Technical Report

Methodological report on rebasing of national poverty lines and development of pilot provincial poverty lines

Statistics South Africa

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1. Introduction

Poverty lines are important tools that allow for statistical reporting of poverty levels and patterns as well as planning for poverty reduction in any population. After extensive stakeholder consultations, expert engagements and several discussion documents on the appropriate approach for poverty measurement in South Africa, in 2008 Statistics South Africa (Stats SA) published pilot national poverty lines that were calculated from the 2000 Income and Expenditure Survey (IES 2000). Stats SA employed an internationally recognised approach— the cost-of-basic-needs approach— to produce three poverty lines (Statistics South Africa 2008). These are the food poverty line (FPL), the lower bound poverty line (LBPL) and the upper bound poverty line (UBPL). These lines capture different degrees of poverty and are defined as follows: the FPL is the Rand value below which individuals are unable to purchase or consume enough food to supply them with minimum per-capita-per-day energy requirement for good health (which is about 2 100 kilocalories). The LBPL and UBPL include a non-food component. However, individuals at the LBPL do not have command over enough resources to consume or purchase both adequate food and non-food items and are therefore forced to sacrifice food to obtain essential non-food items. Individuals at the UBPL on the other hand can purchase both adequate food and non-food items.

Statistic South Africa (2008) shows that the FPL, LBPL and UBPL were estimated at R141, R209 and R308 per-person-per-month, respectively in 2000. Since their first publication, these three lines have been used for statistical reporting about the breadth and depth of poverty and for development of poverty reduction strategies in the country. The 2010 and 2013 South Africa Millennium Development Goals (MDGs) country reports; Tregenna 2009; and Vision 2030 of the National Development Plan to eradicate completely the proportion of people living below the LBPL – bear testimony to this fact.[1] Concurrent with the wide usage of the poverty lines, increasing demand has been placed on Stats SA to update them regularly. Thus far the organisation has been updating the poverty lines annually using the consumer price index (CPI) data, with the latest update estimating that in 2014 the food poverty line is R400 per-capita-per-month while the lower and upper bound poverty lines are R544 and R753 per capita per month, respectively (Statistics South Africa 2014).

[1] Tregenna (2009) uses the baseline FPL and LBPL adjusted to 2006 prices to measure poverty levels, profile the poor in 2006 and to examine distributional implications of halving poverty in South Africa.

In addition to the need for updated national poverty lines, Stats SA has also been experiencing increasing demand for provincial poverty lines and poverty lines for rural and urban areas. The purpose of the present report is therefore to rebase the national poverty lines using the 2010/11 IES and also provide pilot lines for the 9 provinces of the country. Due to lack of data that disaggregate prices for food and non-food items according to rural/urban places, it is not possible at the moment to provide poverty lines for urban and rural areas separately.

The need for rebasing the national lines emanates from the fact that spending and consumption patterns change over time. This means the basket of goods and services on which the existing poverty lines are based may have changed, making it necessary to update estimates using recent consumptions data in order to make sure that the lines remain relevant and accurate. In this way, the poverty lines used in South Africa take account of changing needs, preferences and social conditions. Rebasing also allows for the calculation of poverty lines based on improved sampling frames and data collection methods.

The rest of the report is organised as follows: Section 2 provides an overview of the poverty line approach by briefly describing different conceptualisations of poverty (and poverty lines); Section 3 discusses the data and methods that are used in the present study to estimate the updated national poverty lines and the pilot provincial poverty lines; Section 4 provides the estimates of national and provincial poverty lines as derived from IES 2010/11; Section 5 concludes and provides a note on how the poverty lines presented here should be used.

2. Overview of the poverty line approach

2.1 Definitions of poverty line

The setting of poverty lines is the second in a sequence of three important steps in poverty measurement (World Bank 2005; Coudouel et al. 2002; Leibbrandt & Woolard 1999; Ravallion 1998, 1992; Chaubey 1995; Ruggles 1990). The other two steps involve: (1) determination of the indicator of welfare to be used such as the number of calories consumed; income; consumption expenditure; and (2) computation of indices that summarise the poverty situation in the population, using the chosen welfare indicator.[2,3]

[2] The most commonly used indexes include: (1) the headcount index—also called the poverty incidence ratio (Chaubey 1995)—which simply measures the proportion of the population that falls below the poverty line; (2) the poverty gap index which provides a measure of the aggregate distance of the poor segment of the population from the poverty line (depth of poverty) but fails to show the spread of poverty and the degree of inequality among the poor (Myles & Picot 2000; Osberg & Xu 1999;

In line with the pilot poverty lines published by Statistics South Africa (2008), the present report conceptualises and defines poverty (and therefore poverty lines) in absolute terms. In this conceptualisation a poverty line basically establishes a minimum socially acceptable standard for a predetermined welfare indicator to separate the poor from the non-poor. Multiple poverty lines (as is the case with the differentiation between FPL, LBPL, and UBPL) can also be used to distinguish between different levels of poverty (Coudouel et al. 2002) because the characteristics of the poor may vary for different intensities of poverty (Glewwe & van der Gaag 1988).[4]

In addition to being conceptualised as an absolute phenomenon, poverty is sometimes conceptualised as either a relative or a subjective notion and therefore, relative position poverty lines and subjective poverty lines can be established. When the relative conceptualisation is applied, poverty is defined as being a comparative status relative to the position to others in society, and the poverty line is sometimes determined as a cut-off point in the welfare distribution below which a given proportion (say X per cent) of the population is located.[5] Subjective poverty lines on the other hand are defined based on individual perceptions of poverty status.

Lastly, while the poverty lines presented here are founded on the absolute conceptualisation of poverty, the approach adopted by Stats SA contains an element of a relative approach in that rebasing does permit adjustments to be made that account for broad changes in what is considered to be essential for survival in a society at a given moment in time. Furthermore, Statistics South Africa acknowledges that poverty is a multidimensional phenomenon and that information on all dimensions is important for the understanding of the socio-economic challenges it brings about and for designing responses thereof. As such, Stats SA has

Foster, Greer & Thorbecke 1984); and (3), the squared poverty gap index which measures the severity of poverty by taking into account the distance from the poverty line and the degree of inequality among the poor

[3] In addition to three steps highlighted above, there are, in practice, other decisions that need to be made when measuring poverty in a population. These include the choice of unit of analysis (Madden 2000; Ruggles 1990; Atkinson 1987) and the preferred recall period.

[4] Internationally, the category “extremely poor” is, for example, used to distinguish that segment of the population that survives on a per capita income less than US$1 a day from the “generally poor”—those that live on US$2 per day (Chen & Ravallion 2000).

[5] Examples of relative position poverty lines include those that define the poor as a fraction of the average (or median) of the distribution of the indicator used to measure well-being or those that define the poor as the population in certain percentiles (e.g. quintiles or deciles).

published separate reports of poverty profiles in the context of multiple deprivations. These include *The Provincial indices of Multiple Deprivation for South Africa 2001* and *The South African Multidimensional Poverty Index* reports published in 2006 and 2014, respectively (Statistics South Africa 2006 & 2014).

3. Data and methodology

3.1 Data

As indicated above, the data used in this report to rebase the national poverty lines and provide pilot provincial poverty lines for South Africa come from the IES 2010/11. The IES is a nationally representative household-based survey conducted by Statistics South Africa every five years with the primary objective of updating and reweighting the basket of goods and services required for the compilation of the CPI. The household income element of the survey provides important information for profiling relative income inequality and poverty in the country.

The IES 2010/11 successfully collected data from a realised sample of about 25 000 (25 328) households throughout the country from September 2010 to August 2011.[6] The consumption aggregate derived from the dataset comprises the following expenditure categories: food, beverages and cigarettes; housing (actual/imputed rent of dwelling and utilities); clothing and footwear; household services and other consumer goods; health (services, products, appliance and equipment); education; fuel; transport; communication; culture and recreation (reading matter, holiday packages, recreational services, etc.); and miscellaneous expenses (personal care, personal effects, compensation for domestic workers, costs of licenses and other rental charges, costs of insurances).[7]

IES 2010/11 used a combination of recall and diary methods to collect the data (Statistics South Africa 2012) and a total of 752 different goods and services were reported. Of these, a total of 329 different food items can be identified.[8]

[6] IES 2010/11 attained an impressive response rate of 91,6% nationally (ranging from a low of 82,9% in Gauteng to a high of 95,8% in Eastern Cape). The sample size of the survey was 31 419 dwelling units, with 33 420 identifiable households. However, 27 665 households (82,8%) were actually realised and the remainder 5 775 (17.2%) being classified as out of scope due to various reasons such as listing errors, vacant or unoccupied dwellings, etc. (Statistics South Africa 2013).

[7] As shown later in the report, not all items in the expenditure categories form part of the consumption aggregate used to derive the poverty lines.

[8] IES 2000 recorded a total of 133 food items (Statistics South Africa 2008)

The data collected through IES 2010/11 are not directly comparable to data collected during IES 2000 because the earlier survey exclusively used the recall method for data collection. With the highlighted differences in data collection methodologies between IES 2000 and IES 2010/11 it is expected that the latter collected more data items that were acquired by households during the respective reference survey periods compared to former. This point is worth mentioning here because, as indicated earlier, IES 2000 was used to generate the first set of national food, lower-bound and upper-bound poverty lines and the additional information collected in 2010/11 impact upon the poverty line that is generated.

3.2 Methodology

The present report replicates the methodology that was used by Statistics South Africa (2008) to produce the pilot national poverty lines. Accordingly, it applies the cost-of-basic-needs approach to link welfare to the consumptions of goods and services captured in IES 2010/11. This approach conceptualises welfare as comprising consumption or fulfillment of food and non-food needs.

The application of the cost-of-basic-needs approach can be broken down into three steps. These are: (1) determination of a reference food basket on which the food component of welfare is anchored; and (2) computation of the cost of the food basket that enables households to meet a normative nutritional standard—in this case food-energy intake requirement of 2 100 kilocalories per person per day—to derive the food poverty line[9]; and (3) adding to this cost an allowance for consumption of non-food basic necessities (such as clothing, shelter, transportation, education, etc.) to determine the lower and upper-bound poverty lines.

Determination of reference food basket

Earlier it was mentioned that there were over 300 different food items reported in IES 2010/11. Two important conclusions can be drawn from this large number of foods reported. One is that the South African population has diverse food preferences, and the second is that the normative per-capita-per-day caloric requirement can be satisfied using a wide range of food baskets which may vary by location and over time. The multiplicity of possible food bundles that can be

[9] Statistics South Africa (2008) used 2 261 kilocalories per-person-per-day as the minimum energy requirement. In this round of poverty lines development the minimum energy requirement is set at 2 100 kilocalories per-person-per day as per recommendation from the Department of Health. This is the threshold that is used by United Nations agencies as the minimum kcal requirement per-person-per-day in emergency situations. It, therefore, represents a good yardstick for measuring extreme poverty.

consumed by South African households to satisfy the minimum food-energy intake requirements necessitates the construction of a reference basket that is representative of overall consumption patterns while also anchored in representative levels. This is the approach that was used by Statistics South Africa (2008) to derive the reference food basket.

Two stages are followed. The first stage involves determination of nationally common foods at household level, following the same criterion as that used for selecting the CPI food basket. This criterion combines information on food item expenditure-shares and information about the numbers of households reporting item expenditure. The threshold for food-expenditure share per item was set at 0,5% and the minimum number of households required to report on the item for it [food item] to be considered common was set at 10%.[10] A total of 31 food items were identified in stage 1 as being nationally representative.

The second stage of the construction of the reference food basket involves determination of a reference group of households that are fairly representative of national consumption patterns and levels at common prices. The motivation for seeking this reference group of households emanates from the fact that food preferences differ significantly by income or expenditure levels (Statistics South Africa 2008). Households with high income/expenditure tend to pay more per calorie on food compared to households with low income/expenditure. This is because low income/expenditure households tend to have smaller food baskets with consumption patterns that are characterised by high consumption levels of “survival foods” or relatively cheap calories whilst high income households purchase more costly calories, and may consume more protein-rich diets; and may also consider other characteristics of food such as taste, convenience or simply the brand name (Statistics South Africa 2008).

In line with the pilot poverty lines report, the present report used households in the lower to middle of consumption expenditures (households in deciles 2-4 of per capita expenditure) as the reference households for determination of the food basket. Thus item expenditure-shares for the 31 food items determined in stage 1 were calculated for the reference households and only items with at least 0,5% share of total consumption were retained, yielding a reference food basket comprising 26 items as shown in Table 1. This was after exclusion of “clear beer” and “unspecified food” from the final basket (meaning the original basket consisted of 28 food

[10] A cut-off point of 0,6% was used in the pilot poverty lines report. The current report uses 0,5% because it is the threshold that is currently used in the criteria for selecting the CPI food basket.

items). Beer was excluded because it is not consumed by all members in a typical household while unspecified food was excluded because it is not possible to determine its energy (calorie) content and its price per calorie. For a comparison with the reference food basket that was used in the generation of the national pilot poverty lines see Table A1 in the annexure.

The reference food basket shown in Table 1 contains a wide range of food groups including: meat, fish and poultry and their products; beverages; oils and fats; grain products; fruits and vegetables; dairy products; and other food items such as sugar, burger, soup powders, and so forth.

However, it should be stressed that the basket presented here does not represent a recommended food plan for the South African population or a basket that would be preferred by South Africans. It is simply an analytical tool based on the criteria specified above for selecting food items that are representative of food consumption patterns as reported in IES 2010/11.

Table 1: The reference food basket

Group	Food Item
Beverages	Aerated cold drinks
	Fruit juices not from food service places
	Instant coffee
Dairy products and Eggs	Fresh full cream milk
	Large eggs
	Long life Full cream milk
	Sour milk/maas
Fish, Meat, Poultry and their products	Poultry (including heads and feet)
	Beef and veal (including heads and feet)
	Boerewors
	Canned pilchards
	Polony
Grain products	Mealie meal/Maize flour
	Brown bread
	White bread
	Rice
	Cake flour
Oils and fats	Edible oils (e.g. cooking oils)
Fruits and vegetables	Cabbage fresh
	Potatoes
	Tomatoes fresh
	Onions
Miscellaneous	Burger
	Powder soup
	Brown sugar
	White sugar

Source: Author's calculations based on IES 2010/11 data

The food poverty line

Costing of the reference food basket was performed using information on item-specific consumption expenditure levels, household composition and price data from the CPI. First, the amount of energy (calories per 100 grams or 100 millilitres in the case of liquids) of each food item contained in the reference food basket was obtained from the Medical Research Council (MRC) food composition tables and from the Department of Health. Secondly, using information on mean annualised consumption expenditure on each food item and information on household size, it was possible to compute approximate per capita kilocalories of each item consumed per day. Thirdly, using the CPI data (averaged for the IES 2010/11 survey period covering September 2010 to August 2011) the cost per 100 grams/millilitres of relevant food item was calculated. Altogether, the three pieces of information make it possible to estimate the average

per-person-per-day amount of kilocalories consumed of the reference food basket and the associated cost based on the reported item-specific expenditure levels and prevailing prices.

The lower and upper-bound poverty lines

Unlike food consumption, there are no universal standards for consumption of non-food basic needs. To derive the lower and upper bounds to a range of possible poverty lines, the same methodology as was used for the pilot poverty lines—Ravallion's (1998) variant of the cost-of-basic-needs approach—was followed. In this method, two different sets of non-food expenditure are obtained from two separate reference households and added to the food poverty line to yield the upper bound and lower bound poverty lines. As the names of the lines suggest, these two lines are regarded as the lower and an upper bound to a range of possible 'total' poverty lines (Statistics South Africa 2008).

The cost-of-basic-needs approach bases the non-food component of a total poverty line on reported consumption expenditure (Ravallion 1998; Lanjouw 2001). The main assumption behind the approach is that in cases where food expenditure is equivalent to the food line, households are considered able to meet basic foods and basic non-food needs. Therefore by adding the non-food expenditure of such households to the food poverty line, an upper bound poverty line is obtained. The reference households for the upper bound poverty line are determined by considering an interval around the food poverty line, starting with 1% of FPL and gradually increasing the interval in successive intervals of 1% up to a maximum of 5% (Statistics South Africa 2008). The average non-food expenditure for the reference households is obtained by averaging (using simple mean) the median non-food expenditures for the households in each of the successive intervals around the food poverty line.

The lower poverty line is obtained in a similar way, but with a different set of reference households. The choice of reference households in this case is based on the assumption that households whose total expenditure is close to the poverty line live on 'survival food-needs' (Ravallion 1998), and therefore sacrifice some basic food-needs in order to meet their non-food requirements. This implies that the non-food expenditure of such households represents an austere minimum expenditure on non-food basic needs.

4. Results

4.1 Rebased national poverty lines

The IES 2010/11 data show that the sum of all caloric inputs from the reference food basket produced an average of 1 243 kilocalories per-person-per-day at an average cost of 2 377 cents (equivalent of 19 807 cents per month). This level of consumption is below the normative energy intake of 2 100 kilocalories per capita per day. It was therefore necessary to scale up the figures to a level that is commensurate with consumption that that meets the minimum daily caloric intake requirement. Thus the estimated 19 807 cents per month was multiplied by the ratio of 2 100/ 1 243 (1,7), leading to an estimated food poverty line of 34 470 cents (R335,00) per person per month and a cost per kilocalorie of 0,5313 cents in 2011.

As indicated in the methodology section, nationally the reference households for the upper poverty line are households with food expenditure equal or close to the food poverty line (R335 per capita, per month) in IES 2010/11. The average non-food expenditure of these households at the mid-point of the IES 2010/11 survey period (February/March 2011) was R444 (per capita, per month). The sum of this value and the food poverty line yields an upper poverty line of R779 (per capita, per month).[11] The reference households for the lower poverty line, on the other hand, are households whose "total expenditure" was equal or close to R335 (per capita, per month) in IES 2010/11. The average non-food expenditure among these households at the mid-point of the IES 2010/11 survey period was R166 (per capita, per month). The sum of this value and the food poverty line yields a lower poverty line of R501 (per capita, per month). Table 2 presents the national poverty lines as rebased using IES 2010/11 together with poverty lines that are based on CPI adjustments of the poverty lines that were derived from IES 2000 data.

Conversion of the rebased poverty lines into purchasing power parity (PPP) equivalents in 2011 (with United States Dollar ($) =1),[12] yields a food poverty line, lower bound poverty line and upper bound poverty line of $70, $105, and $163 per-person-per-month, respectively. This translates to a food poverty line of $2,34 per-person-per-day, which is almost double the international poverty line for extreme poverty ($1,25). The LBPL is PPP$3.50 per-person-per-

[11] The estimate for average non-food expenditure for reference households for the UBPL looked implausibly high when all households in the reference category are used. This is a likely consequence of the high levels of inequality that characterises South Africa. To correct for this, and based on assessment of the data, a decision was taken to only use data for households that fall in the 2nd–7th consumption deciles (nationally and for each province) to estimate the non-food component of the UBPL. Figure A1 and Table A2 in the Annexure illustrate this information nationally.

[12] The World Bank (2015) shows that the PPP exchange rate for South Africa in 2011 (at US$=1) was 4,774.

day and the UBPL is PPP$5.43, slightly above the highest international poverty line of PPP$5 referenced by the World Bank and other international agencies.

Table 2: Components of poverty lines derived from IES 2010/11 and those of pilot poverty lines updated to 2011 using CPI adjustments

Rebased poverty lines using IES 2010/11			
Type of poverty line	**Value of food component**	**Value of non-food component**	**Total value: rand per capita, per month (Feb–March 2011 prices)**
FPL	**335**	**-**	**335**
LBPL	**335**	**166**	**501**
UBPL	**335**	**444**	**779**
Pilot poverty lines adjusted to 2011 using CPI adjustments			
FPL	**321**	**-**	**321**
LBPL	**321**	**122**	**443**
UBPL	**321**	**299**	**620**

Source: Author's calculations based on IES 2010/11 data and Statistics South Africa (2014).

As mentioned earlier, IES 2000 data are not directly comparable to IES 2010/11 data because different methodologies were used for data collection. Although these methodological differences are the most likely explanation for the changes in the poverty lines, it is possible that other changes have occurred in terms of items deemed essential for a minimum level of living conditions in South Africa. Examples include the purchase of air time, transport and energy costs, as well as changes in diet that are the result of increasing urbanisation. With this in mind, it would not be proper to make direct comparisons of the two sets of poverty lines estimates. It perhaps suffices to say that the new lines presented in this report are close to the estimates based on pilot poverty lines updated to 2011 using CPI adjustments. However, the two sets of lines are different enough to justify revision of estimates of incidence and depth or intensity of poverty in the country. The difference is particularly great for the UBPL which increases by 25%. Some of this difference could be attributable to changes in taste and preferences and changes in the recall period for non-food items.

4.2 Pilot provincial poverty lines

Derivation of the poverty lines for provinces followed the same approach as used for the national lines. The only difference is that the national reference food basket was subjected to

province-specific prices for food items.[13] Table 3 shows the estimates for FPL, LBPL and UBPL for all 9 provinces of South Africa at February/March 2011 prices. The data show that KwaZulu-Natal had the highest food poverty line in 2011 (R354 per capita, per month) whilst Northern Cape had the lowest (R310 per capita per month).

These figures imply a narrow variation in the food poverty line across provinces in 2011, with the difference between the highest line and the lowest being only R44. The narrow variation in the food poverty lines, across provinces, is also observable in purchasing power parity conversions of the provincial lines (in US Dollars) as shown in Table A3 in the annexure. Notwithstanding this narrow variation, it can be deduced from the data that people of KwaZulu-Natal on average paid more to acquire the minimum per-capita-per-day energy requirement from the reference food basket compared to other provinces in 2011. This is illustrated in Table A4 in the annexure which shows that KwaZulu-Natal, Western Cape and Mpumalanga recorded the top three highest prices per kilocalorie consumed of the national food basket (0,5582; 0,5438 and 0,5383 cents, respectively) while Northern Cape, Eastern Cape and Free State recorded the bottom three prices (0,53308; 0.5320 and 0,5350 cents, respectively).

Table 3: Pilot provincial poverty lines, 2011

Province	FPL (Rand)	LBPL (Rand)	UBPL (Rand)
KwaZulu-Natal	354	539	757
Western Cape	352	545	804
Mpumalanga	343	517	974
Gauteng	339	523	963
Limpopo	338	485	627
North West	337	525	767
Eastern Cape	335	477	678
Free State	334	520	718
Northern Cape	310	457	705

Source: Author's calculations based on IES 2010/11 and CPI data for 2010/11

Close examination of the data showed that it is not food prices alone that determine the relative size of the food poverty line of one province in relation to the others. Consumption patterns, the average household size of the province (and at household level, the household composition) also influence the magnitude of the food poverty line. Table A5 in the annexure shows average

[13] Province-specific reference food baskets were also generated. However, these baskets differ due to variations in preferences and possibly living standards as well, making them not directly comparable. A decision was therefore taken that the best way to derive comparable food poverty lines across provinces is to apply the national basket to provincial prices.

prices (cents) per 100 grams/ millilitres of food item contained in food basket by province during the fieldwork period of IES 2010/11. The table shows that KwaZulu-Natal did not necessarily have the highest prices for the food items that make up the reference basket even though it had highest FPL in 2011. In fact when considering the average prices of all items in the basket, KwaZulu-Natal ranks fifth after Gauteng, Mpumalanga, Western Cape and North West.

Table 3 further shows that the ordering of provinces according to LBPL and UBPL differs significantly from the ranking according to the food poverty lines. Nonetheless, the data show a narrow range for the LBPL (R87), ranging from a low of R457 in Northern Cape to R545 in Western Cape. The variation in the UBPL is, however, wide (R347) with the highest line estimated for Mpumalanga (R973) and the lowest estimated for Limpopo (R627).

5. Implications of the rebased national poverty lines

This section presents a brief overview of the implications of the new national poverty lines on estimates of incidence and depth of poverty in South Africa. Table 4 presents a summary picture of the impact of rebasing of the national poverty lines on the estimates of poverty head count and the poverty gap.

In line with the observation made earlier that the rebasing does not change the food poverty line significantly, one can see in Table 4 that the proportion of the population that lives in extreme poverty does not change much (20,2% to 21,7%) when a switch is made from the existing poverty line of R321 per-person-per-month to the rebased poverty line of R335. The rebasing, however, brings about a substantial increase in the estimates for overall poverty (from 45,5% to 53,8%) when a switch is made from the existing upper-bound poverty line of R620 per-person-per-month to the revised level of R779 per-person-per-month. The same trend holds when one considers the impact of the rebasing of the national poverty lines on the depth of poverty (how far the deprived are from the poverty line) in the country. The change in the poverty gap among the extremely poor is negligible (6,6% to 6,9%) while the change for overall poverty is substantial (19,6% to 25,8%).

It should be pointed out that the information shown in Table 4 does not imply increasing poverty levels in the country over time. Instead it shows that the rebasing of existing poverty lines to IES 2010/11 yields higher poverty thresholds. A revised temporal trend in poverty levels can only be

obtained by deflating the 2011 figures backwards, using CPI data, to obtain new poverty lines and revised estimates of the incidence and depth of poverty over time.

Table 4: Impact of rebased food, lower bound and upper bound poverty lines on poverty estimates, 2011

Indicator	Current poverty lines (R321, R443 & R620)		Rebased poverty lines (R335, R501 & R779)	
	(%)	Number	(%)	Number
FPL				
Poverty head count	20,2%	10 185 450	21,7%	10 944 089
Poverty gap	6,2%		6,9%	
LBPL				
Poverty head count	32,3%	16 286 636	37,0%	18 632 646
Poverty gap	11,8%		14,5%	
UBPL				
Poverty head count	45,5%	22 942 475	53,8%	27 117 973
Poverty gap	19,6%		25,8%	

6. Conclusion

Poverty lines are important tools that allow for statistical reporting of poverty levels and patterns as well as planning for poverty reduction in any population. Judging from the proposal for the United Nations' post-2015 development agenda—that of adopting sustainable development goals (SDGs) to build on the foundation laid by MDGs—it is clear that poverty lines will continue playing an integral role in policy development and planning (United Nations 2014). Poverty eradication is viewed as the world's greatest challenge and an indispensible requirement in the sustainable development framework and is listed as number one in the proposed list of 17 sustainable goals.

This report provides two pieces of information about poverty lines for South Africa: (1) updated national poverty lines based on IES 2010/11; and (2) pilot provincial poverty lines also derived from IES 2010/11. Due to data constraints it was not possible to calculate poverty lines for urban and rural areas separately.

Although the generation of poverty lines and their adjustment using CPI data is widespread in official statistics, rebasing requires the existence of a comprehensive national statistics system.

South Africa has put a lot of effort in developing this system over time. As a result, Statistics South Africa—the official statistics agency in the country—has been regularly conducting household income and expenditure surveys since the mid-1990s. This report details the rebasing of the pilot poverty lines that were developed from a recall method survey undertaken in 2000, to a diary method survey undertaken in 2010/11. There are noticeable differences in the poverty lines that result from this methodological shift, and this will require careful attention when computing poverty dynamics.

Recent data such as that contained in the IES 2010/11, coupled with improvements in methodology allow for the calculation of poverty lines that take account of changes in living conditions and the introduction of new commodities and services which become essential in a rapidly changing society. When converted to purchasing power parity, the poverty lines for South Africa are above the most extreme international lines, but within the maximum used for international comparisons for developing countries.

The data also allow for the calculation of provincial poverty lines which take account of price differences across South Africa as well as difference in household size and structure. These differences do not imply differential standards across South Africa, but rather recognition of the physical, social and economic specifics of the country's nine provinces. The pilot provincial poverty lines show a narrow variation in the food poverty lines and lower bound poverty lines across provinces in 2011, with KwaZulu-Natal recording the highest FPL compared to other provinces and Western Cape the highest LBPL. The variation in the UBPL is, however, wide (R347) with the highest line estimated for Mpumalanga (R973) and the lowest estimated for Limpopo (R627).

Lastly, it is perhaps in order to conclude this report by reiterating a point that was made by Statistics South Africa (2008:4) that the poverty lines presented in this report *"are designed for use alongside existing administrative poverty measures implemented by government departments and other public sector agencies. These include social grants, means-tested financial assistance, and access to no-fee government services….. They do not replace or affect existing criteria for other poverty alleviation programmes, nor can they be used to determine wages or remuneration of any kind.*

Annexure

Table A 1: The reference food basket for the pilot poverty lines

Group	Food Item
Beverages	Instant coffee
	Ceylon tea
	Rooibos & Herbal teas
	Aerated cool drinks
Dairy products and Eggs	Fresh milk
	Milk powder & whiteners
	Buttermilk, maas/sour milk
	Eggs
Fish, Meat, Poultry and their products	Beef
	Mutton
	Chicken
	Boerewors
	Canned pilchards
Grain products	White bread
	Brown bread
	Cake flour
	Bread flour
	Rice
	Mealie meal/Maize flour
	Samp
Oils and fats	Margarine
	Edible oils (e.g. cooking oils)
Fruits and vegetables	Apples
	Bananas
	Oranges
	Onions
	Tomatoes
	Cabbage
	Fresh potatoes
Miscellaneous	White sugar
	Brown sugar
	Salt
	Soup powders

Source: Statistics South Africa (2008)

Table A 2: Implications of truncating the data to 2nd–7th consumption deciles when deriving upper bound poverty lines

Mean, median, minimum and maximum per capita per month expenditure on essential non-food items among households whose food expenditure lies within the range of 5% above and 5% below the food poverty line.

National (FPL = 334.70)

i. Households with per capita food expenditure ranging from R331,35 : R338,05 (FPL-1% : FPL+1%)

All hholds

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
30331,06	1166,98	**623,68**	51,28	9672,58

Hholds in consumption deciles 2-7

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
8372,31	540,35	**420,76**	51,28	1759,93

ii. Households with per capita food expenditure ranging from R328,00 : R341,39 (FPL-2% : FPL+2%)

All hholds

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
31772,99	1159,16	**573.91**	47,41	12020,57

Hholds in consumption deciles 2-7

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
8664,31	552,15	**447,31**	47,41	1759,93

iii. Households with per capita food expenditure ranging from R324,66 : R344,74 (FPL-3% : FPL+3%)

All hholds

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
46508,61	1349,55	**616,32**	47,41	23516,15

Hholds in consumption deciles 2-7

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
8980,59	571,87	**447,31**	47,41	1869,07

iv. Households with per capita food expenditure ranging from R321,31 : R348,09 (FPL-4% : FPL+4%)

All hholds

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
53092,34	1407,89	**649,66**	13,04	24657,71

Hholds in consumption deciles 2-7

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
8889,57	572,87	**453,46**	13,04	1869,07

v. Households with per capita food expenditure ranging from R317,97 : R351,44 (FPL-5% : FPL+5%)

All hholds

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
56493,44	1467,45	**647,89**	13,04	28892,02

Hholds in consumption deciles 2-7

Analysis Variable : pecap_month_nonfoodexp				
Std Dev	Mean	Median	Min	Max
8758,70	567,48	**452,91**	13,04	1869,07

Estimated UBPL = (FPL + mean of median values in the different sets of reference households)	
All households	Households in consumption deciles 2-7
= 334,70 +624,29 = **R958,99**	= 334,70 +444,35 = **R779,95**

Table A 3: Rebased national poverty lines and the pilot provincial poverty lines (per capita per month) expressed in US Dollar purchasing power parity (PPP) equivalents, 2011

Province	FPL (US$)	LBPL (US$)	UBPL (US$)
KwaZulu-Natal	74	113	159
Western Cape	74	114	168
Mpumalanga	72	108	204
Gauteng	71	110	202
Limpopo	71	102	131
North West	71	110	161
Eastern Cape	70	100	142
Free State	70	109	150
Northern Cape	65	96	148
National	70	105	163

Source: Author's calculations based on PPP exchange rates published in World Bank (2015)

Table A 4: Average cost per kilocalorie for reference food basket by province, 2011

Province	Cost per kilocalorie (cents)
KwaZulu-Natal	0,5611
Western Cape	0,5582
Mpumalanga	0,5438
Gauteng	0,5383
Limpopo	0,5362
North West	0,5350
Free State	0,5320
Eastern Cape	0,5308
Northern Cape	0,4914

Source: Author's calculations based on IES 2010/11 and CPI data for 2010/11

Table A 5: Average price (cents) per 100 grams/ millilitres of food item contained in food basket by province, September 2010–August 2011

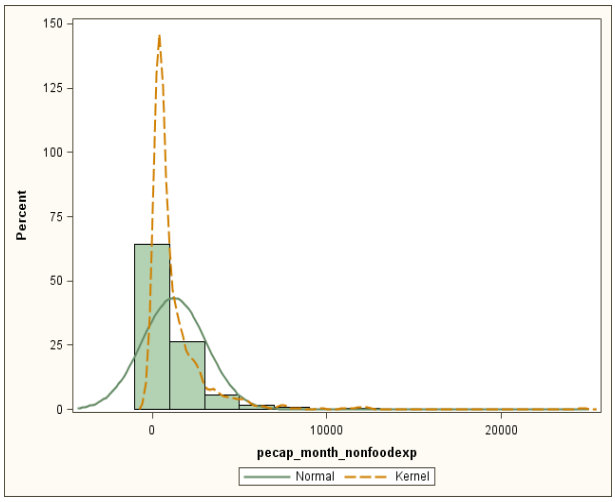
Group	Food item	WC	EC	NC	FS	KZN	NW	GP	MP	LP	National
Beverages	Aerated cold drinks	123	125	136	138	120	133	195	138	131	**261**
	Fruit juices	142	130	125	124	148	130	129	123	121	**129**
	Instant coffee	1679	1362	710	818	815	546	1525	707	939	**1595**
Dairy products and Eggs	Fresh full cream milk	84	93	84	105	110	104	111	90	96	**111**
	Large eggs	203	209	209	195	214	223	137	237	219	**207**
	Long life Full cream milk	94	75	93	98	98	100	103	93	93	**102**
	Sour milk/maas	117	106	-	119	120	96	118	104	94	**120**
Fish, Meat, Poultry and their products	Poultry (incl. heads and feet)	292	293	277	294	281	300	280	295	280	**275**
	Beef & veal (incl. heads &feet)	607	586	587	577	568	590	598	622	594	**585**
	Boerewors	493	492	492	497	458	510	503	545	452	**495**
	Canned pilchards	326	340	415	316	361	427	343	335	360	**326**
	Polony	286	253	286	252	275	271	271	258	324	**275**
Grain products	Mealie meal/Maize flour	52	52	43	47	53	50	46	47	44	**49**
	Brown bread	109	93	98	102	101	97	111	111	101	**101**
	White bread	111	112	114	108	94	108	126	126	116	**111**
	Rice	121	115	88	90	115	110	136	95	98	**118**
	Cake flour	85	50	75	85	82	72	80	71	70	**79**
Oils and fats	Edible oils (e.g. cooking oils)	181	169	169	184	186	167	169	193	157	**145**
Fruits and vegetables	Cabbage fresh	91	85	-	79	61	84	85	131	65	**85**
	Potatoes	91	85	89	90	91	83	97	90	85	**90**
	Tomatoes fresh	129	128	124	127	121	157	152	176	150	**140**
	Onions	80	79	69	81	81	81	81	81	76	**81**
Miscellaneous	Burger	454	546	389	543	513	451	623	543	389	**543**
	Powder soup	672	520	683	621	494	615	796	651	540	**554**
	Brown sugar	101	99	86	92	90	87	88	89	194	**89**
	White sugar	90	96	79	95	123	97	87	96	194	**90**

Notes: - no price data (the national price average was used in the computation of FPL)
Source: CPI data

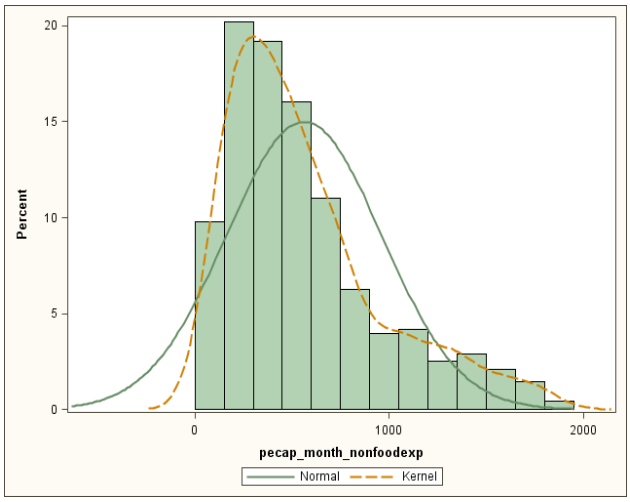
Figure A 1: Implications of truncating the data to 2nd–7th consumption deciles when deriving upper bound poverty lines

Kernel density graphs for per capita per month expenditure on nonfood items among households whose food spending is within the range of 5% above and below the food poverty line, National, 2010/11*

All households



Households in consumption deciles 2–7



* Note: On the right is density graph after constraining analysis to per capita per month non-food spending among households that fall into consumption **deciles 2 to 7.**

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