Measuring Global Poverty

Implications of the recommendations of the Commission on Global Poverty for the World Bank

The World Bank
The Poverty and Equity Global Practice
Global Solutions Group on Welfare Measurement and Statistical Capacity

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POVERTY & EQUITY GLOBAL PRACTICE
(SUMMARIZING ONGOING JOINT WORK BY POVERTY & EQUITY GLOBAL PRACTICE AND DEC POVERTY)
Overview: The Commission on Global Poverty

MANDATE – Advise the World Bank on two questions:

I. What should be the interpretation going forward of the definition of extreme poverty, set in 2015 at 1.90 Purchasing Power Parity (PPP)-adjusted dollars a day per person in 2015, in real terms?

II. What choices should the World Bank make regarding complementary poverty measures to be tracked and made available to policy-makers?

COMPOSITION
The commission included 24 expert members and was led by Prof. Anthony Atkinson.

OUTCOME
- The Bank committed to implement recommendations in three areas.
1. Facilitating communication on global poverty updates

*Refer to the “International Poverty Line” (IPL), not the $1.90 line*

Will reduce the chance of confusion that arises when journalists or others convert the dollar line to national currencies using market (rather than PPP) exchange rates

IPL can be expressed in local currencies in individual countries to improve clarity and relevance

*Not re-estimate IPL with future PPP conversion factors, but only adjust the value of the IPL with national measures of inflation (Lock in 2011 PPPs)*

Avoids the unpredictability caused by revision of global poverty trends after every new ICP round;

However, the Bank leaves open the possibility of using future PPP rounds in case of clear improvements and if the methodology is stabilized over two successive ICP rounds.

*See Annex for full text of relevant recommendations (recs. 1 and 10)*
2. Expanding indicators for continued relevance as countries develop

Account for a societal notion of poverty, by combining absolute and relative measures

- Fulfills the need for an international PL that continues to be relevant as countries develop, where poverty thresholds are higher in countries with higher incomes;
- Valuable for continued welfare measurement in Middle Income Countries;
  - Monitor global poverty based on such an “upper bound” weakly-relative poverty line, similar to Ravallion-Chen (2011)
  - Fixed higher (than IPL) lines, establishing welfare standards relevant for lower and upper middle income groups – replacing existing Regional PLs

Monitor nonmonetary dimensions & multi-dimensional index

- Addresses the need to monitor non-monetary measures of welfare in a way that takes into account overlaps in deprivations, also likely to be more relevant (than IPL) for MICs
  - Along with monetary poverty, the Bank will track some nonmonetary indicators and aggregate using a multi-dimensional index
  - Multi-dimensional index will combine monetary (consumption/income) and non-monetary (e.g. education, access to services) domains – a key difference with OPHI and UNDP MPIs that include only non-monetary domains

See Annex for full text of relevant recommendations (recs. 16, 18 and 19)
3. Anchoring poverty monitoring more closely to the country context

Produce National Poverty Statistics Reports (or Country Poverty Briefs) for each country

- Improve integration of national and international poverty narratives, to ground poverty analysis in country context and improve transparency
- 1 or 2 page Country Poverty Briefs, modified from existing “at-a-glance” briefs

See Annex for full text of relevant recommendations (rec. 2)
The Bank will thus develop three new types of welfare standards

I. “Societal” or “Weakly-relative” Poverty Line (SPL)
   - Global reporting using a poverty line that is relevant for countries at all income levels

II. Income Class Poverty Lines (ICPL) (to be released first)
   - Provide additional options for benchmarks to countries and Regions

III. Multidimensional Poverty Measure (MPM)
   - Incorporating monetary and non-monetary dimensions of welfare into a poverty measure at country level

National poverty lines will continue to be the standard for monitoring poverty and conducting dialogue at the country level
“Societal” or “Weakly-relative” Poverty Line

Rationale
“To the extent that poverty means a low level of welfare and welfare depends on relative consumption as well as own consumption, higher monetary poverty lines will be needed in richer countries to reach the same level of welfare” (Ravallion, 2016)

Approach
A country’s national poverty line reflects its societal notion of poverty, which is in turn related to its level of development.

Using the SPL to monitor global poverty implies different thresholds will be used for each country depending on its position on the median income scale, which will then be aggregated to produce a global number.

SPL is based on the best fit on a database of harmonized national Poverty Lines (Jolliffe and Prydz, 2016)

SPL is identical to IPL for countries below a certain threshold of median per capita income, and rising with median income above that threshold

Selected SPL: \[ \max \{1.90, 1+0.5 \times \text{median}\} \]

- IPL, when median per capita income < 1.80
- Upward sloping, when median per capita income > 1.80.
  - Slope (w.r.t. median of per capita income) = \( \frac{1}{2} \)

The selected SPL seems to be a good fit for national poverty lines

Comparing
National poverty lines (blue), $1 + 0.5*median (red), 0.5*median (green)

Strongly relative line (0.5*median) seems to be too low for poor countries

($1 + 0.5*median) fits rich and poor countries better

Comparing global poverty trends using IPL and SPL

Income Class Poverty Lines

Rationale

Large variations in poverty within most Regions because of countries at very different levels of development – hence the choice to define poverty lines by income class.

Will provide Regions with more options for benchmarks, which can also be used for cross-regional comparisons.

Approach

Anchored on national harmonized poverty lines to ensure consistency between the national poverty rates of countries and the welfare aggregate used for the Global Poverty Monitoring.

Two ICPLs: (1) Lower Middle Income: $3.2; and, (2) Upper Middle Income: $5.5.

*Each ICPL is chosen as the median of the national PLs of the countries in that income class.*

$1.90 or IPL remains income-class line for Low Income.

ICPLs will remain frozen between updates of the $1.90 IPL.

Regional poverty comparisons with LMIC and UMIC lines are similar but not identical to the ranking with IPL.

- The relative rankings of MNA, EAP and LCR are different depending on whether IPL, LMIC line or UMIC line is used.
- LMIC and UMIC lines are more relevant for EAP, ECA, MNA and LCR, whereas IPL is most relevant for SSA and SAR.
Multidimensional Poverty Measure

Rationale

When there are at least two welfare dimensions of interest between which there are no natural aggregators (e.g. prices)

When correlations between the two dimensions matter

Approach

Include monetary dimension (IPL as cutoff for deprivation)

Select non-monetary dimensions according to certain principles:

• Complementing the monetary domain, i.e. not included in consumption aggregate due to the lack of relative prices

• Relevance: conforms to a broadly held notion that it matters for welfare

• Data: must be available (for each country) from the same source for all monetary and non-monetary domains

• Parsimony: for clarity and simplicity

Select an appropriate method for weighting and aggregation within and across domains

Deliberate and sequential approach, starting with a few pilot countries

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Cutoffs</th>
</tr>
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<tbody>
<tr>
<td>1 Household consumption / income</td>
<td>$1.90</td>
</tr>
<tr>
<td>2 Education:</td>
<td></td>
</tr>
<tr>
<td>- School attainment of adults</td>
<td>Primary complete</td>
</tr>
<tr>
<td>- School enrollment of children</td>
<td>All enrolled</td>
</tr>
<tr>
<td>(ages 6-15)</td>
<td></td>
</tr>
<tr>
<td>3 Access to public services:</td>
<td></td>
</tr>
<tr>
<td>- Water</td>
<td>Piped indoor / plot</td>
</tr>
<tr>
<td>- Electricity</td>
<td>Any access</td>
</tr>
<tr>
<td>- Sanitation</td>
<td>Any improved</td>
</tr>
</tbody>
</table>

Additional dimensions (e.g. quality-adjusted years of education, health and security) may be possible for a subset of countries

Consultations with sector experts planned on indicators and cutoffs (standards) under each dimension
Implementation process and timeline

1. Technical work
   - DEC-Poverty and Equity GP collaboration (joint working group + selected advisors)

2. Sequential approach
   - Income-class poverty lines and rates: 2017 Annual Meetings
     - Work ongoing
     - Consultations with key stakeholders – ongoing
   - Weakly relative poverty line and rate + multidimensional poverty indicator: PSPR 2018 (2018 Annual Meetings)
     - Work planned in 2017 H2 + 2018 H1
     - Consultations with key stakeholders planned for 2018 H1
Implementation process and timeline (continued)

3. Planned products

- **Country Poverty Briefs / National Poverty Statistics Reports**
  - Move from current Poverty and Equity at a Glance to 2-pager [see template]
  - Content: national and international poverty measures, including IPL, SPL, ICL, and MPI
  - Periodicity: AMs and SMs (starting October 2017)

- **MPOs**
  - Content: IPL + ICL (actuals + nowcast + 3 year projections)
  - Periodicity: AMs and SMs

- **Poverty & Shared Prosperity report**
  - Content:
    - Global poverty and shared prosperity updates (as in 2016)
    - Global poverty profiles (as in 2016)
    - Weakly relative poverty and multidimensional poverty updates (to be introduced in 2018)
    - Global poverty profile
    - [Special topic]
  - Periodicity: Every two years

**Strong focus on ensuring consistency in data presented across all 3 products**
Country Brief: Brazil

**Disposable Income**

- **Gross Disposable Income** (% of GNI): 70%
- **Net Disposable Income** (% of GNI): 72%

**Inequality**

- **Gini Coefficient (2015)**: 0.54

**Contributors to Income Inequality**

- **Social Protection**: High
- **Healthcare**: Moderate
- **Education**: Low
- **Agriculture**: Low
- **Employment**: Low
- **Other**: High

**International Data**

- **Human Development Index (HDI): 2015**
- **Prestige**: 72%
- **Power**: 74%
- **Health**: 78%

**Key Indicators**

- **Demographics**
  - **Share of population aged 0-14**: 30%
  - **Share of population aged 65**: 8%
- **Household Size**: 3.5
- **Average Household Income**: 4.5
- **Total Household Income**: 1.5
- **Access to Services**
  - **Telephone**: 100%
  - **Water**: 95%

**Social Security**

- **Pension**: High
- **Healthcare**: Moderate
- **Education**: Low

**Contributors to Social Security**

- **Social Protection**: High
- **Healthcare**: Moderate
- **Education**: Low
- **Other**: Low

**Other**

- **Environmental**: Moderate
- **Energy**: Low

Comparison of the National and International Poverty Lines

![Graph showing comparison of poverty lines and GDP per capita from 2001 to 2015.](image-url)
Example of the write up on Poverty Data
Albania

The World Bank’s international poverty rates are based on the “dollar a day” methodology and are comparable across countries and years. The guiding principle of international poverty lines is to count the number of poor people in the world in terms of some absolute standard and to measure progress on global goals set by the World Bank, the United Nations, and other development partners. The levels and trends of the national and international poverty rates can differ because i) the income or consumption aggregate is estimated using different methodologies (for example, per capita vs adult equivalence scales); ii) the poverty lines are different: either the poverty threshold is set at different levels (absolute poverty lines) or the national line is a function of the income distribution in any given year and therefore changes over time (relative poverty lines). In the latter, the national poverty rates are not necessarily indicative of absolute trends in welfare over time, as is the case with international poverty lines.

The most recent national poverty data available for Albania is for 2012, when the last Living Standard Measurement Study (LSMS) survey was conducted by the Institute of Statistics (INSTAT). National poverty figures are consumption-based using per capita consumption, and the absolute poverty line was estimated using the cost of basic needs methodology. The country has recently implemented the income-based EU SILC to align its welfare monitoring to those of EU countries, with the first results to be published in October 2017.
## Key Indicators and Poverty (Pilot only)

### Key Indicators

#### Demographics

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Total</th>
<th>International Line Poor</th>
<th>Non-Poor</th>
<th>Lower Middle ICI Poor</th>
<th>Non-Poor</th>
<th>Upper Middle ICI Poor</th>
<th>Non-Poor</th>
<th>Bottom 40%</th>
<th>Top 60%</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of total population (%)</td>
<td>100%</td>
<td>1%</td>
<td>99%</td>
<td>8%</td>
<td>92%</td>
<td>38%</td>
<td>61%</td>
<td>40%</td>
<td>60%</td>
<td>2012</td>
</tr>
<tr>
<td>% of group living in rural areas</td>
<td>48%</td>
<td>45%</td>
<td>46%</td>
<td>46%</td>
<td>46%</td>
<td>48%</td>
<td>43%</td>
<td>48%</td>
<td>45%</td>
<td>2012</td>
</tr>
<tr>
<td>% of group living in urban areas</td>
<td>52%</td>
<td>55%</td>
<td>54%</td>
<td>54%</td>
<td>54%</td>
<td>52%</td>
<td>55%</td>
<td>52%</td>
<td>55%</td>
<td>2012</td>
</tr>
<tr>
<td>% of households with 4+ members</td>
<td>59%</td>
<td>60%</td>
<td>58%</td>
<td>55%</td>
<td>59%</td>
<td>47%</td>
<td>44%</td>
<td>86%</td>
<td>46%</td>
<td>2012</td>
</tr>
<tr>
<td>Dependency Ratio, Children (0-14)/15-64 members</td>
<td>0.30</td>
<td>0.48</td>
<td>0.50</td>
<td>0.49</td>
<td>0.28</td>
<td>0.48</td>
<td>0.22</td>
<td>0.48</td>
<td>0.22</td>
<td>2012</td>
</tr>
<tr>
<td>Dependency Ratio, Elderly 65+/25-64 members</td>
<td>0.17</td>
<td>0.05</td>
<td>0.17</td>
<td>0.11</td>
<td>0.17</td>
<td>0.13</td>
<td>0.19</td>
<td>0.13</td>
<td>0.19</td>
<td>2012</td>
</tr>
<tr>
<td>Share of households with Female Head</td>
<td>12%</td>
<td>15%</td>
<td>12%</td>
<td>8%</td>
<td>13%</td>
<td>9%</td>
<td>14%</td>
<td>9%</td>
<td>14%</td>
<td>2012</td>
</tr>
<tr>
<td>Average household size</td>
<td>3.68</td>
<td>3.00</td>
<td>3.87</td>
<td>3.88</td>
<td>3.77</td>
<td>3.52</td>
<td>3.99</td>
<td>5.00</td>
<td>3.38</td>
<td>2012</td>
</tr>
</tbody>
</table>

#### Education (% of population aged 16+)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Total</th>
<th>International Line Poor</th>
<th>Non-Poor</th>
<th>Lower Middle ICI Poor</th>
<th>Non-Poor</th>
<th>Upper Middle ICI Poor</th>
<th>Non-Poor</th>
<th>Bottom 40%</th>
<th>Top 60%</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of group with no education (%)</td>
<td>0%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>2012</td>
</tr>
<tr>
<td>Proportion of group with primary (%)</td>
<td>46%</td>
<td>72%</td>
<td>45%</td>
<td>59%</td>
<td>45%</td>
<td>54%</td>
<td>41%</td>
<td>54%</td>
<td>41%</td>
<td>2012</td>
</tr>
<tr>
<td>Proportion of group with secondary (%)</td>
<td>37%</td>
<td>21%</td>
<td>37%</td>
<td>34%</td>
<td>37%</td>
<td>37%</td>
<td>37%</td>
<td>37%</td>
<td>37%</td>
<td>2012</td>
</tr>
<tr>
<td>Proportion of group with tertiary/post-secondary (%)</td>
<td>17%</td>
<td>4%</td>
<td>17%</td>
<td>6%</td>
<td>18%</td>
<td>9%</td>
<td>21%</td>
<td>9%</td>
<td>21%</td>
<td>2012</td>
</tr>
</tbody>
</table>

#### Access to Economic Opportunities (% of population aged 15-64)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Total</th>
<th>International Line Poor</th>
<th>Non-Poor</th>
<th>Lower Middle ICI Poor</th>
<th>Non-Poor</th>
<th>Upper Middle ICI Poor</th>
<th>Non-Poor</th>
<th>Bottom 40%</th>
<th>Top 60%</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor force participation rate</td>
<td>50%</td>
<td>43%</td>
<td>50%</td>
<td>43%</td>
<td>51%</td>
<td>47%</td>
<td>52%</td>
<td>47%</td>
<td>52%</td>
<td>2012</td>
</tr>
<tr>
<td>Employment rate</td>
<td>57%</td>
<td>16%</td>
<td>37%</td>
<td>21%</td>
<td>38%</td>
<td>25%</td>
<td>41%</td>
<td>25%</td>
<td>41%</td>
<td>2012</td>
</tr>
<tr>
<td>Employment rate in agriculture (% of employed)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>2012</td>
</tr>
<tr>
<td>Self-employed rate (% of employed)</td>
<td>20%</td>
<td>28%</td>
<td>28%</td>
<td>28%</td>
<td>29%</td>
<td>28%</td>
<td>29%</td>
<td>28%</td>
<td>29%</td>
<td>2012</td>
</tr>
</tbody>
</table>
Annex: Key recommendations of the Commission on Global Poverty that WBG intends to readily adopt

Reference: A Cover Note to the Report of the Commission on Global Poverty, by Paul Romer, Ana Revenga, and Francisco Ferreira (October 18, 2016)
Recommendations accepted by the Bank

• **Recommendation 1:** The global extreme poverty standard should be cited in general terms as “the International Poverty Line,” and expressed in each country in terms of the currency of that country.

• **Recommendation 2:** There should be National Poverty Statistics Reports (NPSR) for each country, giving the Global Poverty estimates, explaining the local currency value of the International Poverty Line and the relation to the official poverty line(s) in that country (where they exist), considering how the trends in poverty measured according to the International Poverty Line relate to those shown by national statistics, and incorporating a set of World Bank Complementary Indicators, as proposed in chapter 2 of this Report.

• **Recommendation 10:** The global poverty estimates should be updated up to 2030 on the basis of the International Poverty Line for each country set in local currency, and updated in line with the change in the national CPI or, where available, national index of prices for the poor; the estimates would not be revised in the light of new rounds of the ICP.

• **Recommendation 11:** The Bank should publish, alongside the global poverty count, a portfolio of Complementary Indicators, including a multidimensional dashboard of outcome indicators, where the number of such indicators should be sufficiently small that they can receive prominence in public debate and in policy making; the selection of the Complementary Indicators should be based on an explicit set of principles, and the implementation of these principles should follow external consultation, including with the proposed external audit body.
Recommendations accepted by the Bank

• **Recommendation 13**: The global poverty figure, and the counterpart national figures, should be accompanied by estimates of the numbers of women, children, and young adults living in households with consumption below the International Poverty Line, as well as the number of female-headed households below the International Poverty Line.

• **Recommendation 16**: The World Bank should introduce a “societal” headcount measure of global consumption poverty that takes account, above an appropriate level, of the standard of living in the country in question, thus combining fixed and relative elements of poverty.

• **Recommendation 18**: The World Bank should establish its own requirements with regard to the measurement of nonmonetary poverty, for inclusion in the Complementary Indicators (including the overlapping poverty measure) and in other World Bank uses, and ensure that these are fully represented in the activities of the international statistical system, particularly with regard to the proposed SDG indicators.

• **Recommendation 19**: The Complementary Indicators should include a multi-dimensioned poverty indicator based on the counting approach.
Going forward it is also important to learn how to improve the usage of the microdata produced by teams, since there seem to be significant heterogeneity across countries and statistical operations.

<table>
<thead>
<tr>
<th>Country</th>
<th>Keyword</th>
<th>Any Time</th>
<th>since 2017</th>
<th>since 2016</th>
<th>since 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>PNAD+BRASIL</td>
<td>35,200</td>
<td>1,090</td>
<td>4,170</td>
<td>13,100</td>
</tr>
<tr>
<td>Brazil</td>
<td>PNAD+BRAZIL</td>
<td>25,500</td>
<td>726</td>
<td>3,120</td>
<td>9,350</td>
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<tr>
<td>Mexico</td>
<td>ENIGH+MEXICO</td>
<td>21,300</td>
<td>5,460</td>
<td>17,400</td>
<td>17,300</td>
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<tr>
<td>Colombia</td>
<td>DANE GEIH</td>
<td>1,470</td>
<td>90</td>
<td>290</td>
<td>816</td>
</tr>
<tr>
<td>Colombia</td>
<td>DANE ECV</td>
<td>1,910</td>
<td>51</td>
<td>185</td>
<td>667</td>
</tr>
<tr>
<td>USA</td>
<td>&quot;American Community Survey&quot;</td>
<td>44,000</td>
<td>1,630</td>
<td>9,430</td>
<td>17,900</td>
</tr>
<tr>
<td>USA</td>
<td>&quot;Current Population Survey&quot;</td>
<td>127,000</td>
<td>1,490</td>
<td>6,410</td>
<td>15,500</td>
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<tr>
<td>UK</td>
<td>&quot;British Household Panel Survey&quot;</td>
<td>16,300</td>
<td>472</td>
<td>1,550</td>
<td>4,920</td>
</tr>
<tr>
<td>Multiple</td>
<td>&quot;Demographic and Health Survey&quot; OR DHS</td>
<td>391,000</td>
<td>2,230</td>
<td>22,800</td>
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<tr>
<td>Multiple</td>
<td>&quot;Living Standards Measurement Survey&quot; OR LSMS</td>
<td>25,600</td>
<td>758</td>
<td>2,290</td>
<td>7,350</td>
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<tr>
<td>Multiple</td>
<td>&quot;European Community Household Panel&quot; OR ECHP</td>
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<td>Multiple</td>
<td>&quot;Survey of Income and Living Conditions&quot; OR SILC</td>
<td>26,000</td>
<td>1,040</td>
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<td>Multiple</td>
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<td>46</td>
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<td>467</td>
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</table>

Source: Google Scholar as of June 16th 2017