Health Equity

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- *Why measuring equity?*
  - The concept of equity in health and health care - Data requirements for health equity analyses
- *How to measure equity?*
  - Concentration index and concentration curve
  - Achievement index
- *How to identify drivers of inequity?*
  - Inequity in health care delivery – decomposition of concentration index
  - Inequality versus inequity

How to identify drivers of inequity? [continued]

- Decomposition of concentration index
- *How to explain poor-rich gaps in outcomes?*
  - Oaxaca decomposition

- *How to measure the degree of financial protection in health?*
  - Catastrophic payments
  - Impoverishing payments

Health equity and financial protection

- Health equity
  - It's not just population averages health status that matter—gaps between the poor and the better off persist too
  - Differences in constraints between the poor and the better off (lower income, higher time costs, less access to health insurance, living condition), rather than differences in preferences
- Financial protection
  - The poor in developing countries continue to increase a large share of incomes through out-of-pocket payments
  - They're highly uncertain and potentially very large, threatening households' living standards, especially poor and near-poor ones

Measurement

- Measuring health equity and financial protection allows us to:
  - Monitor trends over time
  - Compare countries—benchmarking or compare regions within a country
  - Evaluate the impacts of programs

Focal variables, research questions, and tools

- Health outcomes
- Health care utilization
- Subsidies
- Payments make for health care

Questions can be answered by health equity analysis

- *Snapshots*. Do inequalities between the poor and better-off exist? How large are they?
- *Movies*. Are inequalities larger now than in the 1990s?
- *Cross-country comparisons.* Is inequality in developing countries larger than in developed countries?
- *Decompositions*. To what extent is inequality in child survival explained by inequalities in education, health insurance cover, access to maternal and child health care, etc?
- *Cross-country detective exercises.* To what extent is greater inequality in child survival in Indonesia than Malaysia explained by greater income inequality, given differences in health systems?
- *Program impact on inequalities.* To what extent is inequality in child survival reduced by an intervention such as an immunisation program, expanded health insurance cover or improved water supply?

Questions can be answered by financial protection analysis

- Who pays for health care?
- Are health care payments progressive?
- Do they lead to a more equitable distribution of disposable income?
- Who *really* benefits from health sector subsidies?
- What is the incidence of catastrophic and impoverishing health expenditures?
- Who is most at risk of incurring catastrophic payments?

Health inequality and inequity

- Rich-poor inequalities in health largely, if not entirely, derive from differences in constraints (e.g. incomes, time costs, health insurance, environment) rather than in preferences.
- Hence they are often considered to represent *inequities*.
- But in high-income countries the poor often use more health care and this may not represent inequity.
- Drawing conclusions about health equity involves consideration of the causes of health inequalities.

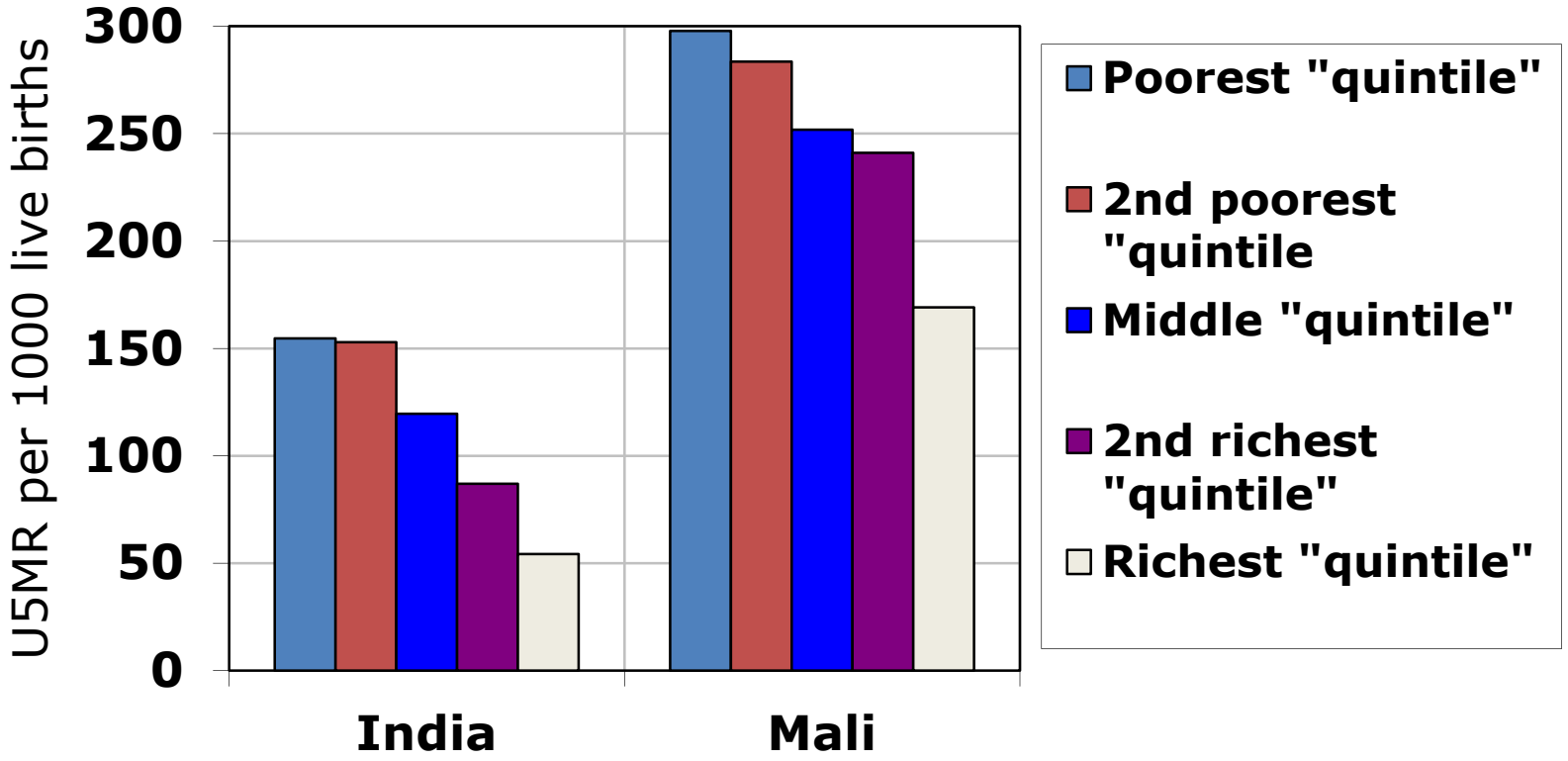
Equity in relation to what?

- Equity in health, health care and health payments could be examined in relation to gender, ethnicity, geographic location, education, income….
- This course focuses on equity by socioeconomic status, usually measured by income, wealth or consumption.
- Many of the techniques are applicable to equity in relation to other characteristics but they often require that individuals can be ranked by that characteristic.

The basic idea

- The poor typically lag behind the better off in terms of health outcomes and utilization of health services
- Policymakers would like to track progress – is the gap narrowing? – and see how their country compares to other countries, or region compares to other region within the country
- Data are often presented in terms of economic or socioeconomic groups

In which country are child deaths distributed most unequally?



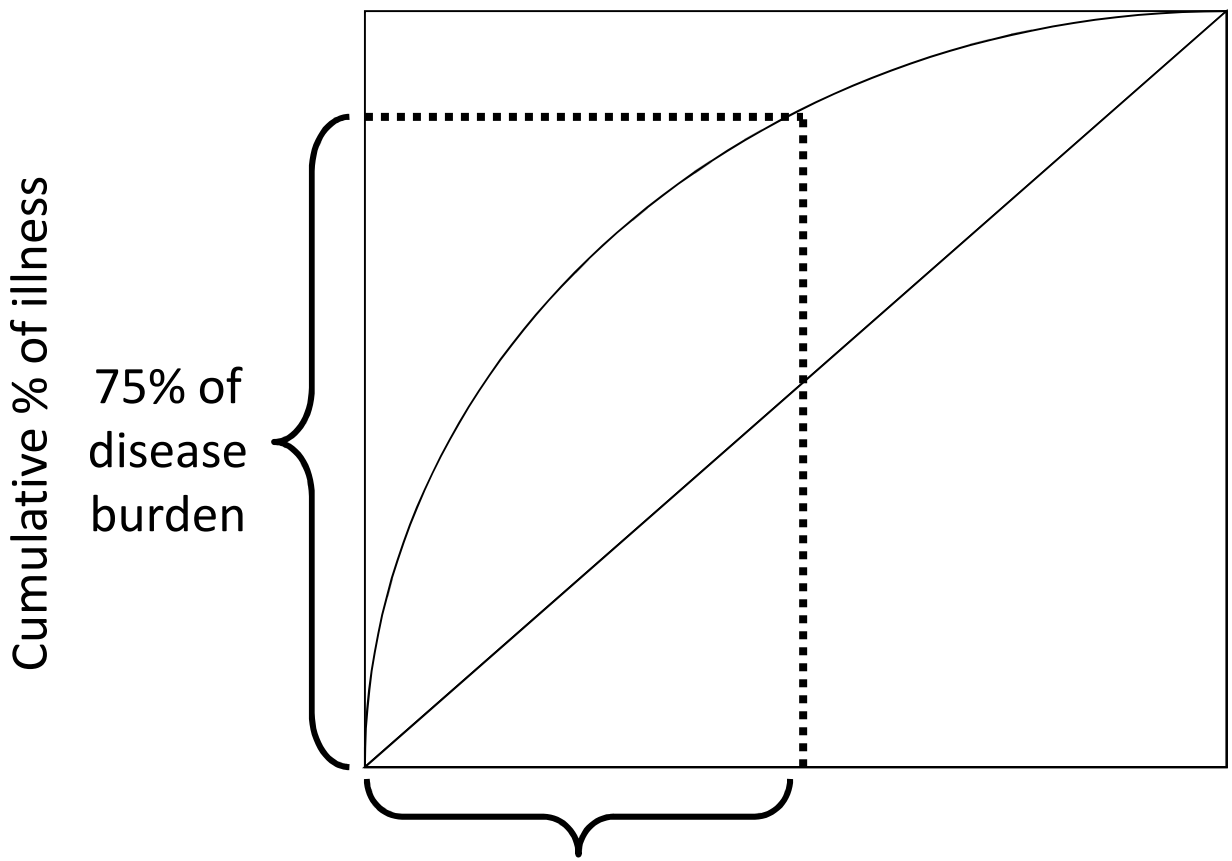
Rate ratios can be used: but don't consider how skewed the distribution is in the middle quintiles

Comparison made difficult by differences in average levels

How to measure health disparities?

- Borrow rank-dependent measures—Lorenz curve and Gini Index—and their bivariate extensions—concentration curve and index—from income distribution literature and apply to socioeconomic-related inequality in health variables

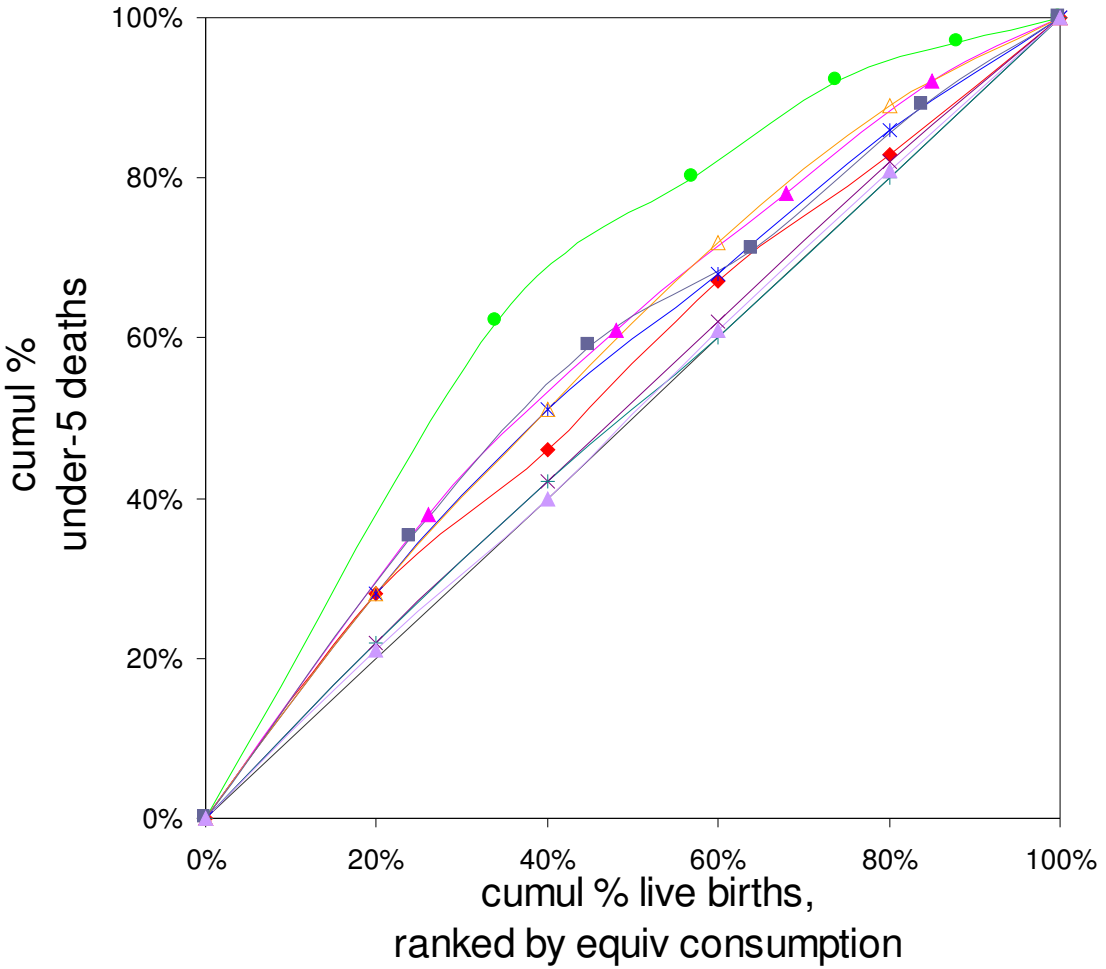
Illness concentration curve



Here inequality <u>disfavors</u> the poor: they bear a greater share of illness than their share in the population

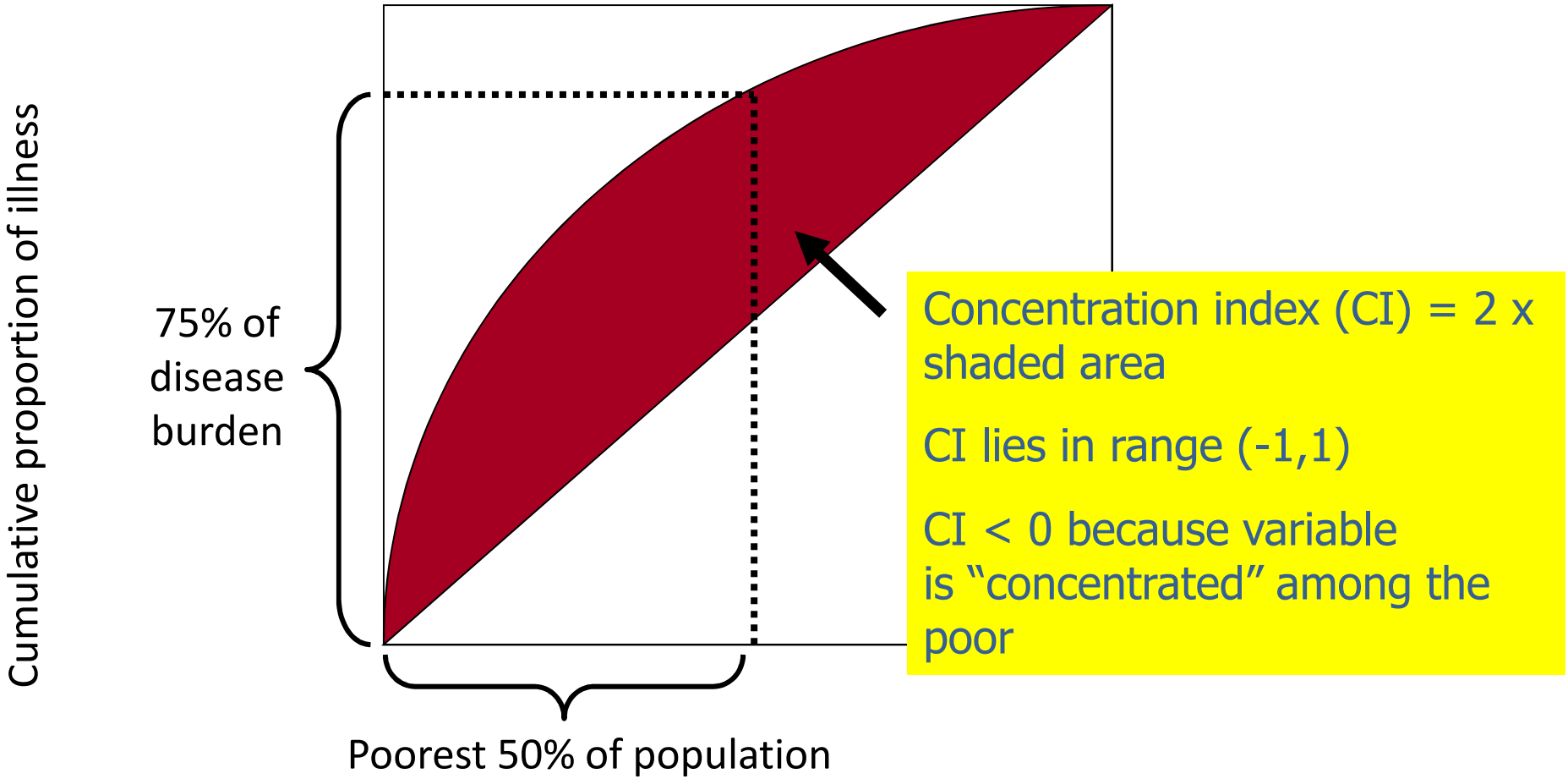
The further the CC is from the line of equality, the greater the inequality!

Comparing too many concentration curves is bad for your eyes!

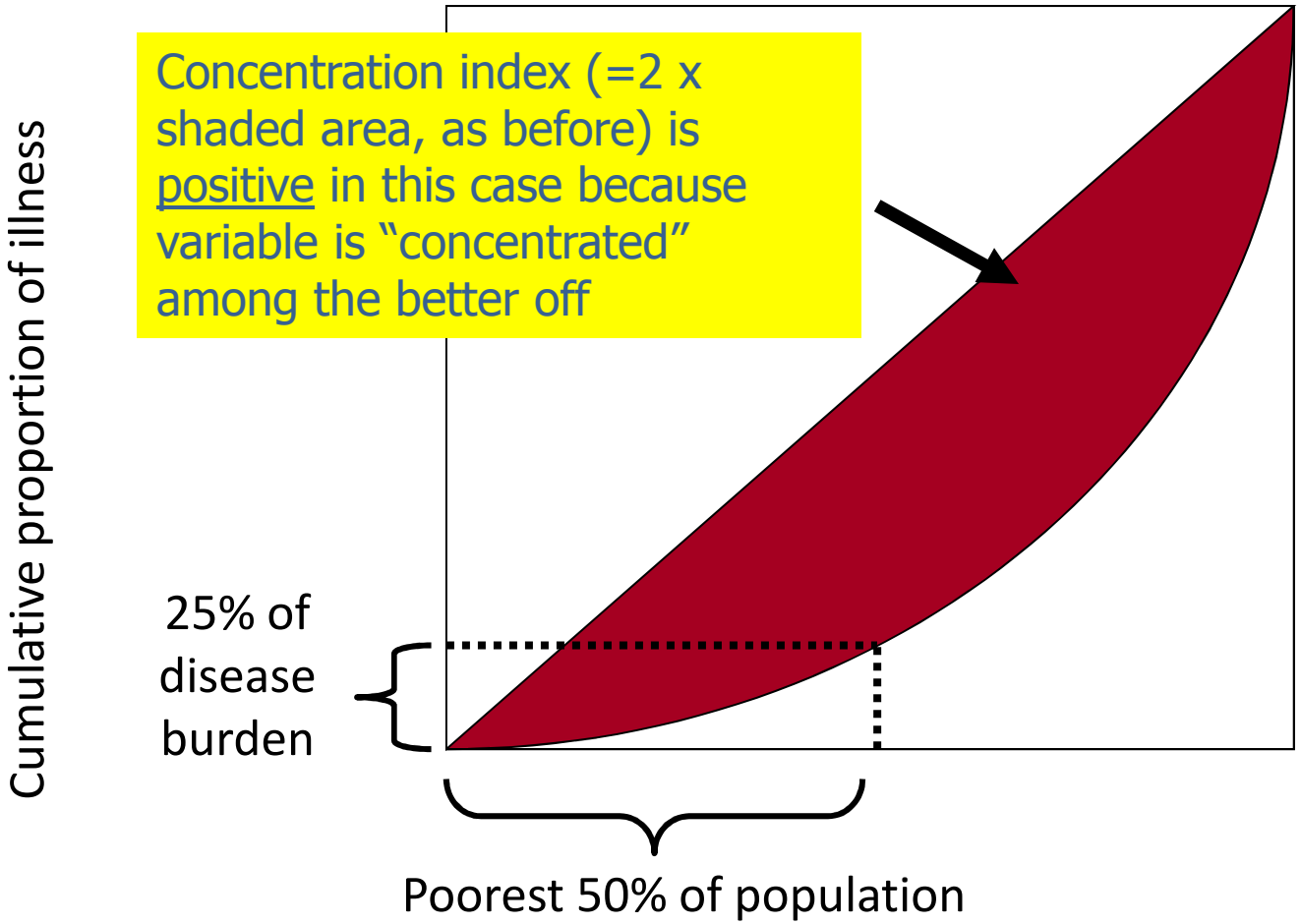


Brazil is most unequal, but how do the rest compare?

The concentration index is a useful tie-breaker



The case where inequalities in illness favor the poor

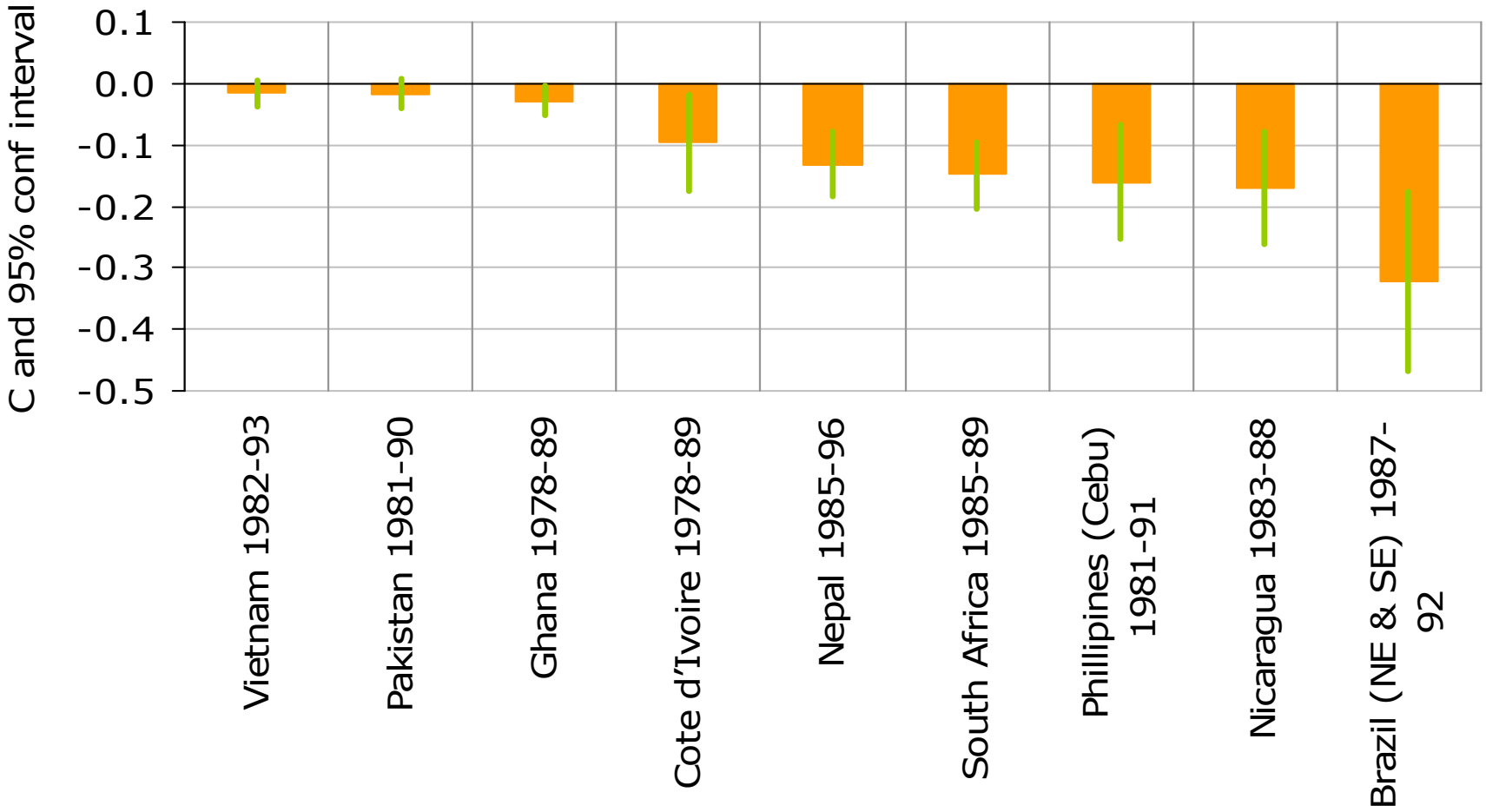


Here inequality favors the poor: they bear a smaller share of illness than their share in the population

Beware!

A negative CI doesn't necessarily imply poor outcomes for the poor. It depends on whether the health variable being analyzed is a "good" outcome or a "bad" outcome.

Concentration indices for U5MR



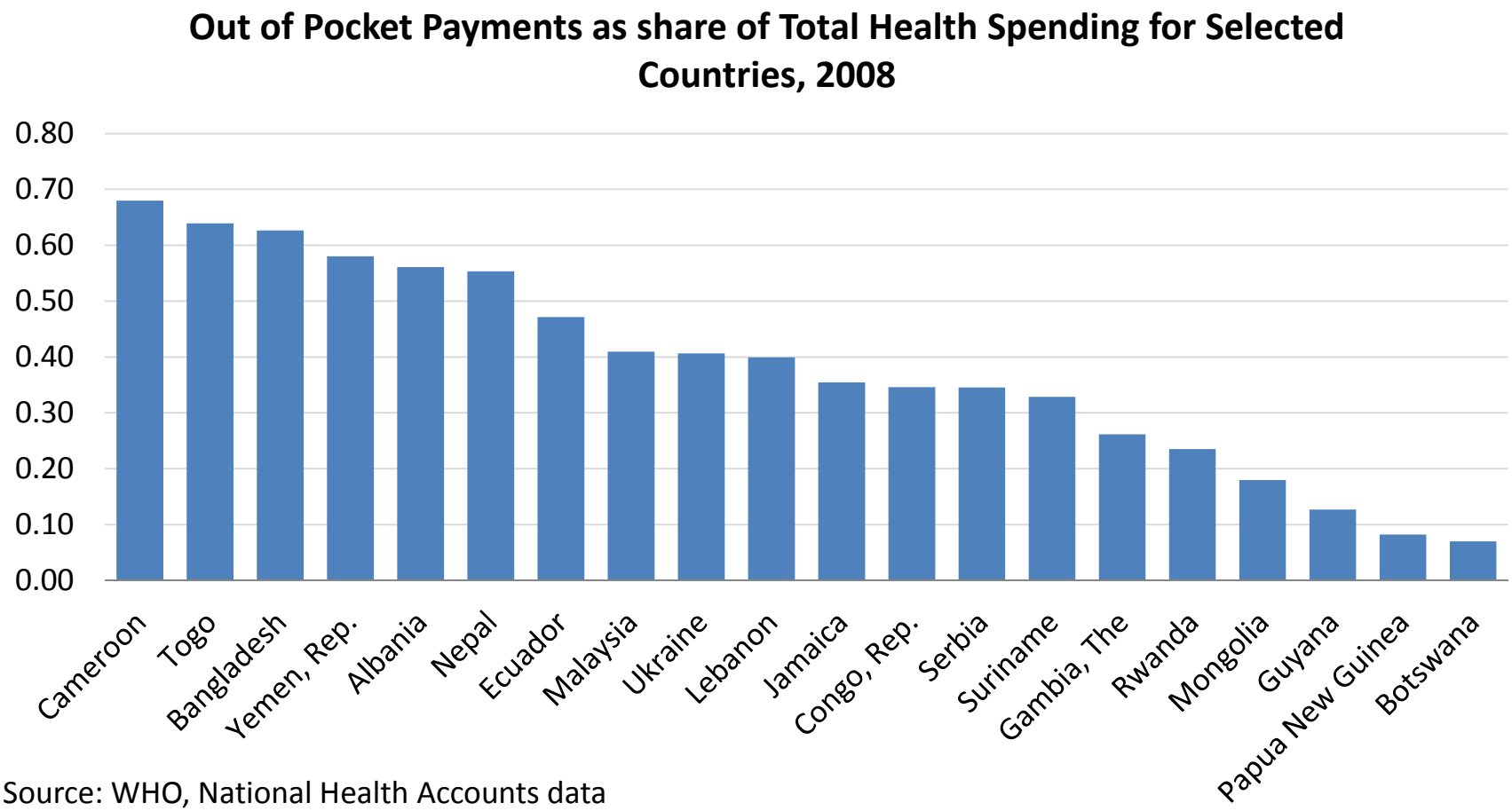
Where to go from here?

- Analyses of equity in health requires data on
  - Health
    - Infant mortality, stunting/wasting, self-assessed health
    - Chronic conditions -> reporting bias!
    - Measured hypertension, grip strength, blood tests
  - Socioeconomic status
    - Need to be able to rank people from poor to reach
    - Consumption, expenditure, wealth index

Financial Protection

Catastrophic Health Expenditure

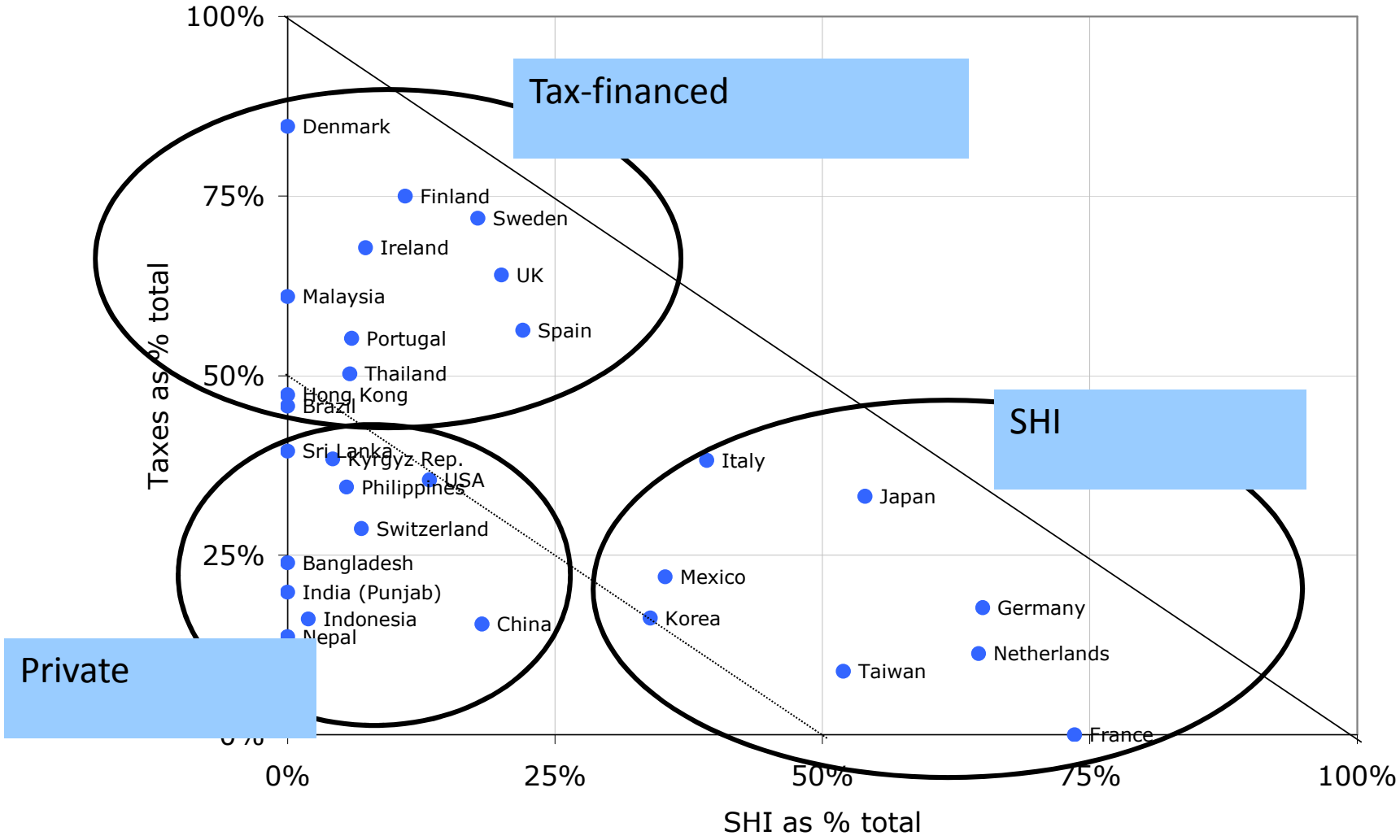
Out-of-pocket spending on health



Source: WHO, National Health Accounts data

To what extent does the health system protect people from the (potentially devastating) effect of out-of-pocket payments?

Groupings of countries by dominant source of health finance



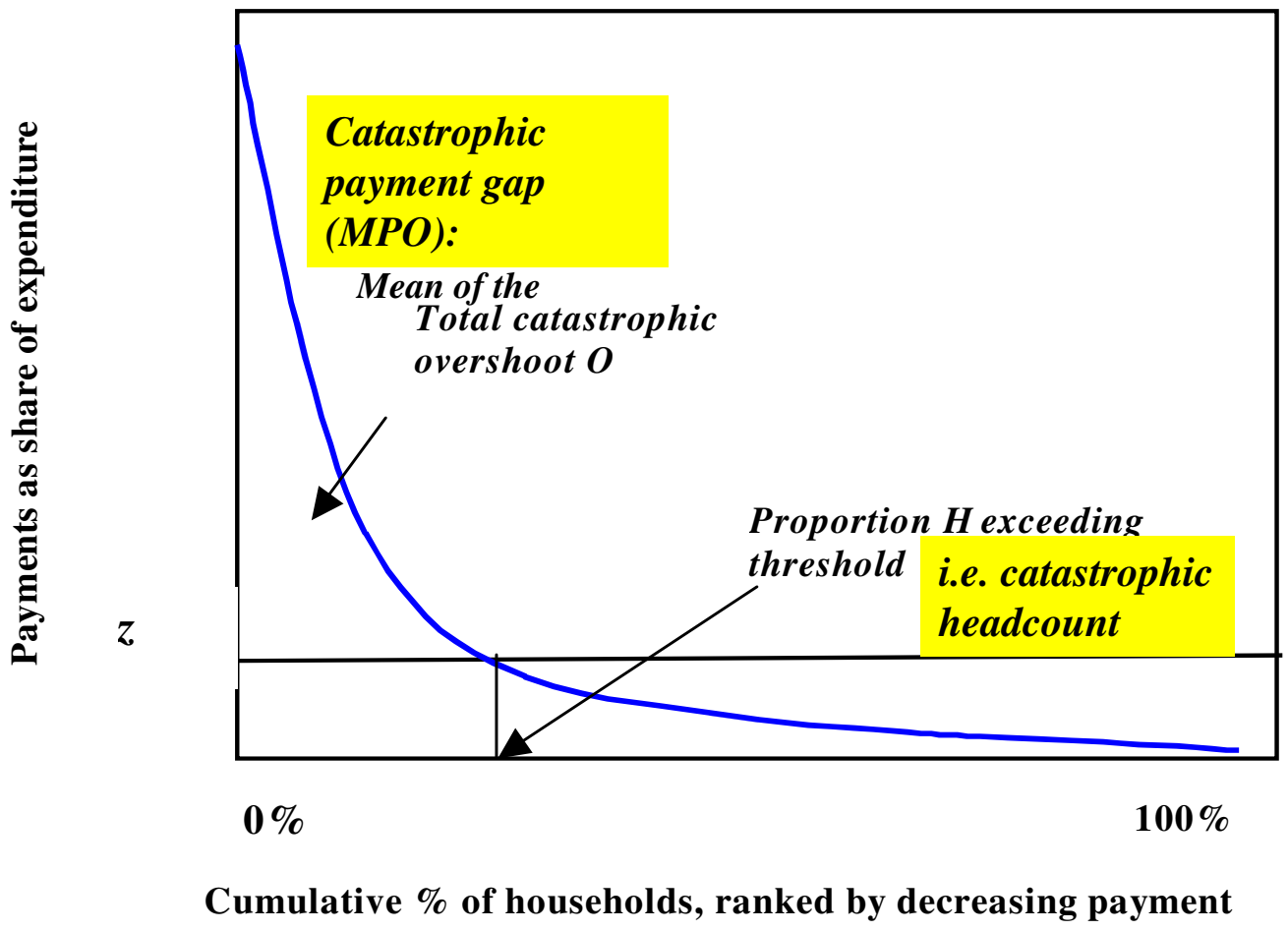
The basic idea (cont'd)

- Out-of-pocket expenditure (OOP) on medical care is considered involuntary
- OOP displaces resources available for other goods and services. It enables households to restore well-being, not increase it
- Measures of financial protection relate OOP to a threshold
  - Classify spending as "catastrophic" if it exceeds a certain fraction of household pre-payment income or consumption
  - Classify spending as "impoverishing" if it's so large it pushes households below the poverty line

What's 'catastrophic' spending?

- Measure whether, and by how much, health spending exceeds a defined threshold (e.g. 10%, 15%, 25%, 40%) of pre-payment income/consumption
- Can define threshold as share of:
  - Total consumption, or
  - Non-food (i.e. discretionary) consumption. This 2nd approach can deduct either:
    - Actual food consumption, or
    - An estimate of the amount the household ought to have spent on food (WHO does this—it can lead to negative non-food consumption!)

Measure of catastrophic health expenditures



(1) Catastrophic payment headcount: % of households whose health spending exceeds the threshold (z)

(2) Catastrophic payment gap (MPO): Average % by which health spending exceeds the threshold, among those with catastrophic spending

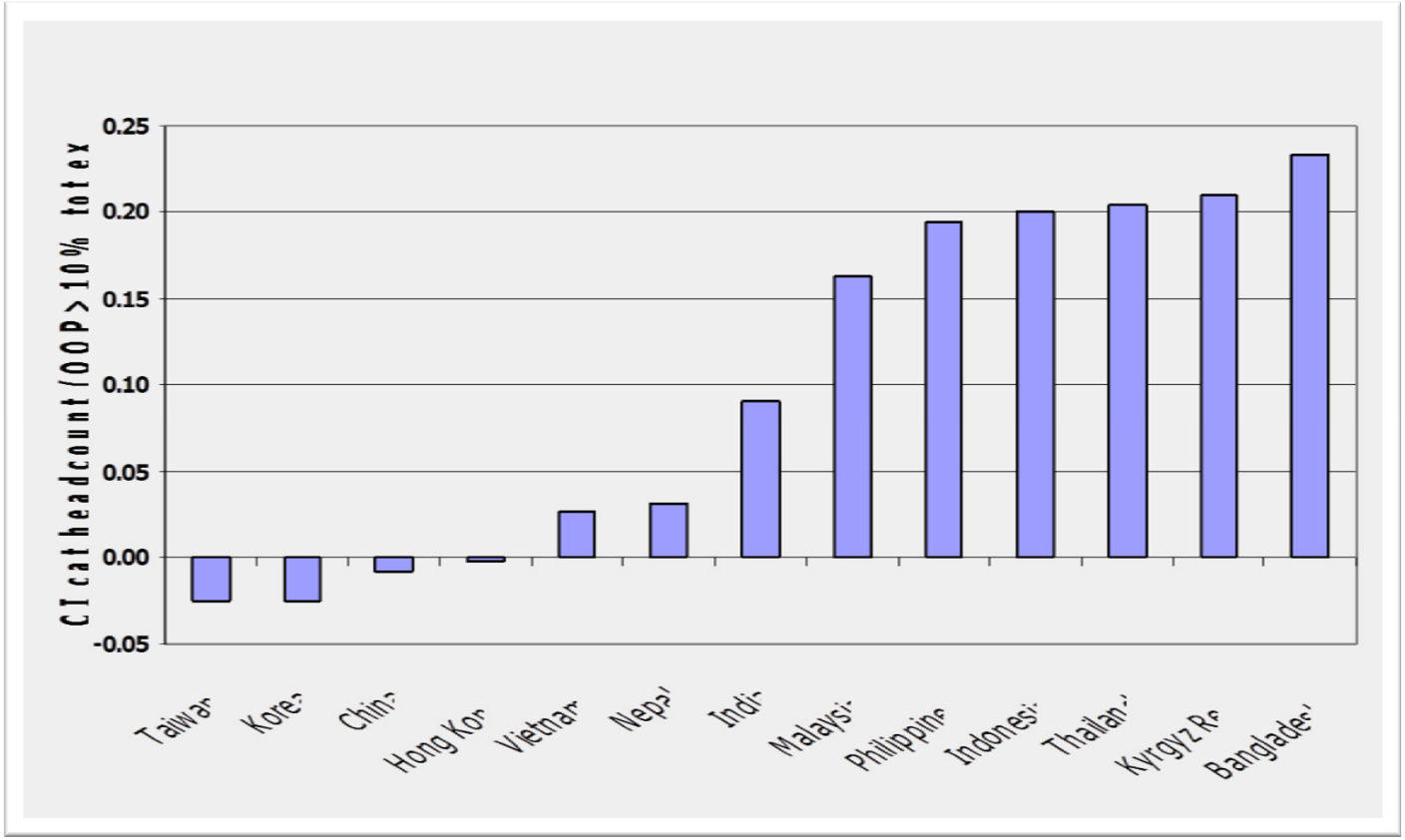
Catastrophic payments: an example

	Assume share spent on health	Catastrophic payment headcount	Overshoot
Household 1	45%	1	35%
Household 2	30%	1	20%
Household 3	20%	1	10%
Household 4	10%	0	0%
Household 5	5%	0	0%
Aggregate(%)		3/5=60%	65%
Mean overshoot(%)			65/5=13%
Mean positive overshoot (%)			65/3=21.7%

Assumes catastrophic payment defined at threshold of 10% of prepayment income

Incidence of catastrophic payments is higher among the better-off in low-income countries

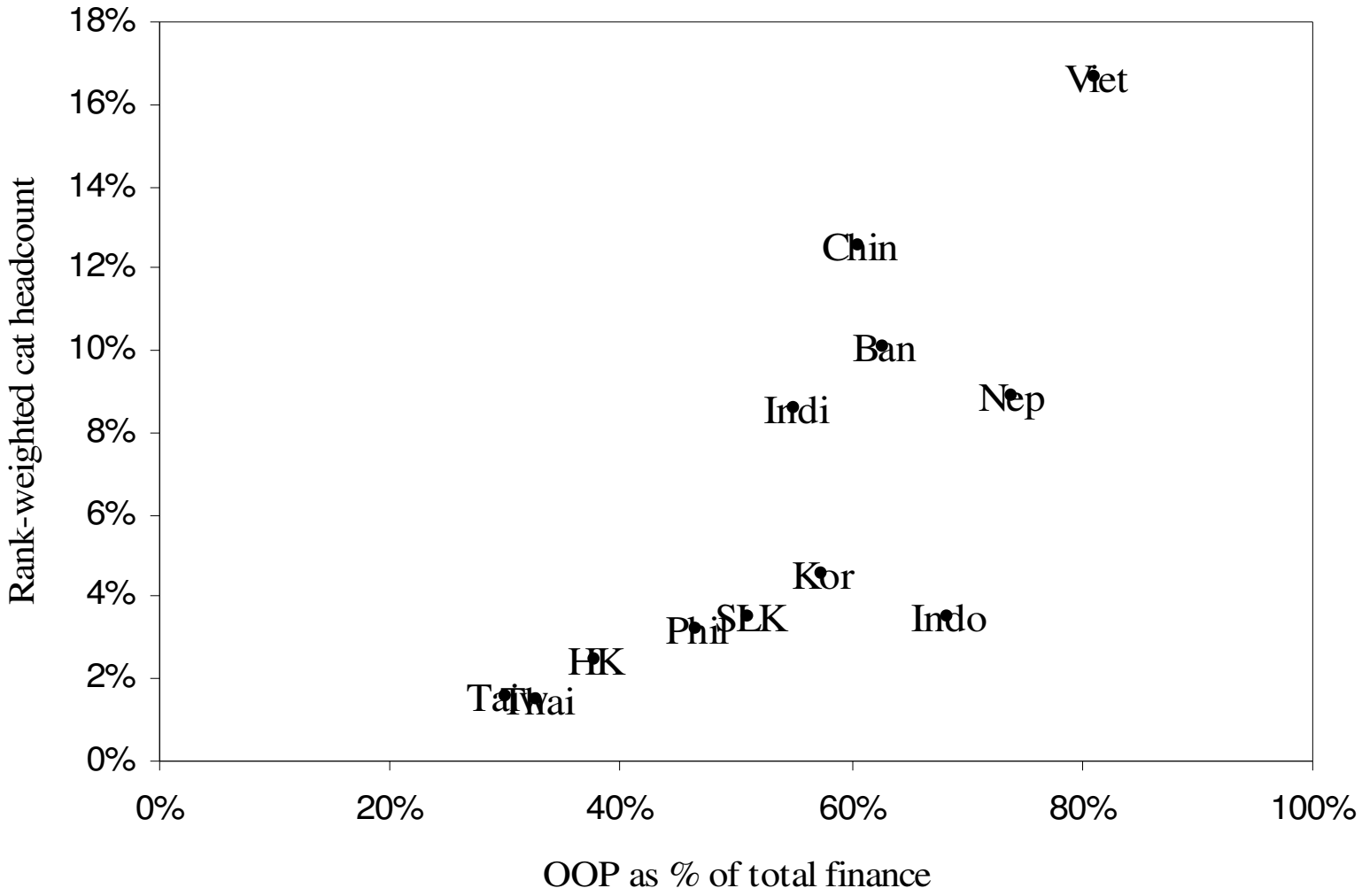
Concentration index for the catastrophic payment headcount defined as OOP > 10% of total expenditure



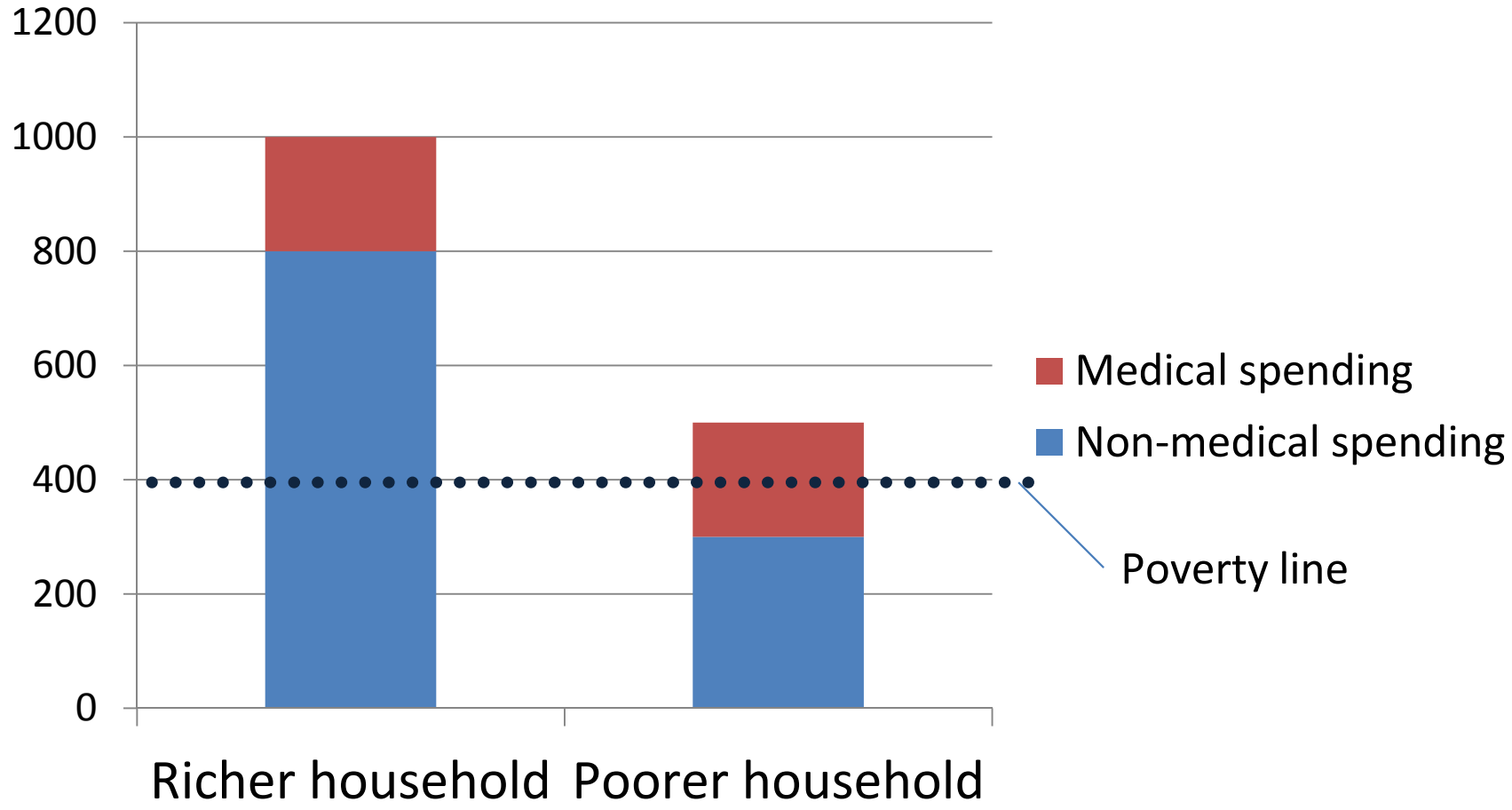
Distribution-sensitive measures of catastrophic payments

- Given the severity of their budget constraints, the very poor are less likely to incur catastrophic payments in low-income countries
- When incurred, catastrophic health expenditures may have a larger impact on the welfare of the very poor
- Take into account by weighting catastrophic payments in inverse relation to position in the income distribution
- Compute *rank-weighted* measures of catastrophic payments
- Let C_E be the concentration index for the indicator of catastrophic payments, E. $C_E > 0$ indicates the better-off are more likely to incur catastrophic payments
- Rank-weighted headcount: $H^W = H(1- C_E)$, $H^W < H$ if $C_E > 0$
- Rank-weighted overshoot: $O^W = O(1- C_o)$, $H^W < H$ if $C_O > 0$

Fig 4: Rank-weighted catastrophic impact of OOPs
(OOP>25% of non-food)



Catastrophic payments don’t get at the degree of economic hardship caused



A simple example

- Depending on whether we include OOP in the consumption aggregate:
  - We get 1 more household in poverty, and
  - The poverty gap rises by an amount equal to the poorer household's shortfall from the poverty line