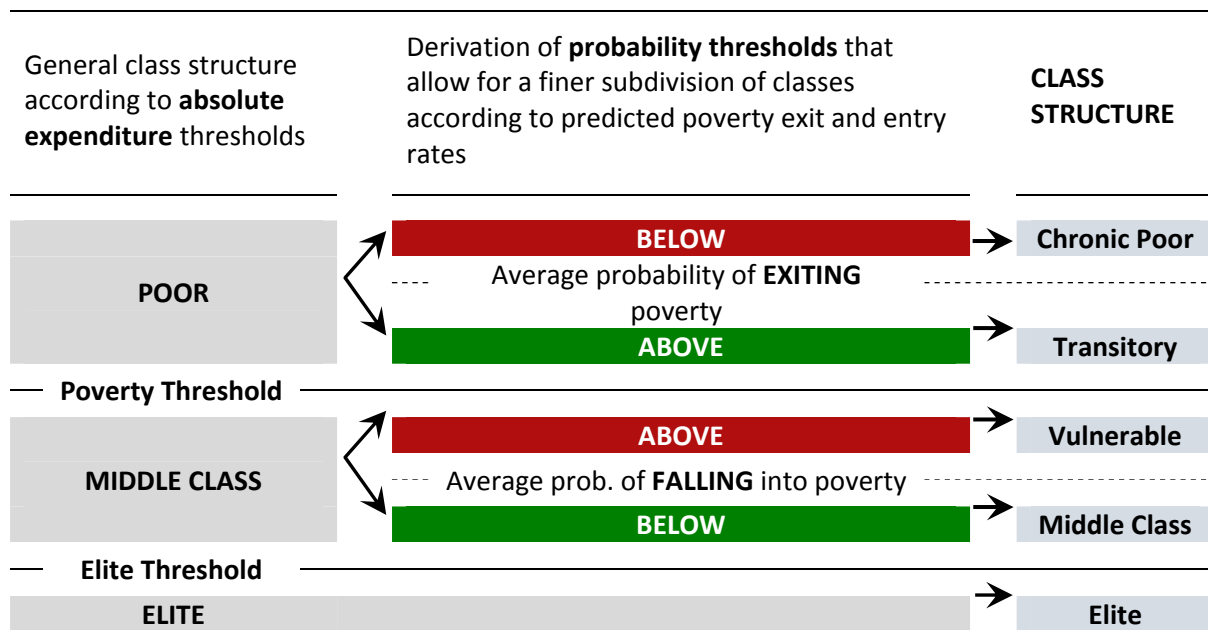
## 6. The stable middle class

In our prior research (Zizzamia, et al., 2016; Schotte, et al., 2018), we have argued that the availability of rich panel data in South Africa presents a unique opportunity to link the analysis of economic mobility to the study of social stratification. In the sense that this analysis identifies the relationship between individual and household characteristics and patterns of economic mobility, these schemas of social stratification can also reveal insights into the structured nature of inequality in South Africa.

The stratification schema as suggested by Schotte, et al. (2018) begins by assuming a standard division of society into three main classes based on monetary thresholds: The poor or the lower class, the middle class, and the elite or the upper class. We understand the poor as those who are in an economically precarious situation in the present period, which does not allow them to satisfy their basic needs. In other words, the poor are those who fall below Stats SA's UBPL, reflecting the average estimated cost of a consumption basket that is deemed to be adequate with respect to both food and non-food components. Similarly, we understand the elite as those in society who enjoy a standard of living well above the national average. Following Schotte, et al. (2018), for the empirical application, we will arbitrarily fix the elite threshold at two standard deviations above the mean per capita household expenditure.

Taking on a dynamic perspective, we introduce two further sub layers (see Figure 2). Based on our model of poverty transitions, presented in Section 5, we can predict each person's propensity to remain in or fall into poverty in the near future – based on the household characteristics and the observed poverty status at present. These forward-looking scores may provide a more comprehensive understanding of a person's (medium-term) welfare prospects than we could gain by focusing exclusively on reported expenditure levels. Based on these latent poverty propensities, we distinguish those with chances of exiting poverty below the observed average exit rate and thus face a comparatively high risk of poverty persistence – the *chronic poor* – from those with above average chances of making it out of poverty – the *transient poor*. Analogously, among those currently above the poverty line, we distinguish those who face an above average risk of slipping into poverty – the *vulnerable* – from the more secure “actual” *middle class*, whose members face a below-average risk of falling into poverty and thus have better chances of sustaining a living above the subsistence level (see Figure 1).

**Figure 1: Schema of social stratification - a poverty dynamics approach to structured inequality**



Source: Schotte, et al., 2018.

Note: Solid lines denote absolute expenditure thresholds. Dashed lines denote probability thresholds.

This approach to social stratification has advantages over both purely money-metric and multidimensional approaches: Our schema remains anchored around money-metric thresholds, with the cost-of-basic-needs poverty line marking the crucial (and materially meaningful) distinction between those who can and those who cannot afford to meet their basic needs. At the same time, the further subdivision between the poor and non-poor is made not on the basis of monetary thresholds, but rather on propensities for poverty transitions which are calculated based on a set of individual and household characteristics. This set of household and individual characteristics can be interpreted as representing the multidimensional determinants of economic empowerment. Perhaps more importantly, unlike multidimensional measures which are theoretically assumed to represent “empowerment” or “capabilities” and in which different dimensions are weighted arbitrarily (as in the Alkire and Foster (2011) method), in our approach, the relevance of the multidimensional determinants of empowerment are automatically weighted in the regression framework to reflect their ability to predict an outcome representing economic empowerment – that is, mobility patterns. Furthermore, our regression framework allows us to include several employment characteristics as explanatory variables, thereby overcoming the limitation in many multidimensional approaches which overlook the crucial role played by the labour market in determining economic empowerment. Finally, as discussed in Section 1, individual welfare is not only affected by one’s current consumption, but also by the prospects of maintaining or improving one’s welfare. While in the standard division of society into the poor and not poor these issues are often overlooked, our regression framework



explicitly accounts for the role of economic instability. Thus, by estimating the size of the vulnerable non-poor and transient poor groups, we are given the opportunity to identify those households which are most likely to churn around the poverty line – and for whom vulnerability and economic insecurity are perhaps more important elements in determining their economic welfare than their poverty status as observed at any single point in time.

Using the multivariate probit model presented above in Section 5, for each individual we predict the probability of experiencing a poverty transition. Based on these probability scores, individuals are then sorted into each of the classes in Figure 1. Table 8 reports class sizes. As expected, the chronic poor make up the largest single class, with a population share approaching 50 per cent. The transient poor and vulnerable non-poor, combined, make up about a quarter of the population, indicating the large share of those who are affected by (or at least at high risk of) poverty as a transient state. The middle class is smaller than most studies have estimated – only about one quarter of the population can be considered stably middle class or elite.

As Figure 2 illustrates, the class groupings mark a clear difference in terms of mobility patterns. While the chronic poor had an average chance of exiting poverty of 12.9 per cent, close to 40 per cent of the transient poor exited poverty between survey waves. Similarly, while only about 12.1 per cent of the stable middle class fell into poverty over time, the same applied to 49.0 per cent of those classified as being vulnerable to poverty.

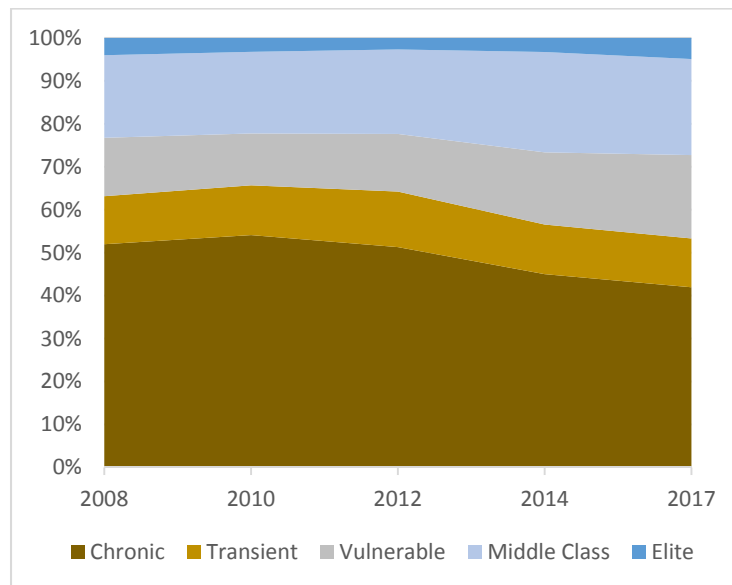
**Table 8: Average class size and mobility patterns, 2008 to 2017**

	Population Share (%)	Share (%) that fell into poverty	Share (%) that moved out of poverty
<b>Chronic Poor</b>	48.79	..	12.88
<b>Transient Poor</b>	11.75	..	39.32
<b>Vulnerable</b>	15.09	49.00	..
<b>Middle class</b>	20.75	12.07	..
<b>Elite</b>	3.62	2.86	..

Source: Author’s calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights corrected for panel attrition).

Figure 2 reports trends in class sizes for the full period between 2008 and 2017. While there does seem to have been a decrease in chronic poverty between 2008 and 2017 in the order of approximately 10 percentage points, this decline has been accompanied primarily by growth in the size of the vulnerable class by approximately seven percentage points, while the middle class and elite grew only marginally, by about one percentage point each. Despite the overall decline in poverty observed using the data at hand (bearing in mind the caveats discussed in Section 3), it is important to acknowledge that those moving out of poverty mostly moved into a position in which they remain vulnerable to falling into poverty over time, rather than into the stable middle class.

**Figure 2: Class sizes, 2008 – 2017**



Source: Author's calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights corrected for panel attrition)

Having defined social stratification in this way, we describe how these classes differ in terms of several relevant household- and individual-level characteristics (see Table 9 and Table 10). We find that chronically poor households tend to be disproportionately large and young. The concentration of South Africa's children in chronically poor households is particularly concerning, especially given that the mean consumption of these households is below the food poverty line – meaning that these households are struggling to meet their most basic caloric requirements, and hence are at a high risk of malnourishment. The long-run risks for children in these households is substantial (Rose and Charlton, 2002; Altman, Hart and Jacobs, 2009). Chronically poor households are about twice as reliant on social grants as households in other classes, and much less reliant on income from the labour market. This reflects both the spatial markers of disadvantage, where most of these households are concentrated in rural areas, as well as their structural exclusion from the labour market. These households are homogenously African, and household heads are poorly educated, with 95 per cent having less than matric.

**Table 9: Average household characteristics by social class, 2008-2017**

	Chronic Poor	Transient Poor	Vulnerable	Middle Class	Elite	Total
<b>Characteristics of the household (HH)</b>						
Weighted share of respondents	48.79%	11.75%	15.09%	20.75%	3.62%	
Mean household expenditure per capita	517.77	745.13	2331.93	4536.20	25659.32	3765.76
Median household expenditure per capita	469.87	764.92	1804.97	3567.98	20556.23	1406.01
No. of members in HH	5.34	3.03	2.55	2.23	1.87	3.30
Age composition						
No. of children (<18 years)	2.50	0.95	0.74	0.53	0.22	1.19
No. of members in working age (18-60 years)	2.44	1.90	1.60	1.50	1.31	1.84
No. of elderly members (60+ years)	0.39	0.18	0.21	0.20	0.34	0.26
Main source of income						
Labour	41.02%	72.57%	74.58%	87.18%	84.81%	69.21%
Government grants	50.23%	18.36%	14.16%	3.97%	0.35%	21.21%
Remittances	6.51%	7.80%	8.86%	3.64%	1.19%	5.76%
Subsistence agriculture	0.26%	0.04%	0.11%	0.08%	0.02%	0.13%
Investments	1.84%	1.16%	1.79%	4.93%	13.63%	3.49%
Other	0.14%	0.07%	0.51%	0.20%	0.00%	0.20%
Mean income from source						
Labour	3326.16	4682.41	5366.17	13127.37	38223.13	10197.25
Government grants	1723.73	1138.51	1346.10	1456.27	1459.73	1531.09
Remittances	1493.51	1148.79	1747.26	2360.42	14413.17	2009.74
Subsistence agriculture	236.81	142.15	452.93	1301.08	1942.38	376.87
Investments	2083.96	2721.96	2904.47	14356.36	16086.26	11022.71
Other	1887.93	1138.60	4080.49	2377.57	2796.16	2463.98
Access to services						
House, cluster, town house	59.54%	60.29%	60.95%	64.88%	84.02%	63.18%
Tap water in house/on plot	56.65%	79.54%	75.23%	94.37%	98.39%	78.08%
Flush toilet in/outside house	30.46%	65.74%	58.19%	89.75%	97.38%	63.89%
Access to electricity	76.16%	83.81%	85.68%	94.14%	97.22%	86.13%
HH has basic needs satisfied (shelter/water/sanitation/electricity)	18.24%	42.12%	33.98%	57.13%	79.53%	40.91%
Geographic location						
Traditional	55.54%	20.55%	31.09%	7.47%	3.00%	27.35%
Urban	38.45%	74.19%	59.69%	89.79%	95.03%	67.54%
Farms	6.01%	5.26%	9.22%	2.75%	1.97%	5.11%

Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights corrected for panel attrition).

Notes: All monetary values are expressed in March 2017 Rands.

<sup>a</sup> Imputed rental income has been excluded. Government grants include i) State old age pension, ii) Disability, iii) Child Support, iv) Foster Care, and v) Care dependency grant. Other income from government includes i) Unemployment Insurance Fund and ii) Workmen's compensation. Investment Income includes i) Interest/dividend income, ii) Rental income, and iii) Private pensions and annuities.

<sup>b</sup> In line with the 2011 census, three settlement types are distinguished in NIDS:

1. Urban - A continuously built-up area that is established through cities, towns, 'townships', small towns, and hamlets.
2. Traditional - Communally-owned land under the jurisdiction of traditional leaders. Settlements within these areas are villages.
3. Farms - Land allocated for and used for commercial farming including the structures and infrastructure on it.

Those areas of the country falling under the jurisdiction of traditional authorities (or traditional chiefs) are considered as rural, mainly due to their lack of infrastructure due to past legacy.

**Table 10: Average characteristics of household head, by social class, 2008-2017**

	Chronic Poor	Transient Poor	Vulnerable	Middle Class	Elite	Total
<b>Characteristics of the head of household (HoH)</b>						
Age	49.79	39.39	40.41	42.41	49.00	44.28
Female	67.53%	46.71%	52.47%	31.34%	32.27%	47.89%
Race						
African	94.44%	86.39%	91.07%	66.23%	22.58%	78.89%
Coloured	5.56%	10.79%	8.69%	8.71%	5.58%	7.85%
Asian/Indian	0.00%	1.22%	0.20%	4.57%	6.46%	2.12%
White	0.00%	1.60%	0.05%	20.50%	65.38%	11.14%
Education (average level if 25 years or older)						
No schooling	25.14%	3.10%	9.14%	0.54%	0.36%	9.85%
Less than primary completed (grades 1 to 6)	28.54%	11.40%	18.85%	2.74%	0.93%	14.28%
Primary completed (grade 7)	11.03%	5.18%	9.01%	2.35%	1.39%	6.40%
Secondary not completed (grades 8 to 11)	32.26%	49.57%	49.19%	33.94%	11.66%	36.37%
Secondary completed (grade 12)	2.82%	18.85%	11.07%	23.79%	18.06%	14.26%
Tertiary	0.22%	11.91%	2.75%	36.64%	67.59%	18.84%
Employment status						
Inactive	54.96%	27.27%	29.02%	18.97%	22.47%	32.85%
- of which pensioners	33.55%	19.49%	25.59%	32.97%	39.12%	30.98%
Unemployed (discouraged)	3.50%	1.72%	1.60%	1.18%	0.72%	2.00%
Unemployed (strict)	10.48%	17.91%	11.98%	4.72%	1.33%	9.30%
Employed	31.06%	53.11%	57.41%	75.13%	75.48%	55.85%
- of which share with more than one economic activities	6.18%	5.77%	6.37%	5.65%	10.88%	6.27%
Employment type (if EMPLOYED)						
Employee	52.36%	78.55%	64.86%	89.58%	79.24%	76.79%
- of which share in formal sector	51.96%	72.52%	62.49%	91.83%	93.92%	80.56%
- of which share with permanent contract	36.94%	52.79%	37.00%	75.71%	83.05%	63.02%
- of which share member in trade union	7.14%	30.30%	11.10%	48.49%	31.40%	34.48%
Self-employed	17.65%	13.77%	15.58%	8.74%	19.60%	12.90%
- of which share in formal sector	1.38%	8.26%	3.52%	46.47%	73.98%	24.68%
Casual worker/ helping others	22.77%	6.97%	18.18%	1.30%	0.88%	8.58%
Subsistence agriculture	7.22%	0.70%	1.38%	0.38%	0.27%	1.74%

Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights corrected for panel attrition).

Table 9 and Table 10 illustrate that the transient poor are clearly distinct from the chronic poor. However, they are not as clearly distinct from the class above them – the vulnerable non-poor. In fact, the similarities in household- and individual-level characteristics between the transient poor and vulnerable non-poor groups are striking. The households in these groups are similarly sized, both rely heavily on the labour market for income (with 72.58 and 74.58 per cent respectively relying primarily on labour market income), are distributed geographically in similar proportions between

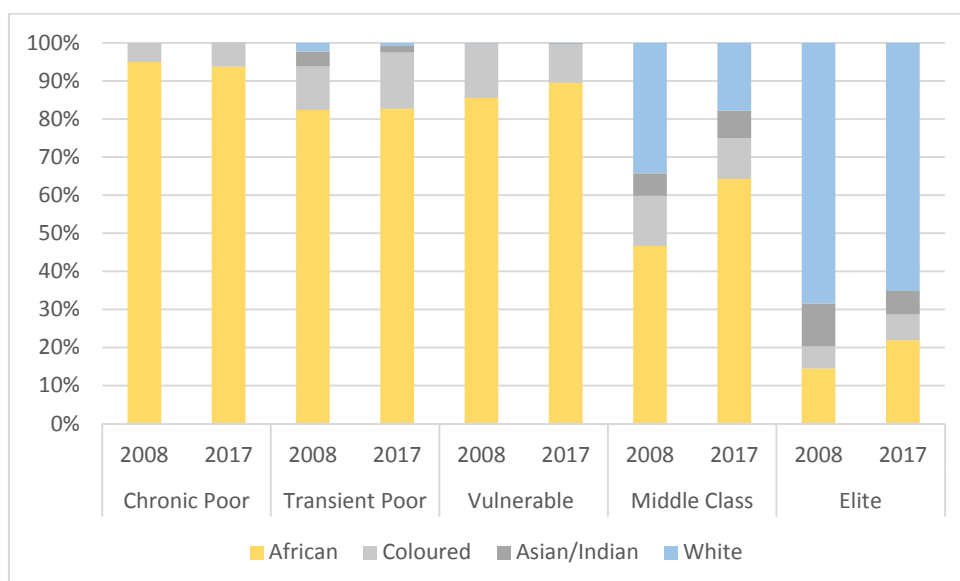
rural and urban areas, have comparable levels of education and are both predominantly African (with a smaller share of coloured members).

The one exception to these similarities – the difference in mean consumption between these groups – is equally striking. The mean consumption of these groups differs dramatically, at R745.13 mean per capita expenditure among the transient poor compared to R2331.93 among the vulnerable. The fact that these differences in observed income/expenditure are not reflected in differences in household and individual characteristics simply reflects the fact that, for these households, expenditure levels at any one point in time are highly volatile and difficult to sustain. As discussed elsewhere (Schotte, et al., 2018; Zizzamia, 2018), this volatility in consumption is driven primarily by the highly tenuous attachment to the labour market and the lack of effective risk management mechanisms available to these households.

These observations serve to reinforce a point made throughout this paper – that in a context of high levels of economic precariousness even among the non-poor, distinctions between the poor and non-poor may be less meaningful from a dynamic perspective than typically assumed. In other words, we may think of these households as being structurally similar, and only stochastically distinct in terms of their observed income/consumption.

The strength of our schema is that it allows us to distinguish a middle class which is *structurally* distinct from the vulnerable non-poor. Table 9 and Table 10 confirm this: Compared to transient poor and vulnerable households, middle class households are smaller, have fewer children, have more workers, rely more heavily on income from the labour market and less on social grants, and are located almost entirely in urban areas. While approximately half of all middle-class households are African, whites are represented disproportionately highly in the middle class relative to their population share, with one in three middle class households being white. At the same time, Figure 4 illustrates that there has been rapid growth in the African middle class in the last decade: In 2008 only 47 per cent of the middle class was African, compared to 64 per cent in 2017.

**Figure 3: Racial composition of South Africa's social classes, 2008 and 2017**



Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights).

Two-thirds of middle class household heads are educated at matric level or higher, and three quarters are employed, typically as formal sector employees. Because of the higher quality and stability of their insertion into the labour market and their superior levels of human capital, middle class households earn on average twice as much from the labour market as households in the vulnerable class (R5,366.17 compared to R13,127.37), and are much more likely to be able to sustain this income.

As expected in a high inequality context like South Africa, the elite are distinct from the rest of the population. Their income/consumption is of an order of magnitude higher even than the middle class, households are smaller, more homogeneously white (although with some growth in the African share of the elite between 2008 and 2017, from 14 per cent to 22 per cent), and among household heads, tertiary education and formal employment is the norm. The elite is homogeneously urban-based. While NIDS data are not well-suited to measuring wealth, in line with recent studies (Bassier and Woolard, 2018; Orthofer, 2016), it is also worth noting the substantial share of income the elite derives from capital investments.

**Table 9: Average household characteristics by social class, 2008-2017**

	Chronic Poor	Transient Poor	Vulnerable	Middle Class	Elite	Total
<b>Characteristics of the household (HH)</b>						
Weighted share of respondents	48.79%	11.75%	15.09%	20.75%	3.62%	
Mean household expenditure per capita	517.77	745.13	2331.93	4536.20	25659.32	3765.76
Median household expenditure per capita	469.87	764.92	1804.97	3567.98	20556.23	1406.01
No. of members in HH	5.34	3.03	2.55	2.23	1.87	3.30
Age composition						
No. of children (<18 years)	2.50	0.95	0.74	0.53	0.22	1.19
No. of members in working age (18-60 years)	2.44	1.90	1.60	1.50	1.31	1.84
No. of elderly members (60+ years)	0.39	0.18	0.21	0.20	0.34	0.26
Main source of income						
Labour	41.02%	72.57%	74.58%	87.18%	84.81%	69.21%
Government grants	50.23%	18.36%	14.16%	3.97%	0.35%	21.21%
Remittances	6.51%	7.80%	8.86%	3.64%	1.19%	5.76%
Subsistence agriculture	0.26%	0.04%	0.11%	0.08%	0.02%	0.13%
Investments	1.84%	1.16%	1.79%	4.93%	13.63%	3.49%
Other	0.14%	0.07%	0.51%	0.20%	0.00%	0.20%
Mean income from source						
Labour	3326.16	4682.41	5366.17	13127.37	38223.13	10197.25
Government grants	1723.73	1138.51	1346.10	1456.27	1459.73	1531.09
Remittances	1493.51	1148.79	1747.26	2360.42	14413.17	2009.74
Subsistence agriculture	236.81	142.15	452.93	1301.08	1942.38	376.87
Investments	2083.96	2721.96	2904.47	14356.36	16086.26	11022.71
Other	1887.93	1138.60	4080.49	2377.57	2796.16	2463.98
Access to services						
House, cluster, town house	59.54%	60.29%	60.95%	64.88%	84.02%	63.18%
Tap water in house/on plot	56.65%	79.54%	75.23%	94.37%	98.39%	78.08%
Flush toilet in/outside house	30.46%	65.74%	58.19%	89.75%	97.38%	63.89%
Access to electricity	76.16%	83.81%	85.68%	94.14%	97.22%	86.13%
HH has basic needs satisfied (shelter/water/sanitation/electricity)	18.24%	42.12%	33.98%	57.13%	79.53%	40.91%
Geographic location						
Traditional	55.54%	20.55%	31.09%	7.47%	3.00%	27.35%
Urban	38.45%	74.19%	59.69%	89.79%	95.03%	67.54%
Farms	6.01%	5.26%	9.22%	2.75%	1.97%	5.11%

Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights corrected for panel attrition).

Notes: All monetary values are expressed in March 2017 Rands.

<sup>a</sup> Imputed rental income has been excluded. Government grants include i) State old age pension, ii) Disability, iii) Child Support, iv) Foster Care, and v) Care dependency grant. Other income from government includes i) Unemployment Insurance Fund and ii) Workmen's compensation. Investment Income includes i) Interest/dividend income, ii) Rental income, and iii) Private pensions and annuities.

<sup>b</sup> In line with the 2011 census, three settlement types are distinguished in NIDS:

4. Urban - A continuously built-up area that is established through cities, towns, 'townships', small towns, and hamlets.

5. Traditional - Communally-owned land under the jurisdiction of traditional leaders. Settlements within these areas are villages.

6. Farms - Land allocated for and used for commercial farming including the structures and infrastructure on it.

Those areas of the country falling under the jurisdiction of traditional authorities (or traditional chiefs) are considered as rural, mainly due to their lack of infrastructure due to past legacy.

**Table 10: Average characteristics of household head, by social class, 2008-2017**

	Chronic Poor	Transient Poor	Vulnerable	Middle Class	Elite	Total
<b>Characteristics of the head of household (HoH)</b>						
Age	49.79	39.39	40.41	42.41	49.00	44.28
Female	67.53%	46.71%	52.47%	31.34%	32.27%	47.89%
Race						
African	94.44%	86.39%	91.07%	66.23%	22.58%	78.89%
Coloured	5.56%	10.79%	8.69%	8.71%	5.58%	7.85%
Asian/Indian	0.00%	1.22%	0.20%	4.57%	6.46%	2.12%
White	0.00%	1.60%	0.05%	20.50%	65.38%	11.14%
Education (average level if 25 years or older)						
No schooling	25.14%	3.10%	9.14%	0.54%	0.36%	9.85%
Less than primary completed (grades 1 to 6)	28.54%	11.40%	18.85%	2.74%	0.93%	14.28%
Primary completed (grade 7)	11.03%	5.18%	9.01%	2.35%	1.39%	6.40%
Secondary not completed (grades 8 to 11)	32.26%	49.57%	49.19%	33.94%	11.66%	36.37%
Secondary completed (grade 12)	2.82%	18.85%	11.07%	23.79%	18.06%	14.26%
Tertiary	0.22%	11.91%	2.75%	36.64%	67.59%	18.84%
Employment status						
Inactive	54.96%	27.27%	29.02%	18.97%	22.47%	32.85%
- of which pensioners	33.55%	19.49%	25.59%	32.97%	39.12%	30.98%
Unemployed (discouraged)	3.50%	1.72%	1.60%	1.18%	0.72%	2.00%
Unemployed (strict)	10.48%	17.91%	11.98%	4.72%	1.33%	9.30%
Employed	31.06%	53.11%	57.41%	75.13%	75.48%	55.85%
- of which share with more than one economic activities	6.18%	5.77%	6.37%	5.65%	10.88%	6.27%
Employment type (if EMPLOYED)						
Employee	52.36%	78.55%	64.86%	89.58%	79.24%	76.79%
- of which share in formal sector	51.96%	72.52%	62.49%	91.83%	93.92%	80.56%
- of which share with permanent contract	36.94%	52.79%	37.00%	75.71%	83.05%	63.02%
- of which share member in trade union	7.14%	30.30%	11.10%	48.49%	31.40%	34.48%
Self-employed	17.65%	13.77%	15.58%	8.74%	19.60%	12.90%
- of which share in formal sector	1.38%	8.26%	3.52%	46.47%	73.98%	24.68%
Casual worker/ helping others	22.77%	6.97%	18.18%	1.30%	0.88%	8.58%
Subsistence agriculture	7.22%	0.70%	1.38%	0.38%	0.27%	1.74%

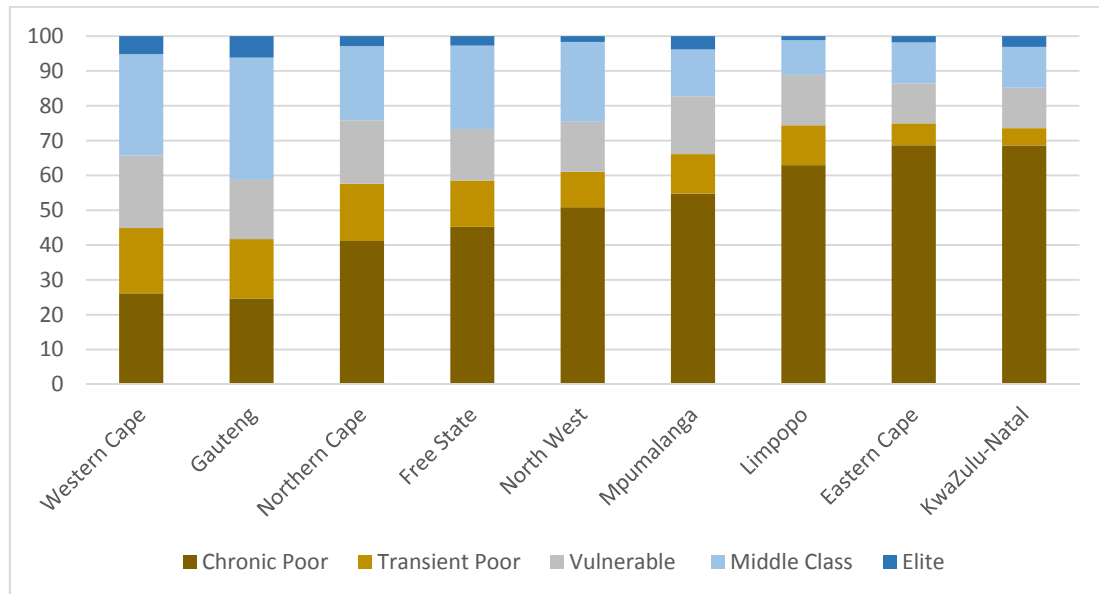
Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights corrected for panel attrition).

In terms of geographical distribution, among South Africa's nine provinces, KwaZulu-Natal has the highest incidence of chronic poverty and the second smallest middle class (after Limpopo) (Figure 4). However, KwaZulu-Natal also has the fourth largest elite (after Gauteng, the Western Cape, and Mpumalanga), indicating a substantial degree of socio-economic inequality and polarisation in this province. Chronic poverty is lowest in Gauteng and the Western Cape – which are also the two provinces with the largest middle class and elite. These differences are closely related to urban/rural divisions, with the majority of KwaZulu-Natal's population living in traditional areas, while Gauteng



and the Western Cape, in contrast, have the highest proportion of urban residents. While vulnerability is substantial in all provinces, including those provinces with low levels of chronic poverty, we observe a negative relationship between the extent of chronic and transient poverty across the provinces (see Figure 4).

**Figure 4: Geographic distribution of South Africa's social classes, 2008 to 2017**



Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights).

The nature of labour market insertion is a key distinguishing factor between classes – but also allows us to highlight relevant similarities between classes. Conditional on being employed, we differentiate five types of employment: Employees with a permanent work contract, employees with a temporary or time-limited work contract, self-employment, casual work, and subsistence agriculture. Figure 5 illustrates the distribution of these employment categories across classes.

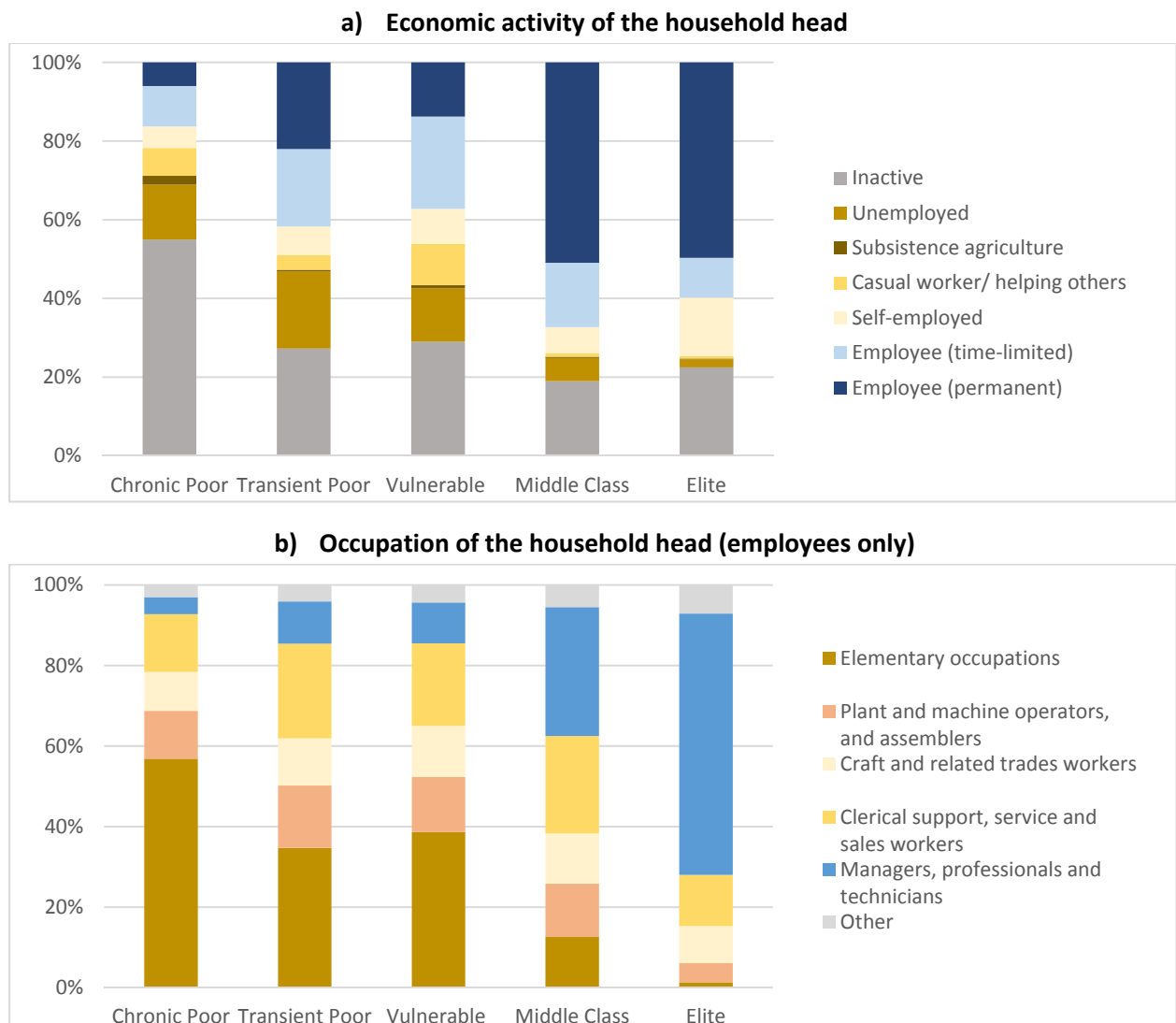
Chronic poor adults (and to a lesser extent, transient poor and vulnerable adults) are far more likely to be economically inactive or unemployed than those in the middle class and elite. As expected, precarious forms of work such as casual employment and employment without a permanent work contract make up the largest share of jobs among the poor and vulnerable, while among the middle class and elite 80 per cent of all household heads who are employed have a permanent contract.

Differences in occupations across classes reflect class differences in human capital, with household heads of chronically poor households being most likely to be employed in elementary occupations. Elementary occupations and service and sales occupations also dominate among

household heads in transient poor and vulnerable households. As expected, white collar occupations are most common in middle class and elite households.

Interestingly, across all classes, the closest similarities in terms of labour market insertion are between the transient poor and vulnerable non-poor – again affirming the structural affinity between these classes straddling the poverty line.

**Figure 5: Social classes in the labour market, 2008 to 2017**



Source: Authors' calculations using NIDS waves 1 to 5 pooled sample (post-stratified weights).  
 Note: Figures represent employment status and occupational category limited to heads of households.

## 7. Conclusion

Unlike cross-sectional studies, longitudinal surveys can give insight into economic mobility which allows us to understand how markers of (dis)advantage are consequential in determining material conditions in the present, and how these markers structure economic opportunity over time. Poverty is experienced not only *in* time, but, crucially, *over* time. In this paper we show that this dynamic element – the risk of falling into (deeper) poverty and the chances of moving up – looms large in the economic lives of both the poor and the non-poor in South Africa. We update the results of Finn and Leibbrandt (2017) and Schotte, et al. (2017) with Wave 5 of NIDS data to provide a thorough and up-to-date analysis of poverty dynamics in South Africa between 2008 and 2017. This analysis focusses on the correlates of transitions into and out of poverty, and investigates how multidimensional inequalities in terms of household and individual level characteristics relate to both poverty persistence and vulnerability to poverty. Furthermore, we also update the analysis of Schotte, et al. (2018) using NIDS Wave 5 data to directly link the dynamic study of poverty to the dynamic study of inequality through the lens of social stratification.

Five main empirical findings emerge from this analysis:

First, in line with earlier findings by Schotte, et al. (2018), we show that the share of South Africans who can be considered as stably middle class or elite – at 24.4 per cent on average between 2008 and 2017 – is considerably smaller than most other studies relying on less-demanding statically defined class-criteria suggest.

Second, we find that the transient poor and the vulnerable, at 26.8 per cent, constitute a considerable share of South Africa's population. Interestingly, these two groups who straddle the poverty line are strikingly similar in terms of their average household characteristics. We argue that they differ from both the chronically poor and the stable middle class and elite not only in terms of household characteristics, but likely also in policy needs. In this regard, the perspective that our social-stratification schema affords us is valuable in that it challenges the meaningfulness, in a dynamic sense, of the standard division of society into poor and non-poor groups.

Third, the number of household members in employment and, in particular, the employment status and the type of employment are revealed to be key determinants of resilience or vulnerability to poverty. Specifically, households which are resilient to poverty (i.e. the middle class and elite) have household heads who are formally employed with a permanent work contract and with union coverage. Among those facing greater vulnerability, in contrast, unstable and informal employment relationships dominate and a larger share is either unemployed or economically inactive. From this

we conclude that closing the skills gap and increasing both the quantity and quality of jobs will remain central challenges that South Africa's government and the social partners will need to address in order to lift larger parts of the population into the middle class and prevent backslides into poverty. At the same time, for the foreseeable future many vulnerable households will not be on this positive trajectory. Explicit policy attention needs to be devoted to understanding and supporting those working in more precarious forms of work to raise the stability, productivity and real earnings of their work too.

Fourth, notwithstanding the substantial extent of churning around the poverty line, poverty experienced as a persistent state still dominates the overall poverty landscape. In country contexts marked by enduringly high socioeconomic inequality, as in South Africa, policymakers should not lose sight of the large share of the population that remains locked in persistent poverty with very low chances of being fruitfully integrated into the labour market. In addition to the provision of basic services that ensure that this group's health, education, and nutritional needs are met, social transfers will remain an indispensable source of income for many of the chronic poor.

Finally, there is indicative evidence that the poor (and the vulnerable non-poor) are not only more exposed to several risk factors but, in addition, also seem disproportionately deprived in terms of their access to effective formal and informal insurance mechanisms to confront these socioeconomic risks. This higher risk exposure and inadequacy of existing coping strategies gives scope for targeted social protection interventions. However, to fill this space, policymakers will require a closer investigation into how social stratification is related to the distribution, frequency, and intensity of poverty-triggering events, on the one hand, and access to coping mechanisms, on the other.

The above findings indicate that the most relevant distinction, from a policy perspective, may be between the chronic poor, on the one hand, and the transient poor and vulnerable, on the other, rather than between the poor and non-poor. It is the chronic poor who are trapped in poverty, while the transient poor and vulnerable are more likely to experience poverty as a temporary state. While social grants are key to the survival of the chronic poor, they do not address structural barriers to upward mobility. In this sense, creating opportunities for breaking these structural barriers will be imperative for dealing with chronic poverty. These may include facilitating migration as a way of accessing markets and services unavailable in rural areas, or targeting such groups with any policies directed at changing the spatial distribution of economic opportunities to improve access to these opportunities in impoverished areas. For the transient poor/vulnerable, on the other hand, addressing labour market frictions and strengthening labour regulation and support for formal and informal small enterprises may improve employment prospects and quality of employment. This group also stands

to benefit from the provision of insurance mechanisms, which may help buffer shocks in the short and medium term, in turn facilitating upward structural mobility into the stable middle class in the longer run.

The approaches that we apply in this paper provide a bridge between the study of poverty over time and patterns of social stratification. Considering this analysis as a stepping stone, we believe that there is a need for future research that can provide a thorough link – both theoretically and empirically – between the analysis of poverty dynamics and the study of inequality more broadly. With this in mind, below we highlight several open questions and potential avenues for further studies:

Given the analytic and policy benefits of a poverty dynamics lens on understanding stratification across the distribution, the first challenge is to investigate innovative ways of translating these dynamics into an indicator which can be expressed more simply and intuitively. This will ensure a basis of comparability across both place and time. Schotte, et al.'s approach (2018) that uses a predictive model of poverty risks to link the definition of social strata to an in-depth analysis of poverty transition provides an important step in this direction. However, one of the main limitations of this approach is the specification of the probability thresholds, which divide the chronic poor from the transient poor, and the vulnerable from the stable middle class. These thresholds rely on the estimation of a panel data model in the individual country-specific context and also are going to depend on the time-period under study, since the chances of upward and downward social mobility change over time.

Second, there is a need for excellent theoretical and methodological research on the dynamics of social inequalities, where best-practice approaches remain to be explored. A number of previous economic studies suggest estimating a dynamic measure of inequality by calculating the Gini coefficient (and/or other standard inequality indices) using an intertemporal income or consumption average. If households are able to smooth their income or consumption over time, this dynamic measure is going to return a lower level of inequality than would be obtained using a static measure (Finn and Ranchhod, 2017). On the other hand, a number of studies in the social sciences as well as in the psychology and health literature have shown that a situation of vulnerability and economic instability can be welfare reducing, even if the expected drop in welfare does not materialise (Dercon, 2006; Cafiero and Vakis, 2006). In this sense, economic insecurity not only presents a source of considerable discomfort and bears the risk of negative psychological and health effects (Cafiero & Vakis, 2006), but also tends to affect peoples' economic choices. An important example, that has been observed elsewhere in the world (Cafiero & Vakis, 2006; Dercon, 2006) is that of a low-income trap created when the vulnerable, in order to minimise risks, are forced to engage in economic activities

which are low-risk and guarantee constant but low returns. Dynamic studies of inequality may want to take these aspects into consideration.

A final issue which is worth flagging and which will require further research is the lack of engagement in our work thus far with top incomes and with wealth inequality – issues which are quickly becoming central in inequality research in South Africa (Bassier and Woolard, 2018; Wittenberg, 2017; Orthofer, 2016). Insofar as our approach here is focussed mainly on mobility patterns into and out of poverty, less attention is being paid to the main determinants that differentiate the stable middle class and the elite. This is not only due to the poverty and vulnerability focus of this work. It is due also to a common limitation in existing income mobility research based on survey data, namely, the under-coverage of top incomes in household surveys (see, for example, Atkinson, Piketty and Saez. 2011). As Bassier and Woolard (2018) highlight, and as we have noted in earlier work (Zizzamia, et al., 2016), distributional patterns of growth are increasingly leading to a divergence between the top 1 to 5 per cent of the income distribution and the rest. Accounting for this defining element of economic inequality remains out of reach of our approach as it currently stands, and will be an important perspective to incorporate in future research.

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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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