

Multidimensional poverty measurement and analysis

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Sabina Alkire and Nicolai Suppa, [OPHI](https://www.ophi.org.uk), University of Oxford, UK (both) and Center for Demographics Studies (a CERCA institute), Autonomous University of Barcelona, Spain and EQUALITAS (Suppa)

Tabitha, Kenya



Rabiya, India



Stéphanie, Madagascar



Agathe, Madagascar



Dalma, Kenya



Ann-Sophia, Kenya



Valérie, Kenya



Motivation:

- **Normative: Capability** Sen, A. K. (1992). *Inequality Re-examined*. Oxford: Oxford University Press.
- **Empirical Puzzle: Mis-match**
- **Levels:** Stewart, F., Saith, R., and Harriss-White, B. (2007). *Defining Poverty in Developing Countries*. Basingstoke: Palgrave Macmillan.
- **Trends:** Bourguignon, F., Bénassy-Quéré, A., Dercon, S., Estache, A., Gunning, J.W., Kanbur, R., Klasen, S., Maxwell, S., Platteau, J-P., and A. Spadaro (2010) 'Millennium Development Goals: An Assessment', in R. Kanbur and M. Spencer (eds.), *Equity and Growth in a Globalizing World*. World Bank, ch. 2.

Alternative Methods (no joint distribution)

- **Dashboard: – SDG indicators; MDG Indicators –**
Ravallion, M. (2011b). 'On Multidimensional Indices of Poverty', *Journal of Economic Inequality*, 9(2): 235–48.
- **Composite: - Human Development Index HDI; etc –**
Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffman, A., and Giovannini, E. (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Ispra, Italy: OECD.

Alternative Methods (can reflect joint distribution)

- **Dominance:** Duclos, J. Y., Sahn, D. E., and Younger, S. D. (2006a). 'Robust Multidimensional Poverty Comparisons', *The Economic Journal*, 116(514): 943–68.
- **Statistical:** Asselin, L. M. (2009). *Analysis of Multidimensional Poverty: Theory and Case Studies*. Dordrecht: Springer.
- **Fuzzy:** Lemmi, A. and Betti, G. (2006). *Fuzzy Set Approach to Multidimensional Poverty Measurement*. New York: Springer.
- **Axiomatic:** Bourguignon, F. and Chakravarty, S. R. (2003). 'The Measurement of Multidimensional Poverty', *Journal of Economic Inequality*, 1(1): 25–49.
- **Counting:** Nolan, B. and Whelan, C. (2011). *Poverty and Deprivation in Europe*. Oxford: Oxford University Press.

Direct Antecedents: Axiomatic & Counting; Policy Motivation

- **Counting and Axiomatic:** Atkinson, A. B. (2003). 'Multidimensional Deprivation: Contrasting Social Welfare and Counting Approaches', *Journal of Economic Inequality*, 1(1):51-65.
- **Identification:** Sen, A. K. (1976). 'Poverty: An Ordinal Approach to Measurement', *Econometrica*, 44(2): 219–31.
- **Decomposability:** Foster, J. E., Greer, J., and Thorbecke, E. (1984). 'A Class of Decomposable Poverty Measures', *Econometrica*, 52(3): 761–6.
- **Functionings:** Brandolini, A., D'Alessio, G., 1998. Measuring Well-being in the Functioning Space. Mimeo. Rome. Banco d'Italia Research Department.

Notation:

Consider a population of n persons whose well-being is evaluated by d indicators. Let us denote the achievement of person i in indicator j by $x_{ij} \in \mathbb{R}$ for all $i = 1, \dots, n$ and $j = 1, \dots, d$. The achievements of n persons in d indicators are summarized by an $n \times d$ dimensional **achievement matrix** X , where rows denote persons and columns denote indicators. The **weight** or deprivation value attached to each indicator j is the same across all persons and is denoted by w_j , such that $w_j > 0$ and $\sum_{j=1}^d w_j = 1$. The weights are summarized by vector \mathbf{w} .

We denote the **deprivation cutoff** for indicator j by z_j , and the deprivation cutoffs are summarized by vector \mathbf{z} . Any person i is deprived in any indicator j if $x_{ij} < z_j$ and non-deprived, otherwise.

We create an $n \times d$ dimensional **deprivation matrix** and assign a *deprivation status score* g_{ij} to each person in each indicator based on the deprivation status. If person i is deprived in indicator j , then $g_{ij} = 1$; and $g_{ij} = 0$, otherwise.

An overall **deprivation score** $c_i \in [0,1]$ is computed for each person by summing the deprivation status scores of all d indicators, each multiplied by their corresponding weights, such that $c_i = \sum_{j=1}^d w_j g_{ij}$.

A person is **identified as poor** if $c_i \geq k$, where $k \in (0,1)$, and non-poor, otherwise.

We create the **censored deprivation matrix** $\mathbf{g}_0(\mathbf{k})$ such that $g_{ij}(k) = g_{ij}$ if $c_i \geq k$ and $g_{ij}(k) = 0$ otherwise, and a censored score vector $c(k)$, such that $c_i(k) = c_i$ if $c_i \geq k$ and $c_i(k) = 0$, otherwise.



Measurement: Adjusted Headcount Ratio

The MPI is the mean of the censored deprivation score vector.

$$M_0 = MPI = \frac{1}{n} \sum_{i=1}^n c_i(k)$$

or, equivalently MPI is the product of incidence (H) and intensity (A):

$$M_0 = MPI = \frac{q}{n} \times \frac{1}{q} \sum_{i=1}^n c_i(k) = H \times A$$

or, equivalently MPI is the sum of the weighted censored headcount ratios:

$$M_0 = MPI = \sum_{j=1}^d w_j h_j = \sum_{j=1}^d w_j \left[\frac{1}{n} \sum_{i=1}^n g_{ij}(k) \right]$$

Some Official National MPIs

- 2009: Mexico; 2010: Bhutan; 2011: Colombia
- 2015: Chile, El Salvador, Costa Rica and Viet Nam
- 2016: Ecuador, Pakistan, Honduras, Mozambique and Armenia
- 2017: Panama, Dominican Republic, Nepal, USA
- 2018: Nigeria, Philippines and Rwanda
- 2019: Guatemala, Afghanistan, Sierra Leone, Angola, Thailand
- 2020: Seychelles, Maldives, Palestine and Ghana
- 2021: Namibia, Paraguay, S Africa, India, Sri Lanka, Malawi
- 2022: Uganda, Samoa (forthcoming)

MPPN.org Website:

- Magazine *Dimensions*
- Links to each country's MPI
- Coverage of UNGA / UNSC
- Quarterly conference calls
- Annual Meetings (Egypt 2023)

Other OPHI activities:

- 2-week intensive Summerschool in Stata
- 1-week Executive Education on policy uses of MPI (budgeting, targeting, coordination, M&E etc)

Some External Assessments

World Bank 2017 *Monitoring Global Poverty*

Atkinson 2019 *Measuring Poverty Around the World*

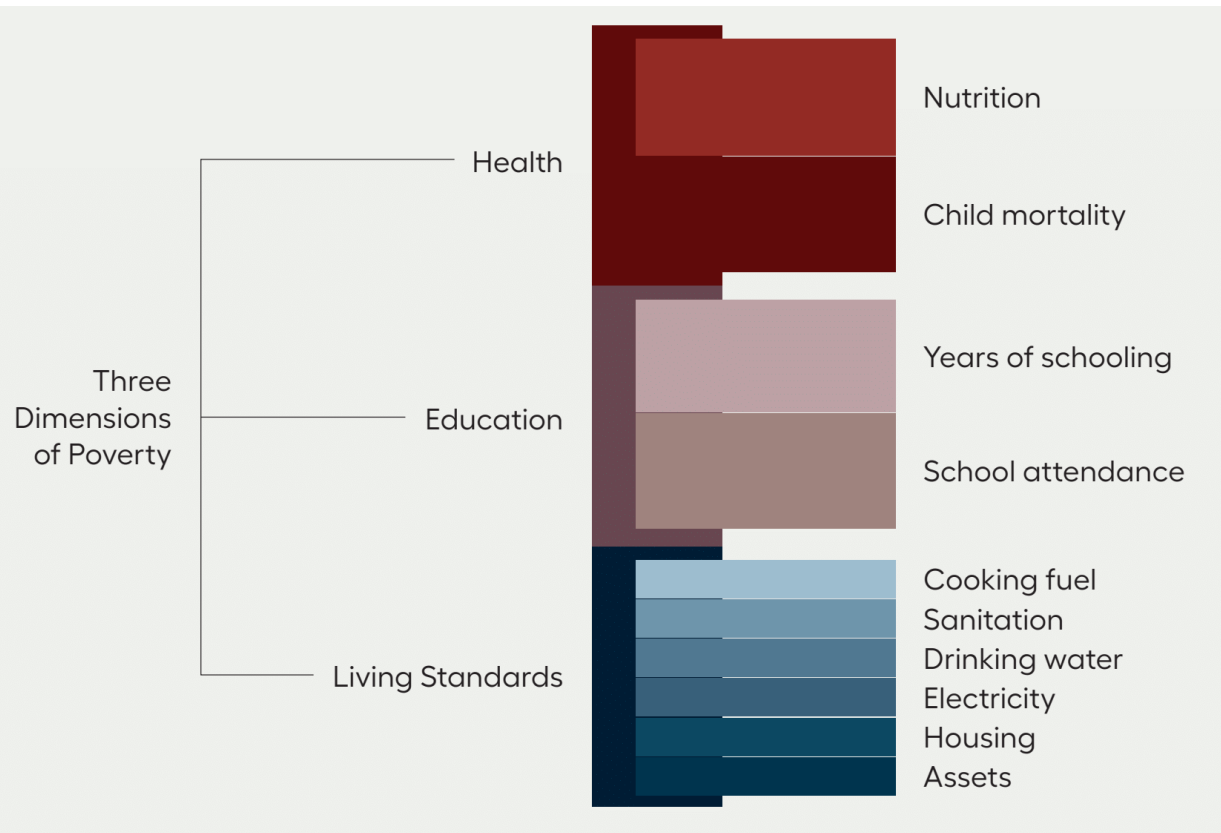
MPPN



Application: Global MPI

Poverty cutoff = 33.33%

Indicator weights: equal nested (visually depicted)



Data used for the global MPI 2022

111 datasets covering 6.1 billion people

Multiple Indicator Cluster Surveys (54)
Demographic and Health Surveys (45)
National Surveys & PAPFAM (13)

Updated Countries (12)
introduced Countries (3)

All data are 2010-2021.

For 83 countries, home to 81.3% of poor people, data were fielded in **2016 or later**.

Of these, 35 countries, home to 37.1% of poor people, have data fielded in **2019 or later**.



Results: Global MPI (levels)

1.2 billion people out of the 6.1 billion people covered are poor (19.1%) for a cutoff of 33.33% and average MPI value is 0.094

Poverty Incidence ranges from 0-92% across 111 countries; 0-95% across female headed households; 0-95% across children aged 0-9; 0-97% across rural areas, and 0-99% across 1287 subnational regions.

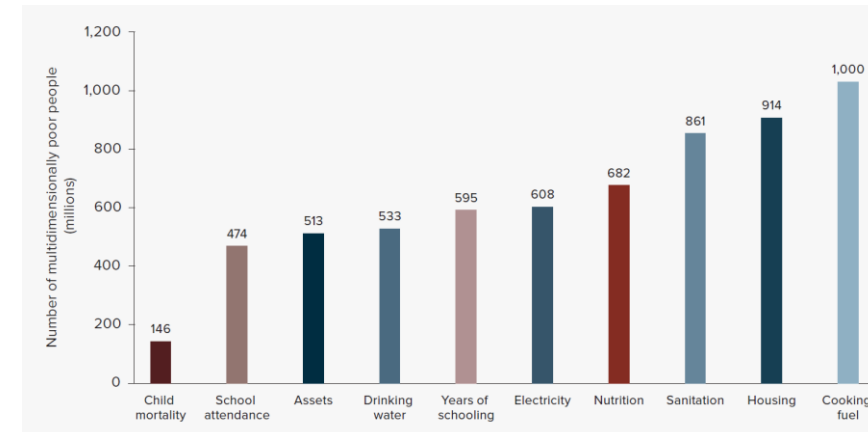
Half of all poor people are children (593 million). One in three children are poor; one in seven adults.

Two-thirds of poor people live in middle income countries

For the first time since 2010, we find significantly more poor people in Sub-Saharan Africa (579 million) than South Asia (385 million) – but data are on avg 2.5 years older in Sub-Saharan Africa.

Other cutoffs are applied (4.2 billion have at least one deprivation; 4.2 million have all deprivations)

Globally, 146 million poor people are deprived in child mortality, 1 billion in cooking fuel, 682 million in nutrition, 595 million in schooling



Results: Global MPI (trends)

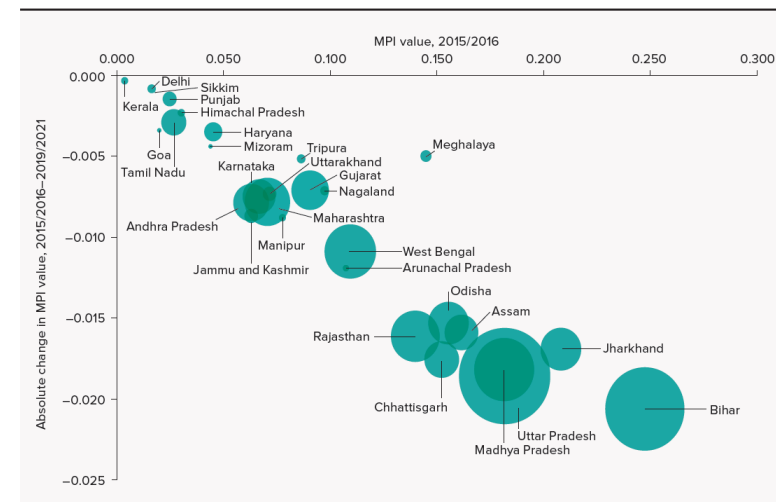
Strictly Harmonised trend data are available for 84 countries and 205 datasets. 48 countries cover one period of time; 35 countries have two periods, and Gambia has three periods. Trends are disaggregated by rural/urban area, age cohort, and subnational region.

Of the 121 country-periods covered, 97 had statistically significant reductions (95%).

Over 15 years, from 2005/6 to 2015/16 to 2019/21, 415 million people exited poverty in India.

The MPI decreased from 0.283 to 0.122 to 0.069;
Incidence decreased from 55.1% to 27.7% to 16.4%
Intensity decreased from 51.3% to 44.0% to 42.0%
All 10 indicators had significant reductions, led by SA CF NU
The poorest states, children, rural areas, castes, had the fastest absolute reduction. E.g. Bihar 77% to 35%.
Severe poverty (k=50%) fell; Vulnerability (20%) stable.

Figure 8 The poorest states in India saw the fastest absolute reduction in Multidimensional Poverty Index (MPI) value from 2015/2016 to 2019/2021

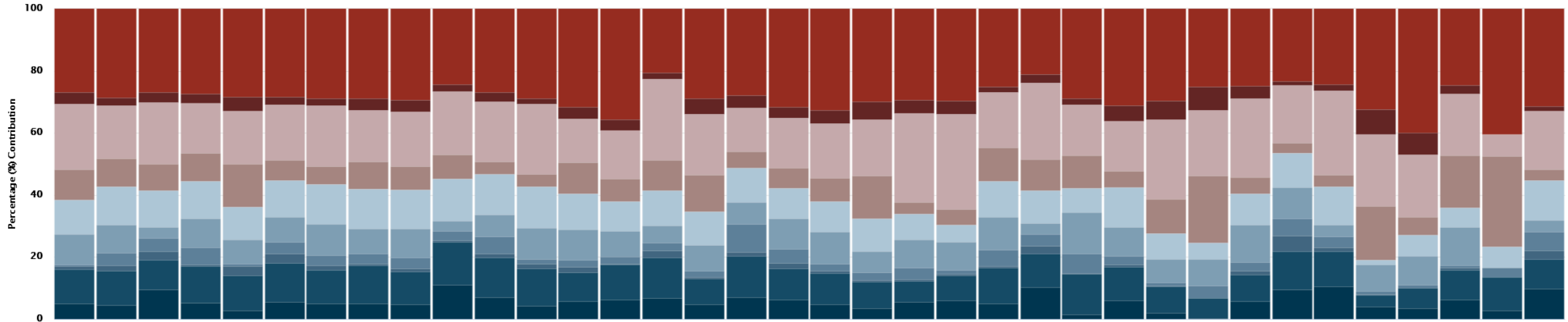


Note: The size of the bubble is proportional to the number of poor people in 2015/2016.
Source: Alkire, Kanagaratnam and Suppa 2022c.

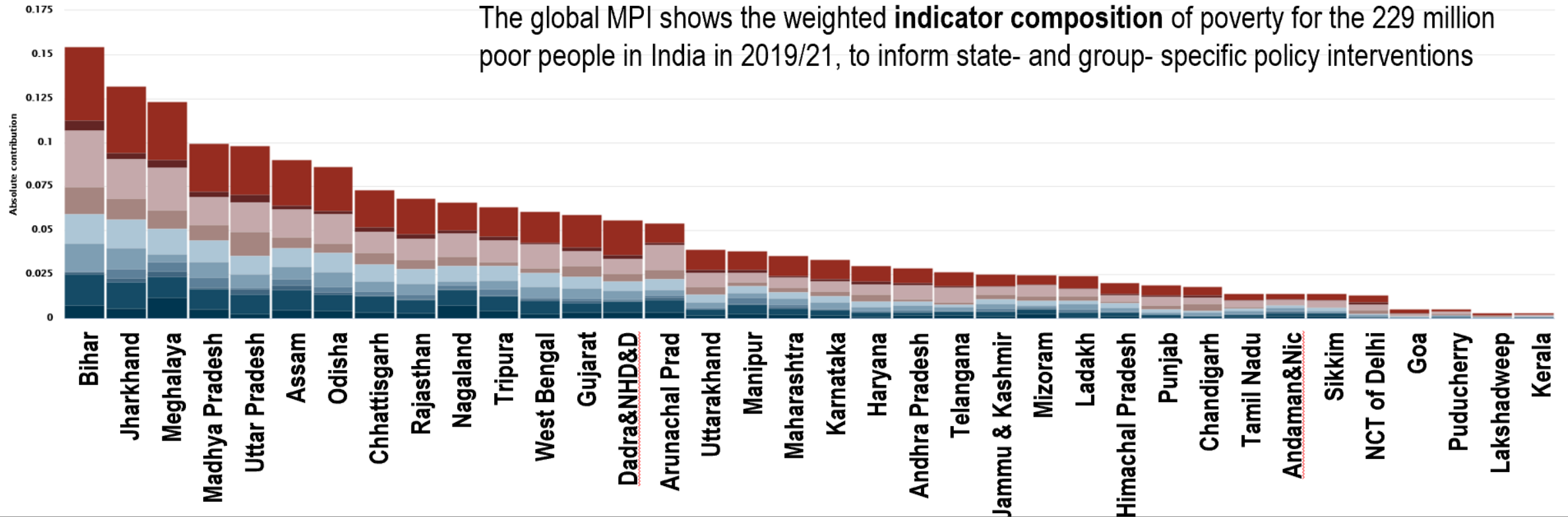
Alkire, S., Kanagaratnam, U., and Suppa, N. (2022). 'A methodological note on the global Multidimensional Poverty Index (MPI) 2022 changes over time results for 84 countries', OPHI MPI Methodological Note 54, Oxford Poverty and Human Development Initiative (OPHI), University of Oxford.

<https://ophi.org.uk/mipi-methodological-note-54/>

India : Percentage (%) Contribution of MPI Indicators



India : Absolute contribution of MPI Indicators



Results: 2022 Theme ~ Unpacking Deprivation Bundles of the poor

Table A All deprivation pairs and the number of poor people experiencing each pair across 111 developing countries (millions)

	Nutrition	Child mortality	Years of schooling	School attendance	Cooking fuel	Sanitation	Drinking water	Electricity	Housing	Assets
Nutrition	—									
Child mortality	82.9	—								
Years of schooling	279.7	55.3	—							
School attendance	259.1	54.1	242.2	—						
Cooking fuel	592.3	119.5	536.1	416.8	—					
Sanitation	470.1	100.3	447.9	339.4	808.4	—				
Drinking water	286.2	62.3	263.3	219.8	507.1	437.1	—			
Electricity	317.8	72.4	326.6	266.0	593.3	522.9	381.4	—		
Housing	506.7	101.5	485.5	368.1	862.2	735.3	444.9	547.4	—	
Assets	247.4	44.1	299.6	187.6	491.0	421.1	279.3	353.1	455.9	—
Total number of poor people deprived in indicator	681.5	145.7	595.4	474.2	1,035.4	860.7	532.7	608.2	913.7	513.2

Note: Each cell indicates the number of people who experience each deprivation pair. Dark green shading indicates the lowest numbers, yellow the middle numbers and dark red the highest numbers.

Source: Authors' calculations based on Alkire, Nogales and Suppa (2022) and microdata underlying the Multidimensional Poverty Index computations in table 1 at the end of the report.

Results: 2022 Theme



● Sub-Saharan Africa
 ● Latin America and the Caribbean
 ● East Asia and the Pacific
 ● Developing countries
● South Asia
 ● Europe and Central Asia
● Arab States



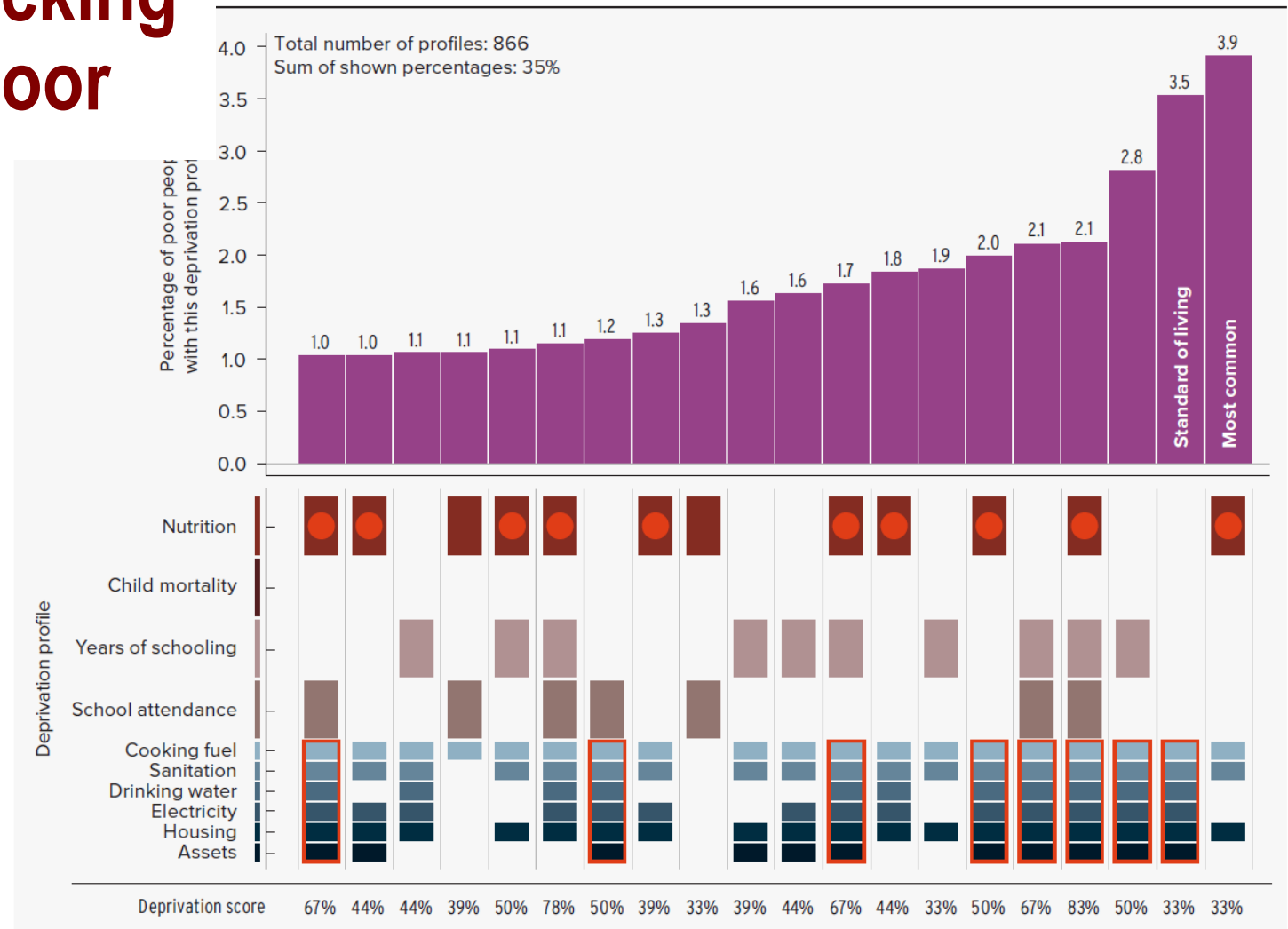
Results: 2022 Theme ~ Unpacking Deprivation Bundles of the poor

Deprivation Bundle: some combination of indicators in which a person is deprived –e.g. pairs, triplet. *Selective*

Deprivation Profile: shows in which of the 10 indicators a person is deprived – e.g. ‘all living standards indicators’. *Exhaustive*

Reported in terms of the number or percentage of poor people experiencing that bundle / profile.

Most common deprivation profiles among poor people across 111 developing countries

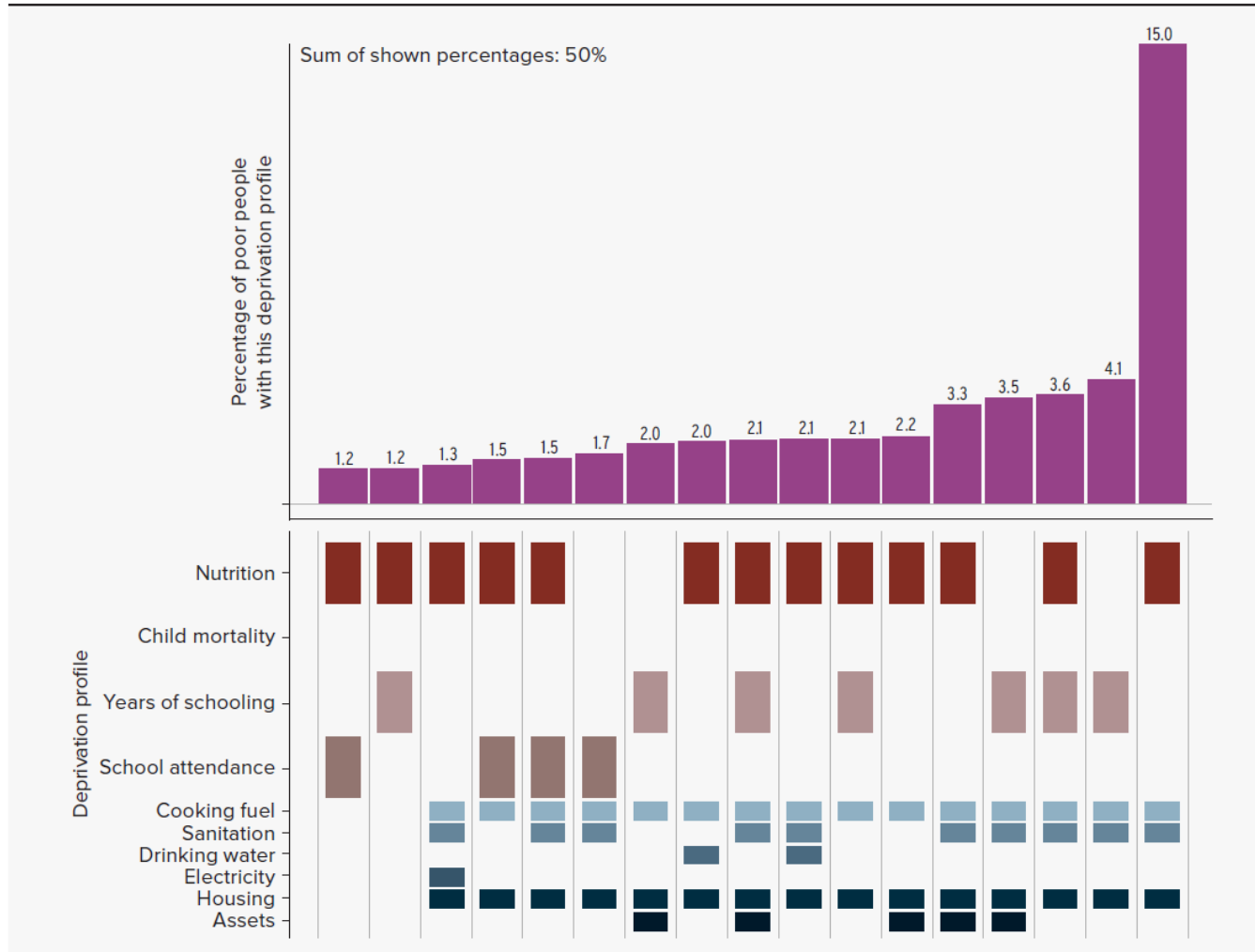


Note: The 10 deprivation profiles with a red dot in nutrition include the deprivations in the most common bundle (nutrition, cooking fuel, sanitation and housing), and the 8 deprivation profiles outlined in red include the deprivations in the second most common deprivation bundle (standard of living).
Source: Authors' calculations based on Alkire, Nogales and Suppa (2022) and microdata underlying the Multidimensional Poverty Index computations in table 1 at the end of the report.

[Suppa, N., Alkire, S., and Nogales, R., \(2022\). 'The many forms of poverty: Analyses of deprivation interlinkages in the developing world,' OPHI Research in Progress 63a, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford](#)

Results: 2022 Theme for India 2019/21

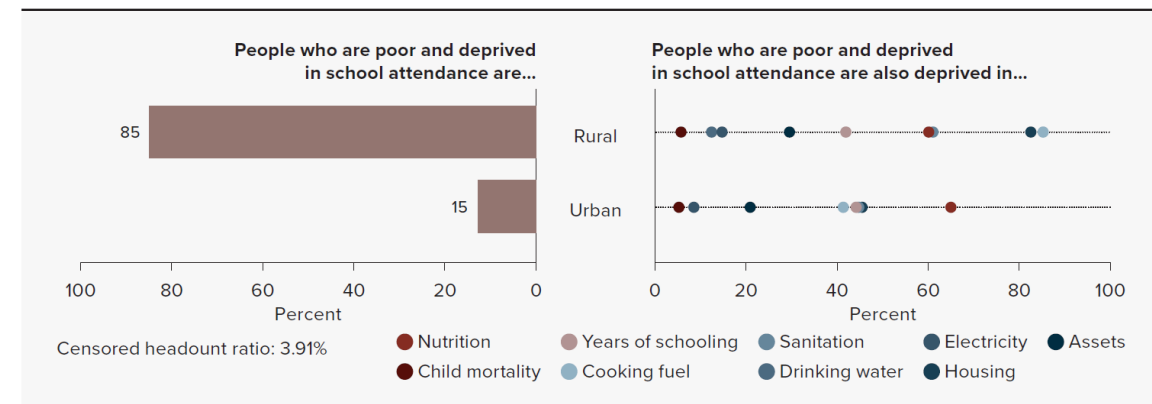
Figure 9 The most common deprivation profiles among poor people in India, 2019/2021



Deprivation Profiles for 50% of poor

Co-deprivations to school attendance for rural vs urban areas

Figure 10 Interlinked deprivations with school attendance among poor people in India, 2019/2021



Source: Authors' calculations based on Alkire, Nogales and Suppa (2022) and microdata underlying the Multidimensional Poverty Index computations in table 1 at the end of the report.

Note: Includes the 17 profiles experienced by at least 1 percent of poor people in the country (out of 652 total profiles).
 Source: Authors' calculations based on Alkire, Nogales and Suppa (2022) and microdata underlying the Multidimensional Poverty Index computations in table 1 at the end of the report.

[Suppa, N., Alkire, S., and Nogales, R., \(2022\). 'The many forms of poverty: Analyses of deprivation interlinkages in the developing world,' OPHI Research in Progress 63a, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford](#)

Original Article |  Open Access |  

Revising the Global Multidimensional Poverty Index: Empirical Insights and Robustness

Sabina Alkire, Usha Kanagaratnam, Ricardo Nogales , Nicolai Suppa

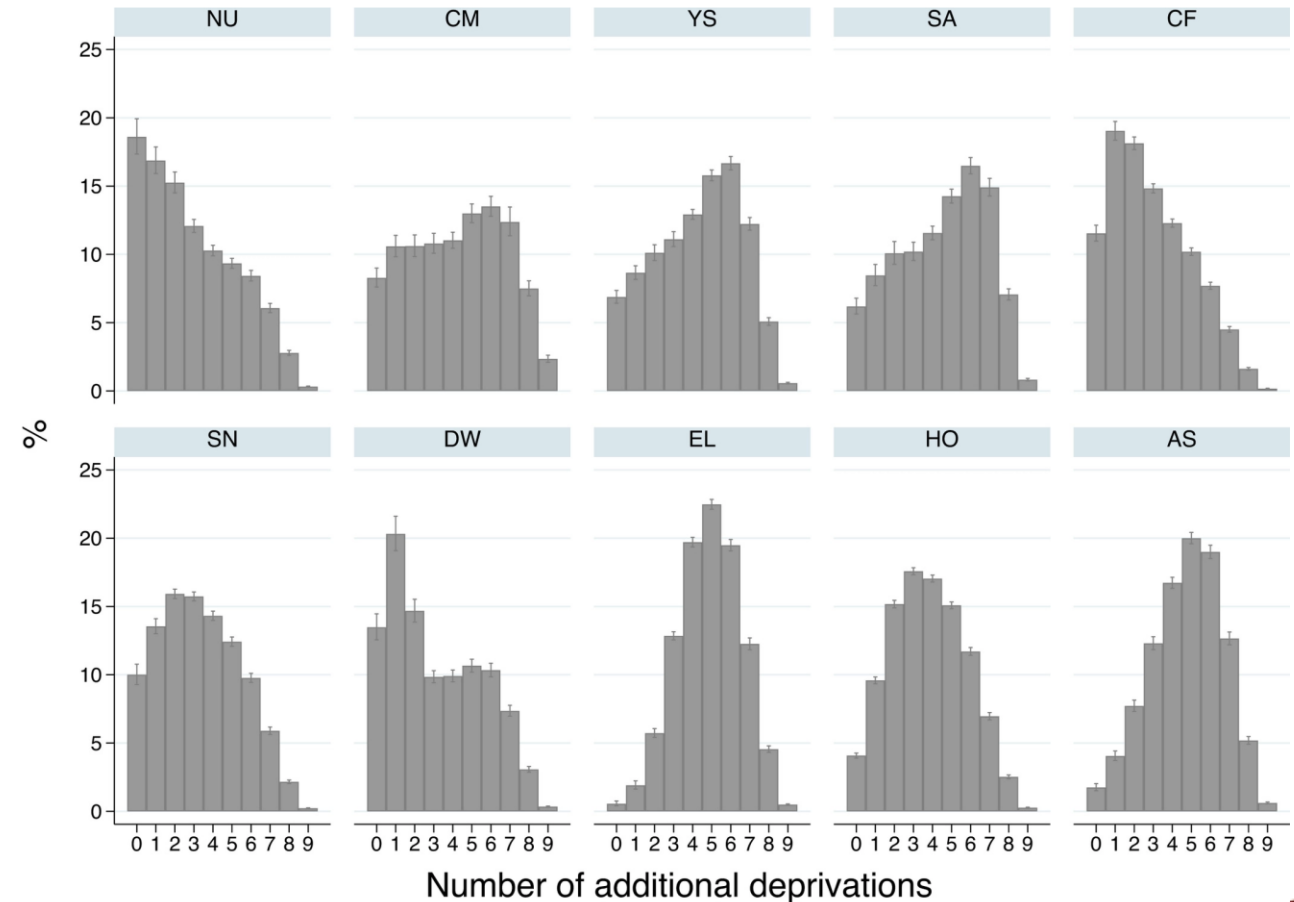
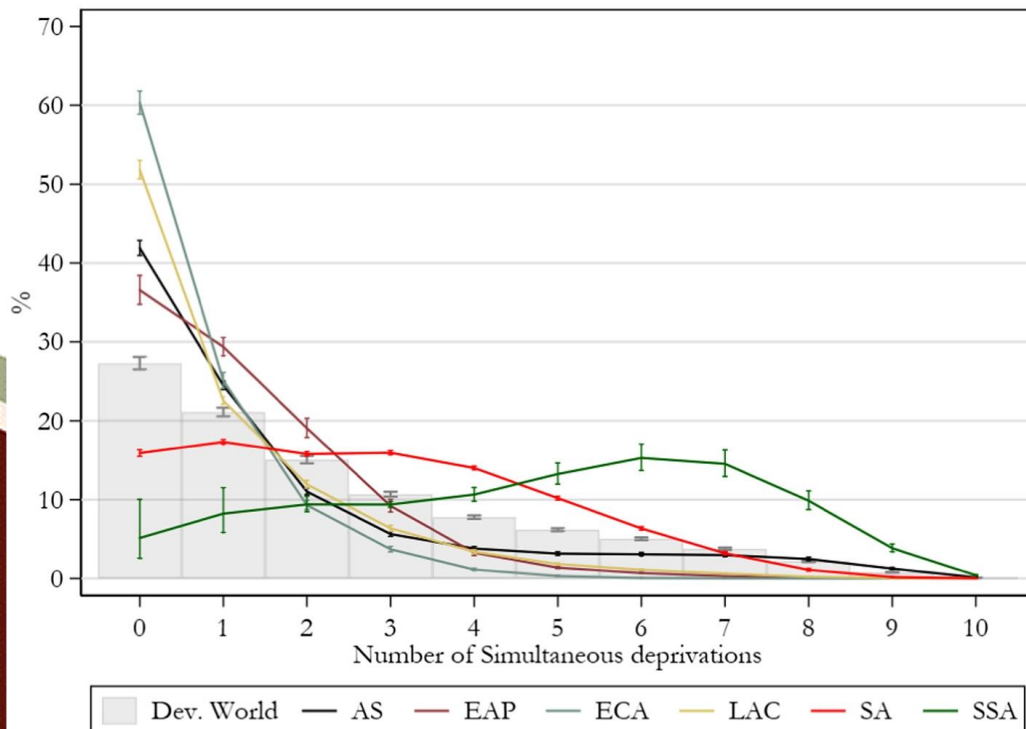
First published: 15 March 2022 | <https://doi.org/10.1111/roiw.12573> | Citations: 1

<https://doi.org/10.1111/roiw.12573>

The global MPI specifications were revised in 2018 to align with the SDGs (Alkire & Kanagaratnam 2020).

This paper uses the global MPI dataset to address the following questions:

(1) What novel insights about **interlinkages** among poverty-related indicators in the developing world do we gain from the revised global MPI?



<https://doi.org/10.1111/roiw.12573>

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This paper uses the global MPI dataset to address the following questions:

- (1) What novel insights about **interlinkages** among poverty-related indicators in the developing world do we gain from the revised global MPI?
 - (1) Our results suggest that 81–99% of the population in the developing world who are deprived in one indicator experience one or more additional deprivations. To uncover heterogeneities, we also disaggregate the poverty measures by world region, rural-urban areas, and age groups.
- (2) How **robust** is the revised specification to changes in poverty lines and weights?
 - (1) Across the entire set of countries, 94–95% of country pairwise orderings by MPI and H are robust for poverty lines from 20 to 50%, and almost 90% of country pairwise comparisons for MPI (88% for H) are robust across the weighting scheme of 25–50% per dimension.
- (3) What are the **empirical consequences of the revision** for the way we understand poverty in light of the global MPI?
 - (1) 93.02% of the possible country pairwise comparisons are identical in both MPI versions

<https://doi.org/10.1111/roiw.12573>

Empirically Salient Extensions: Global MPI

Destitution: a subset of the poor who are ‘ultra poor’ – the deprivation cutoffs vary, but the weights and poverty cutoff are the same. The Global MPI has reported a linked measure of destitution since 2014, and updated its revision after 2018. The paper articulating the link is:

- Alkire, S. and Seth, S. (2016). “Identifying destitution through linked subsets of multidimensionally poor: An ordinal approach.” [OPHI Working Paper 99](#), University of Oxford.

Inequality among the poor: Absolute inequality among the poor using variance has been reported for the global MPI since 2014 and updated after 2018.

- Seth, S. and Alkire, S. (2017). ‘Did poverty reduction reach the poorest of the poor? Complementary measures of poverty and inequality in the counting approach.’ *Research on Economic Inequality: Poverty, Inequality and Welfare* (ed. Bandyopadhyay), [25: 63–102](#).

---We also found no measure can simultaneously respect dimensional breakdown and dimensional transfer.

- Alkire, S. and Foster, J. (2019). ‘The role of inequality in poverty measurement’, [OPHI Working Paper 126](#), University of Oxford

Gender and Intrahousehold Inequality: By indexing eligible persons within each household, we analyse ‘individual indicators’ (e.g. years of schooling, nutrition, school attendance) by gender. We can also identify within each household whether none or all eligible members are deprived, or just a subset.

- Alkire, S., Ul-Haq, R. and Alim, A. (2019). ‘The state of multidimensional child poverty in South Asia: a contextual and gendered view’, [OPHI Working Paper 127](#), University of Oxford.

Other studies analyse disaggregations by **disability** status or **ethnicity**, or **growth elasticity** of the global MPI, or extending MPI using **geospatially** merged **environment** data (air, forest, fire, cyclone)

All information behind this presentation & more is available online on UNDP and OPHI websites.

[Global MPI Report – joint with UNDP's HDRO](#)

Dofiles – to run on NFHS datasets

[Download the technical files \(or Stata do-files\) for each country survey](#)

[Methodological Notes ~ MPI methodology and country-specific adjustments for level, trend and disaggregation](#)

[Alkire, S., Kanagaratnam, U., and Suppa, N. \(2022\). 'The global Multidimensional Poverty Index \(MPI\) 2022 country results and methodological note', OPHI MPI Methodological Note 52, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford. – see also same authors, notes 53 and 54](#)

Computational Programmes – to create the MPI

[Suppa, N. \(2022\). 'mpitb: A toolbox for multidimensional poverty indices,' OPHI Research in Progress 62a, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford.](#)

Deprivation Bundles Analysis – summarized in the report

[Suppa, N., Alkire, S., and Nogales, R., \(2022\). 'The many forms of poverty: Analyses of deprivation interlinkages in the developing world,' OPHI Research in Progress 63a, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford.](#)

Data Tables – for all global MPI countries

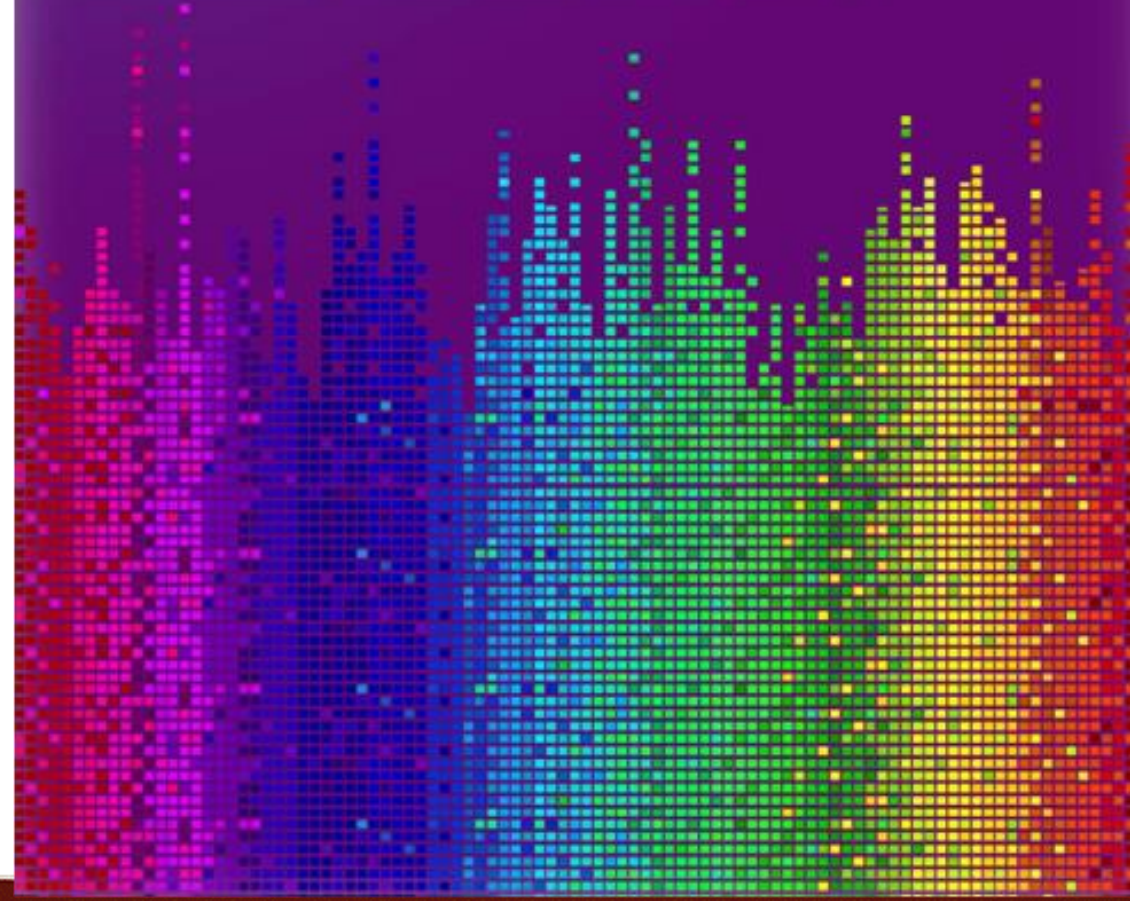
PDF Country Briefings – for all countries

Table 1	<u>National Results MPI 2022</u>
Table 2	<u>Other k Values MPI 2022</u>
Table 3	<u>Age Results MPI 2022</u>
Table 4	<u>Area Results MPI 2022</u>
Table 5	<u>Subnational Results MPI 2022</u>
Table 6	<u>Trends Over Time MPI 2022</u>
Table 7	<u>Headship Results MPI 2022</u>
Table 8	<u>All MPI Data 2010-2022</u>

Global Multidimensional
Poverty Index 2022



Unpacking deprivation bundles
to reduce multidimensional poverty

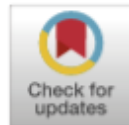




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Global multidimensional poverty and COVID-19: A decade of progress at risk?

Sabina Alkire^a, Ricardo Nogales^{a,b}, Natalie Nairi Quinn^c, Nicolai Suppa^{a,d,e,*}

<https://doi.org/10.1016/j.socscimed.2021.114457>



Challenges

- Justification and implementation of simulations
- Most recent surveys do not refer to current margin
 - 1) Most recent progress ignored
 - 2) Simulations may depend on initial level
- Evidence for non-linear (quadratic) relationship between shock and initial level of poverty

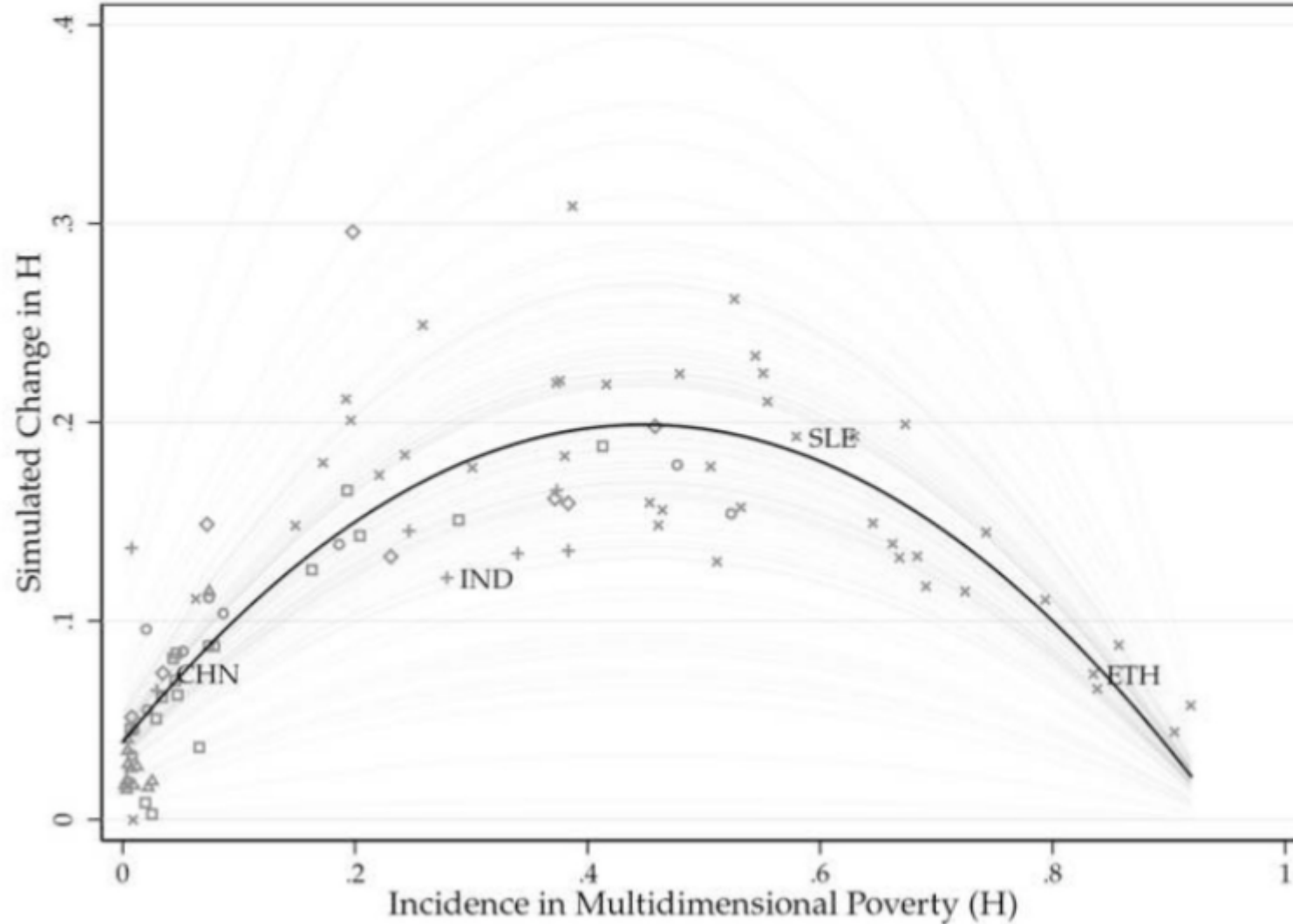


Fig. 3. Translation Model for Simulated Impact of COVID-19 on Multidimensional Poverty Simulated impact on incidence (H). Notes: Simulated increase in multidimensional poverty incidence (H) under microsimulations implementing the moderate nutrition (20%) and school attendance (50%) scenario. Heavy line represents the estimated cross-country translation model (3). Fine lines represent the country-specific calibrations (5). Selected countries labelled: China (CHN), India (IND), Sierra Leone (SLE) and Ethiopia (ETH). Markers indicate countries' world region: \circ Arab States; \diamond East Asia and the Pacific; \triangle Europe and Central Asia; \square Latin America and the Caribbean; $+$ South Asia; \times Sub-Saharan Africa.

Our approach

- 1) we use our harmonised data to obtain now-casts for each country (using custom projection techniques)
- 2) we simulate our scenarios in the most recent survey for each country
- 3) fit a cross-country model which explains simulated change with initial levels (translation model)
- 4) feed nowcasted value for each country into translation model to predict the simulated shock for each country at current margin
- 5) we aggregate across countries and report (i) increase in global multidimensional poverty and (ii) global poverty reduction potentially undone.

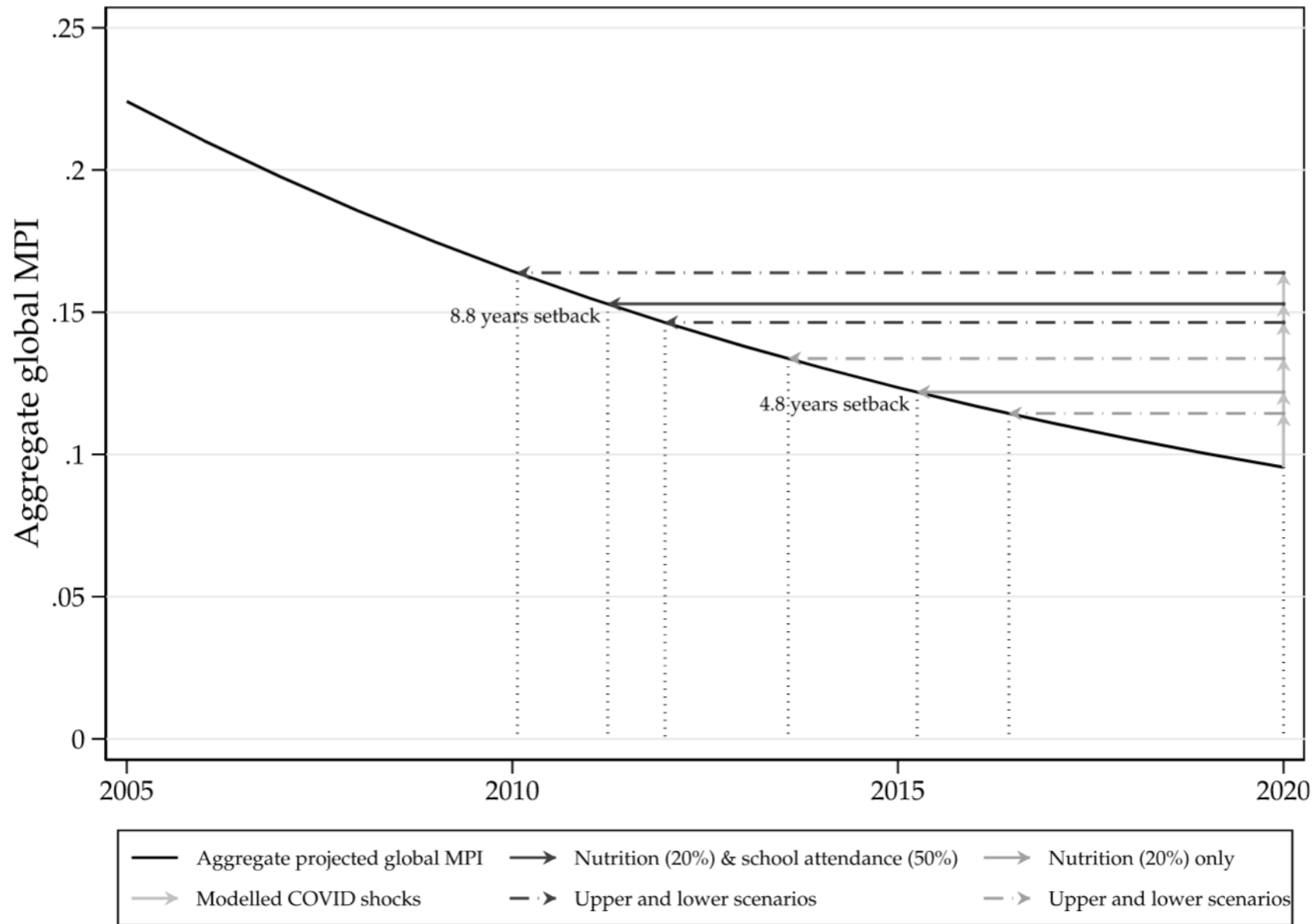


Fig. 4. Setbacks in multidimensional poverty reduction due to COVID-19.

How about covariates of MPIs?

Challenges

1. data availability (macro and micro perspective)
2. methodological
 - outcome variable reflects joint distribution of several well-being dimensions
 - (intentional) censoring process
- related research
 1. global MPI and growth (Santos et al, 2019) <https://doi.org/10.1080/00220388.2017.1393520>
 2. governance and global MPI (Jindra & Vaz, 2019) <https://doi.org/10.1111/gove.12394>
 3. treatment Seth & Tutor <https://doi.org/10.1111/roiw.12504>

The production process of the Global MPI

Nicolai Suppa

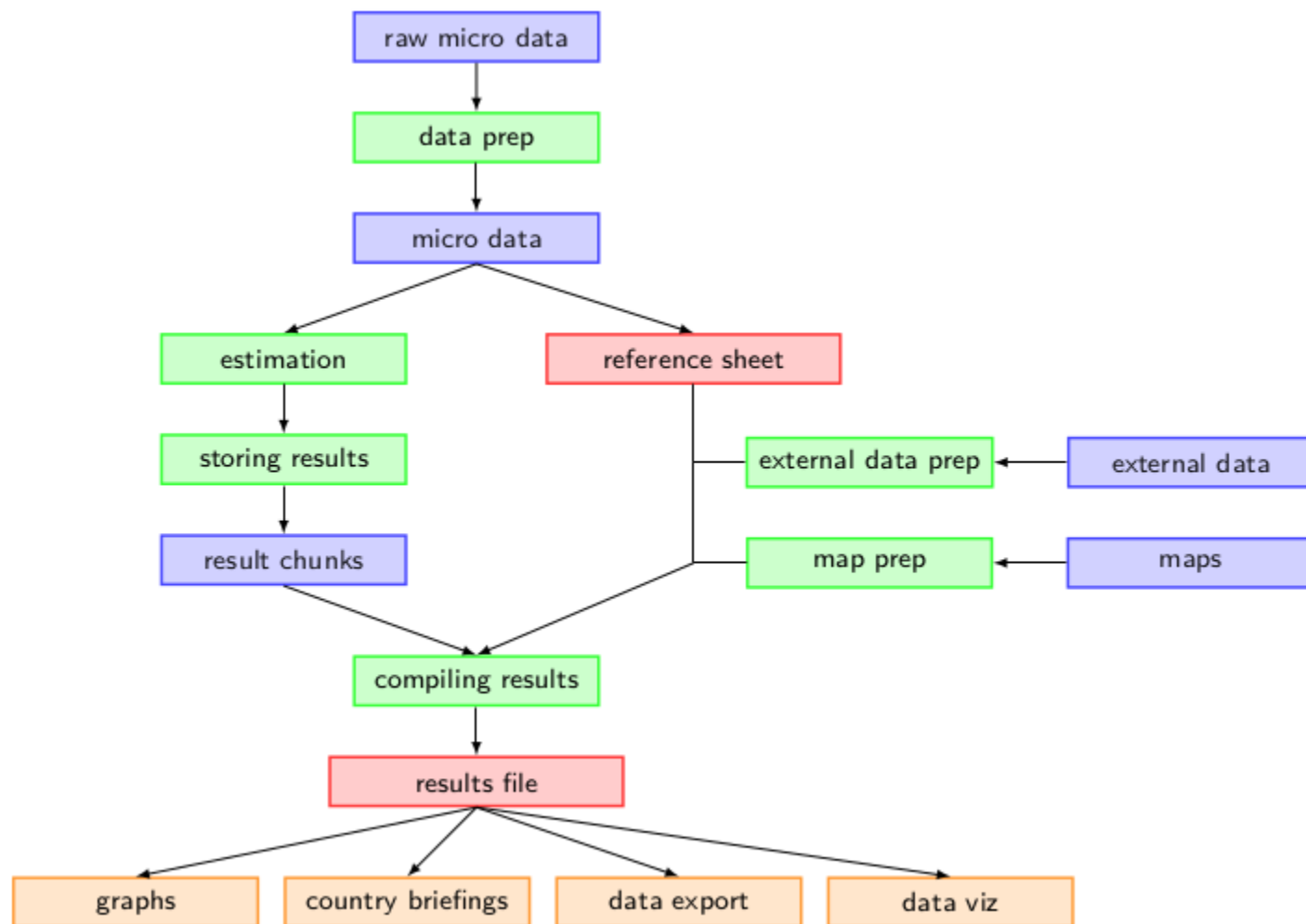
Stata UK conference (virtual)

London, UK

September 2021

- large-scale project (111 countries, 230+ micro datasets)
- N : 5k–2.7m with $N_{\text{med}} \approx 50\text{k}$
- # of level estimates $\approx 500\text{k}$; # of change estimates $\approx 100\text{k}$.
- many reasons for a **good workflow**
(replicable results, efficient and flexible estimation)

The Basic Workflow



1. Single comprehensive results file

- well-defined structure and arbitrarily extendible
- Main principle: each estimate is an observation
- Created from “result chunks”: small subsets of estimates

```
. li ccty y sur loa measure b k wgts indi sp if inlist(k,33,.) & ccty == "IND" , noob sepby(k)
```

ccty	year	survey	loa	measure	b	k	wgts	indica~r	spec
IND	2015-2016	DHS	nat	A	43.94929	33	equal		GMPI
IND	2015-2016	DHS	nat	H	27.90772	33	equal		GMPI
IND	2015-2016	DHS	nat	M0	.1226525	33	equal		GMPI
IND	2015-2016	DHS	nat	hd	37.59741	.	.	d_nutr	GMPI
IND	2015-2016	DHS	nat	hd	2.68655	.	.	d_cm	GMPI
IND	2015-2016	DHS	nat	hd	13.86739	.	.	d_educ	GMPI
IND	2015-2016	DHS	nat	hd	6.396227	.	.	d_satt	GMPI
IND	2015-2016	DHS	nat	hd	58.47132	.	.	d_ckfl	GMPI
IND	2015-2016	DHS	nat	hd	51.96471	.	.	d_sani	GMPI
IND	2015-2016	DHS	nat	hd	14.59562	.	.	d_wtr	GMPI
IND	2015-2016	DHS	nat	hd	12.15246	.	.	d_elct	GMPI
IND	2015-2016	DHS	nat	hd	45.64144	.	.	d_hsg	GMPI
IND	2015-2016	DHS	nat	hd	13.9671	.	.	d_asst	GMPI

2. Certification script (for micro data)

- Objective:
 - Fail early and loud; reduce code complexity; easy to extend
- Examples
 - variables are existing and numeric ... `conf numeric v 'v'...`
 - variables have valid values ... `assert inlist('v',0,1)if !mi('v')...`
 - variables are not entirely missing
 - ... `qui count if !mi('v')`
 - `if 'r(N)' == 0 { ...`
 - data characteristics are not empty ... `assert "'_dta['c']'" != ""...`

3. Quality checks

- At various stages
- Automation saves time, but manual screening remains vital

1. Cross-check between different sources

- Different estimation routines, different releases
 - ▶ `assert float(b) == float(b_dp) if !mi(b_dp)`
 - ▶ `gen diff = abs(b - b_dp) > 1e-07 if !mi(b_dp)`

2. Timestamps

```
li ccty measure k b time* if k == 33 & loa == "nat" & ccty == "IND" , noob
```

ccty	measure	k	b	time	timedata
IND	H	33	27.90772	28 Apr 2020 02:48	27 Apr 2020 10:55



mpitb: A toolbox for multidimensional poverty indices

Nicolai Suppa

Spanish Stata Conference
Madrid, October 2022

- Developed in tandem with global MPI workflow,
- May help researchers and practitioners more generally
- Paper here: <https://ophi.org.uk/rp-62a/>

Features

- Easy to estimate key quantities out of the box including ...
 - Standard errors
 - Disaggregation by subgroups (e.g. regions)
 - For parameter sets (weights, cutoffs, indicators)
 - Changes over time (absolute, relative, annualised or raw)
- Facilitates generation of weights
- Avoid unnecessary estimations
- Produces structured results files
- Facilitates cross-country analysis
- ...

mpitb set

```
mpitb set [ , name(mpiname)  
          d1(varlist, subopts) ... d5(varlist, subopts)  
          description(text) clear replace ]
```

mpitb est

```
mpitb est , name(mpiname) [ ...  
          klist(numlist) weights(wgts sopts)  
          measures(mlist) indmeasures(imlist) aux(auxlist)  
          lframe(name [, sopts]) lsave(filename [, sopts])  
          over(varlist [, sopts])  
          ... ]
```

Questions, comments and suggestions are always welcome!

Feel free to get in touch under

ophi@geh.ox.ac.uk

nsuppa@ced.uab.es

Or follow us on twitter

[@ophi_oxford](https://twitter.com/ophi_oxford)

[@nicolaisuppa](https://twitter.com/nicolaisuppa)

All information behind this presentation & more is available online on UNDP and OPHI websites.

[Global MPI Report – joint with UNDP's HDRO](#)

Dofiles – to run on NFHS datasets

[Download the technical files \(or Stata do-files\) for each country survey](#)

[Methodological Notes ~ MPI methodology and country-specific adjustments for level, trend and disaggregation](#)

[Alkire, S., Kanagaratnam, U., and Suppa, N. \(2022\). 'The global Multidimensional Poverty Index \(MPI\) 2022 country results and methodological note', OPHI MPI Methodological Note 52, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford. – see also same authors, notes 53 and 54](#)

Computational Programmes – to create the MPI

[Suppa, N. \(2022\). 'mpitb: A toolbox for multidimensional poverty indices,' OPHI Research in Progress 62a, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford.](#)

Deprivation Bundles Analysis – summarized in the report

[Suppa, N., Alkire, S., and Nogales, R., \(2022\). 'The many forms of poverty: Analyses of deprivation interlinkages in the developing world,' OPHI Research in Progress 63a, Oxford Poverty and Human Development Initiative \(OPHI\), University of Oxford.](#)

Data Tables – for all global MPI countries

PDF Country Briefings – for all countries

Table 1	<u>National Results MPI 2022</u>
Table 2	<u>Other k Values MPI 2022</u>
Table 3	<u>Age Results MPI 2022</u>
Table 4	<u>Area Results MPI 2022</u>
Table 5	<u>Subnational Results MPI 2022</u>
Table 6	<u>Trends Over Time MPI 2022</u>
Table 7	<u>Headship Results MPI 2022</u>
Table 8	<u>All MPI Data 2010-2022</u>

Global Multidimensional
Poverty Index 2022



Unpacking deprivation bundles
to reduce multidimensional poverty

