

**Measured as poor versus feeling poor:
Comparing objective and subjective poverty rates in
South Africa**

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1. Background

- Widely documented that objective poverty rates (measured using expenditure or income) remain stubbornly high in post-apartheid South Africa.
- Only a relatively modest decline post-2000, following the sizeable expansion of the social assistance programme and pro-poor government expenditure on basic services, health, education and housing (cf. Borat & Kanbur 2005; Seekings 2007; Leibbrandt et al 2010; Posel & Rogan 2012).

- Findings challenged by government: objective poverty rates ignore the non-income components of living standards.

- Specifically: in-kind benefits from free or subsidised primary health care, education, sanitation and housing (the '**social wage**') (Office of the Presidency 2003; 2006).

- Between 1994 and 2004:
 - Large scale **electrification** = increased from 54% to 80% of households;
 - Access to **piped water** at the dwelling = increased from 59% to 68%;
 - Roughly six million South Africans received government **subsidised housing**.

- Poverty studies also recognise the possible underestimation of household expenditure or income (missing data; implausible zeros; sensitive information) (cf. Ardington et al 2006; van der Berg et al 2008; Vermaak 2012).

2. Objectives

- 1) To explore an alternative way of measuring poverty, using respondents' subjective assessments of the economic well-being of their household.
- 2) What can we learn about objective poverty measures when these do not overlap with subjective assessments?

We consider specifically whether:

- Components of the social wage affect perceptions of poverty?
- Differences between subjective and objective poverty measures are consistent with the underestimation of economic resources in the household?

3. Objective vs. subjective measures

Objective poverty measures:

There is “scope for debate at virtually every step” in generating objective poverty measures (Ravallion & Lokshin 2001:338).

- Income or expenditure?
- How to adjust for:
 - non-response error and measurement error?
 - differences in costs-of living across different regions?
 - differences in household size and composition?
- What is the appropriate poverty threshold?

Subjective (self-assessed) poverty:

In contrast, subjective assessments:

- Do not require assumptions about how to adjust resources for: differences in household size; the different needs of adults and children; and differences in costs-of-living across regions.
- Do not depend on a pre-determined poverty threshold.
- Easy to report → no obvious reason why people would not be willing to self-assess their poverty status.

Plus:

- Likely to capture **longer-term measures of economic status** than current income and expenditure (including a household's asset base and accumulated wealth, and anticipated future shocks and opportunities);
- and a far **wider range of welfare components** (including state-subsidised housing and access to basic services).

Research on subjective poverty:

- Focus: how to combine objective and subjective data.
- Subjective poverty lines
- A few studies have compared subjective and objective poverty measures and profiles: are there systematic differences across a range of characteristics, and what could these differences suggest about the measurement of objective poverty?

(Ravallion & Lokshin 2002; Carletto & Zezza 2006; Lokshin et al 2006; Wagle 2007)

- Several main reasons for differences (Ravallion & Lokshin 2002)

i) “Wrong weights” used when objective poverty is measured in terms of average **per capita** household expenditure:

→ No adjustments for economies of scale in the household or different consumption needs of children.

Typical finding: objective and subjective poverty rates diverge with household size (larger households far more likely to be objectively poor than subjectively poor).

ii) “Low dimensionality” in objective economic welfare.

iii) Under-estimation of objective economic welfare (measurement error and non-response).

- small-scale activities e.g. subsistence farming.

4. Methods

Measuring subjective poverty in South Africa

Data: 2008/2009 Living Conditions Survey for South Africa
(approximately 25 000 households, 98 000 individuals).

“Would you say you and your household are at present: wealthy; very comfortable; reasonably comfortable; just getting along; poor; or very poor?”

Subjectively poor: self-assessed as “poor” or “very poor”

Objectively poor: average per capita household expenditure relative to a poverty line of R577 per capita per month (2008 prices).

Objective and subjective poverty profiles in South Africa

- Descriptive analysis: how do objective and subjective poverty rates compare across a range of household characteristics?
- Econometric analysis: Among households with the same level of per capita household expenditure, what other characteristics predict subjective poverty?

5. Findings

Table 1: The relationship between objective poverty (OP) and subjective poverty (SP)

	OP & SP	OP; not SP	Not OP; SP	Neither SP nor OP
Percentage of all households	20.38 (0.30)	13.44 (0.25)	17.35 (0.29)	48.83 (0.40)
Mean per capita household expenditure	333.72 (2.10)	371.50 (2.35)	1434.13 (52.76)	3874.83 (70.40)
Unweighted number of hholds	5 573	3 700	4 446	10 973

Source: LCS 2008/2009

Note: The data are weighted. Standard errors are in parentheses.

Among all households identified as objectively poor, 60 percent are also self-assessed as poor (slightly greater overlap than in other countries....).

Among the 40 percent who are not self-assessed as poor (but who are measured as objectively poor): most report that the household is “just getting along”.

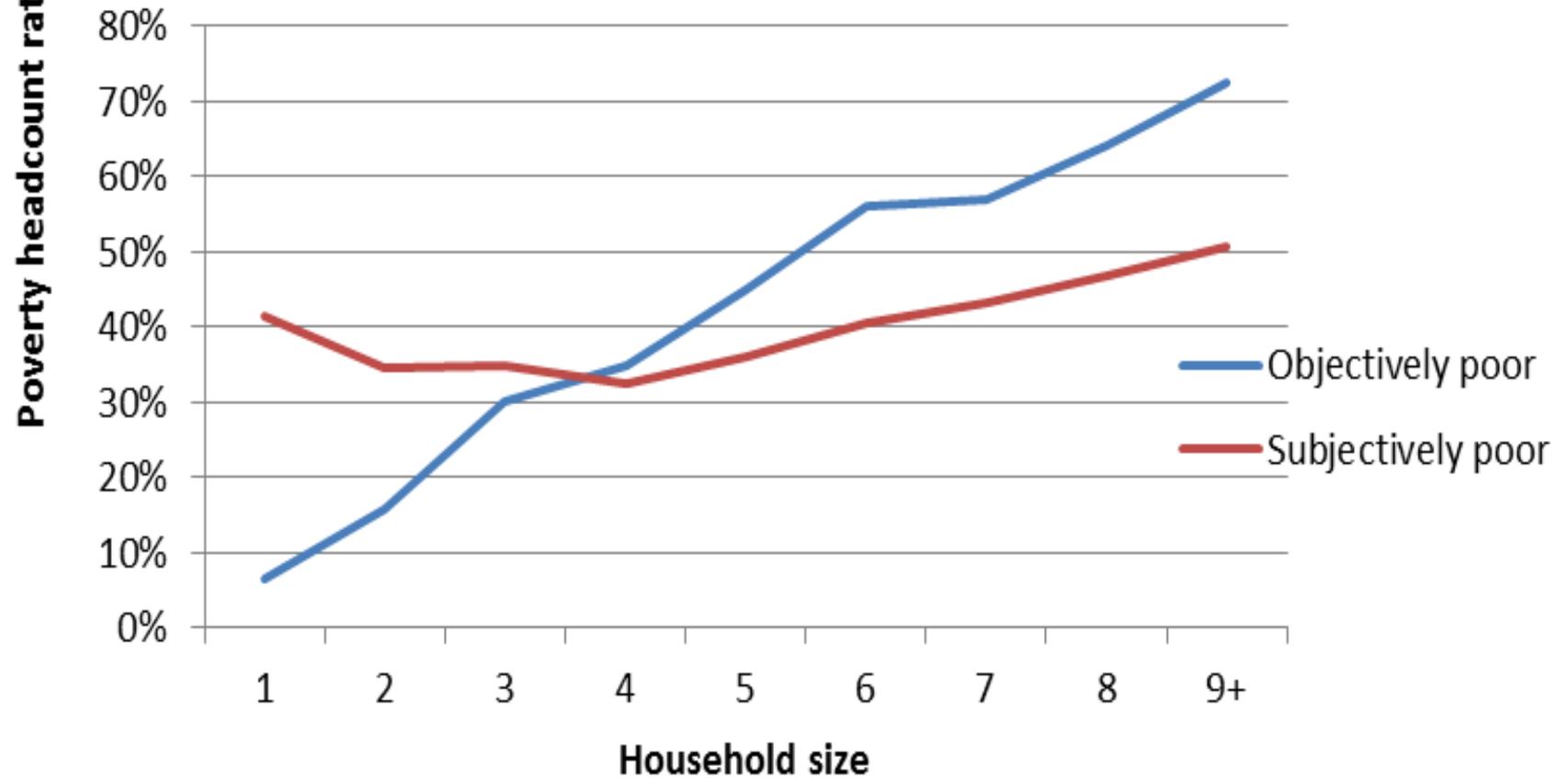
Table 2: Objective and subjective poverty rates

	Objectively poor	Subjectively poor
Proportion of households	0.338 (0.004)	0.377* (0.004)
Proportion of individuals	0.472 (0.002)	0.395* (0.002)

Source: LCS 2008/2009

Note: The data are weighted. Standard errors are in parentheses. * Proportions are significantly different at the 95% confidence level.

Objective and subjective poverty rates by household size



Poverty rates by the share of children in the household

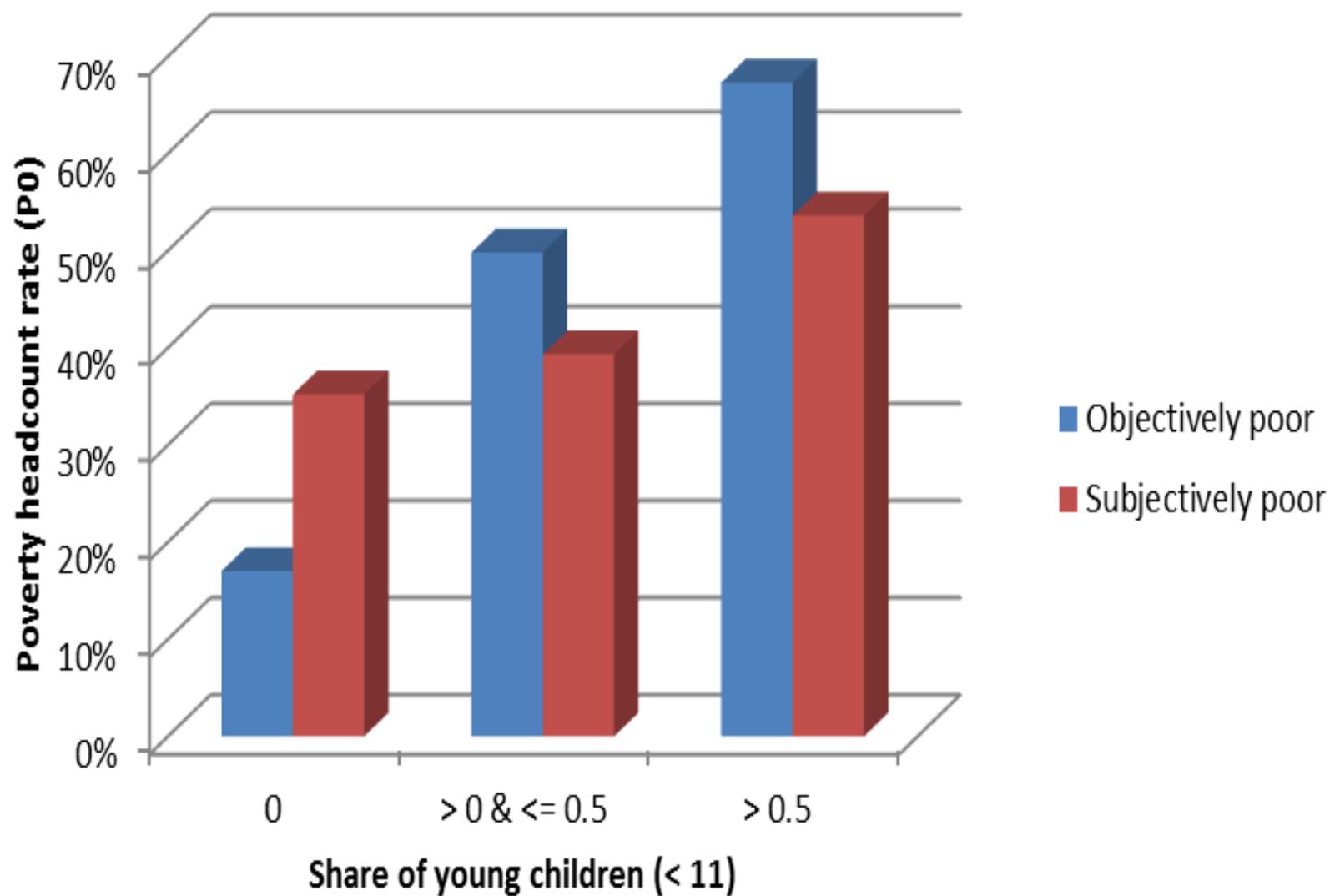


Table 3: Objective and subjective poverty rates by household characteristics

	Objectively poor	Subjectively poor
Geography type (location):		
Urban formal	0.186 (0.004)	0.272 (0.005)*
Urban informal	0.479 (0.013)	0.516 (0.013)*
Rural formal	0.385 (0.019)	0.482 (0.020)*
Tribal	0.607 (0.006)	0.537 (0.006)*
Land for farming:		
Yes	0.567 (0.014)	0.452 (0.014)*
No	0.325 (0.004)	0.373 (0.004)*
Owns the dwelling:		
Yes	0.438 (0.004)	0.383 (0.004)*
No	0.210 (0.007)	0.361 (0.008)*

What are the significant correlates of subjective poverty among households that have the same average per capita household expenditure?

$$SP = \beta_y \ln(y_h) + \beta_x X_h + \varepsilon$$

$y_h \sim$ per capita household expenditure normalised by the poverty line

X_h includes:

Demographic characteristics (household size, composition, if female-headed, race, average self-reported health of household members);

Income-generating characteristics (access to farming land; employment status of household members);

Asset information (dwelling place owned, and if the household owns kitchen and/or dining-room furniture).

Social wage (access to piped water on site; electricity; house has brick or block walls)

Local income (average per capita expenditure in the district, and the district-specific gini coefficient for expenditure).

Two regressions:

I: only household characteristics

II: household characteristics plus characteristics of the individual providing the assessment (age; gender; education; self-reported health status; employment status)

Total household expenditure/ $(A + \alpha K)^\theta$

where $\theta \sim$ economies of scale parameter

$\alpha \sim$ adult equivalence scale

A \sim adults and K \sim children

Per capita $\rightarrow \theta = 1$ and $\alpha = 1$

Parameters that remove significance on household size and share of children:

$\theta = 0.42$

$\alpha = 0.5$ (children < 11)

$\alpha = 0.9$ (children 11-14)

Table 4: Probit regressions (marginal effects) of subjective poverty (household self-identified as poor or very poor)

	I	II
Log (per capita household expenditure/poverty line)	-0.756*** (0.030)	-0.667*** (0.032)
Household size	-0.019*** (0.006)	-0.015** (0.007)
Share of young children (<11 years)	-0.364*** (0.071)	-0.243*** (0.076)
Share of older children (11-15)	-0.301** (0.144)	-0.313** (0.146)
Share of pensioners (60+)	-0.106* (0.064)	-0.203** (0.081)
Female-headed household	0.042 (0.026)	0.099*** (0.031)
Average self-reported health	-0.184*** (0.017)	-0.094*** (0.025)
Access to farming land	-0.118** (0.042)	-0.148*** (0.048)
Number of employed in the household	-0.168*** (0.016)	-0.171*** (0.021)
Owens kitchen and/or dining-room furniture	-0.320*** (0.028)	-0.304*** (0.029)
House is owned	-0.157*** (0.034)	-0.176*** (0.035)
House has brick walls	-0.164*** (0.033)	-0.155*** (0.033)
House has block walls	-0.149*** (0.041)	-0.144*** (0.042)
Piped water on site	-0.212*** (0.033)	-0.200*** (0.034)
Access to electricity	-0.086** (0.036)	-0.073** (0.037)

Table 4: Probit regressions of subjective poverty, continued

	I	II
African	0.602*** (0.084)	0.557*** (0.086)
Indian	-0.002 (0.134)	-0.046 (0.135)
Coloured	0.103 (0.097)	0.022 (0.098)
Log (average per capita district income)	0.179*** (0.050)	0.208*** (0.051)
Gini (average per capita district income)	0.311 (0.394)	0.370 (0.402)
Respondent characteristics		
Male		0.134*** (0.034)
Age		0.019*** (0.004)
Age ²		-0.000*** (0.000)
No schooling		0.246*** (0.042)
Matric (grade 12)		-0.303*** (0.040)
Diploma or degree		-0.498*** (0.062)
Self-reported health		-0.082*** (0.021)
Disability (emotional or physical)		0.129** (0.057)
Employed		0.060* (0.036)
Sample size n	24424	24133

Source: Living Conditions Survey (LCS) 2009/2009.

Notes: Standard errors are in parentheses. The estimations also control for the household's province of residence. *** p<0.01 ** p<0.05 * p<0.10

6. Conclusions

1. Considerable overlap between subjective and objective measures of poverty in South Africa.
2. Where measures do not overlap:
 - i) Subjective assessments also affected by a wide range of factors in addition to current economic resources;
 - ii) Current economic resources are underestimated: in per capita measures; expenditure difficult to measure (small-scale activities).
3. Implications for poverty measurement in South Africa:
 - i) The social wage is highly protective of subjective poverty;
 - ii) Social grant income contributes to subjective poverty reduction, in addition to its effects on objective poverty;
 - iii) Issues of economies of scale and adult equivalence deserve more attention in future poverty studies (similarly: returns to small-scale activities).