Summer School on Capability and Multidimensional Poverty
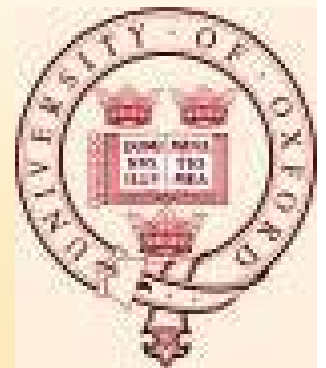
11-20 September 2010

Amman, Jordan

OPHI

Oxford Poverty & Human
Development Initiative
University of Oxford
www.ophi.org.uk

Why Multidimensional Poverty Measures?

Sabina Alkire (OPHI)

Outline:

- **CMEPSP (Sarkozy Commission):** The need for better Quality of Life measures, their dimensions and key features.
- **MPI –** brief introduction to illustrate value added

- **Cross-tabs and correlations:** do new dimensions add value; isn't income a good enough proxy?

- **Policies:** don't policies to advance growth also advance the MDGs and other areas?

2009: Full Report available full text online
www.stiglitz-sen-fitoussi.fr
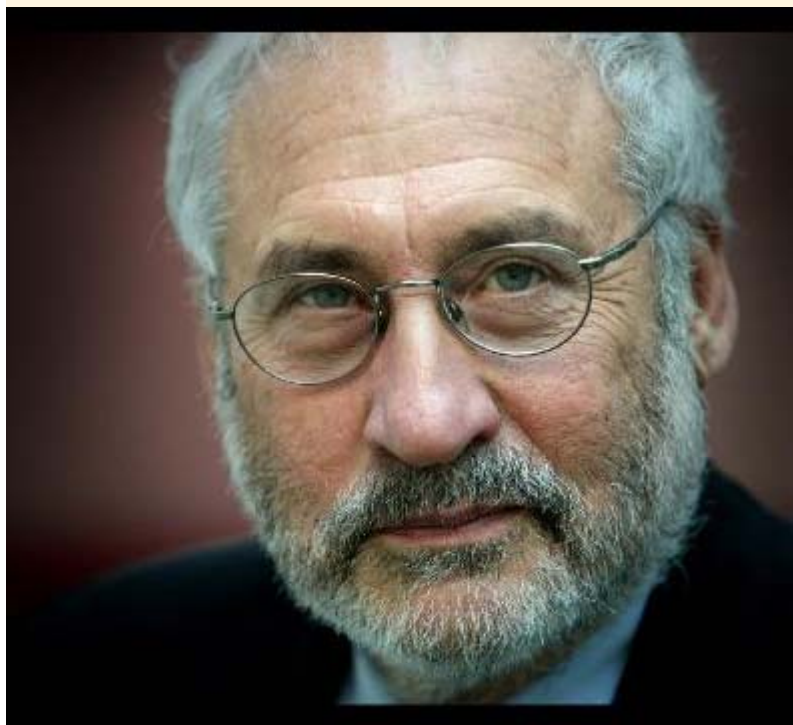
that time has come to adapt our system of measurement of economic activity to better reflect the structural changes which have characterized the evolution of modern economies.

2009: Full Report available full text online www.stiglitz-sen-fitoussi.fr

In February 2008, the President of the French Republic, Nicholas **Sarkozy**, unsatisfied with the present state of statistical information about the economy and the society, asked Joseph **Stiglitz** (President of the Commission), Amartya **Sen** (Advisor) and Jean Paul **Fitoussi** (Coordinator) to create a Commission, subsequently called "The Commission on the Measurement of Economic Performance and Social Progress" (CMEPSP).

Motivation:
Mis-Measuring Our Lives:

"The Commission's aim has been to identify the **limits of GDP** as an indicator of economic performance and social progress, including the problems with its **measurement**; to consider what **additional information** might be required for the production of more relevant indicators of social progress; to assess the **feasibility** of alternative measurement tools, and to discuss **how to present** the statistical information in an appropriate way."

Key reasons for Commission:

1. Statistical indicators are important
   - Especially in an information society
2. What we measure affects what we do;
   - Flawed measures => Distorted decisions

3. Standard measures (growth, inflation, etc) do not match widespread perceptions.

4. **Mistrust of official statistics.**

5. Why?   ➜

Reasons Statistics may be faulty

- The measurement process may be imperfect.

- The statistical concepts may be flawed

- GDP per capita does not reflect inequality, hence GDP may rise and avg income may fall.

- Commonly used statistics omit traffic jams, pollution, climate change etc which people feel.

- Statistics may be wrongly reported/used

- Economic measures may not reflect societal well-being, or sustainability across time.

- Wrong stats lead to surprises (crisis 2008-9)

The Commission's Consensus (p 9)

- "those attempting to guide the economy and our societies are like pilots trying to steering a course without a reliable compass. The decisions they (and we as individual citizens) make depend on what we measure, how good our measurements are and how well our measures are understood. We are almost blind when the metrics on which action is based are ill-designed or when they are not well understood. For many purposes, we need better metrics."

Commission's Working Groups:

1. Classical GDP issues
2. Quality of life
3. Sustainability

Key Messages

GDP:

"that time has come to adapt our system of measurement of economic activity to better reflect the structural changes which have characterized the evolution of modern economies." (Services, Quality, Gov't Output)

Key Messages

Well-being:

"the time is ripe for our measurement system to *shift emphasis from measuring economic production to measuring people's well-being.*"

Key Messages

Sustainability:

Requires a dashboard of indicators, not one monetary indicator alone

Requires further follow-up workbased on a well-chosen set of physical indicators.

Key Messages

Well-being:

- Income/Consumption not GDP

- Also wealth

- Also distribution

- Household data not Nat'l accts

- Include non-market activities, leisure

- Well-being is Multidimensional...➔

"these dimensions should be considered simultaneously:"

i. Material living standards (income/cons wealth)

ii. Health;

iii. Education;

iv. Personal activities including work

v. **Political voice** and governance;

vi. **Social connections** and relationships;

vii. Environment (present and future);

viii. **Insecurity**, economic & physical in nature.

A need for subgroup consistency as well as new inequality measures?

- Inequalities in quality of life should be assessed across people, socio-economic groups, gender and generations, with special attention to inequalities that have arisen more recently, such as those linked to immigration.

Joint distribution & surveys

- "the consequences for quality of life of having **multiple disadvantages** far exceed the sum of their individual effects.

- "Developing measures of these cumulative effects requires information on the "**joint distribution**" of the most salient features of quality of life across everyone in a country through dedicated surveys."

A Single Summary Measure

- "While assessing quality-of-life requires a plurality of indicators, there are strong demands to develop **a single summary measure**."

- "Statistical offices should provide the information needed to aggregate across quality-of-life dimensions, allowing the construction of different indexes"

Subjective & Objective Measures

- Recommendation 10: Measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should incorporate questions to capture people's life evaluations, hedonic experiences and priorities in their own survey.

The Stiglitz Sen Fitoussi Commission addresed Wellbeing.

What about Multidimensional Poverty?

MD Poverty:

"Human lives are battered and diminished in all kinds of different ways, and the first task… is to acknowledge that deprivations of very different kinds have to be accommodated within a general overarching framework"

(Sen 2000).

MPI 2010: An illustration

– An international measure of **acute** poverty for 104
developing countries.

– Launched by UNDP's HDRO and OPHI on 14 July
2010, as an experimental series that supplants HPI-I

– Aims to encourage the development of better national
measures of multidimensional poverty

– Illustrates much of the value added of the approach

– Slides also draw on other studies.

1. Data for MPI
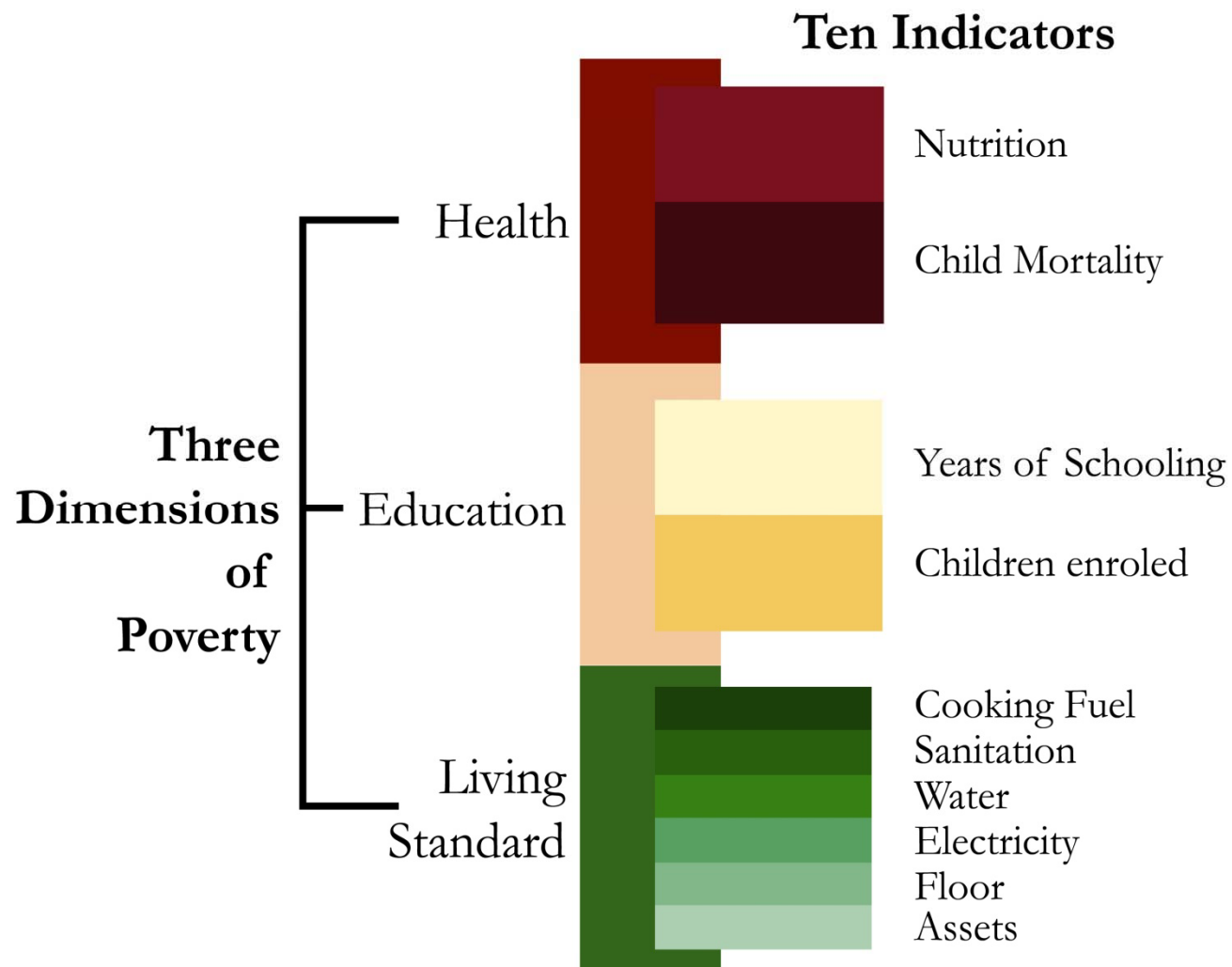
Demographic & Health Surveys *(DHS - 48)*

Multiple Indicator Cluster Surveys *(MICS - 35)*
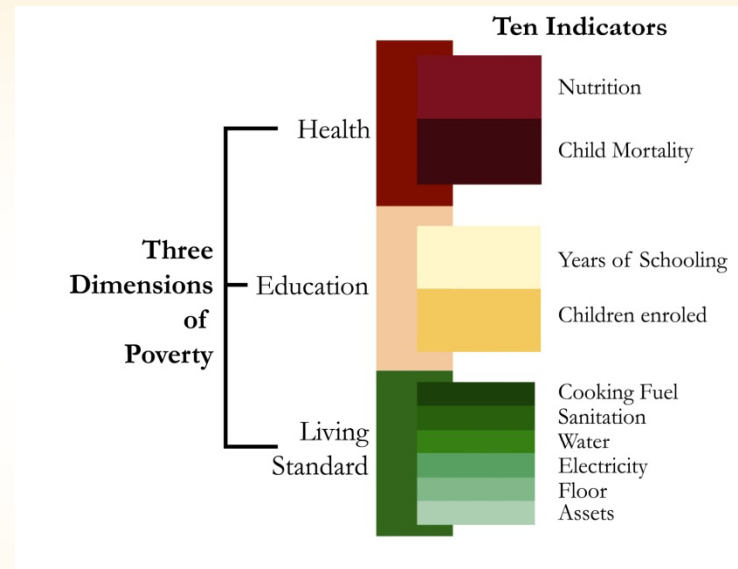
World Health Survey *(WHS – 19)*

Additionally we used 2 special surveys covering Mexico and urban Argentina.

2. Dimensions and Indicators of MPI

2. Measurement Components: Weights

- **Each dimension/indicator: equal weights:**
    - **Health 1/3**

    - **Education 1/3**

    - **Standard of Living 1/3**

2. Measurement Components: Weights

- **Each dimension/indicator: equal weights:**
  - **Health 1/3**
    - Nutrition = **1/6**;
    - Mortality = **1/6**
  - **Education 1/3**
    - Enrolment = **1/6**
    - Years Schooling = **1/6**
  - **Standard of Living 1/3**
    - Electricity **1/18**
    - Sanitation **1/18**
    - Floor **1/18**
    - Cooking Fuel **1/18**
    - Drinking Water **1/18**
    - Assets **1/18**

Ten Indicators

Health — Nutrition, Child Mortality

Three Dimensions of Poverty — Education — Years of Schooling, Children enroled

Living Standard — Cooking Fuel, Sanitation, Water, Electricity, Floor, Assets
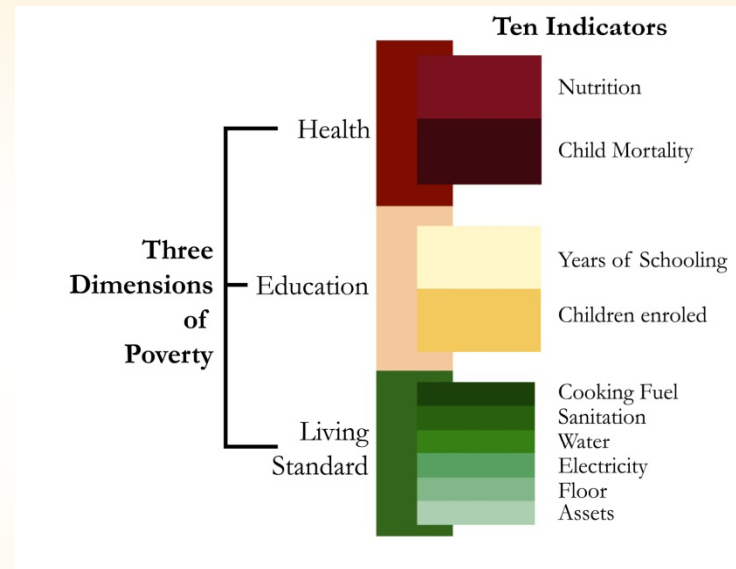
3. Methodology: Identification

A person is identified as poor if he or she is deprived in 30% of weighted indicators. That is:

* any 2 Health or Education indicators;
* all 6 Standard of Living indicators;
* 1 Health/Ed + 3 Standard of Living

3. **Methodology: Aggregation**

- We construct the MPI using the AF method:

> **Formula: MPI = M_0 = $H \times A$**

- **H** is the percentage of people who are poor. It shows the *incidence* of multidimensional poverty.

- **A** is the average proportion of weighted deprivations people suffer at the same time. It shows the *intensity* of people's poverty.

The MPI headcounts and the $1.25/day data: levels related but different
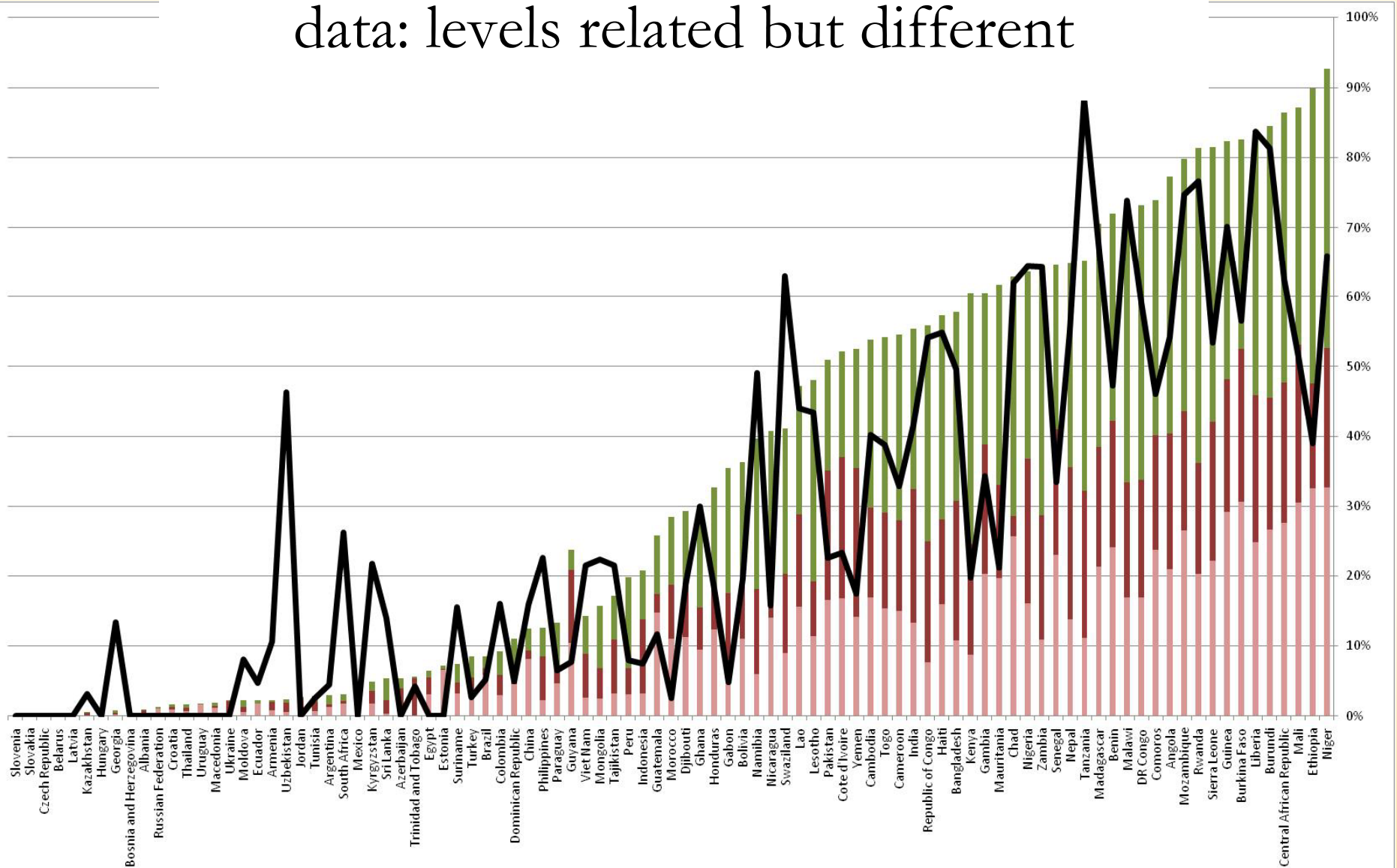
If same headcount, would income identify the same people as poor?

	Non-deprived in non-monetary dimension	**Deprived** in non-monetary dimension
Not income poor	Group A	**Group B (I)**
Income **Poor**	**Group C (II)**	**Group D**

Ruggieri-Laderchi 2007

If monetary poverty is used for policy & targetting:

Group B represents a targeting error I (omission of some poor)

Group C represents a targeting error II (inclusion of non-poor)

High percentages in B&C

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

B (omission)

C (overcount)

Source: Franco *et al.* (2002).

Ruggieri-Laderchi, Saith and Stewart '03, '07

India NSS 2004: Income Poverty vs Educational Deprivations

Capability poverty measured as:	Education		
	Children 5-12	Adults (Illiterate)	Adults (<5 years)
Education Poor **Not** Income Poor	45%	62%	64%
Income Poor **Not** Educ. Poor	70%	46%	36%

2010 MPI: Comparison with WHS consumption

Chad

	Not MPI Poor	MPI Poor	Total
Not Income Poor	23.12	**33.45**	56.56
Income Poor	**13.98**	29.45	43.44
Total	37.10	62.90	100.00

43% are income poor; 63% are MPI poor

However, 37% of income poor people are not MPI poor (we might expect 0%)

And 53% of MPI poor people are not income poor (we could expect 31%) **Why?**

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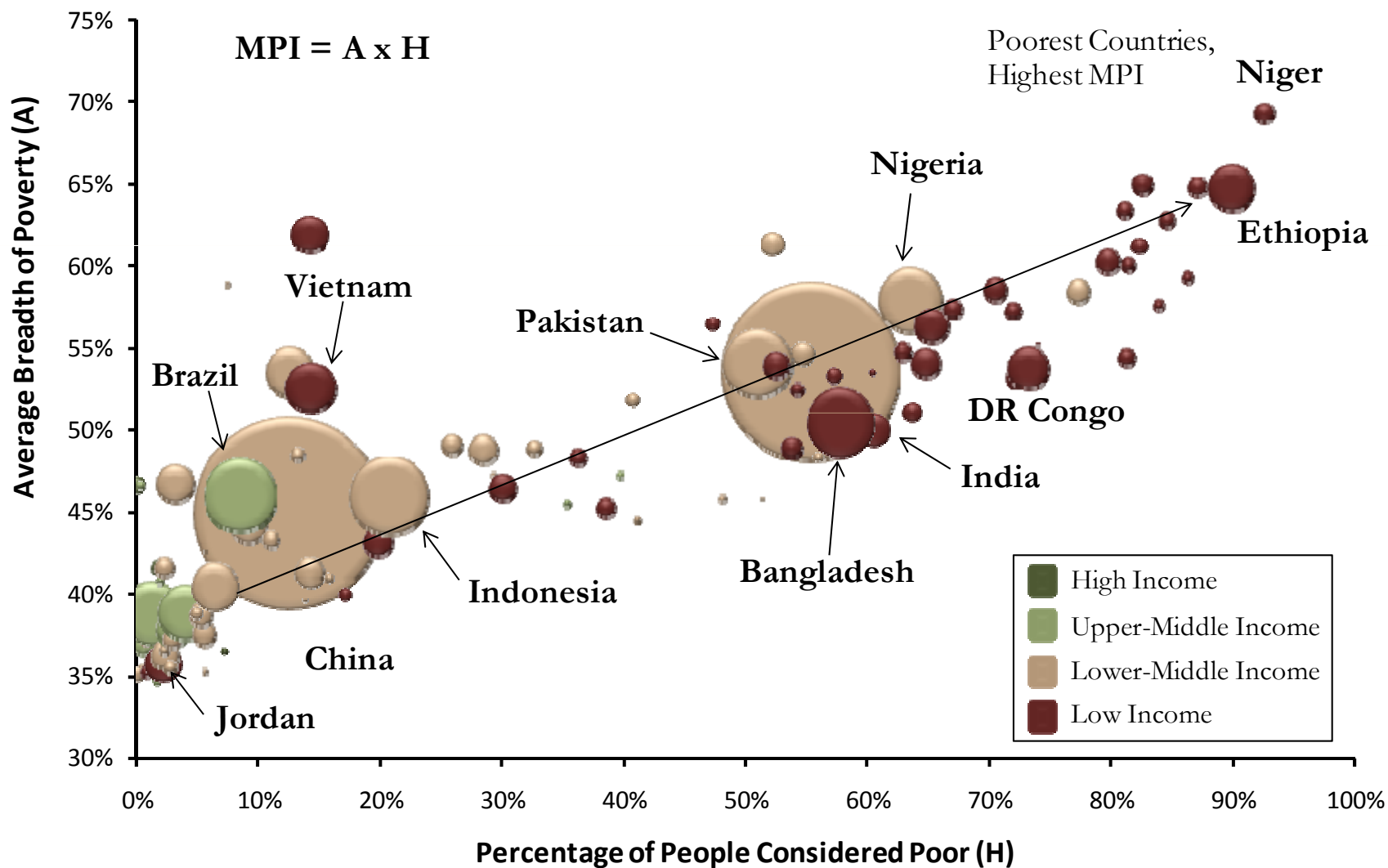
Is a high **GDP/ capita** needed for **HD?**

	Saudi Arabia	Uruguay	Russia	Costa Rica	Vietnam	Morocco
GDP per capita (PPPUS$)	15,711	9,962	10,845	9,481	3,071	4,555
Adult literacy rate (%)	82.9	96.8	99.4	94.9	90.3	52.3
Female literacy rate (%)	76.3	97.3	99.2	95.1	86.9	39.6
Life expectancy (years)	72.2	75.9	65	78.5	73.7	70.4
Under 5 mortality (0/00)	26	15	18	12	19	40
Political Rights/Civil Liberties[a]	7/6	1/1	6/5	1/1	7/5	5/4
Human Development Index	0.812	0.852	0.802	0.846	0.733	0.646

Source: Human Development Report 2007/2008, see www.undp.org
[a] Freedom House 2008 (with 1 being most free and 7 less free), see www.freedomhouse.org

Not necessarily. HDI does not always match income per capita.

Low GDP countries have low MPI (Uzbekistan, Ukraine)

Chart: Average Breadth of Poverty (A) vs. Percentage of People Considered Poor (H)

MPI = A x H

Poorest Countries, Highest MPI

Labeled countries: Niger, Ethiopia, Nigeria, DR Congo, India, Pakistan, Bangladesh, Vietnam, Brazil, Indonesia, China, Jordan

Legend:
- High Income
- Upper-Middle Income
- Lower-Middle Income
- Low Income

Haq 1995

- "It is the lack of political courage to make tough decisions, rather than the paucity of financial resources, that is responsible for the current state of human neglect."

Even if income is an inadequate *measure,* perhaps growth is an adequate *objective?*

India: 15 years of strong economic growth.
1998-9 NHFS-2: **47%** children < 3 are undernourished
2005-6 NHFS-3: **46%** (FOCUS 06) (wt-age)

In 1998/9, 58% of children < 3 yrs had not completed vaccinations; by 2005/6 still 56% of children were not fully vaccinated. And anaemia rose 75%-79% in those years.

Growth: Difficult Objective

--   More difficult than presumed.

Economic Growth in the 1990s: Learning from a Decade of Reform. 2005: The report observed that growth performance was uneven, and lower than anticipated overall.

'**Bank growth projections, as well as growth projections by other forecasters, tend to be systematically over-optimistic**'
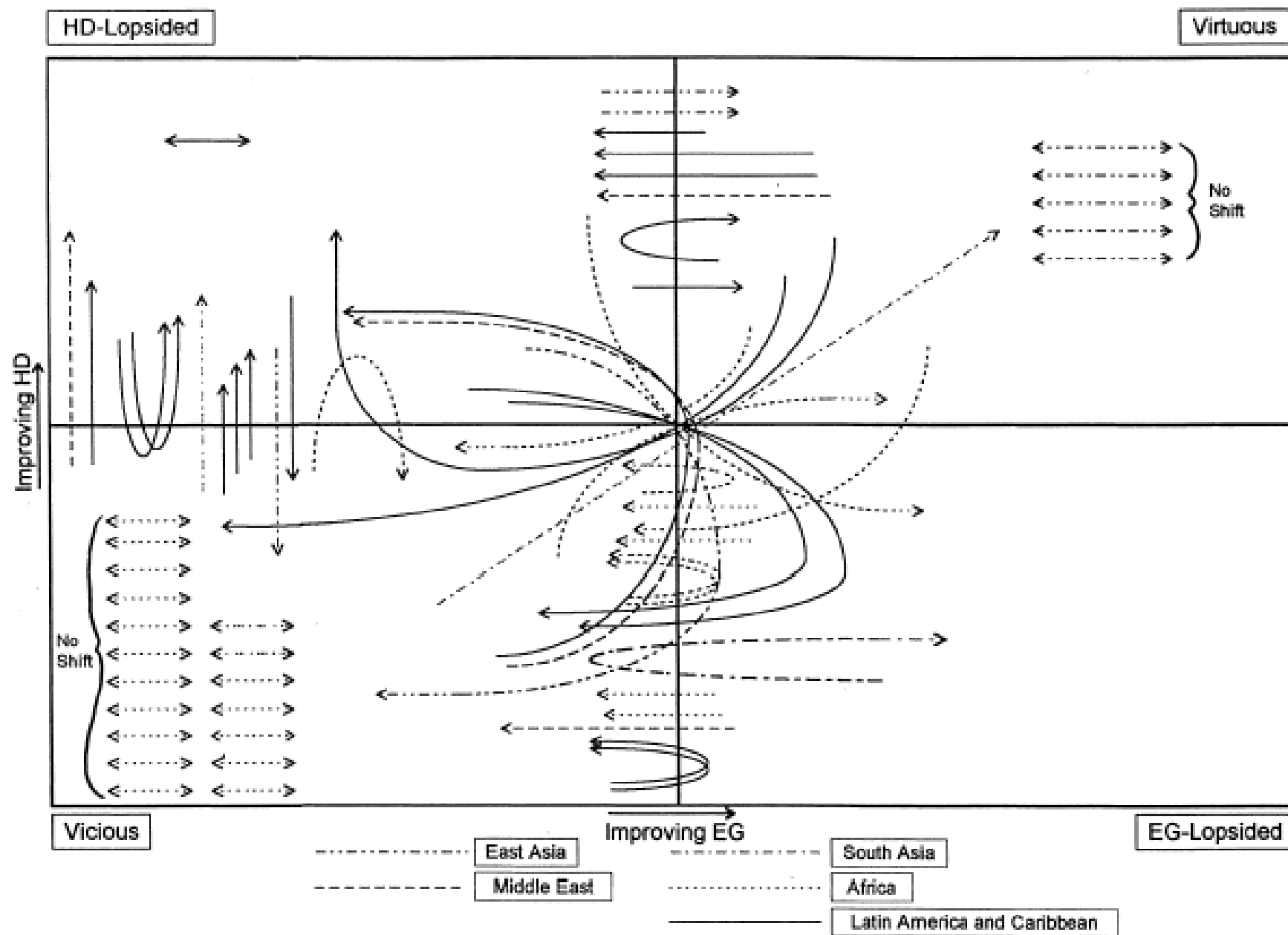
World Bank

Figure 3. *Country HD-EG quadrant changes over three decades. Note: The country movements indicate the quadrant in which countries are placed over the three decades but not their actual location relative to the axes.*

Growth Commission Report 2008
Cases: 7+% growth, over 25+ years
'Successes' include some strong HD
performers. But

- In Indonesia 28% of children <5 are underweight and 42% are stunted
- In Botswana, 30% of the population are malnourished, LE has fallen 20 years to 44 years, HDI rank is 70 places below the GDP rank.
- In Oman, women earn significantly less than 20% of male earnings

A need for subgroup consistency to identify poorest groups
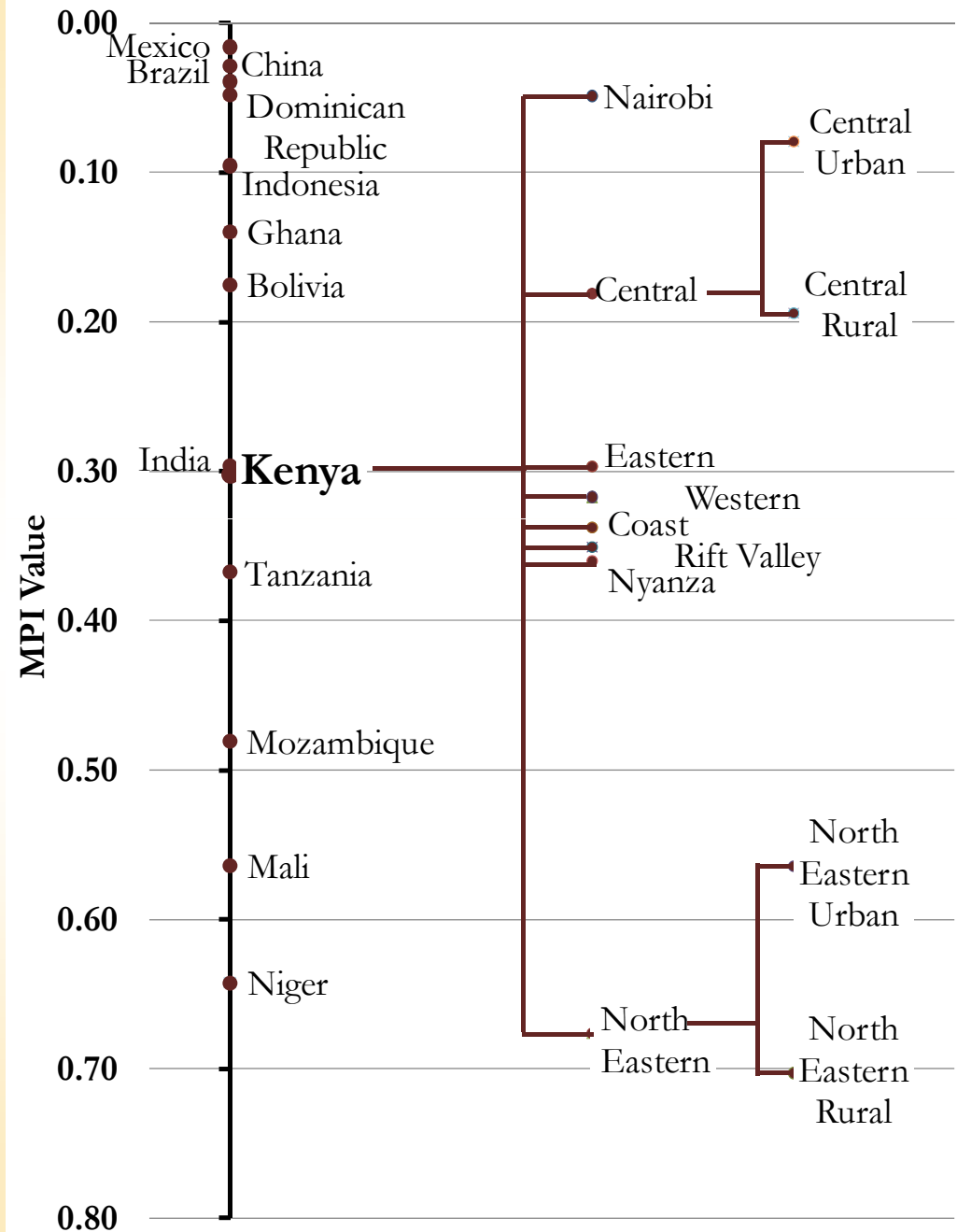
Joint distribution

		schooling	attendanc	nutrition	mortality	electricity	sanitation	water	floor	fuel	assets	
Gabon	1 Depriv	11.9%	11.2%	30.7%	15.4%	28.5%	61.9%	26.8%	24.9%	40.0%	40.9%	
	30% Depr	9.0%	8.4%	18.4%	12.0%	21.2%	32.6%	19.4%	19.8%	26.9%	26.5%	
	30%/10%	75.9%	74.5%	59.9%	77.8%	74.4%	52.6%	72.4%	79.7%	67.2%	64.9%	**69.9%**
India	1 Depriv	18.3%	27.9%	25.7%	47.6%	32.8%	67.3%	15.4%	48.3%	71.9%	48.1%	
	30% Depr	17.6%	25.0%	22.8%	38.9%	28.7%	49.3%	12.1%	40.0%	52.2%	38.1%	
	30%/10%	96.5%	89.7%	88.5%	81.7%	87.5%	73.2%	78.9%	82.8%	72.7%	79.1%	**83.1%**

In Gabon, 62% of people don't have 'adequate' sanitation. But just 52% of them are also MD poor. So we report 33% of people as being poor and deprived. **Joint distribution affects Headcounts.**

A Single Summary Measure: Response

- Do a crosstab of three variables

- Political value / incentive (if measure sound)

- Provides a birds-eye view

- Generates interest to look into the dashboard

- Generates curiousity about changes over time

- Can identify & explore good performance

- Can be decomposed by groups & indicators

(*Weighting issues addressed next lecture*)