

Government Redistribution and Global Poverty Reduction

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February 2026

Motivation

All governments use taxes and transfers to redistribute income.

Enormous variations: public spending grew from 3% of world GDP in 1800 to 30% in 2023, but still ranges from 15% in SSA to 50% in Western Europe (Bharti et al. 2026).

Open questions:

- 1) Do governments primarily reduce inequalities through taxes (e.g., progressive PIT) or transfers (e.g., means-tested benefits)?
- 2) Have tax-and-transfer systems become more progressive? Are developing countries catching up?
- 3) What role has government redistribution played in the historical reduction of global poverty and inequality?

This Paper

A New Database on Government Redistribution 1980-2023:

- 1) Historical public revenue and expenditure series.
- 2) Distributional incidence of taxes.
- 3) Distributional incidence of social assistance, education, health.
- 4) Validation using existing high-quality studies.

A Global View on Tax-and-Transfer Progressivity:

- 1) Government redistribution over the course of development.
- 2) Historical evolution of tax-and-transfer systems 1980-2023.
- 3) Contribution of redistribution to worldwide inequality reduction.

Related Literature

Tax-and-transfer progressivity (Bachas et al. 2023, 2026; Bharti et al. 2026; Lustig 2018; Jensen 2022; OECD 2008; World Bank 2022)

→ A new global database on government redistribution 1980-2023.

Distributional national accounts (Blanchet et al. 2022; Germain et al. 2021; OECD 2011; Piketty et al. 2018)

→ Global national-accounts-consistent estimates of posttax inequality.

Incidence and valuation of in-kind transfers (Chong et al., 2014; Cutler et al. 2022; Gethin 2025a; Hendren and Sprung-Keyser, 2020)

→ Global estimates of the incidence of education & healthcare.

World distribution of income (Bourguignon and Morrisson, 2002; Chen and Ravallion, 2010; Gethin 2025b; Lakner and Milanovic, 2016)

→ Incidence of taxes and transfers on the world distribution of income.

Outline

1. A New Database on Tax-and-Transfer Progressivity
2. Government Redistribution Over the Course of Development
3. Government Redistribution and the World Distribution of Income
4. The Value of Public Education and Healthcare

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Conceptual Framework

Posttax income of individual i :

$$\underbrace{y_i}_{\text{Posttax Income}} = \underbrace{m_i}_{\text{Pretax Income}} - \underbrace{\tau(m_i)}_{\text{Taxes}} + \underbrace{g(m_i)}_{\text{Transfers}} \quad (1)$$

Taxes/Transfers paid/received by i : $g^j(m_i) = \underbrace{G^j}_{\text{Value}} \times \underbrace{\gamma^j(m_i)}_{\text{Progressivity}}$

⇒ **This paper: distribution of taxes and public spending = where the money goes** (Saez & Zucman 2026; Lustig 2018).

≠ indirect effect of taxes and transfers on pretax inequality.

≠ welfare value of cash and in-kind transfers.

World Inequality Database m_i

Starting point: World Inequality Database.

Distribution of pretax income by country, 1980-2019.

Pretax income = market income - contributory social contributions + social insurance benefits.

Sources: country-specific studies following the Distributional National Accounts framework (Piketty, Saez, Zucman 2018; Blanchet, Chancel, Gethin 2022; Flores et al. 2023; Piketty, Yang, Zucman 2018...).

⇒ Consistency with national accounts: average pretax income = net national income per capita.

Government Revenue and Expenditure Aggregates G^j

Government revenue by type of tax from Bachas et al. (2026): personal income taxes, social contributions, property and wealth taxes, corporate taxes, indirect taxes.

Government expenditure: construct new series on worldwide public spending by function (COFOG, IMF GFS 2013) with a focus on:

- 1) Social assistance: IMF, OECD, Eurostat, CEPAL, ADB, SPEED, World Bank Aspire...
- 2) Education: UNESCO and other sources.
- 3) Healthcare: WHO and other sources.

Distributional Incidence γ^j : Taxes

Follow standard distributional tax assumptions (Piketty, Saez, Zucman 2018; Lustig 2018; World Bank 2022):

Personal income taxes: microsimulate using new database of personal income tax schedules (Jensen 2022; Peter, Buttrick, and Duncan, 2010; Strecker 2021; Vegh & Vuletin 2015). [Examples](#)

Corporate income taxes: proportional to corporate equity ownership (Blanchet et al. 2021; Bruil et al. 2022). [Profile](#)

Indirect taxes: proportional to consumption, excluding informal consumption (Bachas, Gadenne, Jensen 2022). [Informality Elasticity](#) [Profile](#)

Social contributions: proportional to formal labor income. [Profile](#)

Property and wealth taxes: residential property taxes proportional to pretax income, business taxes proportional to corporate equity.

Distributional Incidence γ^j : Social Assistance

Share of social transfers received by percentile from:

Blanchet, Chancel, Gethin (2022): Europe + U.S.

Luxembourg Income Study: 43 countries.

World Bank ASPIRE: 80 countries.

CEQ Database: 3 countries.

$\Rightarrow$ 135 countries, 1,200 country-years.

Distributional Incidence γ^j : Education

Distribute education spending to children attending school in the household (e.g., Lustig 2018; Gethin 2025):

$$g_{pct}^{educ} = n_{pct}^{pri} g_{ct}^{pri} + n_{pct}^{sec} g_{ct}^{sec} + n_{pct}^{ter} g_{ct}^{ter} \quad (2)$$

⇒ Allocate to each child attending school at level k (primary, secondary, tertiary) the per-pupil expenditure on education at this level.

Sources: World Bank I2D2 Database, World Bank Global Monitoring Database, Luxembourg Income Study, country-specific surveys.

⇒ **156 countries, 1,700 country-years.**

Not sensitive to accounting for (1) regional inequalities in education spending (2) socioeconomic inequalities in education quality. [More](#)

Distributional Incidence γ^j : Healthcare

Distribute health spending based on intensity of use of the public healthcare system (e.g., Lustig 2018; Gethin 2025):

$$g_{pct}^{heal} = n_{pct}^{heal} g_{ct}^{heal} \quad (3)$$

where n_{pct}^{heal} is a measure of public health consumption (e.g., number of visits to healthcare providers in the past month).

Sources: World Health Survey, CEQ Database, country-specific living standards surveys.

$\Rightarrow$ 92 countries, 177 country-years.

Specification Bounds

Survey data sources do not cover all country-years.

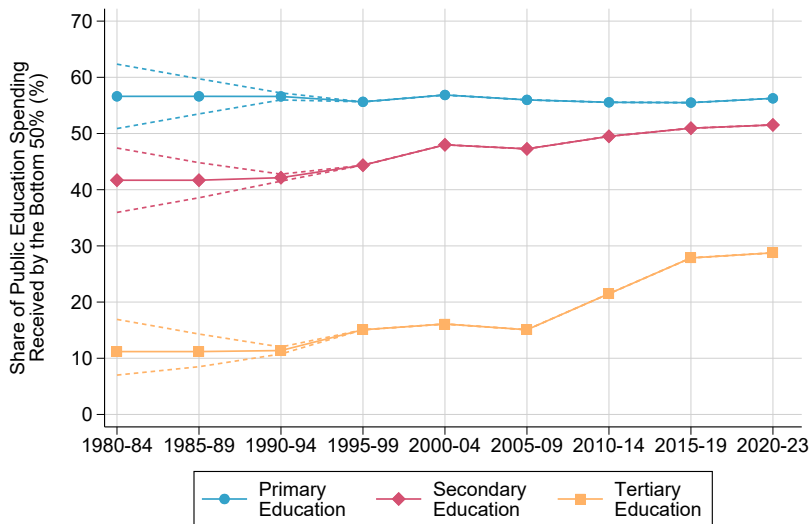
Impute missing values with specification bounds:

- Extrapolate assuming distributional incidence has remained constant, with bounds corresponding to biggest/smallest rates of change in progressivity.
- Extrapolate to missing countries using cross-country averages, with bounds corresponding to most/least progressive countries.

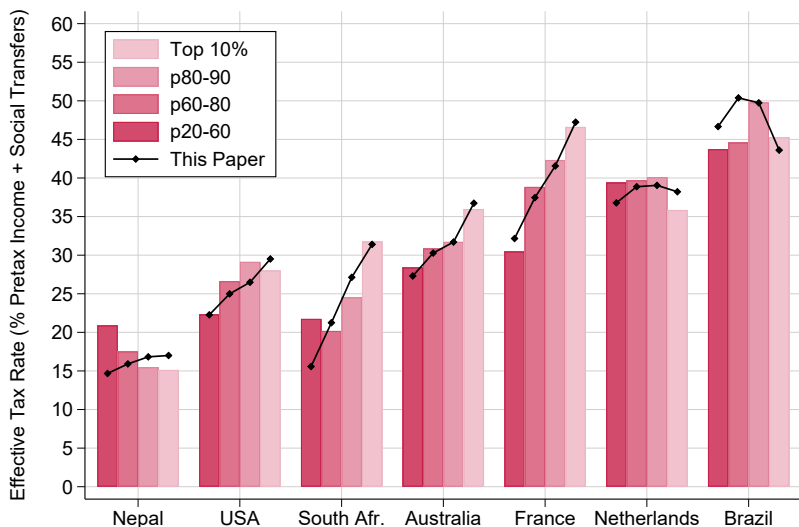
Intuition: if poorest 50% in Indonesia received 30% of education spending in 1990, unlikely that they received 0% in 1989.

Specification Bounds: Indonesia Education Spending [More](#)

Share of Education Spending Received by the Bottom 50%

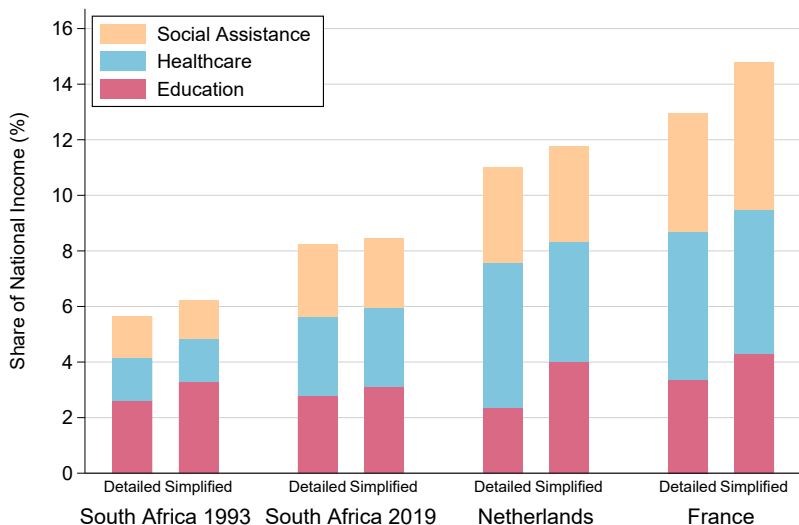


Validation: Taxes



Sources: Nepal (Etang & Gethin 2026), U.S. (Piketty et al. 2018), South Africa (Czajka & Gethin 2026), Australia (Fisher-Post et al. 2022), France (Bozio et al. 2025), Netherlands (Bruil et al. 2026), Brazil (Palomo et al. 2025).

Validation: Transfers



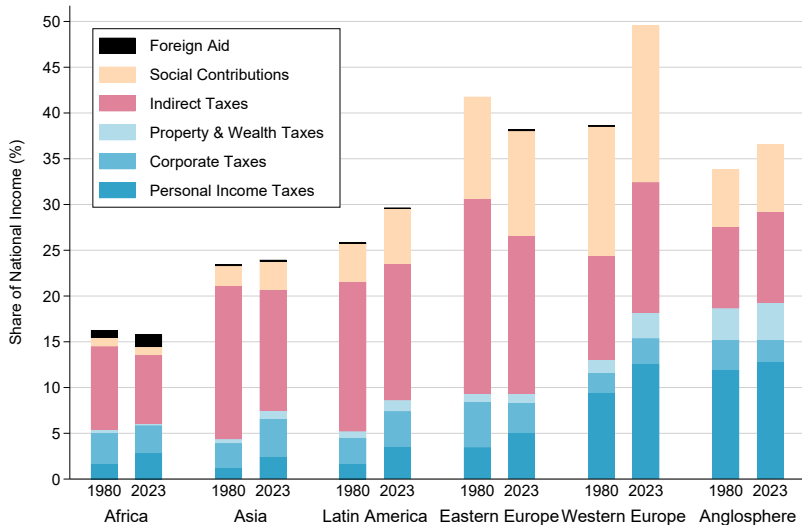
Sources: South Africa (Gethin 2025), Netherlands (Bruil et al. 2026), France (Germain et al. 2021).

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Tax Revenue by World Region

Tax Revenue by Type of Tax (% National Income)



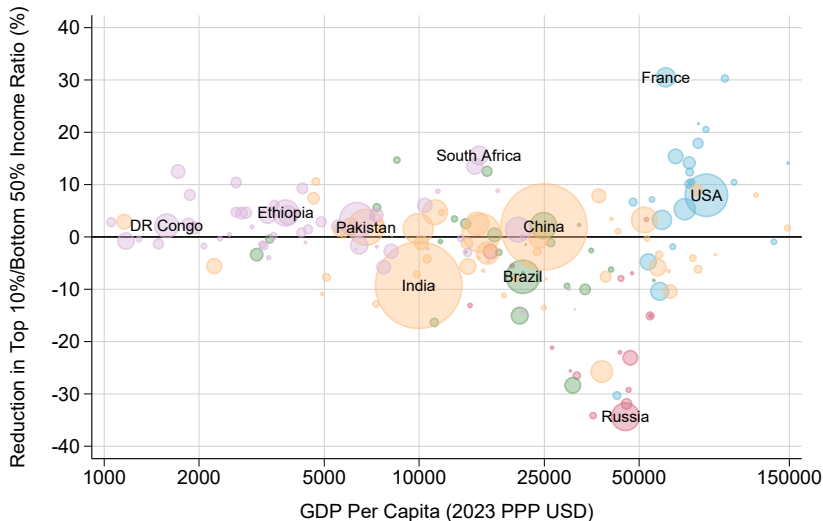
Tax Progressivity by World Region

Effective Tax Rate by Pretax Income Group (% Pretax Income)



Tax Progressivity and Development

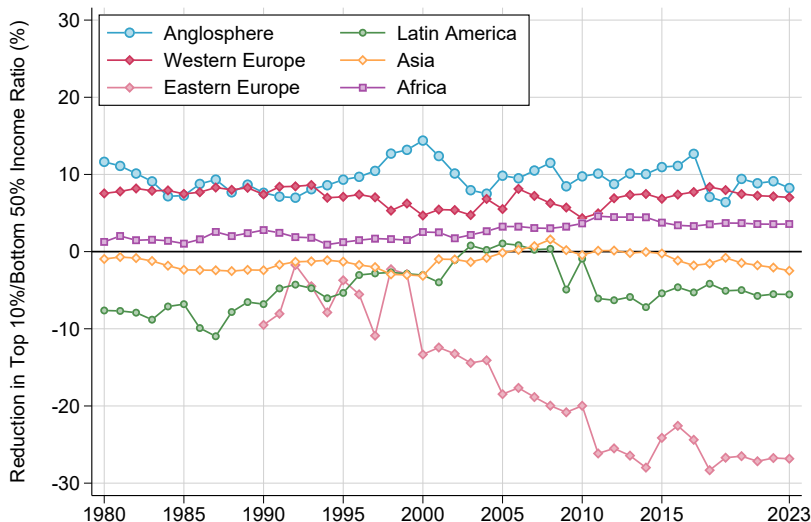
Percent Reduction in Top 10%/Bottom 50% Ratio Through Taxes



⇒ Tax progressivity generally close to zero and uncorrelated with GDP.

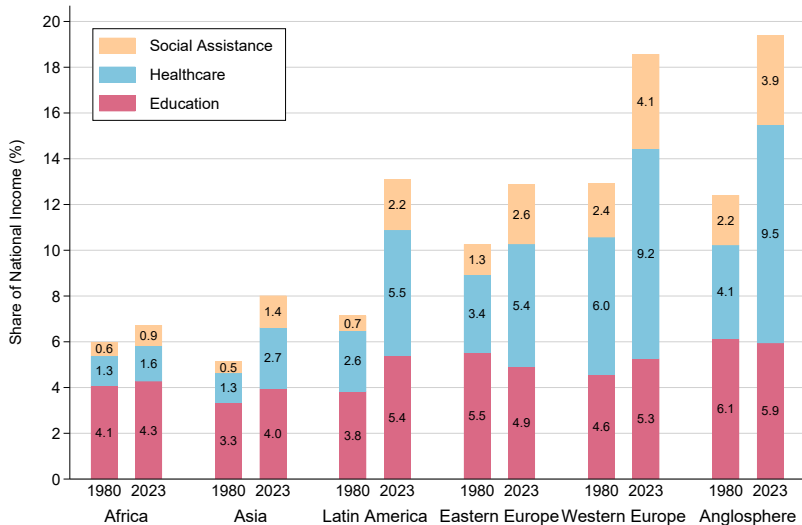
Tax Progressivity since 1980

Percent Reduction in Bottom 50%/Top 10% Ratio Through Taxes



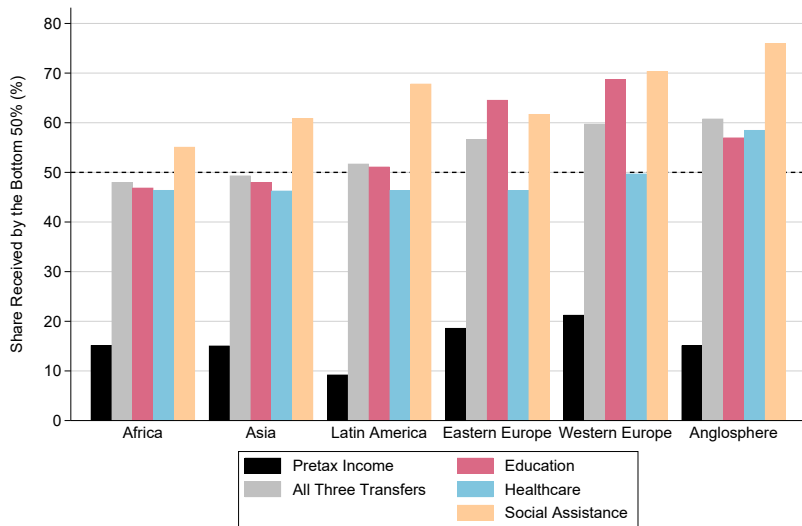
Government Expenditure by World Region Demography-Adjusted

General Government Expenditure by Function (% National Income)



Transfer Progressivity by World Region Progressivity vs. GDP

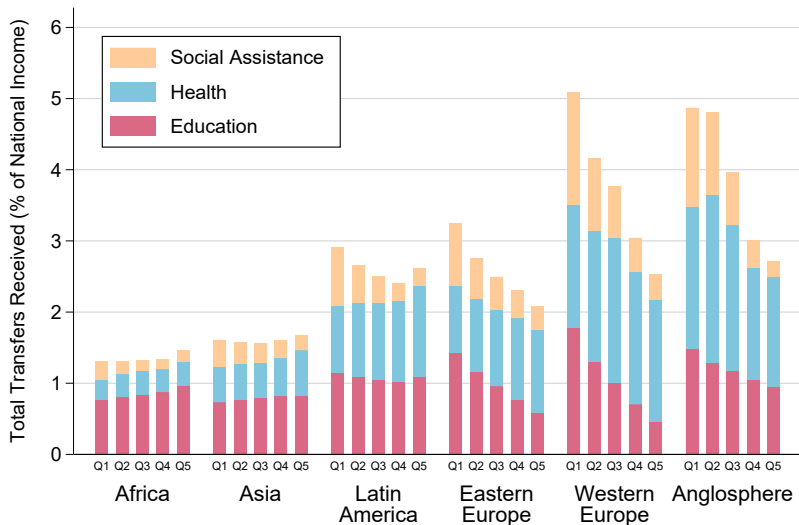
Share of Transfers/Income Received by the Bottom 50%



⇒ In Africa, the poorest 50% receive 15% of pretax income, 45% of education, and 55% of social assistance transfers.

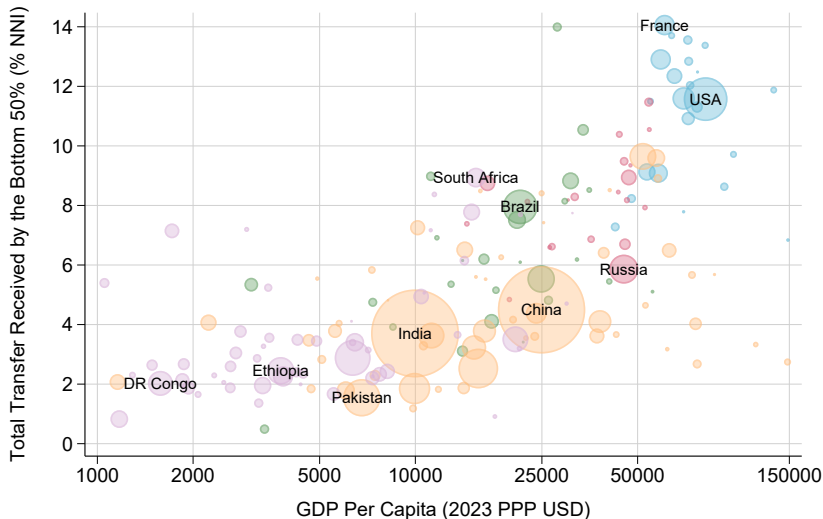
Transfer Progressivity by World Region

Total Transfers Received by Pretax Income Quintile (% NNI)



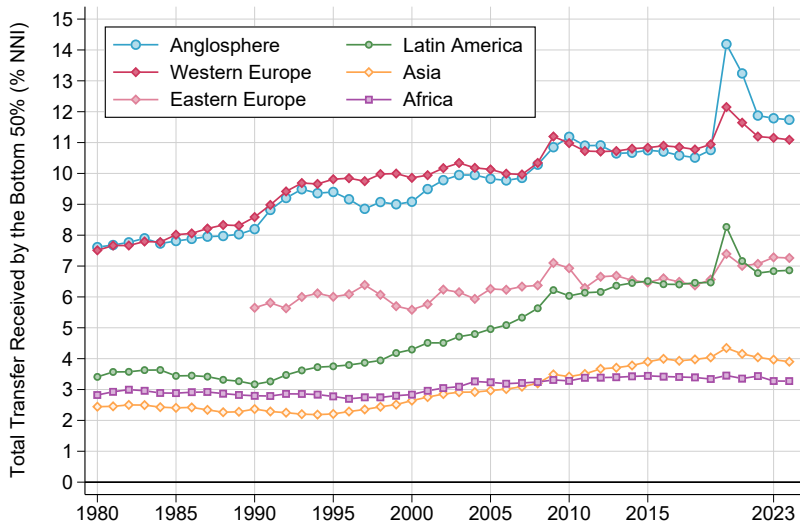
Transfer Progressivity and Development

Total Transfer Received by the Bottom 50% (% NNI)



Transfer Progressivity since 1980

Total Transfer Received by the Bottom 50% (% NNI)



Net Redistribution

Construct balanced measures of redistribution:

$$\text{Net Transfer}_{pct} = \text{Social}_{pct} + \text{Education}_{pct} + \text{Health}_{pct} - (\text{Taxes}_{pct} + \text{Net Aid}_{pct})$$

Only deduct fraction of taxes paying for education, healthcare, social assistance, and net foreign aid:

$$\sum_p \left(\text{Social}_{pct} + \text{Education}_{pct} + \text{Health}_{pct} \right) = \sum_p \left(\text{Taxes}_{pct} + \text{Net Aid}_{pct} \right)$$
$$\sum_c \text{Net Aid}_{pct} = 0$$

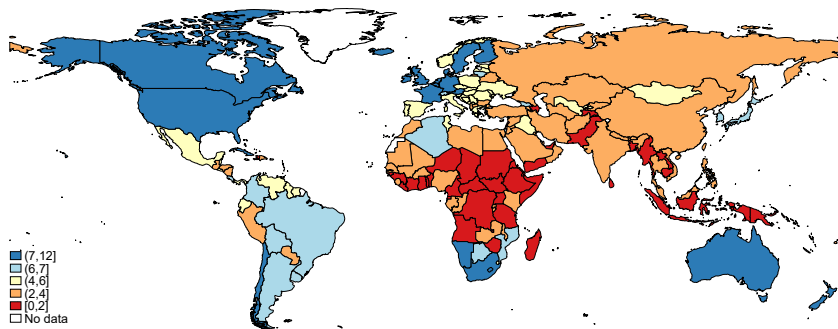
⇒ Donor countries pay taxes to finance foreign aid: taxes > transfers.

⇒ Recipient countries benefit from foreign aid: taxes < transfers.

Foreign aid flows dedicated to education, healthcare, social assistance estimated from OECD CRS Database.

Government Redistribution: A Global Map

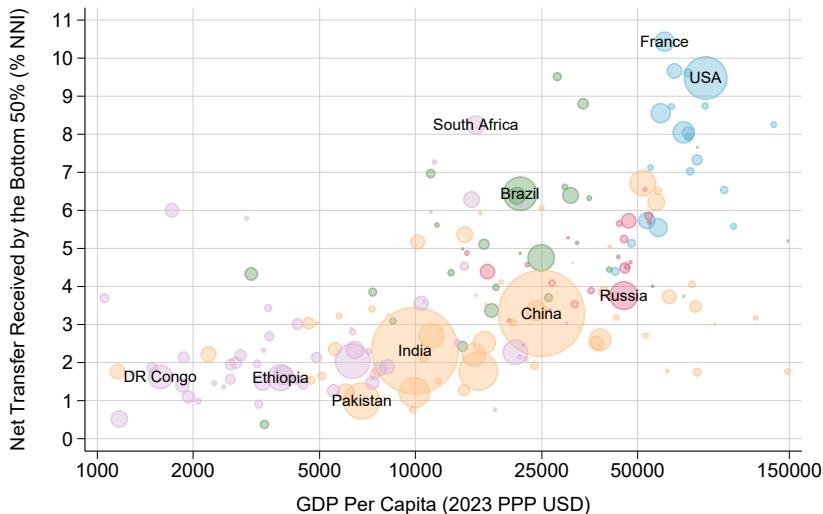
Net Transfer Received by the Bottom 50% (% NNI), 2023



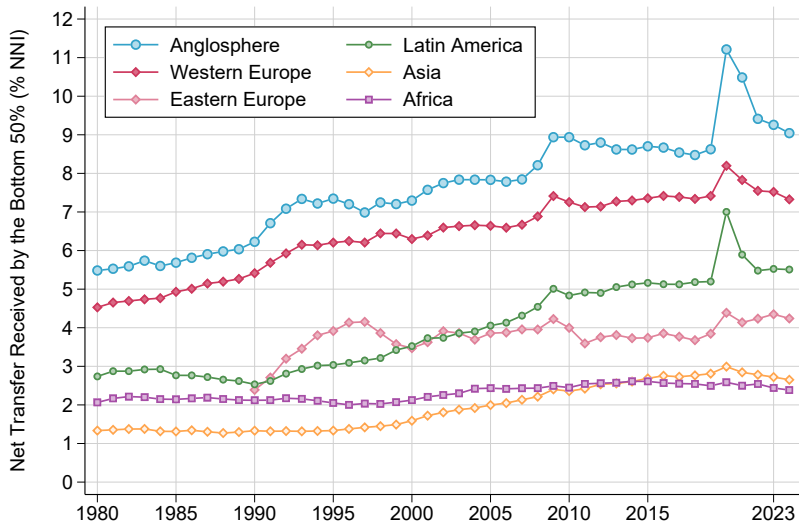
Notes. Net transfer = social assistance + education + healthcare - taxes paying for these three transfers in each country.

Government Redistribution and Development

Net Transfer Received by the Bottom 50% (% NNI)



Government Redistribution since 1980



Government Redistribution: The Dominance of Transfers

The Relative Contributions of Taxes and Transfers to Inequality Reduction, 2023

	Top 10% / Bottom 50% Average Income Ratio			Extent of Redistribution: Percent Reduction in Inequality		
	Pretax Income	After Taxes	After Taxes & Transfers	Through Taxes	Through Taxes & Transfers	Tax Share of Redistribution
Africa	17.5	16.8	13.3	3.3%	18.9%	17.2%
Asia	16.6	16.9	13.0	-1.4%	20.8%	-6.6%
Latin America	31.4	32.7	17.4	-4.8%	43.4%	-11.0%
Eastern Europe	12.3	14.1	9.0	-12.2%	26.8%	-45.7%
Western Europe	8.0	7.3	4.9	9.1%	38.7%	23.5%
Anglosphere	15.0	13.3	7.3	11.2%	50.3%	22.3%
World Average	17.3	17.4	12.6	0.0%	25.1%	0.0%

⇒ **Transfers Account for 80-100% of redistribution.**

Predistribution versus Redistribution

How important are tax-and-transfer systems in explaining cross-country differences in inequality?

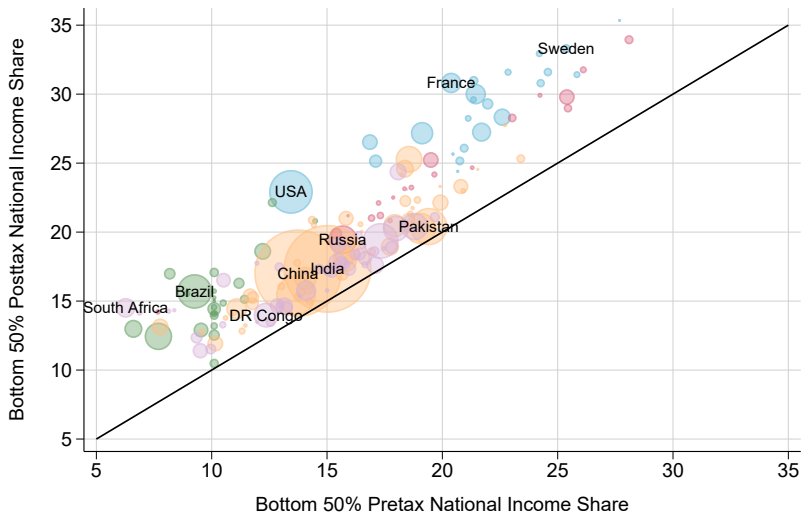
Conventional view: tax-and-transfer systems account for the entire gap between Europe and U.S. inequality (OECD 2011).

Opposite finding with more comprehensive measures of inequality and redistribution (Blanchet, Chancel, Gethin 2022; Bozio et al. 2024).

⇒ **Study contributions of pretax inequality (“predistribution”) and taxes/transfers (“redistribution”) in shaping inequality.**

Predistribution versus Redistribution

Pretax vs. Posttax Bottom 50% Income Share, 2023



⇒ **Predistribution accounts for 80% of cross-country differences in inequality.**

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Redistribution and the Distribution of Global Growth

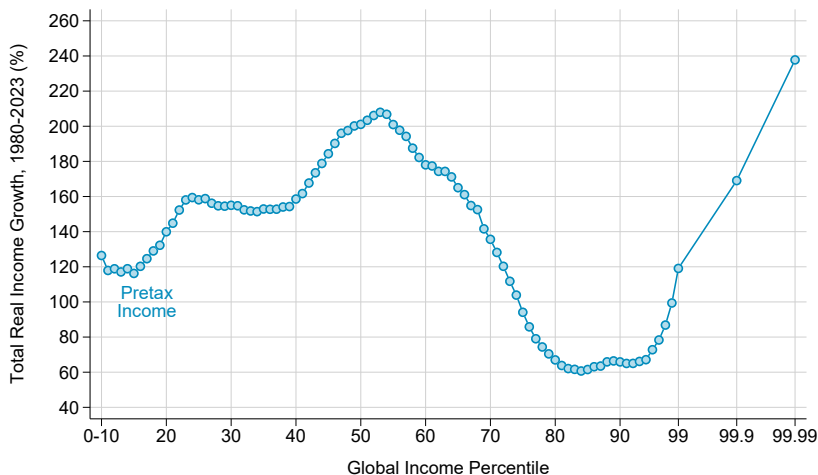
How important have tax-and-transfer systems been in shaping global poverty and inequality reduction?

⇒ Compare pretax and posttax world distribution of income.

Convert all incomes to 2023 PPP USD and aggregate all country-year-percentiles from 1980 to 2023.

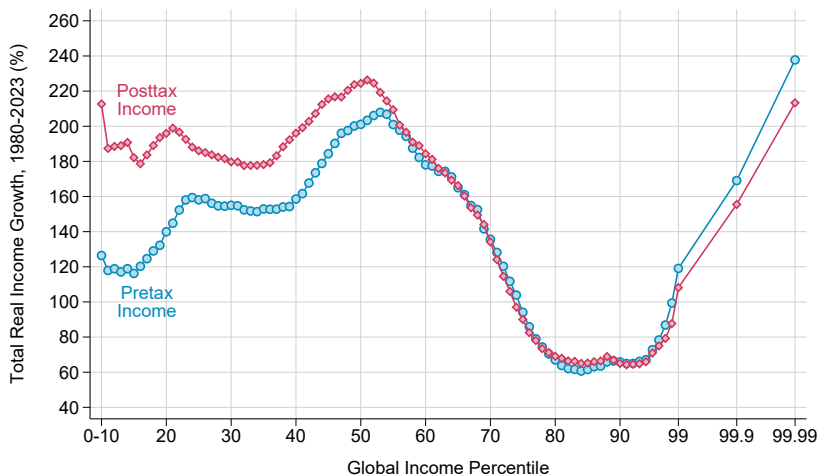
Redistribution and the Distribution of Global Growth

Total Growth Rate by World Income Percentile, 1980-2023 (%)



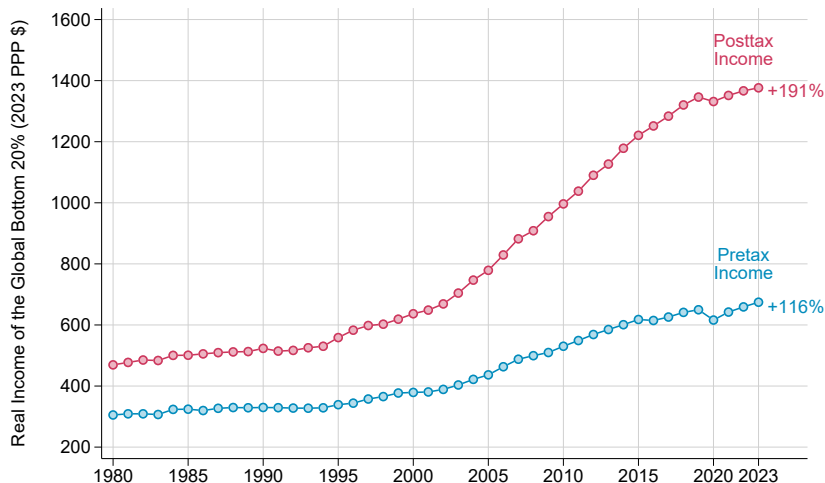
Redistribution and the Distribution of Global Growth

Total Growth Rate by World Income Percentile, 1980-2023 (%)



Redistribution and Growth among the Global Poor

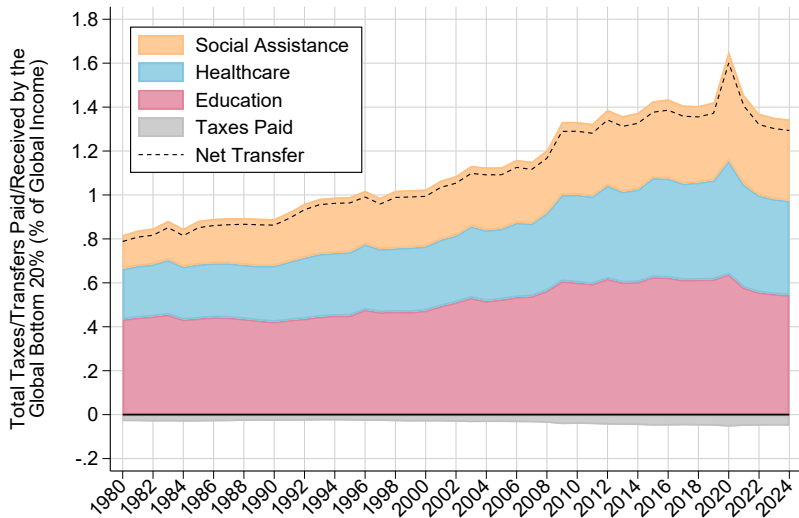
Real Average Income of the World's Poorest 20%, 1980-2023



→ **Redistribution Accounts for 40% of Global Bottom 20% Growth.**

The Role of In-Kind Education and Healthcare Transfers

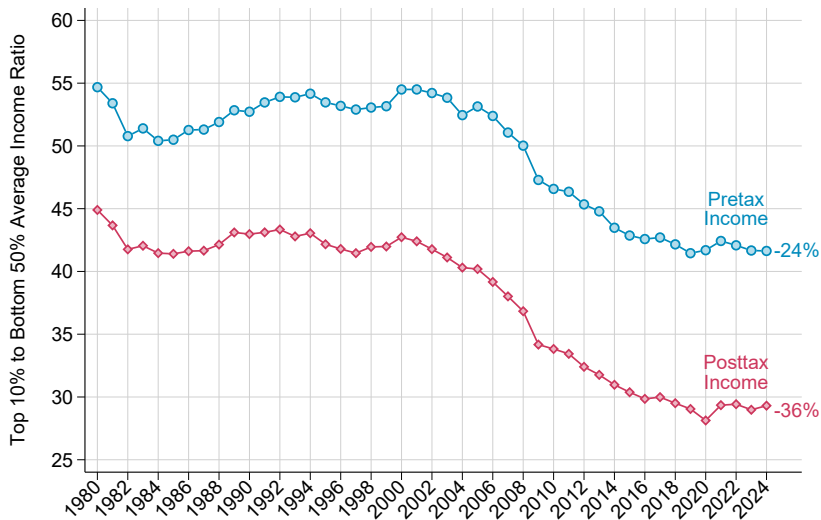
Taxes Paid/Transfers Received by the World's Poorest 20% (% World GDP)



→ **Net Redistribution to the World Poorest 20% = +50% since 1980.**

Redistribution and Global Inequality Reduction

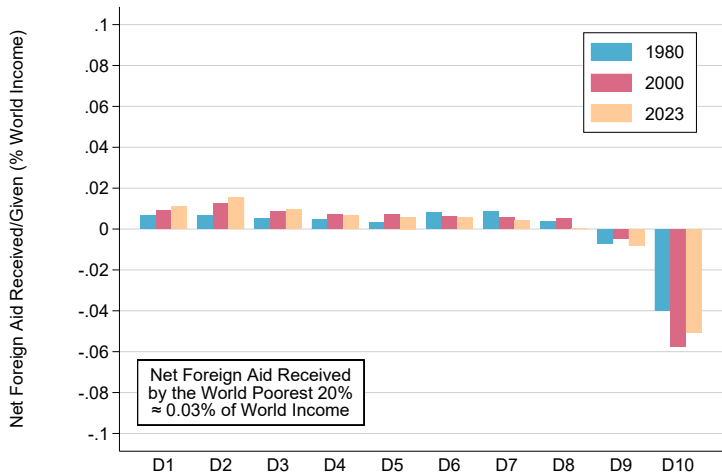
Global Top 10%/Bottom 50% Average Income Ratio, 1980-2023



→ **Redistribution Accounts for 30-40% of Global Inequality Reduction.**

Redistribution and Global Inequality: The Role of Aid

Net Foreign Aid Received/Given by Global Income Decile, 1980-2023



→ Foreign aid transfers received by the world's poorest 20% $\approx 0.03\%$ of world income $\approx 3\%$ of their pretax income. [Foreign Aid/Pretax Income](#)

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Costs and Benefits of Education and Healthcare

This paper: how much money spent on education & healthcare.

What about expected benefits/welfare value of in-kind transfers?

Education: net present value of public education system:

$$g_{ctp}^{\text{educ}} = \sum_{s=1}^3 n_{ctps} \left(\sum_{i=t}^{t+45} \frac{(1+g)^i \gamma_{cs} y_{ctp,s-1}}{(1+\delta)^i} \right) \quad (4)$$

Intuition: someone in school at level s gets a return to schooling γ_{cs} , which applies to current income $y_{ctp,s-1}$ and future stream of income flows increasing at growth rate g , discounted at rate $\delta = 5\%$.

Data: returns to schooling by level from Gethin (2025), intergenerational mobility curves from van der Weide et al. (2024), projected growth rates from OECD.

Costs and Benefits of Education and Healthcare

This paper: how much money spent on education & healthcare.

What about expected benefits/welfare value of in-kind transfers?

Healthcare: net present value of public healthcare system:

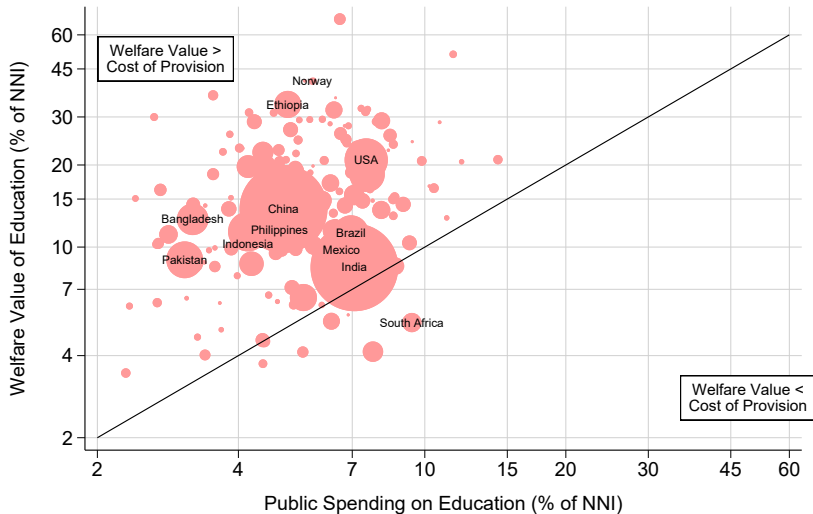
$$g_{ctp}^{\text{heal}} = \frac{1}{T_{ct}} \zeta^{\text{publ}} \sum_{i=T_{ct}-L_{ct}}^{T_{ct}} \frac{y_{cip}}{(1+\delta)^i} \quad (5)$$

Intuition: an individual in country c lives L_{ct} years longer thanks to the healthcare system. Each additional year enables this individual to enjoy the current income of year i , y_{cip} , discounted at rate $\delta = 5\%$. A fraction ζ^{publ} of the healthcare system is public.

Data: public share of health expenditure from WHO, expected additional years of life thanks to the healthcare system from Global Burden of Disease database.

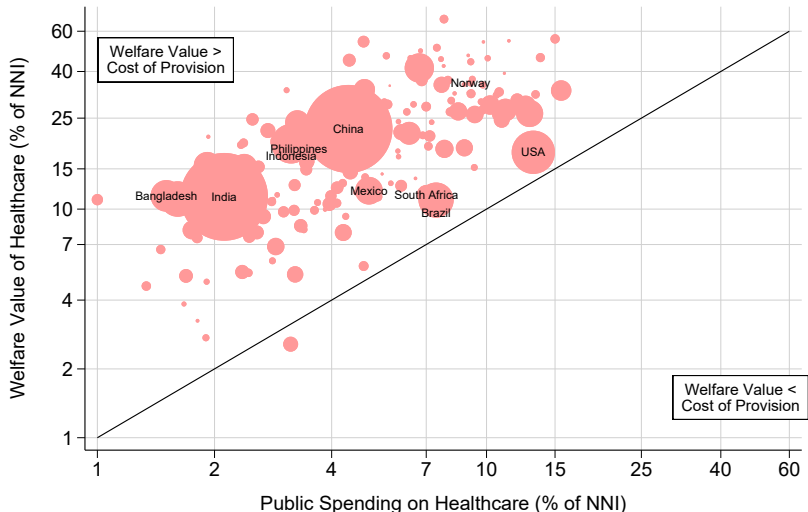
Costs and Benefits of Education and Healthcare

Cost of Provision vs. Net Present Value of Public Education System



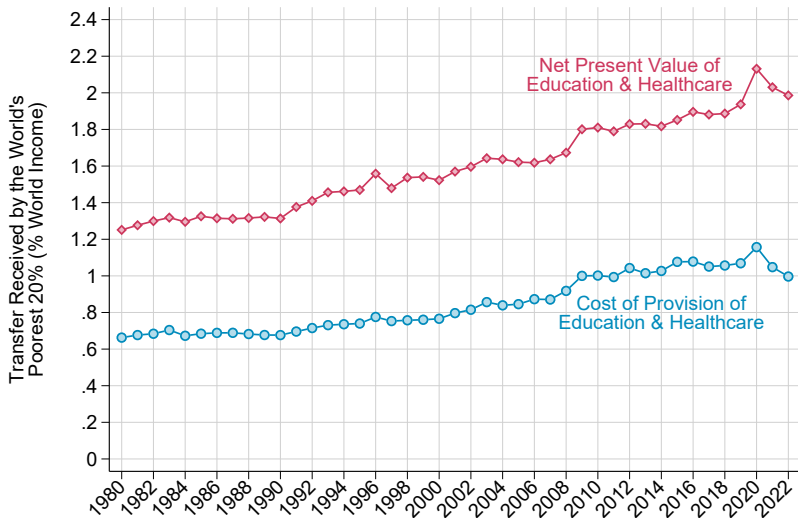
Costs and Benefits of Education and Healthcare

Cost of Provision vs. Net Present Value of Public Healthcare System



Costs and Benefits of Education and Healthcare

Cost of Provision vs. Net Present Value of Public Education and Healthcare Received by the World's Poorest 20%



Conclusions

1) Transfers Dominate Taxes in Shaping Inequality:

- Large and increasing incidence of transfers.
- Negligible and stable incidence of taxes.

⇒ **Key margin = how much governments spend on transfers.**
Progressivity of each type of tax/transfer is second-order.

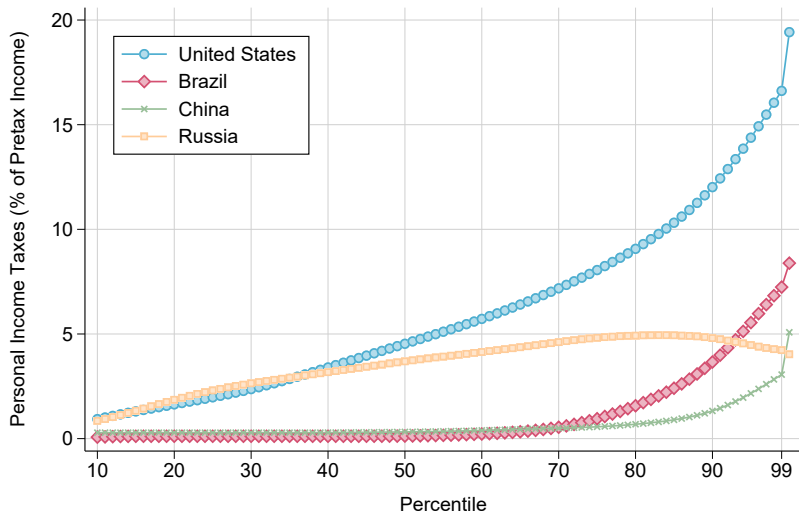
2) Government Redistribution is Quantitatively Substantial: accounts for 30% of growth among the world's poorest 20% since 1980.

⇒ **Building state capacity to finance progressive transfers is first-order in the fight against global poverty and inequality.**

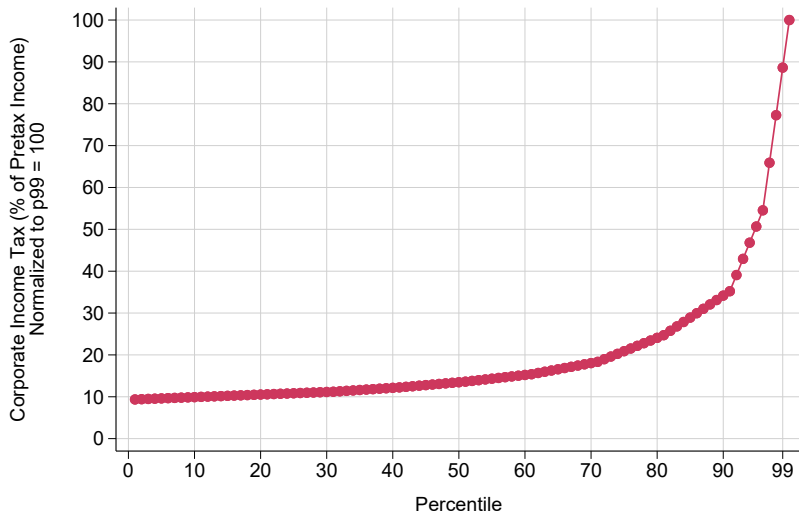
3) In-Kind Transfers Are Valuable, Even in Poor Countries. Concerns about excessive government inefficiency are exaggerated.

Thank You!

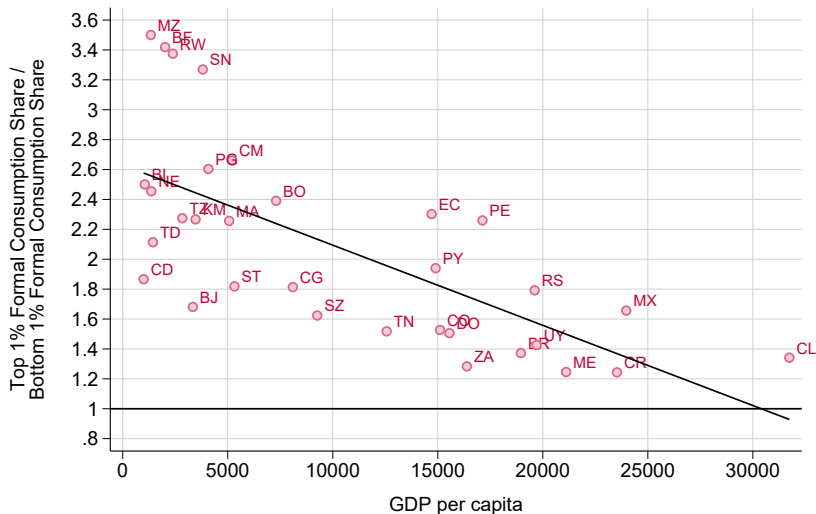
Personal Income Taxes Progressivity: Examples [Back](#)



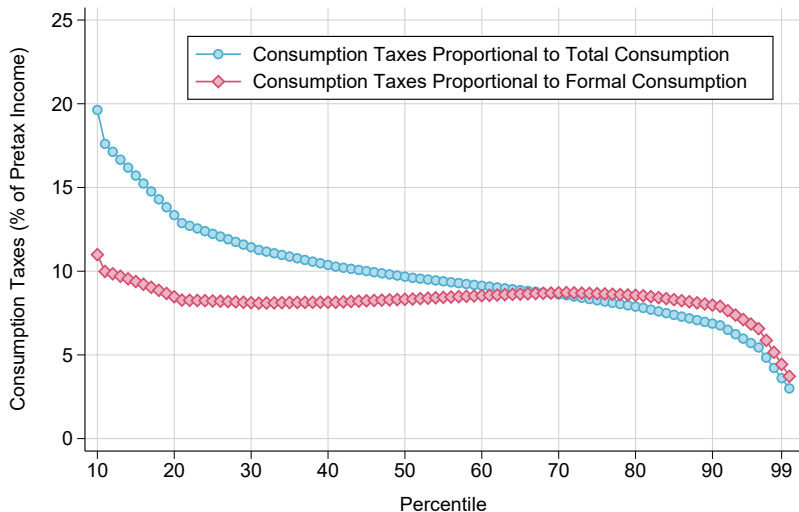
Corporate Tax Progressivity Profile [Back](#)



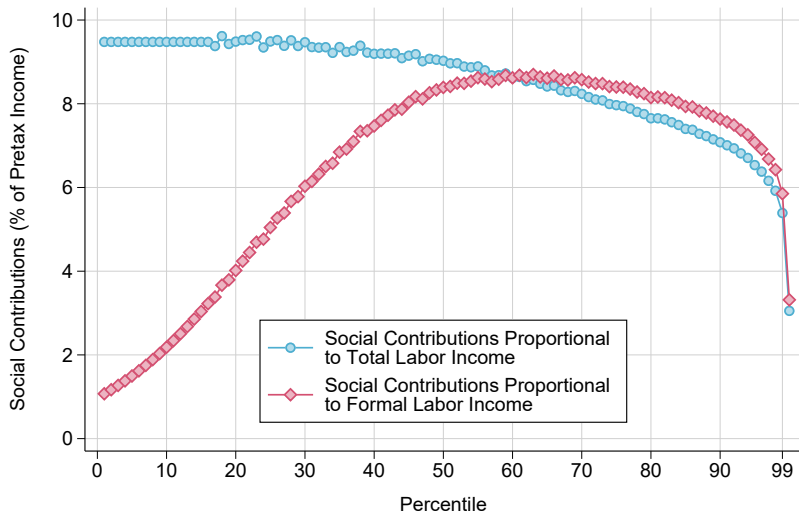
Informality Consumption Elasticity vs. GDP [Back](#)



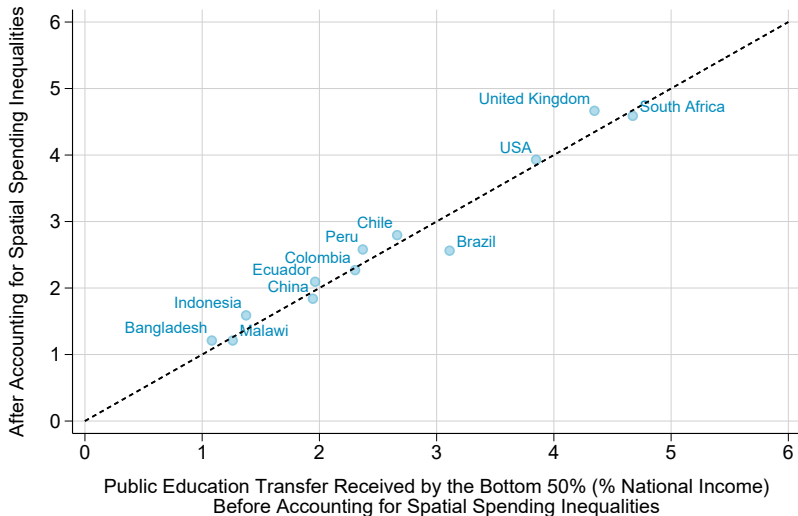
Consumption Taxes and Informality: Niger [Back](#)



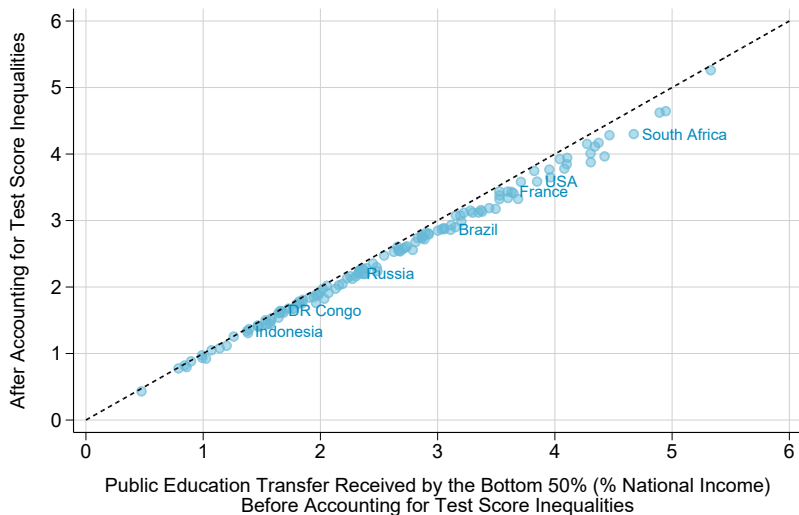
Social Contributions and Informality: Argentina [Back](#)



Accounting for Spatial Inequalities: Education [Back](#)

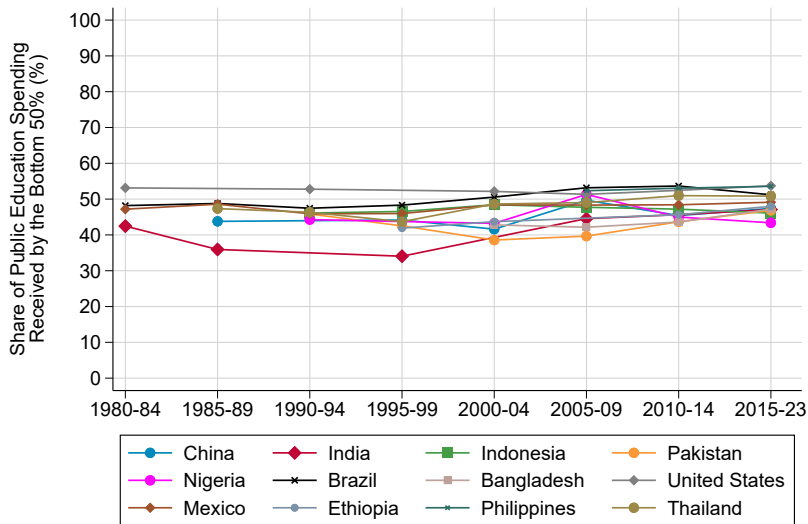


Accounting for Quality Inequalities: Education [Back](#)



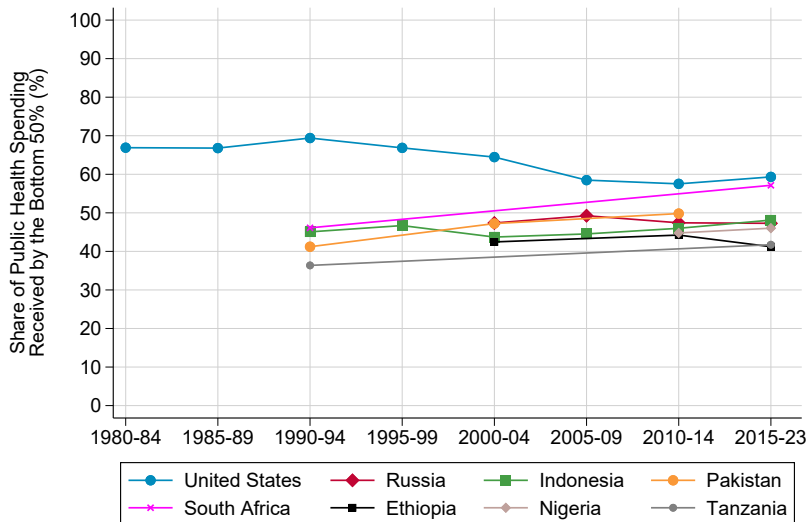
Trends in Education Progressivity: Selected Countries [Back](#)

Bottom 50% Share of Education Spending (%)



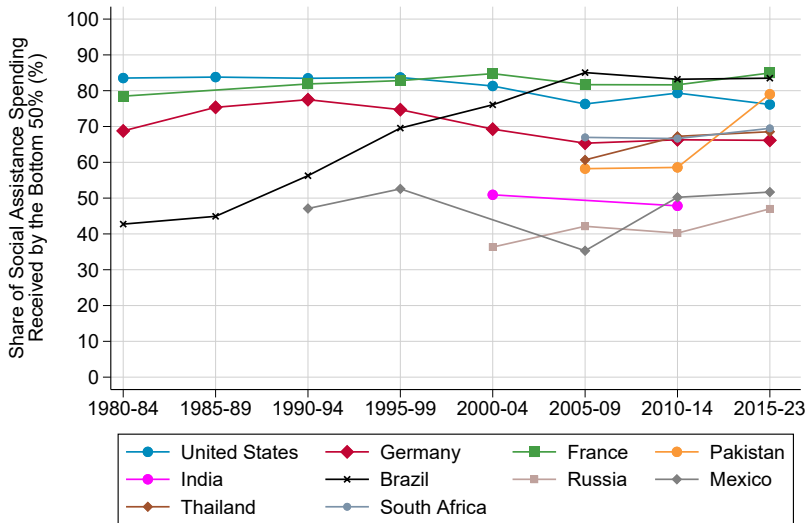
Trends in Health Progressivity: Selected Countries [Back](#)

Bottom 50% Share of Healthcare Spending (%)



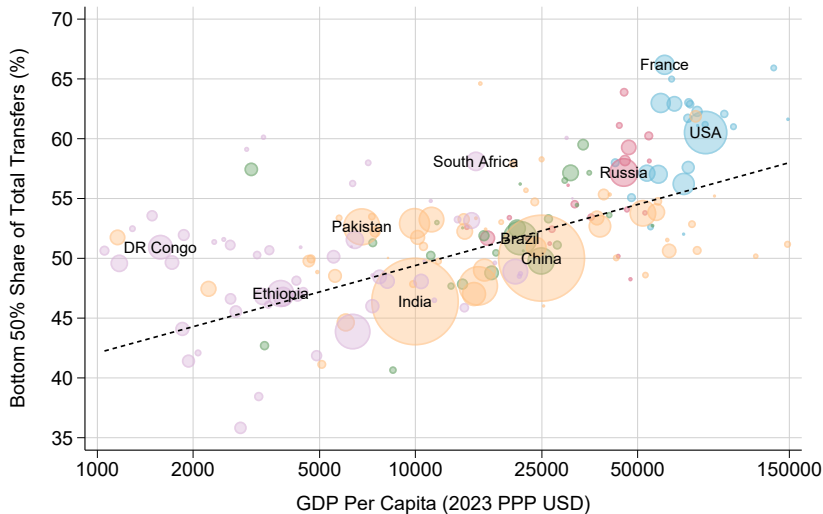
Trends in Social Progressivity: Selected Countries [Back](#)

Bottom 50% Share of Social Assistance Spending (%)



Transfer Progressivity and Development [Back](#)

Bottom 50% Share of Transfers and Development



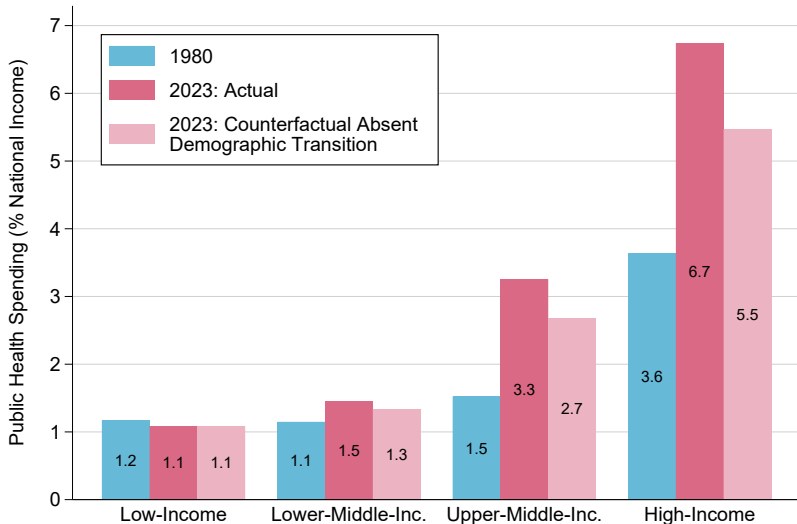
Does the rise of education and healthcare spending only reflect an increase in needs?

Construct age-adjusted education and healthcare spending:

- 1) Health: counterfactual health spending assuming 1980 age structure and health spending by age from Bruil et al. (2026).
- 2) Education: counterfactual education spending assuming 1980 share of population aged 5-24.

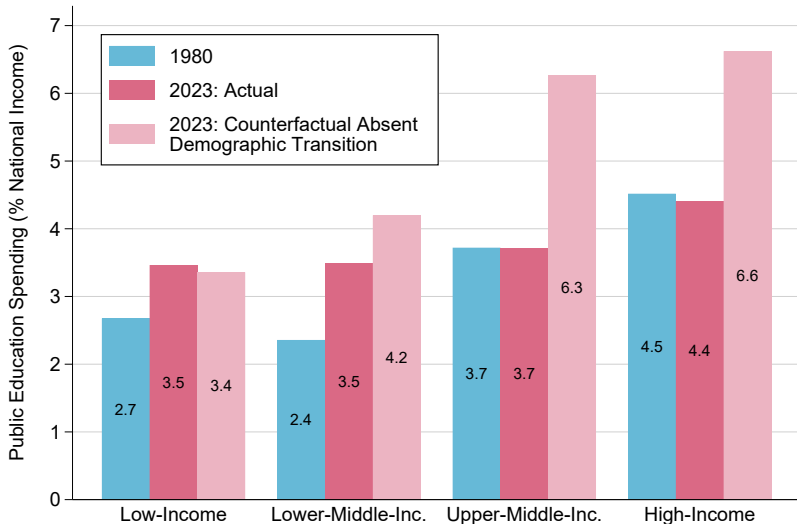
Accounting for the Demographic Structure [Back](#)

Actual vs. Age-Adjusted Health Spending, 1980-2023



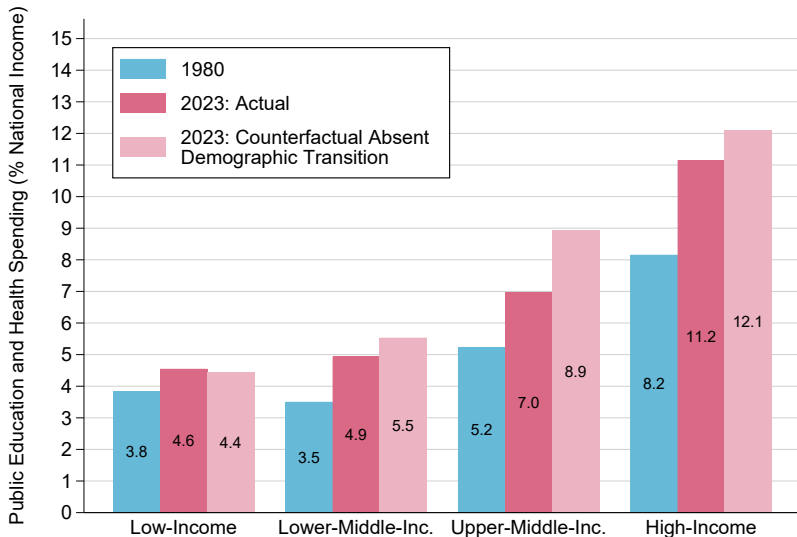
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Actual vs. Age-Adjusted Education Spending, 1980-2023



Accounting for the Demographic Structure [Back](#)

Actual vs. Age-Adjusted Health + Education Spending, 1980-2023



Redistribution and Global Inequality: The Role of Aid [Back](#)

Net Foreign Aid Received/Given by Global Income Decile (% Pretax Income)

