

Shortfall of Domestic Resources to Eradicate Extreme Poverty by 2030

Adrien Fabre (CNRS, CIRED)

August 2024

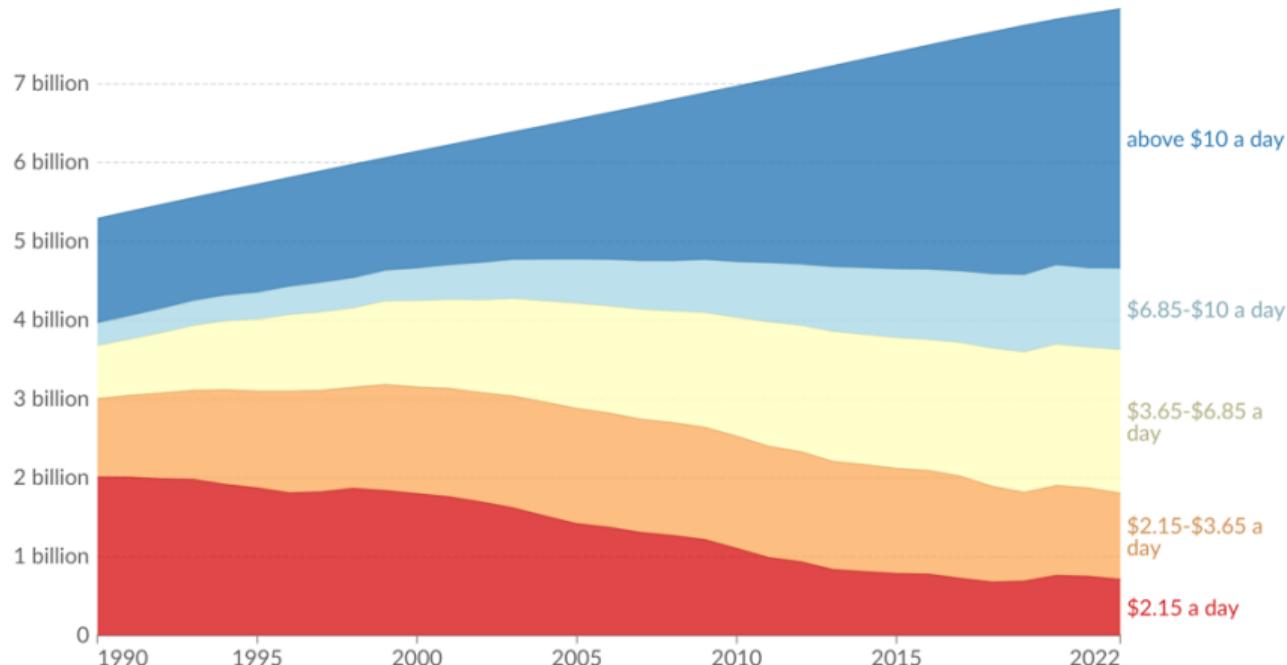
Introduction

Poverty eradication

Distribution of population between different poverty thresholds, World, 1990 to 2022

Our World
in Data

This data is adjusted for inflation and for differences in the cost of living between countries.



Data source: World Bank Poverty and Inequality Platform (2024)

OurWorldInData.org/poverty | CC BY

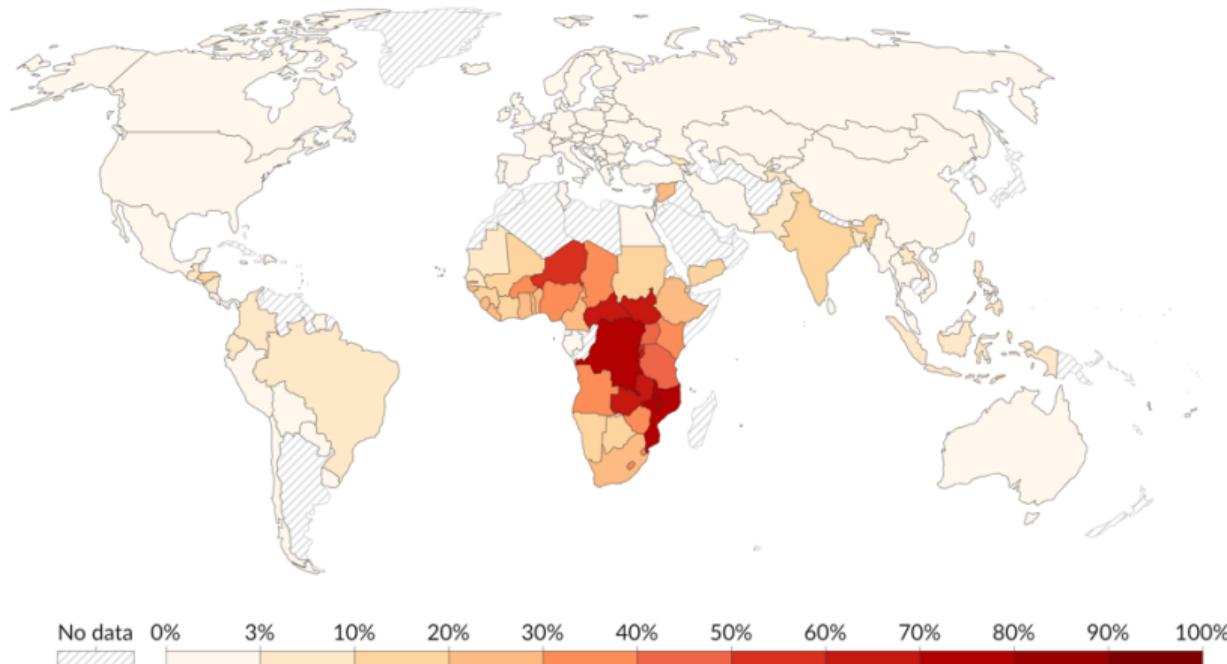
Note: This data is expressed in international-\$¹ at 2017 prices. Depending on the country and year, it relates to income measured after taxes and benefits, or to consumption, per capita².

Poverty eradication

Share of population living in extreme poverty, 2019

Our World
in Data

Extreme poverty is defined as living below the International Poverty Line of \$2.15 per day. This data is adjusted for inflation and for differences in the cost of living between countries.



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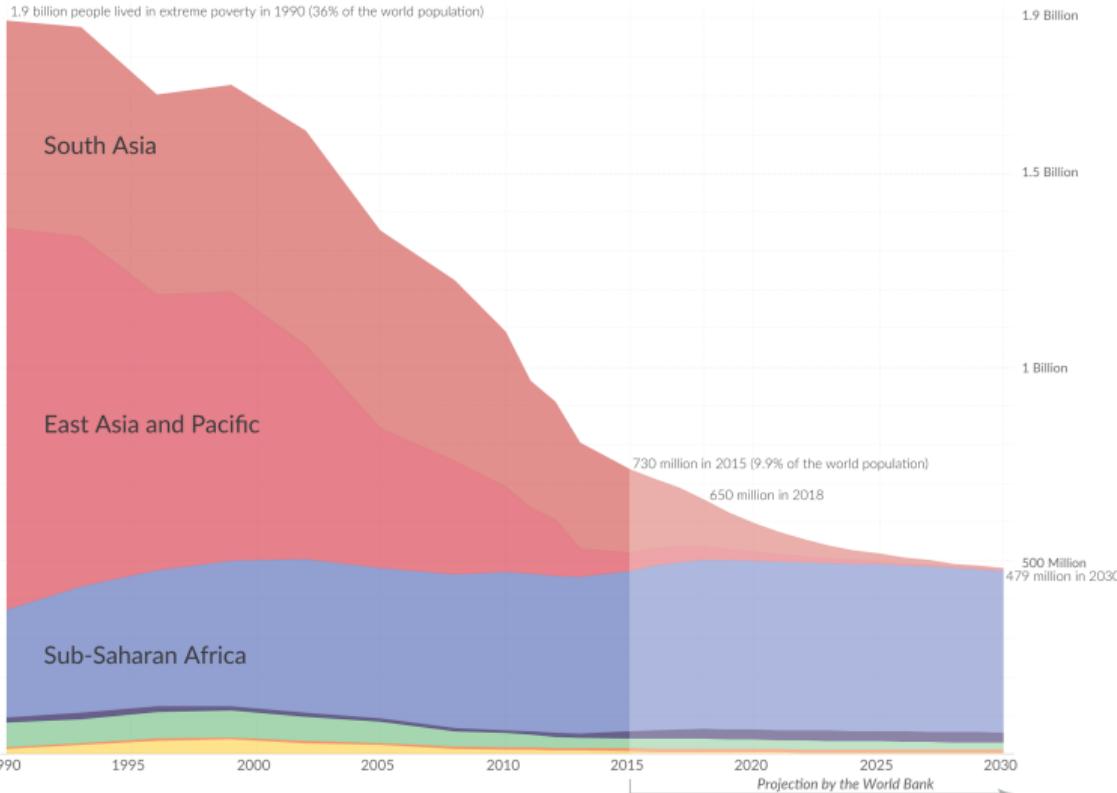
Poverty eradication

The number of people in extreme poverty – including projections to 2030

Extreme poverty is defined by the 'international poverty line' as living on less than \$1.90/day. This is measured by adjusting for price changes over time and for price differences between countries (PPP adjustment). From 2015 to 2030 the World Bank's projections are shown.



1.9 Billion



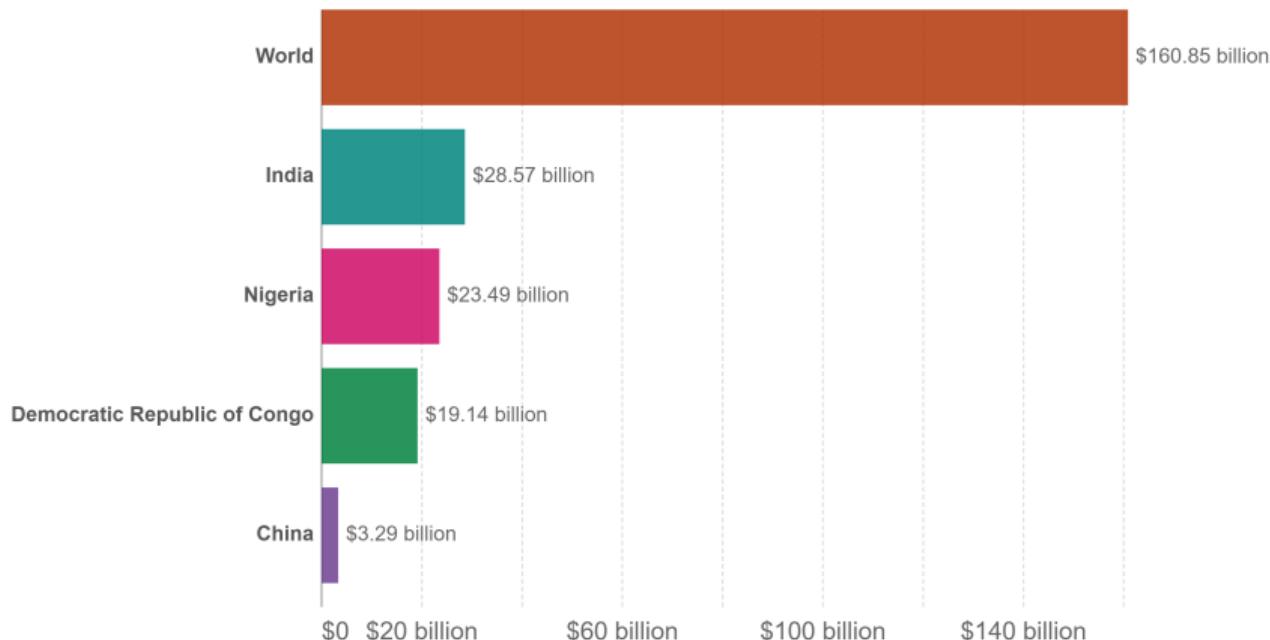
Data source: World Bank data from 1990 to 2015. The projections from 2015 to 2030 are published in the World Bank report *Poverty and Shared Prosperity 2018*.
This is a visualization from OurWorldInData.org, where you find data and research on how the world is changing.
Licensed under CC-BY by the author Max Roser.

Poverty eradication

The poverty gap, in international-\$, 2013

Our World
in Data

The poverty gap is the amount of money that would be theoretically needed to lift the incomes of all people in extreme poverty up to the international poverty line of \$1.90 a day. These estimates are expressed in international dollars using 2011 PPP conversion rates. This means that figures account for differences in prices levels, as well as for inflation.



Source: PovcalNet (World Bank) (2017)

Note: The cost of closing the poverty gap does not take into account costs and inefficiencies from making the necessary transfers.

OurWorldInData.org/extreme-poverty/ • CC BY

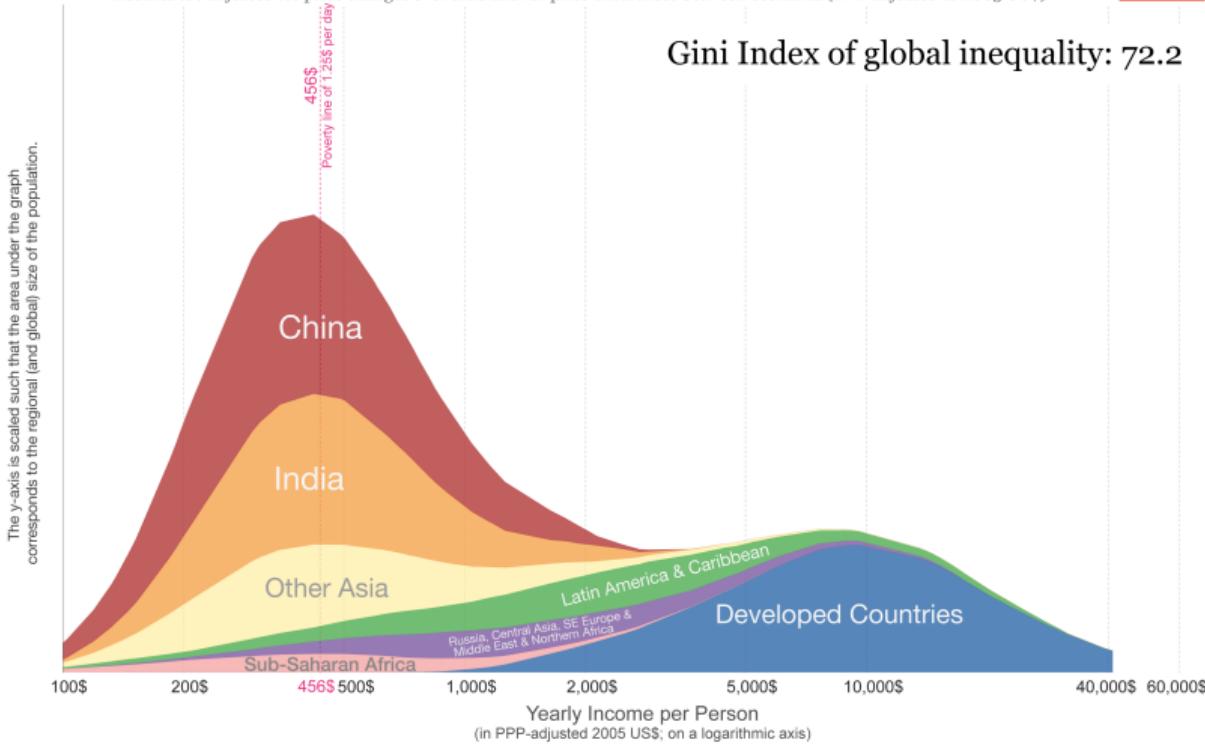
Poverty eradication

Global Income Distribution 1988

Incomes are adjusted for price changes over time and for price differences between countries (PPP-adjusted to 2005 US\$).

OurWorld
inData

Gini Index of global inequality: 72.2



Data source: Lakner and Milanovic (2015) – *Global Income Distribution: From the Fall of the Berlin Wall to the Great Recession*, World Bank Economic Review.

'Other Asia' refers to Asia without India, China, Hong Kong, Israel, Japan, Korea, Singapore, and Taiwan.

'Developed countries' are the EU-27, Australia, Bermuda, Canada, Hong Kong, Iceland, Israel, Japan, Korea, New Zealand, Norway, Singapore, Switzerland, Taiwan, and the United States.

The categorisation of countries is stable over the entire time period 1988–2011.

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Poverty eradication

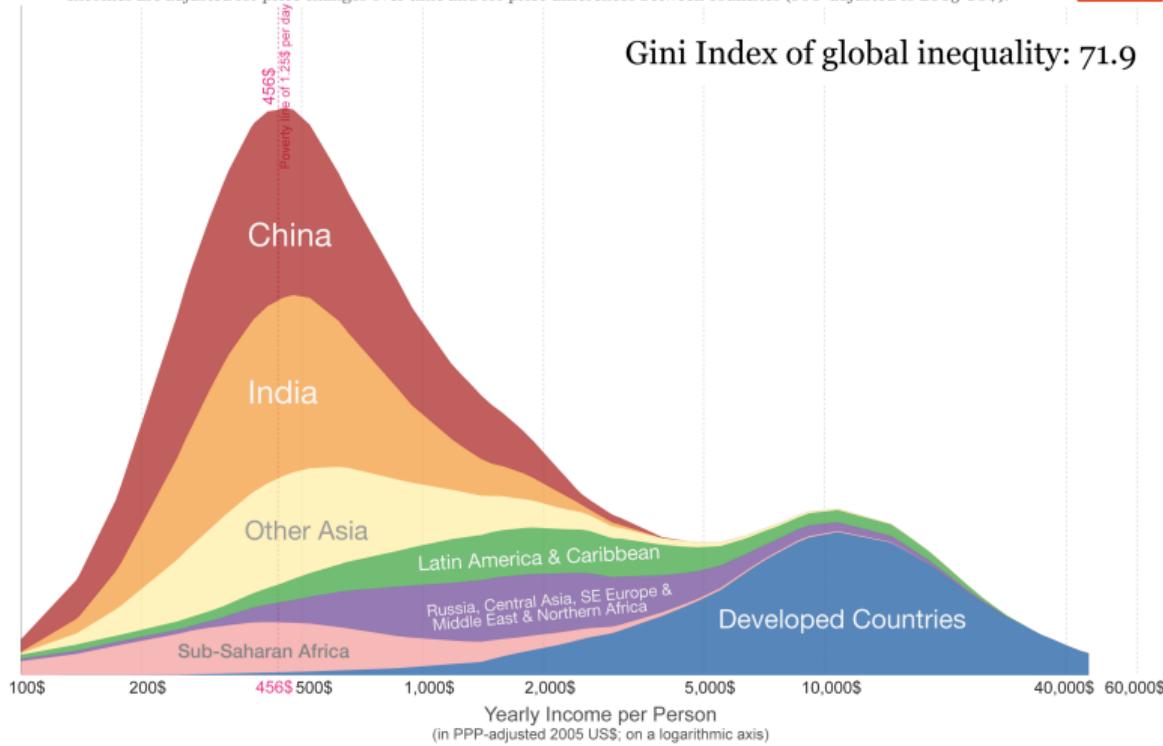
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OurWorld
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The y-axis is scaled such that the area under the graph corresponds to the regional (and global) size of the population.



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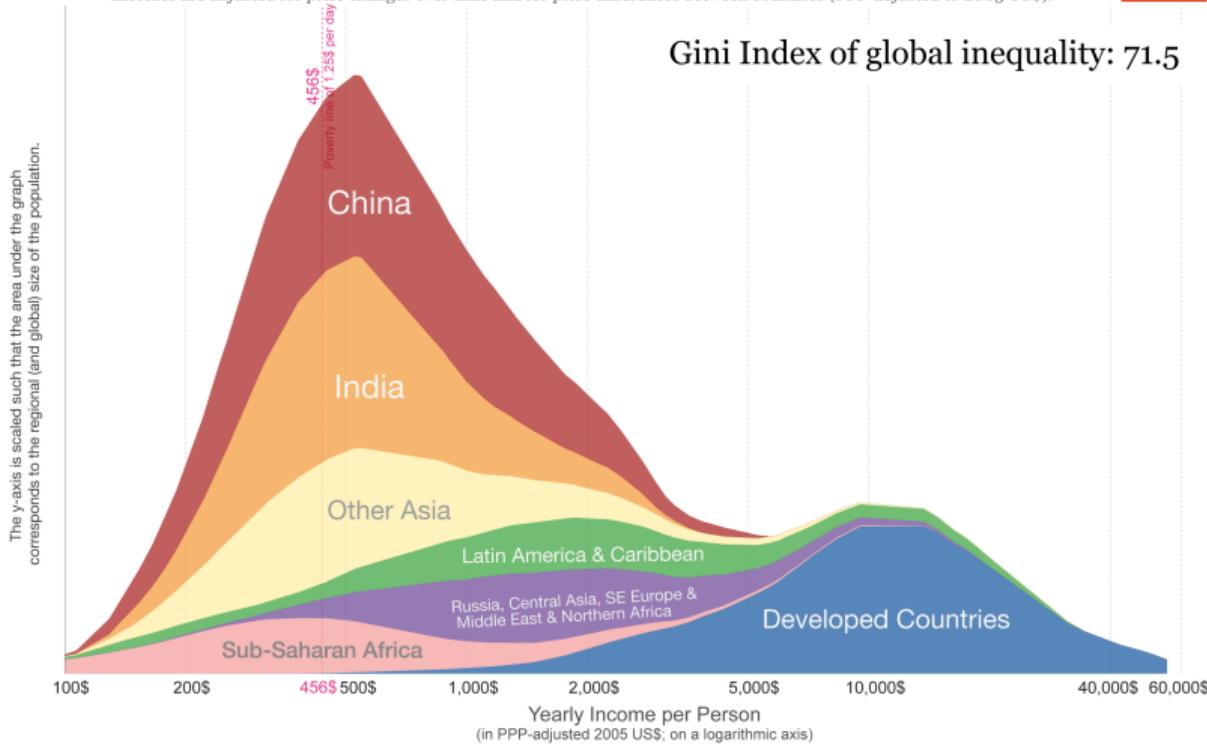
Poverty eradication

Global Income Distribution 1998

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OurWorld
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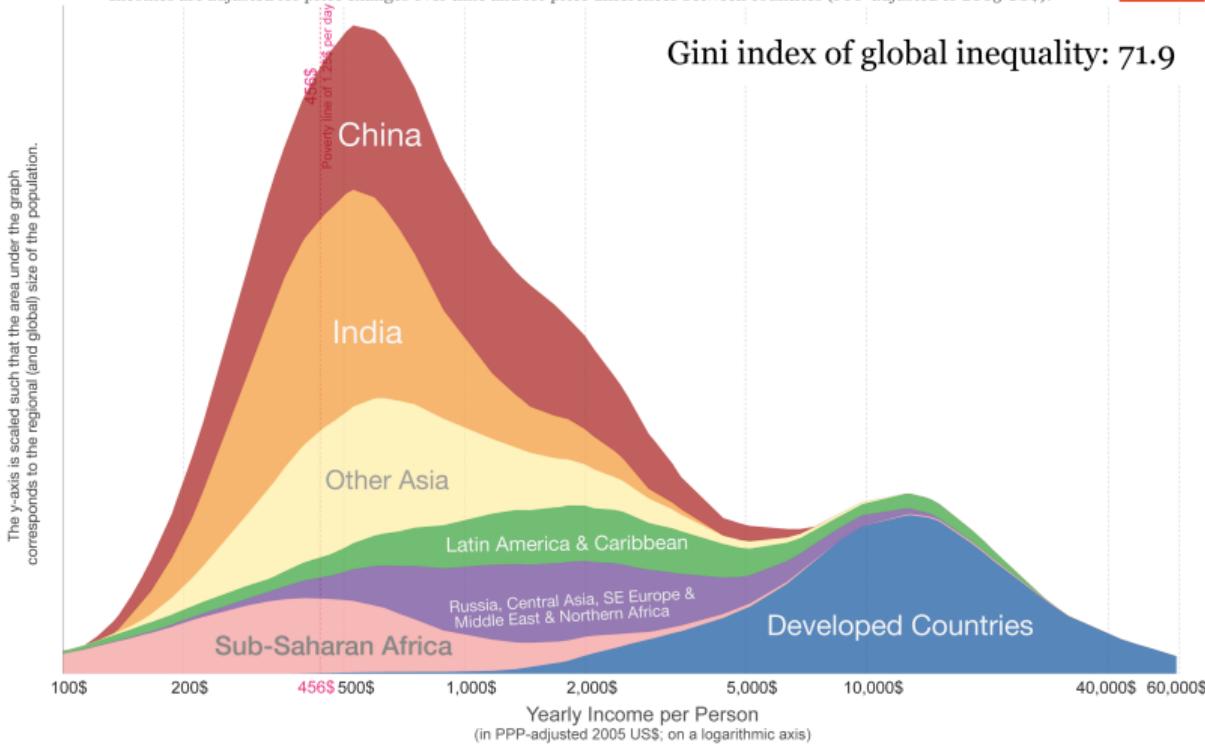
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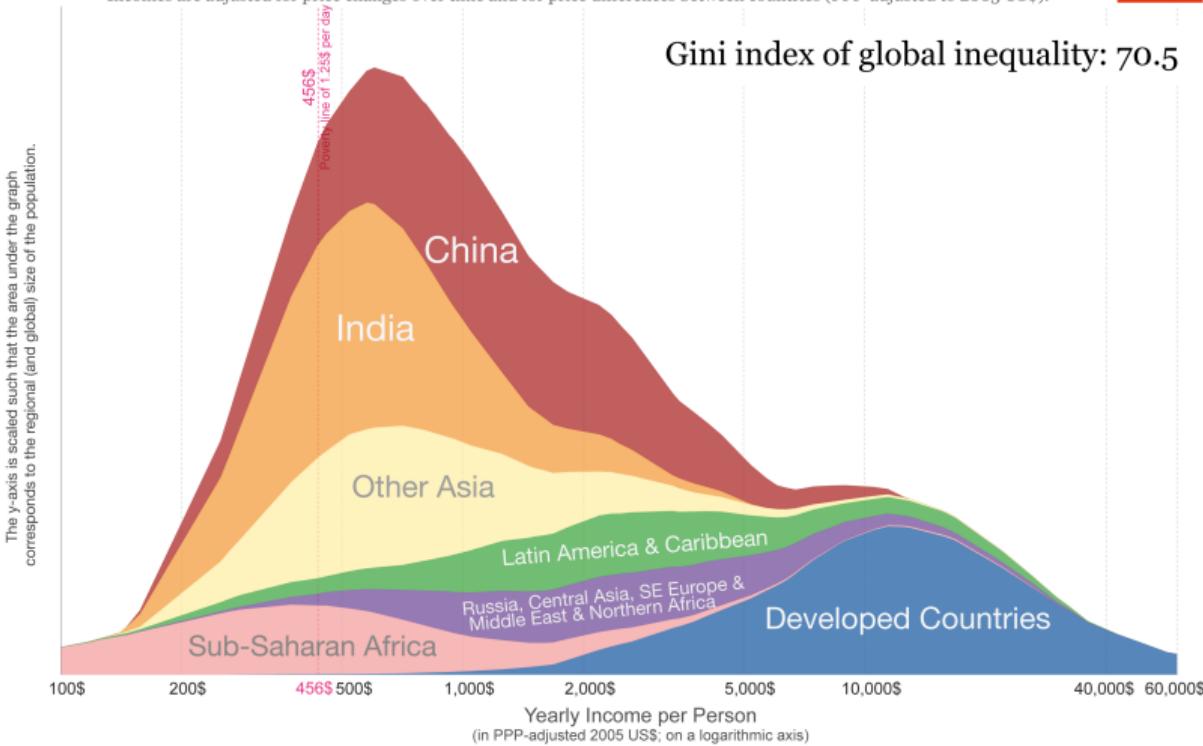
Poverty eradication

Global Income Distribution 2008

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OurWorld
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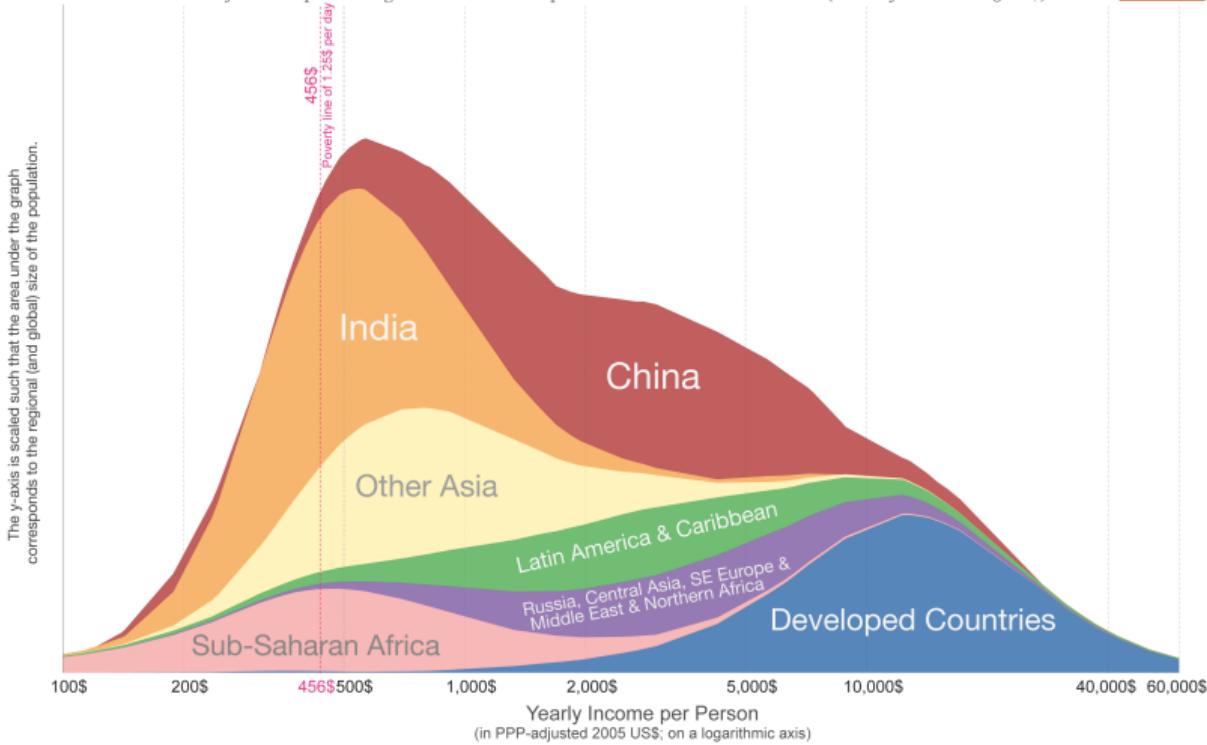
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Poverty eradication

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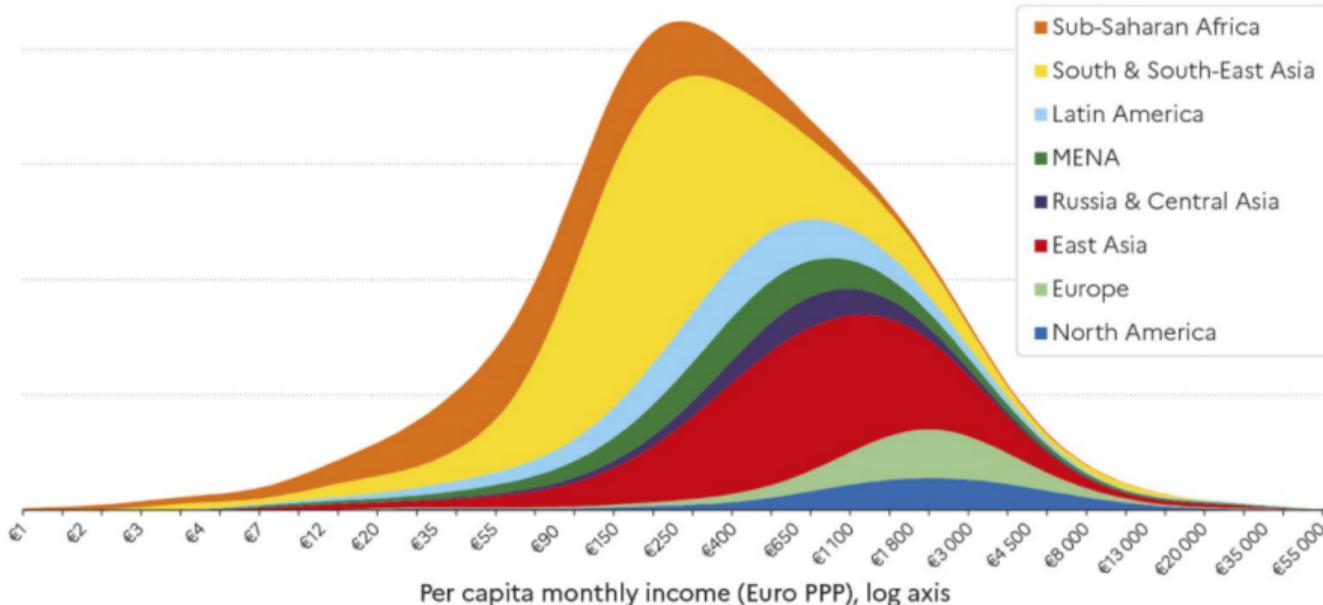
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Poverty eradication

Global income distribution in 2020

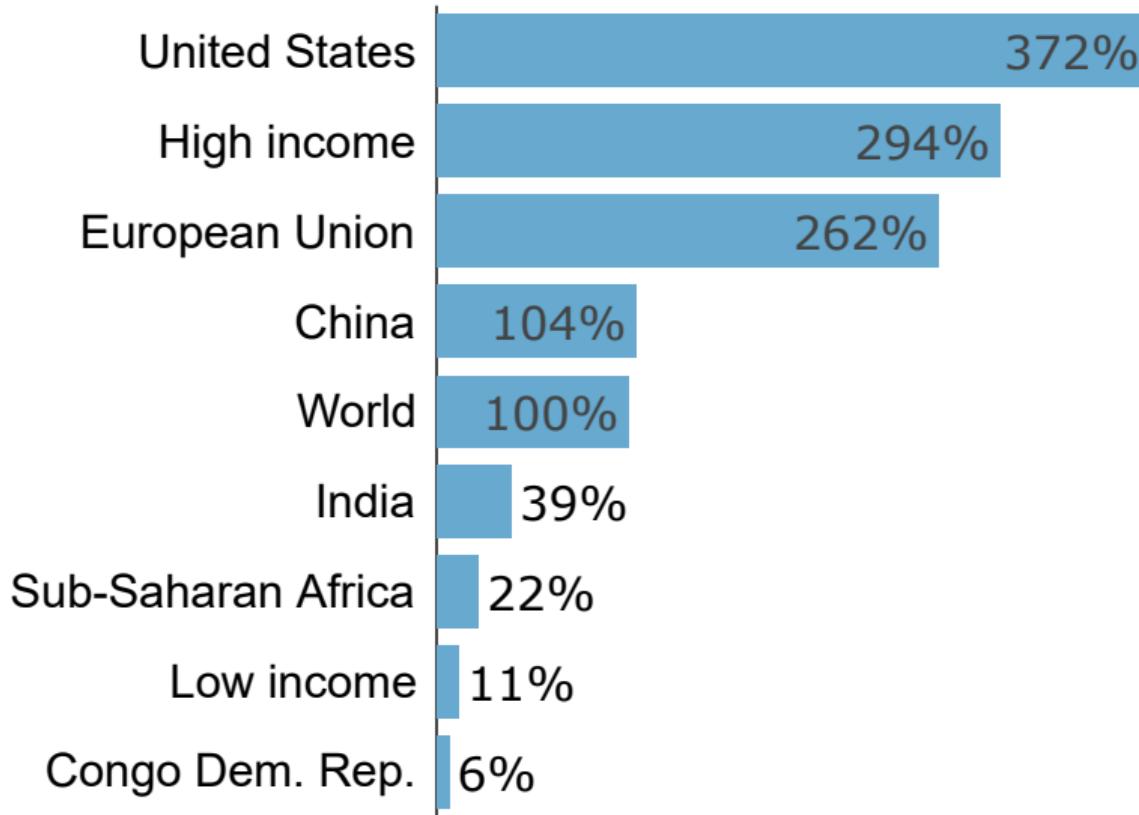
The axis is scaled such that the colored areas correspond to the total population in each region



Interpretation: The graph shows the size and geographical repartition of the global population at different levels of the income distribution. The relative size of each color wedge is proportional to the relative population in a region. Incomes are measured after pension and unemployment insurance transfers and before income and wealth taxes. **Note:** Distribution of per capita incomes (for the distribution of per-adult incomes, see Chapter 1). **Sources and series:** wir2022.wid.world/methodology.

Poverty eradication

GDP per capita in PPP, relative to world average (2023).



Poverty eradication

Extreme poverty := \$2.15 a day (in 2017 PPP \$) \approx threshold of undernourishment.

Severe poverty := \$3.65/day. Acute poverty := \$6.85/day.

SDG 1 (2015): Eradicate extreme poverty by 2030.

Can we eradicate extreme poverty by 2030?

⇒ Let's use idealized redistributive policies to assess each country's capacity to end poverty.

Methodology

Idealized redistributive policies

Tax policies that would **raise enough revenues** to eradicate poverty.

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⚠ These policies are idealized (assume administrative capacity at no cost, no distortion) ⇒ upper bound of what they could achieve.

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Extreme poverty in 2030 projected at from 2.8% (Karver et al., 2012), 3–7% (Bicaba et al., 2017; Chandy et al., 2013), 4.7% (Manuel et al., 2018) to 7.4% (Lakner et al., 2022).

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More than 60 countries expected to fail SDG 1 (Moyer & Hedden, 2020).

Primer of the results: comparison with BCL

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Replicating BCL: 52 countries can't end \$3.44/day poverty with a cap at \$22.36/day;
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In 2030 after 3% growth: figures go down to 34 and 6 countries.

Data

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⇒ As robustness check, I impute extra consumption in HFCE to top percentile (as Lakner & Milanovic, 2015; Anand & Segal, 2015).

Growth scenarios

Consistent with the literature, I assume **balanced growth**: each percentile grows at same rate between the survey year and 2030.

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Constant growth at either **0%**, **3% (baseline)**, **4.5%**, **6%**, or **7%**.

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7% growth since 2016 as per SDG 8.1.

The effects of balanced growth

Table 1: Global poverty rates and poverty gaps in 2030 under different growth scenarios. Poverty rates are expressed in % of world population and poverty gaps in % of world GDP. Poverty lines are in PPP \$/day.

Growth scenario (Poverty line in \$/day)	Poverty rate (%)				Poverty gap (% of GDP)			
	2.15	3.65	6.85	18.15	2.15	3.65	6.85	18.15
2022 Estimate	7.3	21.1	44.4	72.2	0.26	1.36	7.01	42.96
Trend (2014–2019)	6.2	14.4	34.5	66.2	0.21	0.87	4.29	30.64
Max(Trend, 0)	6.3	14.2	34.3	66.4	0.19	0.81	4.16	30.25
Autoregressive projection	6.2	15.2	36.8	65.5	0.17	0.84	4.64	32.02
3% growth	5.2	15.2	37.5	68.2	0.14	0.75	4.38	31.20
7% growth	2.2	8.5	25.5	59.5	0.05	0.29	1.93	18.07
7% growth since 2016	1.1	3.1	15.3	51.3	0.01	0.08	0.74	10.15

The effects of balanced growth

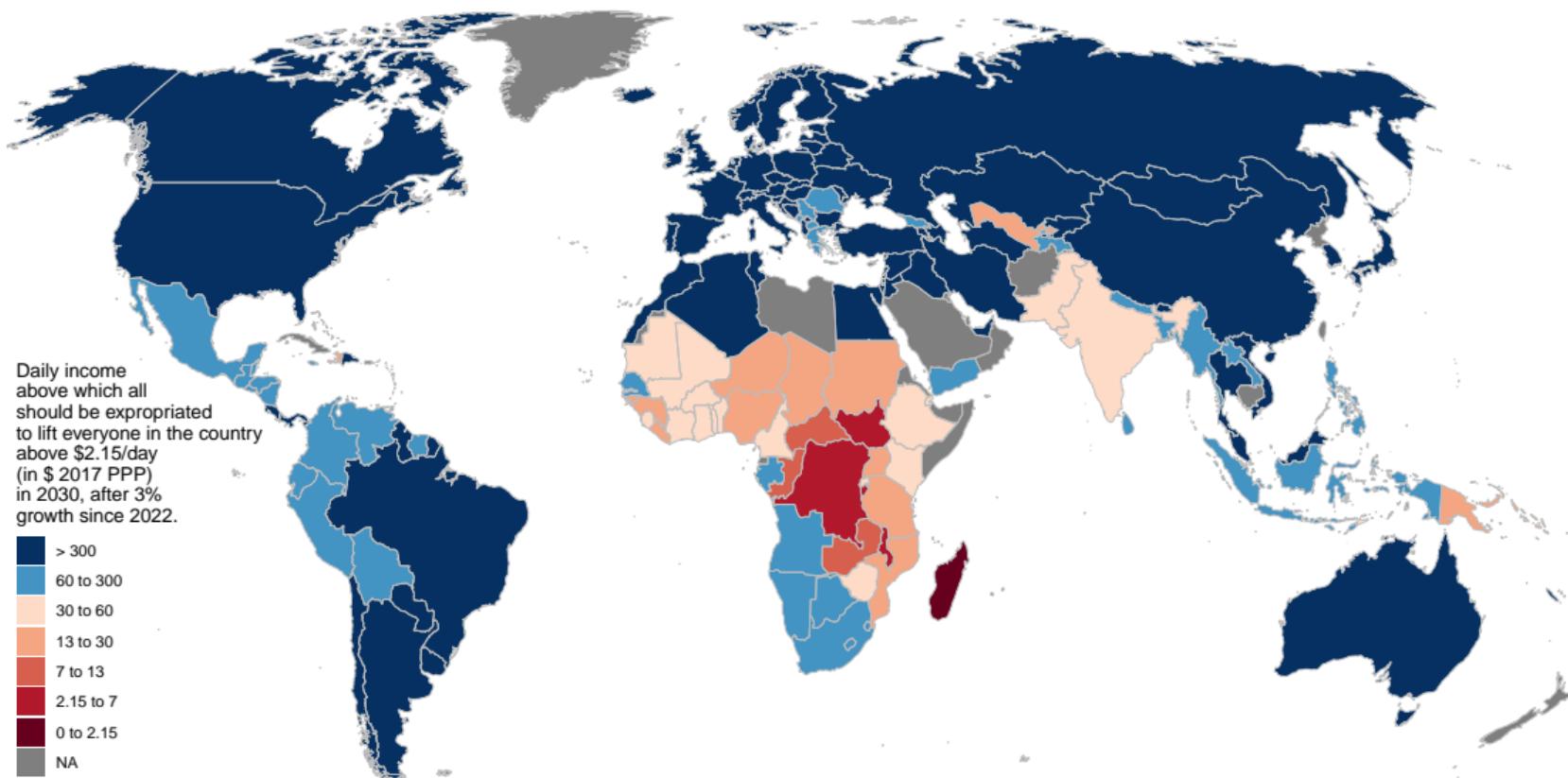
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2022 Estimate	7.3	21.1	44.4	72.2	0.26	1.36	7.01	42.96
Trend (2014–2019)	6.2	14.4	34.5	66.2	0.21	0.87	4.29	30.64
Max(Trend, 0)	6.3	14.2	34.3	66.4	0.19	0.81	4.16	30.25
Autoregressive projection	6.2	15.2	36.8	65.5	0.17	0.84	4.64	32.02
3% growth	5.2	15.2	37.5	68.2	0.14	0.75	4.38	31.20
7% growth	2.2	8.5	25.5	59.5	0.05	0.29	1.93	18.07
7% growth since 2016	1.1	3.1	15.3	51.3	0.01	0.08	0.74	10.15

Among the 8 countries < \$3/day; 2014–19 growth on average negative, highest growing rate at 2.4%.
⇒ My benchmark of 3% growth over 2022–30 is optimistic.

Antipoverty caps

Income cap eradicating extreme poverty (in \$/day), after growth of 3% over 2022–2030.



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In a very optimistic scenario of 7% growth, the anti-extreme-poverty cap would be \$14/day in the D.R.C and \$8.60 in Burundi.

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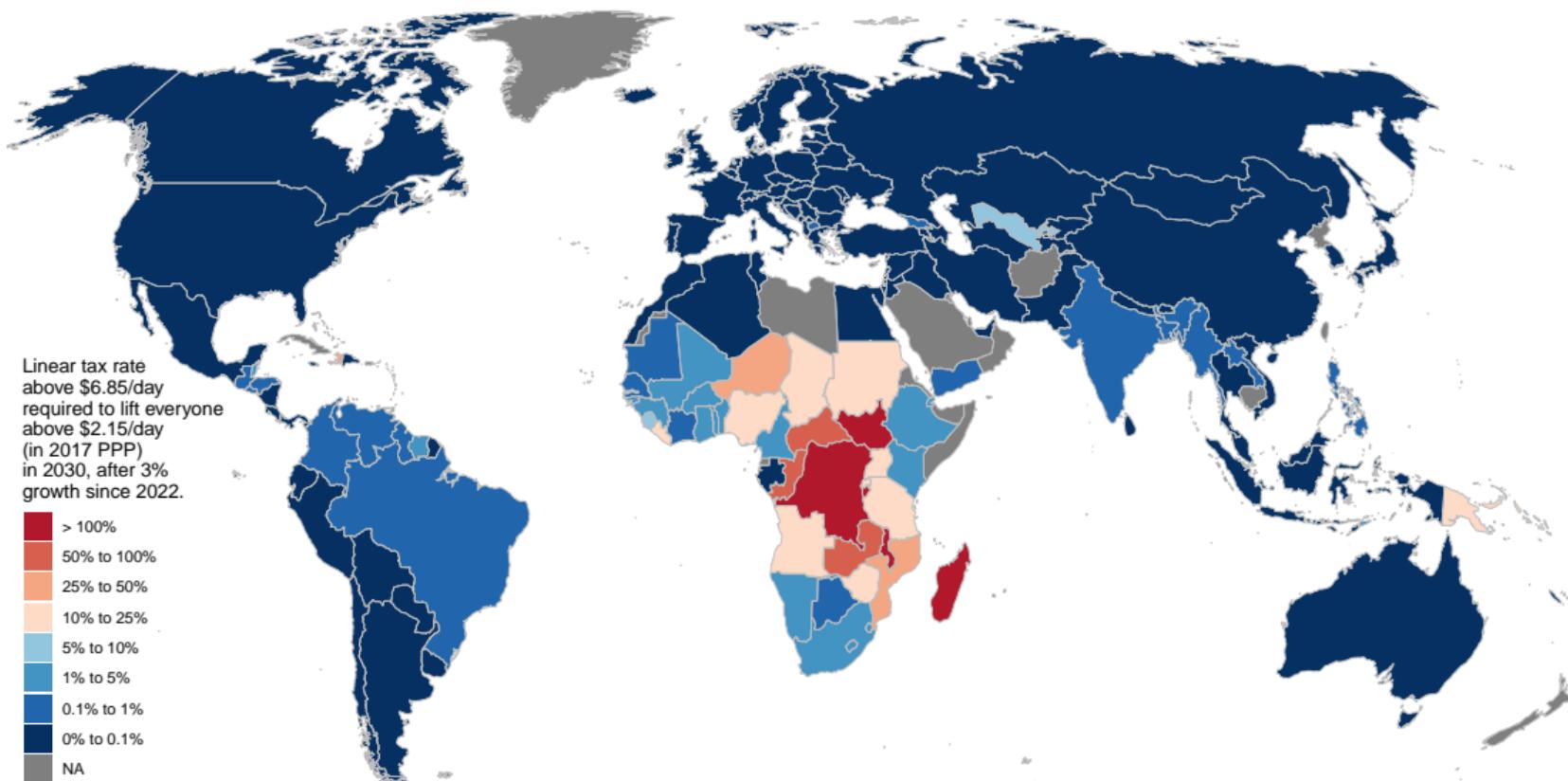
⇒ Basic consumption poverty line (BCS): local price of cheapest diet that meets caloric and protein requirements plus ration of fat, sugar, basic non-food necessities.

With BCS (\$4.35 in median), poverty more prevalent:

Despite lot of missing data (e.g. India, D.R.C.), 14 countries' average consumption < BCS in 2030 after 3% growth (incl. Nigeria).

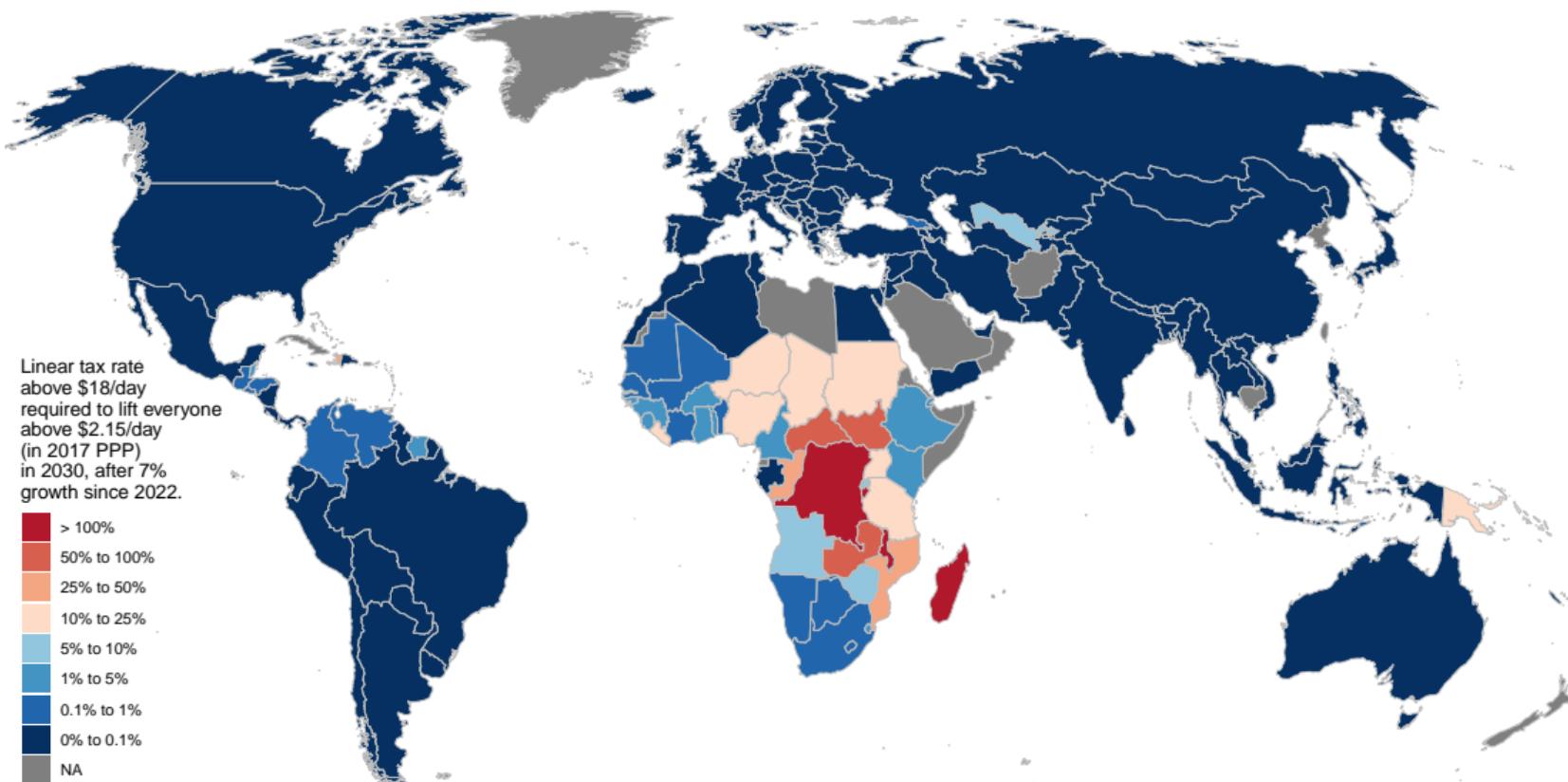
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Linear tax rate above \$6.85/day eradicating extreme poverty (in %), after a growth of 3% over 2022–2030.



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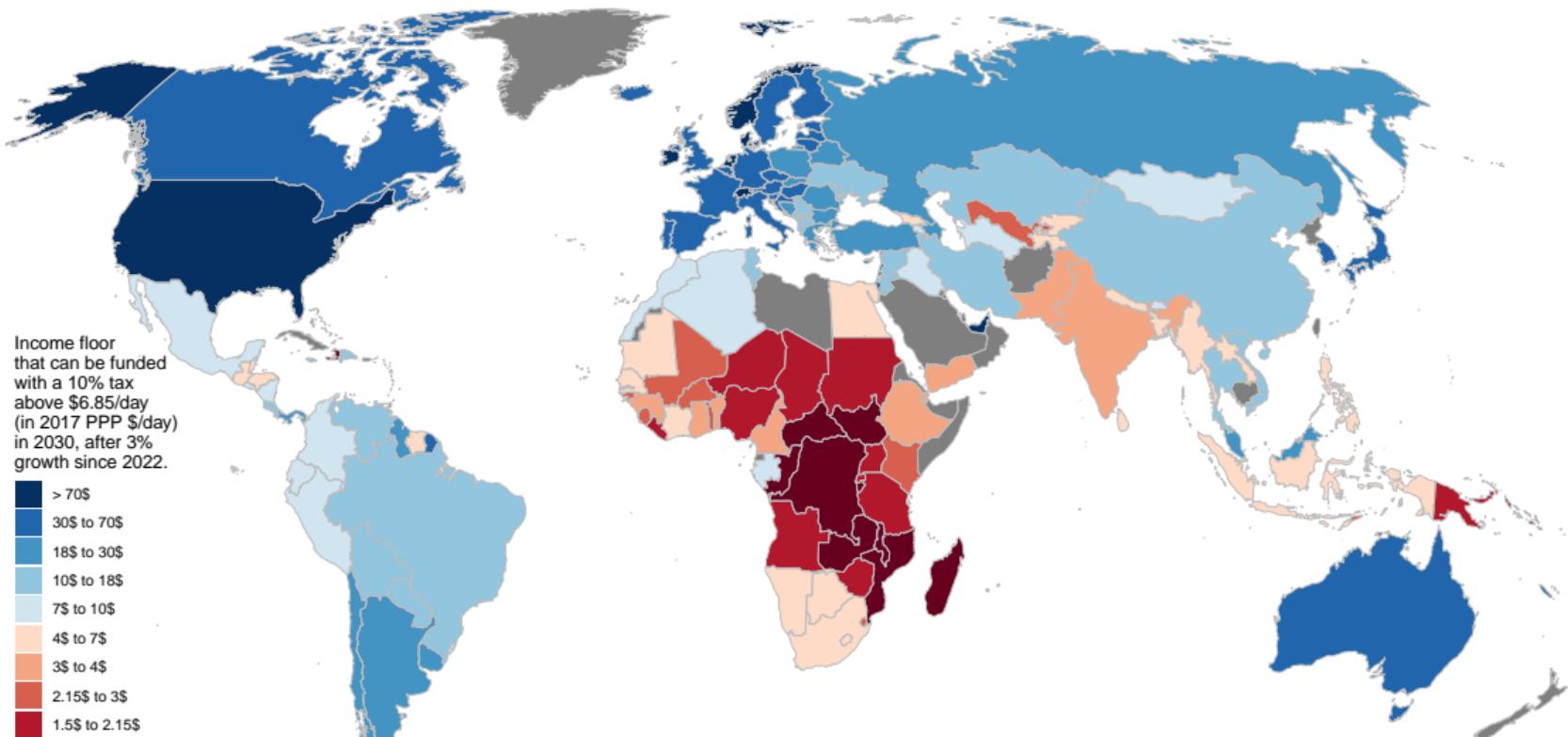
10% after 7% growth

36% after 5.5% growth (India's 2014–19 trend)

156% after 3% growth

Fundable income floor

Income floor that can be funded with a 10% marginal tax on income above \$6.85/day, after growth of 3% over 2022–2030.



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Extreme poverty gap (0.17% of global real GDP) \lesssim **ODA shortfall** (0.2% of global nominal GDP).

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A wealth tax at 4% above \$1 million and 10% above \$100 million would raise even more while targeting the top 1%.

Conclusion

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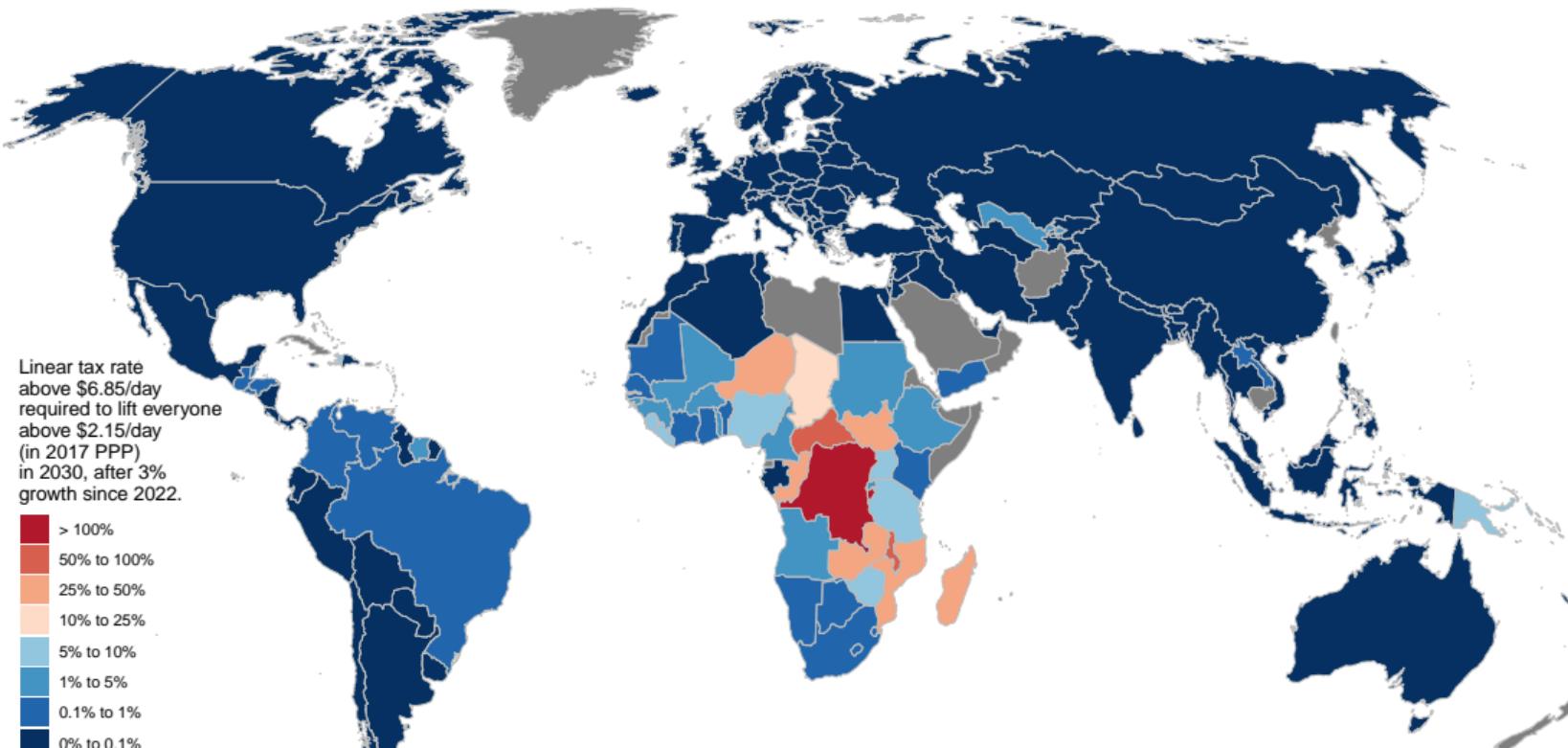
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Thank you for your attention!

Read paper on SSRN: 4725417, and for more: [@adrien_fabre](#).

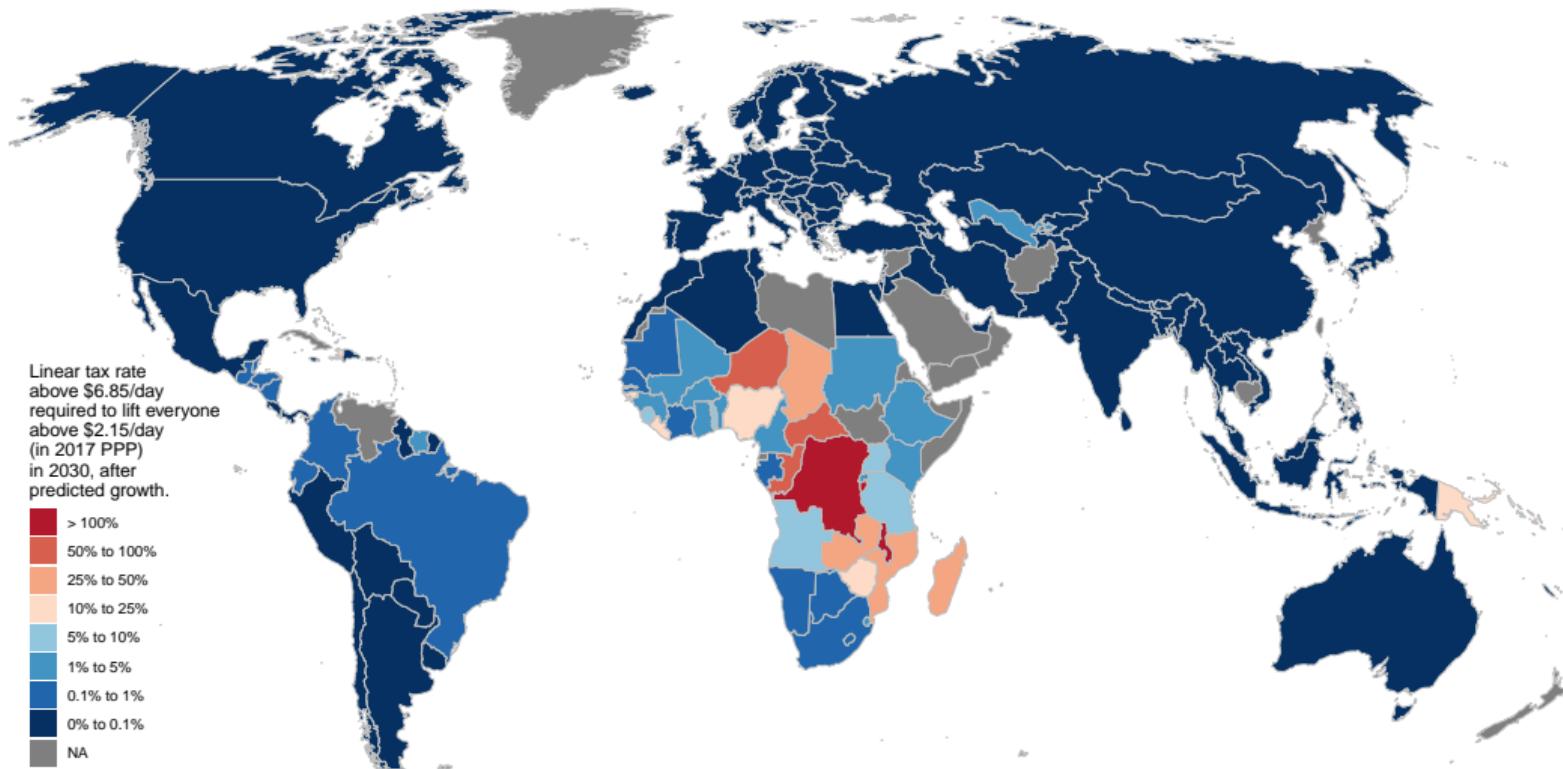
Antipoverty taxes

Linear tax rate above \$18.15/day eradicating extreme poverty (in %), after a growth of 7% over 2022–2030, HFCE-scaled.



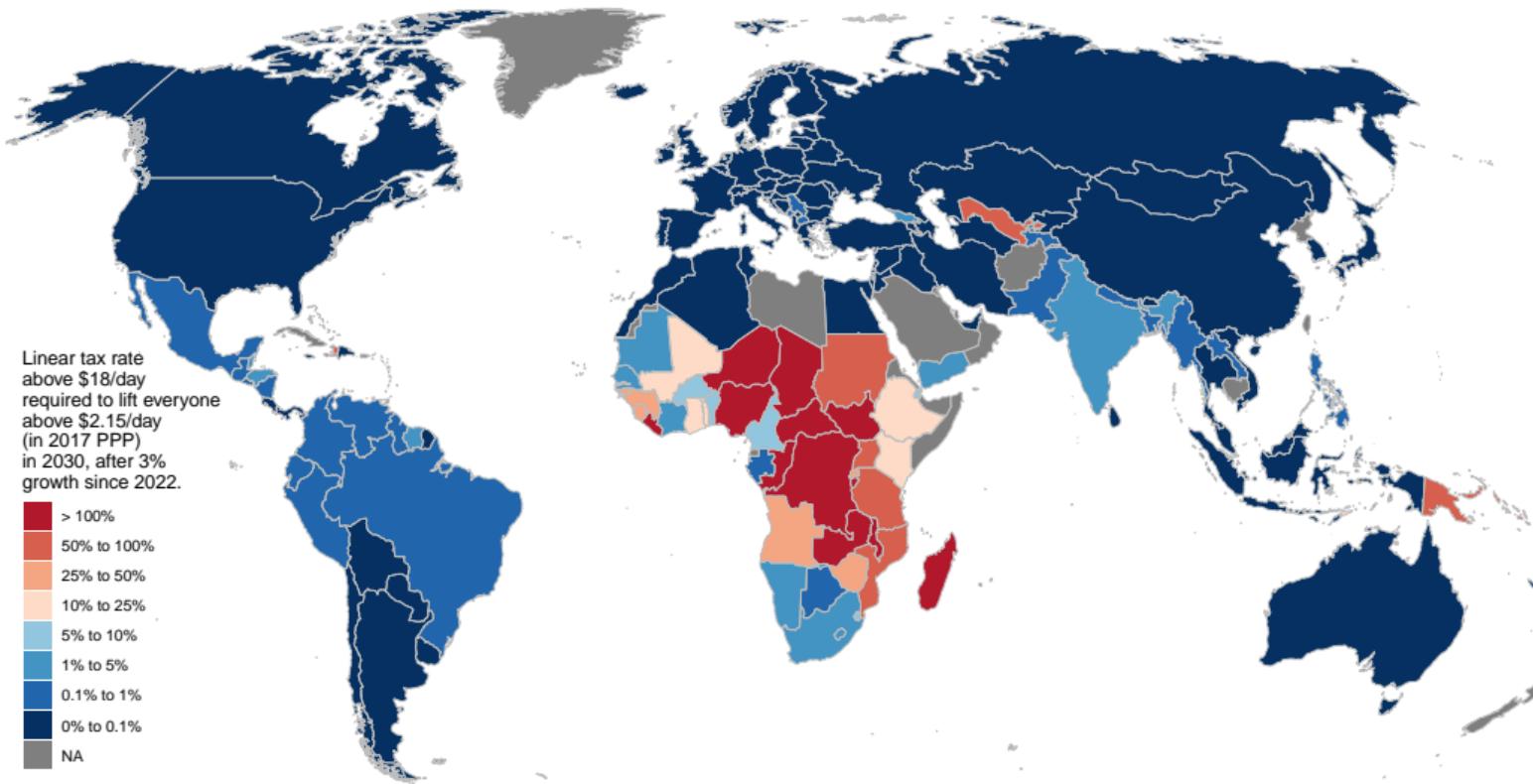
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Linear tax rate above \$18.15/day eradicating extreme poverty (in %), with growth until 2030 predicted at the country level.



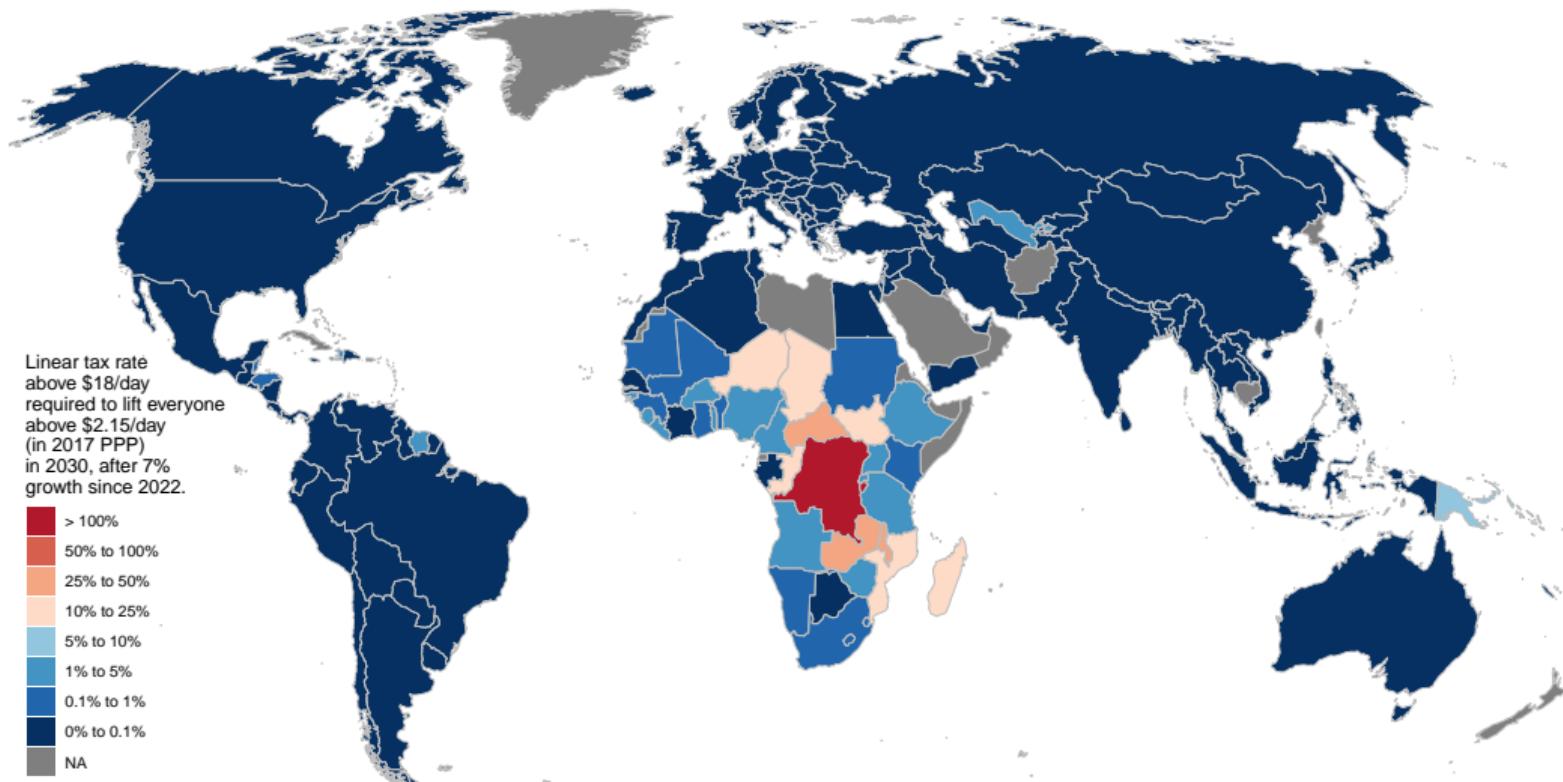
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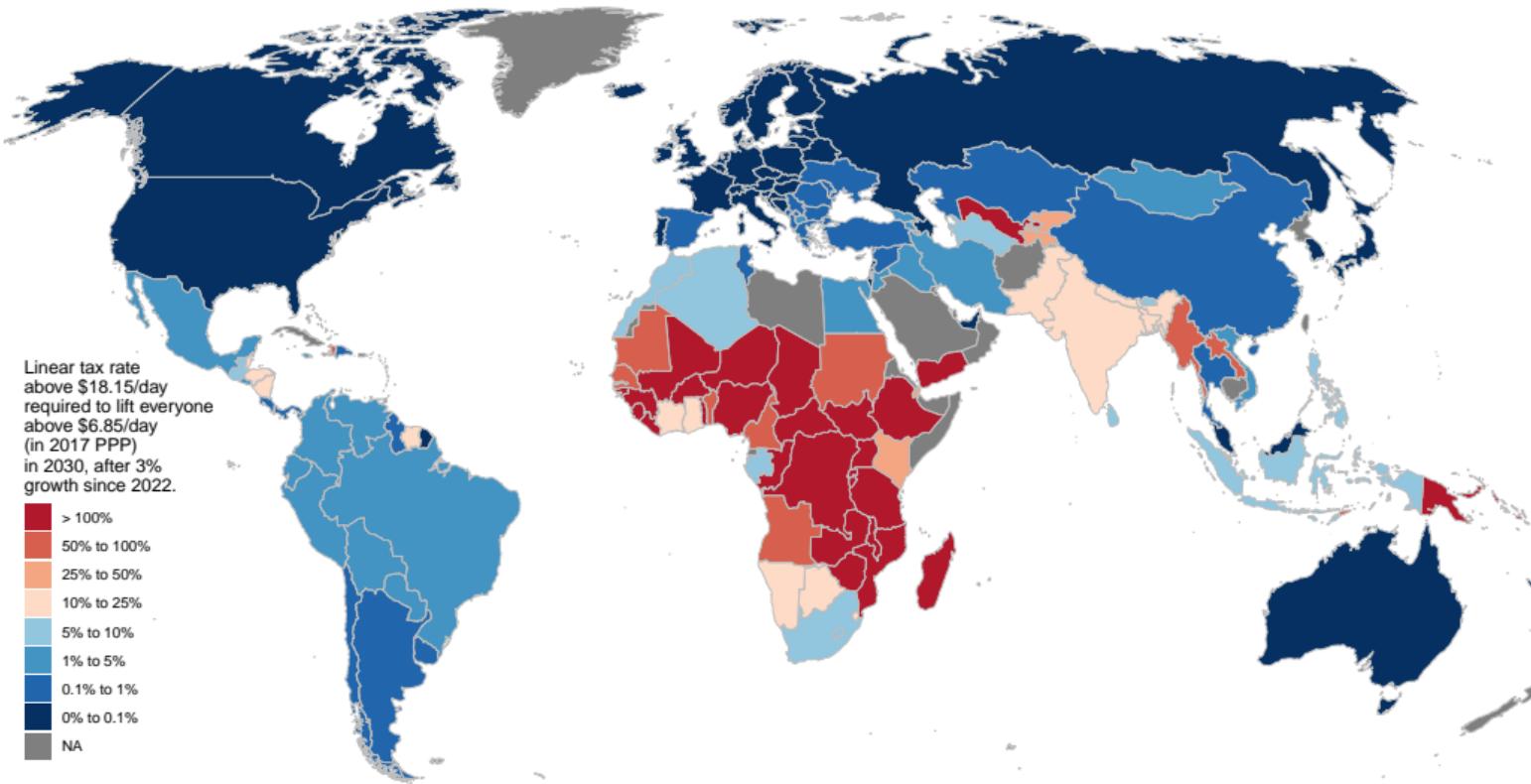
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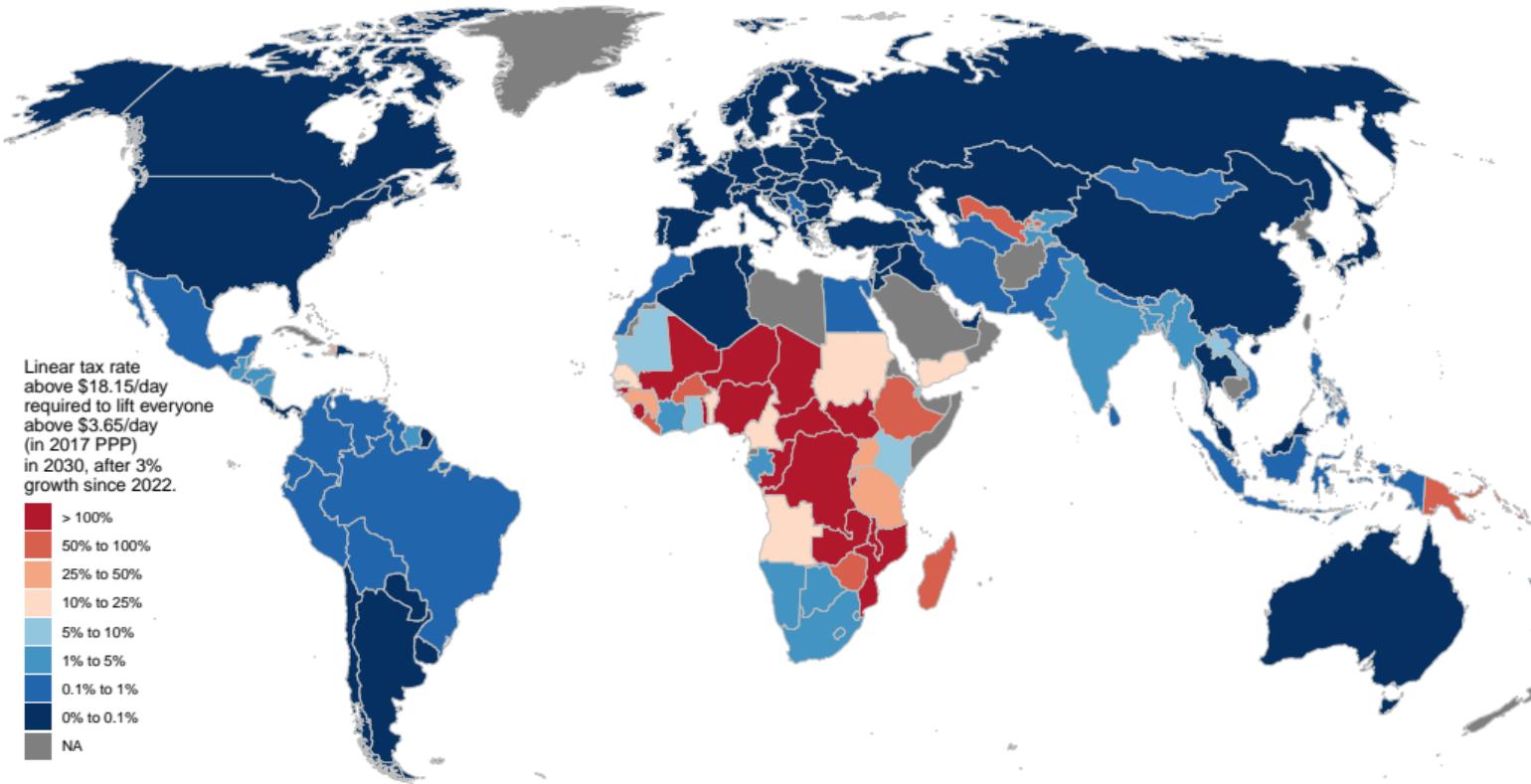
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Linear tax rate above \$18.15/day eradicating acute poverty (in %), after a growth of 3% over 2022–2030.



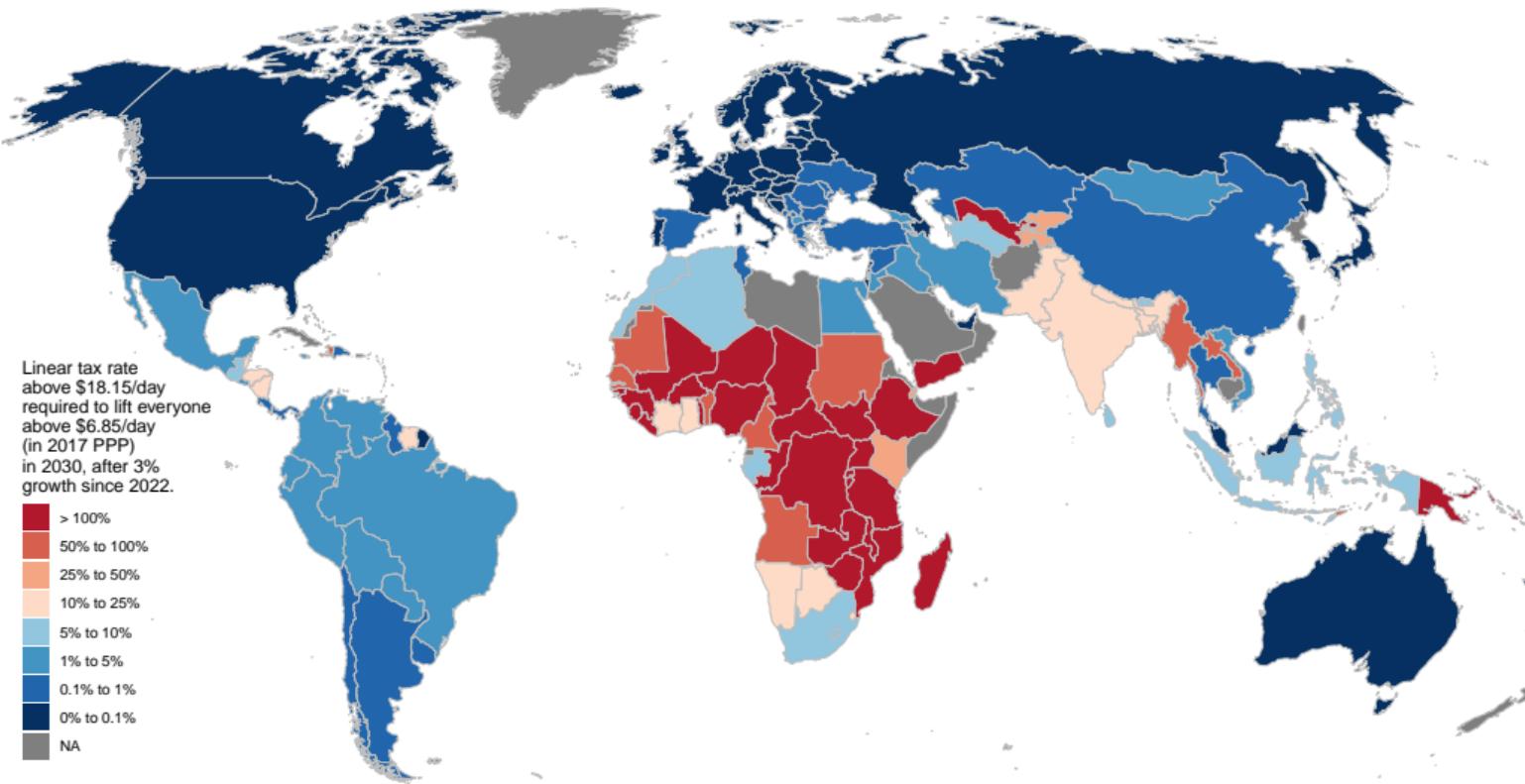
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Linear tax rate above \$18.15/day eradicating severe poverty (in %), after a growth of 3% over 2022–2030.



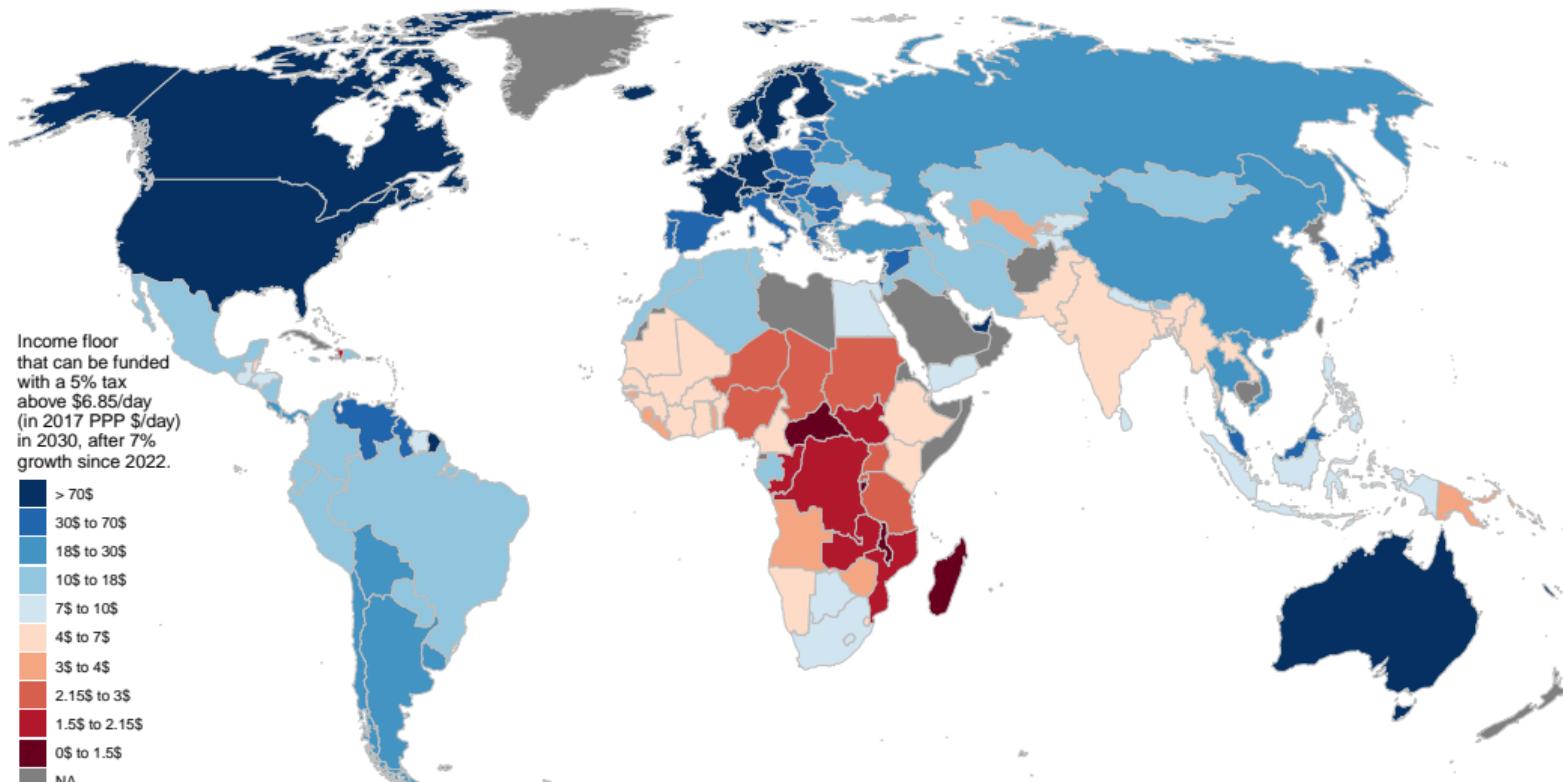
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