The (Ir-)Relevance of the International Poverty Line for National Poverty Assessment

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2 Poverty levels when the international poverty line is applied

3 Poverty levels when the weakly relative poverty line is applied

4 Conclusion
$1-a-day methodology

(1) A number of poverty lines are collected and converted to international dollars.
$1-a-day methodology

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(2) Relationship between average consumption in a country (derived from national accounts) and the level of the poverty line is estimated.
$1$-a-day methodology

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2. Relationship between average consumption in a country (derived from national accounts) and the level of the poverty line is estimated.
3. Identify poverty lines unresponsive to changes in expenditures. These are the poverty lines found in the poorest countries.
$1$-a-day methodology

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(2) Relationship between average consumption in a country (derived from national accounts) and the level of the poverty line is estimated.

(3) Identify poverty lines unresponsive to changes in expenditures. These are the poverty lines found in the poorest countries.

(4) The average of these poverty lines is the international poverty line.
$1$-a-day methodology
Assess this claim:
The $1-a-day poverty measures poverty “[by] the standards of what poverty means in the poorest countries” (Ravallion et al., 2008, p. 23).

Idea:
Compare poverty outcomes when the two lines are applied
### Poverty levels when the international and the respective national poverty lines are applied

<table>
<thead>
<tr>
<th></th>
<th>Poverty Headcount</th>
<th>Number of Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>national poverty lines</td>
<td>25.28%</td>
<td>1,134 mio</td>
</tr>
<tr>
<td>applied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>international poverty</td>
<td>30.84%</td>
<td>1,383 mio</td>
</tr>
<tr>
<td>line applied</td>
<td></td>
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</table>
Poverty levels when the international poverty line is applied

Difference in the poverty headcount

China rural
India rural
Tanzania
Venezuela
Brazil
Colombia

0
200
400
600
800

mean consumption from NA
-40
-20
0
20
40
60
difference in poverty headcount (NPL-IPL)

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Difference in the poverty headcount for 15 poorest countries
Summary

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- For richer countries, the international poverty line understates the number of poor.
- Significant over- as well as underestimation for a similar mean income.
- Significant divergence even for 15 poorest countries.
Disaggregate by region

Graphs by region:
- Asia
- Europe
- LAC
- MENA
- SSA

mean consumption from NA
difference in poverty headcount (NPL-IPL)
Disaggregate by GDP growth
Summary

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- Differences in the poverty headcount equal up to 35 percentage points for the 15 poorest countries.
- Differences in the poverty headcount equal over 50 percentage points for some European and Latin American countries.
- For some high growth countries the respective national poverty line could underestimate poverty levels.
Concept of weakly relative poverty line

When strongly relative poverty lines are applied, poverty levels are not affected by distribution-neutral growth.

⇒ Weakly relative poverty line relaxes this assumption.
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⇒ Weakly relative poverty line relaxes this assumption.
Ravallion and Chen (2009) estimate a weakly relative poverty line:

$$Z_i \equiv \max(Z^*, \alpha + k \times M_i)$$

$$Z_i \equiv \max(1.25, 0.60 + \frac{M_i}{3})$$ (1)
Poverty levels when the weakly and national poverty lines are applied

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<td>weakly relative poverty line</td>
<td>55.27%</td>
<td>2,247 mio</td>
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Poverty levels are higher when the weakly relative poverty line is applied.

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Poverty levels when the weakly and national poverty lines are applied
Difference in the poverty headcount

Poverty levels when the weakly relative poverty line is applied

China rural

India rural

0 200 400 600 800

mean consumption from NA

-60 -40 -20 0 20 40

difference in poverty headcount (NPL-WPL)

relative national PL  absolute national PL

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Poverty levels when the weakly relative poverty line is applied

Disaggregate by region

Graphs by region

Asia

Europe

LAC

MENA

SSA

mean consumption from NA

difference in poverty headcount (NPL-WPL)
Poverty levels when the weakly relative poverty line is applied

Disaggregate by GDP growth

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Comparing poverty levels when the weakly relative poverty line is applied

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- For countries with relative national poverty lines the variance is small.
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- Applying the weakly relative poverty line increases the global poverty count significantly.
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- For some poorer countries (i.e. India, China) the divergence in poverty levels increased.
- For countries with relative national poverty lines the variance is small.
- National poverty lines of some high and medium growth countries appear to understate poverty levels.
Main Findings

- Poverty levels differ significantly even for the poorest countries in the sample.
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  → International poverty line is *not* representative of poverty lines found in poor countries.
- Weakly relative poverty line reflects national poverty lines of richer countries in the sample better.
- Reliability of a measure returning inconclusive results at the country level can be questioned.
Possible reasons for the significant divergence

**Wrong functional form:**
- Wrong strategy to determine the 15 poorest countries.
- Geometric mean more appropriate than arithmetic mean.
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Wrong and or missing explanatory variable:
- National accounts statistics unreliable for low-income countries.
- PCE includes spending on goods and services by unincorporated businesses and non-profit organizations.