



## In Depth - What is Extreme Poverty and How does one measure it?

A key question for anyone interested in international development is: how does one define poverty?

Poverty, of course, is a relative concept : everyone can always be defined as poor in some respect when compared to someone else. A more useful concept is: what is the threshold below which someone's poverty becomes unacceptable, and justifies a special effort of solidarity.

The international community has agreed on a label for this level of poverty: extreme poverty.

In order to identify where extreme poverty prevails, we need a definition that will allow for a measure of poverty levels, an objective method that will allow us to say that these households live in extreme poverty, whereas these others do not.

### Data: a critical foundation

Data is required for getting clarity as to the prevalence and location of extreme poverty. Even more fundamentally, data is required to know that there is a problem to address: often not only are the extreme poor invisible, but the very issue of extreme poverty does not appear on radar screens of elected officials. Once the problem is detected and identified, further data is required to design the solution and to feed accountability mechanisms, to make sur the remedial actions implemented are successful.

### Three Broad Approaches to Measuring Poverty

There are three broad ways of measuring poverty: one can be interested in the measure of relative poverty within a specific region, the general state of poverty in the region, or the measure of absolute poverty within that region.

To measure relative poverty, one could compare a target group's poverty, say the lowest quintile of the population (i.e. the poorest 20%), and compare it to the highest quintile or the average. This measure of inequality is of course very important but tells nothing with respect to the actual living conditions of the population of interest, the lowest quintile: they could just as easily be massively undernourished or rather well off. We would only know how they compare to another group, which is still an important piece of information. Actually, the largest institution of development, the World Bank, makes relative

poverty one of its targets: it tracks how the lowest 40% of the population is benefitting when economies become more prosperous, and calls the pursued ultimate goal shared prosperity.

The international community has focused instead on guaranteeing minimal living conditions and the exercise of basic rights. Another option would therefore be to look a data point that would summarize the situation in a country: it could be the Gross Domestic Product per capita or the synthesis of various data points like the Human Development Index. If the measure increases, overall poverty diminishes. The information is very useful but it does not tell us the distribution of this measure of poverty within the population.

For those interested in identifying those who have not to make it across a specific poverty threshold, an overall measure is inadequate; the international community has therefore chosen to focus on measures of absolute poverty, i.e. the number of people not meeting a specific standard of poverty<sup>1</sup>.

### ***Setting the standard for extreme poverty: monetary Vs. multi-dimensional standards***

#### The monetary approach

The standard for extreme poverty could be defined many ways. Some of the more intuitive standards could be that no one goes hungry (for which the standard might be a daily intake of 1200 calories) or that no child goes without a basic education (for which the standard might be that a child should not complete its teens without at least 8 years of education).

A problem arises when the standards may appear contradictory: for instance undernutrition rates may have been decreasing in the past decade in a given country but schooling rates might have been very slow to improve. So is poverty going down or not?

One of the ways the international community has addressed this challenge is by adopting a monetary standard. The monetary standard is developed in a way that it can represent the purchasing power required to obtain the necessary items for a minimally decent life. *At present, the internationally accepted monetary standard for extreme poverty is \$1.90/day per person, adjusted for purchasing power parity (i.e. taking into account that certain goods and services are cheaper or more expensive, depending on the country).*

This monetary standard solution is useful because of its simplicity. In practice, however, it has a number of shortcomings. The most important one is that poverty is multidimensional: it is largely a combination of lack access to various basic social services. And in many cases, access to income beyond the monetary standard does not give access to these social services. For instance, a rural person living on \$1.95/day is unlikely to be able to get health care for their child if a clinic is not established within a reasonable distance from their house. Many of the basic social services cannot be purchased on the market at a price that can be afforded by a person living on an income close to the existing monetary standard. In other words, crossing the poverty line does not guarantee access to basic services. Or put in different words, poverty is accompanied by a set of deprivations, and an improvement in income does not translate systematically in a reduction of the deprivations. For instance, in India, there was an increase in per capita income in recent years, but virtually no decrease in the 50% child malnutrition rate.

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<sup>1</sup> For a very detailed description of the different types of poverty measures, see Alkire, S. at <http://www.ophi.org.uk/wp-content/uploads/OPHIWP107.pdf>

Even the World Bank, who is the leading architect behind the monetary tracking of extreme poverty raises the question: “A person may be considered non-poor according to the traditional income-based measure despite being subject to multiple deprivations in other dimensions. If this person does not have access to the basic services or personal security that are an integral part of living without deprivations in basic human needs, can this person be considered to be free of Poverty?”<sup>2</sup>

There are other shortcomings with the monetary measure of poverty. First, relying on monetary data when many of the extreme poor live on non-monetized resources like self-built houses, small-holder crops, barter, etc.. leads to gross approximations. The uncertainties around the estimations are only compounded by the fact that the surveys, which are at the basis of the monetary measures of poverty, are subject recall errors and non-response biases (in India national accounts indicate individual consumption to be 100% higher (i.e. double) than estimates derived by surveys!)<sup>3</sup>. Finally, the results need to be adjusted to allow purchasing power comparisons using national averages that may be not reflect the reality in regions of high extreme poverty and to factor in exchange rates that keep fluctuating. The resulting calculation has therefore limited reliability.

#### [The multidimensional approach and the concept of ultra-poverty](#)

Another option is to try look at things multi-dimensionally and attempt to capture the multidimensionality in one indicator. It is relatively easy to put up a quick survey and calculate the percentage of people of who, for instance, have no access to sanitation or the percentage of people who had only one meal yesterday or no meal at all but measuring the number of multi-dimensionally poor requires finding out whether the same people are experiencing many of the deprivations. This, in turn requires better information with larger samples to make sure overlaps or lack thereof are not random and do follow a pattern. These large scale surveys do exist but are generally only conducted once or twice a decade. This is about the same order of frequency as the surveys used to compute monetary poverty. This scarcity of raw data (not to mention difficulties relating to quality and comparability) and the methodological complexities attached to aggregating or synthesizing data on the various dimensions of poverty explain the limited offering of multidimensional measures of poverty.

But once the technical challenges are addressed, a multidimensional indicator is useful both as measuring the manifestation of extreme poverty and the cause for its perpetuation. Indeed, the simultaneous presence of several deprivations (poor health and poor educational outcomes, for instance), is both a way to identify a household in extreme poverty and the very mechanism which traps this person in extreme poverty and prevents any improvements in their situation.

The Oxford Poverty and Human Development Institute is the pioneer in multi-dimensional poverty indices. It describes its global Multidimensional Poverty Index (MPI) as “an international measure of acute poverty covering over 100 developing countries. It complements traditional income-based poverty measures by capturing the deprivations that each person faces at the same time with respect to education, health and living standards.”

As summarized in Table 1 below, the MPI uses information from ten indicators that are organized into three dimensions: health, education, and living standards. Each of these dimensions is given a weight of 1/3. Each dimension has various indicators of deprivations. Each household is identified as deprived or

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<sup>2</sup> <http://pubdocs.worldbank.org/en/503001444058224597/Global-Monitoring-Report-2015.pdf>

<sup>3</sup> Chandy, cited in <http://devinit.org/wp-content/uploads/2013/09/Counting-the-poor11.pdf>

non-deprived in each indicator based on a deprivation cut-off. Each household's deprivation score is constructed based on a weighted average of the deprivations experienced using equal weights for every indicator within the three dimensions. See Table 1 below for a visual summary of the process components.

**Table 1: The dimensions, indicators, deprivation cutoffs, and weights of the global MPI**

Dimensions of Poverty	Indicator	Deprived if...	Weight
Education	Years of Schooling	No household member aged 10 years or older has completed five years of schooling.	1/6
	Child School Attendance	Any school-aged child <sup>†</sup> is not attending school up to the age at which he/she would complete class 8.	1/6
Health	Child Mortality	Any child has died in the family in the five-year period preceding the survey.	1/6
	Nutrition	Any adult under 70 years of age or any child for whom there is nutritional information is undernourished in terms of weight for age.*	1/6
Living Standard	Electricity	The household has no electricity.	1/18
	Improved Sanitation	The household's sanitation facility is not improved (according to MDG guidelines) or it is improved but shared with other households.**	1/18
	Improved Drinking Water	The household does not have access to improved drinking water (according to MDG guidelines) or safe drinking water is at least a 30-minute walk from home, roundtrip.***	1/18
	Flooring	The household has a dirt, sand, dung, or 'other' (unspecified) type of floor.	1/18
	Cooking Fuel	The household cooks with dung, wood, or charcoal.	1/18
	Assets Ownership	The household does not own more than one of these assets: radio, TV, telephone, bicycle, motorbike, or refrigerator, and does not own a car or truck.	1/18

**Note for Table 1:**

<sup>†</sup> Data source for age children start school: United Nations Educational, Scientific and Cultural Organization, Institute for Statistics database, Table 1. Education systems [UIS, <http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx?ReportId=163>].

\*Adults are considered malnourished if their BMI is below 18.5 m/kg<sup>2</sup>. Children are considered malnourished if their z-score of weight-for-age is below minus two standard deviations from the median of the reference population.

\*\*Unless the survey report definitions change, a household is considered to have access to improved sanitation if it has some type of flush toilet or latrine, or ventilated improved pit or composting toilet, provided that they are not shared.

\*\*\*A household has access to clean drinking water if the water source is any of the following types: piped water, public tap, borehole or pump, protected well, protected spring or rainwater, and it is within 30 minutes' walk (roundtrip).

Source: Alkire and Santos (2010). For details on the rationale behind each indicator, please see Alkire and Santos (2010, 2014). If survey reports use other definitions of 'adequate' sanitation or 'safe' drinking water, we follow the survey reports.

Specifically, to analyze a household's poverty level, OPHI determines whether they are deprived in each of 10 indicators (years of schooling, child school attendance, child mortality, nutrition, electricity,

improved sanitation, improved drinking water, flooring, cooking fuel, assets ownership). The two education indicators and the two health indicators each receive a weighting of 1/6 (i.e. a combined weighting per dimension of 1/3). The 6 living standard indicators each receive a weighting of 1/18 for a combined weighting of 1/3. A weighted deprivation score of 33.33% or more identifies households as multidimensionally poor. A weighted deprivation score of 50% or more identifies households as multidimensionally severely poor. More details can be found at [http://www.ophi.org.uk/wp-content/uploads/OPHIMethNote\\_44\\_Summer\\_2017.pdf](http://www.ophi.org.uk/wp-content/uploads/OPHIMethNote_44_Summer_2017.pdf)

**A weighted deprivation score of 60% or more is what constitute the measure of ultra-poverty; it is the definition used in the Global State of Ultra-Poverty.<sup>4</sup> From a practical perspective, if a household is experiencing ultra-poverty, it is:**

**-very severely deprived in two of the three dimensions of poverty**

**- very severely deprived in one of the three dimensions of poverty and significantly deprived in the other two.**

The use of a multi-dimensional poverty measure is not revolutionary in that even the proponents and authoritative sources of the monetary measure of poverty, the World Bank and the International Monetary Fund, recognize the complementarity of the multidimensional approach in their joint Global Monitoring Report 2015-16.

“To sustainably end extreme poverty and promote shared prosperity, more attention is needed to the non-income dimensions of development. First, to “end poverty in all of its forms everywhere,” it must be recognized that poverty is multidimensional. Income poverty is typically accompanied by inadequate access to education, health, housing, employment, and personal security—areas where improvements would increase the chances for escaping Poverty(...)The goal of “ending poverty in all of its forms everywhere” is likely to lead to growing interest in the multidimensional measurement of global poverty. The SDG1.2 incorporates an explicitly multidimensional focus: “By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.”

The 2017 Atkinson report on measures of poverty, commissioned by and published with a foreword of, the World Bank’s Chief Economist, recommends a multidimensional measurement of poverty. <https://openknowledge.worldbank.org/bitstream/handle/10986/25141/9781464809613.pdf>

The High-level Political Forum, the United Nations central platform for follow-up and review of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, also gives importance to multi-dimensional poverty and devoted the longest plenary of the 2017 Forum’s opening day to “addressing the multi-dimensions of poverty and inequalities.”

And this newly appearing interest is not without its sobering words of caution: “even if the 2030 target of 3 percent (monetary) poverty is met on average globally, deep pockets of multidimensional poverty are likely to persist.”<sup>5</sup>

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<sup>4</sup> [www.ultra-poverty.org](http://www.ultra-poverty.org)

<sup>5</sup> <http://pubdocs.worldbank.org/en/503001444058224597/Global-Monitoring-Report-2015.pdf>

## Measuring Acute Poverty in Practice

### [Measuring Extreme Poverty](#)

Extreme poverty is what the international community has chosen to target through the Sustainable Development Goals. These goals<sup>6</sup> are designed to shape how the planet will look like in the year 2030 and ending extreme poverty, defined as living on less than US\$1.90/day, is the first of them.

The two key organizations that collaboratively monitor extreme poverty levels in the world and the World Bank and the United Nations Development Program have agreed on the following approach:

- Track the number and percentage of people living on US\$1.90/day or less
- As a complement of information, measure broader deprivations through a multidimensional poverty indicator

In its 2018 Poverty and Shared Prosperity Report, the World Bank concluded the following:<sup>7</sup>

- Extreme poverty dropped roughly by 1%/year between 1990 and 2015, from 36% to 10% of the world population
- This rhythm is slowing down, and in Sub-Saharan Africa, the number of people living in extreme poverty has actually been going up
- Worldwide, the number of people in extreme poverty stands at 736 million, a historic low.

### [Measuring Ultra-Poverty](#)

Ultra-poverty is a concept designed to identify the households facing the most severe deprivations in health, education and living conditions. In practice, it corresponds to the most challenged among the extreme poor.

RESULTS and Uplift joined efforts in the fall of 2017 to produce the Global State of Ultra Poverty (GSUP), a report which identifies the segments, among the extreme poor, who are most likely to be left behind in the global effort to rid the world of extreme poverty by 2030. The document determined that there were 395 million people living in ultra-poverty.

An update by OPHI of their data and methodology in the second half of 2018 has led to a significant shift in ultra-poverty numbers. The number of people in ultra-poverty has gone down from 395 million to 341 million. If it had not been for population growth (which automatically increases the population living in ultra-poverty), the actual number of people in ultra-poverty would have been reduced by 70 million people! For more information, see our documents on new Developments in the Analysis of Ultra-Poverty and Who are the ultra-Poor households.

For a deeper analysis of the characteristics of populations living in acute poverty see our analysis on What we know about acute poverty.

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<sup>6</sup> <https://sustainabledevelopment.un.org/>

<sup>7</sup> <http://www.worldbank.org/en/publication/poverty-and-shared-prosperity>

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**Key Questions For Self-Directed Learning**

*After reading this document, why is it important to be specific about the definitions of poverty?*

*What are a couple of different ways to measure poverty?*

*How does one measure acute poverty specifically? What are differences between the numbers of people in extreme poverty and acute poverty?*

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