



Confronting inequality in a finite world

Prof. Lucas Chancel

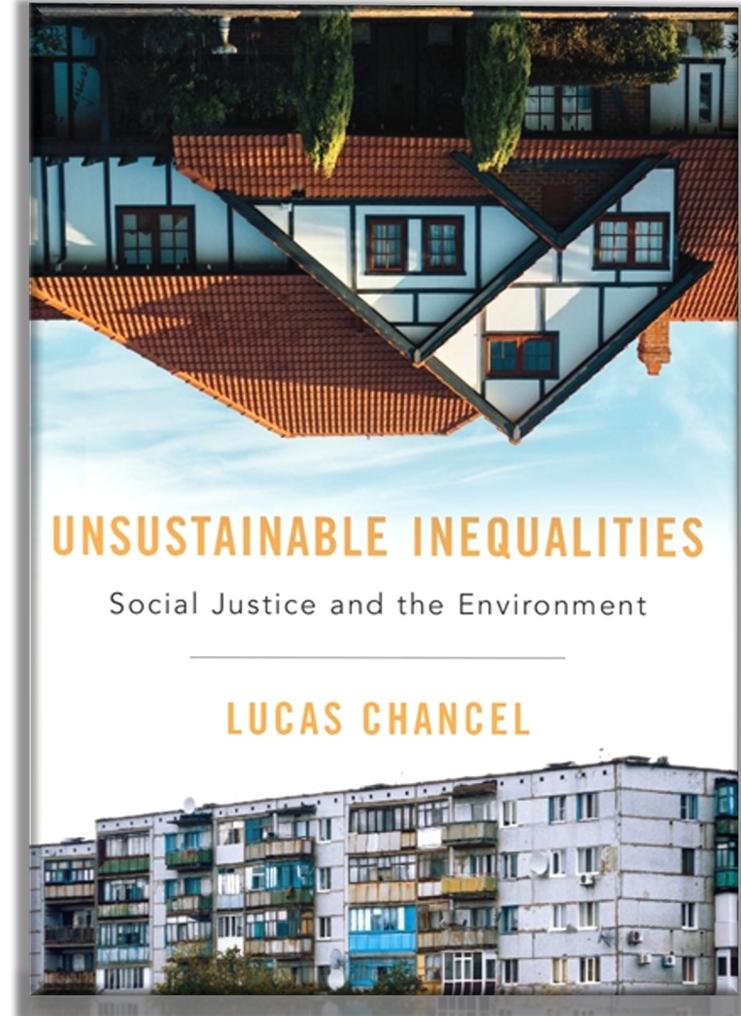
Sciences Po & Paris School of Economics

- Shared and common interest in combatting climate change. Yet, inequalities render any transition path difficult.
- The intersection of climate and inequality crises represent a challenge, and an opportunity.
- How to think about these problems *and* act upon them at the same time?

Presentation background

Unsustainable inequalities, Harvard University Press, 2020

- Vicious circle of high inequality and low environmental protection
- Need for a shift in the design of social policies: social-ecological welfare state

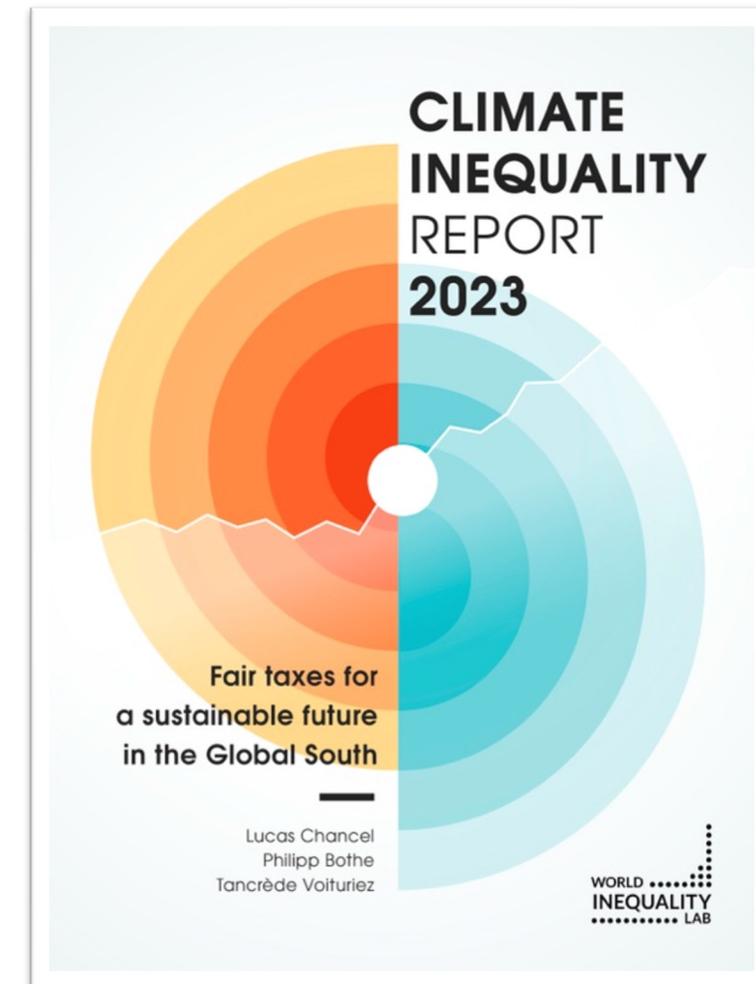


Presentation background

World Inequality Report 2022

Climate inequality Report 2023

- Inequality data as a global public good
- Collective enterprise based on the work of **over 100 scholars** across the world
- All the data is available online, open source.



This presentation

- Global economic inequality: the landscape
- Global climate inequality: the trend accelerator
- How to reconcile economic and climate justice?

The triple climate inequality crisis

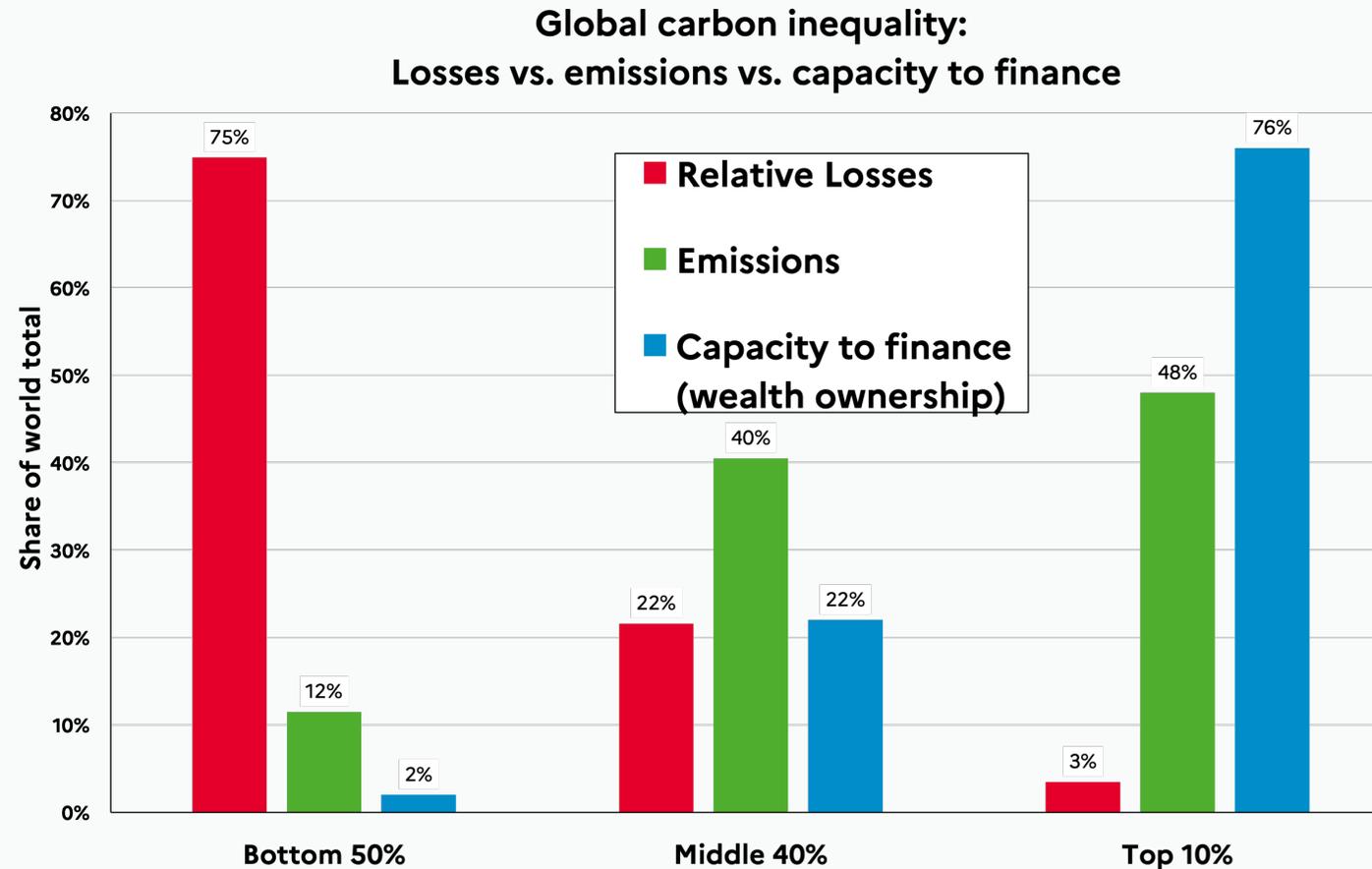


Figure A: Global climate inequality: relative losses, emissions and capacity to finance

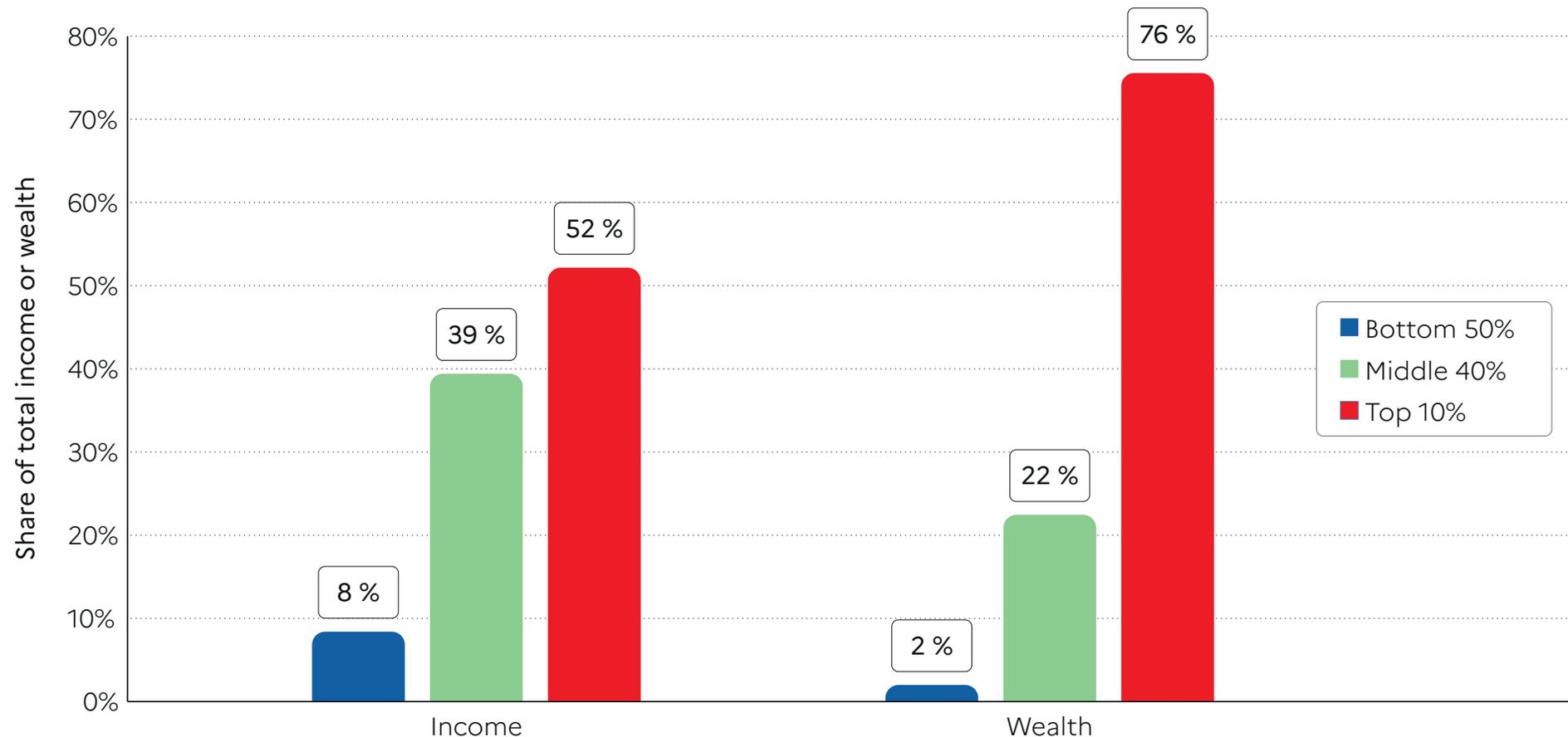
Notes: Relative income losses due to climate change, vs. greenhouse gases emissions vs. wealth ownership. See Figure 29 for methodological details and how to read this graph.

This presentation

- **Global economic inequality: the landscape**
- Global climate inequality: the trend accelerator
- How to reconcile economic and climate justice?

Global income and wealth inequality today

Figure 1 Global income and wealth inequality, 2021



Interpretation: The global 50% captures 8% of total income measured at Purchasing Power Parity (PPP). The global bottom 50% owns 2% of wealth (at Purchasing Power Parity). The global top 10% owns 76% of total Household wealth and captures 52% of total income in 2021. Note that top wealth holders are not necessarily top income holders. Incomes are measured after the operation of pension and unemployment systems and before taxes and transfers. **Sources and series:** wir2022.wid.world/methodology.

Income and wealth gaps, in practice

- The world's top 10% **earn** about 30x more than the poorest half of the world
- The world's top 10% **own** about 190x more than the poorest half of the world

Question



Income and wealth gaps, in practice

- The world's top 10% **earn** about 30x more than the poorest half of the world (~ 6x in Austria)
- The world's top 10% **own** about 190x more than the poorest half of the world (~ 100x in Austria)

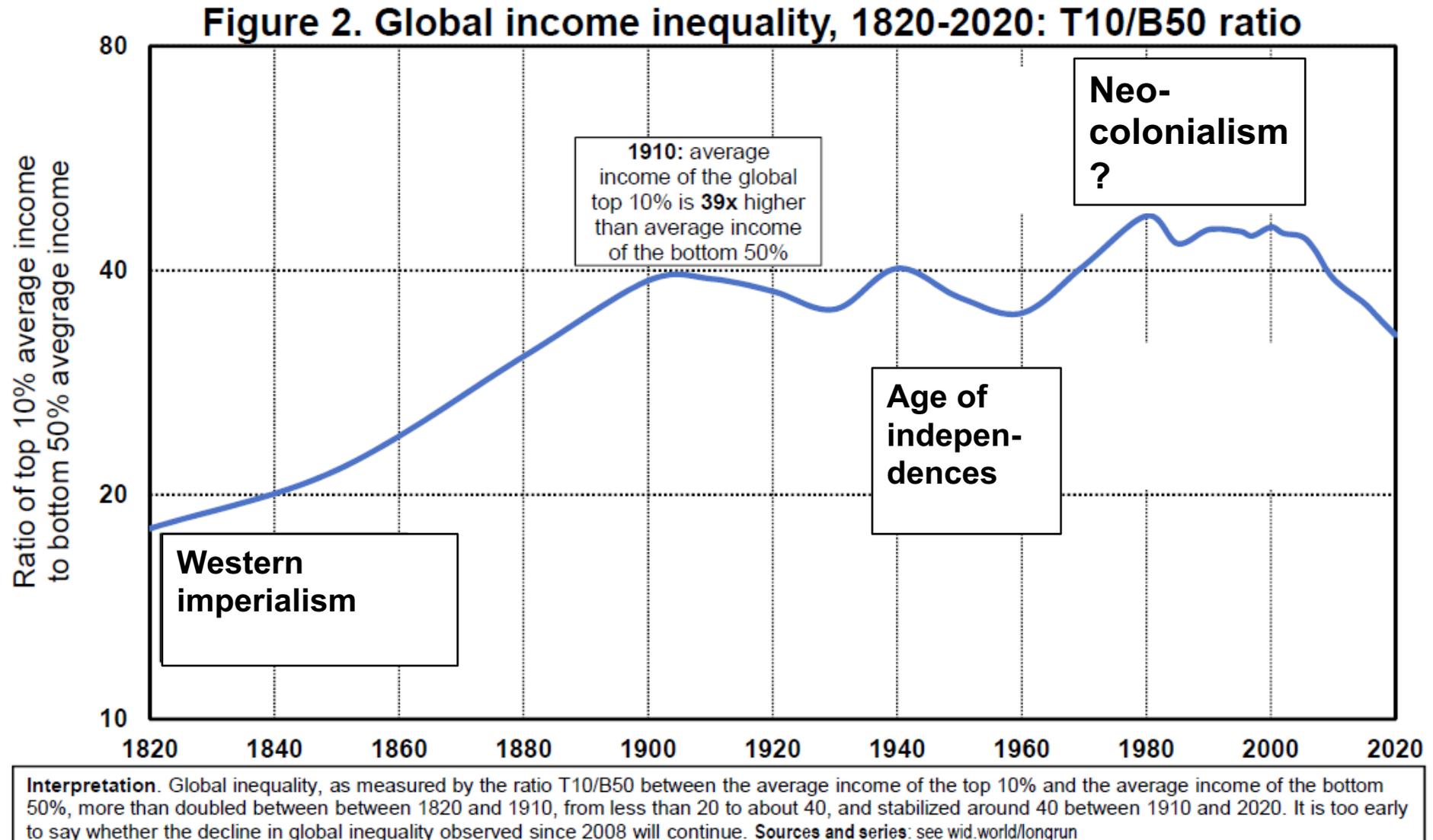
What are inequalities the product of?

- Standard economic theory: these huge gaps reflect differences in productivity, and ability to save & accumulate capital. Not the end of the story.
- Contemporary economic world order largely results from the « Great Divergence » between global North & South in the 19c.
- The Great Divergence (Pomeranz, 2000) was not the product of pure and perfect market and technological forces: role of slavery, war, colonialism.

No Western industrialization without extreme inequality & coal

- 1830 : Britain would have needed 1.5-2x its own size to produce its imports, reliance on colonies.
- 1860: 75% of cotton in Europe comes from US slave plantations.
- Western development highly dependent on resource extraction + colonies, but human development could have happened without these two factors : role of education and democratization (Piketty's « Brief History of Equality »)

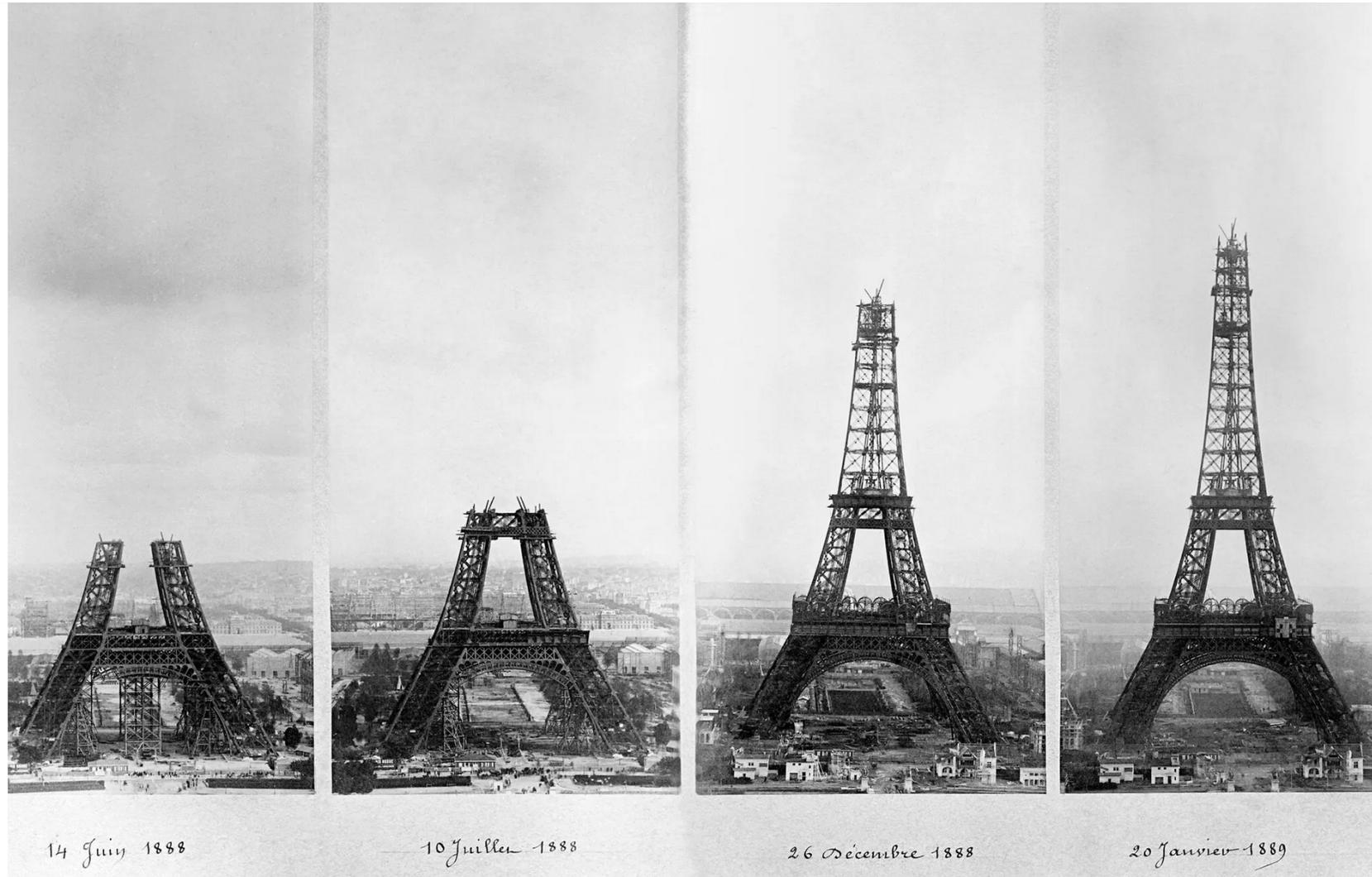
Contemporary economic world order hasn't fully exited its colonial roots



Haitian slave trade and modern financial debt



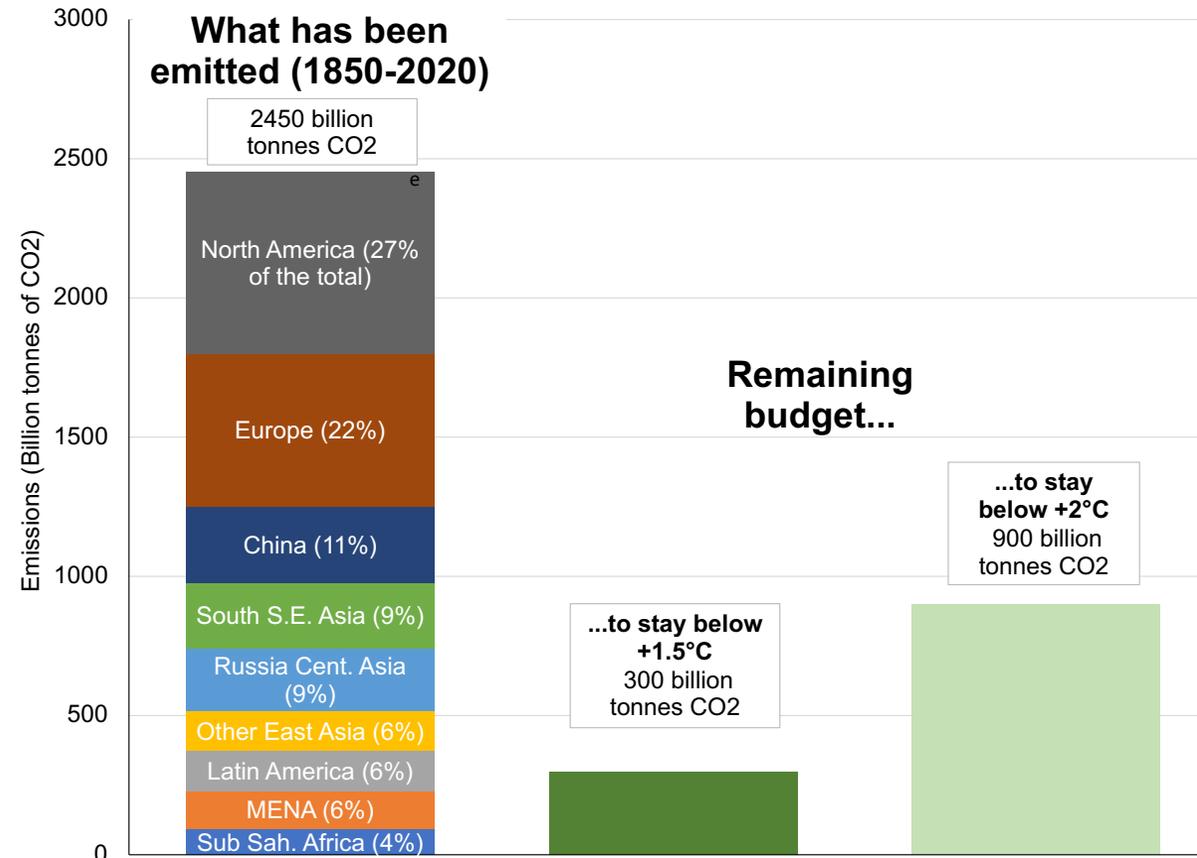
Haitian slave trade and modern financial debt



The bank that benefited most from an 1875 loan to Haiti was *Crédit Industriel et Commercial*, a French institution that helped finance the Eiffel Tower. Agence France-Presse — Getty Images

The global North emitted half of all emissions since 1850: ecological debt

Figure 2. Historical emissions vs. remaining carbon budget



Interpretation: The graph shows historical emissions by region (left bar) and the remaining global carbon budget (center and right bars) to have 83% chances to stay under 1.5°C and 2°C, according to IPCC AR6 (2021). Regional emissions are net of carbon embedded in imports of goods and services from other regions. **Source and series:** Chancel (2021). Historical data from the PRIMAP-hist dataset.

The 20th century and the « Great Redistribution »

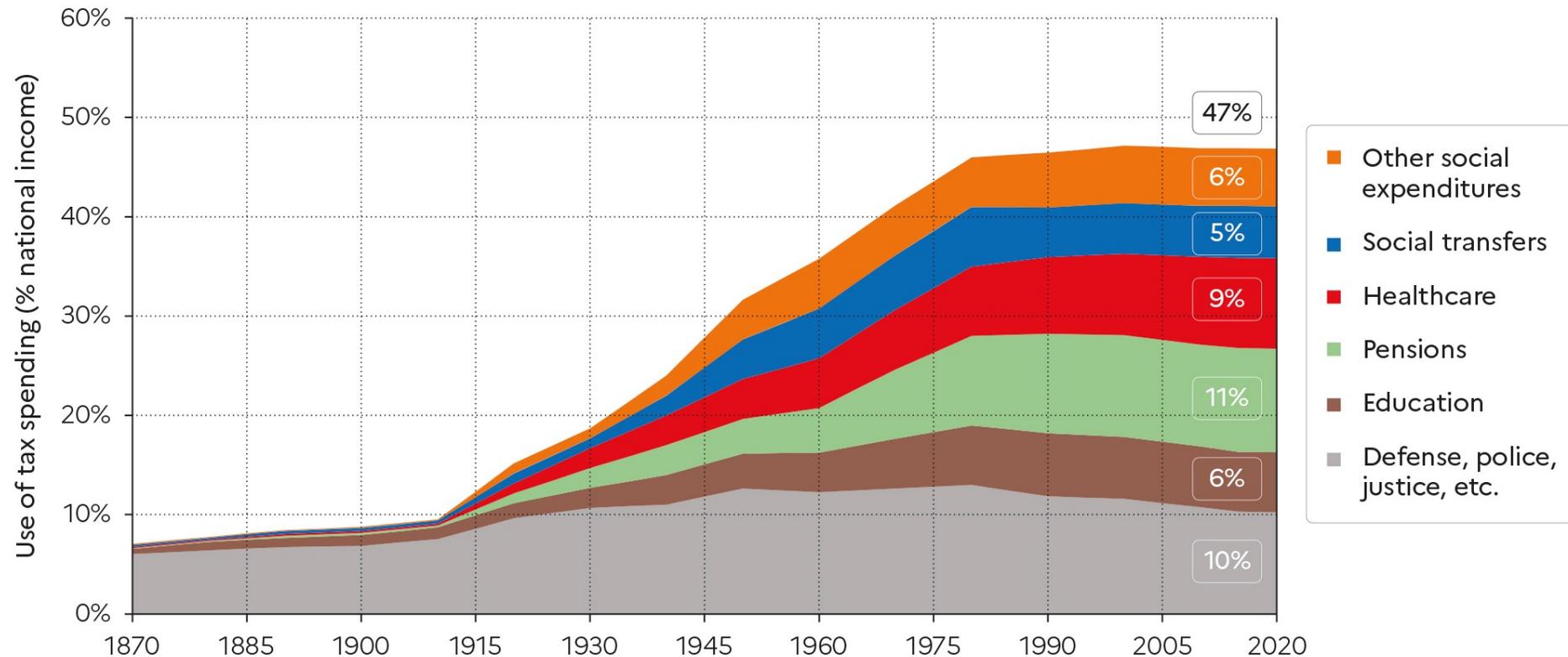
- 20th century is the age of political power redistribution at the global level: independences
- 20th century is also the age of economic redistribution within countries: social policies

The 20th century and the « Great Redistribution »

- Consequence of large-scale political mobilization and institutional change: not just wars and economic shocks.
- Sweden: electoral system over 1865-1910 extremely unequal (« 1 Krona = 1 vote »). See « Reforming to survive » (Knutsen 2022)
- In about 30 years (1914-1945), the balance of power between capital and labor was transformed, thanks to worker mobilization, as well to economic and military shocks.

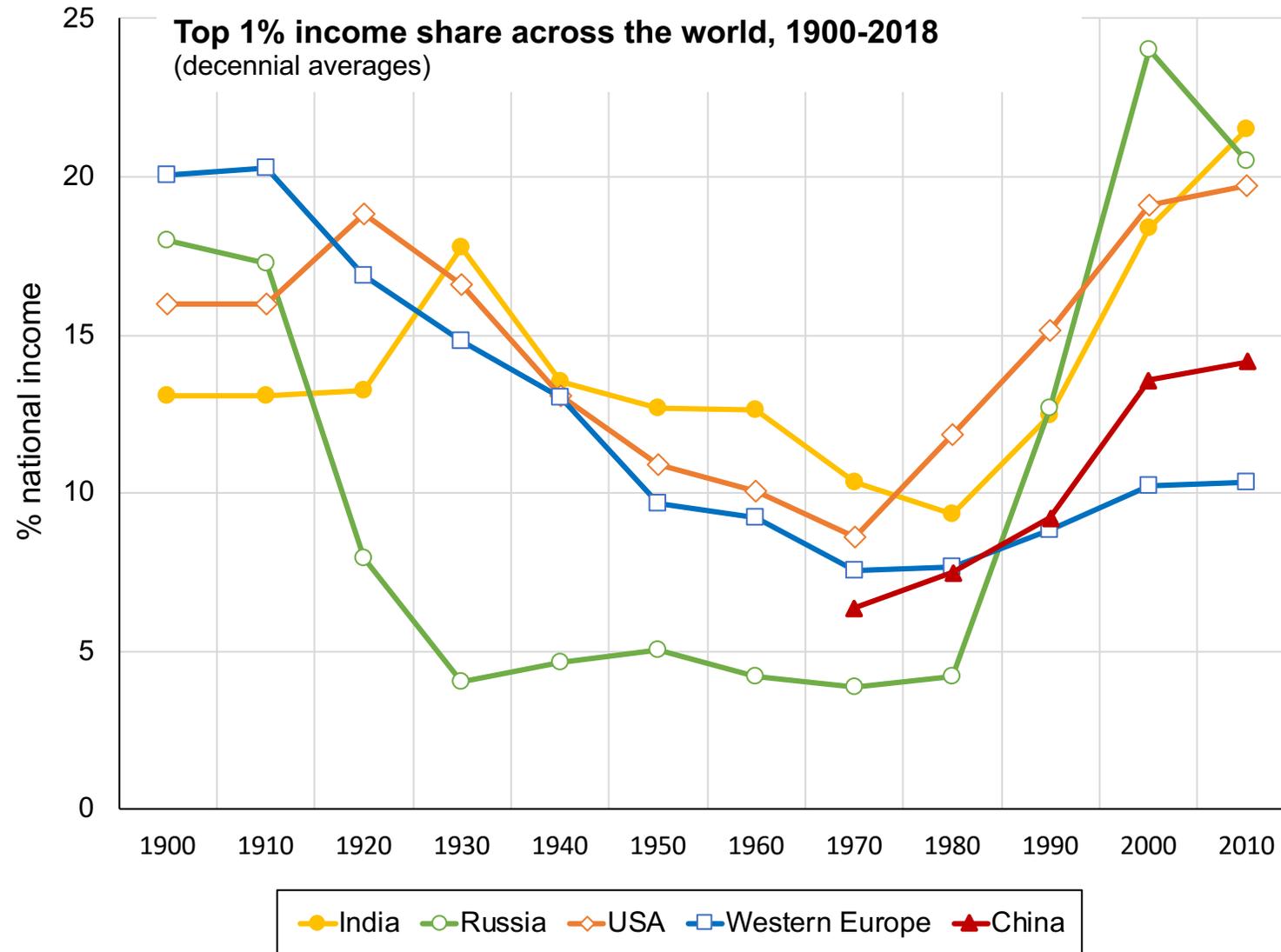
The « Great Redistribution »: rise of the Social state

Figure 10.1 The rise of the Welfare State in European countries, 1870-2020



Interpretation: In 2020, tax revenue represented 47% of national income in Western Europe, on average. 10% of resources were spent on defense, police & justice, 6% on education, 11% on pensions, 9% on healthcare, 5% on social transfers and 6% on other social spending (housing, etc.). Before 1914, defense, police and justice represented the vast majority of government spending. **Sources and series:** wir2022.wid.world/methodology and Piketty (2021).

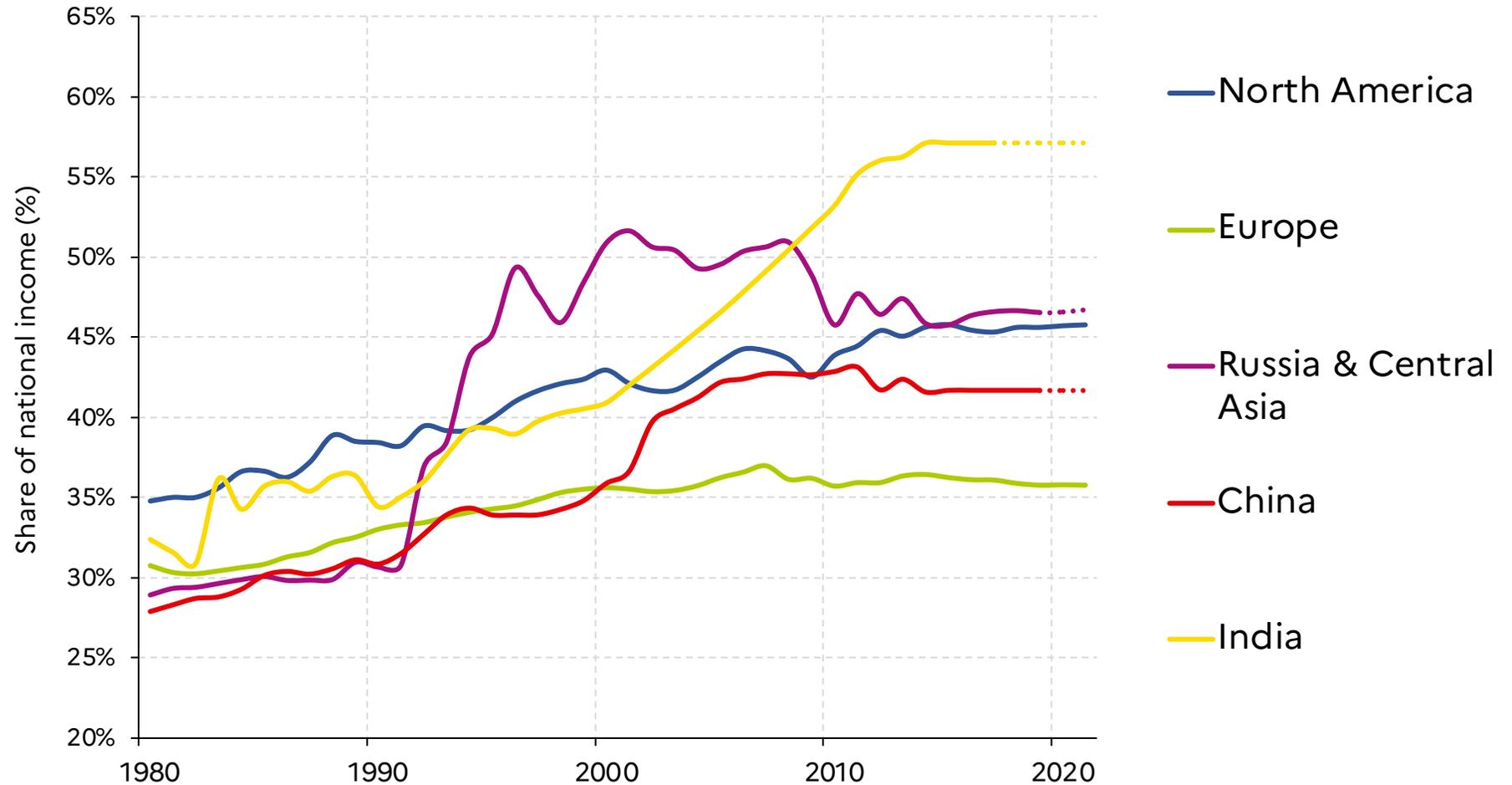
The « Great Redistribution » (1920-1980): declining inequality



Source: Author based on WID.world (2019)

1980-2020s: The « Great Deregulation »

Top 10% national income share across the world (1980-2021)



Interpretation: The top 10% share rose from around 28% in China in 1980 to 42% in 2021. **Sources and series:** wid.world/wir2022

Climate warnings became clear during the « Great Deregulation »: bad timing

"All the News That's Fit to Print"

The New York Times

VOL. CXXXVII, No. 47,546 Copyright © 1988 The New York Times NEW YORK, FRIDAY, JUNE 24, 1988 30 CENTS

Late Edition
New York: Today, sunny, and High 74-75. Tonight, increasing clouds. Low 57-62. Tomorrow, morning clouds, then windy and warmer. High 74-85. Tuesday: High 87, low 67. Details, page A15.

Global Warming Has Begun, Expert Tells Senate

Global Warming: Greenhouse Effect? Average global temperatures during the first five months of 1988. As a baseline, scientists use the global average from 1880 to 1982.

Sharp Cut in Burning of Fossil Fuels Is Urged to Battle Shift in Climate

By PHILIP SHARCOFF
Special to The New York Times

WASHINGTON, June 23 — The world has been warmer on the first five months of this year than in any comparable period since measurements began 138 years ago, and the higher temperatures can now be attributed to a long-suspected global warming trend linked to pollution, a space agency scientist reported today.

Until now, scientists have been cautious about attributing rising global temperatures of recent years to the predicted global warming caused by pollutants in the atmosphere, known as the "greenhouse effect." But today Dr. James E. Hansen of the National Aeronautics and Space Administration told a Congressional committee that it was 98 percent certain that the warming trend was not a natural variation but was caused by a buildup of carbon dioxide and other artificial gases in the atmosphere.

An Urgent Warning

Dr. Hansen, a leading expert on climate change, said in an interview that there was no "magic number" that showed when the greenhouse effect was actually starting to cause changes in climate and weather. But he added, "It is time to stop worrying so much and say that the evidence is pretty strong that the greenhouse effect is here."

If Dr. Hansen and other scientists are correct, their warnings by burning of fossil fuels and other activities, have altered the global climate to a manner that will affect life on earth for centuries to come.

Dr. Hansen, director of NASA's Institute for Space Studies in Manhattan, testified before the Senate Energy and Natural Resources Committee.

Some Options Laid Out

He and other scientists testifying before the Senate panel today said that projections of the climate change that is now apparently occurring mean that the northeastern and midwestern sections of the United States will be subject to frequent episodes at very high temperatures and drought in the next decade and have cautioned that it was not possible to attribute a specific heat wave to the greenhouse effect, given the still limited state of climate science.

Continued on Page A14, Column 2

Drought Raising Food Prices; Inflation Effect Seems Minor

By ROBERT D. HERSHY III
Special to The New York Times

WASHINGTON, June 23 — The six-year drought gripping the basin belt has begun to cause the superheated price of such items as cereal, soybean meal and spaghetti, and the list of affected products will inevitably broaden to include such items as pickles and canned peas in coming weeks, according to industry officials and government and private analysts.

At this stage, however, it appears that crop shortage will not raise food prices enough to have a major effect on family budgets or the nation's inflation rate, which seems likely to rise about 4 1/2 percent this year. Unlike other agricultural diseases, such as citrus freeze, the effects of poor grain harvests are cushioned by stocks and move relatively slowly through the processing and distribution chain.

Washington's Preoccupation

Still, the Agriculture Department estimated this week that the drought would raise the retail price of food by an extra 3 percent this year — a figure, analysts say, is conservative.

Noting that the farm sector represents only about 2 percent of the gross national product, the President's cabinet

Other analysts, however, do not necessarily accept official reasoning. They worry that the job could be great. Two major unknown factors are: (1) what extent food processors will engage in speculative buying of raw materials and (2) what extent consumers will stock up on certain products. Both factors could heighten demand.

"The apprehensive," said Robert Redman, professor emeritus of agricultural economics at the University of Missouri, citing industries like cereal in which the market is dominated by a relatively few companies. He said "they can get by with adding 5 or 10 cents" to a box. The Kellogg Company has already announced price increases, even though the raw materials

Continued on Page A14, Column 2

Immigration Law Is Failing to Cut Flow From Mexico

ECONOMIC FACTORS CITED

Illegal Entries Are on the Rise as More Come From Large Cities and Stay Longer

By LARRY KORTNER
Special to The New York Times

TIJUANA, Mexico, June 16 — The 1953 immigration law is failing to stem the illegal flow of Mexicans into the United States and may be creating new problems on both sides of the border by deterring traditional immigration patterns, Mexican and American researchers say.

Studies by immigration specialists at the College of the Northland Border in Tijuana and the Center for United States-Mexico Studies at the University of California, San Diego, indicate that the number of Mexicans illegally crossing work in the United States has actually increased in recent months.

The data also show that these illegal immigrants are staying in the United States longer, are increasingly arriving in family groups and are coming in growing numbers from parts of Mexico that were not seen as major migration routes.

No Effect on Flow Seen

"There is no sign the legislation has had any impact on the flows," said Jorge Santibañez, director of the College of the Northland Border, a Mexican professor of justice that studies immigration and other social issues. "The basic, underlying pattern has not changed in any significant way."

Weyce Carnotius, director of the Center for United States-Mexico Studies at the University of California, San Diego, offered a similar picture.

"So far, we have reached the end of the period of four, mass family and continuous annual 1985 law among workers will based in Mexico," he said. "Firms are delaying migration to the U.S. during 1987 and are coming, being urged that work is still available even for now arrivals holding papers."

Enforcement Stopped Up

The 1953 immigration law is intended to discourage illegal immigration while providing amnesty or undocumented foreign workers able to demonstrate they crossed the United States before Jan. 1, 1982, and have lived there continuously since that date. The application period for the amnesty is closed

Cañon Zapata in Tijuana, Mexico, the latest illegal crossing point.

High Court Getting Unusual Plea Not to Reverse Key Rights Ruling

By STUART TAYLOR
Special to The New York Times

WASHINGTON, June 23 — In an extraordinary meeting of political and legal elites, 47 state attorneys general, the American Bar Association, prominent historians and more than 100 civil rights, religious and civic groups will urge the Supreme Court not to overrule a major 1976 civil rights decision.

But the justices will not be receiving advice from the Reagan Administration. Solicitor General Charles Fried said today that his office would take no position on the issue, one of the most important and highly visible issues that the Court will face in its next term.

His decision attracted criticism from some people on both sides, but especially angered conservatives. They had

hoped for a strong argument from the Reagan Administration for overruling the 1975 decision to offer the unusually broad scope of support for it by the legal and political establishment. Some conservative have called for Mr. Fried's removal from office.

The case involves a Reconstruction-era law providing that all people have the same right "to make and enforce contracts" as "is enjoyed by white citizens." The Court's 1975 decision turned the half-century statute into a potent weapon, preventing its use by private plaintiffs to sue discriminatory private schools and to seek damages for racial discrimination in private business dealings generally.

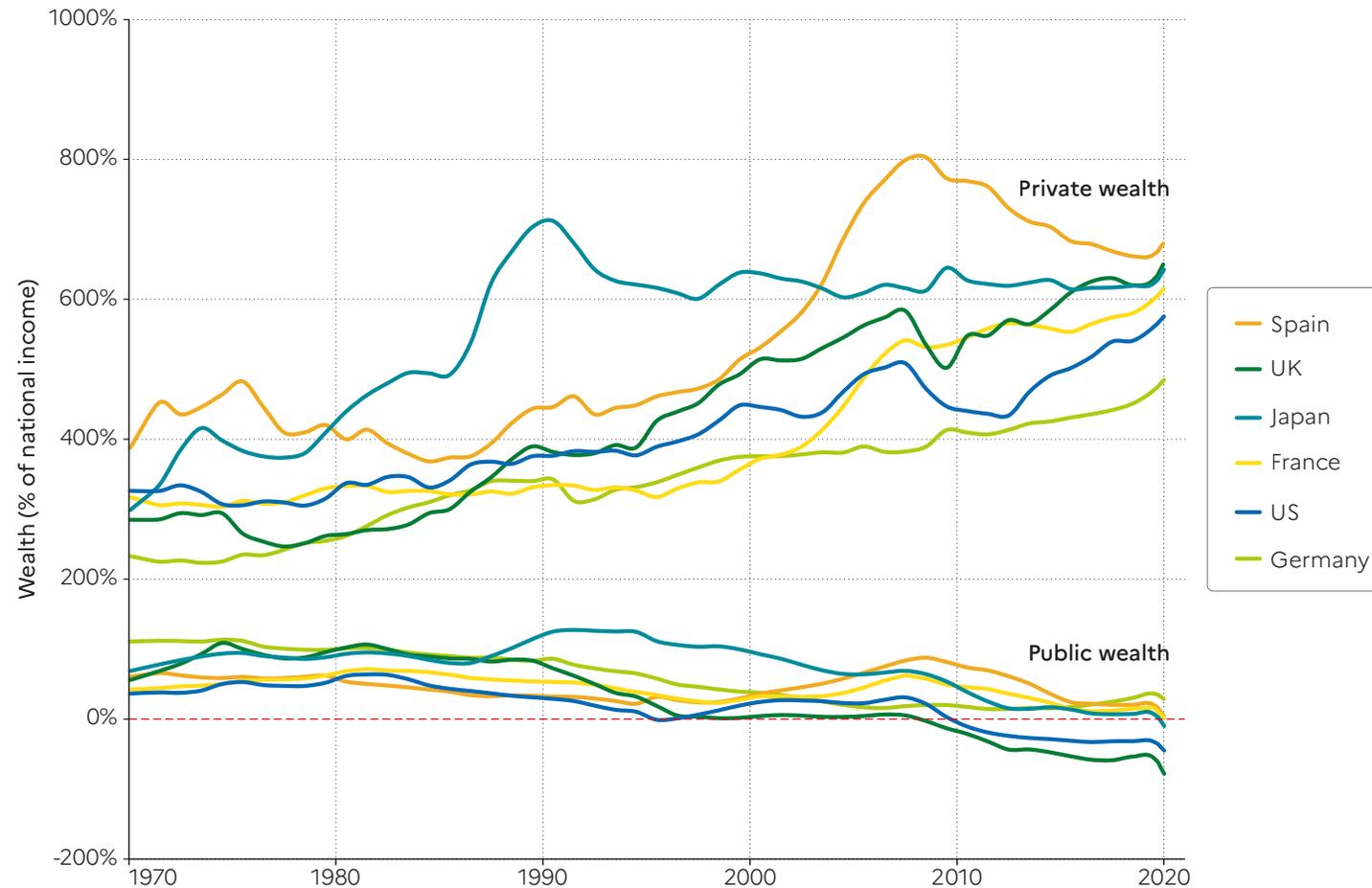
The current activity is the result of the Court's unexpected 5-to-4 vote on April 21 to invite arguments in a judicial case over whether the Interstate

Climate warnings became clear during the « Great Deregulation »: bad timing

- Financial and fiscal deregulation promoted as the economic playbook.
- General idea that freer markets would do the job. Planification, regulation, taxation appeared as outdated instruments (fears of inflation, job losses, low competitiveness).
- Attempts to curb global emissions, via a global treaty between Europe, US, Russia (75% emissions at the time): also failed.

During the « Great Deregulation », nations have become richer but governments have become poor

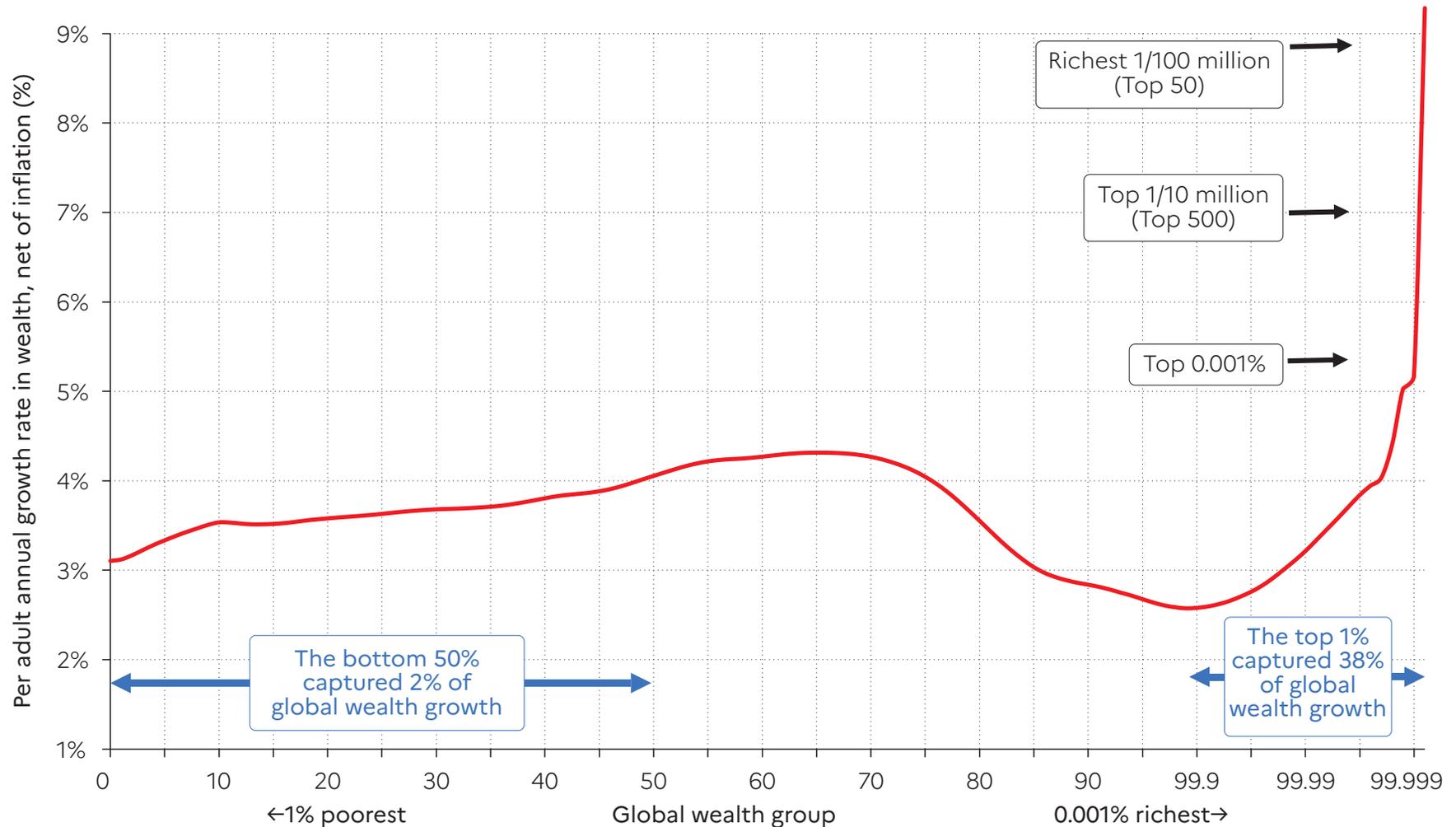
Figure 3.2 The rise of private wealth and the decline of public wealth in rich countries, 1970-2020



Interpretation: In UK, public wealth dropped from 60% of national income in 1970 to -106% in 2020. Public wealth is the sum of all financial and non-financial assets, net of debts, held by governments. **Sources and series:** [wir2022.wid.world/methodology](https://www.wir2022.wid.world/methodology), Bauluz et al. (2021) and updates.

Since the mid 1990s the top 1% captured 38% of total wealth growth, the bottom 50% got 2%.

Figure 9 Average annual wealth growth rate, 1995-2021



Interpretation: Growth rates among the poorest half of the population were between 3% and 4% per year, between 1995 and 2021. Since this group started from very low wealth levels, its absolute levels of growth remained very low. The poorest half of the world population only captured 2.3% of overall wealth growth since 1995. The top 1% benefited from high growth rates (3% to 9% per year). This group captured 38% of total wealth growth between 1995 and 2021. Net household wealth is equal to the sum of financial assets (e.g. equity or bonds) and non-financial assets (e.g. housing or land) owned by individuals, net of their debts. **Sources and series:** wir2022.wid.world/methodology.

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- **Global climate inequality: the trend accelerator**
- How to reconcile economic and climate justice?

The triple climate inequality crisis

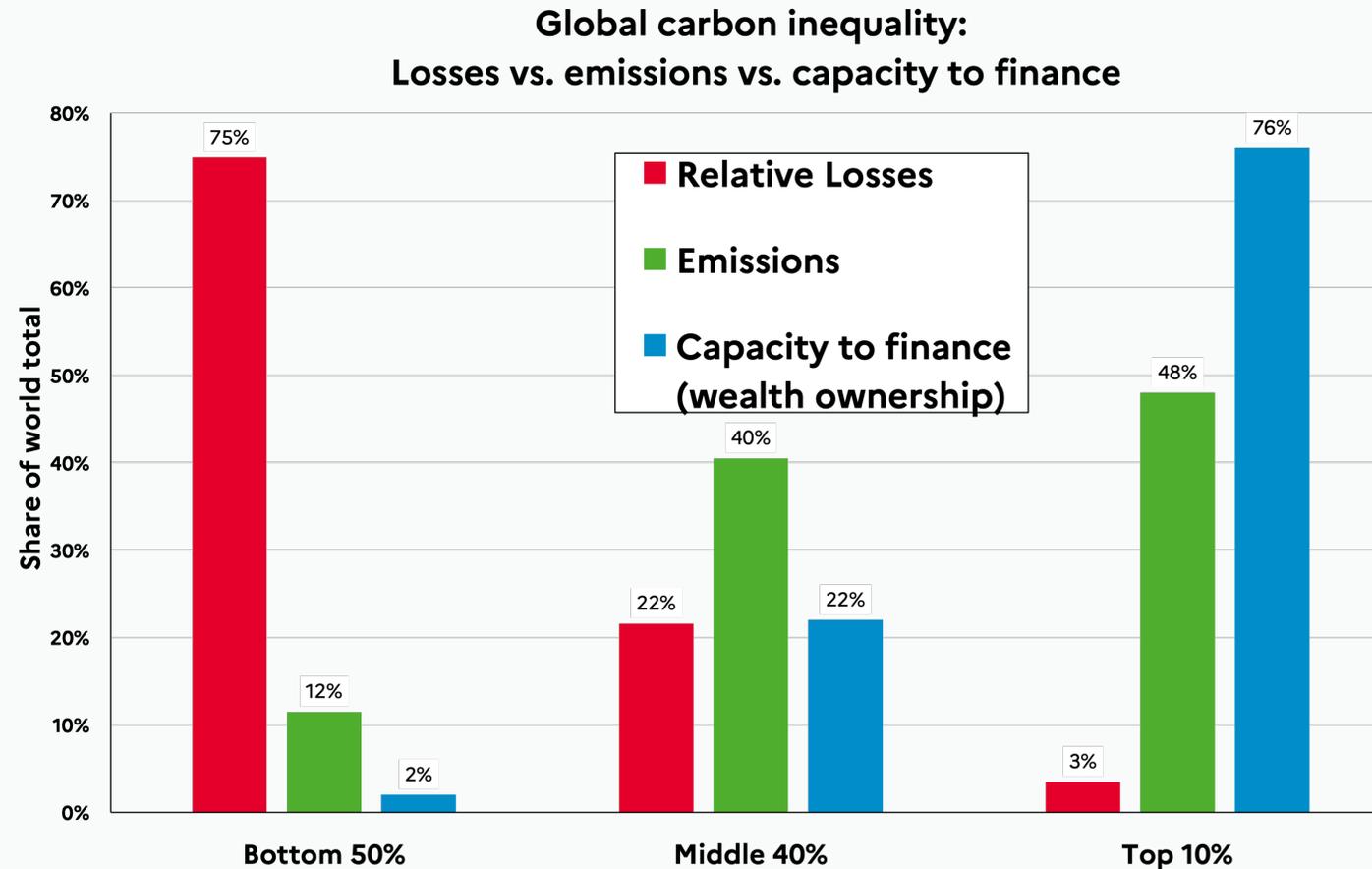


Figure A: Global climate inequality: relative losses, emissions and capacity to finance

Notes: Relative income losses due to climate change, vs. greenhouse gases emissions vs. wealth ownership. See Figure 29 for methodological details and how to read this graph.

Climate impacts are not uniform across the globe: some countries lose more than others

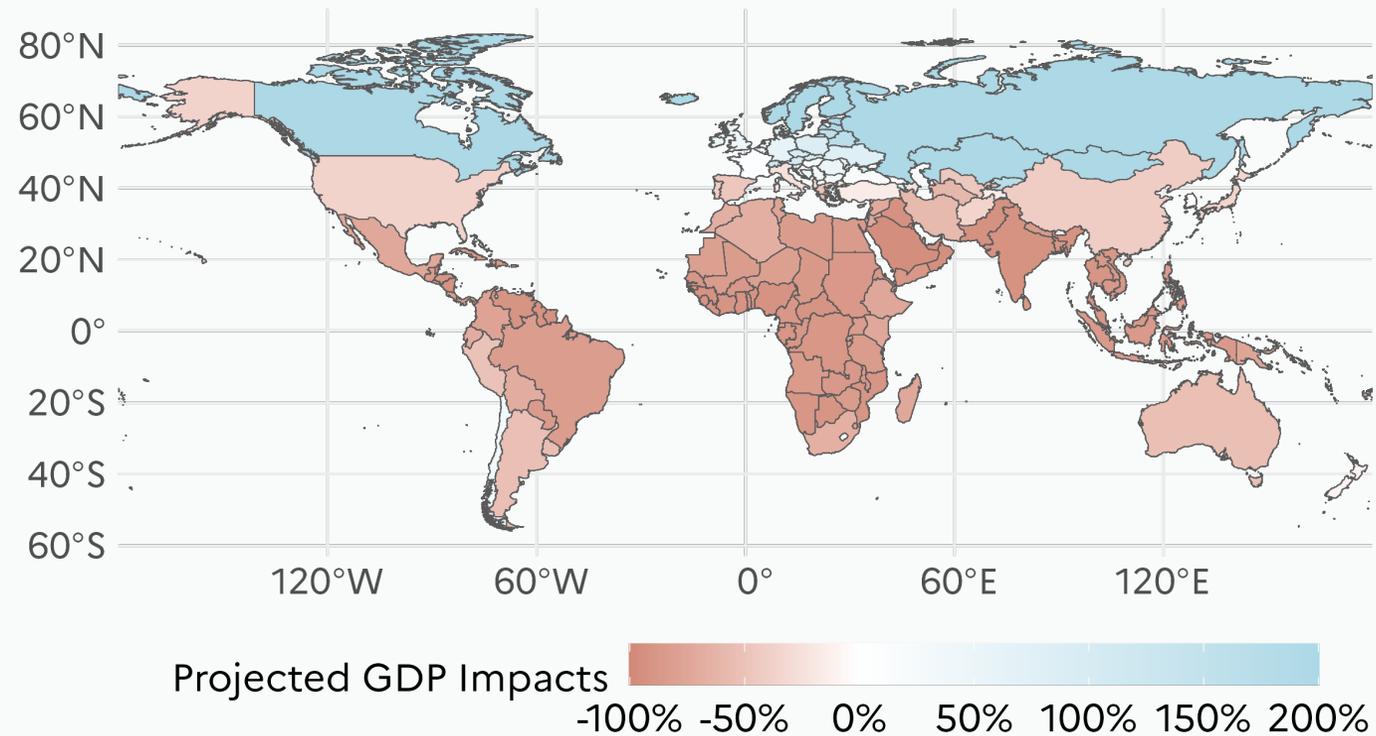


Figure B: Change in GDP per capita by 2100 attributable to climate change

Notes: See Figure 23. **Sources:** Burke, Hsiang, and Miguel (2015).

Within poor countries, low income groups are hit harder



Within countries, low income groups are hit harder

- Poor people typically hit 70% more than the average during climate shocks in poor countries.
- Their livelihoods depend more directly on nature → environmental inequality vicious circle.
- Also evident in rich countries & not just an economic problem : women + minorities more impacted → exacerbation of multi-faceted social inequities.
- NB: everybody at risk, but the risks are not the same for all.

The triple climate inequality crisis

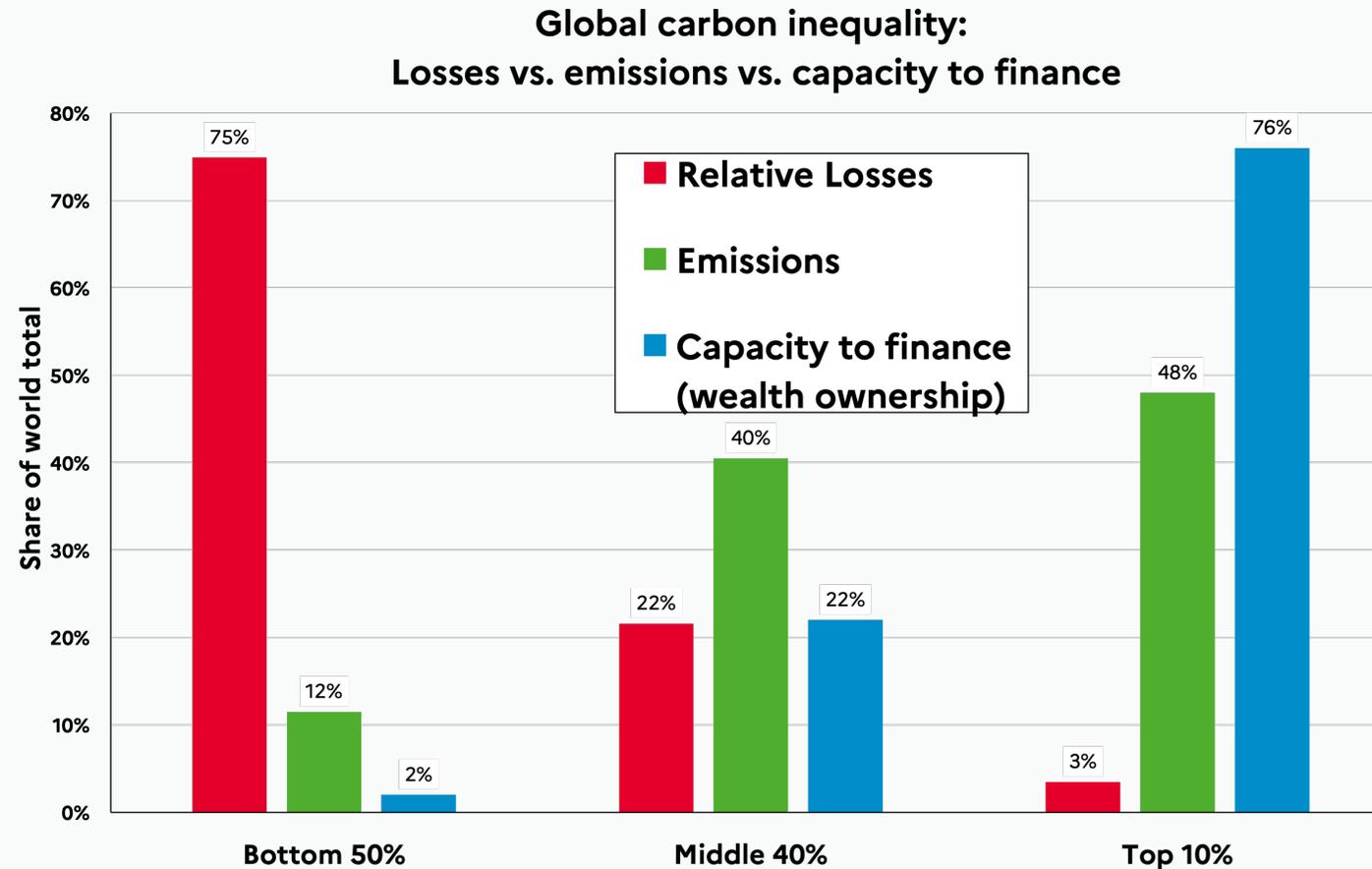


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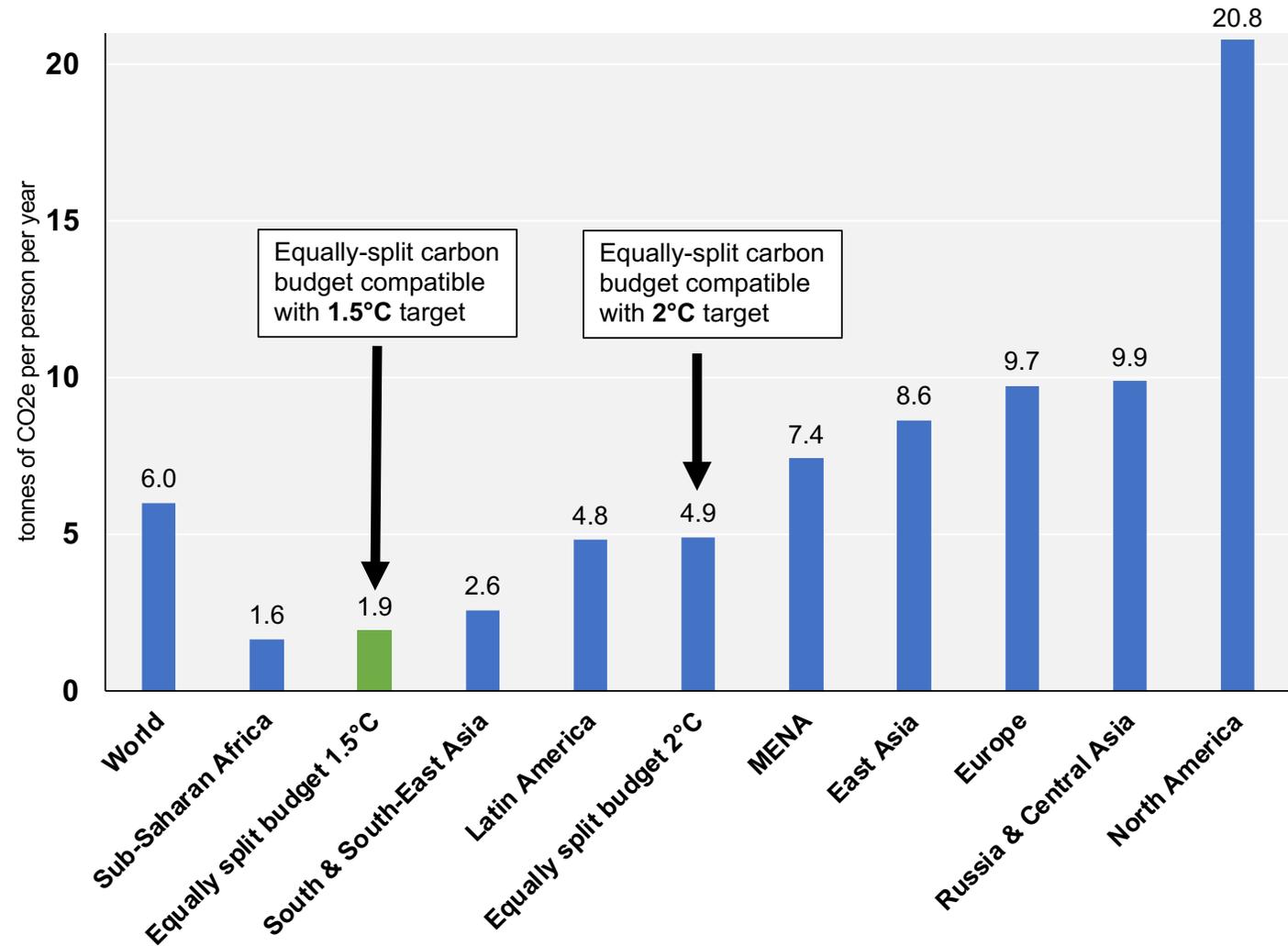
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Questions



Large emission inequalities across regions

Per capita CO₂e emissions by regions, 2019



The per capita carbon footprint of a NYC-flight (return)?



Cntraveler.com

Per capita footprint of 10mn in space?

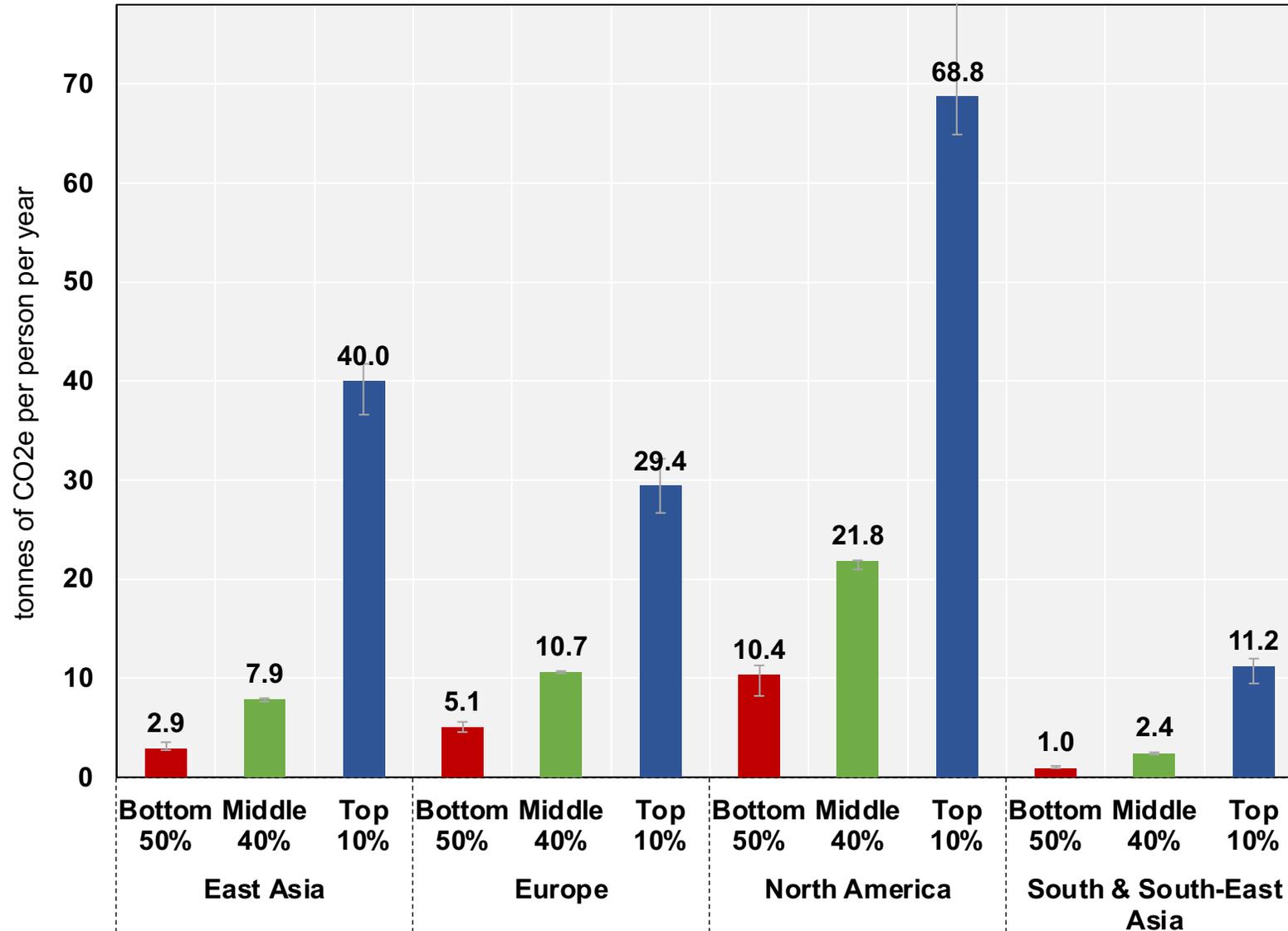


“Individuals with high socio-economic status contribute disproportionately to emissions and have the highest potential for emissions reductions, e.g., as citizens, investors, consumers, role models, and professionals.”

AR6, IPCC (2022)

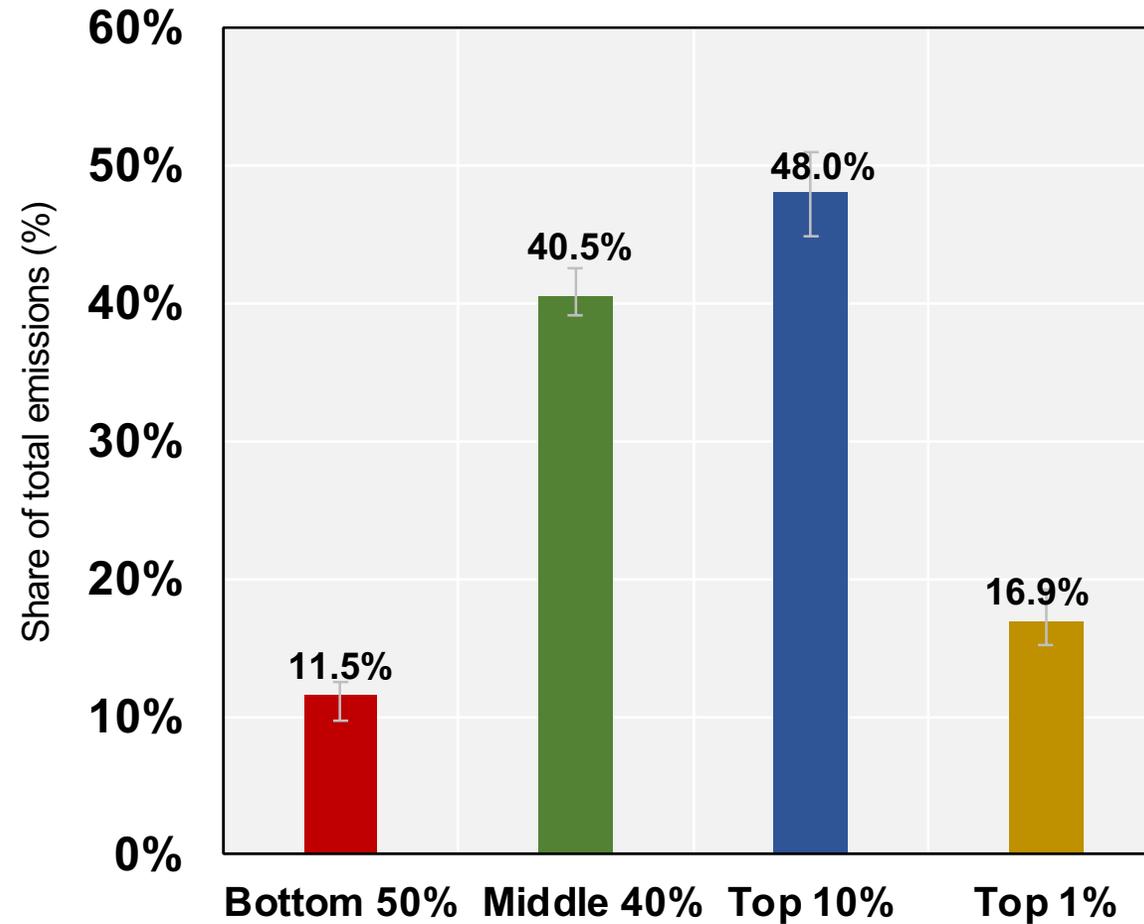
High emitters are everywhere

(NB: estimates take into account emissions from consumption & investments)



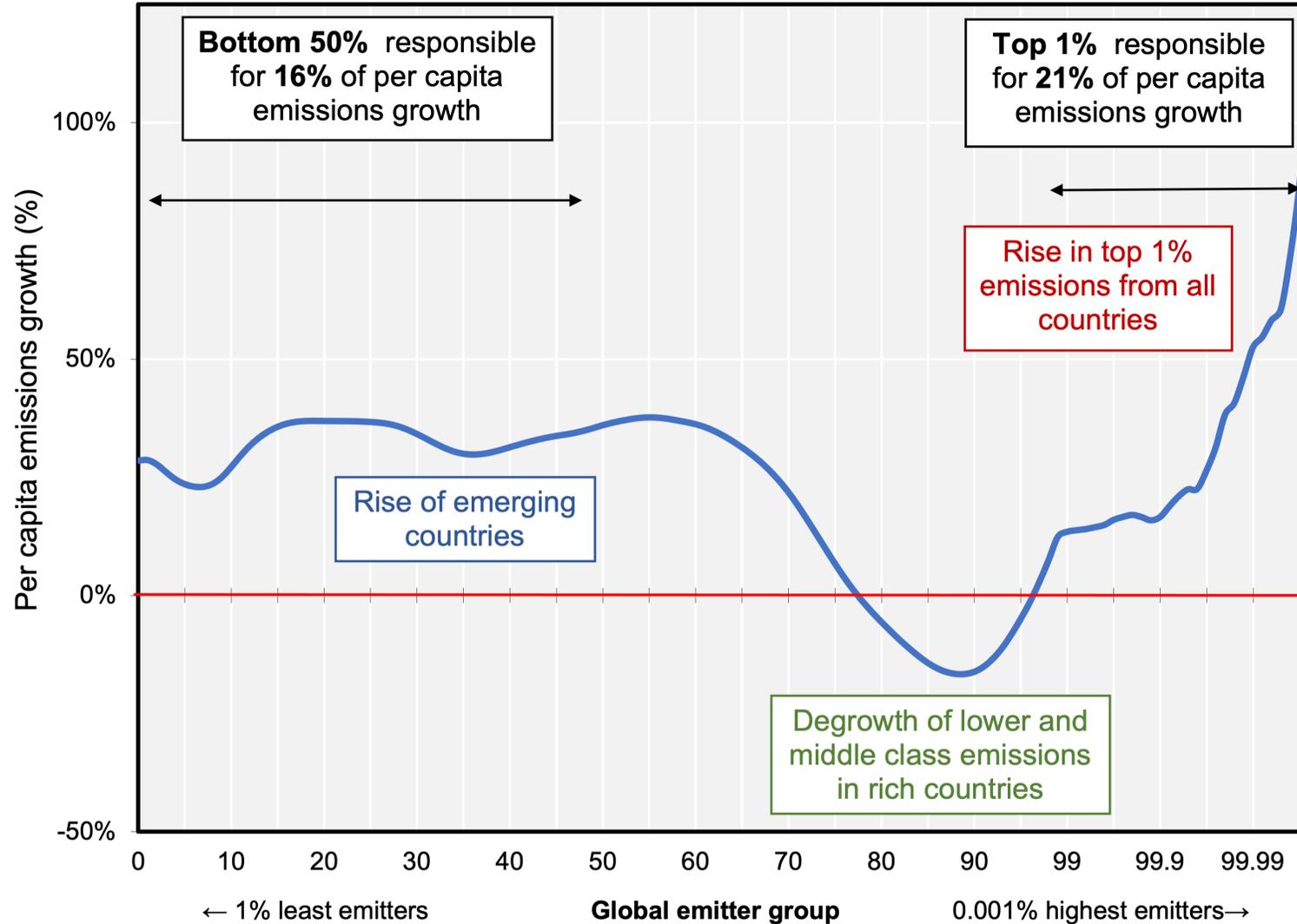
Top 10% of global emitters make about half of all emissions

B. Group emissions share in world total in 2019 (%)



Unequal pollution dynamics between and within countries

Global emissions growth by emitter group, 1990-2019



The triple climate inequality crisis

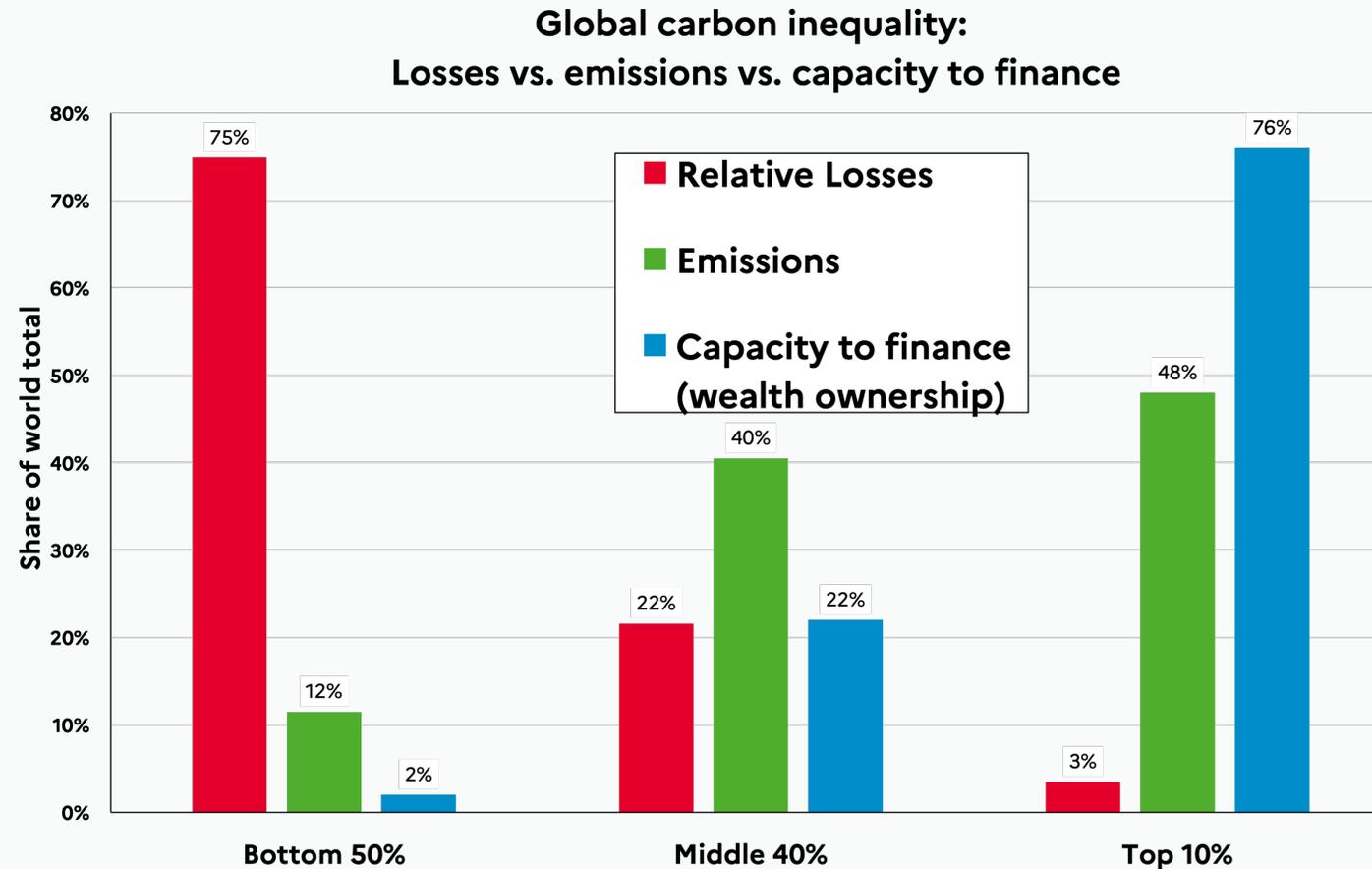


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Survival condo project: Kansas desert, USA



This presentation

- Global economic inequality: the landscape
- Global climate inequality: the trend accelerator
- **How to reconcile economic and climate justice?**

Confronting climate change: a capital challenge



Confronting climate change: a capital challenge

- The energy transition implies a radical transformation of the economy (broad consensus about this, but different paths possible).
- The energy transition is about replacing the capital stock (transport networks, energy systems, buildings, production chains...).
- Who will own zero carbon capital: public or private actors? For-profit or non-profit? Governments can contribute now to shape wealth inequalities of tomorrow.

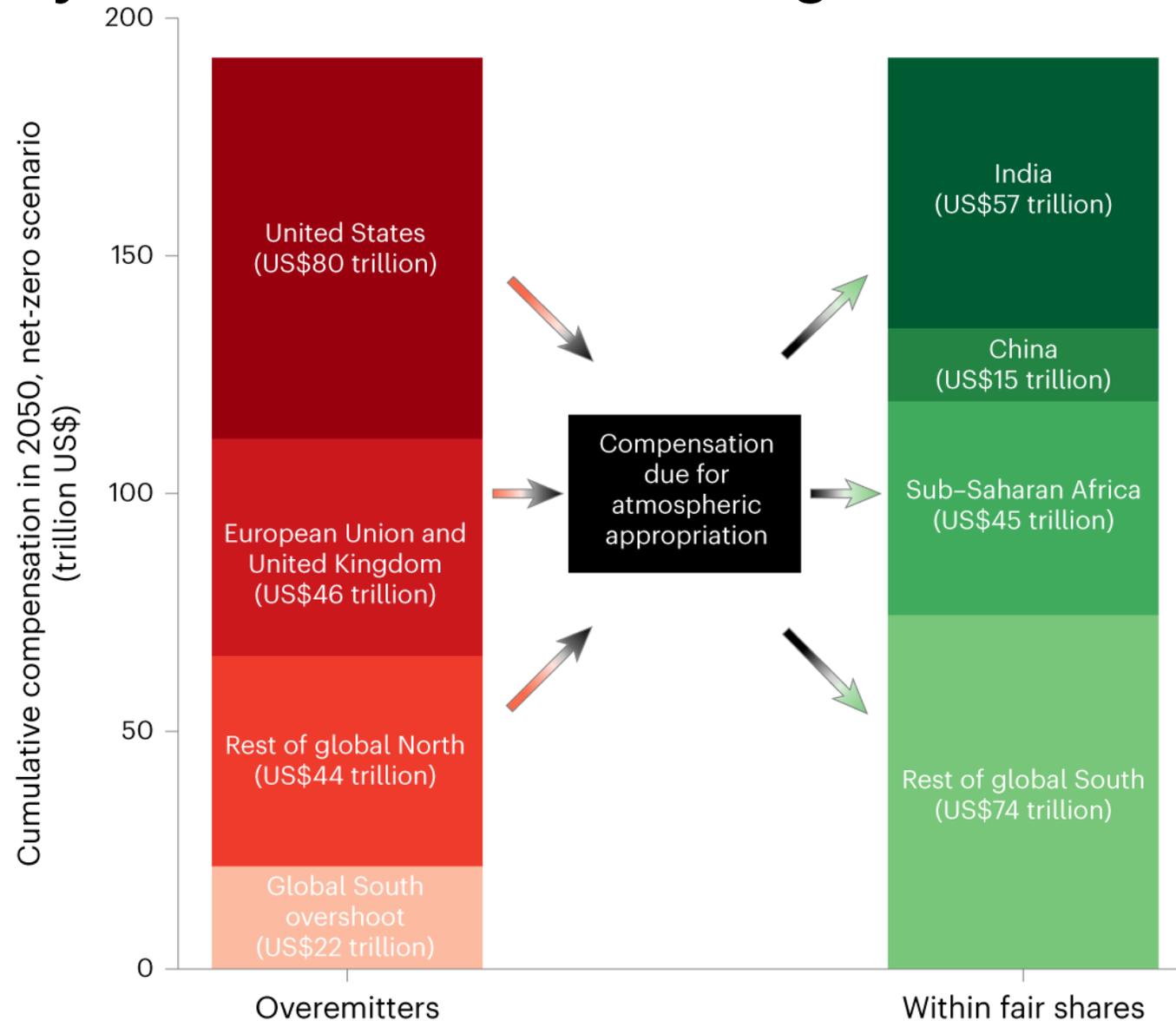
Confronting climate change: a capital challenge

- Additional 4% of global GDP invested per year in energy transition (i.e. \$4200bn / year in 2022 in renewable energy and climate sectors, vs. \$850bn actually invested).
- At the same time, the world continues to massively subsidize fossil fuels (\$700bn / year over 2010-2020 in fossil fuel subsidies vs. \$500bn/year in climate) (Sources: CPI).

Global level: poor countries need substantial financial resources to reduce/avoid pollution & to adapt

- About \$2000bn/year (2 trillion) climate finance needed in the Global South.
- Current climate finance flows from North to South: \$100bn/year (x20 less than required).
- At the same time: South pays \$1000bn/year to North countries as interest on their debt (cf. earlier discussion): wrong direction!

Taking into account historical climate debt, the global North would owe at least \$3tn per year over 2020-2050 to the global South.

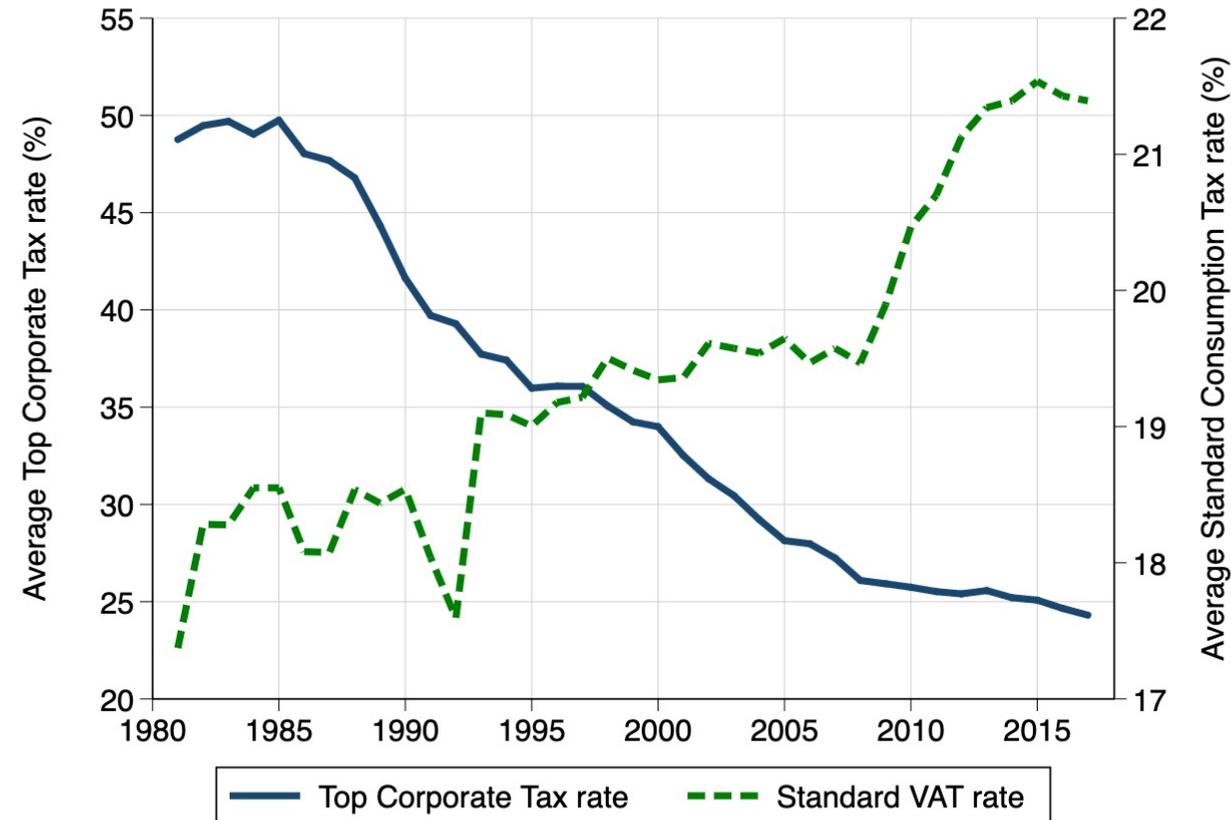


Confronting climate change: an inequality challenge

- Key question: who should pay the bill?
- Working and middle class groups in rich countries typically pay 40-50% total income in taxes + contributions.
- Top groups are relatively undertaxed as compared to bottom and middle groups.

Corporate taxes have declined while consumption taxes have increased during the « Great Deregulation »

Figure 9. Evolution of corporate taxes and VAT in the EU, 1980-2017



Source: authors' computations on the basis of household surveys, fiscal data and national accounts. WID.world/europe2019. Interpretation: between 1981 and 2017, the average top corporate tax rate in the European Union fell from approximately 50% to 25%.

Very little taxes paid by large actors are both a challenge and an opportunity

- In the US, billionaires pay less than 8% income tax. In France, billionaires pay less than 2% income tax.
- What about Austria: Austrian tax on extreme wealth? None. Austrian inheritance tax? None. Wealth taxes just 1.5% GDP (4th lowest rank in OECD). → Room for manoeuvre.

How much revenues from taxes on the rich? A lot.

- In unequal societies, relatively small tax rates at the top can yield substantial revenues.
- Ideas that economies collapse when the rich pay their fair share is a myth. Tax evasion is not a law of nature.
- Tax revenues from a moderate global wealth tax on top 0.1% could yield \$1100bn/year (1.1% GDP). Revenues from tax evasion could add around 0.5% GDP in countries like France, Germany, Italy, Spain.

What about taxing carbon?



Climate policies blind to equity concerns are likely to fail: Indonesia



Indonesian fossil fuel subsidy reform, 2012

Climate policies blind to equity concerns are likely to fail: « yellow vests »



Yellow vests, 2018. Credit: lepharedunkerquois

Critical need to cushion small and middle size actors

- Carbon taxes can be useful, but need for large scale investments in alternatives (to watch: EU carbon price regulation on consumers 2027; Planned « social fund » only half what was initially proposed).
- US approach: subsidies instead of carbon tax. How to pay for subsidies? Biden : tax multinationals & households earning over \$400k/year.

Climate change: a coordination challenge



Climate change: a coordination challenge

- Challenge is not just within countries. Green policies taken at home can have positive/negative consequences abroad.
- US Climate policy (massive subsidies) not globally coordinated → negatively affects EU firms, as well as low-income countries (dependency on US green technology).
- Low-income countries do not have access to intellectual property → need for a negotiation on green intellectual property as well as on finance/taxes (cf. Paris Finance Summit).

Europe as a lock and a lever



Europe as a lock and a lever

- EU economic order 1990-2020: not so much about planification, taxes, strategic orientation. Yet, it is the right scale for action.
- Wealth tax debate picking-up: www.tax-the-rich.eu. European Citizen Initiative ahead of the EU elections to tax the rich.
- NB: Member States can coordinate without unanimous agreement with 27 countries (so far very unlikely) → enhanced cooperation mechanism or coalition of the willing (www.tdem.eu)

Summing up

- Contemporary economic world order is very far from being flat, both at the international and national level.
- Economic injustices are tightly connected with environmental and climate injustices. Environment as the new frontier of social injustices within and between countries.
- The climate transition = replacing capital on a global scale = unique opportunity to change its distribution (via planification, taxes, regulation, redistribution, intellectual property).

- Working and middle classes in the North have little to lose (and much to gain) from the transition... if wealthy groups are asked to redistribute wealth + knowledge (Intellectual Prop. rights).
- Many of the economic policy instruments that are required have been used in Western countries over 1950-1980. No « Great Decarbonization » without redistribution.