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Income Inequality: Challenges for Measurement and Policy

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Global income inequality

Part A: How are we doing?

- Received wisdom + dissenting views
- Global perspective + example of Indonesia.

Part B: How can we do better?

- Objectives and constraints; policy options
- Recommendations for thinking about better policies.

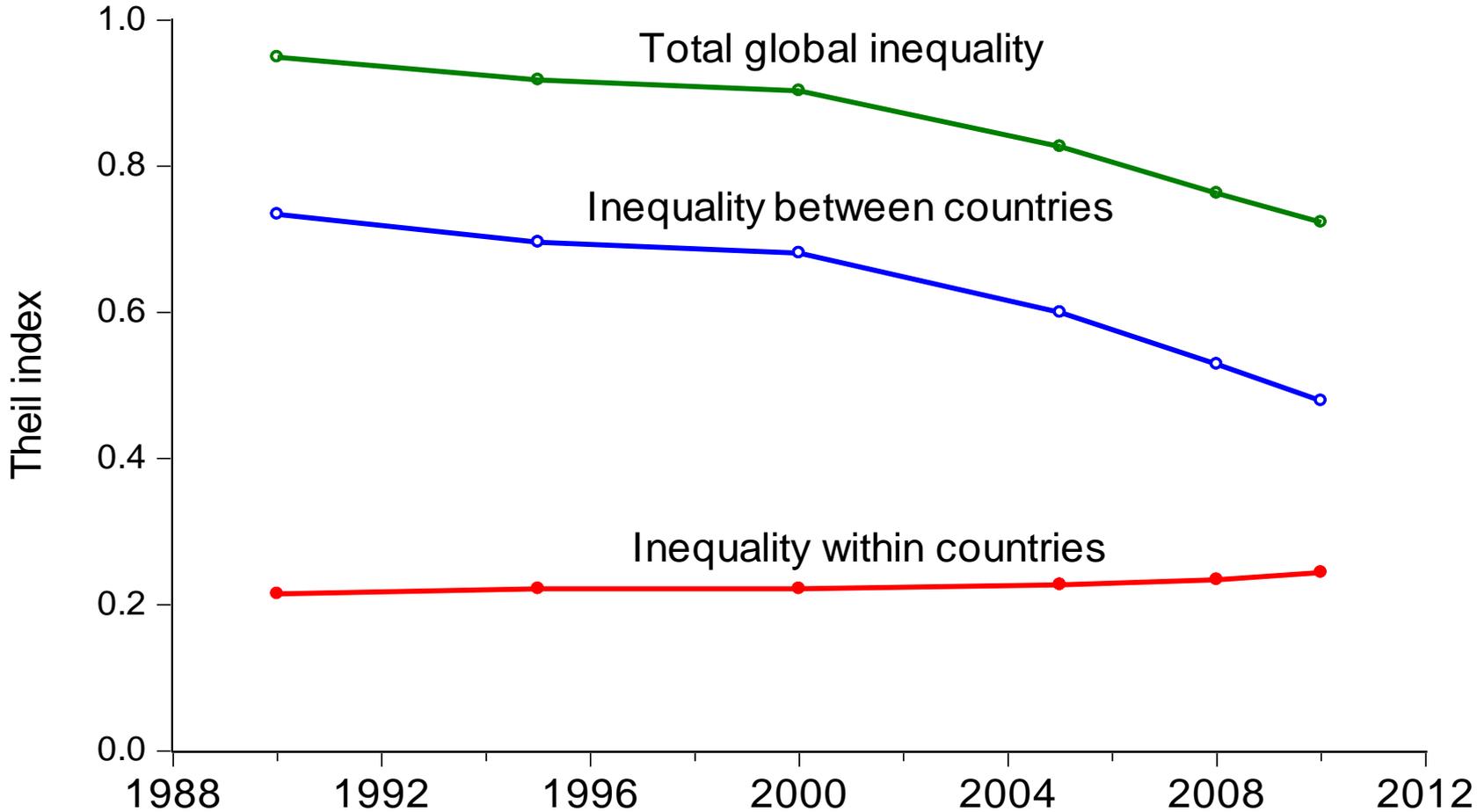
Part A: How are we doing?

First, the received wisdom

A (super) short history of global inequality

- **Rising global inequality** from 1820 to about 1990.
 - Driven mainly by divergent growth processes: today's rich world takes off from the early C19th (though some late starters).
- The pattern changed dramatically toward the end of the C20th. **Falling global relative inequality in the new Millennium.**
 - Driven by convergent growth processes, esp., high growth in Asia.

Global relative inequality since 1990



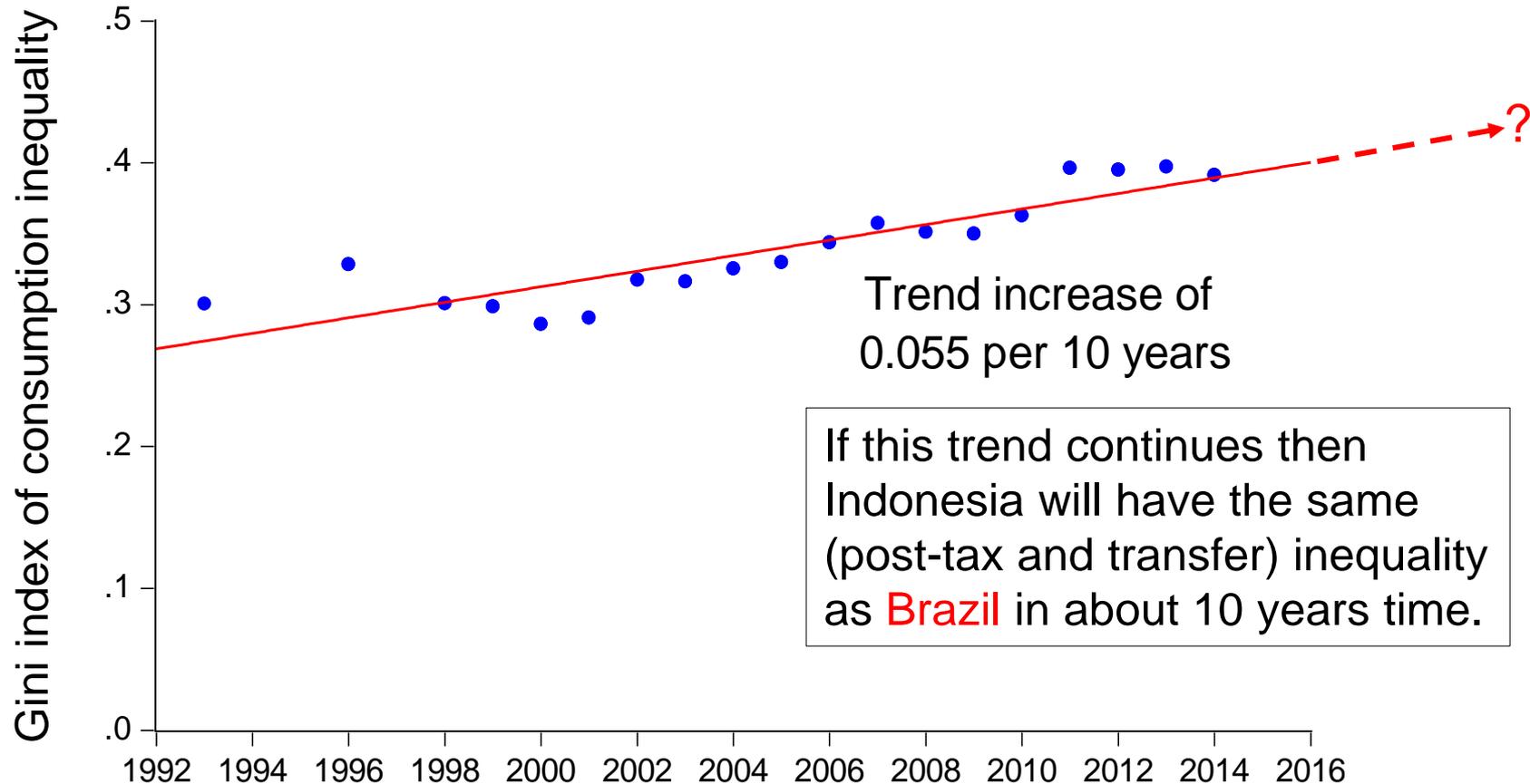
Source: Bourguignon (2016).

Rising inequality within many countries, but not all

- Average inequality within countries has edged upwards since 2000.
- Famous examples of US, China (though signs of stabilization) and India. Also some newcomers; Indonesia =>
- But also falling inequality in some countries (famously Brazil).
- Signs of (slow) **inequality convergence**: inequality tends to rise when low, fall when high.
- All this assumes **anonymity**. Rising inequality based on cross-sectional surveys is consistent with **convergent income changes** in longitudinal data. Indeed, often observed.

Rising inequality in Indonesia

After long period of stable/declining inequality since 1970



The received wisdom is out-of-step
with popular thinking

Three things are missing from the way economists measure “inequality”

1. Absolute inequality matters
2. The poorest matter
3. National income matters

1. Wake up call to economists:
Many people care about absolute inequality,
and they care about the extremes

Absolute versus relative inequality

- **Relative inequality** is measured using the ratios of incomes relative to overall mean.
- **Absolute inequality** is about the absolute differences—the gap between rich and poor.
- Absolute inequality matters more to many people.
- Which is more unequal?
 - State A: (1, 2, 3)
 - State B: (2, 4, 6)
- Over **half** the students (n=450) say State B has higher inequality. Similarly for my **Twitter survey** (n=250).
- Yet most (relative) inequality measures (such as Gini index) say that there is no difference.

Debates on inequality are often debates between absolutists and relativists

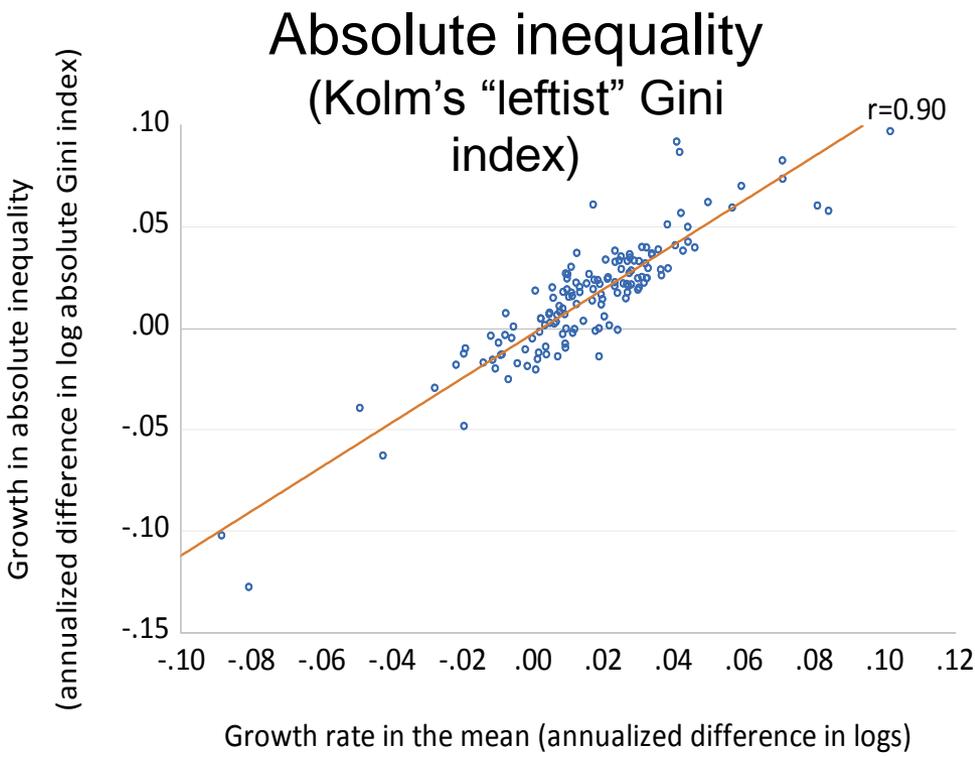
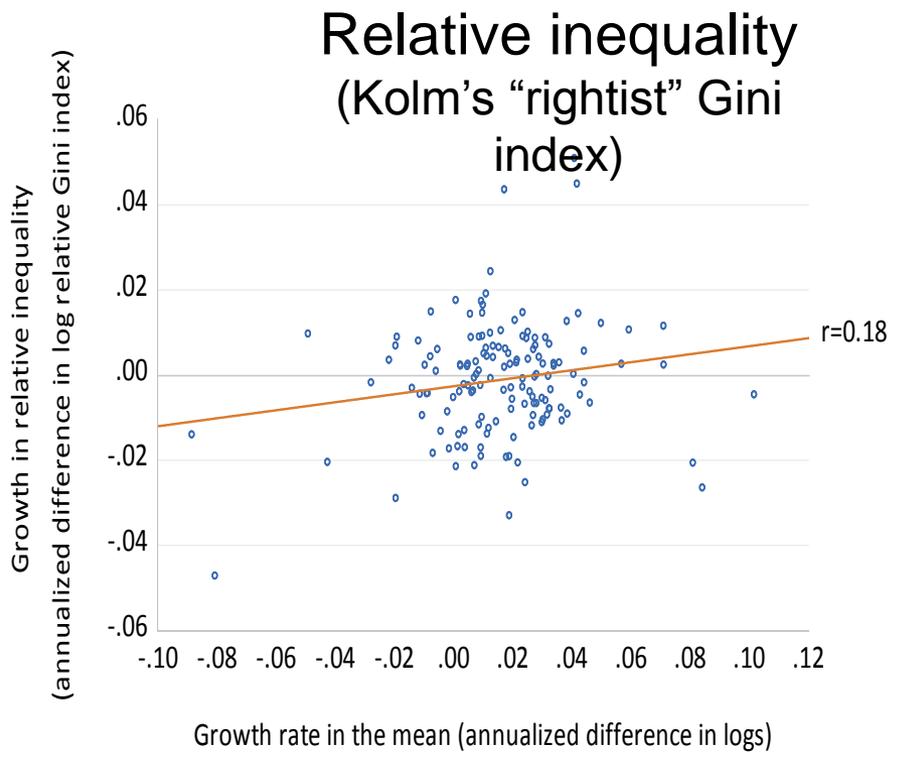
- Perceptions on the ground often differ to the numbers quoted by economists and statisticians!
- Serge Kolm and the “May 68’ers”: Grenelle agreement gave same relative gain (13%) to all. Many felt this was inequitable.
- At local level in developing world, absolutist NGO see rising inequality but relativist economist sees constant or even falling inequality.
- Neither is wrong: **Just different axioms of inequality measurement** (scale-invariance vs translation invariance).

Falling relative inequality but rising absolute inequality globally

Two Gini indices

		1988	2008
Relative Gini (scale invariance)	$\frac{1}{2n^2\mu_t} \sum \sum y_{it} - y_{jt} $	0.72	0.71
Absolute Gini (translation invariance)	$\frac{1}{2n^2\bar{\mu}} \sum \sum y_{it} - y_{jt} $	0.72	0.90

Rising inequality in growing economies?



Nor is the “transfer principle” universally accepted

- Pigou-Dalton transfer principle: “mean-preserving transfers from rich to poor reduce inequality”
- This seems very sensible. However, a sizeable minority of my students and Twitter respondents think that (2, 5, 5, 10) is more unequal than (2, 4, 6, 10).
- Yet almost all think that (2, 4, 6) is more unequal than (3, 4, 5).
- Why? People look at the **high and low ends** of the distribution. *How far are the extremes from the middle?*

2. An important aspect of inequality:
Are the poorest left behind?

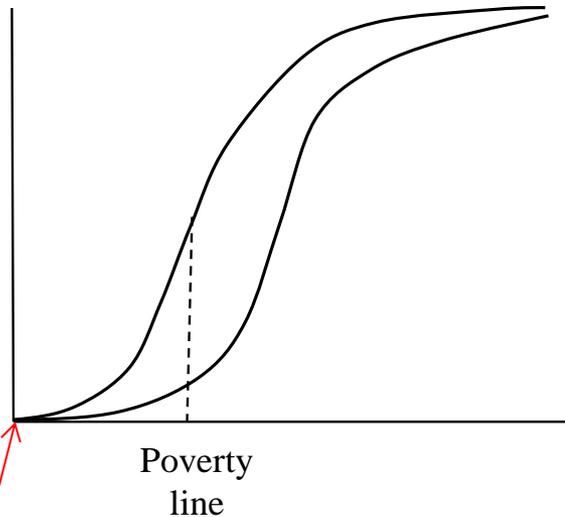
Conflicting views

- *“The poorest of the world are being left behind. We need to reach out and lift them into our lifeboat.”* U.N. Secretary-General Ban Ki-moon, 2011
- *“Poverty is not yet defeated. Far too many are being left behind.”* Guy Ryder, ILO
- Yet economists appear to tell a very different story. Adages such as *“a rising tide lifts all boats”* or claims that *“growth is good for the poor”* or that there has been a *“breakthrough from the bottom”*

How can we understand such different claims?

Counting poor people may miss what is happening to the poorest

Cumulative % of population

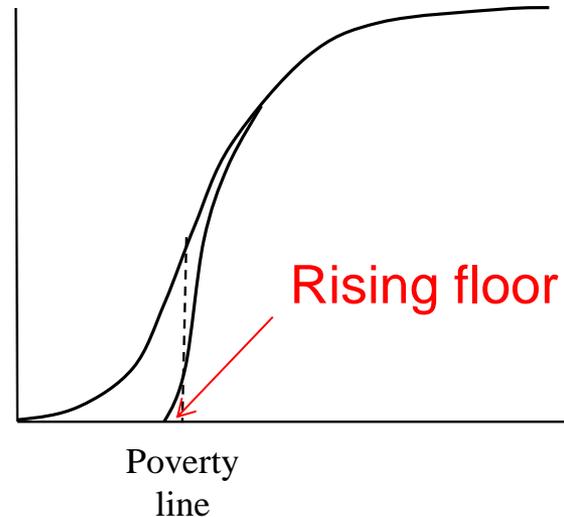


Floor stays put

Poorest left behind

Measure of welfare

Cumulative % of population



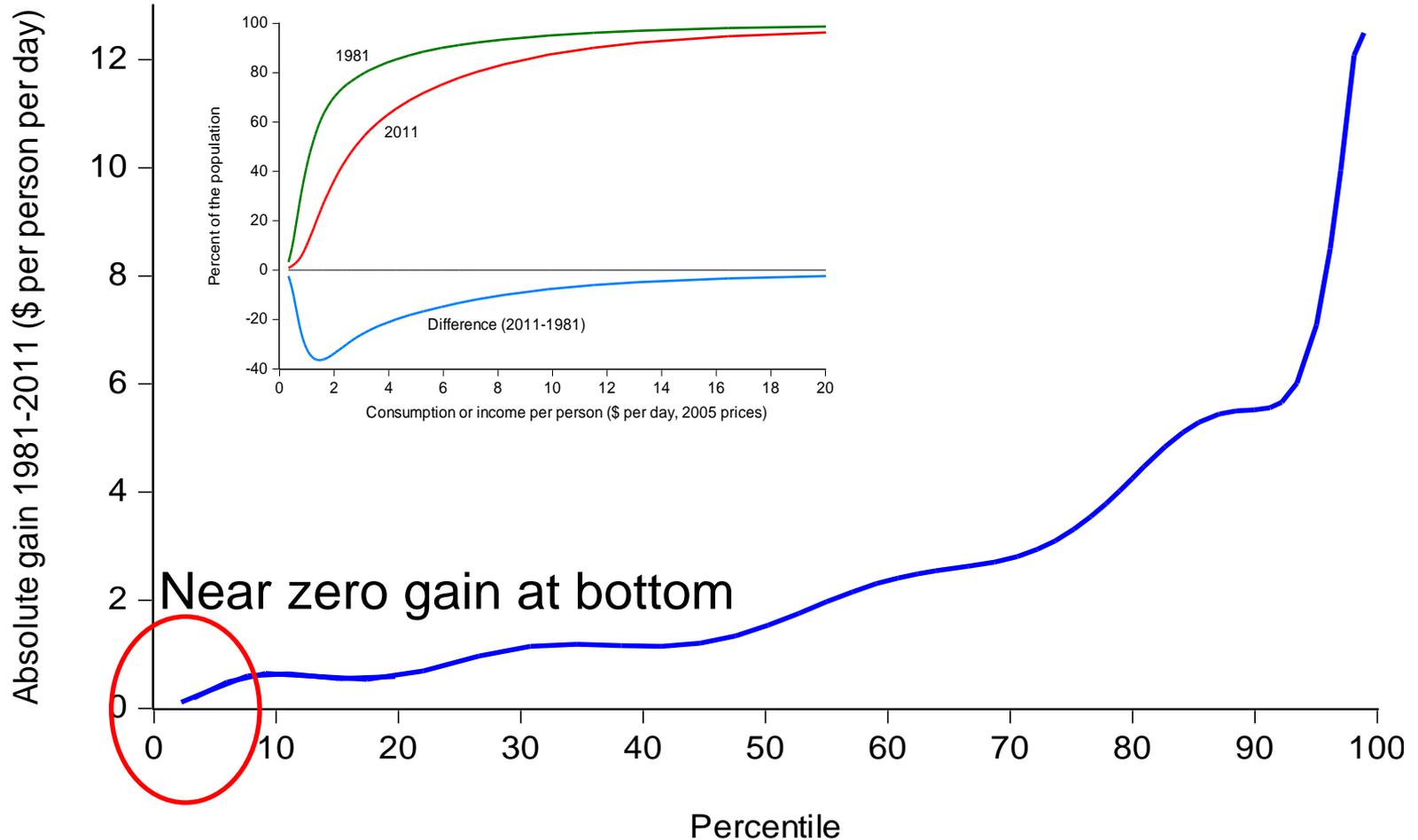
Rising floor

Same reduction in the incidence of poverty but without leaving the poorest behind

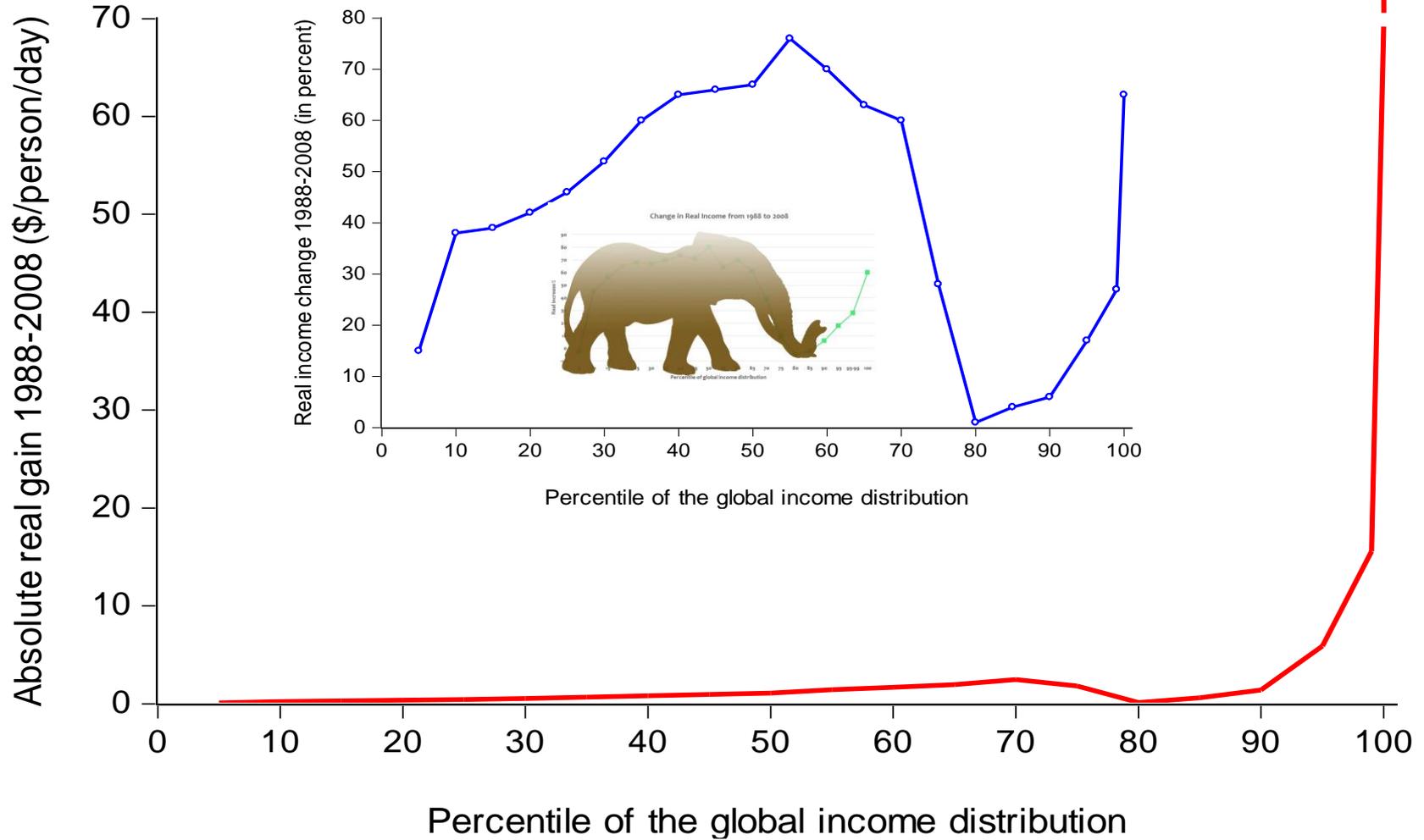
Measure of welfare

Yes, the poorest have been left behind!

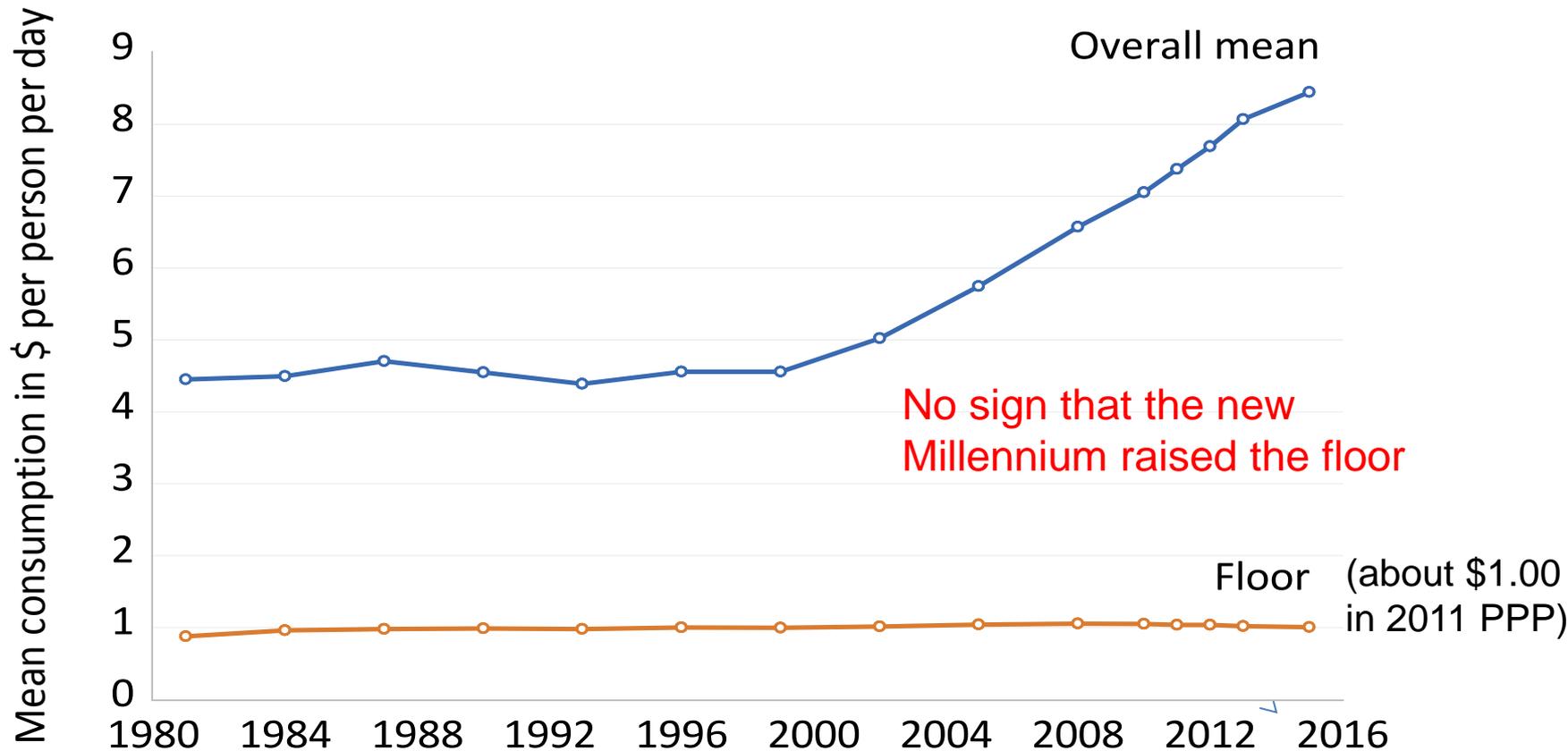
Fewer people living near the floor, but little change in the floor



Globally: Branko's Elephant or Martin's serpent?

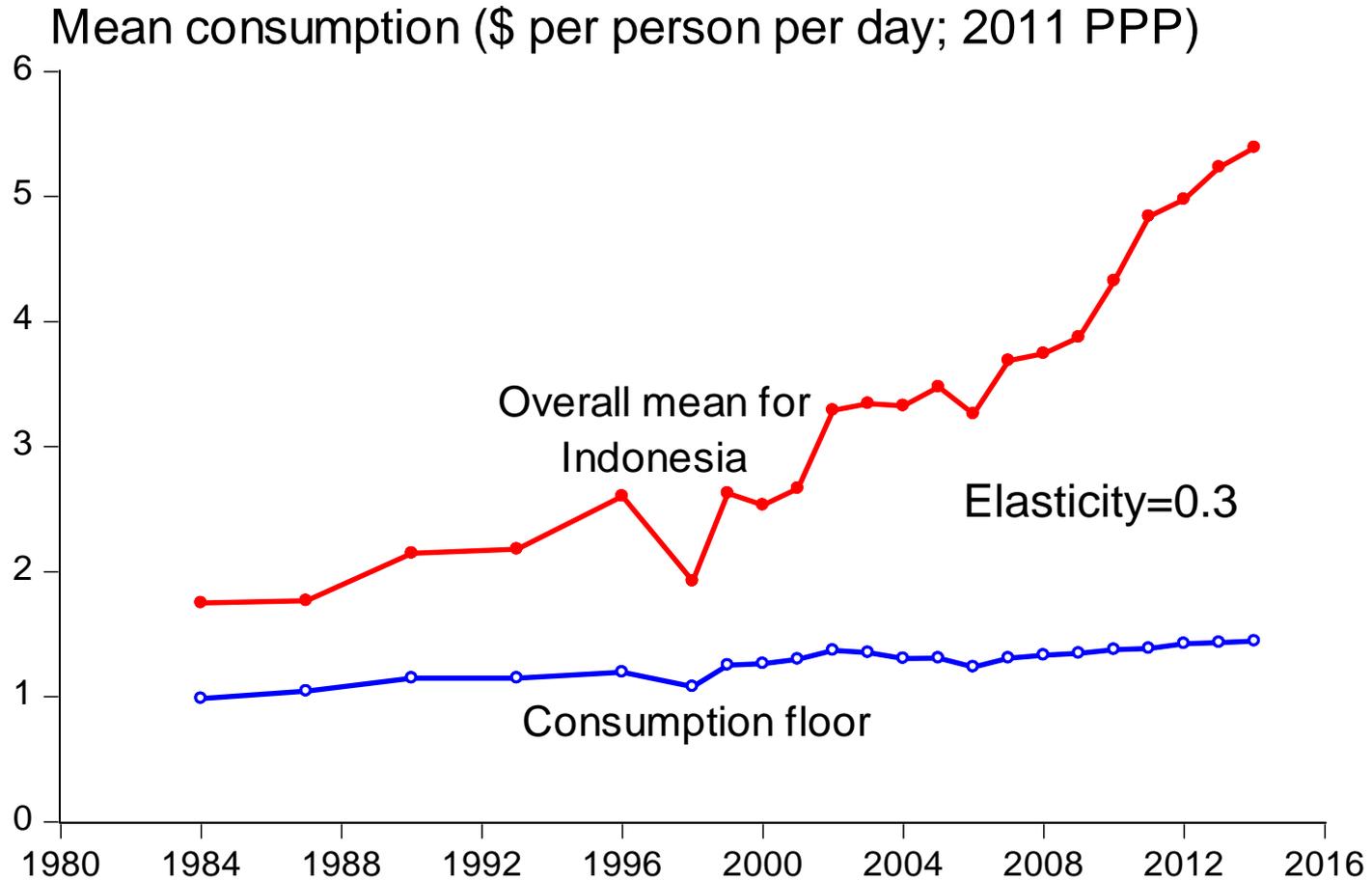


Much less progress in raising the consumption floor globally



Source: Update to Ravallion, "Are Poorest Left Behind?" *J. Econ. Growth*, 2016.

Indonesia has made somewhat more progress in raising the floor



3. Measuring global inequality when national income matters

Relative income hypothesis => Negative effect of living in a richer country

- This postulates that individual welfare depends on how the individual is doing relative to a set of comparators.
- In this context, a higher mean in the country of residence is taken to give disutility at given own-income through perceptions of relative deprivation.
- In sociology: Davis (1959) and Runciman (1966).
- In economics: Duesenberry (1949), Easterlin (1974), Frank (1985), Rayo and Becker (2007), Clark et al. (2008).

But also arguments for a positive welfare effect of higher mean at given own income

- Limitation of the measures used for “own-income”
 - We would ideally measure real income over a longer time period than that for which current income is measured in surveys.
 - Access to public non-market goods is typically excluded.
- Higher national mean may reflect higher longer-term welfare.
- **Wagner’s Law**: Richer countries have better public services (Musgrave, 1969; Peacock and Scott, 2000; Akitoby et al., 2006; Afonso and Alves, 2017).
- Richer countries tend also to be less prone to costly forms of **insecurity and civil conflict**.

Higher global inequality when one allows for gains from living in a richer country

- If one defines economic welfare in terms of relative income alone then one sees far less inequality in the world than if one puts a sizeable value on the external benefits of living in a richer country.
- However, this changes dramatically when one allows a positive value of national income (at given own-income)
- Living in a richer country brings benefits in terms of access to non-market goods and services, and better opportunities for private support in times of need.
- We can't ignore this when talking about "global inequality."
- *How much does this change the received wisdom on global inequality?*

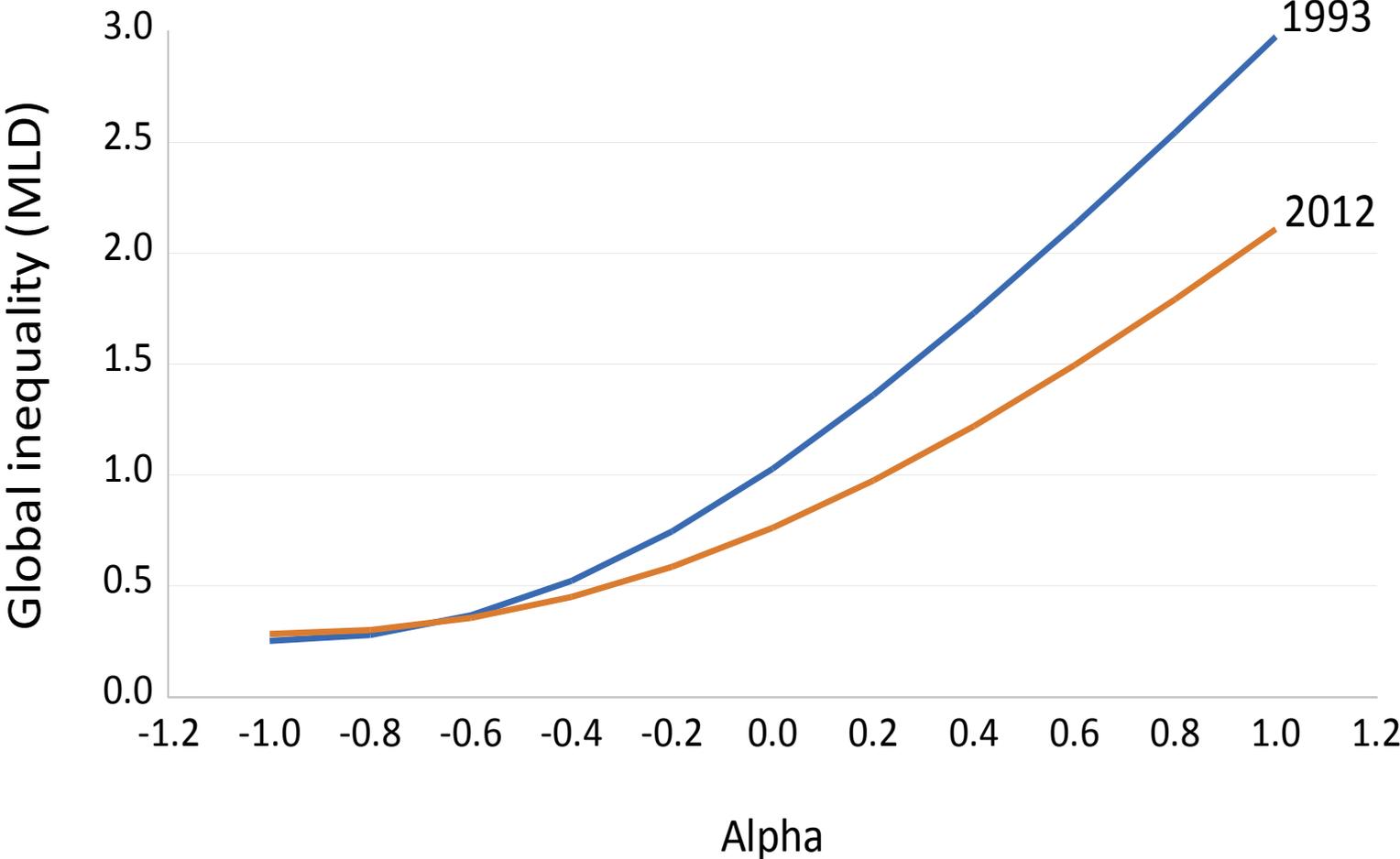
Individual real income when mean matters

- Let $y_{ijt} > 0$ denote the income of household i in country j at time t . We can treat y_{ijt} as a continuous random variable, and also presume that its values have been normalized for prevailing prices.
- Let m_{jt} be the corresponding mean in country j where m_t is the global mean with a global population size of n_t .
- Global inequality is then measured here for the distribution of **mean-adjusted real income** y_{ijt}^* defined by:

$$\ln y_{ijt}^* \equiv \ln y_{ijt} + \alpha \ln m_{jt}$$

- The parameter α reflects the extra value attached to national income, i.e., its weight relative to own-income. (Any instrumental value of a higher mean is taken to already be reflected in y_{ijt} .)

Falling global inequality for $\alpha \geq -0.66$



The national income effect swamps other sources of error

- From what we know based on past global studies using micro data, the national income effect could well be **50%** or more of the own-income effect on subjective wellbeing.
- Then global inequality is far higher than prevailing measures suggest, and far higher than found in even the most unequal country.
- The differences in levels of inequality due to even rather modest differences in how one values national mean income tend to swamp the differences seen **over time** in standard measures, or the differences we see **between countries**,
- and are also large relative to the impact of even a substantial **underestimation of the incomes of the rich**.

But one still finds falling global inequality

- The stylized fact that overall inequality has been falling since around 1990 is not robust, though one only finds rising inequality with a high negative weight on national income, such as due to relative deprivation.
- The finding of falling between-country inequality since 1990 is robust whatever value (positive or negative) one attaches to national income in assessing individual economic welfare.

Part B: How can we do better?

Two challenges ahead

- *Motivational challenge: Should we care about inequality and relative poverty as well as absolute poverty?*
 - The intrinsic (ethical) and instrumental arguments for why we need to also worry about inequalities.
- *Policy challenge: How might we have greater success against inequality?*
 - Poor performance of current policies esp., in developing world; objectives and constraints on better policies; policy options.

Why do we also care about inequality?

- “Inequality” is too big a word! Needs to be un-packed to inform public action.
- Ethical concerns about:
 - **fairness of processes**, such as unfair trades
 - **unequal opportunities in life**, esp. from conditions of birth
 - unequal **outcomes** in life; utilitarian objections and/or implications for the next generation
 - objectionable **specific inequities** (ethnic, gender, geographic) especially if due to **discrimination**.

Why do we care? Costs of inequality

- High inequality threatens prospects for future economic growth, and dampens the impact of growth on poverty.
 - Credit constraints facing the poor and middle class.
 - Political impediments to reform and public good provision.
 - Social costs of higher crime, weaker social cohesion.
- Countries starting out with high inequality have a **harder time growing their economy**, and a harder time assuring that their growth is **pro-poor**.

Policies to help assure pro-poor growth

Economic growth and inequality

- Growth has been roughly distribution neutral on average
 - Falling inequality in some growing economies and in some periods (Indonesia 1970-90)
 - But rising in other countries/periods (Indonesia since late-1990s).
- Growth has been the main proximate source of progress against absolute poverty.
- But very mixed evidence that it helps much against relative poverty or relative inequality.
- And growth tends to come with higher absolute inequality.
- Some degree of redistribution may be good for growth in market incomes and can also finance pro-poor policies.
- Making markets work better for poor people is also key.

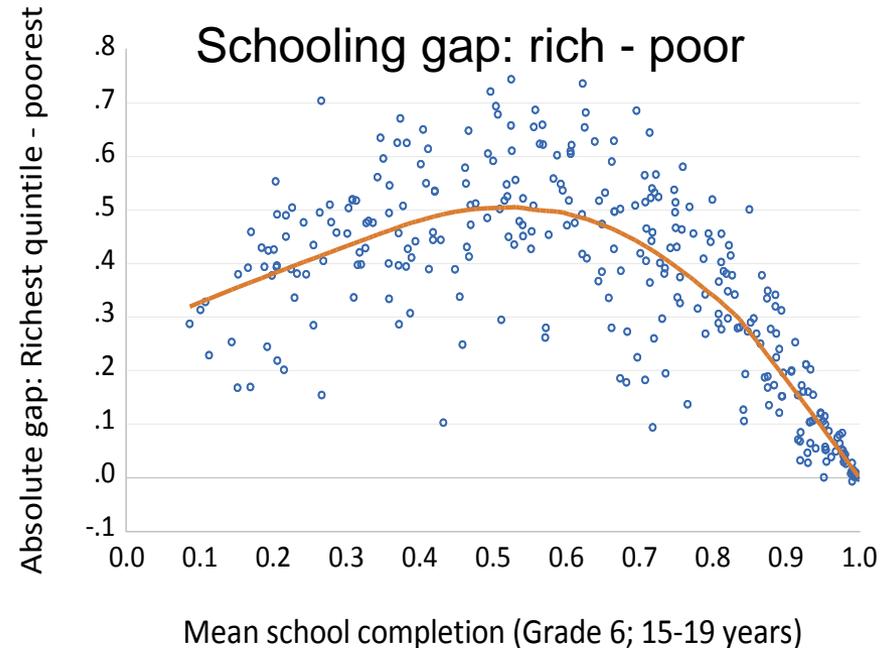
How to achieve more pro-poor growth?

Literature and policy discussions point to the need to:

- Develop human and physical assets of poor people => quality services
- Make markets work better for poor people (credit, labor, land)
- Remove all negative discrimination (race, gender)
- Remove biases against the poor in public spending, taxation, trade and regulation
- Invest in local public goods/infrastructure (not neglecting poor areas) + agriculture and rural development
- Remove restrictions on migration (between and within)
- Foster labor absorption from urban economies, esp., small and medium sized towns

Human development and inequality

- Socio-economic gradients in schooling and health care everywhere help perpetuate poverty and inequality across generations.
- Generalized gains in schooling can be inequality increasing initially; need for focusing on poor families.
- Log earnings are linear in years of schooling. So earnings inequality rises with extra schooling in poor countries.
- For a country such as **Indonesia**, education expansion (quality and quantity) tends to be pro-poor.



Redistributive policies to complement pro-poor growth

Lessons from the advanced economies

- Fiscal incidence studies suggest that redistributive policies—mainly taxes and transfers—have reduced inequality substantially (OECD, IMF).
 - Average Gini for market incomes = 0.49
 - Average Gini for disposable income = 0.31
- (Though redistributive effort has not typically increased with the higher inequality of market incomes since mid-1990s.)
- The types of policies have varied over the history of the (current) advanced economies, in line with administrative capabilities and aggregate resources.

Fiscal incidence in Indonesia

- Fiscal incidence studies: Indonesia does less redistribution than found in Latin America, but it also has less inequality.

Gini	Market income	Final
Indonesia	0.39	0.37
Brazil	0.58	0.44

(Lustig, 2016)

- Indonesia devotes 5% of GDP to social spending (transfers, pensions, health and education) vs. 24% in Brazil.
- Energy subsidies favored over transfers in Indonesia.
 - High government revenues from the commodity boom 2003-12.
 - But too much went into **energy subsidies**, favoring non-poor.
 - 4% of GDP on energy subsidies vs. 0.4% on targeted transfers.

Rising use of direct interventions in the developing world

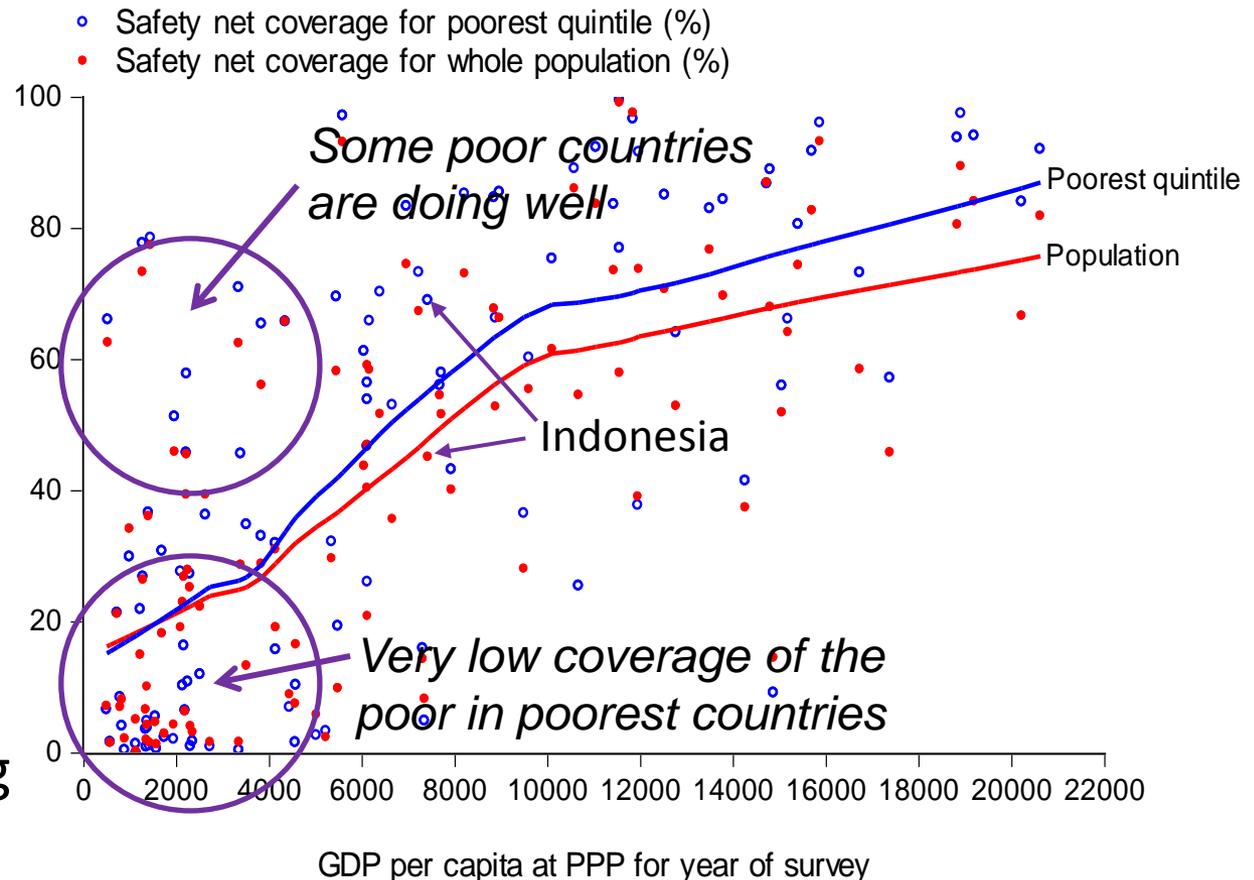
- Two main forms:
 1. Direct non-contributory income transfers to poor or vulnerable families; with or without **conditions**.
 2. Workfare schemes use work requirements for targeting.
- Today almost every developing country has at least one such program, though often with limited coverage.
- Roughly **one billion** people currently receive assistance.

But are these interventions reaching the poor?

Uneven coverage of poor people

The share of the poorest 20% receiving help from the social safety net (SSN) programs in developing countries.

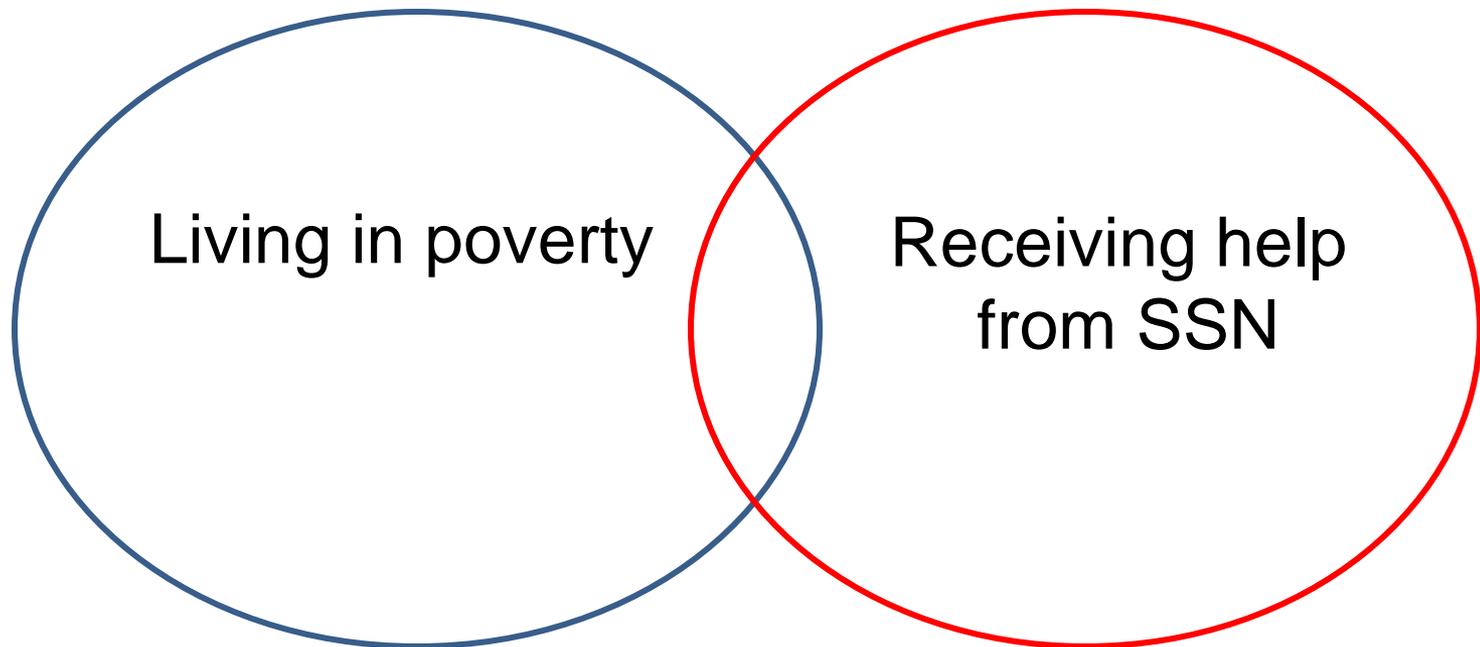
- Only about one third of those in the poorest quintile are receiving help from SSNs.
- And worse performance in poorer countries.
- Indonesia is doing relatively well.



Source: WB's ASPIRE data set

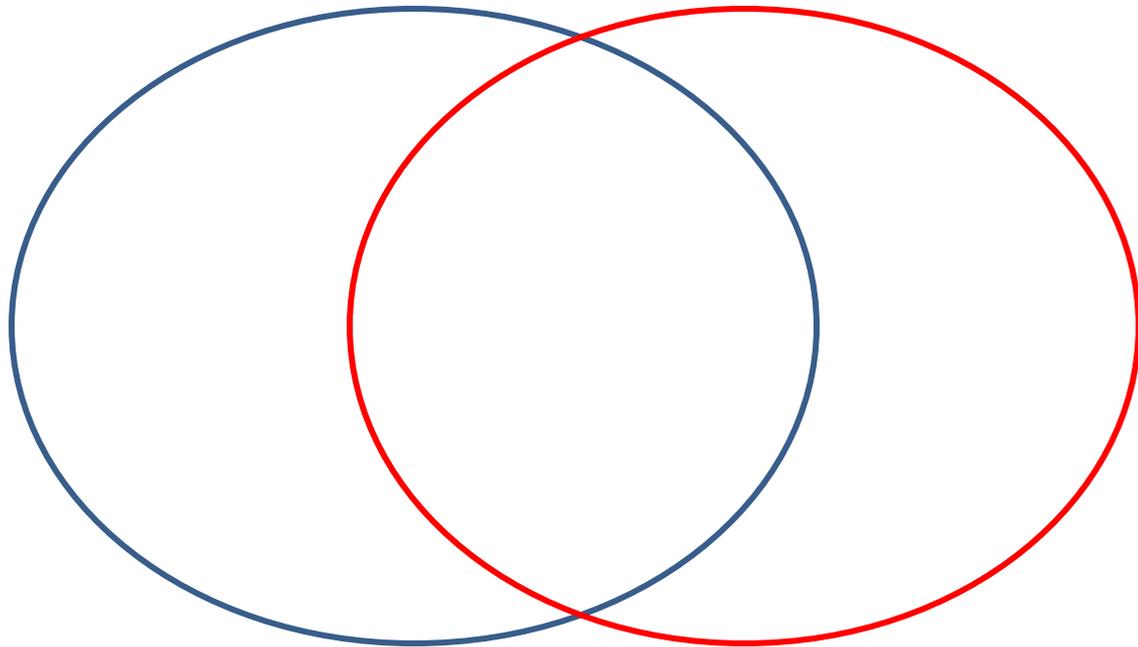
SSN=Non-contributory transfers targeted to poor and vulnerable people.

One billion poor;
one billion SSN recipients



But mostly not the same people in poor countries!

Less poor countries tend to be better at reaching their poor by these policies

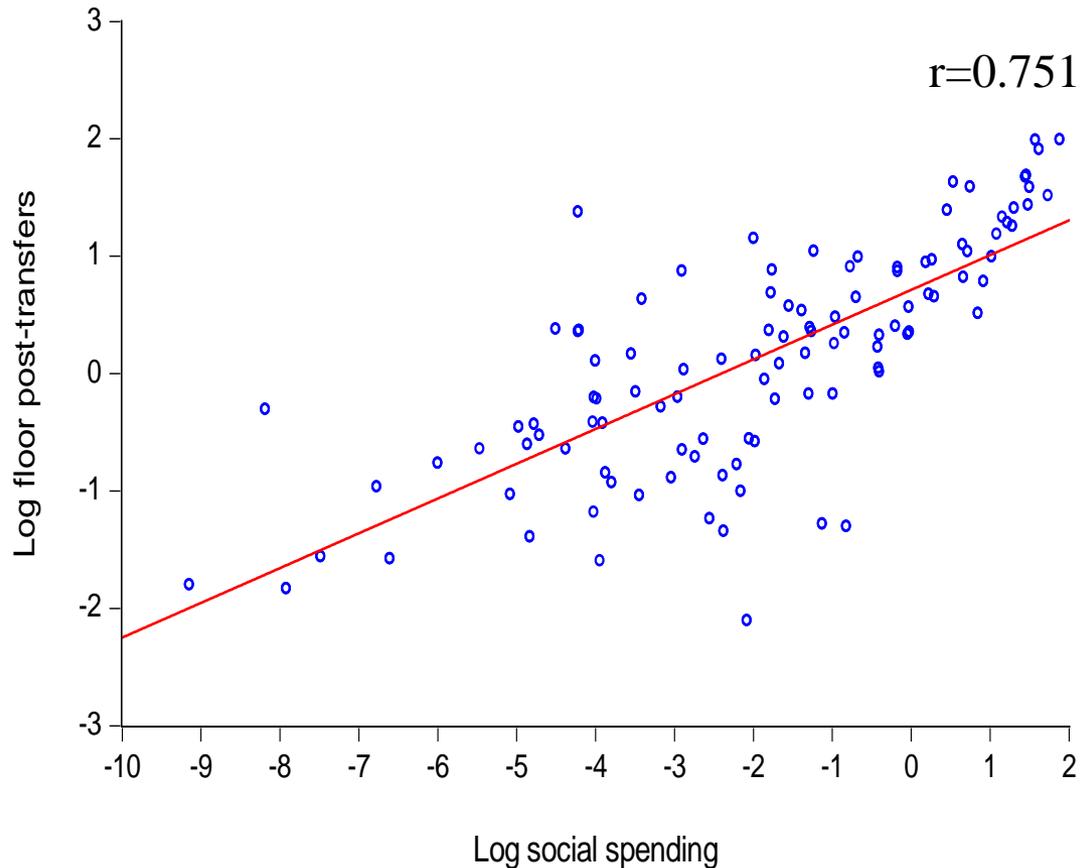


Reaching the poorest? SSN lifts the floor by \$0.48 a day, but almost all is social insurance

- Social spending lifted the floor by \$0.48 per person per day on average, well below the mean spending per capita of \$0.88 a day.
- This is worse than a UBI.
- The bulk of this impact is due to social insurance; social assistance on its own only lifts the floor by **1.5 cents per day** on average!
- This is less than 10% of mean spending on social assistance.

Is it spending more or spending better that lifts the floor?

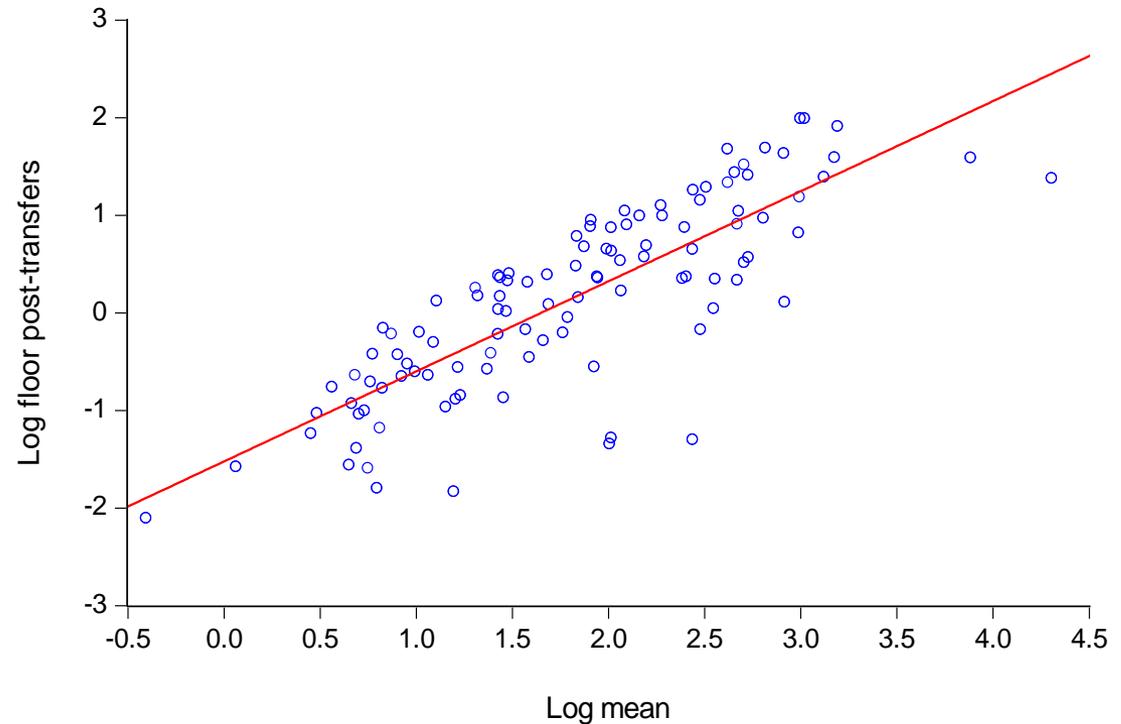
- Countries that spend more on social protection tend to have a higher floor



- The bulk (77%) of the variance is due to variance in **levels of social spending** rather than the efficiency of that spending.

Richer countries have a higher floor

- This reflects both higher social spending in richer countries, and a direct effect at given spending.



- The bulk (74%=0.686/0.923) of the effect of economic development on the floor is direct, via the pre-transfer floor

A new role for redistributive interventions, but many challenges ahead

- Success against relative poverty and in raising the floor will almost certainly require **more effective redistributive policies**.
- Constraints include information, incentives, financing and political economy. **Administrative capacity** is key.
- High marginal tax rates on the poor must be avoided; **poverty traps** due to fine targeting.
- **Information constraints** can be severe. Reliable fine targeting is rarely feasible in practice in developing economies.
- Method of **financing** is key to overall impact.

A menu of current policies

- Public services (health, education, security)
 - Targeted or universal
- Cash transfers
 - Targeted, state-contingent) or universal
 - Conditional (e.g., PKH) or unconditional
- Microfinance
 - Mixed record
- Workfare schemes
 - Low wage rate
 - Assets of value to poor people
- Minimum wage rate (if enforceable)
- Progressive income tax
- Stronger tax enforcement on companies and the rich

A policy proposal to consider seriously, for both pro-poor growth and redistribution

- **Basic full income**
 - Universal; all citizens (“poor” or not)
 - Cash plus imputed values of key in-kind services (health, education)
 - Cash accumulates in an account for children until age 18 (say)
- Financed by cutting other subsidies and programs that bring little benefit to the poor
- + progressive income tax when administratively feasible
- Supportive ID system (e.g., *Aadhaar* in India, but privacy concerns need to be addressed).

Six recommendations

1. Tailor policies to the realities of the setting
2. Tap local information + effective state support
3. Focus on poverty not finer “targeting” *per se*
4. Protect and promote
5. Monitor and evaluate
6. Learn from mistakes

Thank you for your attention!
Merci de votre attention!