Multidimensional Poverty

The Multidimensional Poverty Peer Network

Republic of Tajikistan

John Hammock

12 December 2014
Motivation

“We are almost blind when the metrics on which action is based are ill-designed or when they are not well understood”
Why such interest?

Overview “While assessing quality-of-life requires a plurality of indicators, there are strong demands to develop a single summary measure.” Stiglitz Sen Fitoussi Commission Report

Ethics “Human lives are battered and diminished in all kinds of different ways.” Amartya Sen

Effectiveness “Acceleration in one goal often speeds up progress in others;” to meet MDGs strategically we need to see them together. Roadmap towards Implementation ...

Visibility Track progress towards national plan; M&E.

Feasibility Surveys; measure deprivations directly; computations
Why Multidimensional Poverty Measures?

- Income poverty does not show health or education or social deprivations, nor does its reduction reduce them.
- Multidimensional poverty measures complement income poverty measures, both globally and nationally.
Income poverty does not proxy material deprivations in Europe

Table 6  Distribution across combined income poverty and deprivation persistence variable by country

<table>
<thead>
<tr>
<th></th>
<th>Neither persistently income poor nor deprived</th>
<th>Persistently income poor only</th>
<th>Persistently deprived only</th>
<th>Persistently income poor and deprived</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>82.8</td>
<td>6.9</td>
<td>8.9</td>
<td>1.4</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>78.8</td>
<td>7.1</td>
<td>7.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Belgium</td>
<td>73.0</td>
<td>9.3</td>
<td>8.8</td>
<td>8.9</td>
</tr>
<tr>
<td>France</td>
<td>70.8</td>
<td>11.6</td>
<td>8.5</td>
<td>9.0</td>
</tr>
<tr>
<td>Ireland</td>
<td>64.8</td>
<td>11.4</td>
<td>9.7</td>
<td>14.0</td>
</tr>
<tr>
<td>Italy</td>
<td>68.8</td>
<td>9.2</td>
<td>11.3</td>
<td>10.7</td>
</tr>
<tr>
<td>Greece</td>
<td>68.8</td>
<td>11.2</td>
<td>9.9</td>
<td>10.1</td>
</tr>
<tr>
<td>Spain</td>
<td>72.7</td>
<td>9.2</td>
<td>8.7</td>
<td>9.4</td>
</tr>
<tr>
<td>Portugal</td>
<td>64.5</td>
<td>12.0</td>
<td>11.3</td>
<td>12.2</td>
</tr>
<tr>
<td>All</td>
<td>70.7</td>
<td>10.4</td>
<td>9.2</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Source: Whelan Layte Maitre 2004 Understanding the Mismatch between Income Poverty & Deprivation
In Europe, while 20% of people are persistently income poor, and 20% are persistently materially deprived, **ONLY 10% of people are BOTH persistently income poor and materially deprived.**

This observation motivated the move in Europe to a multidimensional poverty measure EU 2020. Income doesn’t tell the full story – even of material deprivation in industrial economies.
Growth may not reduce MP

François Bourguignon, Agnès Bénassy-Quéré, Stefan Dercon, Antonio Estache, Jan Willem Gunning, Ravi Kanbur, Stephan Klasen, Simon Maxwell, Jean-Philippe Platteau, Amedeo Spadaro

‘The correlation between GDP per capita growth and non-income MDGs is practically zero…’
Growth? Necessary but Insufficient.

India: strong economic growth since 1980s.

"Growth, of course, can be very helpful in achieving development, but this requires active public policies to ensure that the fruits of economic growth are widely shared, and also requires – and this is very important – making good use of the public revenue generated by fast economic growth for social services, especially for public healthcare and public education."

Dreze and Sen 'Putting Growth in its Place' Outlook. November 2011
Growth? Insufficient.

1998-9 NHFS-2: 47% children under 3 were undernourished
2005-6 NHFS-3: 46% were undernourished (wt-age)
MEASURING MULTIDIMENSIONAL POVERTY

Alkire Foster Method
Multidimensional Poverty- the challenge:

• A government would like to create an official multidimensional poverty indicator

• Desiderata
  – It must understandable and easy to describe
  – It must conform to “common sense” notions of poverty
  – It must be able to target the poor, track changes, and guide policy.
  – It must be technically solid
  – It must be operationally viable
  – It must be easily replicable
Practical Steps

• Select
  – Purpose of the index (monitor, target, etc)
  – Unit of Analysis (indv, hh, cty)
  – Dimensions
  – Specific variables or indicators for each dimension
  – Whether variables or dimensions should be aggregated with others or left independent
  – Cutoff for each independent variable/dimension
  – Value of deprivation for each variable/dimension
  – Identification method
  – Aggregation method
Dimensions, Weights, Indicators

Three Dimensions of Poverty

- Health
  - Nutrition
  - Child Mortality

- Education
  - Years of Schooling
  - School Attendance

- Living Standard
  - Cooking Fuel
  - Improved Sanitation
  - Safe Drinking Water
  - Electricity
  - Flooring
  - Assets
<table>
<thead>
<tr>
<th>Person</th>
<th>Health</th>
<th>Education</th>
<th>Housing</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person 1</td>
<td><img src="image" alt="Smile" /></td>
<td><img src="image" alt="Smile" /></td>
<td><img src="image" alt="Smile" /></td>
<td><img src="image" alt="Cross" /></td>
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<tr>
<td>Person 2</td>
<td><img src="image" alt="Cross" /></td>
<td><img src="image" alt="Smile" /></td>
<td><img src="image" alt="Smile" /></td>
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<tr>
<td>Person 3</td>
<td><img src="image" alt="Cross" /></td>
<td><img src="image" alt="Cross" /></td>
<td><img src="image" alt="Cross" /></td>
<td><img src="image" alt="Smile" /></td>
</tr>
<tr>
<td>Person 4</td>
<td><img src="image" alt="Cross" /></td>
<td><img src="image" alt="Smile" /></td>
<td><img src="image" alt="Smile" /></td>
<td><img src="image" alt="Smile" /></td>
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<tr>
<td>Person</td>
<td>Health</td>
<td>Education</td>
<td>Housing</td>
<td>Employment</td>
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<td>----------</td>
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</tr>
<tr>
<td>Person 1</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☒</td>
</tr>
<tr>
<td>Person 2</td>
<td>☒</td>
<td>☑</td>
<td>☑</td>
<td>☒</td>
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<tr>
<td>Person 3</td>
<td>☒</td>
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<td>☑</td>
</tr>
<tr>
<td>Person 4</td>
<td>☒</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>
Build a Deprivation Score for Each Person

10 Indicators

- Education
- Nutrition
- Child Mortality

3 Dimensions

- Years of schooling
- School Attendance

- Health

- Cooking Fuel
- Sanitation
- Water
- Electricity
- Floor
- Asset Ownership

Nathalie, Cameroon
Who is Poor?

A person who is deprived in more than $\frac{1}{3}$ of the weighted indicators is **MPI poor**

Nathalie, Cameroon
The MPI is the product of two components:

\[ MPI = H \times A \]

1) **Incidence** ~ the percentage of people who are poor, or the headcount ratio \( H \).

2) **Intensity** of people’s deprivation ~ the average percentage of dimensions in which poor people are deprived \( A \).
From a Measure to a Tool
Policy Interest – Why?

1. **Intuitive** – easy to understand headline
2. **Birds-eye view** - can be unpacked
   a. by region, ethnicity, rural/urban, etc
   b. by indicator, to show composition
   c. by ‘intensity’ to show inequality among poor
3. **Adds Value:**
   a. focuses on people with multiple deprivations
   b. shows people’s simultaneous deprivations.
4. **Incentives** to reach the poorest of the poor
5. **Flexible** you choose indicators/cutoffs/values
6. **Robust** to wide range of weights and cutoffs
7. **Academically Rigorous** – axiomatic & empirical
From a measure to a tool

An income poverty measure tells us *who* is income poor.
From a measure to a tool

The MPI headcount tells us *who* is multidimensionally poor.
From a measure to a management tool

The MPI headcount tells us who is poor.

And adds how they are poor.
What MPI shows – National level

How MPI decreased in Nepal 2006-11

Average Intensity of Poverty (A)

Incidence - Percentage of MPI Poor People (H)
Decomposition By Region (or social group) – shows inequalities
How did MPI go down?

Monitor each indicator
Indicator Changes by region (Nepal)

Annualized Absolute Change in proportion who is poor and deprived in:
- Nutrition
- Child Mortality
- Years of Schooling
- Attendance
- Cooking
- Fuel
- Sanitation
- Water
- Electricity
- Floor
- Assets
The MPI: High Resolution

The MPI can be broken down in different ways:
1. By Headcount – to show *how many* are poor
2. By Dimension – to show *how* people are poor
3. By Intensity – to show *who* has greatest intensity
4. By Sub-group – to show how groups vary (in headcount, intensity, and composition)

In fact, it is the MPI *Plus* a dashboard (a set) of consistent subindices that unpack the AF analysis and supply powerful analysis.
Some Policy Applications of MPIs:

- **Track poverty** over time (official statistics)
- **Compare** poverty by region, ethnicity, rural/urban
- **Monitor** indicator changes (measure to manage)
- **Coordinate** different policy actors
- **Target** marginalized regions, groups, or households
- **Evaluate** policy impacts
What policies should be carried out?

Social Policies:
- Health
- Education
- Housing
MPI National Applications
MPI in Action

Official National MPIs

Colombia
Mexico
Bhutan
Philippines

Others: China, Tunisia, Indonesia, Chile, Costa Rica, Vietnam, Eastern Caribbean, Honduras, Pakistan, Angola
Colombia’s Multidimensional Poverty Index (IMPI)

- Education
- Childhood & youth conditions
- Labor
- Health
- Public utilities & housing conditions
Colombia 2011, 2013: MPI-Colombia

Educational Conditions
- Schooling
  - Illiteracy
    - 0.1
  - School Attendance
  - At the right level
  - Access to infant services
    - Access to infant services
      - No Child Labour
        - 0.05

Childhood & Youth
- 0.2

Work
- Absence of long-term unemployment
- Formal work
  - 0.1

Health
- Coverage
  - Access to health care given a necessity
  - 0.1

Housing & Public Services
- Improved Water
  - 0.2
  - Sanitation
  - Flooring
  - Exterior Walls
  - Overcrowding
  - 0.04

Used to allocate resources in national development plan
National Development Plan 2010-2014: goals in the reduction of poverty using a complete profile (MPI & income)
### Sectoral goals

**For accomplishing the strategy**

<table>
<thead>
<tr>
<th>Pobreza</th>
<th>Línea Base PND 2008</th>
<th>Dato 2011</th>
<th>Dato 2012</th>
<th>Análisis</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPI (Multidimensional Poverty)</td>
<td>34.7%</td>
<td>29.4%</td>
<td>27.0%</td>
<td>✔</td>
<td>22.5%</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>Educational achievement (≥15 yrs)</td>
<td>58.8%</td>
<td>54.6%</td>
<td>53.1%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>Literacy (≥15 yrs)</td>
<td>14.2%</td>
<td>12.0%</td>
<td>12.1%</td>
<td><img src="image" alt="●" /> <img src="image" alt="★" /></td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>School attendance (6-16)</td>
<td>5.4%</td>
<td>4.8%</td>
<td>4.1%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>No school lag (7-17)</td>
<td>33.4%</td>
<td>34.1%</td>
<td>33.3%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>Access to child care services (0-5)</td>
<td>12.1%</td>
<td>10.8%</td>
<td>9.4%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>Children not working (12-17)</td>
<td>5.5%</td>
<td>4.5%</td>
<td>3.7%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Long-term unemployment</td>
<td>9.6%</td>
<td>9.1%</td>
<td>10.0%</td>
<td><img src="image" alt="●" /> <img src="image" alt="★" /></td>
</tr>
<tr>
<td></td>
<td>Formal employment</td>
<td>80.6%</td>
<td>80.4%</td>
<td>80.0%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>Health insurance</td>
<td>24.2%</td>
<td>19.0%</td>
<td>17.9%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>Access to health services</td>
<td>8.9%</td>
<td>8.2%</td>
<td>6.6%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td><strong>E</strong></td>
<td>Access to water source</td>
<td>12.9%</td>
<td>12.0%</td>
<td>12.3%</td>
<td><img src="image" alt="●" /> <img src="image" alt="★" /></td>
</tr>
<tr>
<td></td>
<td>Adequate sewage system</td>
<td>14.1%</td>
<td>14.5%</td>
<td>12.1%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>Adequate floors</td>
<td>7.5%</td>
<td>6.3%</td>
<td>5.9%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>Adequate external walls</td>
<td>3.1%</td>
<td>3.2%</td>
<td>2.2%</td>
<td><img src="image" alt="●" /></td>
</tr>
<tr>
<td></td>
<td>No critical overcrowding</td>
<td>15.7%</td>
<td>14.2%</td>
<td>13.1%</td>
<td><img src="image" alt="●" /></td>
</tr>
</tbody>
</table>

*** Change 2011-2012 est. significant

**FUENTE: DANE**
High official commission
Monitoring an integrated poverty reduction
High Official Commission

Monitoring the national strategy for the reduction of poverty using official poverty measures

- **Leaders**
  - Presidency (Mandatory presence of the President of Colombia)
  - Department for Social Prosperity
  - National Planning Department

- **Permanent members**
  - Ministry of Health
  - Ministry of Labour
  - Ministry of Housing
  - Ministry of Agriculture
  - Ministry of Education
  - Ministry of Finance
Geographical Targeting
(Poverty maps Municipal MPI Colombia)
Municipal MPI Colombia
Headcount ratio, urban-rural areas, 2005

MPI proxy based on Census Data 2005
A family is “graduated” from **unidos** if:

**Sufficient condition:**

Not in extreme income poverty & Not multidimensionally poor
From 2010 to 2012, 1.7 million persons overcame income poverty and 700 thousand extreme poverty.

On the other hand, 1.3 million persons were no longer MPI poor.
1. Reflects the objectives of social policy
2. Coordinates public policy sectors
3. Monitors public policy
4. Informs Decision-making:
   1. Geographic targeting
   2. Programme composition
   3. Graduation from CCTs
Multidimensional Poverty in Mexico
Methodology & results

First released December, 2009
Using the multidimensional approach for policy purposes

- In 2013 the President and the Minister of Social Development established **poverty strategies and goals for all Ministries**

- The new National Development Plan was launched in May 2013 with 14 indicators. 2 of them are taken from the **multidimensional poverty methodology**

- **State Governors** are now concerned about reducing poverty. They keep asking **how** can they do it.

- **Opposing political parties** use and believe in the multidimensional poverty estimates since 2009 (as well as the media)
What are the main features of the new methodology?

Current income per capita

Wellbeing

Income

Population

Deprivations

Social Rights

Six Social Rights:

• Education
• Health
• Social Security
• Housing
• Basic services
• Feeding
Poverty Identification

**With deprivations**

- Vulnerable people by social deprivations
- MULTIDIMENSIONALLY POOR
- Moderate Multidimensional
- EXTREME Multidimensional Poverty
- Poverty

**Without deprivations**

- Ideal Situation

**Deprivations**

**Social Rights**

**Economic wellbeing line**

**Minimum wellbeing line**

**EWL**

**MWL**
CONEVAL: from 2008 to 2010 five out of six social deprivations decreased, but one increased: access to food. Food access deprivation increased by 4.2 million.
Target Population of the Crusade:

- **People in Extreme Poverty:** 11.7 million people
- **People with food access deprivation:** 28 million people

Target Population of the Crusade: **7.4 million people** in extreme poverty and food access deprivation

Aim 2013: 400 Strategic Municipalities
The Multidimensional Poverty Peer Network (MPPN) AND OTHER VOICES
The Multidimensional Poverty Peer Network

Launched in June 2013 at University of Oxford with:

- President Santos of Colombia
- Ministers from 16 countries in person
- A lecture from Professor Amartya Sen

Supported by the German Federal Ministry for Economic Cooperation and Development (BMZ)
The Global Multidimensional Poverty Peer Network (MPPN) had 22 countries in 2013 supported by Angola, Bhutan, Brazil, Chile, China, Colombia, Costa Rica, Ecuador, El Salvador, Dominican Republic, Germany, Honduras, India, Iraq, Malaysia, Mexico, Morocco, Mozambique, the Organization of Caribbean States, Pakistan, Peru, Philippines, Seychelles, South Africa, Tunisia, Turkey, Uruguay, and Vietnam.
MPPN has 32 countries plus international agencies in 2014

Supported by the German Federal Ministry for Economic Cooperation and Development (BMZ)
Recent New Members

Tajikistan
Nepal
Djibouti
The Network’s Agenda

• Expansion of Multidimensional Poverty Index
  • National measures (Colombia, Mexico, Philippines, Bhutan, Chile, Vietnam, Costa Rica, Eastern Caribbean)

• An Effective and Informed Voice in the Post 2015 Discussions
  • MPPN Survey
  • Ongoing work to advance an MPI2015+

• The Promotion of Joint Research and Development of Practical Tools
A post-2015 Multidimensional Poverty Index - MPI2015+

At a side events to the UNGA 2013 and 2014, the MPPN proposed an MPI2015+ to help ensure extreme poverty is eradicated in all its forms.

“Development is, ultimately, the progress of human freedom and capability to lead the kind of lives that people have reason to value.”

~ Amartya Sen (Uncertain Glory, 2013, p 43)
For more information, visit:

http://www.ophi.org.uk/

www.mppn.org