National Adaptations of the MPI
Key changes and processes

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OPHI
Note: AF ≠ MPI

1. The Alkire Foster class of measures
   - A general methodology for measuring multidimensional poverty

2. One element of this class: $M_0$
   - Appropriate when data are ordinal

3. One application of $M_0$: the MPI
   - Internationally comparable, drawn from 3 surveys; focused on acute poverty; MDGs
**Note: AF ≠ MPI**

<table>
<thead>
<tr>
<th>AF</th>
<th>MPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>You choose unit level</td>
<td>Unit = hh members</td>
</tr>
<tr>
<td>You choose scope</td>
<td>Scope = international</td>
</tr>
<tr>
<td>You choose dimensions</td>
<td>Health, Education, Std L 10 indicators</td>
</tr>
<tr>
<td>You choose indicators</td>
<td>MDG-related cutoffs (acute)</td>
</tr>
<tr>
<td>You choose deprivation cutoffs ‘z’</td>
<td>Equal weights</td>
</tr>
<tr>
<td>You choose weights</td>
<td>Poverty cutoff = 30%</td>
</tr>
<tr>
<td>You choose poverty cutoff ‘k’</td>
<td></td>
</tr>
</tbody>
</table>
Note: AF ≠ MPI

AF
• Includes $M_1, M_2, M_\alpha$
• Can be applied to individuals, schools, children, PHC units…
• Indicators can be access, output, outcome.
• ‘Open Source’ technology.

MPI
• Could change as data do
• MPI for high HD
Steps to build a National Multidimensional Poverty Measure
7 Choices for National Measures:

1. Data source
2. Unit of Analysis (person or household)
3. Indicators to use
   (and Dimensions – if helpful)
4. Cutoffs for each Indicator (deprivation)
5. Weights for each Indicator (Dimension)
6. Poverty cutoff (to identify the poor)
7. Whether to use $M_0$, $M_1$, or $M_2$
7 Choices for National Measures:

These are shaped by:

- **Purpose**
  (National measure, Targeting, M&E)

- **Data**
  (now or from new survey)

- **Constraints**
  (Legal, political, and institutional)
Other Considerations: National MPI

1. Legal basis (to endure across time)
2. How to update
   1. Data / Survey; Frequency
   2. Measurement aspects (cutoffs, weights, indicators)
3. Who will update (Institution)
4. What Incentives it provides (ministries)
5. Political process of developing measure.
   1. Consultations
   2. Experts – National Statistics & Economics
   3. Policy audience
   4. Subnational/International/Regional
Note: Create $g_0(k)$ Matrix

Create Achievement Matrix
Create Deprivation Matrix (apply cutoffs)
Apply Weights
Create Count vector
Apply Poverty Cutoff
Censor Matrix
Take measures
MPI matrix

Adjusted Headcount Ratio = $M_0 = HA = .442$

$k=3$ (have MPI for all $k$ values)

Indicators

$c(k)$  $c(k)/d$

\[
g^0(k) = \begin{bmatrix}
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
1.67 & 1.67 & 1.67 & 1.67 & .55 & 0 & 0 & 0 & 0 & .55 \\
0 & 1.67 & 0 & 1.67 & .55 & 0 & .55 & .55 & .55 & 0 \\
0 & 0 & 0 & 1.67 & .55 & .55 & .55 & 0 & .55 & .55
\end{bmatrix}
\]

\[
\begin{bmatrix}
0 \\
7.76 \\
5.53 \\
4.42
\end{bmatrix}
\]

$H = \text{headcount} = \frac{3}{4} = 75\%$

$A = \text{average deprivation share among poor} = .59 = 59\%$

$HA = MPI = 0.442$
Two most Common Questions

1. How long does it take?
   - Technically, quite easy (2-4 months)
   - Time is taken to choose indicators, cutoffs, weights, and to gain political support and understanding.
   - Depends if a new survey is needed
Two most Common Questions

2. Aren’t the choices very difficult?
   • Choice of dimensions: universe of options is clear
   • Choice of unit of analysis: driven by cost
   • Choice of indicators: depends on purpose + context
   • Choice of cutoffs: depends on purpose + context
   • Choice of weights: depends on purpose + debate
   • Several options can be implemented at first.
Poverty Measurement Methodology

December, 2009
Measuring poverty by mandate of the law

Dimensions for poverty measurement

- Current income per capita
- Average educational backwardness at household
- Access to health services
- Access to social security
- Quality of living spaces
- Housing access to basic services
- Access to food
- Degree of social cohesion
Methodological approach

Social Rights
- Constitutional guarantees
- Poverty associated with social deprivation

Poverty Measurement

Welfare
- Economic policy and income have impact on social development
What are the main features of the new methodology?

- Education
- Health
- Social Security
- Housing
- Basic services
- Feeding
Advantages of the methodology

- Insert poverty within the broad objectives of social policy
- Visualize the progress of social policy not only on income but on multiple deprivations
- Distinguish action areas of economic policy and social policy on social development
MULTIDIMENSIONAL POVERTY IN MEXICO
Total Population 2008

Income

Wellbeing

Deprivations Social Rights

Vulnerable by social deprivations

33.0%
35.2 million
2.0 Deprivation average

Moderate Poverty

10.5%
11.2 million
3.9 Deprivation average

Extreme Poverty

33.7%
36.0 million
2.3 Deprivation average

18.3%
19.5 million

Vulnerable people by income

4.5%
4.8 million

Total Population

18.3%
19.5 million

Deprivation average

0 1 2 3 4 5 6

OPHI Oxford Poverty & Human Development Initiative
Senior population 2008

- **Vulnerable people by social deprivations**
  - 34.0% (2.4 millions)
  - Deprivation average

- **Moderate Poverty**
  - 12.0% (0.8 millions)
  - 3.9 Deprivation average

- **Extreme Poverty**
  - 32.5% (2.3 millions)
  - 2.3 Deprivation average

**Deprivations Social Rights**

**Income**

**Wellbeing**
Indigenous population 2008

**MODERATE POVERTY**
- 36.5% 2.5 millions 3.1 Deprivation average

**EXTREME POVERTY**
- 39.2% 2.7 millions 4.2 Deprivation average

Vulnerable people by income
- 0.21 millions

Vulnerable people by social deprivations
- 20.0% 1.4 millions 2.8 Deprivation average

Vulnerable people by social rights
- 3.1% 0.21 millions
Multidimensional poverty incidence

Source: CONEVAL estimations with information from MCS-ENIGH, 2008

<table>
<thead>
<tr>
<th>Ranks</th>
<th>Total of States</th>
</tr>
</thead>
<tbody>
<tr>
<td>(20% - 40%)</td>
<td>14</td>
</tr>
<tr>
<td>(40% - 60%)</td>
<td>14</td>
</tr>
<tr>
<td>(60% - 80%)</td>
<td>4</td>
</tr>
</tbody>
</table>

Map showing multidimensional poverty incidence across states in Mexico.
### Percentage of population with social deprivations

**Mexico, 2008**

<table>
<thead>
<tr>
<th>Social deprivation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to social security</td>
<td>64.7</td>
</tr>
<tr>
<td>Access to health services</td>
<td>40.7</td>
</tr>
<tr>
<td>Educational backwardness</td>
<td>21.7</td>
</tr>
<tr>
<td>Access to food</td>
<td>21.6</td>
</tr>
<tr>
<td>Housing access to basic services</td>
<td>18.9</td>
</tr>
<tr>
<td>Quality of living spaces</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Source: CONEVAL estimations with information from MCS-ENIGH, 2008