Does Monetary Poverty Capture All Aspects of Poverty? Results from 119 Countries

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Overview

- *This work derives from World Bank's response to Atkinson commission recommendations on Multidimensional Poverty Measurement*
  - **Recommendation 11**
    - *"The Bank should publish, alongside the global poverty headcount, a portfolio of Complementary Indicators", including a dashboard of multi-dimensional indicators*
  - **Recommendation 19:**
    - *Complementary Indicators: a multidimensional poverty indicator based on the counting approach*

- *Follows in rich tradition of multi-dimensional poverty measurement (Alkire & Foster, 2011)*
- *MPM includes monetary poverty as one dimension, along with education and access to services*
- *View of poverty shifts significantly when moving from monetary to monetary + other dimensions*

Beyond Monetary Poverty: Adding nonmonetary dimensions

Income matters, but it is not the complete picture. Introducing a multidimensional poverty measure, anchored on the $1.90 international poverty line and adding non-monetary dimensions

Multidimensional Poverty Measure

Child school enrollment
Adult school attainment
Income per capita
Access to improved water source
Access to improved sanitation facilities
Access to electricity

- *Motivation: Consumption reflects command over critical goods (food, clothing, shelter), but other important services are not typically obtained through market*

- *Main difference wrt OPHI : inclusion of monetary as one dimension. Allows to see the overlap between monetary and nonmonetary*

- *119 countries, 3 dimensions, standardized micro-data centered on year 2013*

Dimensions and indicators, aggregation, and weights

Dimensions	Deprivation threshold	Weight
Monetary poverty	Daily consumption per capita < $1.9	1/3
Education	Any school-aged child up to age of grade 8 is not attending school	1/6
	No adult (aged grade 9 and above) has completed primary education	1/6
Access to services	No access to improved water source	1/9
	No access to improved sanitation facilities	1/9
	No access to electricity	1/9

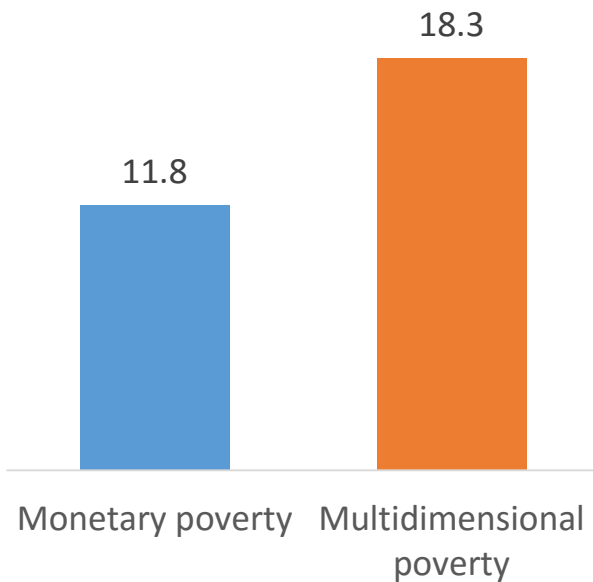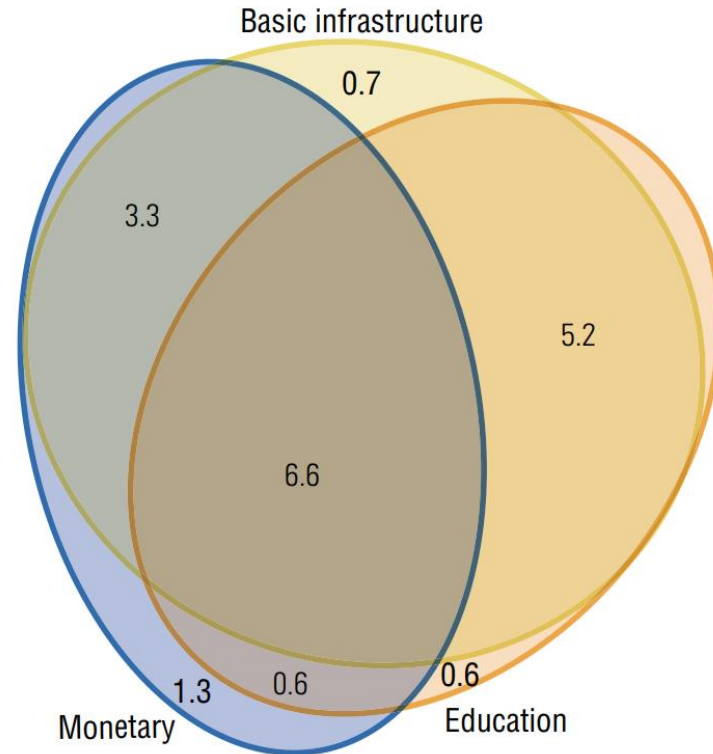|	
Overlap	% individuals with 1, 2, 3 dimension deprivations
Alkire-Foster M_0, H_0, A	$\alpha = 0$; $K = 1/3$ or $1/5$,
Datt	$\alpha = 1$; $\beta = 2$ satisfies desirable properties; expressed in gaps, penalizes compounding deprivations

Beyond Monetary Poverty: Multidimensional poverty is 50% higher than $1.90 poverty

Poverty headcount, 119 economies

Multidimensional poor by dimension, 119 economies

- Most of monetary poor also have deprivations in other dimensions
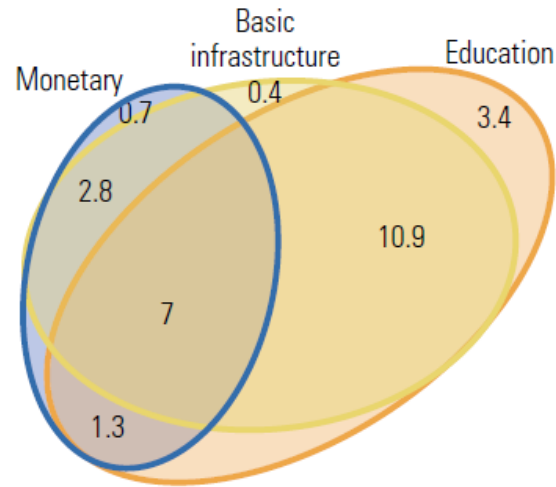- A third of the MD poor are deprived in the three dimensions

The numbers indicate the share of the total population. In the Venn diagram, the numbers represent the share of population that are multidimensionally deprived

Beyond Monetary Poverty: Regional differences

Sub-Saharan Africa
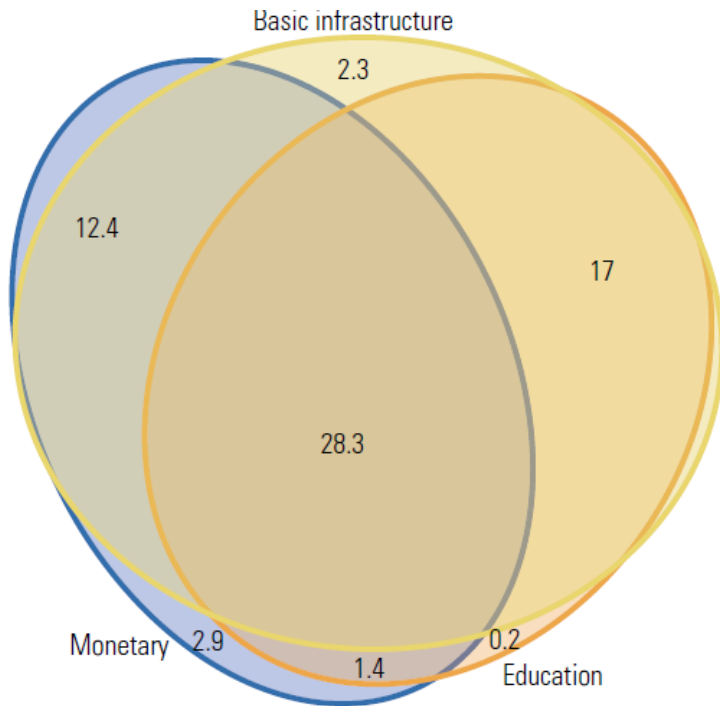
South Asia (without India)

The numbers indicate the share of the total population. In the Venn diagram, the numbers represent the share of population that are multidimensionally deprived

- In Sub-Saharan Africa the overlap between monetary and nonmonetary is the highest. Almost half of MD poor are deprived in the three dimensions

- In South Asia, deprivations in nonmonetary dimensions remain large. And only a quarter are simultaneously poor in aspects of three dimensions

- In richer regions such

Regional contributions to multidimensional poverty

	Breadth of deprivation	Share of the population (%)	Multidimensional headcount (H)		Adjusted headcount measure (M)		Distribution-sensitive Measure (D)	
			H	Contribution (%)	M	Contribution (%)	D	Contribution (%)
EAP	0.07	17.8	7.5	7.3	0.03	5.8	0.02	5.5
ECA	0.02	13.3	1.1	0.8	0.00	0.5	0.01	0.9
LAC	0.07	17.4	6.1	5.8	0.03	4.7	0.02	5.1
MNA	0.06	8.1	5.9	2.6	0.03	2.1	0.02	2.2
SAR	0.21	12.1	26.6	17.7	0.14	15.9	0.09	15.2
SSA	0.44	18.6	64.3	65.4	0.40	70.8	0.29	70.9
Rest of the World	0.00	12.7	0.5	0.3	0.00	0.2	0.00	0.2
World	**0.14**	**100.0**	**18.3**	**100.0**	**0.11**	**100.0**	**0.07**	**100.0**

Contribution of each indicator to adjusted headcount measure (M)
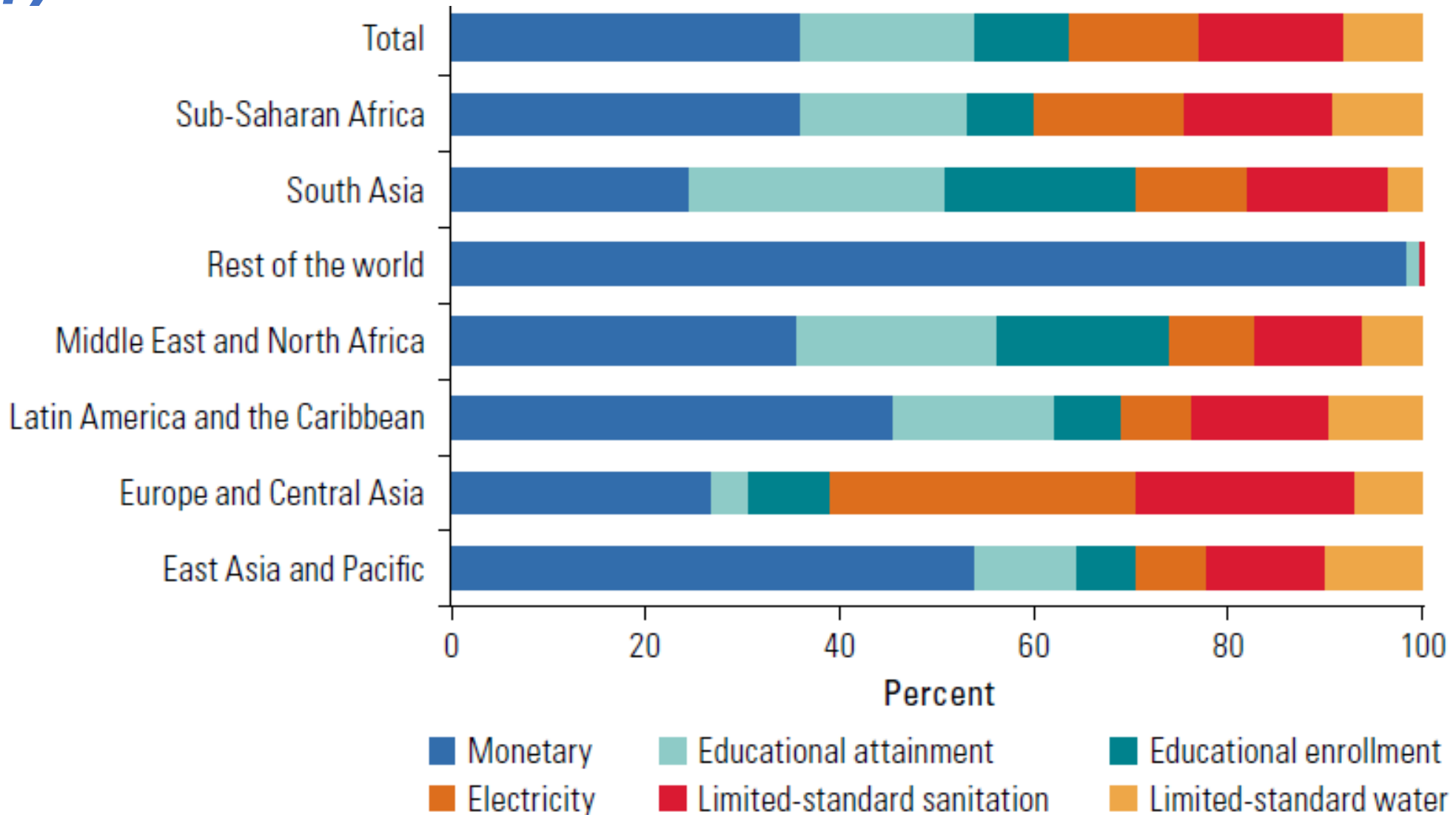
Difference in share of the poor in rural areas (multidimensional vs. monetary headcount)
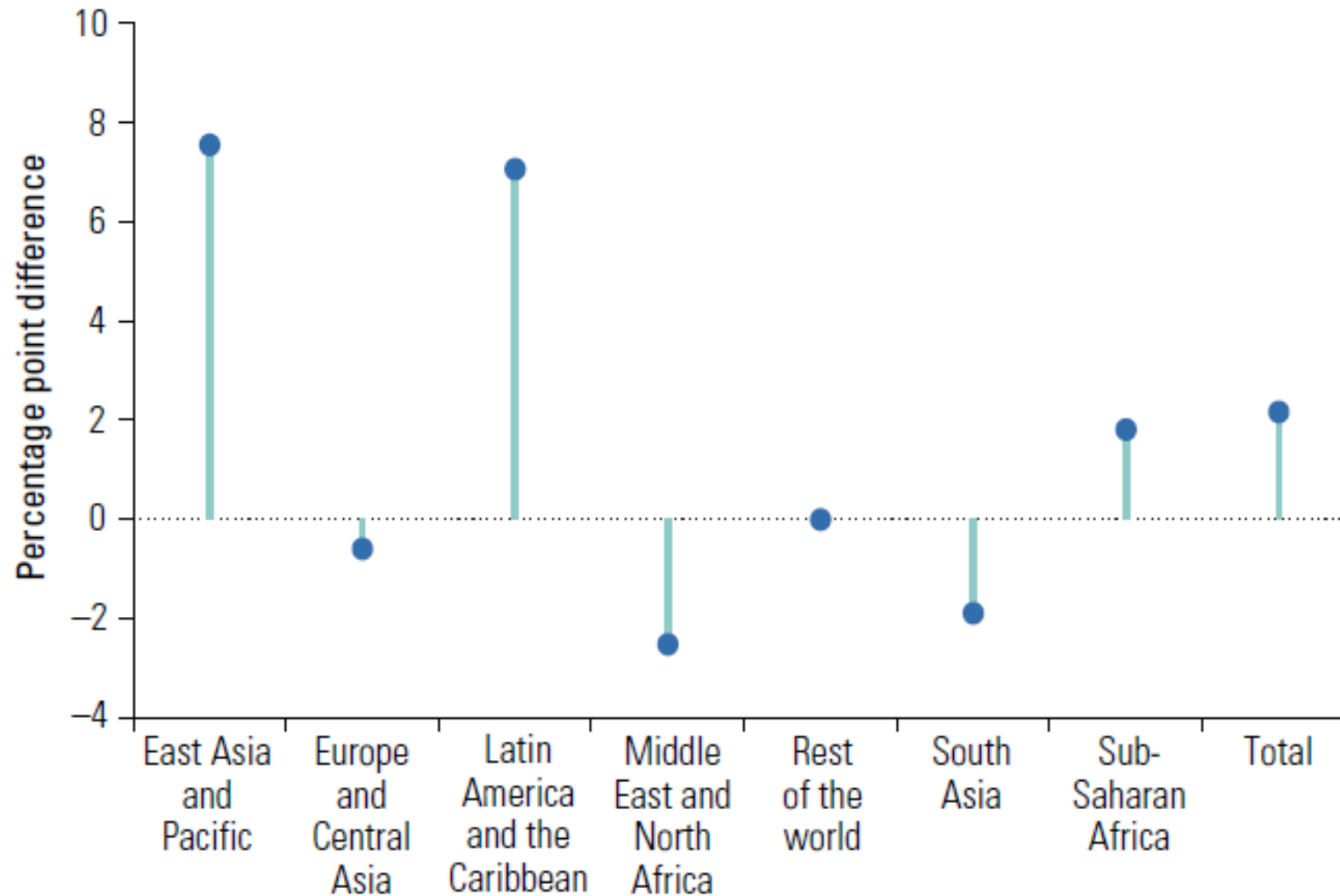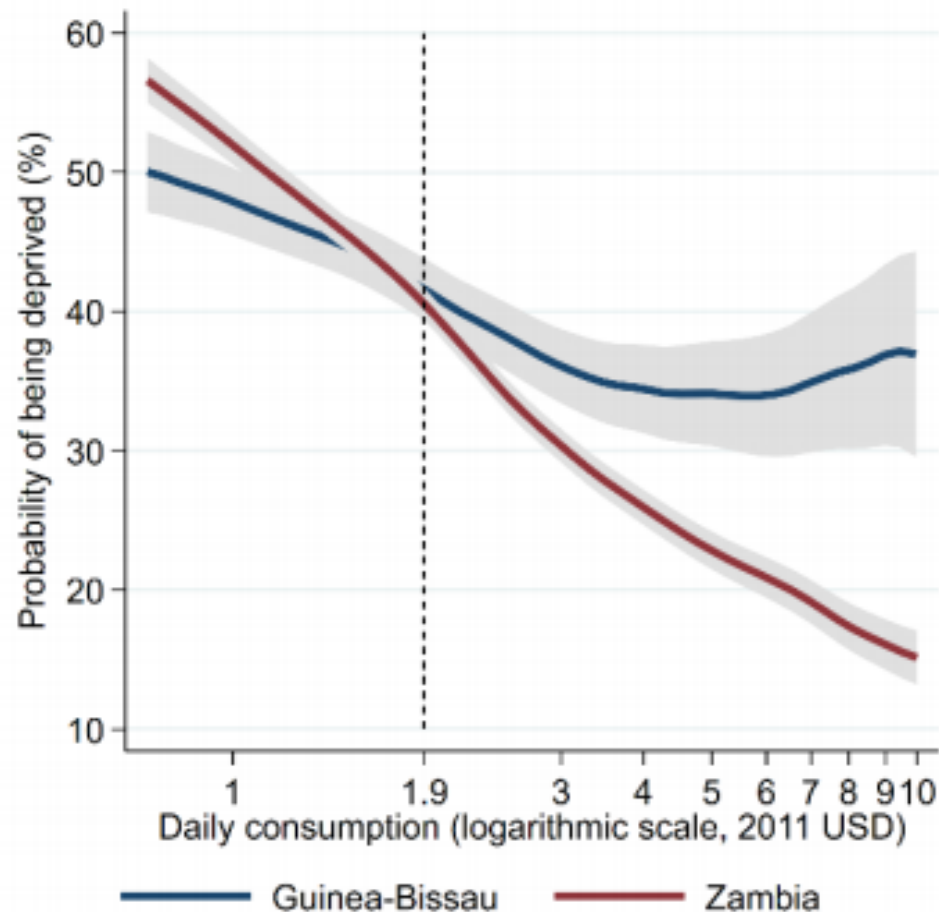
The coincidence of monetary and non-monetary deprivations

The more the overlap between monetary and non-monetary deprivations:

- The more the worst-off suffer from multiple deprivations
- Makes targeting easier
- Methodologically, adding non-monetary dimensions does not add much to our understanding of poverty

The coincidence of monetary and non-monetary deprivations

Figure 6. Education deprivations as function of daily consumption

Zambia and Guinea-Bissau have similar monetary poverty rate (67.1% vs. 57.3%) and education deprivation rate (46.6% vs. 43.3%)
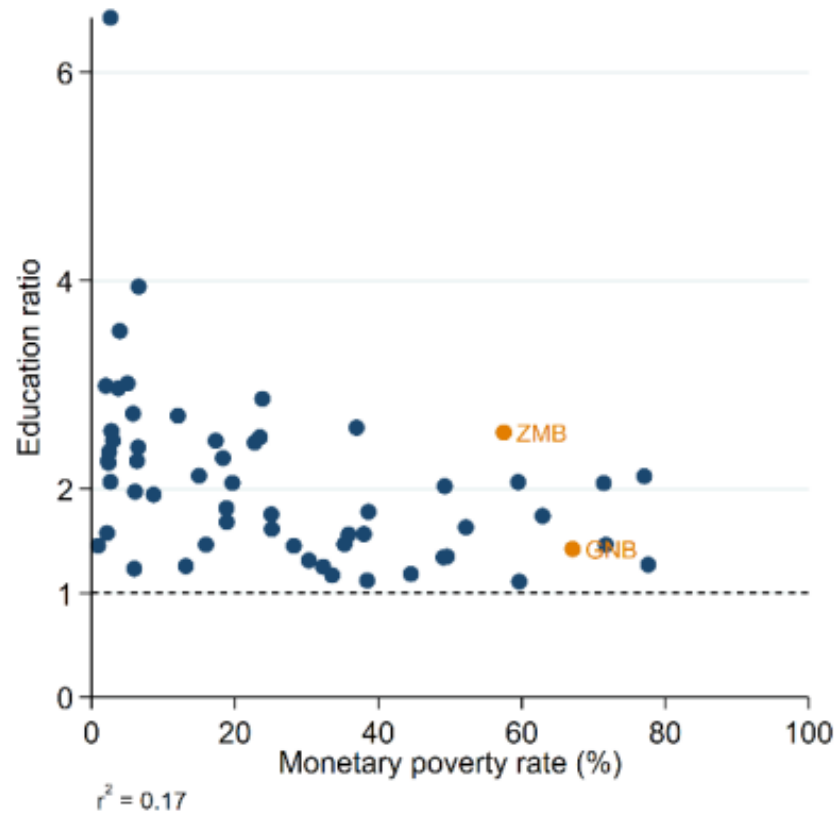
Coincidence of monetary and non-monetary poverty:

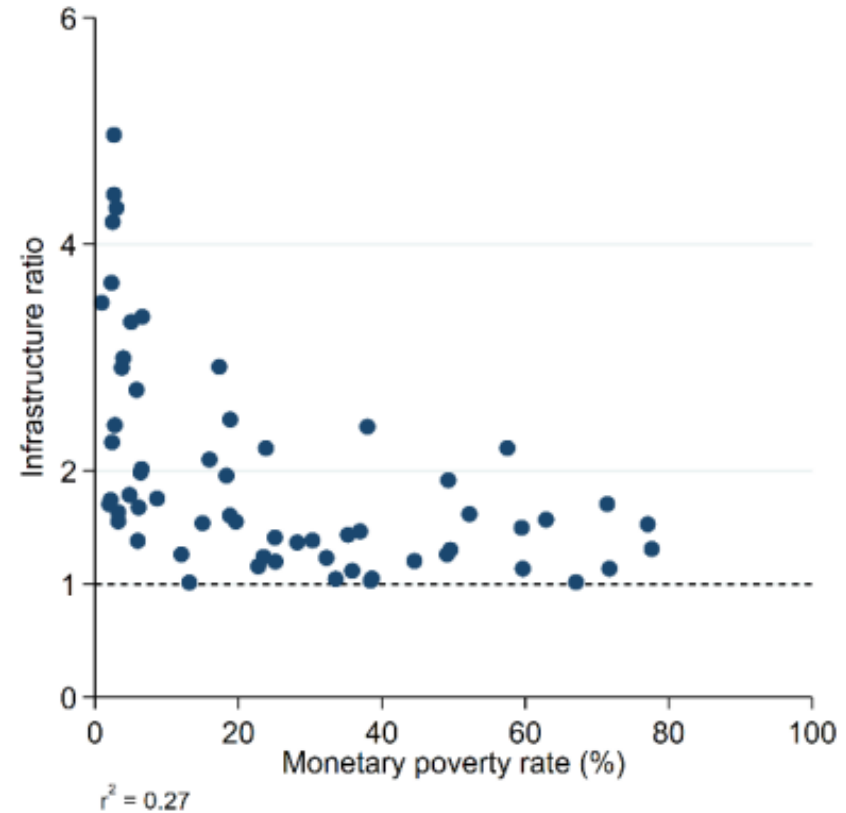$$ratio_{dim} = \frac{P(deprived\ in\ \dim | consumption < 1.90)}{P(deprived\ in\ \dim | consumption > 1.90)}$$

The coincidence of monetary and non-monetary deprivations

Figure 7. Co-incidence as a function of deprivations

Characteristics and policies associated with cross-dimension linkages

- To avoid possible confounding by mechanical association of ratio and deprivation levels
  - (a) predict ratio as polynomial function of deprivation rate
  - (b) take residual
- Explore bivariate associations between residual and a range of country measures from WDI including
  - demographics – age structure, urban/rural, etc.
  - government spending by sector
  - sectoral contributions to growth, other macro measures
  - country institutional setting (CPIA ratings and sub-ratings)

Policies to delink monetary and non-monetary deprivations

Figure 8. Variables correlated with co-incidence of monetary and educational deprivations
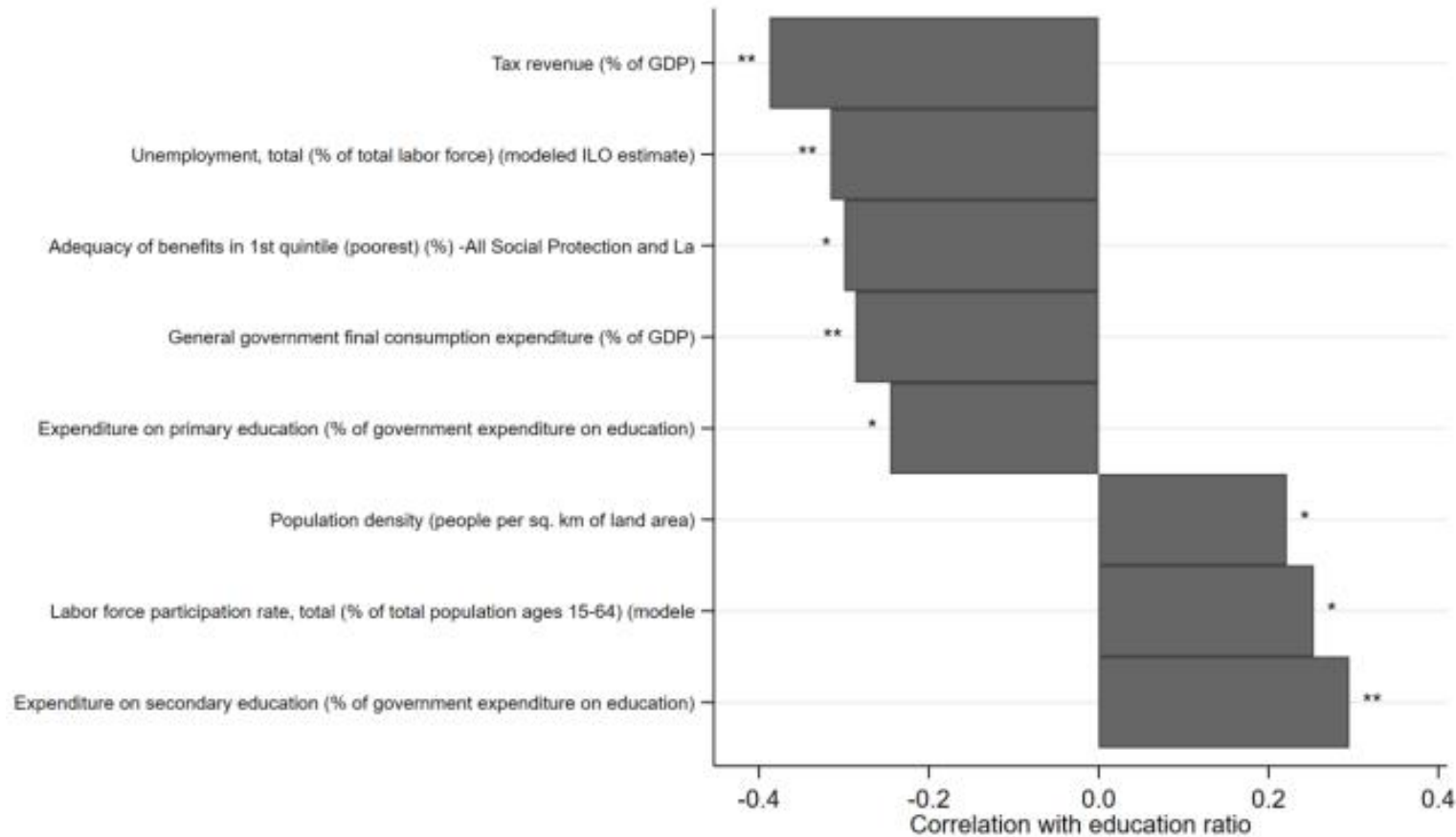
Note: * significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Thank you!

Annex

Wide country and dimensional coverage

Dimensions	Wide Country Coverage	Wide Dimensional Coverage
Monetary poverty	Daily consumption per capita < $1.9	Daily consumption per capita < $1.9
Education	Any school-aged child up to age of grade 8 is not attending school No adult (aged grade 9 and above) has completed primary education	Any school-aged child up to age of grade 8 is not attending school No adult (aged grade 9 and above) has completed primary education
Access to services	No access to improved water source No access to improved sanitation facilities No access to electricity	No access to improved water source within 30 minutes, roundtrip No access to improved sanitation facilities for exclusive use by household No access to electricity
Health and Nutrition		Any female aged 15-49 with a live birth in the last 36 months did not have a facility delivery [*] Any child aged 12-59 months did not receive DPT3 vaccination[*] Any child aged 0-59 months is stunted (HAZ < -2) Any female aged 15-49 is malnourished (BMI < 18.5)
Security		Incidence of crime and threat in the community

Comparing monetary and multidimensional poverty

	Monetary Headcount	Multidimensional Headcount	Number of countries	Population coverage (%)
EAP	5.3	7.5	13	28.9
ECA	0.3	1.1	17	90.0
LAC	3.9	6.1	17	91.5
MNA	3.2	5.9	9	72.1
SAR	11.9	26.6	5	23.0
SSA	44.9	64.3	29	60.7
Rest of the world	0.5	0.5	29	39.6
Total	11.8	18.3	119	45.0

Share of individuals deprived in at least a given number of indicators (%)
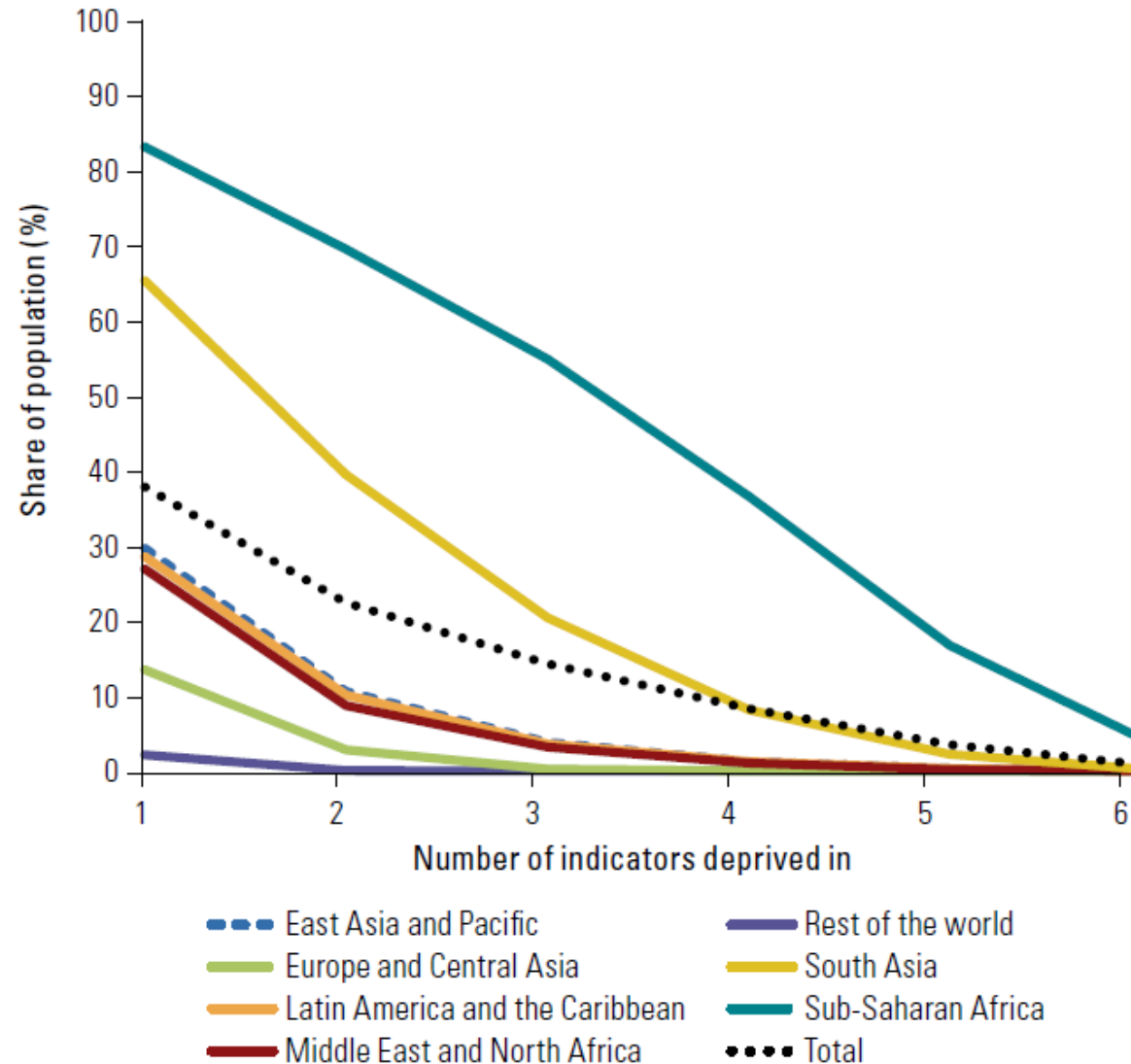
Individuals in households deprived in each indicator (%)

Region	Monetary	Education attainment	Education enrollment	Electricity	Improved sanitation	Improved water
EAP	5.3	7.5	3.2	4.5	14.0	11.3
ECA	0.3	0.9	5.6	0.5	6.8	2.6
LAC	3.9	12.2	2.7	3.3	15.6	6.4
MNA	3.2	11.1	7.9	3.8	14.6	4.2
SAR	11.9	31.6	22.6	23.8	39.5	7.0
SSA	44.9	46.2	20.8	64.8	61.9	33.9
Rest of the World	0.5	1.2	0.0	0.0	0.6	0.0
World	11.8	17.0	9.0	15.9	23.8	10.9

The coincidence of monetary and non-monetary deprivations

(c) Education ratio against educational deprivation rate
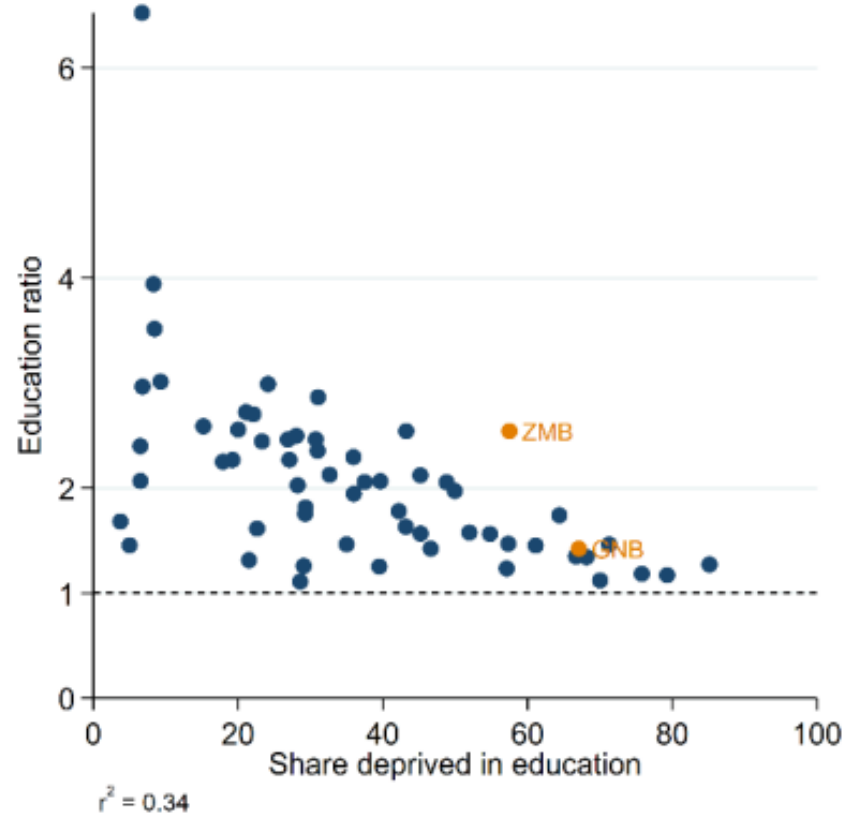
(d) Infrastructure ratio against infrastructure deprivation rate