Multidimensional Poverty Index

Policy & Research Unit

BISP

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Introduction

Introduction

- There are several ways of measuring *poverty rate.*

- One is through *income* or *expenditure.*

- For example, since *2011*, the *World Bank* has set a cutoff of $\$1.90$ a day income which was updated in *September 2022* to $\$2.15$ per person, in determining *extreme poverty.*

- Using *expenditure (real)*, divide total household expenditure per day by total adult equivalence.

- A household is then classified as *poor* if it falls below the *poverty line.*

MPI

MPI

- *Multidimensional Poverty Index (MPI)* is currently used by *UNDP* as a *global poverty index* & has been adapted in *SDGs*.

- *MPI* is based on *Alkire-Foster method*.

- *MPI* reveals a different pattern of *poverty* than *income poverty*, as it illuminates a different set of *deprivations*.

MPI

- The *MPI* has *three dimensions*:

  - *Health*

  - *Education*

  - *Standard of Living*.

- A person is identified as *MPI poor* if he/she is *deprived* in at least one third (*33.3%*) of the weighted sum of all relevant indicators.

- To be *deprived* means that one fall below the weighted score in each dimension.

Dimensions in Global MPI

Dimensions in Global MPI

- The following dimensions and indicators are used in coming up with the *Global MPI*:

  - *Health (1/3)*

  - *Education (1/3)*

  - *Standard of Living (1/3).*

Health (2 Indicators)

- *Child Mortality (1/6)*

  - Deprived if a child under the age of 18 years has died in the family In the five years preceding the survey

- *Nutrition (1/6)*

  - Deprived if any adult or child, for whom there is nutritional information, is undernourished

Education (2 Indicators)

- *Years of Schooling (1/6)*

  - Deprived if no household member has completed six years of schooling

- *School Attendance (1/6)*

  - No household member aged 'school entrance age + six' years or older has completed six years of schooling

Standard of Living (6 Indicators)

- *Cooking Fuel (1/18)*

  - ■ Deprived if the household cooks with dung, wood or charcoal

- *Sanitation (1/18)*

  - ■ Deprived if the household's sanitation facility is either not improved (according to MDG guidelines), is shared with other households. or both

Standard of Living (6 Indicators)

- *Drinking Water (1/18)*

  - Deprived if the household does not have access to improved drinking water (according to MDG guidelines) or improved drinking water is more than a 30-minute walk from home round trip

- *Electricity (1/18)*

  - Deprived if the household has no electricity

Standard of Living (6 Indicators)

- *Housing (1/18)*
  - Deprived if at least one of the three housing materials for roof, walls and floor are inadequate: the floor is of natural materials and/or the roof and/or walls are of natural or rudimentary materials

- *Assets (1/18)*
  - Deprived if the household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike or refrigerator and does not own a car or truck

Dimensions in Pakistan MPI

Dimensions in Pakistan MPI

- The following dimensions and indicators are used in coming up with the *Pakistan MPI*:

  - *Health (1/3)*

  - *Education (1/3)*

  - *Standard of Living (1/3)*.

Health (4 Indicators)

- *Access to Health Facilities (1/6)*

  - Deprived if heath facilities are not used at all, or are only used once in a while, because of access constraints (too far away, too costly, unsuitable, lack of tools/staff, not enough facilities)

- *Immunisation (1/18)*

  - Deprived if any child under the age of 5 is not fully immunised according to the vaccinations calendar (households with no children under 5 are considered non-deprived)

Health (4 Indicators)

- *Ante-natal Care (1/18)*

  - Deprived if any woman in the household who has given birth in the last 3 years did not receive ante-natal check-ups (households with no woman who has given birth are considered non-deprived)

- *Assisted Delivery (1/18)*

  - Deprived if any woman in the household has given birth in the last 3 years attended by untrained personnel (family member, friend, traditional birth attendant, etc) or in an inappropriate facility (home, other) (households with no woman who has given birth are considered non-deprived)

Education (3 Indicators)

- *Years of Schooling (1/6)*
  - Deprived if no man OR no woman in the household above 10 years of age has completed 5 years of schooling

- *Child School Attendance (1/8)*
  - Deprived if any child is not going to school (between 6 and 11 years of age)

- *School Quality (1/24)*
  - Deprived if any child is not going to school because of quality issues (not enough teachers, schools are far away, too costly, no male/female teacher, substandard schools) or is attending school but remains dissatisfied with service

Standard of Living (8 Indicators)

- *Cooking Fuel (1/21)*

  - Deprived if the household uses solid cooking fuels for cooking (wood, dung cakes, crop residue, coal/charcoal, other)

- *Sanitation (1/21)*

  - Deprived if the household has no access to adequate sanitation according to MDG standards: flush system (sewerage, septic tank and drain), privy seat

Standard of Living (8 Indicators)

- *Water (1/21)*
  - Deprived if the household has no access to an improved source of water according to MDG standards, considering distance (less than a 30 minutes return trip): tap water, hand pump, motor pump, protected well, mineral water

- *Electricity (1/21)*
  - Deprived if the household has no access to electricity

Standard of Living (8 Indicators)

- *Walls (1/42)*
  - Deprived if the household has unimproved walls (mud, uncooked/mud bricks, wood/bamboo, other)

- *Assets (1/21)*
  - Deprived if the household does not have more than two small assets (radio, TV, iron, fan, sewing machine, video cassette player, chair, watch, air cooler, bicycle) OR ne large asset (refrigerator, air conditioner, tractor, computer, motorcycle), AND has no car

Standard of Living (8 Indicators)

- *Overcrowding (1/42)*

  - Deprived if the household is overcrowded (4 or more people per room)

- *Land & Livestock (1/21)*

  - Deprived if the household is deprived in land AND deprived in livestock, i.e.:

    - **Deprived in land**: the household has less than 2.25 acres of non-irrigated land AND less than 1.125 acres of irrigated land

    - **Deprived in livestock**: the household has less than 2 cattle, fewer than 3 sheep/goats, fewer than 5 chickens AND no animal for transportation (urban households are considered non-deprived)

Calculating MPI

Calculating MPI

- *The most common way of measuring poverty* is to calculate the percentage of the population who are *poor*, known as the $Headcount\ Ratio\ (H)$.

- Having identified who is *poor*, the $Alkire\text{-}Foster\ (AF)$ $methodology$ generates a unique class of *poverty* measures (M_α) that goes beyond the simple $Headcount\ Ratio$.

Calculating MPI

- Three measures in this class are of high importance:

    - *Adjusted Headcount Ratio* (M_0), also known as the MPI: This measure reflects both the incidence of poverty (the percentage of the population who are poor) and the intensity of poverty (the percentage of deprivations suffered by each person or household on average). M_0 is calculated by multiplying the incidence (H) by the intensity (A). $M_0 = H \times A$.

    - *Adjusted Poverty Gap* (M_1): This measure reflects the incidence, intensity and depth of poverty. The depth of poverty is the average 'gap' (G) between the level of deprivation poor people experience and the poverty cut-off line. $M_1 = H \times A \times G$.

    - *Adjusted Squared Poverty Gap* (M_2): This measure reflects the incidence, intensity, and depth of poverty, as well as inequality among the poor (captured by the squared gap, S), $M_2 = H \times A \times S$.