Inequalities in health & health of the poor

iHEA Pre-conference Workshop

San Francisco, June 15, 2003

Most previous approaches to measuring health inequality

Total inequality = Between Group Inequality + Within Group Inequality

Our approach

Rarely previously studied

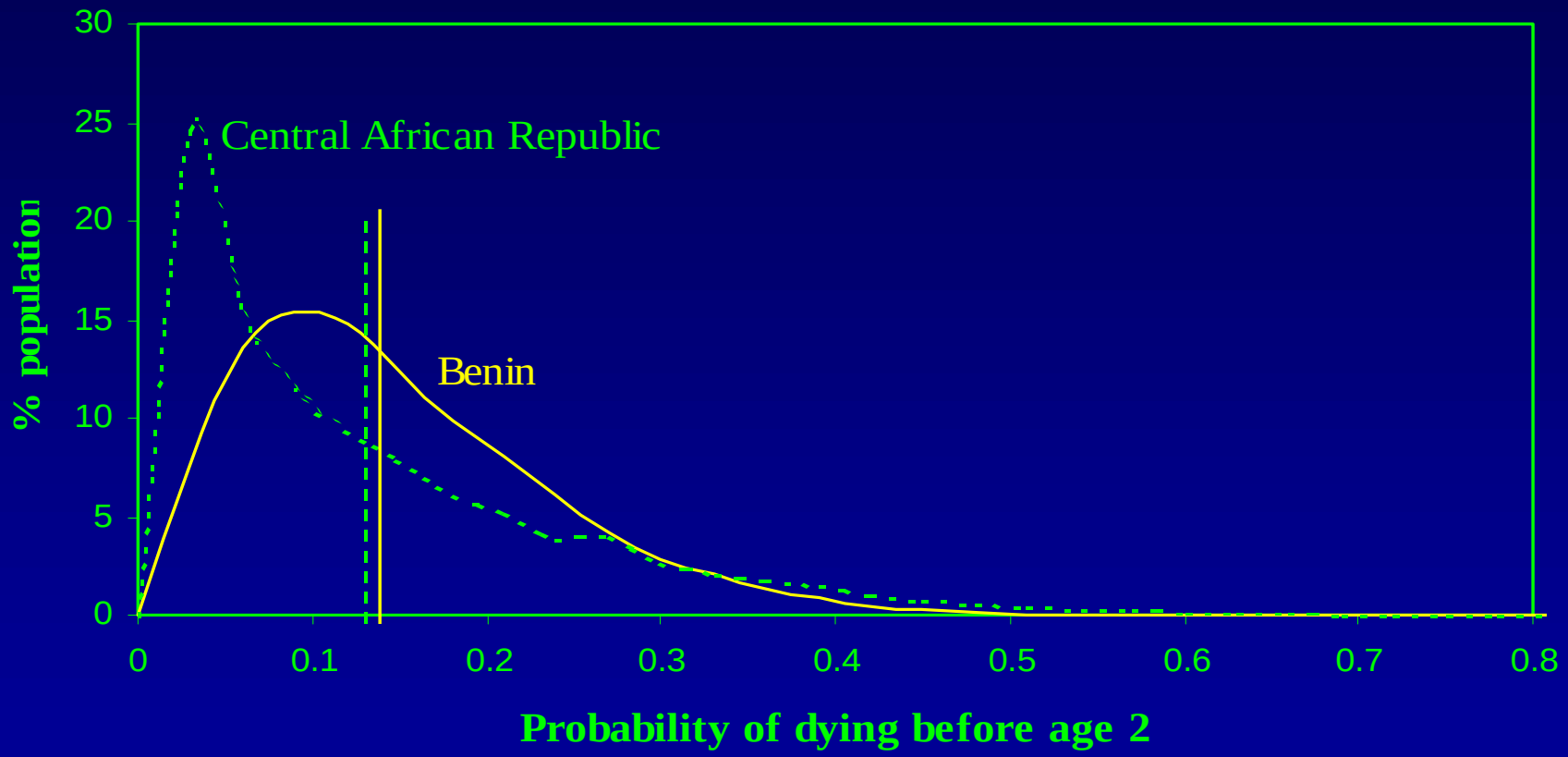
Total inequality is important because

- Enhances comparability across countries
- Empirically assess causes of inequality instead of predefining the groups, e.g. race/ethnicity in the US, social class in the UK, education groups, etc.

Implementation of conceptual framework

- For children: using the DHS and PAPCHILD survey estimates of inequality in child survival and analysis of determinants (130 surveys in about 90 countries)
- Estimate distribution of risk of death between birth and age 2 using a random effects logit model
- Summarize distribution using inequality index
- Analysis of determinants

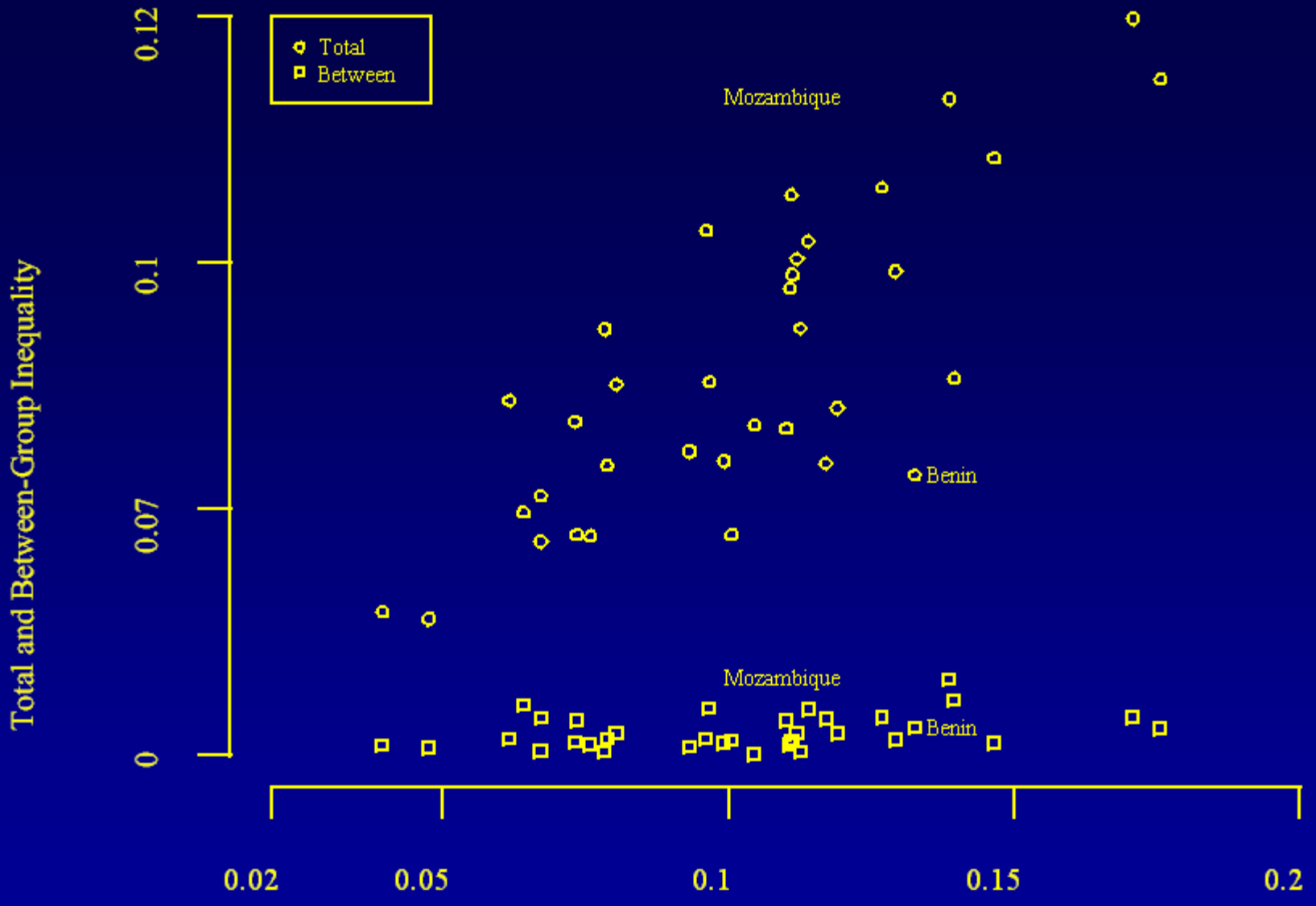
Why do we need measures of distribution?

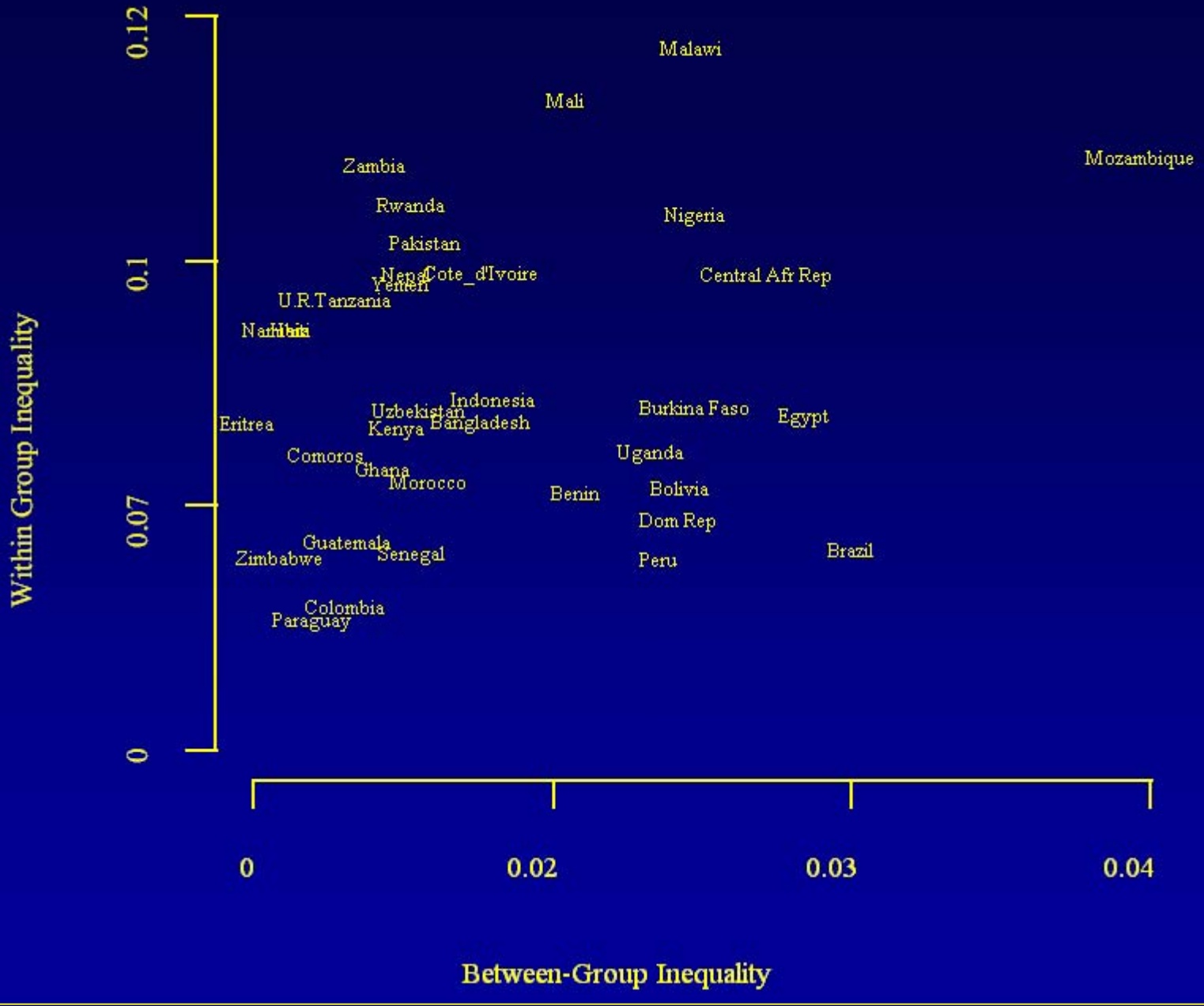


Which inequality measure?

- WHR 2000: $II = \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} \left(|h_i - h_j|^3 \right)}{2n^2 \overline{h}^{0.5}}$

- Absolute & relative measures: address different concerns
- Remainder of presentation: variance (absolute measure, additively decomposable)

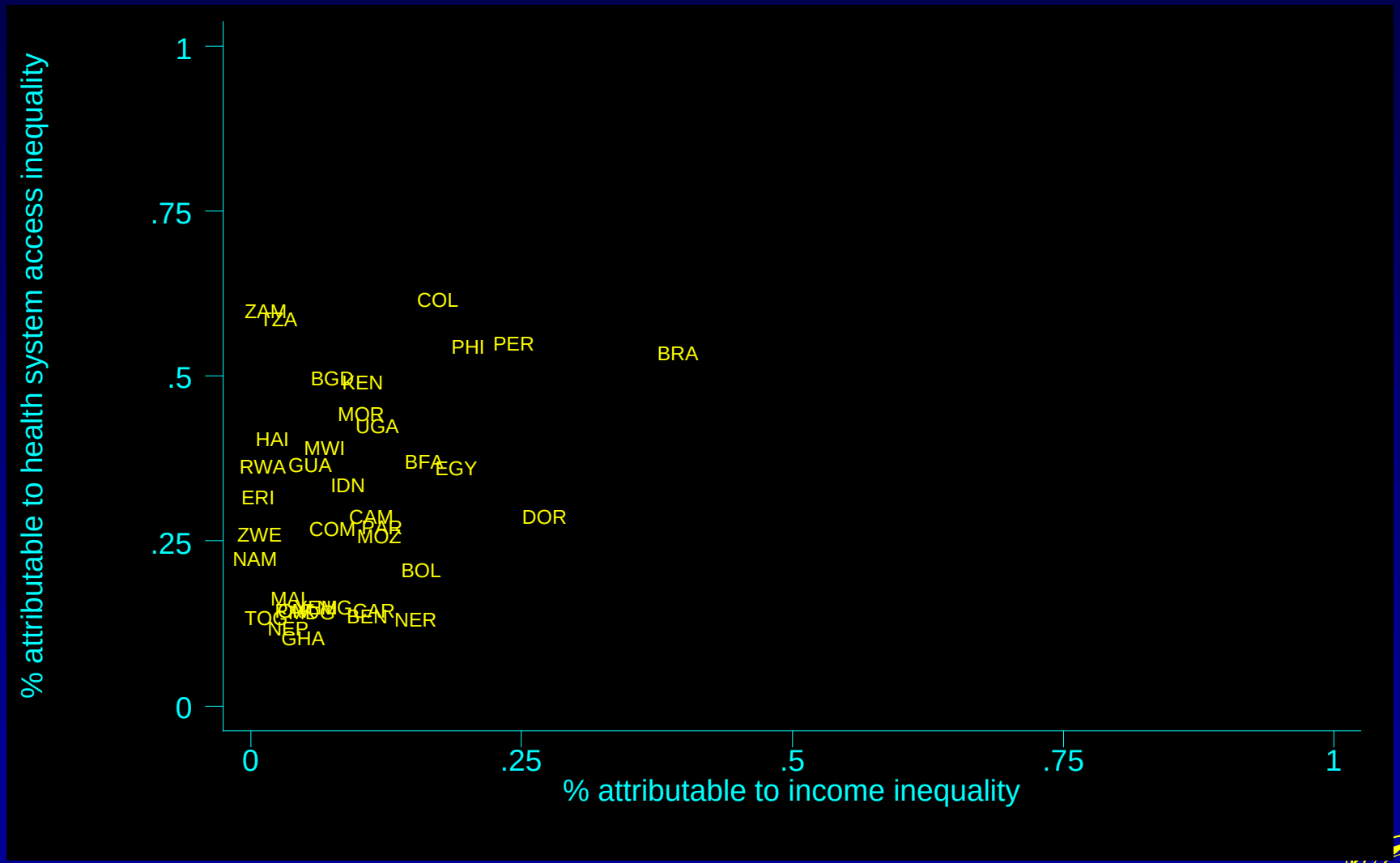

Total
Between
Mozambique
Benin
Mozambique
Benin
Total and Between-Group Inequality
0
0.07
0.1
0.12
0.02
0.05
0.1
0.15
0.2
Average Risk of Death


Within Group Inequality
0.12
0.1
0.07
0
Malawi
Mali
Mozambique
Zambia
Rwanda
Nigeria
Pakistan
Cote_d'Ivoire
Central Afr Rep
Yemen
U.R.Tanzania
Indonesia
Burkina Faso
Egypt
Uzbekistan
Eritrea
Kenya
Bangladesh
Uganda
Comoros
Ghana
Morocco
Benin
Bolivia
Dom Rep
Guatemala
Zimbabwe
Senegal
Peru
Brazil
Colombia
Paraguay
0
0.02
0.03
0.04
Between-Group Inequality

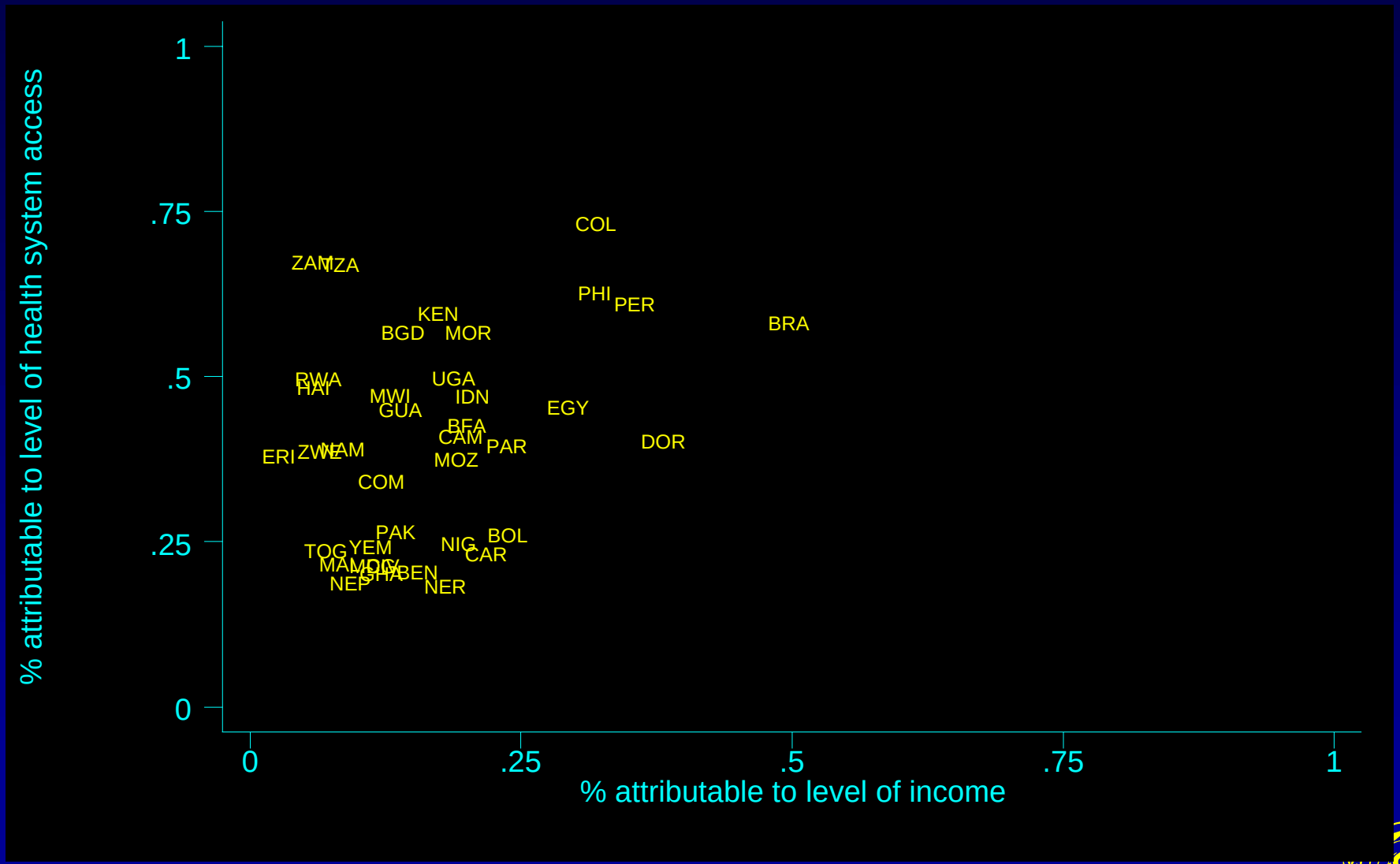
What explains total inequality?

- Policy- relevant variables
  - Income inequality
  - Health services access
  - Maternal education
  - Age at birth of mother
  - Birth spacing
- Use counterfactual scenarios to measure effect

Reducing health inequality through income inequality & health system access inequality



Reducing health inequality by improving the situation for the worst-off



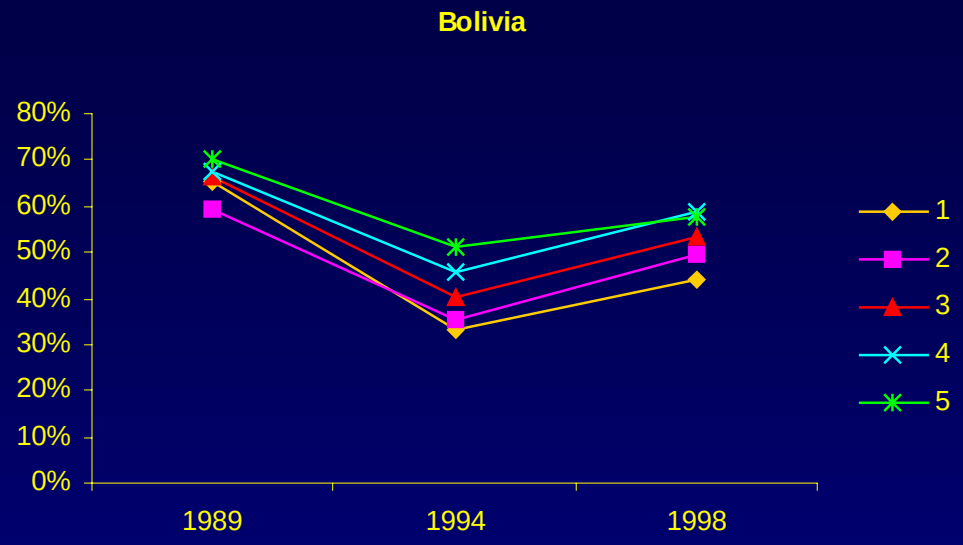
Health of the poor

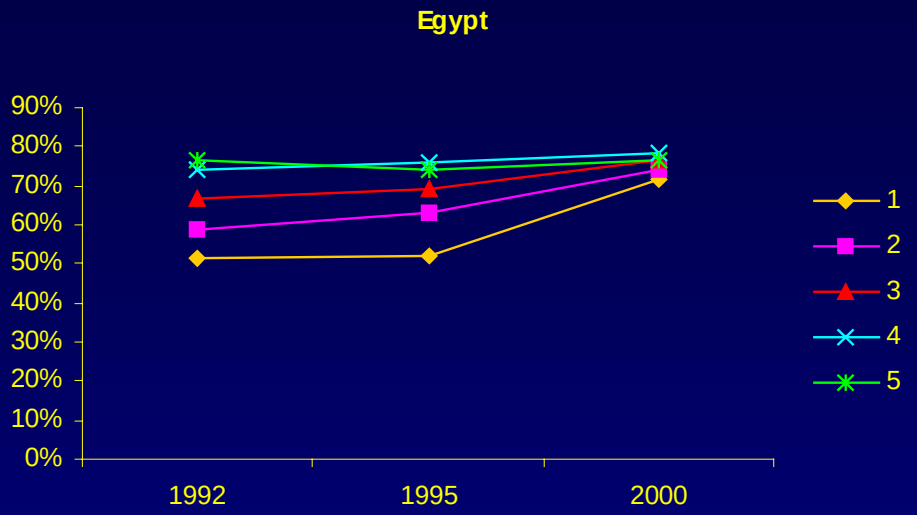
- Special interest in health of the worst-off
- Not previously measured consistently across countries
- Look at levels and trends across countries and time
- Illustrate with examples from Bolivia, Egypt, Guatemala and Zimbabwe

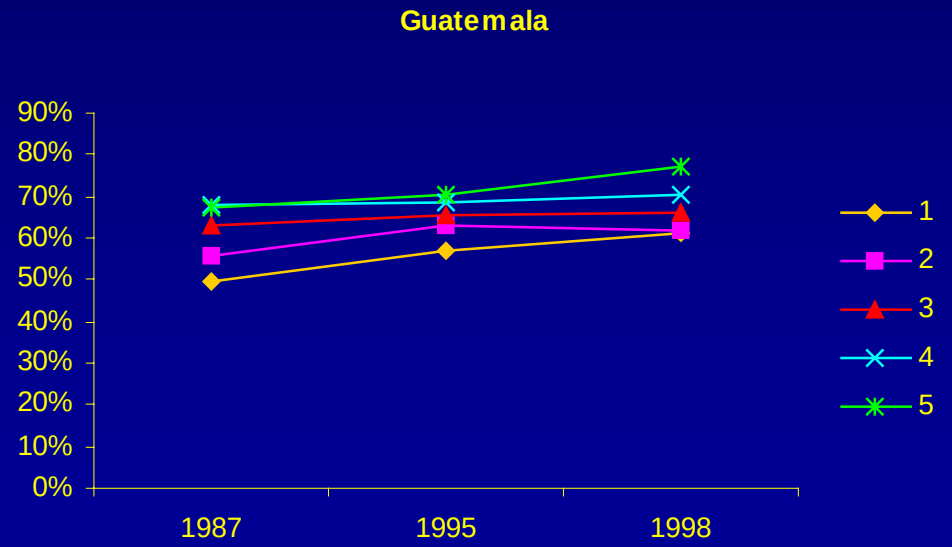
How do we identify “the poor”

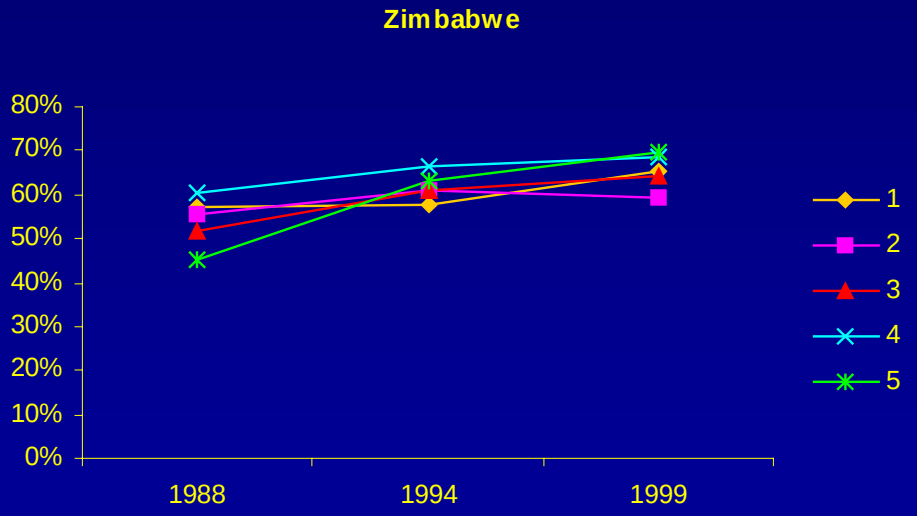
- From DiHOPIT model --> estimate of permanent income for each household
- Income scale is the same across countries
- Divide global population into quintiles
- Examine health differentials across quintiles

Trends in measles immunization by income quintile

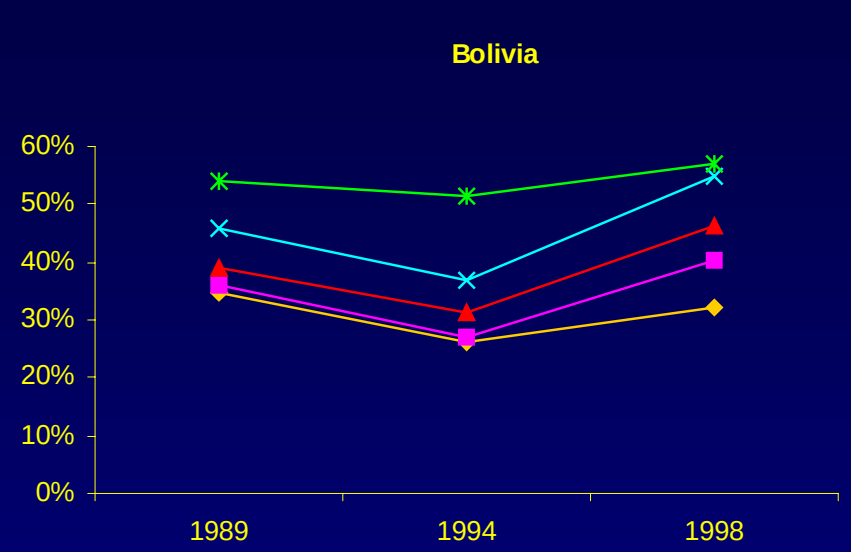


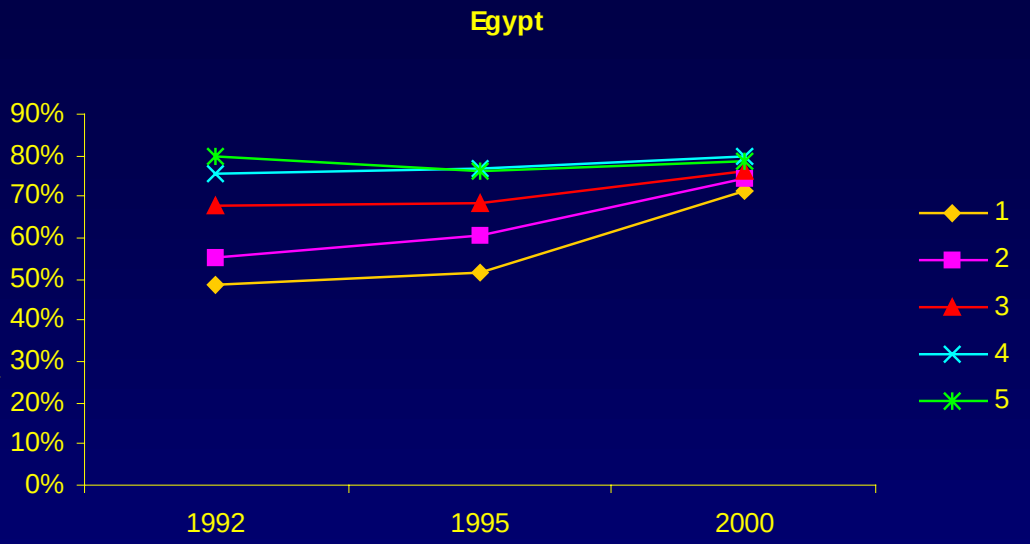


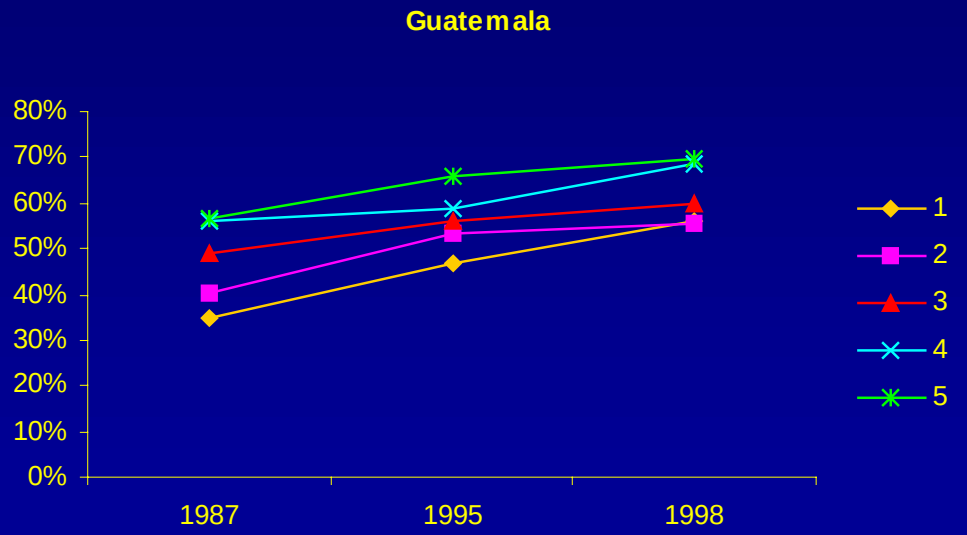


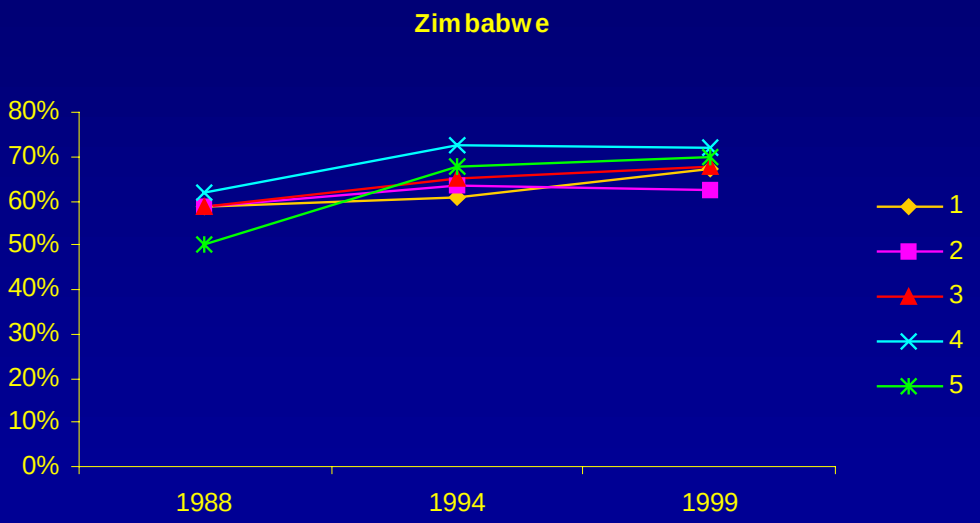


Trends in DPT3 immunization by income quintile

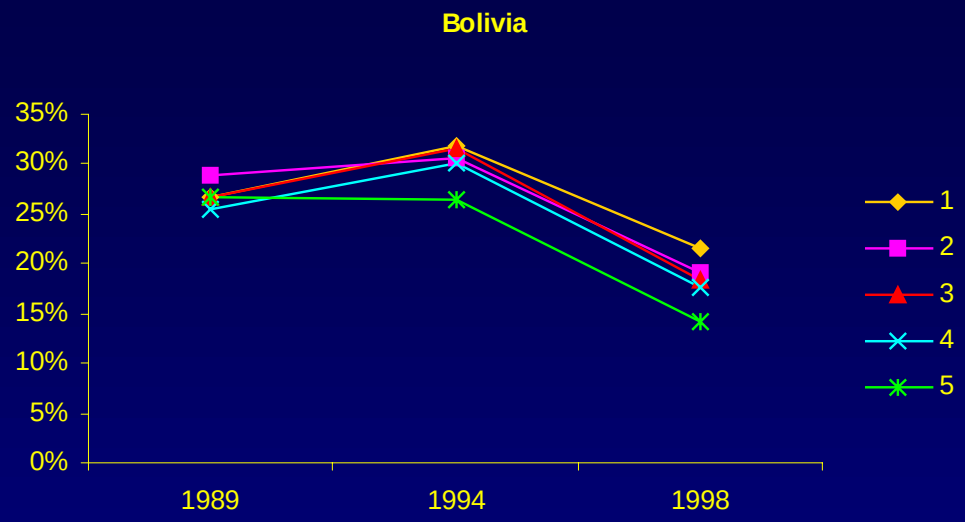


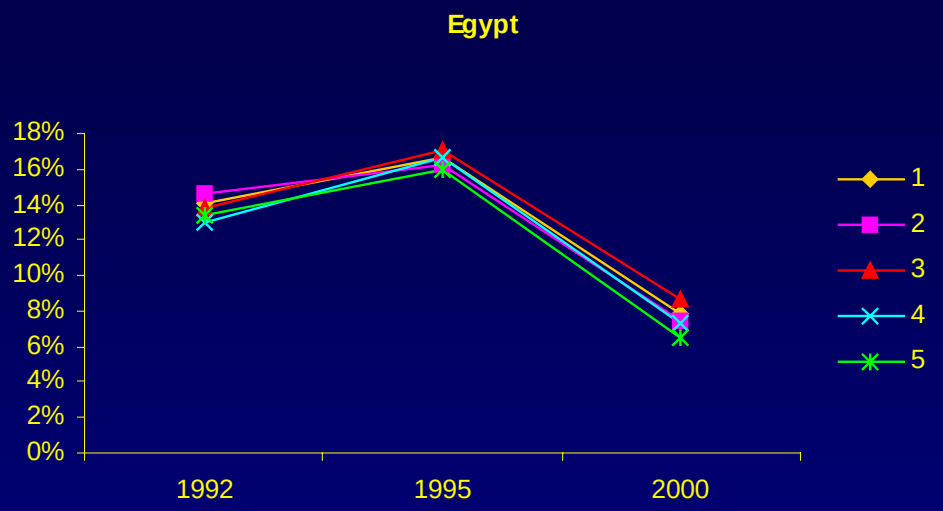


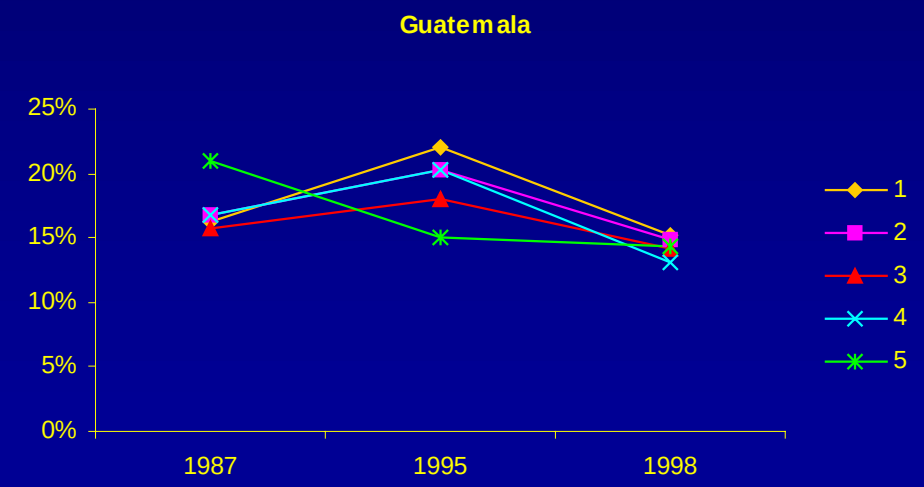


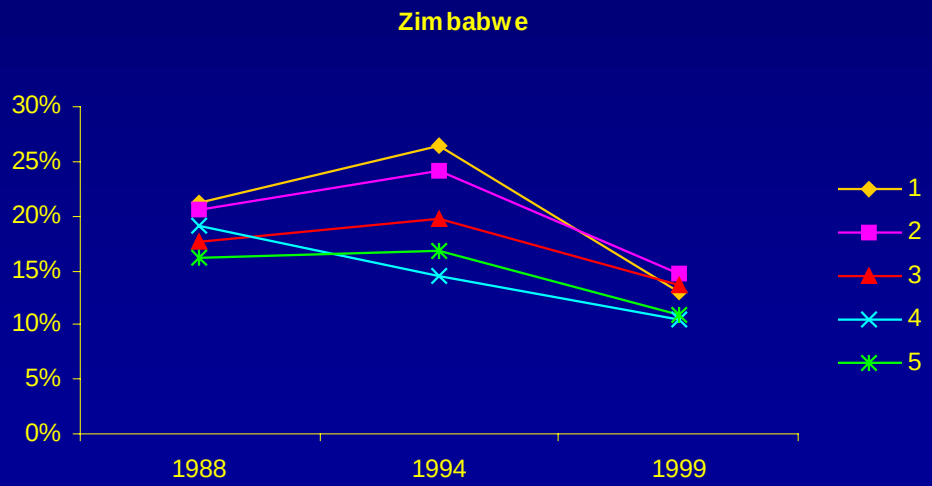


Trends in prevalence of diarrhea by income quintile

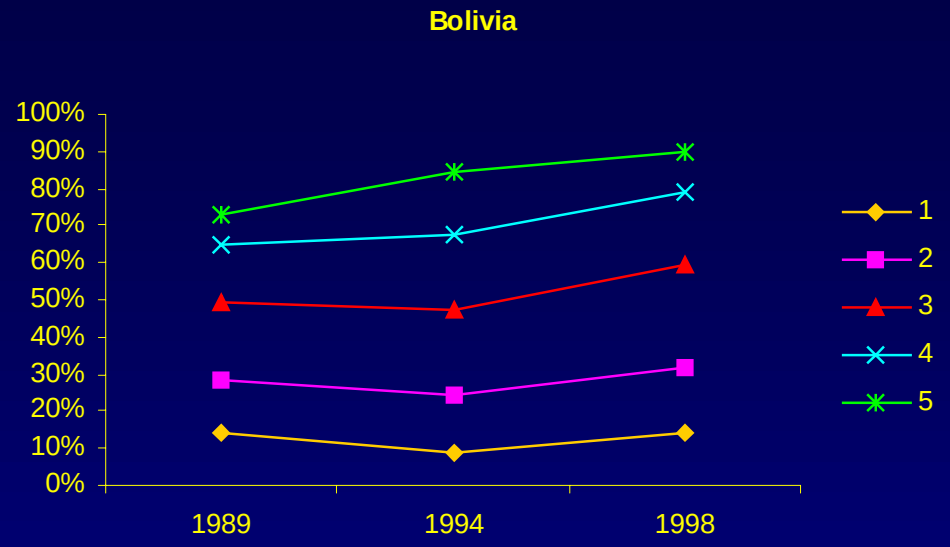


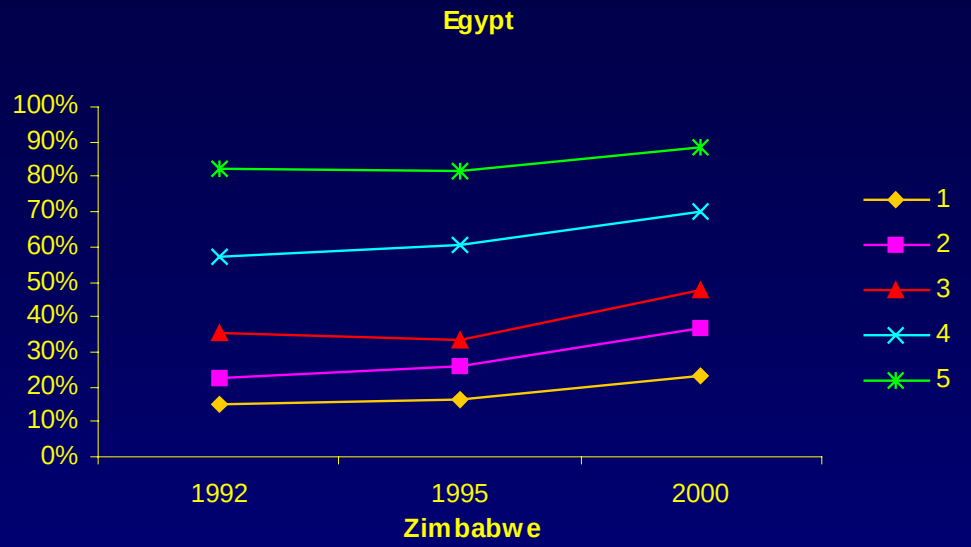


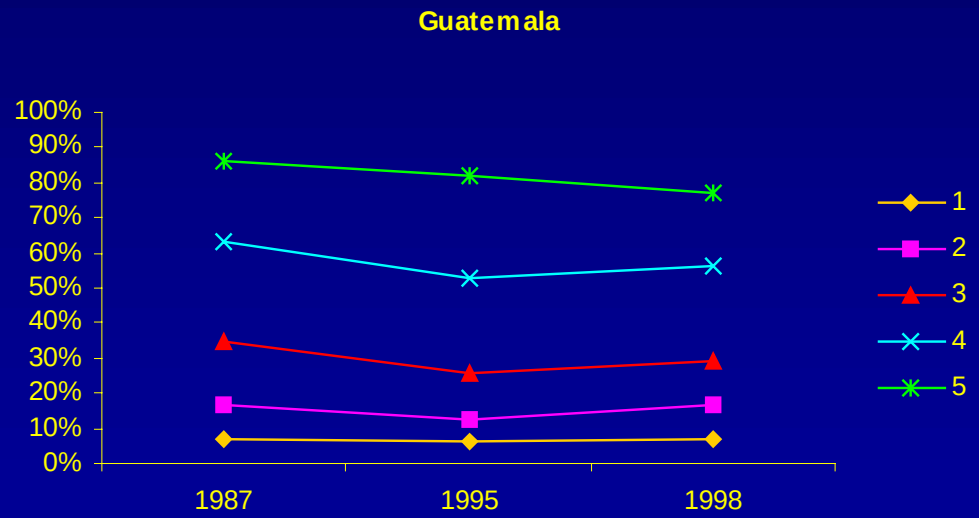


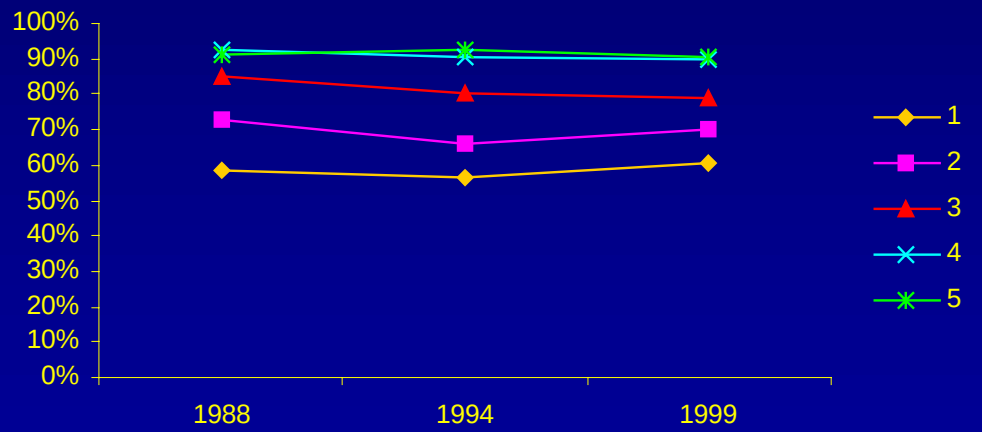


Trends in births attended by skilled personnel by income quintile





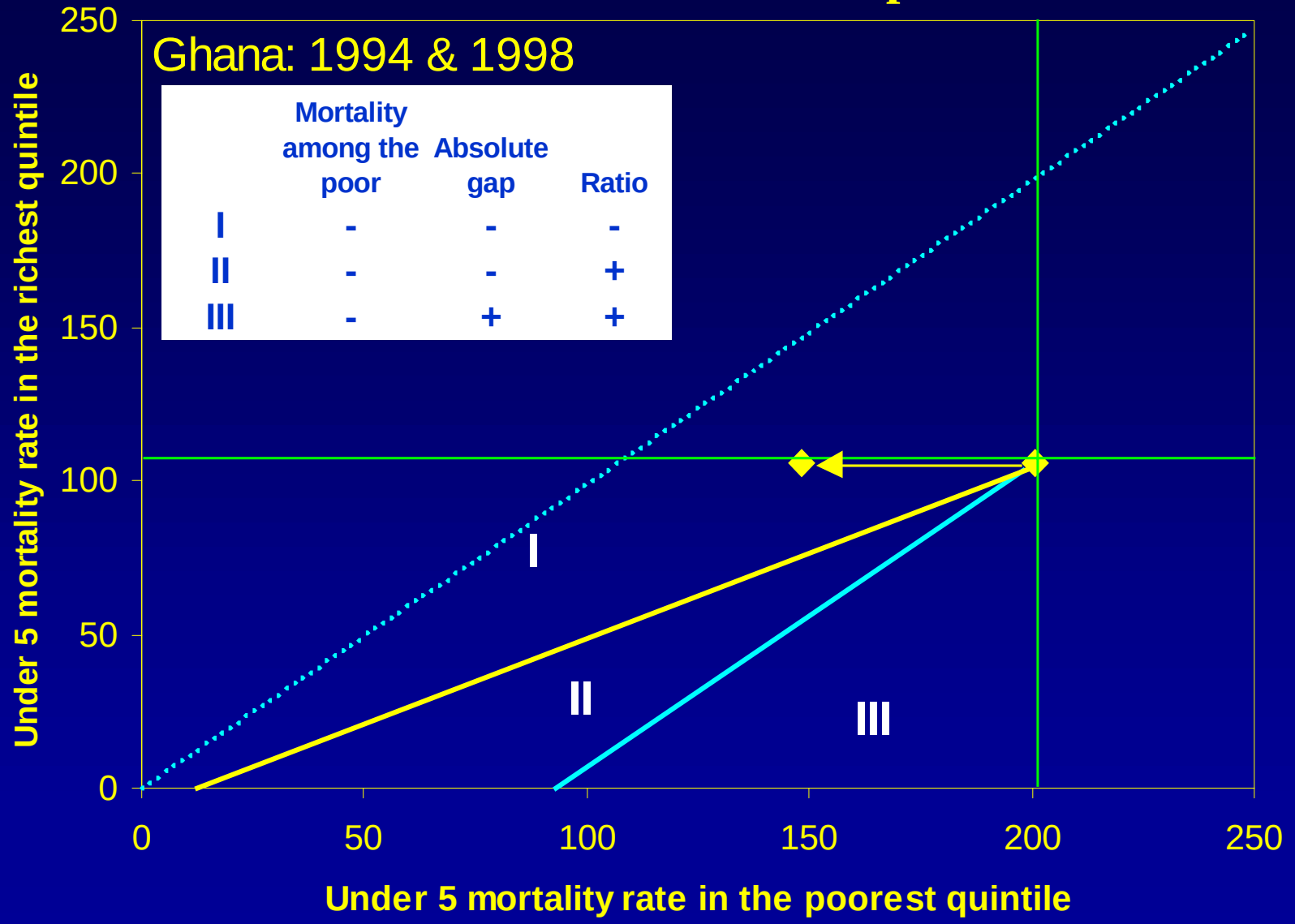




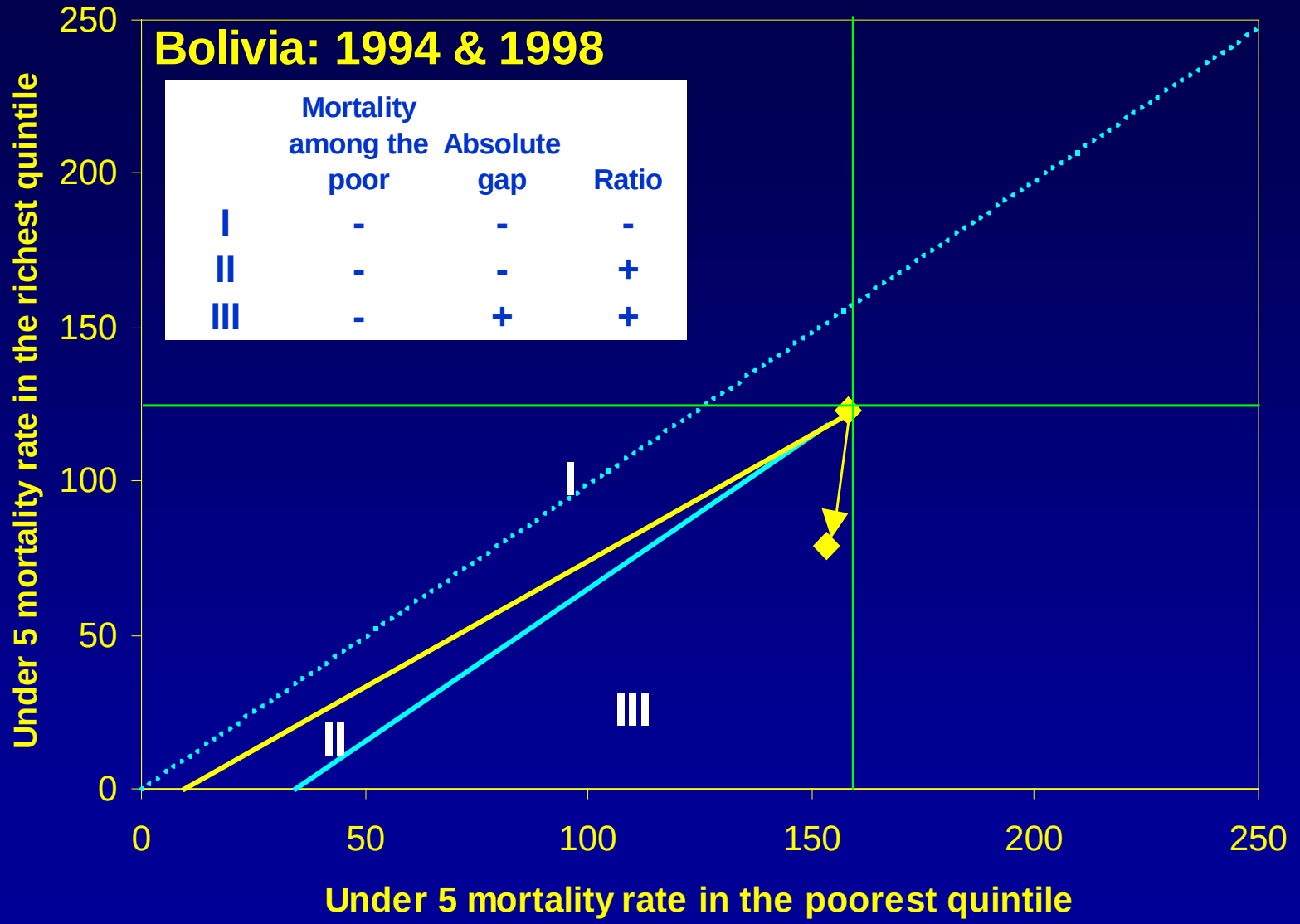
Trends over time: What do we care about?

- Absolute improvement in health of the poor
- Reduction in Q1-Q5 gap (absolute inequalities)
- Reduction in Q1-Q5 ratio (relative inequalities)

Absolute & relative changes in child mortality between the rich & the poor



Absolute & relative changes in child mortality between the rich & the poor



Some conclusions

- Studying total inequality helps identify areas of intervention
- Measuring health of the poor in a consistent way allows for comparison of health of the poor over time and across countries
- Examine pro-poor policies: what has worked?
- Important to look at progress in levels, absolute and relative inequalities