# Poverty perspectives and measurement approaches
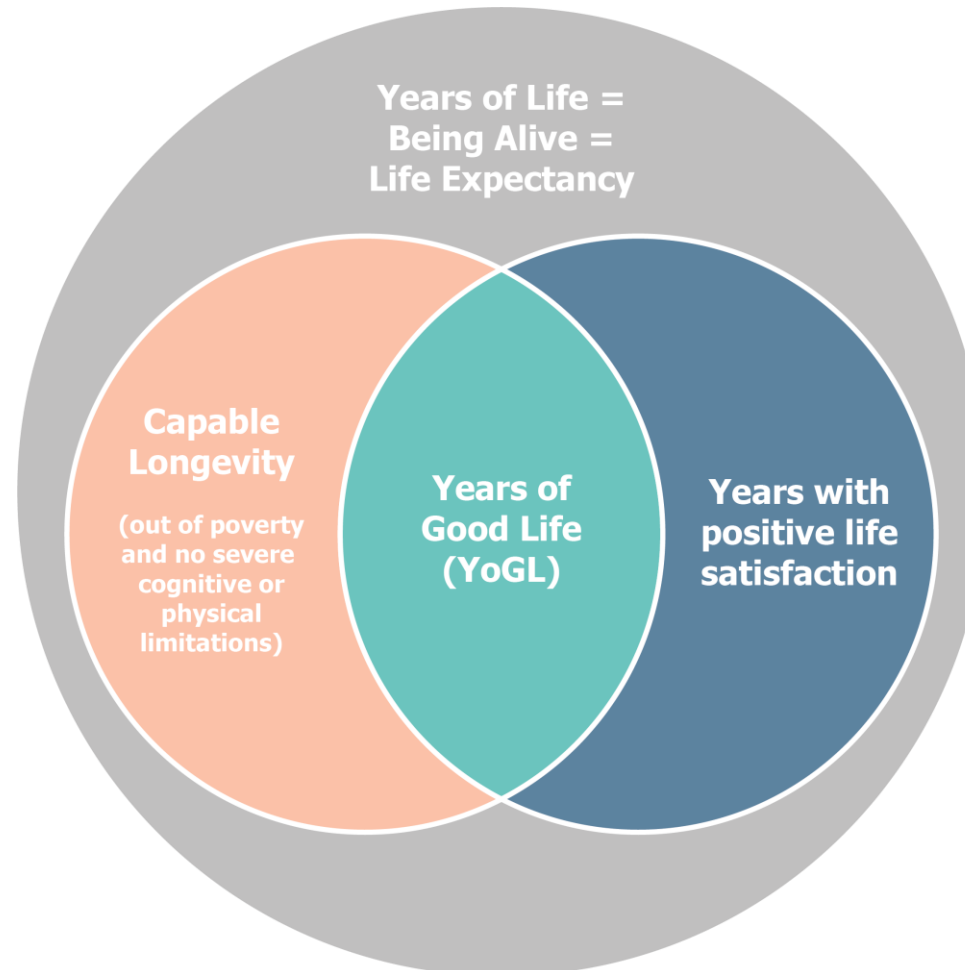
**Wittgenstein Centre Conference 2019**

"Demographic Aspects of Human Wellbeing"

Anna Dimitrova, Erich Striessnig, Dilek Yildiz

November 2019

# Years of Good Life (YoGL)

**Capable Longevity**
- ✓ Being out of poverty
- ✓ Being free from physical limitations
- ✓ Being cognitively able

**Subjective Quality of Life**
- ✓ Being satisfied with life

Years of Life =
Being Alive =
Life Expectancy

Capable
Longevity

(out of poverty and no severe cognitive or physical limitations)

Years of
Good Life
(YoGL)

Years with
positive life
satisfaction

# Defining poverty: main concepts

## Absolute VS relative poverty

- Absolute: deprivation of basic human needs.
- Relative: inequal distribution of resources within a society.

## Poverty as deprivation of "capabilities"

- Poverty is absolute in the space of capabilities but relative in that of commodities and resources (Amartya Sen).

## Objective VS subjective poverty

- Objective: externally observed and universally applied.
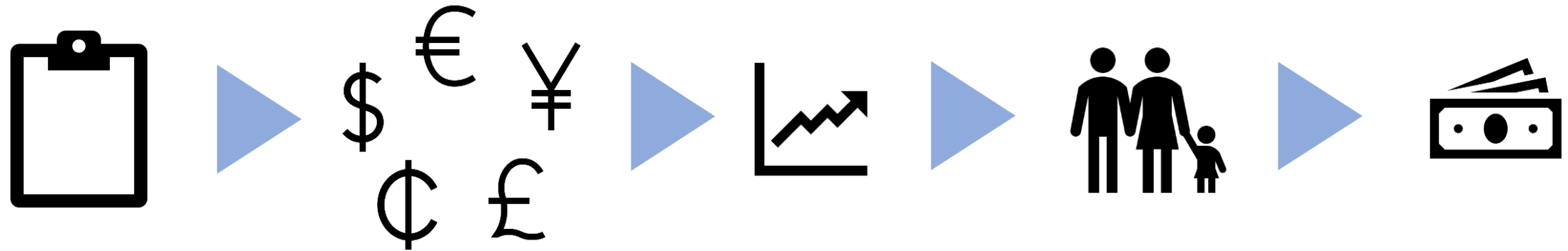- Subjective: *feeling* of deprivation.

## Chronic VS transient poverty

How we measure poverty can importantly influence how we come to understand it, how we analyze it, and how we create policies to influence it.

Alkire and Foster 2011

# Monetary measures

Data requirements



1. Collection of household survey data (consumption- or income-based)

2. Adjustments for price level differences between countries and inflation

3. Equivalence scale application

Equivalized household income in international purchasing power dollars (at 2011 prices)

# Monetary measures

## Poverty assessment

- **World Bank's International Poverty Line (IPL)**
  - Needs-based poverty lines
    - Food-energy-intake (Ravallion 2010)
    - Cost-of-basic-needs (Rowntree 1901; Orshanski 1965; Allen 2017
  - Consensual budget standards (Bradshaw et al. 2008)

World Banks IPL: $1.90/day
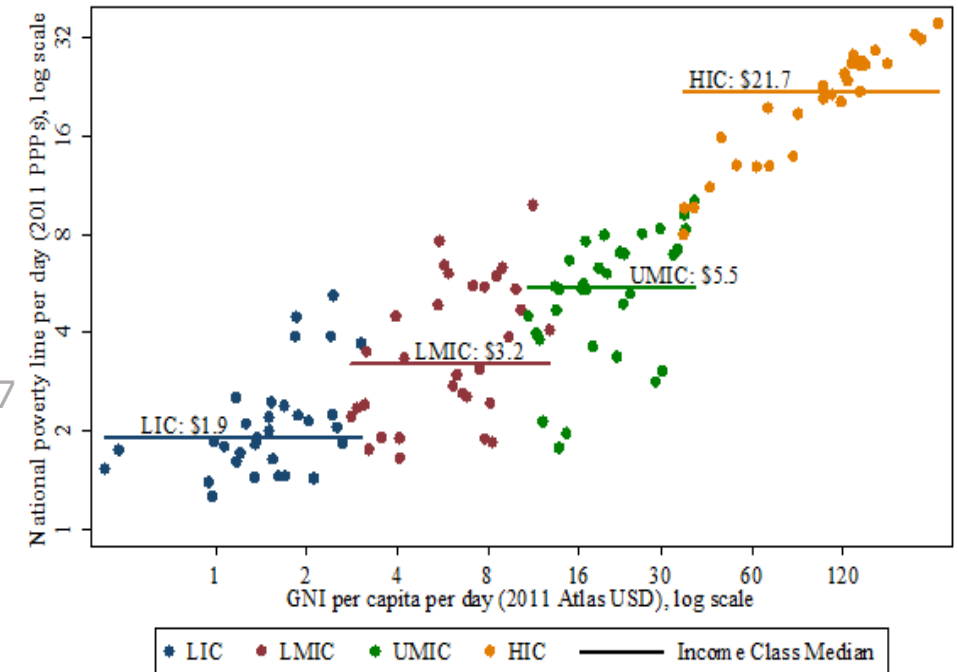


Source: Francisco Ferreira and Carolina Sanchez

Ravallion, Martin. 2010. *Poverty Lines Across The World*. The World Bank.
Rowntree, B.S. 1901. Poverty: A Study in Town Life. Macmillan.
Orshanski, M. 1965. "Counting the poor: Another look at the poverty profile". Social Security Bulletin 28: 3-29.
Allen, Robert C. 2017. Absolute Poverty: When Necessity Displaces Desire. American Economic Review 107 (12): 3690–3721.
Bradshaw, J. et al. 2008. A Minimum Income Standard for Britain: What People Think, York, Joseph Rowntree Foundation.

# Monetary measures

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### Cost-of-basic-living: poverty rates

| | Percent below poverty line | | Millions of poor | | Population (millions) |
|---|---|---|---|---|---|
| | BNPL | WBPL | BNPL | WBPL | |
| Developing countries | | | | | |
| Niger | 48.84 | 50.34 | 8.28 | 8.53 | 17 |
| Zimbabwe | 17.95 | 21.40 | 2.56 | 3.05 | 14 |
| Gambia | 32.88 | 45.29 | 0.44 | 0.61 | 1 |
| Liberia | 90.37 | 68.64 | 3.18 | 2.42 | 4 |
| India | 25.56 | 21.23 | 322.97 | 268.26 | 1,264 |
| China | 13.71 | 7.90 | 184.28 | 106.19 | 1,344 |
| Thailand | 1.94 | 0.04 | 1.30 | 0.03 | 67 |
| Indonesia | 46.25 | 13.58 | 113.22 | 33.25 | 245 |
| Bangladesh | 17.65 | 18.52 | 26.76 | 28.08 | 152 |
| Sri Lanka | 6.24 | 2.41 | 1.26 | 0.48 | 20 |
| Vietnam | 16.35 | 4.78 | 14.21 | 4.16 | 87 |
| Middle-income OECD | | | | | |
| Turkey | 0.73 | 0.28 | 0.54 | 0.21 | 74 |
| Mexico | 6.28 | 3.80 | 7.45 | 4.51 | 119 |
| High-income OECD and Eurostat | | | | | |
| Lithuania | 3.80 | 0.87 | 0.12 | 0.03 | 3 |
| United Kingdom | 1.25 | 0.93 | 0.79 | 0.59 | 63 |
| United States | 1.50 | 1.17 | 4.64 | 3.61 | 309 |
| France | 0.63 | 0.43 | 0.41 | 0.28 | 65 |
| Developing | 29 | 23 | 678.47 | 455.05 | 3,214 |
| Middle-income OECD | 4 | 2 | 7.99 | 4.71 | 192 |
| High-income OECD Eurostat | 2 | 1 | 5.96 | 4.51 | 441 |
| Overall | 6 | 6 | 692.41 | 464.27 | 3,847 |

Source: Allen 2017

Ravallion, Martin. 2010. *Poverty Lines Across The World*. The World Bank.
Rowntree, B.S. 1901. Poverty: A Study in Town Life. Macmillan.
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# Monetary measures

## Data aggregation

- Poverty headcount ratio
- Poverty gap index
- Squared poverty gap index

**Foster-Greek-Thorbecke (FGT) class of measures for inequality of poverty:**

$$P_\alpha = \frac{1}{n} \sum_{i=1}^{q} \left( \frac{z - y_i}{z} \right)^\alpha$$

$z$ – poverty line
$y_i$ – level of income or other poverty indicator for individual $i$
$n$ – size of the total population
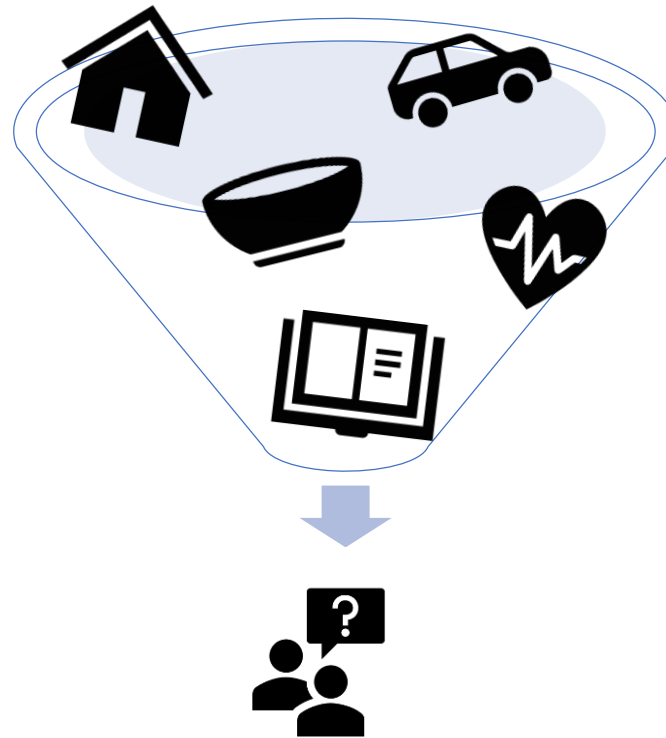$q$ – number of poor people
$\alpha$ – "poverty aversion" parameter

# Human poverty is more than income poverty – it is the denial of choices and opportunities.

Human Development Report 1997, UNDP

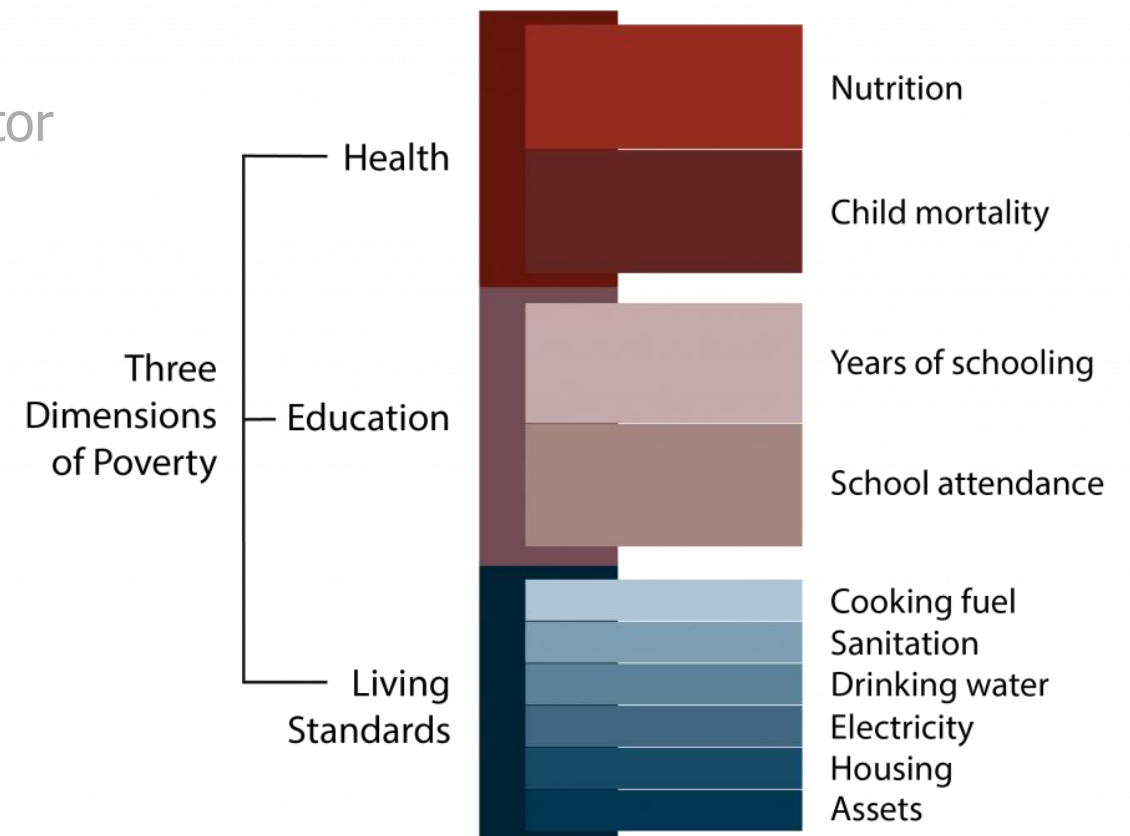# Multidimensional measures

Data requirements

# Multidimensional measures

## Poverty assessment

- ■ The Multi-dimensional Poverty Index (MPI)
- ■ EU's Material and Social Deprivation Indicator

**The Global MPI**



Source: OPHI

# Multidimensional measures

## Poverty assessment

- The Multi-dimensional Poverty Index (MPI)
- EU's Material and Social Deprivation Indicator

**Could not afford at least 5 items (out of 13):**
- ✅ ❏ face unexpected expenses;
- ❌ ❏ one week annual holiday away from home;
- ❌ ❏ avoid arrears (in mortgage, rent, utility bills and/or hire purchase instalments);
- ❌ ❏ afford a meal with meat, chicken or fish or vegetarian equivalent every second day;
- ✅ ❏ a car/van for personal use;
- ❌ ❏ ……..

Source: Eurostat

# Multidimensional measures

## Data aggregation

- The "counting approach" and the headcount ratio
- Alkire-Foster (AF) "adjusted" headcount ratio (Alkire & Foster 2011)
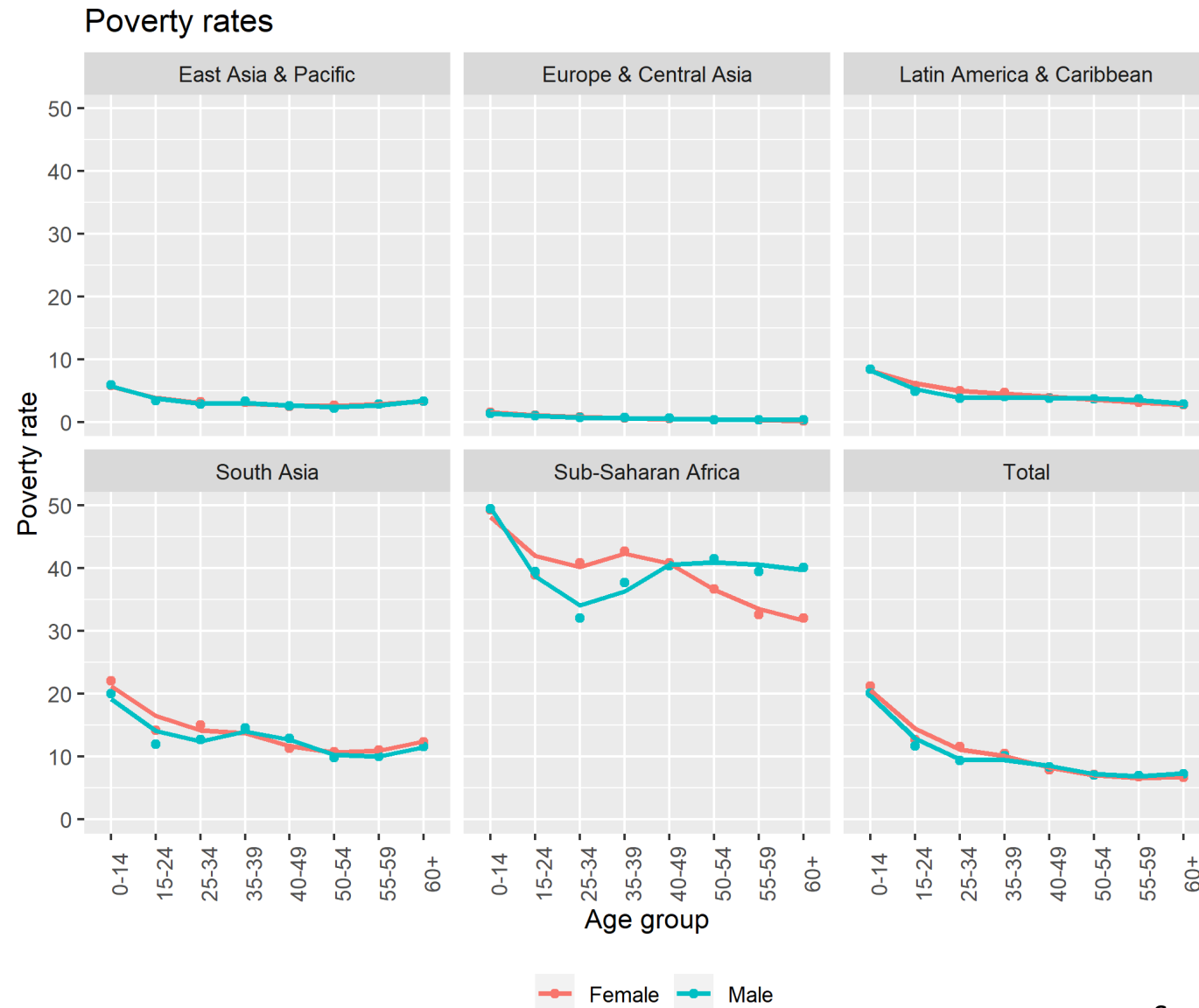
$$M_0 = H \times A$$

$\begin{cases} (M_0) \text{ adjusted headcount ratio} \\ (H) \text{ the incidence of poverty} \\ (A) \text{ the intensity of poverty} \end{cases}$

Alkire, Sabina, and James Foster. 2011. "Counting and Multidimensional Poverty Measurement." Journal of Public Economics 95 (7–8): 476–87.

# Additional considerations

Accounting for inequalities *within* the household (Munoz Boudet et al. 2018)

- The gender poverty gap
- The poverty "cycle"

Munoz Boudet, Ana Maria, Paola Buitrago, Benedicte Leroy De La Briere, David Newhouse, Eliana Rubiano Matulevich, Kinnon Scott, and Pablo Suarez-Becerra. 2018. "Gender Differences in Poverty and Household Composition through the Life-Cycle A Global Perspective."

# World Bank poverty headcount at $1.90/day by age and gender



Poverty rates

# Dimensions of child deprivation

| Deprivation | Mild | Moderate | Severe | Extreme |
|---|---|---|---|---|
| **Food** | Bland diet of poor nutritional value | Going hungry on occasion | Malnutrition | Starvation |
| **Safe drinking water** | Not having enough water on occasion due to lack of sufficient money | No access to water in dwelling but communal piped water available within 200 meters of dwelling or less than 15 minutes walk away | Long walk to water source (more than 200 meters or longer than 15 minutes). Unsafe drinking water (e.g. open water) | No access to water |
| **Sanitation facilities** | Having to share facilities with another household | Sanitation facilities outside dwelling | No sanitation facilities in or near dwelling | No access to sanitation facilities |
| **Health** | Occasional lack of access to medical care due to insufficient money | Inadequate medical care | No immunisation against diseases. Only limited non-professional medical care available when sick | No medical care |
| **Shelter** | Dwelling in poor repair. More than 1 person per room | Few facilities in dwelling, lack of heating, structural problems.  More than 3 people per room | No facilities in house, non-permanent structure, no privacy, no flooring, just one or two rooms. More than 5 persons per room | Roofless – no shelter |
| **Education** | Inadequate teaching due to lack of resources | Unable to attend secondary but can attend primary education | Child is 7 or older and has received no primary or secondary education | Prevented from learning due to persecution and prejudice |
| **Information** | Can't afford newspapers or books | No television but can afford a radio | No access to radio, television or books or newspapers | Prevented from gaining access to information by government, etc. |
| **Basic Social Services** | Health and education facilities available but occasionally of low standard | Inadequate health and education facilities near by (e.g. less than 1 hour travel) | Limited health and education facilities a days travel away | No access to health or education facilities |

Source: Gordon, D., Nandy, S., Pantazis, C., Pemberton, S. and Townsend, P. (2003) C*hild Poverty in the Developing World*, The Policy Press: Bristol.

Poverty headcount: Global MPI versus World Bank's $1.90/day
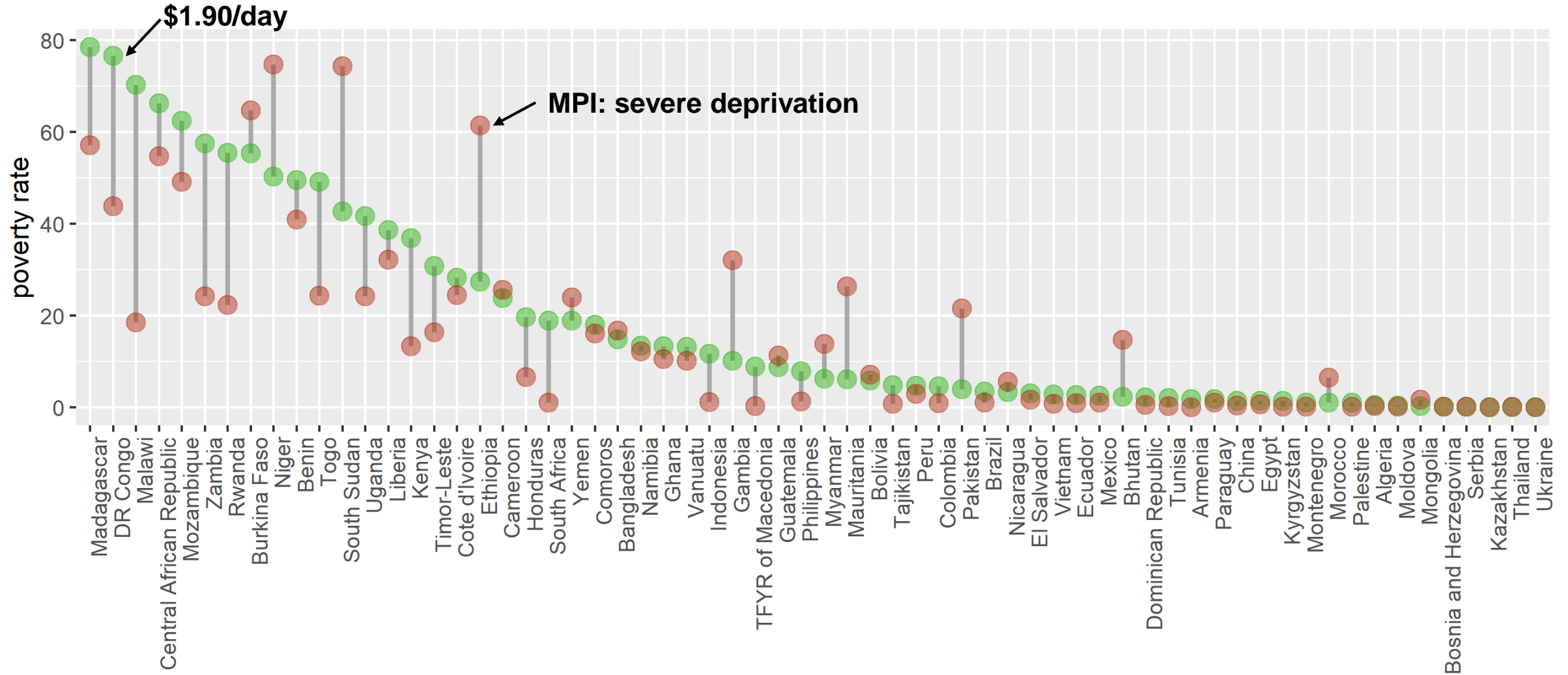
# Thank you!

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