



Why Multidimensional (MD) Poverty Measures?

Sabina Alkire (OPHI)



Why such interest?

This session will briefly introduce some of the reasons that multidimensional measures of poverty (and well-being) are on the upswing.

In addition to the moral or ethical motivations already covered, they can be divided into three types:

- 1. Technical we can
- 2. Policy we realize the value-added
- 3. Political there is a demand



Why the new emphasis on measurement?

We can:

Technical

- 1) Data are increasing
- 2) Multidimensional measures are proliferating

We need to:

Policy

- 3) Income poverty: important but doesn't proxy key indicators
- 4) Growth insufficient
- 5) There is no single non-income proxy either
- 6) Income is not a sufficient proxy of multidimensional poverty

We are willing to:

Political

- 7) National and International 'demand'
- 8) Political space for new current metrics

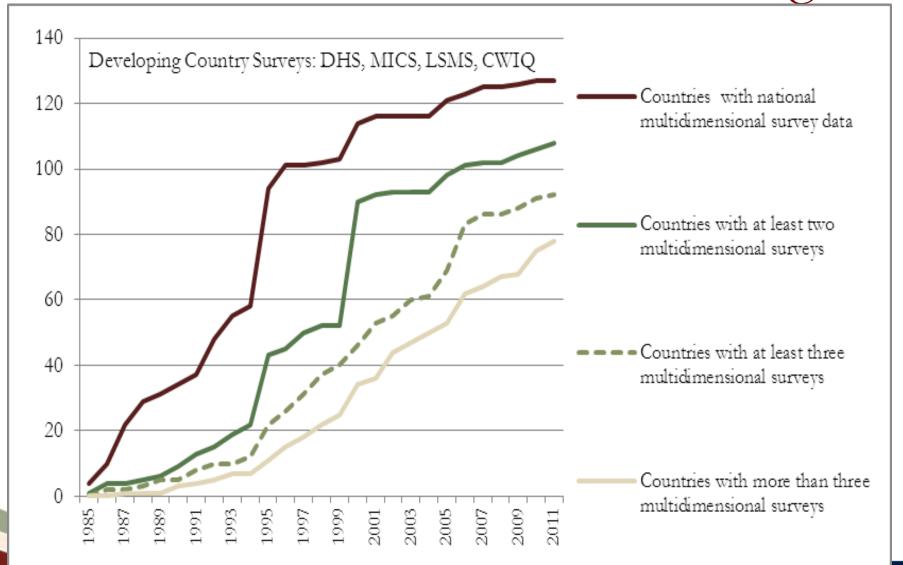


1. Relevant Data are Increasing

- Since 1985, the multi-topic household survey data has increased in frequency and coverage
- Even greater breathtaking increases have occurred with income and expenditure data
- Technology exists to process these data



1. Relevant Data are Increasing





2. Multidimensional measures in other topics

- HDI, IHDI, Canada Index of Well-being, etc
- Doing Business Index,
- Good Governance,
- Global Peace Index & related,
- SIGI & other gender-related
- CGD Index
- Social Protection, Global Hunger,



Canadian Index of Wellbeing (CIW)

Uses 64 separate headline indicators to characterise eight interconnected domains central to the lives of Canadians:

Community Vitality, Democratic Engagement,

Education,

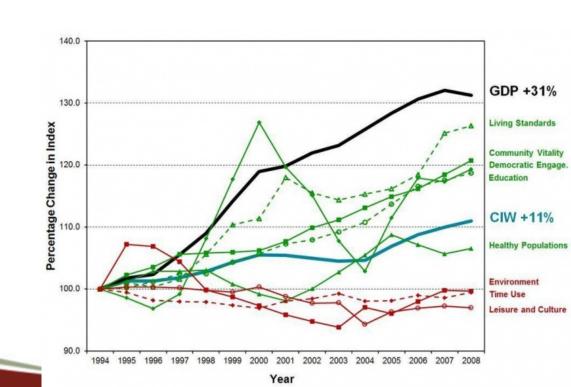
Environment,

Healthy Populations,

Leisure and Culture,

Living Standards, and

Time Use.





OECD 'How's Life?'

SH THE

http://oecdbetterlifeindex.org



3. Income poverty is not a proxy for key non-income deprivations

Table 5. Lack of overlaps between monetary and CA poverty

	Educa	tion	Nutrition/health		
Capability poverty measured as	Children	Adults	Children	Adults	
% of CA poor not in India	43	60	53	63	
monetary poverty: Peru	32	37	21	55	
% of monetary poor India	65	38	53	91	
not CA poor: Peru	93	73	66	94	

Source: Franco et al. (2002).

II (inclusion)

Ruggieri Laderchi Saith and Stewart 2003. 'Does It Matter That We Don't Agree on the Definition of Poverty? A Comparison of Four Approaches', Oxford Development Studies 31(3): 243-74

3. Income poverty does not proxy material deprivations in Europe

Table 6 Distribution across combined income poverty and deprivation persistence variable by country

	Neither persistently income poor nor deprived	Persistently income poor only	Persistently deprived only	Persistently income poor and deprived
Denmark	82.8	6.9	8.9	1.4
The Netherlands	78.8	7.1	7.3	6.8
Belgium	73.0	9.3	8.8	8.9
France	70.8	11.6	8.5	9.0
Ireland	64.8	11.4	9.7	14.0
Italy	68.8	9.2	11.3	10.7
Greece	68.8	11.2	9.9	10.1
Spain	72.7	9.2	8.7	9.4
Portugal	64.5	12.0	11.3	12.2
All	70.7	10.4	9.2	9.7

Source: Whelan Layte Maitre 2004 Understanding the Mismatch between Income Poverty & Deprivation



Europe 2020: Multidimensional Poverty

In Europe, while 20% of people are persistently income poor, and 20% are persistently materially deprived, ONLY 10% of people are BOTH persistently income poor and materially deprived.

This observation motivated the move in Europe to a multidimensional poverty measure EU 2020. Income doesn't tell the full story – even of material deprivation in industrial economies

ne poverty and deprivation persistence variable by country

tently nor	Persistently income poor only	Persistently deprived only	Persistently income poor and deprived
	6.9	8.9	1.4
	7.1	7.3	6.8
	9.3	8.8	8.9
	11.6	8.5	9.0
	11.4	9.7	14.0
	9.2	11.3	10.7
	11.2	9.9	10.1
	9.2	8.7	9.4
	12.0	11.3	12.2
	10.4	9.2	9.7

Source: Whelan Layte Maitre 2004 Understanding the Mismatch between Income Poverty & Deprivation



3. Income poverty is incomplete

Other considerations with income poverty:

- shows some changes with lag; others at once
- does not show how people are poor
- affected by different policies
- measurement error & data collection issues



4. **Growth? Claims are strong** 2008 Growth Commission

"Growth is not an end in itself. But it makes it possible to achieve other important objectives of individuals and societies. It can spare people en masse from poverty and drudgery. Nothing else ever has."



4. Growth Commission

The Growth Commission 2008 generated a nuanced set of observations on sustained economic growth based on case studies of countries that had 7% growth for over 25 years.

BUT after 25 years of growth:

- In **Indonesia**, 28% of children under five were still underweight and 42% were stunted
- In **Botswana**, 30% of the population were malnourished, and the HDI rank was 70 places below the GDP rank.
- In **Oman**, women earned less than 20% of male earnings.



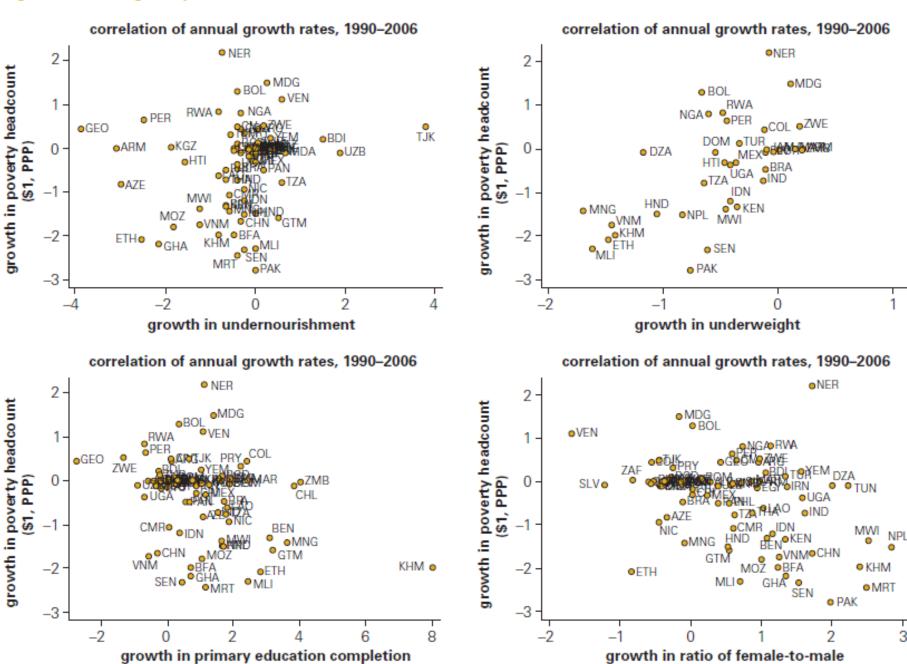
4. Growth? Claims are strongand debated

François Bourguignon, Agnès Bénassy-Quéré, Stefan Dercon, Antonio Estache, Jan Willem Gunning, Ravi Kanbur, Stephan Klasen, Simon Maxwell, Jean-Philippe Platteau, Amedeo Spadaro

'The correlation between GDP per capita growth and non-income MDGs is practically zero...'



Figure 2.3 Heterogeneity across MDGs



enrollments in secondary education

Figure 2.3 (continued)

8-

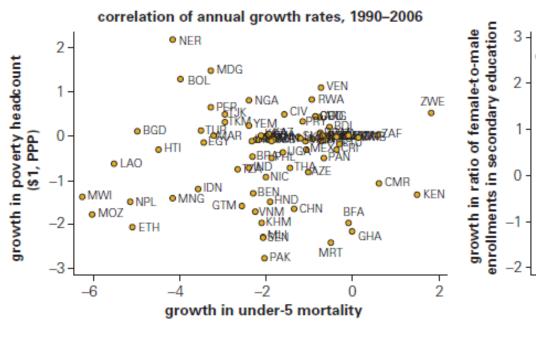
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growth in primary education

completion



KHM

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growth in under-5 mortality

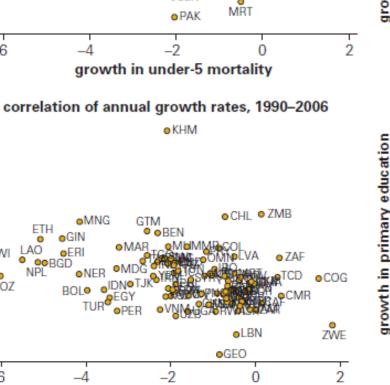
MNG

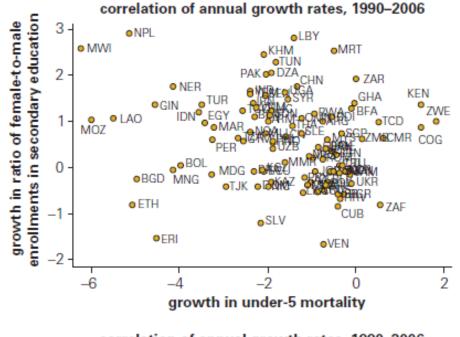
○CHL ○ ZMB

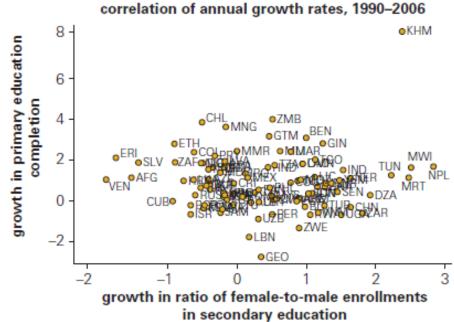
LBN

0

GEO







Source: Survey means from POVCAL.

NPL

MOZ

-6

4. Growth? Claims are strong...and debated

François Bourguignon, Agnès Bénassy-Quéré, Stefan Dercon, Antonio Estache, Jan Willem Gunning, Ravi Kanbur, Stephan Klasen, Simon Maxwell, Jean-Philippe Platteau, Amedeo Spadaro

'The correlation between growth in GDP per capita and improvements in non-income MDGs is practically zero, . . . [thereby confirming] the lack of a relationship between those indicators and poverty reduction. Because it would be hard to believe that information on nonincome MDGs is so badly affected by measurement error that it is pure noise, this lack of a relationship reflects some relative independence among policy instruments governing progress in the various MDGs. Furthermore, it highlights substantive differences in country policies and circumstances that may affect the relationship between these policies. This interesting finding suggests that economic growth is not sufficient per se to generate progress in nonincome MDGs. Sectoral policies and other factors or circumstances presumably matter as much as growth.



4. Growth? Insufficient.

India: strong economic growth since 1980s.

1998-9 NHFS-2: 47% children under 3 were undernourished

2005-6 NHFS-3: 46% were undernourished (wt-age)

"Growth, of course, can be very helpful in achieving development, but this requires active public policies to ensure that the fruits of economic growth are widely shared, and also requires — and this is very important — making good use of the public revenue generated by fast economic growth for social services, especially for public healthcare and public education."

Dreze and Sen 'Putting Growth in its Place' Outlook. November 2011



5. Associations across indicators

Can we just choose a non-income indicator as a proxy of the main social deprivations? (*empirical question*)



5. Associations across indicators Background:

- The mismatch between distributions of monetary and other dimensions has long been noted and studied
 - Atkinson and Bourguignon 1982: multivariate distributions
 - Klasen 2000: Poverty & deprivation in South Africa
 - Sahn and Stifel 2003: expenditure vs asset index to predict malnutrition
 - Whelan Layte Maitre 2004: mis-match between income & deprivation
 - Ruggieri-Laderchi Saith and Stewart 2007: do disagreements matter



Let's start with an easy case:

These refer to raw headcounts:

% of people who are MPI poor and are deprived in assets: 48.7%

% of people who are MPI poor and are deprived by cooking fuel: 74.1%

Are they the same people?

In this case, <u>Yes</u>.

44.9% of people live in hh with both deprivations (Nearly 48.7%)

3.8% of people are only deprived in assets (Very Low)

29.2% of people are only deprived in cooking fuel (About 74%-49%)

22.2% of people do not experience either deprivation

Cooking Fuel	Ass	Assets					
	Non-depr	Deprived					
Non-depr	22.16	3.77	25.93				
Deprived	29.16	44.91	74.07				
r	51.32	48.68	100				



Because it is not always that way!

These refer to raw headcounts*:

Percentage of people living in hh where <u>no member has 5 yrs schooling</u>: **18.27**% Percentage of people living in hh where <u>a child is not attending school</u>: **21.17**%

Are they the same people?

Far less than half the time.

7.41% of people live in hh with **both** deprivations

10.86% of people have no member with 5 years of schooling only

13.76% of people have a child who is not attending school only.

67.97% of people do not experience either deprivation.

*With censored headcounts: it is 17.58% total for 5 yrs of schooling and 19.53% in children out of school; 7.41 both.



Another example:

How about **mortality** and **5 yrs schooling**? Surely they are highly correlated? Percentage of people living in a hh where a child has died: **25.7**% Percentage of people living in a hh where no one has 5 yrs schooling: **18.3**%

Are they mostly the same people?

Less than one-third of the time.

5.75% of people live in hh with both deprivations
12.5% of people have no member with 5 years of schooling only
20.0% of people live in a hh where a child has died only.
61.8% of people do not experience either deprivation.

Anyone with 5 yrs schooling	Child m	Total	
	Non-depr	Deprived	-
Non-depr	61.75	12.52	81.73
Deprived	19.97	5.75	25.72
_	74.28	18.27	100



Another example:

How about **mortality** and **school attendance**? Surely they are highly correlated? Percentage of people living in a hh where a child has died: **25.7%**Percentage of people living in a hh where no one has 5 yrs schooling: **21.2%**

Are they mostly the same people?

Less than 40% of the time.

8.1% of people live in hh with both deprivations

13.0% of people have no member with 5 years of schooling only

17.6% of people live in a hh where a child has died only.

61.2% of people do not experience either deprivation.

	Child mortality	School A	Total	
		Non-depr	Deprived	
	Non-depr	61.24	13.03	74.28
·f.	Deprived	17.59	8.14	25.72
m	-	78.83	21.17	100



Child mortality vs Safe Water

Hh has not had child mortality	with I standa	ng water MDG ards + ance	Total	Hh has not had child mortality	Drinking water with MDG standards + distance		Total
	Non- depr	Depriv ed			Non- depr	Depriv ed	
Non-depr	63.21	11.07	74.28	Non-depr	70.1	7.36	77.45
Deprived	21.02	4.7	25.72	Deprived	18.02	4.53	22.55
	84.23	15.77	100		88.11	11.89	100



But if we put these non-income deprivations all together in an MPI (that reflects joint distribution of deprivations), perhaps they are associated? (*empirical question*)



6. Income & non-AF measures:

Klasen 2000: Poverty & deprivation in South Africa

TABLE 10
OVERLAP AND DIFFERENCES BETWEEN POOR AND DEPRIVED POPULATIONS

	Both	Poor, not deprived	Deprived, not poor	Neither
Poor/Deprived, %	44.2	8.7	8.7	38.4
Poor/Deprived, Numbers (m.)	16.8	3.3	3.3	14.6
Poorest/Most Deprived, %	20.3	8.6	8.8	62.4
Poorest/Most Deprived, Numbers (m.)	77	3.2	3.3	23.7

Convergence and Divergence of Incidence of Poorest/Most Deprived by Population Groups (figures in parentheses sum to 100% in each column category such as race, the other figures sum to 100% in each row)



Population share of vulnerable and poor groups at c = \$2.02 by year

MPI (k=30%)→		2007			2008			2010	
Consumption↓	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor	Total
Non-poor	46.9	15.0	61.9	51.2	14.8	66.0	55.2	16.1	71.3
Poor	20.3	17.8	38.1	18.7	15.3	34.0	16.1	12.6	28.7
Total	67.2	32.8	100.0	69.9	30.1	100.0	71.3	28.7	100.0

Source: Van Tran Quang, Multidimensional Poverty in Vietnam 2012 *mimeo*





6. AF MPIs by monetary quintile

Real PC	MPI	CBN	MPI Poor	CBN Poor	Both	Populati
Consumption	Poor	Poor	CBN	MPI	Poor	on Share
Quintile			Nonpoor	Nonpoor		
First (Poorest)	73.5	100.0	0.0	26.5	73.5	19.8
Second	57.6	26.3	41.7	10.4	15.9	19.7
Third	39.1	0.0	39.1	0.0	0.0	19.8
Fourth	27.6	0.0	27.6	0.0	0.0	20.2
Fifth (Richest)	12.2	0.0	12.2	0.0	0.0	20.5
National	41.7	25.0	24.0	7.3	17.7	100.0

Source: Ram Hari, Multidimensional Poverty in Nepal 2012 mimeo



Cross Tabs of Multidimensional and Monetary Poverty with matching headcounts.

Recall: MPI indicators are differently defined, and their definition will affect cross-tabs.

Income would accurately identify multidimensionally poor people 20% to 70% of the time, depending on country and design of MPI.

Note: These paper are work in progress — not to be cited or circulated without permission

				_		_	
Presenter	Country	Average po	Poor in Both	Match	Cutoff 2	Poor in both	Match
Jose M Roche	Venezuela	16.8%	3.4%	20.2%	8.4%	2.0%	23.8%
Stephan Klasen	South Africa	11.0%	3.0%	27.3%	34.0%	19.0%	55.9%
Rajeev Kumar*	India	43.4%	14.3%	32.9%			
Van Tran-Quang	Vietnam	16.7%	5.7%	34.1%			
Ivan Gonzalez	Mexico	26.6%	10.4%	39.2%	74.9%	49.2%	65.7%
Juan Pablo Ocampo	Peru	83.8%	35.4%	42.3%			
Paola Ballon*	Indonesia	16.5%	7.1%	43.0%	31.8%	18.4%	57.9%
Ram Hari	Nepal	24.9%	12.2%	49.1%	41.7%	27.0%	64.7%
Bilal Kiswani	Iraq	13.3%	7.9%	59.4%	20.0%	13.6%	68.0%
Maria Emma Santos	Bhutan	23.2%	16.4%	70.7%	31.3%	20.9%	66.9%

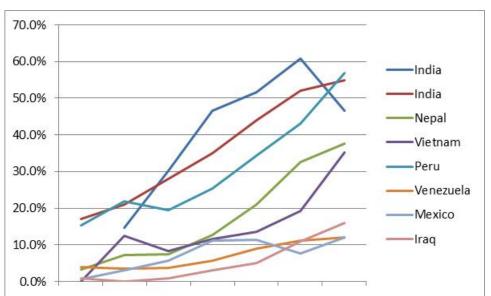
Quintile Puzzle: There are MPI poor even in the richest quintile, and non-MPI in the poorest quintile even when H-MPI is high.

				Quintile				
Presente	r	Country	H-MPI	Poorest	2	3	4	Richest
Sandip Sa	ırkar	India	43.5%	97.4%	87.3%	17.7%	11.1%	4.2%
Ram Har		Nepal	24.7%	51.9%	35.1%	21.1%	11.8%	4.7%
Jose M R	oche	Venezuela	16.8%	36.8%	22.2%	14.6%	9.5%	5.5%
Paola Bal	lon*	Indonesia	32.0%	65.2%	41.4%	27.3%	19.3%	5.9%
Van Tran	-Quang	Vietnam	16.7%	32.0%	20.0%	14.0%	11.0%	6.5%
Ivan Gon	zalez	Mexico	74.9%	97.0%	89.0%	78.0%	65.5%	45.0%
Juan Pabl	o Ocampo	Peru	56.2%	88.7%	75.3%	62.3%	41.4%	26.6%
Rajeev K	umar	Rural India	78.4%	89.3%	87.4%	82.4%	70.6%	56.9%

Question: Who are the poor in the richest quintiles? Who are the nonpoor in the poorest quintiles?

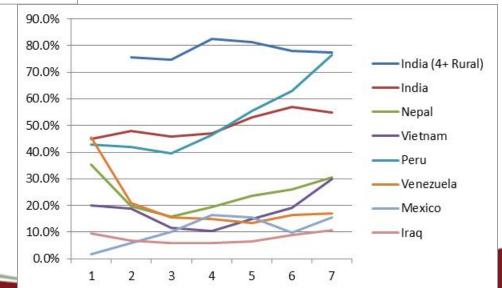


Monetary Poverty by hh size



Monetary poverty is increasing with hh size; MPI less consistently.

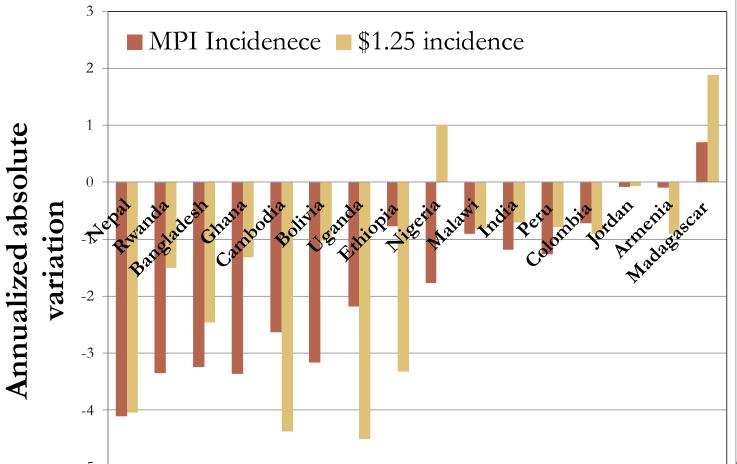
MD Poverty by hh size





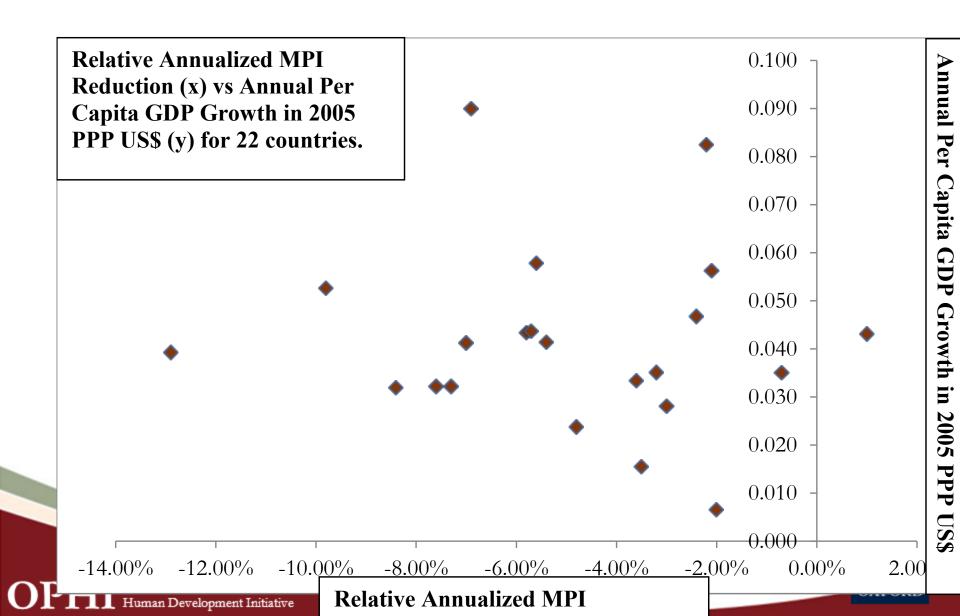
- \$1.25/poverty and MPI do not trend together in absolute or relative terms

- (more on Wednesday)





6. Income & AF MPIs: Does Growth reduce MPI?



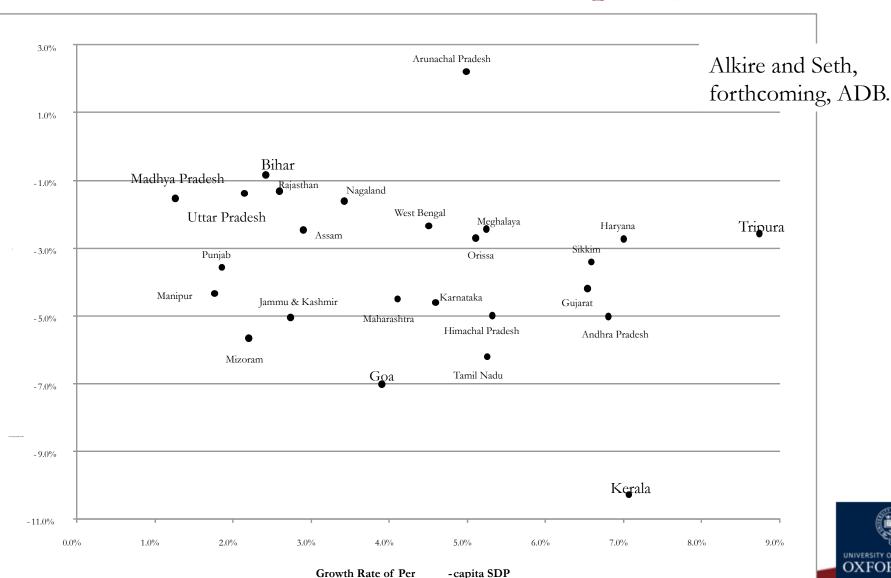
6. Income & AF MPIs: Does Growth reduce MPI?

	MPI				Per Capita GDP			
		C 1	Absolute Annualize d	Percenta ge		C		Relative Growth
Countries	First Year	Second Year	reduction in MPI	decrease p.a.	First Year	Second Year	Growth p.a	Elasticity of MT
Armenia 2005-2010	0.003	0.001	0.000		\$4,096.44	\$4,900.47	3.93%	-3.286
Bangladesh 2004-2007	0.365	0.289	-0.025	-7.00%	\$1,114.63	\$1,290.69	5.27%	-1.330
Bolivia 2003-2008	0.175	0.089	-0.017	-9.80%	\$3,597.70	\$4,172.33	3.19%	-3.068
Cambodia 2005-2010	0.298	0.212	-0.017	-5.80%	\$1,508.01	\$1,968.13	3.22%	-1.803
Colombia 2005-2010	0.04	0.023	-0.003	-8.40%	\$7,304.56	\$8,479.35	3.22%	-2.611
Ethiopia 2000-2005	0.677	0.605	-0.014	-2.10%	\$527.30	\$636.07	4.13%	-0.509
Ethiopia 2005-2011	0.605	0.523	-0.014	-2.20%	\$636.07	\$979.21	8.99%	-0.245
Ghana 2003-2008	0.309	0.202	-0.021	-6.90%	\$1,134.15	\$1,380.12	4.34%	-1.591
Guyana 2005-2009	0.053	0.041	-0.003	-5.40%	\$2,536.38	\$2,979.60	4.37%	-1.236
India 1998/9-2005/6	0.3	0.251	-0.007	-2.40%	\$1,632.30	\$2,293.16	5.78%	-0.415
Jordan 2007-2009	0.011	0.011	0.000	-3.60%	\$4,844.75	\$5,245.63	4.14%	-0.870
Kenya 2003-2008/9	0.296	0.244	-0.009	-3.20%	\$1,274.30	\$1,441.08	2.38%	-1.345
Lesotho 2004-2009	0.239	0.182	-0.012	-4.80%	\$1,185.99	\$1,383.86	3.34%	-1.438
Madagascar 2004-2008/9	0.383	0.4	0.004	1.00%	\$855.71	\$915.36	1.55%	0.646
Malawi 2004-2010	0.381	0.334	-0.008	-2.00%	\$644.62	\$780.37	3.51%	-0.570
Nepal 2006-2011	0.35	0.217	-0.027	-7.60%	\$969.65	\$1,105.72	2.81%	-2.708
Nigeria 2003-2008	0.368	0.313	-0.011	-3.00%	\$1,577.12	\$1,945.47	4.67%	-0.642
Peru 2005-2008	0.085	0.066	-0.006	-7.30%	\$6,386.96	\$7,967.33	8.25%	-0.885
Rwanda 2005-2010	0.46	0.33	-0.026	-5.60%	\$840.47	\$1,077.01	5.63%	-0.995
Senegal 2005-2010/11	0.44	0.423	-0.003	-0.70%	\$1,677.00	\$1,737.55	0.66%	-1.066
Tanzania 2008-2010	0.367	0.326	-0.021	-5.70%	\$1,208.45	\$1,293.08	3.50%	-1.628
Uganda 2006-2011	0.417	0.343	-0.015	-3.50%	\$977.07	\$1,187.65	4.31%	-0.812
Zimbabwe 2006-2010/11	0.18	0.145	-0.008	-4.20%	-	-	-	-

OPHI work, presented in "How MPI Decreased", Alkire 2013 OECD, forthcoming



6. Income & AF MPIs: Does Growth reduce MPI across Indina States equally?



6. Conclusion:

Income does not strongly proxy MPI

Change in MPI vs Income vary

Growth and MPI reductions vary

MPI usually adds new information



7. Demand for National & other measures



7. 2010 HDR sparked debate

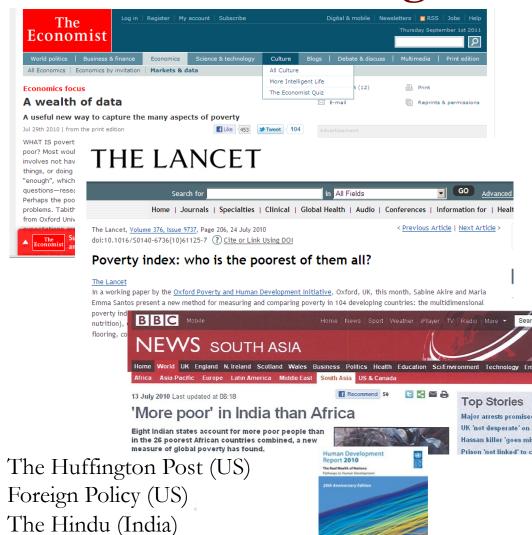
Following Alkire and Foster the Alkire-Santos MIP has a neat decomposability; we can reverse the mashup aggregation. This is useful, for only then will we have any idea how to go about addressing the poverty problem in that specific setting. But then why do the aggregation in the first place? Ravallion 2011, p 1



60+ countries - including:

- The New York Times (US)
- TIME Magazine (US)
- Xinhua (China)
- Al Jazeera (Qatar)
- The Hindu (India)
- Dawn (Pakistan)
- BBC (UK)
- The Daily Nation (Kenya)
- Agence France Presse (France)
- The Wall Street Journal (US)
- The Economist (UK)
- The Cape Times (South Africa)
- The Australian (Australia)
- The Guardian (UK)
- The Financial Times(UK)
- Radio Netherlands

MPI Media Coverage



Christian Science Monitor (US)

The Globe and Mail (Canada)

The Times of India (India)



The Global Multidimensional Poverty Peer Network (Global MPPN)

launched 6 June 2013, Oxford



Angola, Bhutan, Brazil, Chile, China, Colombia, ECLAC, Ecuador, El Salvador, Dominican Republic, Germany, India, Iraq, Malaysia, Mexico, Morocco, Mozambique, Nigeria, OECD, the Organization of Caribbean States, OPHI, Peru, Philippines, SADC, and Vietnam



The Network Moving Forward

- Expansion of Multidimensional Poverty Index
 - Official national poverty measures
 - Subnational Pilots (China, Brazil)
- An Effective and Informed Voice in the Post 2015 Discussions
 - September side event with high level leadership
- The Promotion of Joint Research and Development of Practical Tools



8. Political Space?

Overview "While assessing quality-of-life requires a plurality of indicators, there are strong demands to develop a single summary measure." Stiglitz Sen Fitoussi Commission Report

Ethics "Human lives are battered and diminished in all kinds of different ways." *Amartya Sen*

Effectiveness "Acceleration in one goal often speeds up progress in others;" to meet MDGs strategically we need to see them together. Roadmap towards Implementation ...

Visibility Track progress towards national plan; M&E.

Feasibility Surveys; measure deprivations directly; computations



8. Interest in AF Poverty measure

- 1. Birds-eye view can be unpacked
 - a. by region, ethnicity, rural/urban, etc
 - b. by indicator, to show composition
 - c. by 'intensity' to show inequality among poor

2. Adds Value:

- a. focuses on the multiply deprived
- b. shows joint distribution of deprivation.
- 3. **Incentives** to reach the poorest of the poor
- 4. Flexible: you choose indicators/cutoffs/values
- 5. Robust to wide range of weights and cutoffs



Why the new emphasis on measurement?

We can:

Technical

- 1) Data are increasing
- 2) Multidimensional measures are proliferating

We need to:

Policy

- 3) Income poverty: important but doesn't proxy key indicators
- 4) Growth insufficient
- 5) There is no single non-income proxy either
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We are willing to:

Political

- 7) National and International 'demand'
- 8) Political space for new metrics

