

# **Comparing subjective and objective measures of poverty in South Africa**

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**Objective measures:**

Reported expenditure or income – poverty; relative position in the income distribution.

**Subjective measures:**

Self-assessed economic status, from poor to rich, or relative to others;

Perceived consumption adequacy or minimum income needed to make ends meet.



## **Advantages of subjective measures**

- Problems with the measurement of income or expenditure: under-reporting (both at the upper and lower tails of the distribution); the value of non-market production; recall issues.
- Problems with setting a poverty line and identifying who is poor (when people live in households of different sizes and composition; and when prices vary by location).
- Capture the multi-dimensional nature of socio-economic welfare, including: access to non-market goods and non-income aspects of welfare; access to resources in the past and future prospects (permanent income).

## **Disadvantages of subjective measures**

- Precisely because it is subjective, people have different perceptions of what it means to be poor.
- They may reflect people's aspirations (which people adjust as their material circumstances improve).



Well-developed literature on subjective measures of economic welfare (cf. Hagenaars 1986; de Vos & Garner 1991; Lokshin & Ravallion 2001; Ravallion & Lokshin 2002, 2005; Singh- Manoux et al. 2005; Carletto & Zezza 2006; Wagle 2007; Ravallion 2012).

Focus:

- Compare subjective and objective measures of economic welfare, what explains the differences, and what can we learn about objective indicators? (cf. Ravallion & Loskhin 2002; Carletto & Zezza 2006)
- Combine subjective and objective measures of economic welfare to provide a composite measure of economic welfare (cf. Ferrer-i-Carbonell & van Praag 2001).
- Use reported income or expenditure and subjective economic welfare questions to identify a subjective poverty line (cf. Garner & de Vos 1995; Gustafsson et al 2004; Lokshin et al. 2006).



## South Africa:

Very little work because subjective economic welfare questions have not been included in many of the nationally representative surveys we use.

But:

- Waves 1 and 2 of National Income Dynamics Study (NIDS)
- Living Conditions Survey (LCS) 2008/2009



## **NIDS:**

(Questions asked in the Adult Roster)

M2: How would you classify your household in terms of income, compared with other households in your village/suburb?

M3: Ladder question for South Africa (6 steps from poorest to richest):

- On which step was your household when you were 15?
- On which step are you today?
- On which step do you expect to be 2 years from now?
- On which step do you expect to be 5 years from now?

M4: What would be the income, in today's Rands, that you expect your household will have in 5 years?



## **Living Conditions Survey 2008/2009:**

(Household-level information)

Q1.19: Would you say that you and your household are:

1. Wealthy 2. Very comfortable 3. Reasonably comfortable 4. Just getting along 5. Poor. 6. Very poor?

Q8.8: Ladder question for South Africa (9 steps)

Q24.4: Over the past month, was your household's standard of food consumption: less than adequate, just adequate, more than adequate?

Q24.5: Which net household income per month in Rand would be the absolute minimum for your household? That is, you would not be able to make ends meet if you earned less.

Q24.6: Is the total monthly income of your household higher, lower or more or less the same as the figure given in Q24.5?



## Existing research

### Posel & Casale 2011

Used the ladder question from Wave 1 of NIDS to compare subjective measures of economic rank with objective measures (based on objective ranking in the income distribution), and their relationship to SWB.

#### Findings:

- Large divergence between where people think they rank and where people are objectively ranked based on income. (One possible explanation: the ladder question captures information on past income and future prospects, and not only current income. Another: people underestimate how well off they really are compared to others.)
- Divergence is lowest for people in the bottom third of the income distribution.
- Subjective economic rank is a far stronger predictor of SWB than objective economic rank.

Extended in Posel 2012: using first two waves of NIDS



**New research** (Posel & Rogan, 2013):

Use data collected in the LCS 2008/2009.

Q1.19: Would you say that you and your household are:

1. Wealthy ..... 5. Poor. 6. Very poor?

Compare subjective measures of poverty (poor/very poor) with objective measures based on average per capita household expenditure.

What can we learn about objective poverty measures when subjective and objective measures do not overlap, and in particular, **when households are identified as being objectively poor but not subjectively poor?**



Poverty line = R577 per capita per month.

Expenditure poverty - average per capita household monthly expenditure → no adjustments for economies of scale or adult equivalence.

**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, 40 percent are not self-assessed as poor.



**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.

→ Larger households are far more likely to be identified as objectively poor than smaller households.

Is there a similar relationship between household size and subjective poverty?



**Table 3. Objective and subjective poverty by household size (proportion poor)**

	Objectively poor	Subjectively poor
Household size:		
1	0.064	0.415*
2	0.157	0.344*
3	0.300	0.348*
4	0.349	0.325
5	0.450*	0.359
6	0.560*	0.404
7	0.570*	0.433
8	0.641*	0.468
9+	0.725*	0.508

Source: LCS 2008/2009

Note: The data are weighted. \* Proportions are significantly different at 5%.

Objective poverty is lowest in single-person households; and rises considerably with household size.

Not so with subjective poverty, which starts high, falls (hhsz=4) and then rises again.

→ Smaller households are significantly more likely to be subjectively poor than expenditure poor; and this is reversed for larger households.

→ EOS in larger households (fixed costs can be spread over more people; bulk purchases)?



**Table 4. Objective and subjective poverty by share of young children (< 11 years)**

	Objectively poor	Subjectively poor
Share of young children:		
0	0.170	0.352*
> 0 & ≤ 0.5	0.498*	0.393
> 0.5 & ≤ 1	0.673*	0.536

Source: LCS 2008/2009

Note: The data are weighted. \* Proportions are significantly different at 5%.

→ Both subjective and objective poverty rates increase as the share of young children in the household increases.

But the increase is far greater in the case of objective poverty.

→ Young children “cost” less than adults; or more children make people feel “richer” than they are?



**Table 5. Objective and subjective poverty by location**

	Objectively poor	Subjectively poor
Urban formal	0.186	0.272*
Urban informal	0.479	0.516*
Rural formal	0.385	0.482*
Tribal	0.607*	0.537

Source: LCS 2008/2009

Note: The data are weighted. \* Proportions are significantly different at 5%.

OP > SP only in tribal areas.

Households in tribal areas are the most likely to report having access to land for farming (21.4 percent vs. 8.5 percent overall); and to report using this land to farm (14.3 percent vs. 5.6 percent overall).

→Home-production undervalued?

Or a frame-of-reference effect: people living in tribal areas have less exposure to disparities in living standards?



Where we're headed:

**1) Household size and poverty: Approximately how large is the economies of scale effect?**

→ At a given level of per capita household consumption (relative to the poverty line):  
With what economies of scale parameter is household size no longer a significant (and negative) predictor of subjective poverty?

What would be the implications of this adjustment for the relationship between household size and objective poverty in South Africa?

**2) Household composition and poverty: Approximate equivalence scales?**

At a given level of per capita household consumption (relative to the poverty line):  
With what equivalence scales (and for which range of children) is the share of children in the household no longer a significant (and negative) predictor of subjective poverty?

**3) More generally: What can we learn about objective measures of poverty from comparisons with subjective poverty? What factors other than household consumption influence subjective poverty?**



## What variables explain the gap between objective and subjective poverty?

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

$y_h$  = per capita expenditure/poverty line

$X'$  s:

- Household size
- Share of younger children (< 11 years)
- Share of older children (11-14 years)
- Share of pensioners
- Race
- Access to services (running water, electricity)
- Land which is farmed
- Home ownership
- Employment status of household members
- Health status of household members
- District average income and income inequality