

MULTIFACETED POVERTY: ABSOLUTE, RELATIVE AND SUBJECTIVE POVERTY IN SOUTH AFRICA

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Abstract: Poverty is a diversified and multidimensional concept that can be measured in either absolute or relative terms. The former approach is based on the minimum requirement needed to sustain life (e.g. the expenditure required to purchase the essential food and non-food items or the calorie intake required to meet the nutritional requirements for a healthy and active life). The latter approach changes with the standard of living, with the poor being defined as people whose incomes or expenditures are below a certain percentage of that of their contemporaries (e.g., the median income or income at the 40th percentile of the population). Poverty can also be measured subjectively as people make subjective and diverse judgements on what constitutes a socially acceptable minimum standard of living in a society. They distinguish themselves as poor if, for instance, they think their income level is below that of others in the same area, or if they are not satisfied with their life as a whole. Using the 2010/2011 National Income Dynamics Study (NIDS) data, this paper intends to conduct comparative studies of multiple poverty measures into absolute, relative and subjective poverty incidence in South Africa. Probit analyses are conducted to identify characteristics of the poor using the following approaches: (1) absolute income poverty method; (2) relative income poverty method; (3) subjective income poverty method; (4) subjective poverty method; (5) subjective wellbeing method. Whether the demographic, educational, labour market and socio-economic characteristics of the poor differ significantly amongst the different methods will also be analysed. Probit regressions are conducted to establish the characteristics of people who are distinguished as poor in each approach. They should be the most vulnerable people who should be targeted in poverty reduction strategies.

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1. Introduction

Poverty is a diverse and dynamic concept. The understanding of its nature varies across regions. For instance, richer countries have higher poverty lines compared to poor countries (Ravallion, 2010). Moreover, the concept of poverty also varies across time. For example, early analyses of poverty were predominantly based on the objective-type evaluation of the economic or income status of an individual, see among others, Ayala, Jurado & Perez-Mayo (2009) and Alkire (2009). More recently, it has been recognised that this approach towards poverty is inadequate. Poverty is now also recognised to be a subjective matter and social and political issues should be included in the analysis (Harris, 2007 and Moore & Putzel, 2001). Hence, over the past three decades there has been a surge in publications that study subjective poverty, particularly in developed countries.

In South Africa, most of the existing research on poverty is dominated by the objective-type absolute and relative poverty approaches. The focus on subjective poverty analysis only started in 1993 with the publication of the Project for Statistics on Living Standards and Development (PSLD), which contained subjective questions on South Africans' poverty. This paper contributes to the burgeoning literature on multifaceted poverty analysis by conducting comparative studies of multiple poverty measures using the 2010/2011 National Income Dynamics Study (NIDS). Probit regression analyses are used to identify the poor using the following approaches: (1) the absolute income poverty method (2) the relative income poverty method (3) the subjective income poverty method (4) the subjective poverty method, and (5) the subjective well-being method. As far as the authors are concerned, such a study that compares five different approaches to measuring poverty has not yet been conducted in the South African context.

Some interesting results are found. Among the variables that are most likely to reduce the chances of being poor are being non-Black, male, either young or old, married, educated, either employed or permanently employed, access to medical aid, access to public and private assets, and being a member of any group.

The rest of the paper is structured as follows: Section 2 discusses alternative definitions and measurements of poverty, and provides a succinct overview of past studies on South African

poverty. This is followed by Section 3, which analyses the data and the methodology employed in this study. Section 4 presents the descriptive statistics and empirical analyses, with some concluding remarks in Section 5.

2. Conceptual framework and literature review

2.1 Introduction

Poverty is a diverse and dynamic concept; its definition and measurement still eludes academicians and policy makers. The understanding of its nature varies across regions. For instance, richer countries have higher poverty lines compared to poor countries (Ravallion, 2010). Moreover, the concept of poverty also varies across time. For example, early analyses of poverty were predominantly based on the evaluation of the economic or income status of an individual, see among others, Ayala, Jurado & Perez-Mayo (2009) and Alkire (2009). More recently it has been recognised that the earlier analytical approach towards poverty was inadequate. Poverty is now also recognised as a social and political problem (Harris, 2007 and Moore & Putzel, 2001). These eventual conceptual changes in understanding the nature of poverty have over time had a significant effect on the way poverty is defined and measured.

2.2 Definitions and ways of measuring of poverty

There is no settled position as to what constitutes the correct definition of poverty. According to De Vos & Garner (1991:267), each definition of poverty partly depends on the social, political, cultural and historical contexts of a given society. It is therefore difficult to develop a universal criterion of how poverty should be defined. Despite these challenges, all definitions of poverty tend to refer to deprivations suffered by the population in various forms, such as income, basic needs and human capabilities. These definitions can be analysed under the following categories: absolute definitions, relative definitions and subjective definitions (De Vos & Garner, 1991:267), each of which is discussed below.

Poverty can generally be measured using objective and/or subjective approaches. In the case of the former, a researcher determines the minimum consumption basket for the food/non-food items essential for survival, by fixing a quantifiable value upon which a distinction can be made between those that are poor and those that are not (Ferrer-I-Carbonell & Van

Praag, 2001:148). This approach is anchored on the cardinal pattern of poverty evaluation. In the case of the subjective approach individuals make self-assessments to determine whether or not they feel poor. This approach is based on qualitative analyses of poverty and assumes the ordinal pattern of poverty evaluation.

Before discussing various measures of poverty, it is essential to define a few important concepts. The poverty line captures a threshold or cutoff point at which a distinction is made between the poor and the non-poor. This threshold can be in the form of an objective or subjective income, or a non-income value that is taken to be sufficient for a person to maintain an acceptable minimum standard of living. This threshold value may differ by region. This is affirmed by the World Bank (2001:18), as different regions exhibit different characteristics, a poverty line should be constructed within the context of a given country in order for it to reflect the economic and social circumstances of that country.

Given a defined threshold value, the poor represents the percentage of the population that falls below the poverty line, which is also referred to as the poverty headcount ratio. This is a popular poverty concept which falls under the Foster-Greer-Thorbecke (FGT) family of poverty measurement tools (Ravallion, 1998). The headcount ratio, however, is criticized for not revealing the depth of poverty for those considered to be poor. For a robust measurement of poverty, the headcount ratio is normally reported together with another popular poverty concept from the FGT family of measurement tools, i.e. the poverty gap index. This index measures the incidence of poverty by analyzing how far below the poverty line each of the poor falls (Gardiner & Evans, 2011). The FGT class of poverty measures has the advantage that total poverty can be decomposed into additive sub-group poverty shares. This is important in South Africa where historical occurrences have rendered the nature and extent of poverty to manifest itself in terms of racial groupings.

2.2.1 Absolute definition and measurement of poverty

Typical definitions and measurements in early studies of poverty are based on absolute poverty, which takes the form of money metric and non-money metric poverty analyses.

2.2.1.1 *Money metric absolute poverty*

Money metric absolute poverty is based on an objective measurement of the absolute minimum a person requires for biological survival, such as food, water, shelter and warmth, clothing, and so forth (Saith, 2005). It can be measured in various ways, such as the *food-energy intake* method, which measures the consumption expenditure or income level at which a person's typical food energy intake is just sufficient to meet a predetermined food energy requirement (Ravallion, 1998:10). Others refer to it as a *calorie intake measure*, and it is usually measured at 2 100 calories per person per day (Bellu & Liberati, 2005). The poverty line associated with this method would therefore be the minimum income or expenditure required for a person to meet the acceptable energy intake or calorie level. Someone who is unable to consume such a minimum required amount of calories in a day is considered as poor, while a person who is able to meet it is considered to be non-poor.

The second method, the *cost of basic needs*, values an explicit bundle of foods which is typically consumed by the poor using local prices (Coudouel, Hentschel, & Wodon, 2002). According to Coudouel, Hentschel, & Wodon (2002), it also adds a specific allowance for non-food goods, which is consistent with spending by the poor. A poverty line with respect to this method is an income threshold equivalent to the bundle of foods and non-foods sufficient to maintain an absolute minimum standard of living. People that fall below it are considered poor, while those that are able to meet it are considered to be non-poor.

It should be noted that the poverty lines used in either of these methods often have arbitrary elements. For instance, the calorie threshold underlying both methods might be assumed to vary with age and the type of work done. Adults and those involved in manual labour may require more food energy intake than the young and those not involved in manual work.

2.2.1.2 Non-money metric absolute poverty

The above discussion analyses poverty from the point of view of income or material wellbeing. Restricting the analysis to income or expenditure is inadequate considering the fact that poverty also includes a non-income dimension. Poor people do not only lack income or material wealth; they also require social amenities and political representation. One of the earliest works bringing this perspective to the study of poverty is credited to Sen (1999), who argued that poverty or wellbeing should be understood as the deprivation of

capabilities rather than low income or low consumption. Capabilities refer to the substantive freedoms that a person should enjoy in order to lead a kind of life that he or she values, such as education, good health, long life expectancy, etc. (Sen, 1999). He brought this perspective in the wake of the realisation that people may have income, but if there are no health facilities, for instance, their income may be inadequate to advance their wellbeing.

From this perspective, the poor are separated from the non-poor by objectively specifying the level at which the non-money metric items or capabilities are attained. Those that fall below that defined level are considered to be poor, while those that are able to meet it are considered to be non-poor.

2.2.2 Relative definition and measurement of poverty

The relative analysis of poverty originated as a result of the failure of the absolute poverty concept to account for the fact that inequality can cause poverty. A person's wellbeing is not only about avoiding absolute deprivation; it is also based on comparisons with others. A relative poverty analysis compares people to those around them, or what others might reasonably be expected to afford (Iceland, 2005). The average standard of living (objectively determined by a researcher) is normally used to distinguish who the relatively poor. It is the average standard of living which defines people's expectations, and when they are unable to reach that average they feel excluded, powerless, ashamed, resentful and marginalised. In a sense, the fact that people's feelings about their poverty status are determined by their perceptions of others in society renders relative poverty to be a subjective concept. Alcock (1998) points out that relative poverty is subjective because value judgement is required to determine how poor one is relative to others.

Relative poverty is defined in relation to the economic status of other members of society. According to Iceland (2005), it compares whether people comparatively lack a certain level of income, consumption, material possessions, good quality housing, clothing, etc. A relative poverty line is defined in relation to the overall distribution of income, consumption, or any of the above-mentioned material possessions in a given region. The choice of the relative poverty line is arbitrary. For instance, in most literature on developed countries, Woolard & Leibbrandt (1999) point out that the poverty line could be set at 50 per cent of the country's mean income or consumption. In South Africa, Woolard & Leibbrandt (1999) state that most

studies prefer to set it at 40 per cent of the national mean income. The poor are defined as those that fall under this relative poverty line and the non-poor would be those that are able to meet this relative poverty line. Nonetheless, in some studies, the relative poverty line is defined as income less than 50% of the average provincial income (e.g., Dartanto & Ostubo (2013)).

2.2.3 Subjective definition of poverty

An important criticism of both the absolute and relative poverty concepts is that they are largely concerned with income and consumption levels which are objectively determined by a researcher. With such an objectively fixed poverty line it is possible that some people classified as poor may not actually feel poor, while those that are classified as non-poor may actually feel poor. The subjective approach starts by asking people how they evaluate their own situation (United Nations, 2010).

As mentioned earlier, nowadays there is a realisation that poverty does not only hinge on economic issues, but are also influenced by social (access to health care and education), political (freedom of thought, expression and association) and cultural (the right to maintain one's cultural identity and be involved in a community's cultural life) aspects. Together with the emergence of the ill-being associated with social exclusion, these aspects significantly brought to the fore the need to have a multifaceted approach to poverty analysis, which is not fully captured under absolute and relative poverty. The subjective poverty approach captures this multidimensional analysis of poverty.

Subjective poverty, according to De Vos & Garner (1991:268), is based on the idea that the opinions of people concerning their own situations should ultimately be the decisive factor in defining poverty. It can also be referred to as *felt poverty*. Subjective poverty has some variants: subjective income poverty, subjective multidimensional poverty and subjective wellbeing, each of which is discussed below.

2.2.3.1 Subjective income approach to poverty

A subjective income poverty analysis is based on an individual self-assessment of the amount of income that is necessary to maintain a minimum standard of living (Goedhart, Halberstadt, Kapteyn & Van Praag, 1977, Ravallion, 1998:20). The subjective income poverty

line for that individual is the minimum amount of income he or she considers to be sufficient to maintain an acceptable minimum standard of living. If that individual's income falls below that poverty line, he or she is considered to be poor. Conversely, if that individual's income is equal to or above that poverty line, he or she is considered to be non-poor.

Various approaches are used to measure subjective income poverty. One of the common ones is the Financial Satisfaction Poverty Line (FSPL), also referred to as the Subjective Financial Satisfaction (SFS) (Ferrer-I-Carbonell & Van Praag, 2001:153). This approach asks for instance, on a scale of 0 to 10, are you satisfied with the financial position of your household? Another approach is the Leyden Poverty Line (LPL), named after a Dutch university from where this idea originated (Ferrer-I-Carbonell & Van Praag, 2001:153). This approach is based on the Income Evaluation Questions (IEQ) developed by Van Praag (1965). It asks questions such as: assuming prices to be constant, what monthly income (net of taxes) would you consider for your household as sufficient on a 5 scale of very bad, bad, not bad at all, good and very good?

An advantage of the IEQ over the SFS is that with IEQ respondents are less inclined to exaggerate their own dissatisfaction with their own circumstances. This is unlike the SFC where respondents are likely to reduce the satisfaction shown with their own situation as a strategic reaction (Ferrer-I-Carbonell & Van Praag, 2001:155). Secondly, the IEQ asks for five levels and not for one, which are evenly spread over the satisfaction scale. This helps to calibrate the answers. Moreover, having five points gives more information about the relation between income and income satisfaction than having just one answer, related to own current income. The obvious disadvantage of the IEQ is that it asks for five levels instead of only one, which requires more effort and thinking from the respondent.

2.2.3.2 Subjective multidimensional approach to poverty

The previous subjective poverty approach is based on questions which focus on economic or financial aspects. However, recent studies have observed that households' wellbeing do not exclusively depend on money income, but also on leisure time, health etc. (see among others, Harris (2007), Ayala, Jurado & Perez-Mayo (2009)). Poverty is a multidimensional phenomenon that must account for all aspects of life.

A combination of subjective income poverty and multi-dimensional poverty analyses constitute subjective multidimensional poverty (Thorbecke, 2005). This approach is based on a person's self-perception of various aspects of poverty without knowledge about others. It asks a question: imagine a scale of 1 to 6, with 1 standing for the poorest people and 6 standing for the richest people, on which scale are you?

2.2.3.3 Subjective wellbeing approach to poverty

According to McGillivray & Clarke (2006:4), "subjective wellbeing involves a multidimensional evaluation of life, including cognitive judgments of life satisfaction and affective evaluations of emotions and moods." The term subjective wellbeing is often used interchangeably with "happiness" or "life satisfaction" (Easterlin, 2004). This is because of the view that the essence of life is happiness and thus poverty should be measured based on a scale of happiness. This position has been criticised by Sen (1991:7-8), who argues that even though happiness is an important aspect of human life, other aspects like freedom, justice or rights are more important. In other words, subjective analyses of poverty should be conducted jointly with objective indicators and values. Sen (1991:7-8) highlights this with the following scenario: "Consider a very deprived person who is poor, exploited, overworked and ill, but who has been made satisfied with his lot by social conditioning (through, say, religion, political propaganda, or cultural pressure). Can we possibly believe that he is doing well just because he is happy and satisfied? Can the living standard of a person be high if the life that he or she leads is full of deprivation? The standard of life cannot be so detached from the nature of the life the person leads."

Since subjective wellbeing is frequently used interchangeably with happiness in the literature, this paper does not intend to explain how the two concepts differ. Rather we highlight that in our application, each one of them captures objective as well as subjective indicators. In line with Diener, Diener & Diener (2009a) the paper evaluates subjective wellbeing by considering all aspects of human life such as social, economic, and cultural characteristics of a nation.

A question which attempts to include all aspects of life is one originally proposed by Cantril (1965). It states: "How satisfied are you with your life as a whole?" The answer to this question is often termed Subjective Well-Being (SWB). It is obvious that SWB will be

determined by many variables other than income and family size alone. Depending on a given society, these could include ownership of private assets, public assets, crime, membership to religious groups, age, gender, marital status, etc. Researchers tend to focus on those variables that are politically relevant (Davis, Smith, & Marsden, 2001).

Subjective wellbeing can be measured in a number of ways; we focus on two of them. The first one is the General Social Surveys (Davis et al, 2001). This survey has a single-item question on a three-point scale. It asks the question: “Taken all together, how would you say things are these days - would you say that you are very happy, pretty happy, or not too happy?”

The second approach is the World Value Survey (Inglehart, 2000). It assesses life satisfaction on a scale of one to ten, where one represents very dissatisfied and ten represents very satisfied. It asks the question: “All things considered, how satisfied are you with your life as a whole these days?”

2.3 Past studies on South African poverty

South African studies on poverty have seen a proliferation of research focus on poverty levels and trends using the absolute income approach. An array of datasets has been employed over time as evidenced in the literature. Firstly, Van der Berg, Burger, Burger, Louw & Yu (2005 & 2007), Van der Berg, Louw & Du Toit (2007) as well as Van der Berg, Louw & Yu (2008) used the All Media Products Surveys (AMPS) datasets from various years to investigate the poverty levels and trends since the transition of governance. The poverty lines in these studies differed in respect of the adoption of a lower-bound R250 per capita per month line and an upper-bound R281 per capita per month line, respectively valued in 2000 prices. Their findings revealed that for the period 1993 to 2004, there was an upward trend in poverty incidence post democracy, followed by a downward trend towards the end of this period. Similar results were encountered even after shifting the survey income distribution rightwards in line with the national accounts mean to account for under-captured income cited by respondents (Van der Berg, Burger, Burger, Louw & Yu, 2007).

A second group of studies by Leibbrandt, Poswell, Naidoo & Welch (2006) and Yu (2009)

used data from the Census for various years. The poverty lines in these studies differed; however, the results also showed an upward trend in poverty incidence for the years approaching the turn of the century, after which there was a decline.

In other studies conducted by Meth & Dias (2004) and Vermaak (2005), the researchers used the October Household Survey (OHS) and the Labour Force Survey (LFS) datasets for selective years. The lower- and upper-bound poverty lines once again greatly differed and the poverty trend saw the headcount ratio rising between 1995 and 2003. The findings in both studies revealed an increase in the number of poor.

The studies by Van der Berg & Louw (2004), Hoogeveen & Özler (2006), Özler (2007), Pauw & Mncube (2007), as well as Bhorat & Van der Westhuizen (2012) used the Income and Expenditure Survey (IES) for the years 1995, 2000 and 2005/2006. Once again the studies used different poverty lines, for example, some used the international \$2 a day poverty line, while others applied the lower-bound poverty line set at R322 per capita per month in 2000 prices (as proposed by Woolard & Leibbrandt, 2006). Van der Berg & Louw (2004) adjusted the racial income distributions of the survey in line with their estimated national accounts racial mean income; they found a similar poverty trend as in the studies using the AMPS data, contradicting the trends found in many other studies for the period 1996 to 2000. These contrasts include a constant poverty headcount (Hoogeveen & Özler, 2006 & Özler, 2007) and an increasing poverty trend (Pauw & Mncube, 2007).

A number of studies have relied on multiple datasets and while the combinations may vary they largely use the absolute income poverty approach, with different poverty lines. Agüero, Carter & May (2006) used the 1993 Project for Statistics on Living Standards and Development (PSLSD) as well as the 1998 and 2004 KwaZulu-Natal Income Dynamics Study (KIDS) data, and found the poverty headcount trending upwards between 1993 and 1998, before falling in 2004. Simkins (2004), using the 1996 and 2001 censuses as well as the 1995 and 2000 IESs, found that poverty increased slightly, and that people residing in the Eastern Cape and Limpopo provinces were most likely to be poor. Meth (2006 & 2006), despite his challenge of both the methodology and findings by the aforementioned studies using the AMPS data, found poverty rates falling between 2000 and 2004 which is greatly attributed to social grants (old age pensions).

Analysing gender trends in poverty, Posel & Rogan (2012), using the 1997 and 1999 OHSs as well as the 2004 and 2006 General Household Surveys (GHSs), found the incidence of poverty increasing across all households between 1997 and 1999 and then decreasing in 2004 and 2006, the reduction in poverty favouring males and male-headed households. Leibbrandt, Woolard, Finn & Argent (2010), using data from the 1993 PSLSD, LFS 2000, IES 2000 and the 2008 National Income Dynamics Study (NIDS), observed marginal improvement in aggregate poverty between 1993 and 2008. They also found non-money metric access to public services to be consistent with other research, suggesting large and continuous improvement in these elements of well-being.

Few studies have employed the relative income approach. Borhat, Naidoo & Van der Westhuizen (2006) as well as Borhat, Van der Westhuizen & Goga (2007), using various datasets such as the 1993 PSLSD, the 1999 OHS and the 2004 GHS, alternatively applied two relative poverty lines to distinguish the poorest 20% and 40% of the population. They derived a comprehensive welfare index (using the statistical technique called factor analysis) by including services, assets and per capita household income variables and an asset index expressing household access to assets and services by per capita household expenditure. These studies found downward trends in poverty headcounts for both relative poverty lines during the period investigated.

Not many South African studies use the subjective poverty approach as only the 1993 PSLSD, 2008 and 2010/2011 NIDS, as well as the 2008/2009 Living Conditions Survey (LCS) datasets asked questions on subjective poverty or wellbeing. Posel & Casale (2011), Blaauw & Pretorius (2012) as well as Ebrahim, Botha & Snowball (2013), using NIDS 2008, applied the 10-point life satisfaction index asking the question: 'on a scale of 1 to 10, how do you feel about your life as a whole?' (i.e. the subjective well-being approach was adopted). By measuring the impact of household, personal and income characteristics on life satisfaction, they found the following people more likely to be less satisfied with their lives, viz. blacks, females, household heads, youth, the elderly, those with low educational levels, to name but a few. Kingdon & Knight (2004), using the PSLSD 1993 data and analysing subjective well-being poverty through a 5-point life satisfaction index, found life satisfaction to be low for persons living in the metropolitan city and urban areas, those suffering poor health, and

those classified as black.

Statistics South Africa (2012) used the 2008/2009 LCS and investigated the subjective poverty position. They determined that people not owning any dwelling and declaring ill-health in the past month, are more likely to be defined as poor under the self-perceived welfare question (SPWQ) and income evaluation questions (IEQ). In contrast, blacks were less likely to be defined as poor under the minimum income question (MIQ).

In summary, the literature review above clearly highlights the dearth in research on poverty other than using the absolute income poverty approach.

3. Data and Methodology

3.1 Data

The data to analyse the different measures of poverty emanates from the 2010/2011 National Income Dynamics Study (NIDS). NIDS is a panel data study conducted by the Southern African Labour and Development Research Unit (SALDRU), University of Cape Town, South Africa, conducted every two years. It aims to collect data on the livelihood of individuals and households over time, repeating the exercise every two years. At the time of the writing, the data from the first two waves (in 2008 and 2010/11) had been released.

The NIDS data were collected from a subset of the primary sampling units specified by Statistics South Africa's Master Sample, using a stratified, two-stage sampling design. The NIDS 2010 comprises 6809 households who reported on income and expenditure information (Yu, 2013). Data are also available on households' reactions to positive and negative shocks, as well changes in poverty and well-being.

3.2 Methodology

As discussed earlier, this study aims to analyse poverty using various measures. The literature review has highlighted an array of methods to measure poverty. This paper will use the NIDS data to calculate the following measures:

3.2.1 Absolute income poverty method¹

The earlier definition of the poverty line indicates it to be a threshold that aids in distinguishing between the poor and the non-poor. We will apply the poverty line proposed by Woolard & Leibbrandt (2006), estimated at R3 864 per capita per annum, in 2000 prices. This amount represents the monetary amount required to purchase essential food and non-food items to ensure survival (i.e. a minimum standard of living). A person who has an annual income of less than R3 864 is regarded as poor.

3.2.2 Relative income poverty method²

In this method the poverty analysis is based on determining the well-being of a person relative to others. We use income to distinguish between the poor and the non-poor, and therefore define a relative income poverty line. We use the per capita income at the 40th percentile in each province as the relative poverty line (hence the relative poverty line will differ between provinces). Table 1 provides these values for each province. A person whose income is below the relative poverty line is regarded as poor.

Table 1: Per capita income (per annum, 2000 prices) at the 40th percentile, by province

Province	Per capita income at the 40th percentile (2000 prices)
Western Cape	R6 725
Eastern Cape	R2 640
Northern Cape	R4 428
Free State	R3 774
KwaZulu-Natal	R2 859
North West	R3 891
Gauteng	R6 174
Mpumalanga	R3 979
Limpopo	R2 454

Source: Own calculations using NIDS 2010/2011 data.

3.2.3 Subjective income poverty method³

As discussed earlier, this method assumes that a person's own view on their situation will determine poverty. In the case of subjective income poverty, an individual provides a self-assessment of the income necessary to maintain a minimum standard of living. The NIDS

¹ For the remainder of the paper, it is referred to as method 1.

² For the remainder of the paper, it is referred to as method 2.

³ For the remainder of the paper, it is referred to as method 3.

adult questionnaire includes the following question (M2 in section M: Well-being and social cohesion):

"How would you classify your household in terms of income, compared with other households in your village/suburb?"

1: Much above average income

2: Above average income

3: Average income

4: Below average income

5: Much below average income"⁴

We assume that if a respondent chose options 4 or 5, this individual can be regarded as poor, whereas those who chose options 1 to 3 are regarded as non-poor.

3.2.4 Subjective poverty method⁵

The question in the previous approach is based on economic means to distinguish between the poor and the non-poor. However, as pointed out earlier, a household's wellbeing does not only depend on money income; other aspects such as leisure or health are also important. Based on this, we use the following question in the NIDS adult questionnaire (M3 in section M: Well-being and social cohesion) to determine poverty:

"Please imagine a six step ladder where the poorest people in South Africa stand on the bottom (the first step) and the richest people in South Africa stand on the highest step (the sixth step). On which step are you today?"⁶

In our analysis, if the respondent answered steps 1 or 2, the individual is defined as poor. Those respondents who chose step 3 and above, are defined as non-poor.

3.2.5 Subjective wellbeing method⁷

The subjective wellbeing method does not only consider income or expenditure or the ownership of private or public assets to determine poverty. Rather, this method suggests

⁴ Table A.1 in the Appendix shows the percentage of the adult population in each category.

⁵ For the remainder of the paper, it is referred to as method 4.

⁶ Table A.2 in the Appendix shows the percentage of the adult population in each category.

⁷ For the remainder of the paper, it is referred to as method 5.

that indicators affecting wellbeing and happiness should also be included. The NIDS adult questionnaire includes the following question (M5 in section M: Well-being and social cohesion), which we use to measure subjective wellbeing:

"Using a scale of 1 to 10 where 1 means "Very dissatisfied" and 10 means "Very satisfied", how do you feel about your life as a whole right now?"⁸

In our analysis, if the respondent answered 1 to 4, the individual is defined as poor. Those respondents choosing the scale of 5 or above are defined as non-poor.

A final aspect relating to the forthcoming analysis is to point out that the data in the adult questionnaire were based on responses from people aged 15 years and above and since we are mostly using questions from this questionnaire, the analysis will be conducted on people in this age category. The final sample size is 16 883.

4. Descriptive Statistics and Empirical Analysis

4.1 Descriptive Statistics

A summary of the poverty headcount ratio according to racial classification and gender are provided in Table 2. It is evident there is a strong similarity between headcount ratios, as approximately 40% of the population are reflected as poor across all five approaches. With regard to race, blacks account for the highest poverty headcounts in all five approaches, most notably under method 1 where nearly 50% of the population is estimated to be poor. More than a third (35.72%) of the coloured population is recorded as poor for method 2, while 15.51% of Indians and 14.96% of whites are shown to be poor under method 4. The results further shows that females are comparatively more poverty stricken than males in all approaches except method 4. In method 1 45.39% of females are poor, outweighing the 34.86% reflected for males.

⁸ Table A.3 in the Appendix shows the percentage of the adult population in each category.

Table 2: Poverty Headcount Ratio, by method

	All	Race				Gender	
		Black	Coloured	Indian	White	Male	Female
Method 1	0.4053	0.4841	0.2212	0.0854	0.0112	0.3486	0.4539
Method 2	0.3999	0.4631	0.3572	0.0285	0.0193	0.3450	0.4467
Method 3	0.3916	0.4371	0.3481	0.1167	0.1303	0.3856	0.3967
Method 4	0.4130	0.4621	0.3338	0.1551	0.1496	0.4136	0.4126
Method 5	0.4405	0.4203	0.2105	0.0760	0.0867	0.4383	0.4424

Source: Own calculations using NIDS 2010/2011 data.

The racial composition of the poor is summarised in Table 3. Blacks account for the highest racial share in all five approaches, from as low as 88.40% in method 3 to as high as 94.56% in method 1. Coloureds, whites and Indians make up the remaining proportions, with the latter population group recording the lowest racial share. As far as gender is concerned, the male share is below 50% in all five approaches. This share is the lowest in method 1 (39.56%) while the highest (46.07%) is reflected.

Table 3: Racial and Gender Composition of the Poor, by method

	Race					Gender		
	Black	Coloured	Indian	White		Male	Female	
Method 1	94.56%	4.67%	0.49%	0.27%	100.00%	39.56%	60.44%	100.00%
Method 2	91.71%	7.64%	0.17%	0.48%	100.00%	39.69%	60.31%	100.00%
Method 3	88.40%	7.61%	0.70%	3.29%	100.00%	45.31%	54.69%	100.00%
Method 4	88.62%	6.92%	0.88%	3.58%	100.00%	46.07%	53.93%	100.00%
Method 5	93.56%	4.09%	0.41%	1.95%	100.00%	45.78%	54.22%	100.00%

Source: Own calculations using NIDS 2010/2011 data.

Table 4 shows a summary of the percentage of the poor who are also defined as poor when using other approaches to measure poverty. For those people defined as poor in method 1, the majority of them (83.43%) are also defined as poor in method 2, followed by 58.04% in method 5. For those considered to be poor in method 2, the largest share of them (84.58%) are also considered to be poor in method 1, followed by 55.06% in method 5. The largest share of the people defined as poor in method 3 is also defined as poor in method 4 (64.73%), followed by 58.86% in method 5. For those defined as poor in method 4, the majority of them (61.38%) are also defined as poor in method 3, followed by 58.26% in

method 5. Finally, from the people considered to be poor in method 5, the more than half of them (54.36%) are also considered to be poor in method 4, followed by 53.42% in method 1.

Table 4: Percentage of poor in one method being defined as poor in another method

	Method 1	Method 2	Method 3	Method 4	Method 5
Method 1	100.00%	83.43%	51.39%	55.18%	58.04%
Method 2	84.58%	100.00%	50.65%	53.69%	55.06%
Method 3	53.21%	51.72%	100.00%	64.73%	58.86%
Method 4	54.17%	51.98%	61.38%	100.00%	58.26%
Method 5	53.42%	49.98%	52.33%	54.36%	100.00%

Source: Own calculations using NIDS 2010/2011 data.

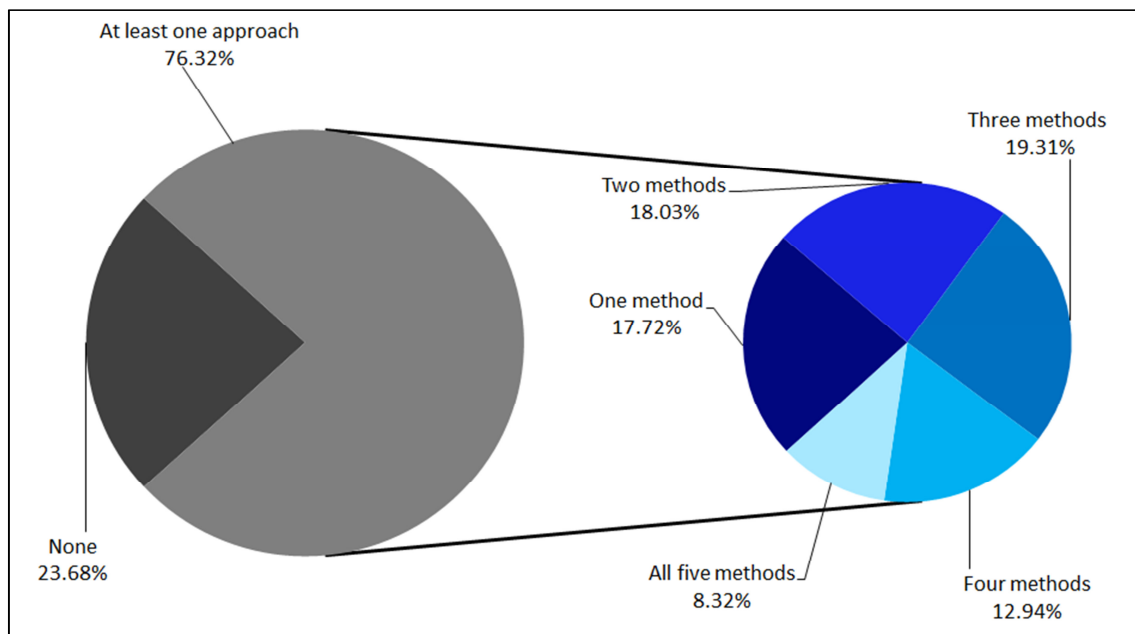
Table 5 and Figure 1 summarises the number of times a person is defined as poor. When considering the entire adult population, 76.32% are distinguished as poor in at least one method. With regard to race, 85.34% of the blacks are defined as poor in at least one approach, while this proportion decreases across the other three population groups (63.61% for coloureds, 30.89% for Indians and 25.85% for whites). Finally, a slightly lower proportion of males are distinguished as poor in at least one approach (74.61%), compared with females (77.77%). Hence, it is evident in Table 5 that despite the fact that the poverty headcount ratios are highly similar across the five methods (as shown in Table 2), it is possible for different people to be classified as poor in each method. Also, the proportion of people classified as poor in all five methods when considering the entire adult population, is 8.32%. With regard to race, this proportion is the highest for blacks and females (10.08% and 9.19%, respectively).

Table 5: Number of times a person is defined as poor according to race and gender

	All	Race				Gender	
		Black	Coloured	Indian	White	Male	Female
None	23.68%	14.67%	36.39%	69.11%	74.14%	25.39%	22.23%
One method	17.72%	17.62%	20.43%	20.43%	15.50%	19.36%	16.32%
Two methods	18.03%	19.68%	17.93%	6.48%	7.67%	18.00%	18.06%
Three methods	19.31%	22.52%	13.92%	3.21%	2.06%	18.54%	19.96%
Four methods	12.94%	15.44%	7.63%	0.71%	0.41%	11.41%	14.24%
All five methods	8.32%	10.08%	3.70%	0.06%	0.21%	7.30%	9.19%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
At least one method	76.32%	85.34%	63.61%	30.89%	25.85%	74.61%	77.77%

Source: Own calculations using NIDS 2010/2011 data.

Figure 1: Coincidence of various methods to define the poor



Source: Own calculations using NIDS 2010/2011 data.

Finally, Table 6 shows the racial and gender shares of the poor according to the number of times that people are distinguished to be poor. The results indicate that, for those defined as not poor under all five methods, slightly less than half of them are blacks, while the white share is nearly 31%. In contrast, about half of the people not defined as poor at all are males. However, when looking at those distinguished as poor under all five approaches, more than 95% of them are blacks, while nearly 60% are females.

Table 6: Racial and Gender Composition of the Poor, by method

	Race					Gender		
	Black	Coloured	Indian	White		Male	Female	
None	49.04%	13.15%	6.85%	30.95%	100.0%	49.33%	50.67%	100.0%
One method	78.77%	9.87%	2.71%	8.65%	100.0%	50.27%	49.73%	100.0%
Two methods	86.43%	8.51%	0.84%	4.21%	100.0%	45.93%	54.07%	100.0%
Three methods	92.39%	6.17%	0.39%	1.05%	100.0%	44.18%	55.82%	100.0%
Four methods	94.51%	5.05%	0.13%	0.32%	100.0%	40.59%	59.41%	100.0%
All five methods	95.93%	3.81%	0.02%	0.25%	100.0%	40.35%	59.65%	100.0%
At least one method	88.57%	7.13%	0.95%	3.35%	100.0%	44.98%	55.02%	100.0%

Source: Own calculations using NIDS 2010/2011 data.

4.2 Multivariate analysis

The preceding analysis is limited as it only took one or two variables (e.g. race and gender) into account when examining poverty. In this section the impact of various explanatory variables on the likelihood of being poor in each method is the focus of the analysis; the specific details are provided in Table 7. Characteristics describing the individual include the individual's age, marital status, education level obtained (none, primary, secondary, Matric, Matric plus Certificate/Diploma or at least a Bachelor Degree), racial classification (black, coloured, Indian or white), narrow labour market status (inactive, discouraged, unemployed, employed), whether the person is permanently employed and whether the respondent is the household head. Other characteristics of interest include the province of residence (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, Gauteng, Mpumalanga or Limpopo) and the area type (rural or urban). Social and health characteristics impacting the individual include the receipt of social grant income, incidence of crime, experience of negative events⁹, health status (excellent, very good, good, fair or poor), medical aid coverage, significance of religious activities (important or very important) and group membership¹⁰. Finally, a private asset index and a public asset index was constructed to include non-money metric measures such as household assets and services received, using the Multiple Correspondence Analysis (MCA) technique¹¹. The mean and standard deviation for these explanatory variables are presented in Table A.4 in the Appendix.

⁹ This refers to Section G of the household questionnaire, for instance, death of non-resident family member depended on for financial assistance, serious illness or injury of a household member, major crop failure.

¹⁰ This refers to Question M.9 in the adult questionnaire, for instance, stokvel, sports group, study group, singing or music group, tribal authority.

¹¹ For a detailed explanation of the MCA method, refer to Asselin & Anh (2008), as well as Ezzrari & Verme (2012).

Table 7: Description of Explanatory Variables

Variable	Description
Wc	Province: Western Cape dummy (1 = yes, 0 = no)
Ec	Province: Eastern Cape dummy (1 = yes, 0 = no)
Nc	Province: Northern Cape dummy (1 = yes, 0 = no)
Fs	Province: Free State dummy (1 = yes, 0 = no)
Kzn	Province: Kwazulu-Natal dummy (1 = yes, 0 = no)
Nw	Province: North West dummy (1 = yes, 0 = no)
Gau	Province: Gauteng dummy (1 = yes, 0 = no)
Mpu	Province: Mpumalanga dummy (1 = yes, 0 = no)
Lim	Province: Limpopo dummy (1 = yes, 0 = no)
Urban	Area type: urban dummy (1 = yes, 0 = no)
Rural	Area type: rural dummy (1 = yes, 0 = no)
index1	Public asset index - Derived from the following variables, using the MCA method: dwelling type, roof material, wall material, water, sanitation, fuel for cooking, fuel for lighting, refuse removal, street lighting
index2	Private asset index - Derived from the following variables, using the MCA method: telephone, music player, television, satellite dish, VCR/DVD, computer, camera, stove, microwave oven, fridge/freezer, washing machine, sewing/knitting machine, lounge suite, motor vehicle, bicycle, boat, farming equipment (animal cart, plough, tractor, wheelbarrow, grinding mill)
Grant	Receive social grant income dummy (1 = yes, 0 = no)
Crime	Very common to be victims of crime dummy (1 = yes, 0 = no)
Negative	Experience any negative events dummy (1 = yes, 0 = no)
Head	Household head dummy (1 = yes, 0 = no)
Black	Race: Black dummy (1 = yes, 0 = no)
Coloured	Race: Coloured dummy (1 = yes, 0 = no)
Indian	Race: Indian dummy (1 = yes, 0 = no)
White	Race: White dummy (1 = yes, 0 = no)
Male	Gender: male dummy (1 = yes, 0 = no)
Female	Gender: female dummy (1 = yes, 0 = no)
Age	Age in years
age2	Age in years squared
Married	Married or living with a partner dummy (1 = yes, 0 = no)
None	Education: no schooling dummy (1 = yes, 0 = no)
Pri	Education: incomplete primary education dummy (1 = yes, 0 = no)
Sec	Education: incomplete secondary education dummy (1 = yes, 0 = no)
Matric	Education: Matric dummy (1 = yes, 0 = no)

Certdip	Education: Matric plus Certificate or Diploma dummy (1 = yes, 0 = no)
Degree	Education: Bachelor Degree dummy (1 = yes, 0 = no)
Inactive	Labour status: inactive dummy (1 = yes, 0 = no)
discouraged	Labour status: discouraged dummy (1 = yes, 0 = no)
unemployed	Labour status: unemployed dummy (1 = yes, 0 = no)
Employed	Labour status: employed dummy (1 = yes, 0 = no)
Perm	Permanent employment dummy (1 = yes, 0 = no)
h_excellent	Health status: excellent dummy (1 = yes, 0 = no)
h_vgood	Health status: very good dummy (1 = yes, 0 = no)
h_good	Health status: good dummy (1 = yes, 0 = no)
h_fair	Health status: fair dummy (1 = yes, 0 = no)
h_poor	Health status: poor dummy (1 = yes, 0 = no)
Medical	Covered by medical aid dummy (1 = yes, 0 = no)
r_important	Religion: regarding religion as important dummy (1 = yes, 0 = no)
r_vimportant	Religion: regarding religion as very important dummy (1 = yes, 0 = no)
Member	Member of any group dummy (1 = yes, 0 = no)

Probit regressions are run to determine the effect of the explanatory variables on the likelihood of the person being poor, in each method. The marginal fixed effects (MFX) are shown in Table 8 below. With regard to the provincial dummy variables, in method 1, Gauteng is the only province in which a person is significantly least likely to be poorer than someone in the Western Cape. Statistics for North West and Mpumalanga provinces are insignificant, which means that they are no more or less likely to be poorer than a person in the Western Cape, *ceteris paribus*. In method 2, the marginal fixed effects for all provinces are higher compared to the comparative results for the other methods, and they are statistically significant. The results indicate that there is a lower probability that people residing in the Western Cape, compared to all other provinces, are better off in terms of poverty status when the provincial relative poverty lines are adopted (these poverty lines are lower for the poorer provinces – refer to Table 1). With respect to method 3, people in the Western Cape are still significantly less likely to be well off compared to the other provinces, except in the case of Gauteng and Mpumalanga, where insignificant statistics imply that they are no more or less likely to be different from the Western Cape Province.

Table 8: Marginal fixed effects of probit regressions on likelihood to be poor in each method

	Method 1: Absolute income	Method 2: Relative income	Method 3: Subjective income	Method 4: Subjective multidimensional	Method 5: Subjective wellbeing
Ec	0.0767***	-0.3921***	-0.0519**	-0.0486**	0.0006
Nc	0.0953***	-0.1861***	-0.0664***	0.0471**	-0.0596***
Fs	0.0819***	-0.2157***	-0.1357***	-0.0777***	-0.0796***
Kzn	0.0470**	-0.4083***	-0.1954***	-0.1233***	0.0441**
Nw	0.0320	-0.2616***	-0.0385*	0.0334	-0.2107***
Gau	-0.0672***	-0.1345***	-0.0130	-0.0945***	-0.1287***
Mpu	0.0126	-0.2552***	-0.0178	0.0573**	0.2406**
Lim	0.1085***	-0.3960***	-0.1147***	-0.1032***	0.0537***
Urban	-0.0394***	-0.0816***	0.0760***	0.1077***	0.0608***
index1	-0.0428***	-0.0312***	-0.0508***	-0.0555***	-0.0280***
index2	-0.1443***	-0.1490***	-0.1264***	-0.1031***	-0.0941***
Grant	0.1772**	0.1592**	0.0687**	0.0608	-0.0244
Crime	0.0079	0.0252***	-0.0040	-0.0072	0.0205**
Negative	0.0163	0.0080	0.0437***	0.0272***	-0.0223**
Head	-0.0156	-0.0071	0.0326***	0.0125	-0.0133
Coloured	-0.0911***	-0.0486***	0.0363**	0.0044	-0.2246***
Indian	-0.2987***	-0.3191***	0.0882**	-0.0398	-0.3789***
White	-0.3839***	-0.3753***	-0.0126	-0.0661**	-0.2550***
Male	-0.0569***	-0.0552**	-0.0009	0.0101	0.0017
Age	0.0055***	0.0069***	0.0036***	0.0052***	0.0030**
age2	-0.0001***	-0.0001***	0.0000***	-0.0001***	0.0000***
Married	0.0067	0.0054	-0.0472***	-0.0257**	-0.0124
Pri	-0.0301*	-0.0160	-0.0158	0.0205	-0.0208
Sec	-0.0605***	-0.0501***	-0.0355**	-0.0112	-0.0260*
Matric	-0.1271***	-0.1165***	-0.0954***	-0.1009***	-0.0550***
Certdip	-0.1913***	-0.1842***	-0.1305***	-0.1317***	-0.0269
Degree	-0.3162***	-0.3064***	-0.1146**	-0.1129**	-0.0203
discouraged	0.0600***	0.0669***	0.0333*	-0.0604***	0.0515***
unemployed	0.0392**	0.0496***	0.1601***	0.0634***	0.0323**
Employed	-0.2081***	-0.2031***	0.0371***	-0.0088	-0.0144
Perm	-0.1011***	-0.0880***	-0.0946***	-0.0309*	-0.0570***
h_excellent	0.0521**	0.0167	-0.1282***	-0.1372***	-0.2293***
h_vgood	0.0539**	0.0166	-0.1370***	-0.0799***	-0.1500***
h_good	0.0432*	-0.0129	-0.0699***	-0.1157***	-0.0444*
h_fair	0.0269	-0.0187	-0.0388	-0.0614**	-0.0405
Medical	-0.2167***	-0.2529***	-0.1535***	-0.1817***	-0.0773***
r_important	0.0215	0.0294**	0.0057	0.0233*	-0.0914***
r_vimportant	0.0444***	0.0428***	0.0484***	0.0334**	-0.1847***
Member	-0.0574***	-0.0563***	-0.0374***	-0.0372***	-0.0550***
Sample size	16 883	16 883	16 883	16 883	16 883
Pseudo R ²	0.2425	0.1981	0.0985	0.0879	0.1456
Prob. > Chi ²	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Own calculations using NIDS 2010/2011 data.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%

Reference variables: Province: wc; Race: black; Education: none; Labour status: inactive; Health: poor; Importance of religious activities: not important at all or unimportant

Method 4 reveals that the Western Cape residents are significantly most likely to be better off in terms of poverty status, compared to Northern Cape and Mpumalanga. The statistic for North West is insignificant, which implies that it is no more or less likely to be poorer than people in the Western Cape. Finally, method 5 demonstrates that people in the Western Cape are significantly most likely to be well off, in terms of subjective wellbeing, compared to people in Kwazulu-Natal, Mpumalanga and Limpopo. The statistic for the Eastern Cape Province is statistically insignificant, signalling that, *ceteris paribus*, a person's poverty status is likely not to be different from that of Western Cape.

The impact of the area type of residence indicates that urban residents are significantly less likely to be poor only in methods 1 and 2, but they are significantly more likely to be poor in methods 3, 4 and 5. The reported high likelihood of poverty in the income subjective method could be due to urban residents' dissatisfaction with their incomes, when they compare them to those of their neighbours'. With respect to the other subjective methods, the high probability of poverty could be due to general displeasure of urban residents towards the socio-economic and political system of the country. This emanates from the assumption that urban residents are usually enlightened and are very sensitive to issues happening in the economy.

The degree to which public assets affect a person's poverty status is captured in the index1 variable. The negative and significant marginal fixed effects demonstrate that access to public services lowers a person's probability of being poor in all the methods. By extension, the index2 variable illustrates the relationship between ownership of private assets and poverty status. The significant negative marginal fixed effects in all five regressions are greater in absolute terms than those of the index1 variable. This shows that, in all the methods, the probability of being poor is even lower if one owns more private assets.

Contrary to expectations, receipt of social grants significantly increases the probability of being poor in all the methods, except in method 5. For methods 1 and 2, this result could be explained by the fact that people who receive social grants might be unemployed or earn very little, even if they are employed. They would therefore be defined as poor even after receiving the grants. The low likelihood of being poor in the subjective wellbeing method

could be due to the fact that the recipients of grants might perceive this to be generous treatment by the government, hence instilling a greater level of life satisfaction.

As far as the relationship between crime and poverty likelihood is concerned, the results in Table 8 show that for those claiming to be victims of crime, the probability of being poor increases significantly, but only in methods 2 and 5. However, the statistics for the other methods are insignificant, implying that the poverty status of a person in these methods is no more or less likely to be affected by crime.

With respect to the impact of negative events on a person's poverty status, the results show that negative events significantly increase the likelihood of being poor in methods 3 and 4. This is in line with what was expected. Surprisingly, negative events reduce the probability of being poor in method 5. The statistics for other methods are insignificant, indicating that negative events are no more or less likely to make a person poor.

The household headship variable only has a significant (and positive) impact on the likelihood to be poor in method 3. As far as race is concerned, coloureds, Indians and whites are significantly less likely to be poor compared to blacks, in methods 1, 2 and 5. For the regression of method 3, it is interesting that coloureds and Indians are significantly more likely to be poorer than blacks, while for the regression of method 4, only whites are significantly less likely to be poorer than blacks.

Looking at gender, according to methods 1 and 2, males are significantly less likely to be poorer than females. The statistics for methods 3, 4 and 5 are insignificant, implying there is no gender difference when it comes to the likelihood of being poor in the three subjective approaches. In addition, the results in Table 8 indicate that there is a significant, non-linear and concave relationship between age and the probability of being poor. In other words, the younger and elderly people are less likely to be poor.

The married or living with a partner dummy variable is not statistically significant in either methods 1, 2 or 5; hence these persons are no more or less likely to be poor. In contrast, for the subjective measures married individuals are significantly less likely to be poor for methods 3 and 4. These results make intuitive sense as married persons are bound to

consider themselves better off in comparison to other people in the community, whether in terms of income, possessions or access to health benefits.

As for the education dummy variables, compared to the reference group (no schooling), those who have acquired some level of education are less likely to be poor. This is evident across all methods; the statistically significant variables have negative marginal fixed effects, indicating that the ability to attain higher levels of education decreases the probability of being poor. As expected the statistic for those persons with minimal education (e.g. primary school) are statistically insignificant (in four of the methods), which implies that they are no different from those with no education in terms of their likelihood to be poor. This is similarly the position for secondary school leavers in method 4, while obtaining a degree or diploma does not improve happiness relative to matriculants in method 5.

The labour status dummy variables are statistically significant in all five regressions, with the exception of the employed dummy in methods 4 and 5. The discouraged and unemployed are more likely to be poor compared to the inactive worker in all methods, except method 4 where the discouraged worker may have valued other aspects over the lack of income in their response. For methods 1 and 2, employed workers are respectively 20.81% and 20.31% less likely to be poor; however, in method 3, they are 3.71% more likely to be poor. This indicates that the benefits of income derived from employment opportunities leaves the employed worker less likely to be poor (methods 1 and 2), while under method 3 they subjectively perceive themselves to be poorer relative to others in their community. The inclusion of a permanent employment dummy variable shows a statistically significant negative marginal fixed effect in all five regressions. This result indicates that individuals in permanent employment are less likely to be poor and less likely to be dissatisfied with their lives, which may be attributed to improved remuneration packages (e.g., retirement benefits, annual leave) and better job security.

Considering the impact of the health status dummy variables, the regression for method 1 proffered the peculiar finding of significantly positive marginal fixed effects, if health status is anything other than poor. One possible explanation for this finding may be that the respondents' answers on health may be open to bias if it is subjectively based on their self-perception; only medical professionals can provide an accurate and definitive prognosis on

health status. In method 2, the marginal fixed effects are statistically insignificant indicating that improved health status is no more or less likely to render one poor relative to others. The statistically significant negative marginal fixed effects found in methods 3, 4 and 5 indicate that people with better health are less likely to feel poor or unhappy. The latter negative result meets expectations as people with good health should be able to work and subsequently earn more.

Those covered by medical aid are significantly less likely to be poor in all five approaches. The negative marginal fixed effects indicate that individuals covered by medical aid are less likely to be poor and dissatisfied with their lives, which may be attributed to assurances received from the payment of health costs providing a greater sense of security.

The impact of religion is captured by two dummy variables (important, and very important). Negative (and significant) marginal fixed effects are only found in the regression for method 5, which indicates that people viewing religion as important or very important are less likely to feel poor. This result shows that life satisfaction is all encompassing as people value social interaction gained from religious activities highly. On the other hand, the positive but significant marginal fixed effects in the other regressions suggest that people who regard religious activities as important are more likely to be identified as poor; a plausible outcome for low-income earners who value religious activities highly.

The membership of any group dummy variable shows a statistically significant negative marginal fixed effect in all five regressions. That is, those who are members of any group are less likely to be poor or dissatisfied with their lives. This result may be attributed to improved remittance income due to group memberships (e.g. stokvels, food clubs).

5. Conclusion

The paper set out to examine poverty in South Africa from a multifaceted point of view. It did so because of the recognition that poverty is regarded to go beyond the narrow focus, as captured by the traditional objective absolute and relative poverty approaches. The concept of poverty is now acknowledged to embody subjective characteristics or what others may call *felt poverty*.

In view of that, the paper applied a probit analysis using the 2010/2011 NIDS to conduct comparative studies of multiple poverty measures to identify the poor. The measures used are: (1) the absolute income poverty method (2) the relative income poverty method (3) the subjective income poverty method (4) the subjective poverty method, and (5) the subjective wellbeing method.

The descriptive statistics reported that 40% of the population can be considered to be poor. Of this percentage, blacks account for the highest share of the poor, followed by coloureds, Indians and then whites, in that order. Females are also found to account for the highest incidence of poverty compared to males.

The probit regression results reveal that the Western Cape is less likely to be better off, in terms of poverty status, than other provinces. This is because of the adoption of provincial relative poverty lines (these lines are lower for poorer provinces-refer to Table 1). Urban residents are subjectively more likely to be poor, while the degree of being poor in all methods reduces with increased accessibility to public assets and private assets. Social grants significantly increase the probability of being poor in most of the methods, while crime does increase the probability of being poor in methods 2 and 5. Negative events do increase the probability of being poor in methods 3 and 4, while household headships is associated with a high likelihood of being poor under the subjective income approach. The younger and elderly are less likely to be poor, while marriage subjectively reduces the chance of being poor. Education, employment, better health, medical aid, as well as, being a member of any group reduce the chance of being poor.

This study has shown the importance of undertaking a multifaceted approach to poverty analysis. People found to be better off, according to the absolute and relative approaches, were sometimes found to be poor under the subjective methods, and vice versa. Using the objective approach alone would have yielded different results from the ones produced in this paper.

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Appendix

Table A.1: Proportion of people in each category in the subjective income poverty variable

	All	Race				Gender	
		Black	Coloured	Indian	White	Male	Female
Don't know / Refused / Unspecified	7.10%	7.95%	3.76%	6.15%	3.46%	7.04%	7.15%
Much above average income	4.81%	5.37%	1.05%	11.82%	1.91%	4.86%	4.76%
Above average income	10.41%	9.19%	11.48%	7.93%	19.90%	11.35%	9.61%
Average income	38.52%	33.79%	48.91%	62.44%	61.70%	38.18%	38.80%
Below average income	25.97%	28.10%	26.99%	9.08%	12.07%	25.52%	26.35%
Much below average income	13.19%	15.61%	7.81%	2.59%	0.96%	13.04%	13.32%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own calculations using NIDS 2010/2011 data.

Table A.2: Proportion of people in each category in the subjective multidimensional poverty variable

	All	Race				Gender	
		Black	Coloured	Indian	White	Male	Female
Don't know / Refused / Unspecified	5.10%	5.75%	3.23%	4.05%	1.79%	5.19%	5.02%
One (Poorest)	13.21%	15.10%	10.36%	4.29%	2.63%	12.93%	13.45%
Two	28.09%	31.11%	23.01%	11.22%	12.33%	28.43%	27.8%
Three	34.53%	34.40%	38.11%	34.09%	32.52%	34.04%	34.94%
Four	15.11%	11.36%	20.97%	30.94%	36.37%	15.17%	15.07%
Five	3.21%	1.93%	3.39%	5.54%	12.82%	3.49%	2.98%
Six (Richest)	0.75%	0.36%	0.92%	9.87%	1.54%	0.76%	0.74%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own calculations using NIDS 2010/2011 data.

Table A.3: Proportion of people in each category in the subjective wellbeing variable

	All	Race				Gender	
		Black	Coloured	Indian	White	Male	Female
Don't know / Refused / Unspecified	0.275	0.26%	0.05%	0.00%	0.62%	0.32%	0.23%
Satisfaction level 1	9.45%	11.39%	3.04%	1.07%	1.46%	8.98%	9.85%
Satisfaction level 2	8.84%	10.75%	2.71%	0.84%	0.73%	9.32%	8.44%
Satisfaction level 3	12.04%	14.36%	5.72%	1.25%	1.46%	11.37%	12.61%
Satisfaction level 4	13.72%	15.53%	9.58%	4.43%	5.02%	14.17%	13.34%
Satisfaction level 5	17.30%	18.70%	15.81%	16.63%	7.52%	17.22%	17.36%
Satisfaction level 6	11.37%	10.28%	18.37%	7.73%	14.94%	10.71%	11.94%
Satisfaction level 7	9.67%	7.39%	18.18%	17.04%	18.87%	10.83%	8.69%
Satisfaction level 8	7.78%	4.88%	12.72%	15.72%	24.89%	7.74%	7.81%
Satisfaction level 9	3.25%	2.29%	5.03%	3.89%	9.29%	3.50%	3.04%
Satisfaction level 10	6.30%	4.17%	8.79%	31.39%	15.21%	5.84%	6.69%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own calculations using NIDS 2010/2011 data.

Table A.1: Descriptive Statistics of Explanatory Variables

Variable	Mean	Standard deviation	Minimum	Maximum
wc	0.0993	0.2991	0	1
ec	0.1220	0.3273	0	1
nc	0.0634	0.2436	0	1
fs	0.0554	0.2287	0	1
kzn	0.2990	0.4578	0	1
nw	0.0878	0.2831	0	1
gau	0.0965	0.2953	0	1
mpu	0.0740	0.2617	0	1
lim	0.1025	0.3034	0	1
urban	0.4359	0.4959	0	1
rural	0.5641	0.4959	0	1
index1	-0.2902	1.0580	-2.8824	1.0793
index2	-0.2146	0.8766	-1.5767	2.7996
grant	0.6611	0.4734	0	1
crime	0.4431	0.4968	0	1
negative	0.2375	0.4255	0	1
head	0.3579	0.4794	0	1
black	0.8358	0.3705	0	1
coloured	0.1257	0.3316	0	1
indian	0.0104	0.1016	0	1
white	0.0280	0.1650	0	1
male	0.4135	0.4925	0	1
female	0.5865	0.4925	0	1
age	36.9851	17.8249	15	104
age2	1685.6040	1589.5720	225	10816
married	0.3141	0.4642	0	1
none	0.1349	0.3417	0	1
pri	0.1552	0.3621	0	1
sec	0.4830	0.4997	0	1
matric	0.1764	0.3812	0	1
certdip	0.0388	0.1931	0	1
degree	0.0117	0.1074	0	1
inactive	0.5709	0.4950	0	1
discouraged	0.0497	0.2173	0	1
unemployed	0.0917	0.2887	0	1
employed	0.2877	0.4527	0	1
perm	0.1143	0.3182	0	1
h_excellent	0.3803	0.4855	0	1
h_vgood	0.2956	0.4563	0	1
h_good	0.2045	0.4034	0	1
h_fair	0.0801	0.2714	0	1
h_poor	0.0394	0.1947	0	1
medical	0.0828	0.2756	0	1
r_important	0.4165	0.4930	0	1
r_vimportant	0.4815	0.4997	0	1
member	0.3225	0.4674	0	1

Source: Own calculations using NIDS 2010/2011 data.