



Are Markets' Outcomes Fair?

Fernando Arteaga,¹ Jesús Fernández-Villaverde,¹, Jacob Hall,¹ Ivan Luzardo Luna,¹ and Andrej Svorenčík¹

April 21, 2024

¹University of Pennsylvania

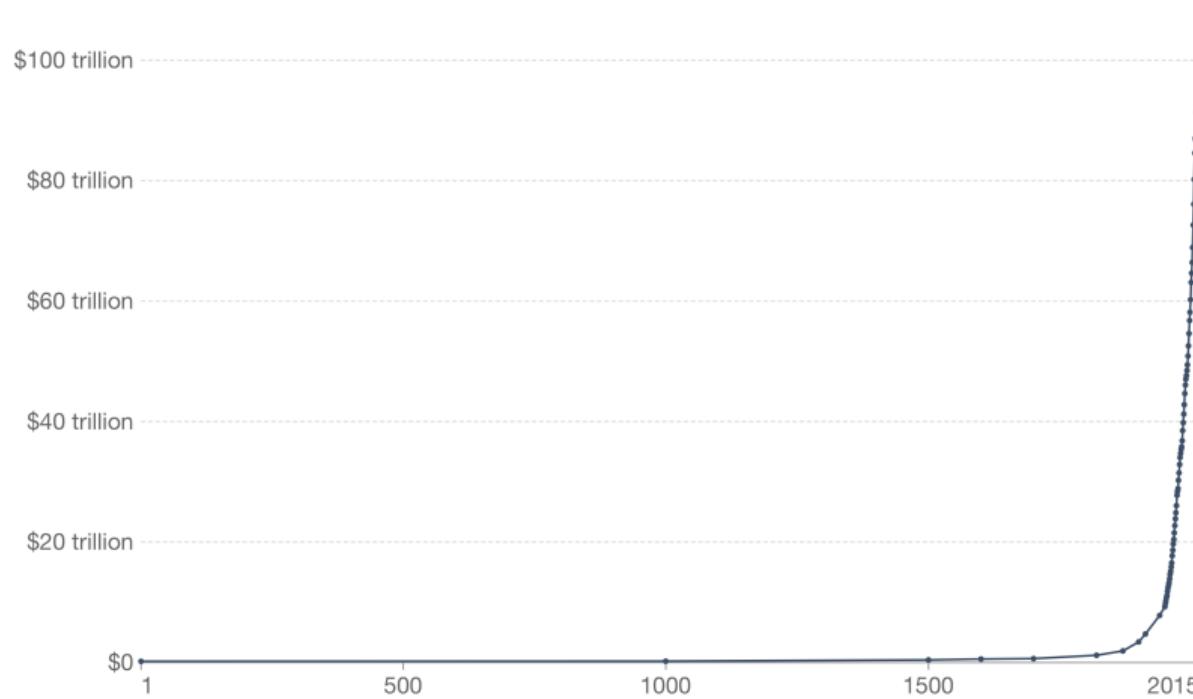
The Kuznets curve and economic inequality

World GDP from 1 CE to today

World GDP over the last two millennia

Total output of the world economy; adjusted for inflation and expressed in international-\$ in 2011 prices.

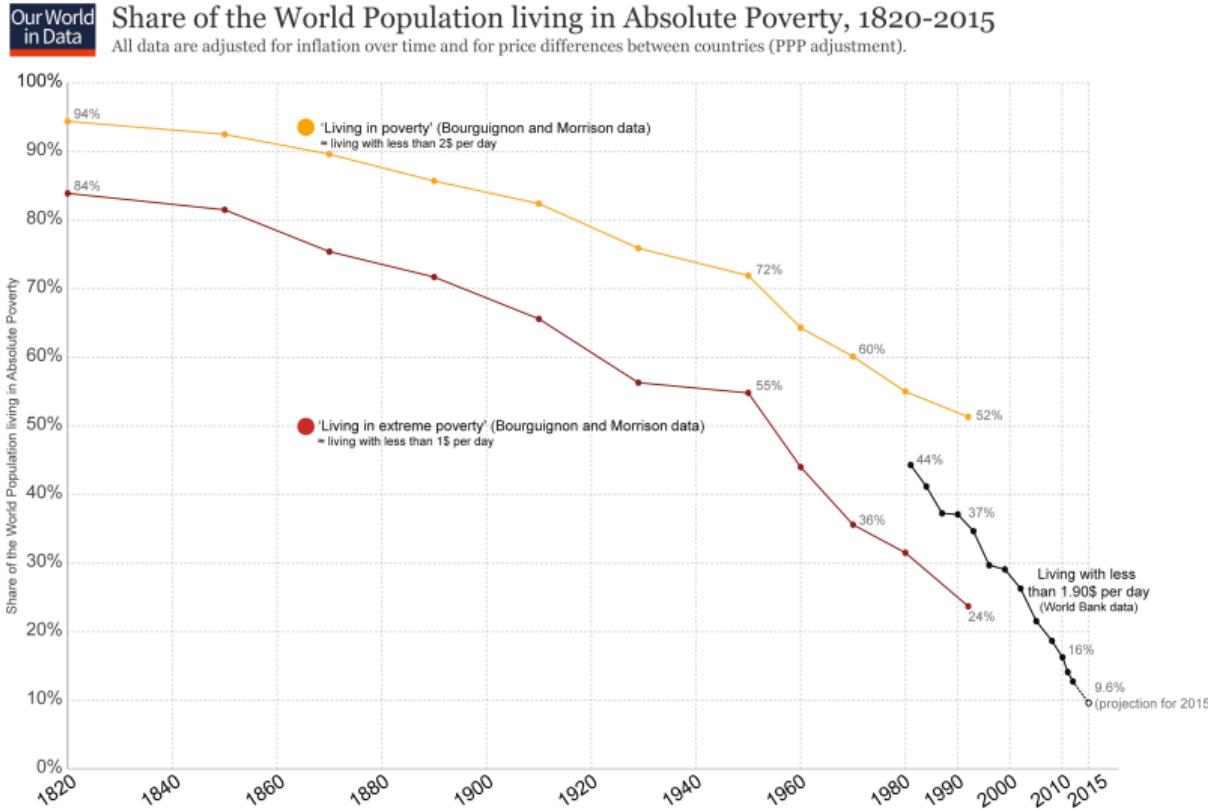
Our World
in Data



Source: World GDP - Our World In Data based on World Bank & Maddison (2017)

OurWorldInData.org/economic-growth • CC BY

Absolute poverty has decreased



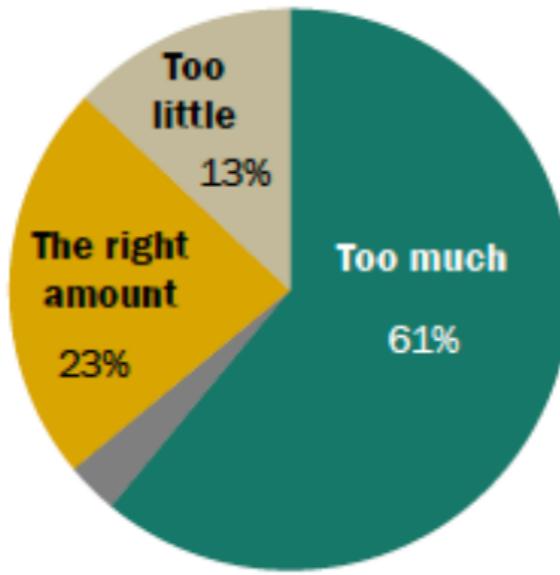
Data sources: 1820-1992 Bourguignon and Morrison (2002) - Inequality among World Citizens, In The American Economic Review; 1981-2015 World Bank (PovcalNet)

The interactive data visualisation is available at OurWorldInData.org. There you find the raw data and more visualisations on this topic.

Licensed under CC-BY-SA by the author Max Roser.

Most Americans say there's too much inequality in the U.S.

*% saying there is ___ economic
inequality in the country these days*

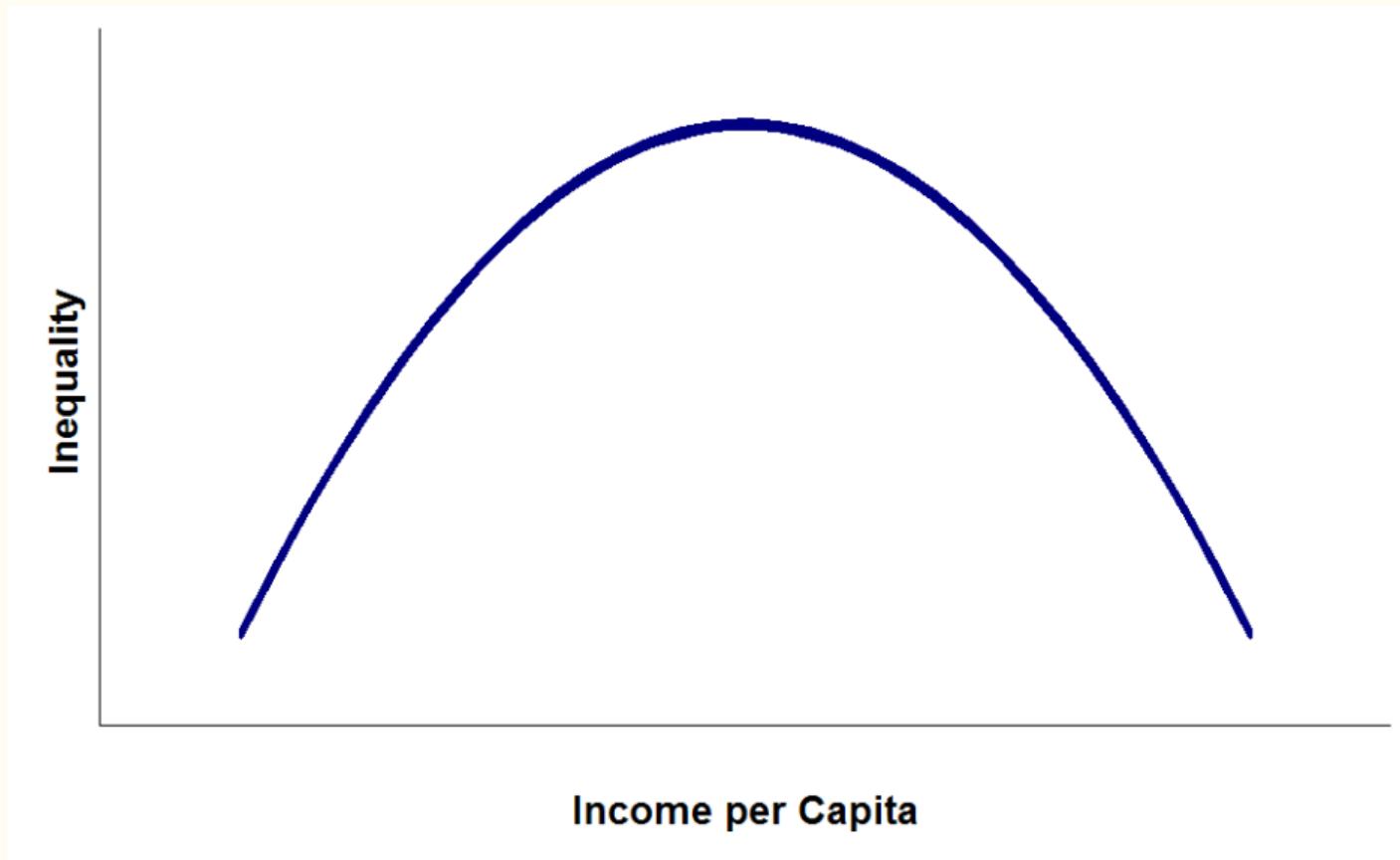


Source: Pew Research Center (2020).

Simon Kuznets (1901-1985)



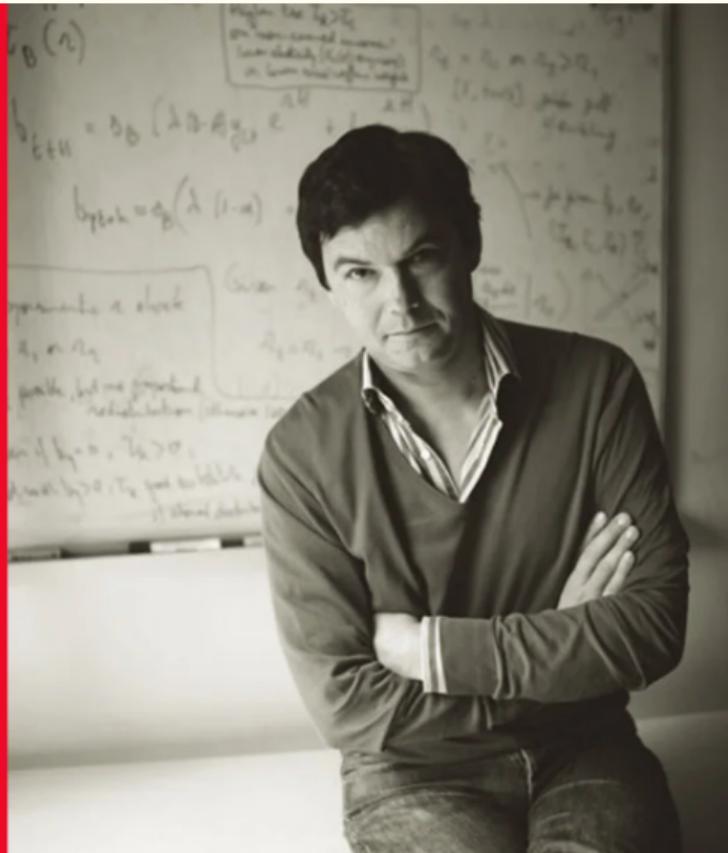
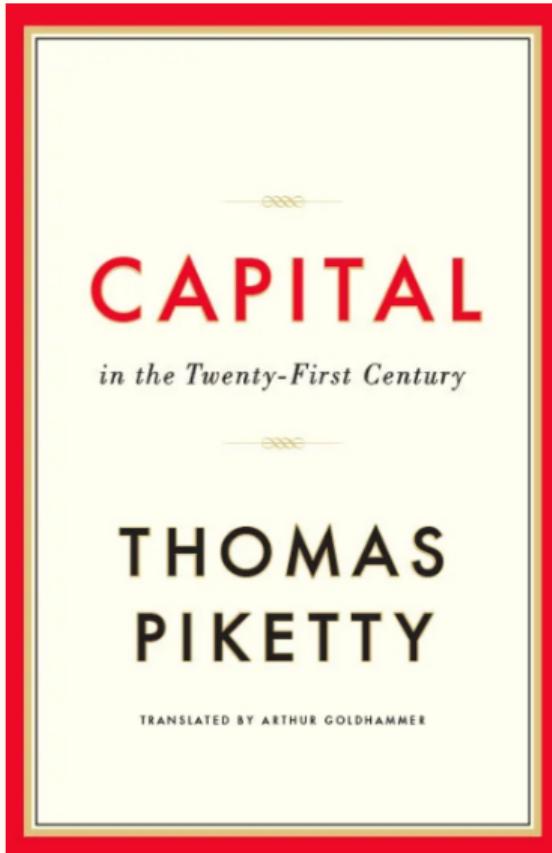
Kuznets curve



Kuznets' explanation behind the curve

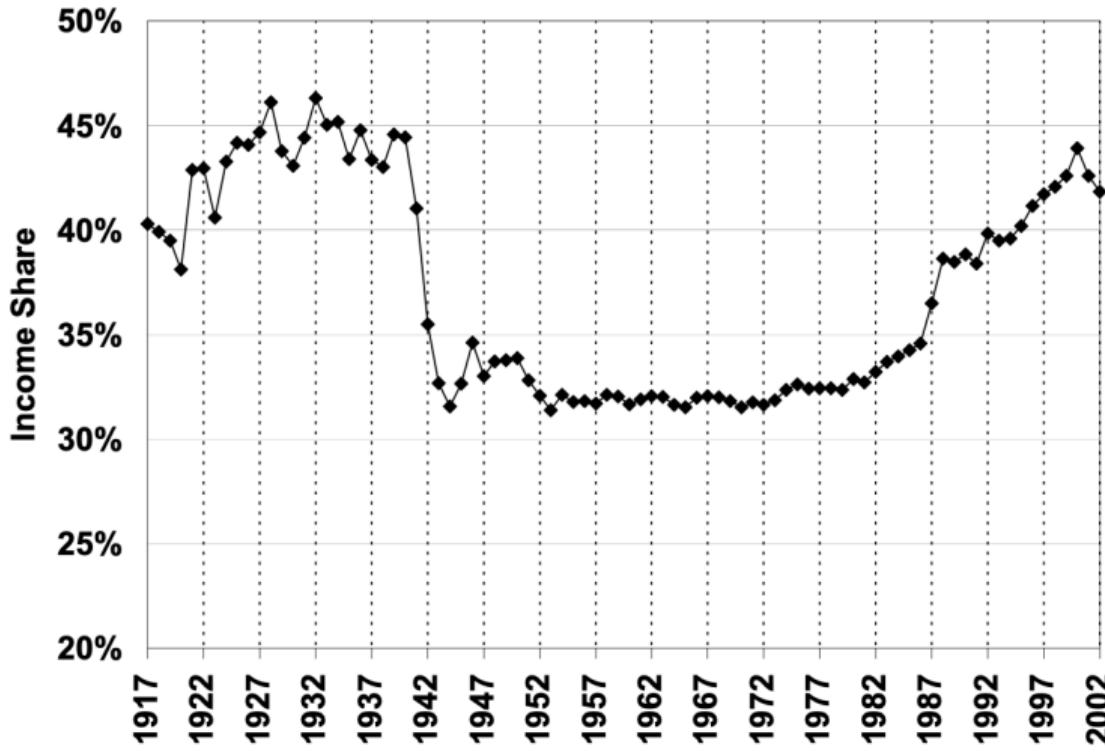
- Modern economic growth is a story of a shift of labor from agriculture (low income and productivity) to industry (high income and productivity).
- Assuming the income gap between the agricultural and industrial sectors remains constant over the transition, the following occurs:
 1. If 100% of the working population are employed in agriculture, income inequality will be low.
 2. As people move out of agriculture and into industry, the population that earns a higher income grows, and thus inequality increases.
 3. This development proceeds until about 50% of labor is still in agriculture. Beyond that point, a growing part of the population earns a higher industrial income.

Thomas Piketty



United States, top decile income share, 1917-1998

A. The top decile income share

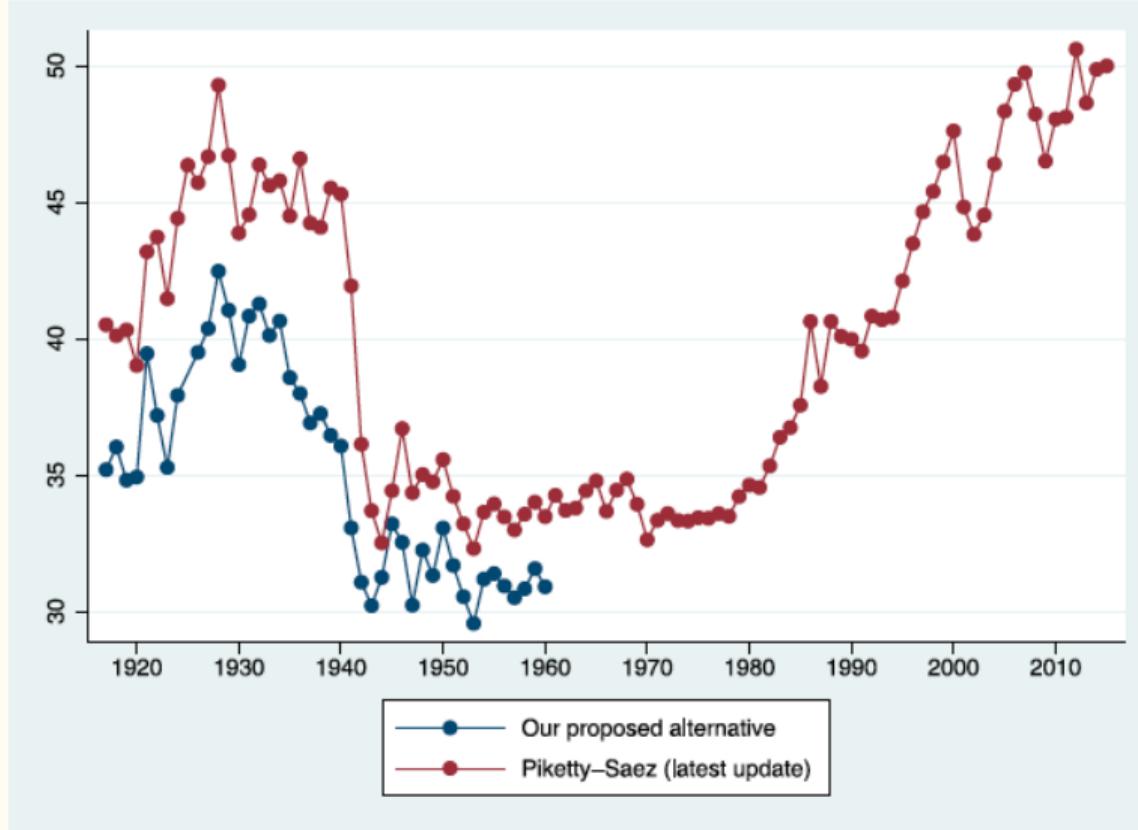


Source: Piketty and Saez (2003).

Piketty and Saez's interpretation of the data

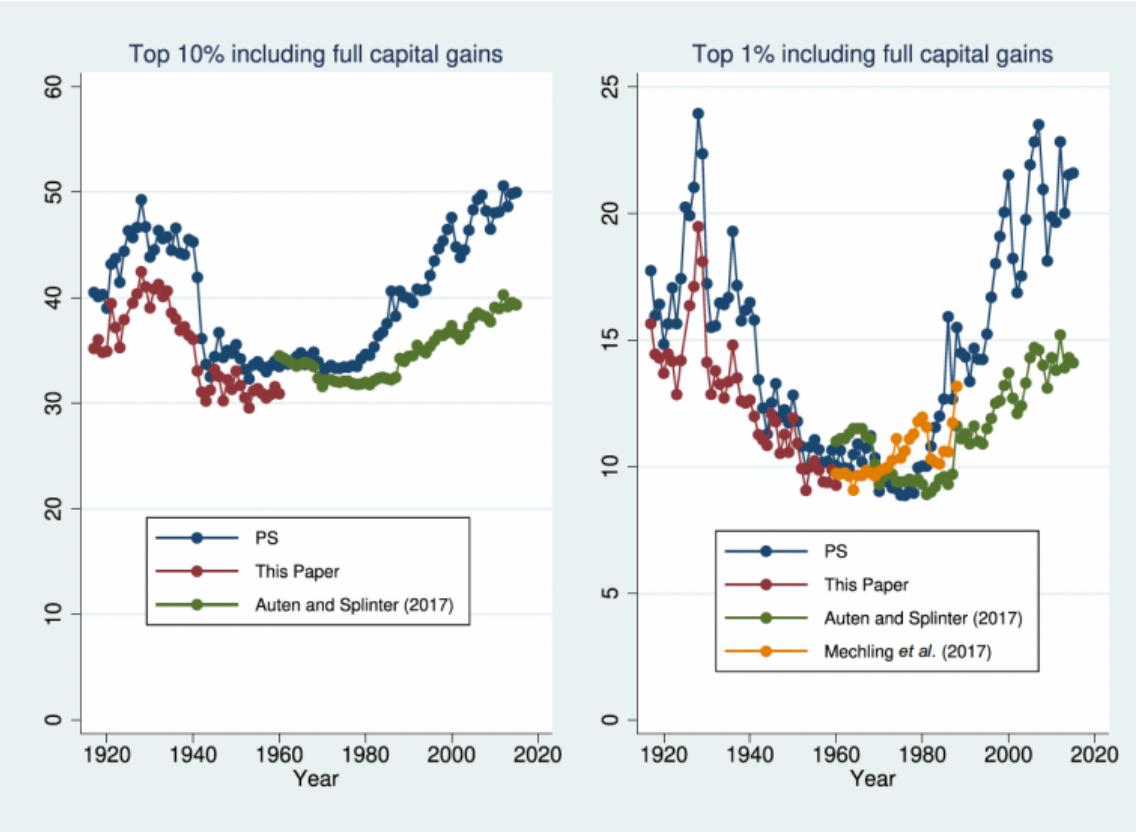
1. WWI, the Great Depression, and WWII may explain the decline, but they do not explain why the decline persisted.
2. They cite the creation and development of the progressive (and very high) income tax as the “natural and realistic candidate.”

Data improvements contra Piketty, I



Source: Geloso, Magness, Moore, and Schlosser (2022)

Data improvements contra Piketty, II

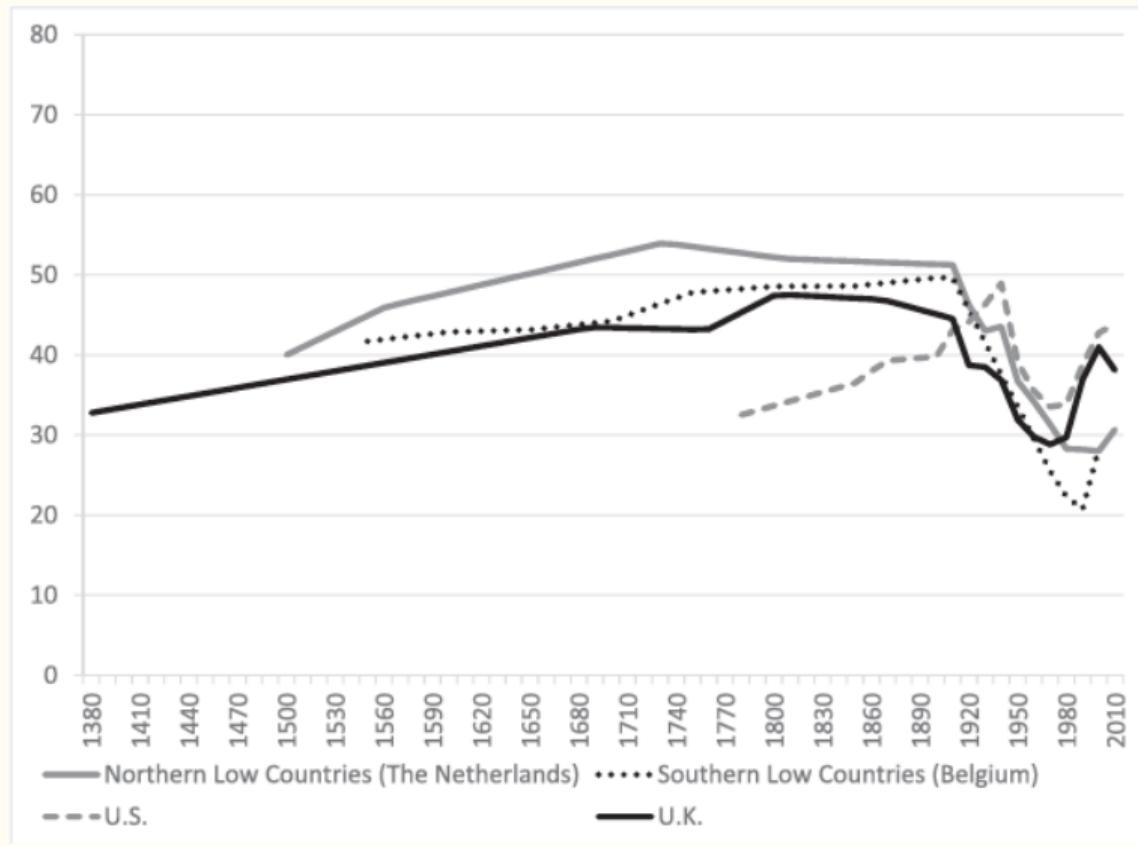


Source: Geloso, Magness, Moore, and Schlosser (2022)

Reinterpretations

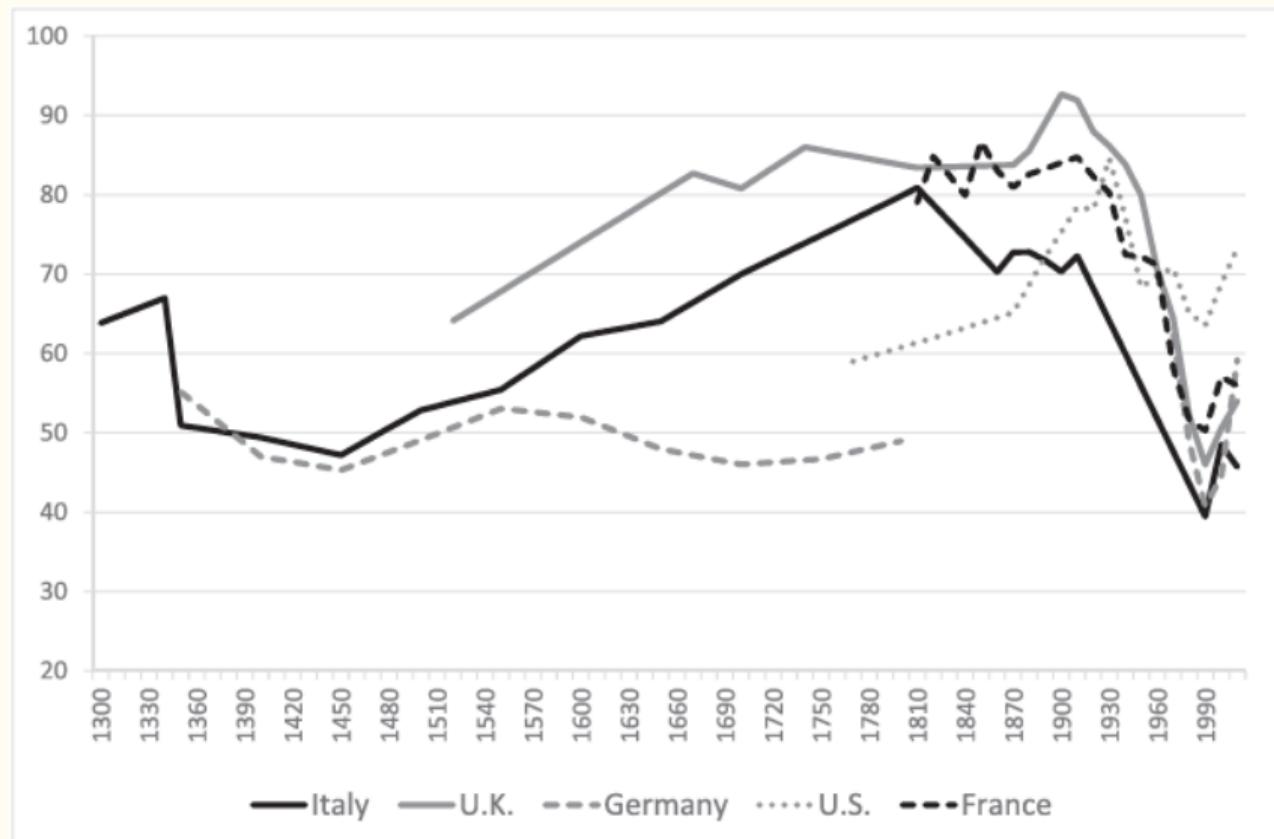
1. Piketty and Saez overstate inequality levels in this period.
2. The decline during World War II was smaller than depicted.
3. The Great Depression, rather than World War II, likely played the more significant role.
4. The increase in income inequality after 1980 was more moderate than Piketty claimed.
5. The causal link between high progressive tax rates and low inequality is not obviously apparent.

Income share of the richest 10%



Source: Alfani (2024)

Wealth share of the richest 10%



Source: Alfani (2024)

Top 1% wealth shares in ten countries, 1740-2011

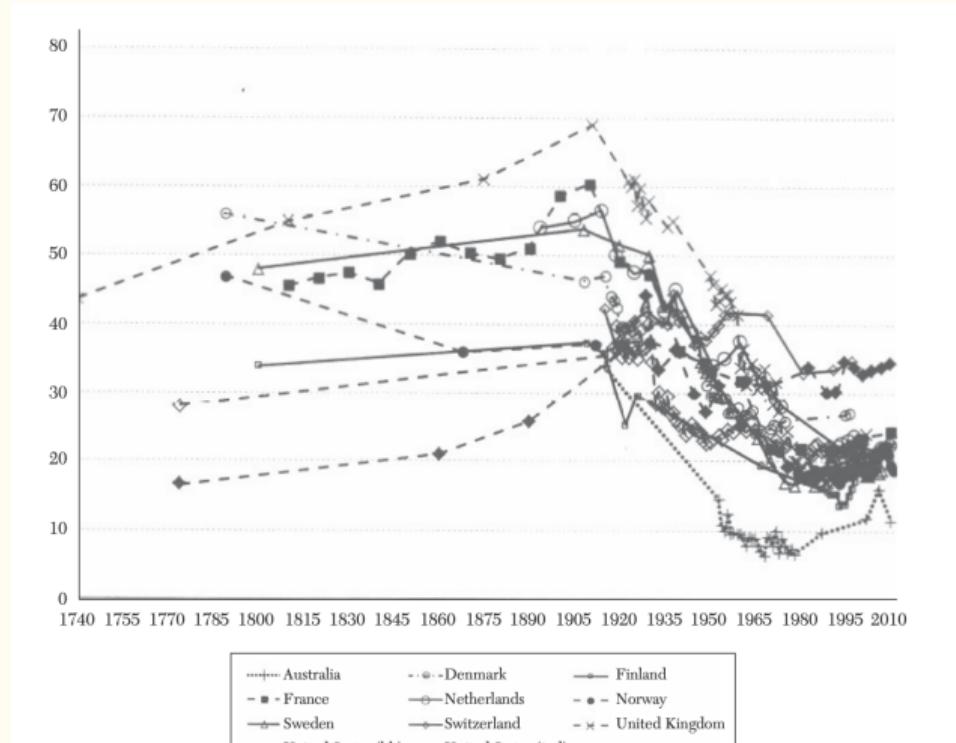


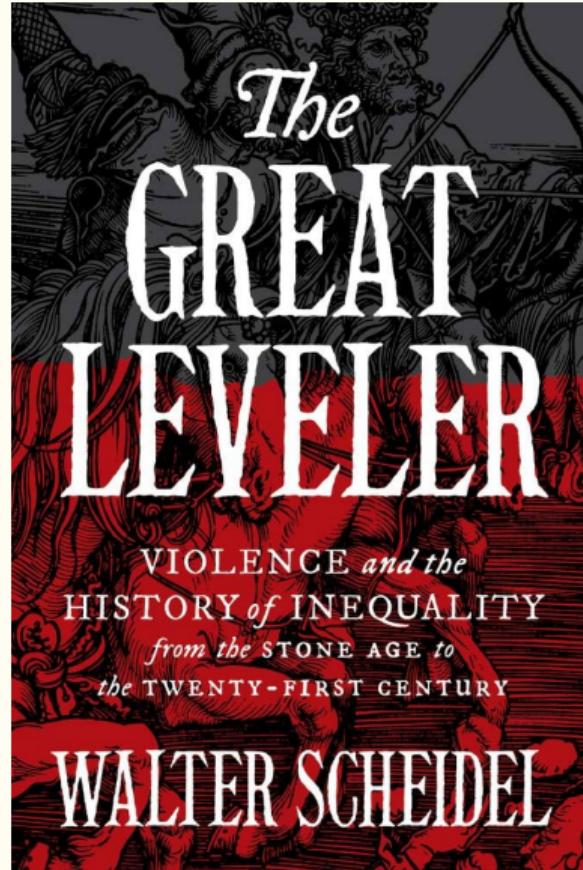
Figure 2. Top 1 Percent Wealth Shares in Ten Countries, 1740–2011 (in percent)

Source: Scheidel (2017)

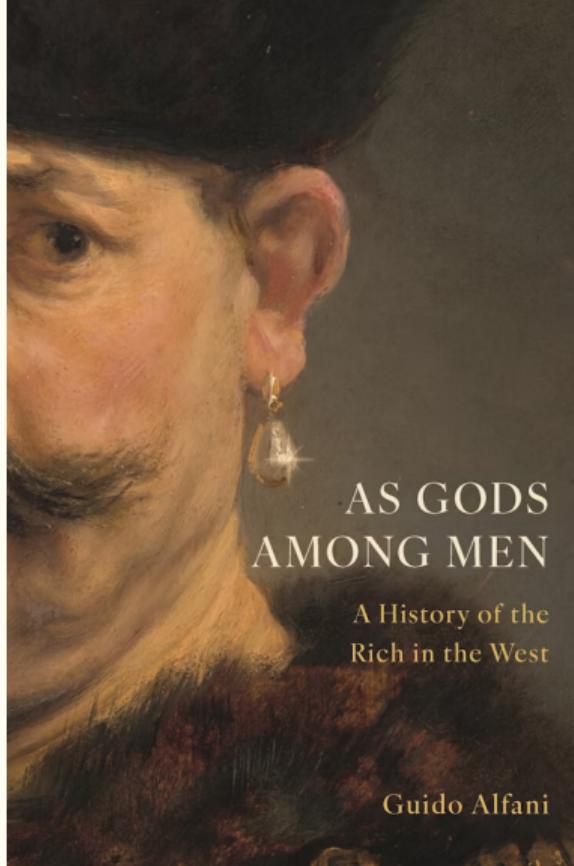
Two takeaways from the long run picture

1. The long-run trend has been oriented toward inequality growth.
2. This trend toward continuous inequality growth could be interrupted by only major catastrophes.

Walter Scheidel's sobering thesis

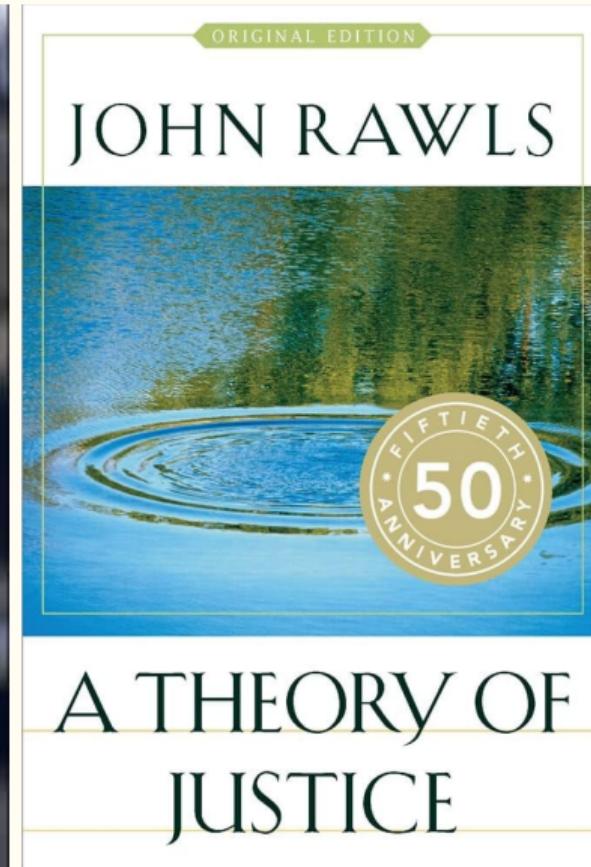
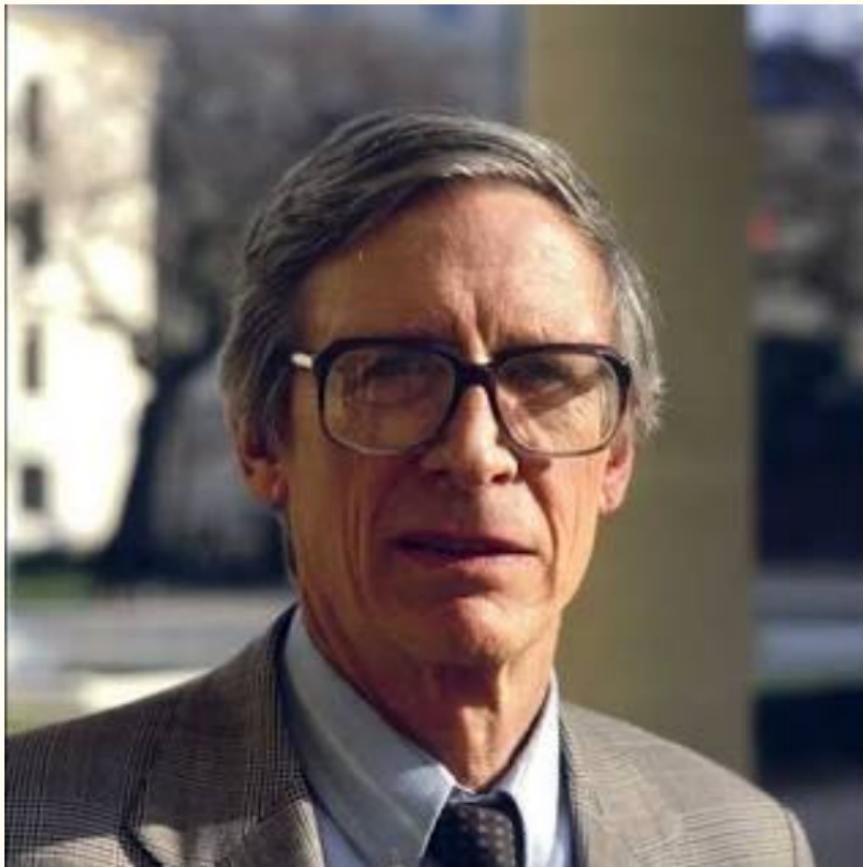


If you are interested in more ...



John Rawls and distributive justice

John Rawls (1921-2022)



- Rawls defines justice as requiring equality unless any departure from this benefits everyone.
- The just pattern of endowments is chosen behind the “veil of ignorance.”

Choice behind the veil

- Contractors will adopt the “difference principle”: that all inequalities “are to be to the greatest benefit of the least advantaged members of society.”
- The contractor does not know which position he will occupy, and as he is aware that he may occupy the least advantaged position he chooses the distribution that allocates the highest index of primary goods to that position.
- Ask yourself: Are you that risk-averse?

Robert Nozick (1938-2002)



NATIONAL BOOK AWARD WINNER

"A major event in contemporary political philosophy."
—PETER SINGER, *New York Review of Books*

ANARCHY, STATE, AND UTOPIA

Robert Nozick

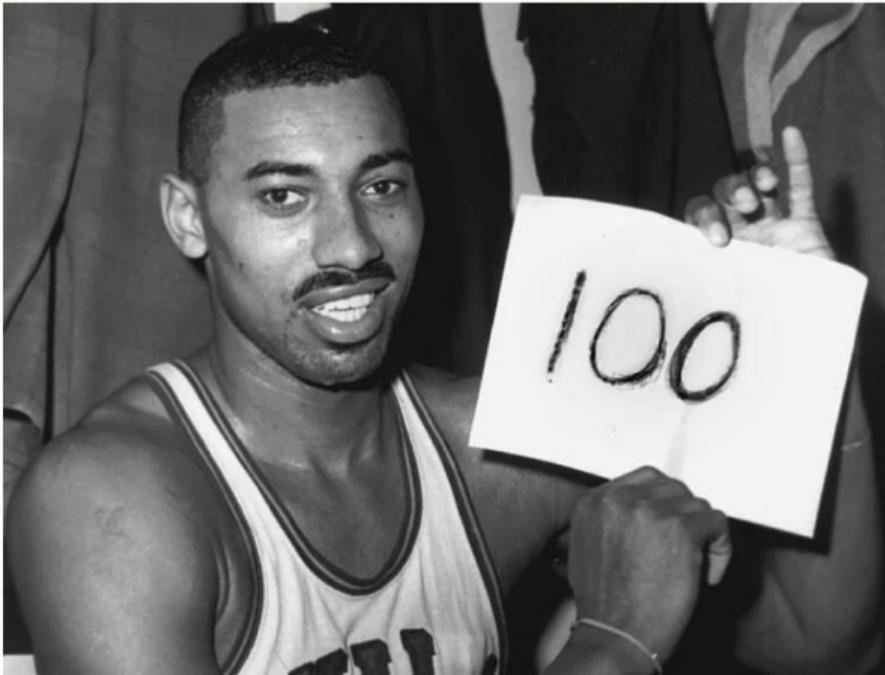
With a New Foreword by Thomas Nagel

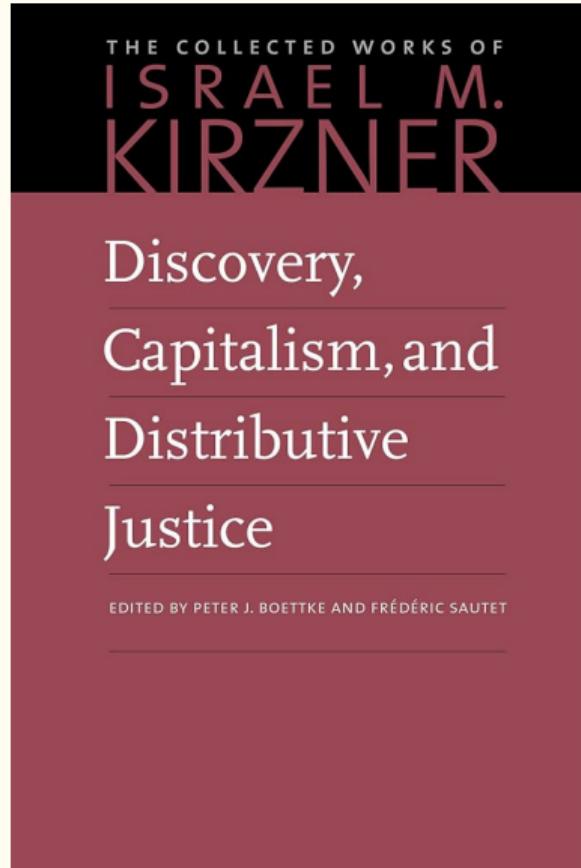
Nozick on distributive justice

- Justice simply as laissez-faire, provided that no one's rights are infringed.
- “[T]he complete principle of distributive justice would say simply that a distribution is just if everyone is entitled to the holdings they possess under the distribution” (1974, 151).
- Felt that theories of justice based on patterns (i.e., Rawls) were wrong.

Nozick's Wilt Chamberlain argument

- Assume the distribution of wealth is perfectly equal, and thus, for the sake of argument, just.
- Chamberlain agrees to join a team if each attending fan contributes and gives him 25 cents. Being skilled, he accumulates \$250,000 this way by the end of the season.
- Is the new distribution unjust due to Chamberlain's earnings?
 - Nozick say "No!". Chamberlain earned his money legitimately, and fans handed over their money voluntarily.





Beyond GDP

Amartya Sen (b. 1933)



Beyond GDP: The capability approach

- The capability approach purports that freedom to achieve well-being is a matter of what people are able to do and to be, and thus, the kind of life they are effectively able to lead.
- Pioneered by Amartya Sen, as well as philosopher Martha Nussbaum.
- Functionings and capabilities:
 - Functionings: Various states of human beings and activities that a person can undertake ("Beings and doings").
 - Capabilities: A person's opportunities to achieve functionings.

Beyond GDP: Human Development Index

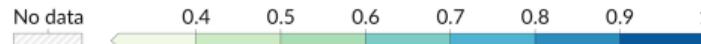
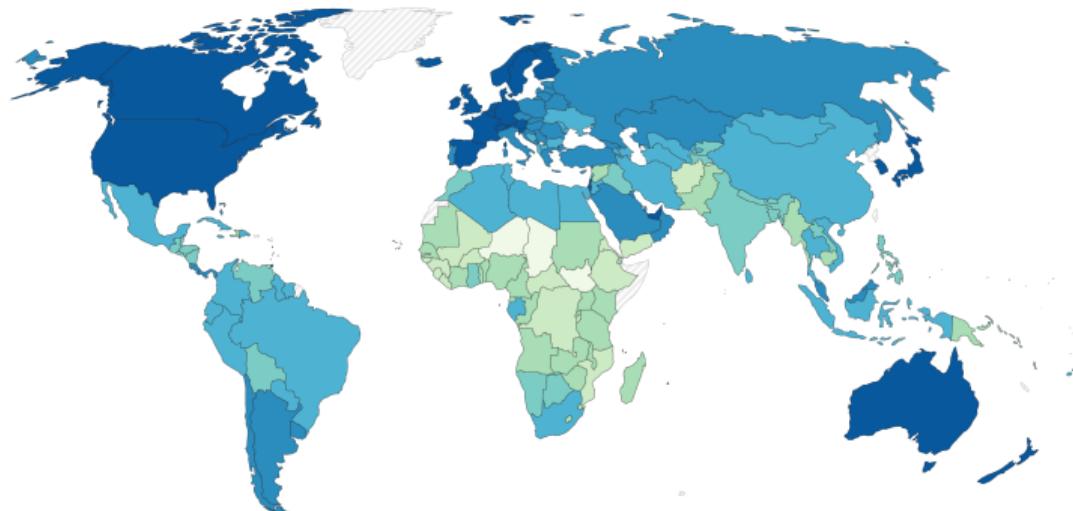
1. Along and healthy life (life expectancy at birth).
2. A good education (expected and mean years of schooling).
3. A decent standard of living (Gross National Income per capita).

Human Development Index, 2021

Human Development Index, 2021

Our World
in Data

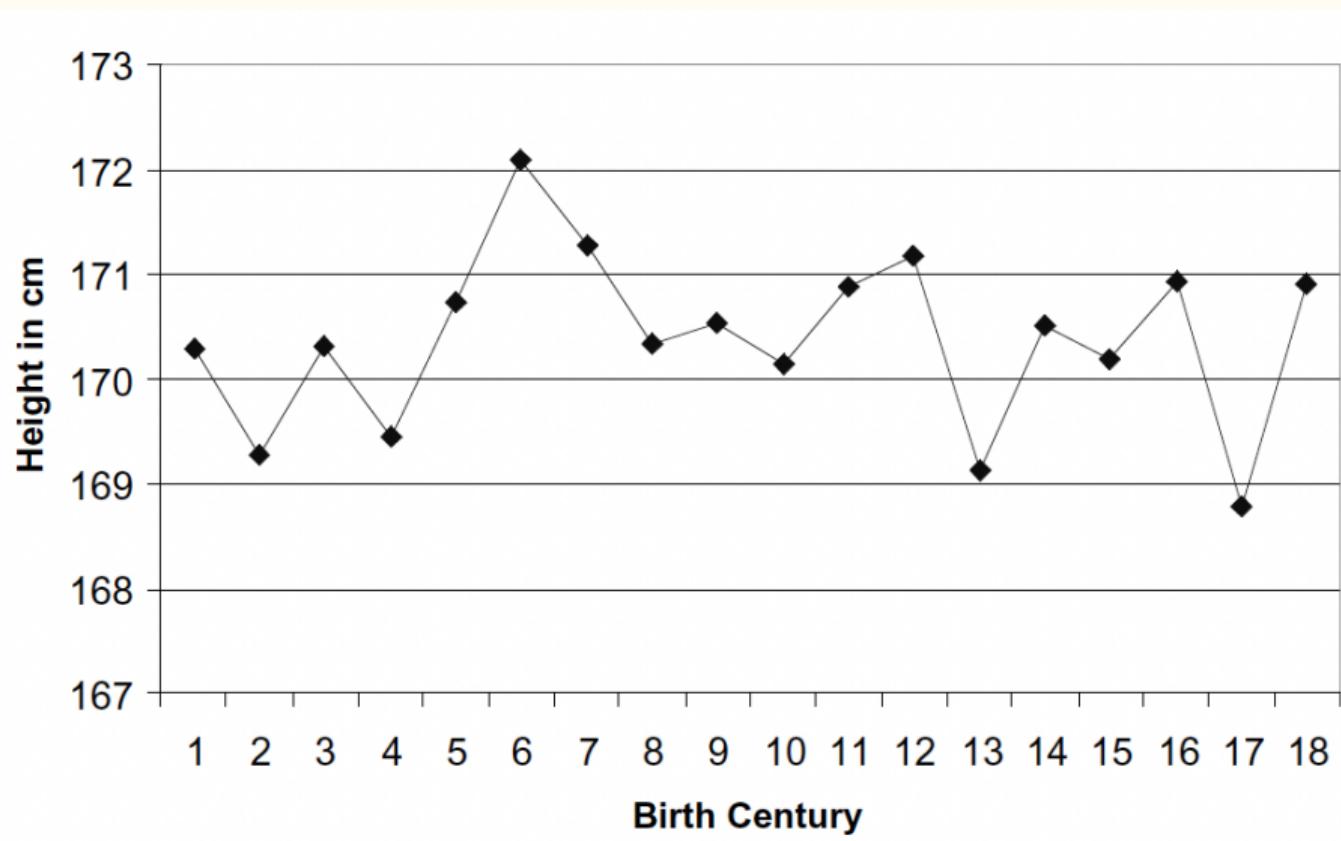
The Human Development Index (HDI) is a summary measure of key dimensions of human development: a long and healthy life, a good education, and a decent standard of living. Higher values indicate higher human development.



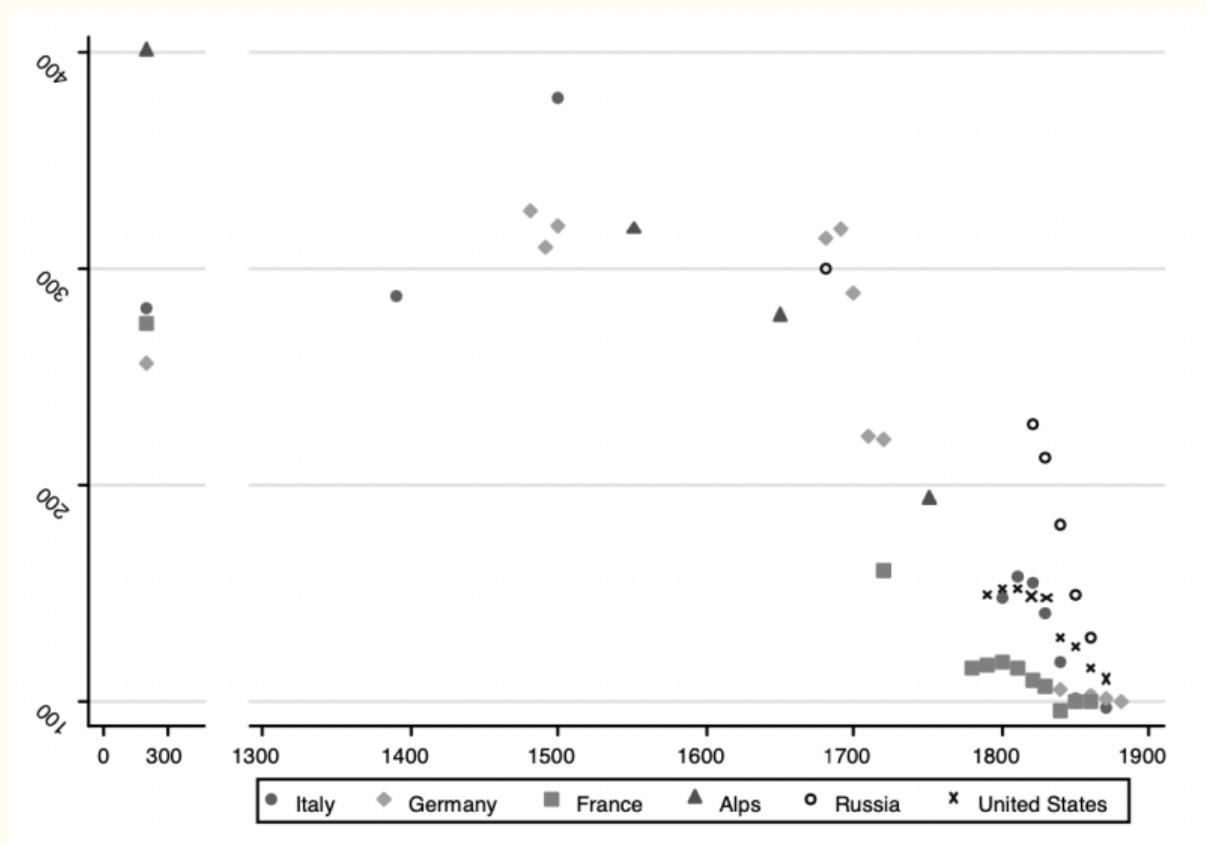
We live longer

Group	Life expectancy at birth (e_0)	Life expectancy at age 20 (e_{20})	Infant mortality (%)	Deaths at ages 0–15 (%)
Western Europe				
Italy (medieval Pistoia) ^a	29	25	21	56
England, 1550–99 ^b	38	33	18	30
England, 1650–99 ^b	35	31	18	32
France, 1750–89 ^c	28	—	21	—
England, 1750–99 ^b	38	34	17	30
East Asia and Africa				
Egypt (rural), 11–257 ^d	28	21	—	45
China (Anhui), 1300–1880 ^e	28	33	—	—
China (Beijing), 1644–1739 ^e	26	30	—	—
China (Liaoning), 1792–1867 ^e	26	35	—	—
Rural Japan, 1776–1815 ^f	33	37	25	50
Urban				
Egypt (urban), 11–257 ^d	24	17	—	48
London, 1750–99 ^g	23	—	30	—

We're taller



We're better educated



(Source: Koepke and Baton, 2005, EREH)

Fairness: Adam Smith and Amartya Sen on famine

Markets and famine: Questions of fairness at the extremes

TABLE 3.1. How Markets Influence the Impact of Famines

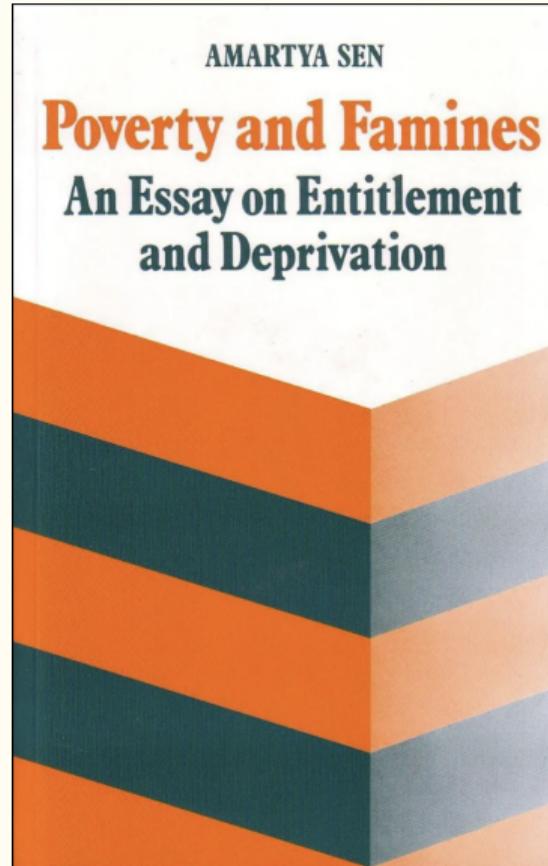
		<i>Markets</i>	
		<i>Work</i>	<i>Don't Work</i>
<i>Famines</i>	<i>Worse</i>	1,1	1,2
	<i>Better</i>	2,1	2,2

- Adam Smith: (*Markets work, Make famines better*)
- Amartya Sen: (*Don't work, Make famines worse*) and (*Markets work, Makes famines worse*)
- Arthur Young: (*Don't work, Makes famines worse*)

Adam Smith, Wealth of Nations

"Were all nations to follow the liberal system of free exportation and free importation, the different states into which a great continent was divided would so far resemble the different provinces of a great empire. As among the different provinces of a great empire the freedom of the inland trade appears, both from reason and experience, not only the best palliative of a dearth, but the most effectual preventative of a famine; so would the freedom of the exportation and importation trade be among the different states into which a great continent was divided." (WN IV.v.b.39)

Amartya Sen and the economics of famine



Amartya Sen, Poverty and Famines (1981)

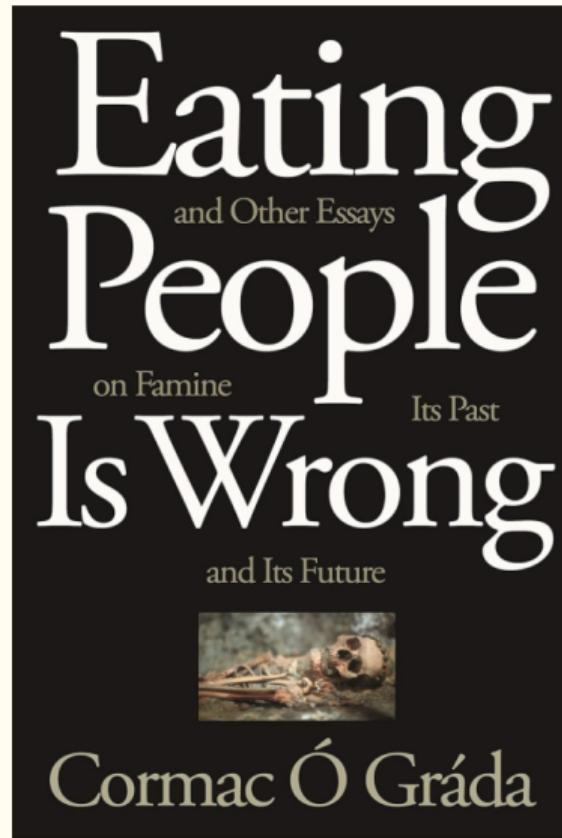
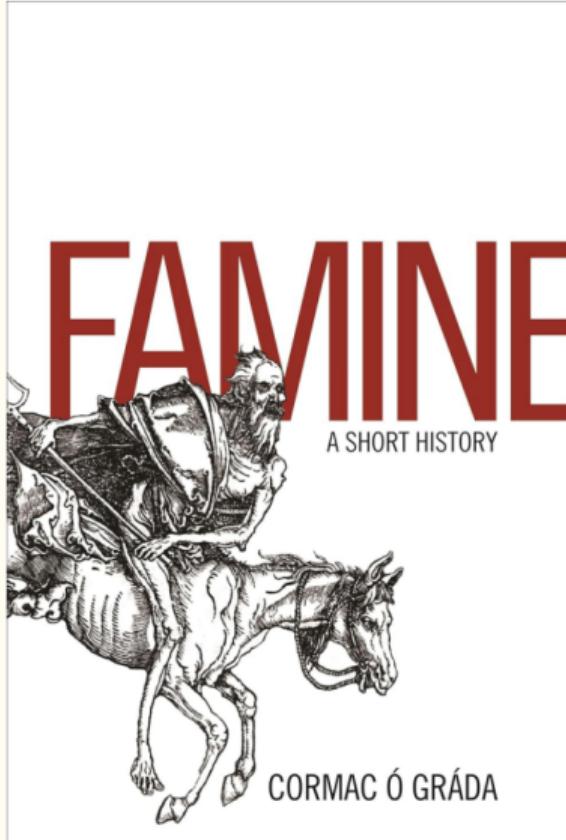
"Starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there being not enough food to eat. While the latter can be a cause of the former, it is but one of many possible causes."

Sen's entitlement approach to famine

- Contra the (pure) “food availability decline” theory of famine.
- Shifts the analytical focus on food supplies to the inability to acquire food.
- Key concepts:
 - A person’s endowments (assets and resources, including labor).
 - A person’s “exchange entitlement”: the set of all alternative bundles of commodities that she can acquire in exchange for her endowment.
 - Endowments are converted into “exchange entitlements” through “exchange entitlement mappings” (the relative prices of goods).
- Starvation can occur if one’s endowment collapses sufficiently far or through an unfavorable shift in relative prices.

Sen on markets and famine

- Sen is skeptical of market outcomes during Famines (especially ones driven by shocks to exchange entitlement mappings).
- “If one doesn’t have much to exchange, one can’t demand very much, and may lose out in competition with others whose needs may be a good deal less acute, but whose engagements are stronger.”
- In fact, we might even expect to see food being *exported* away from famine-stricken regions exacerbating the problem.



- Ó Gráda's empirical investigations generally find that unless a government or a war has disrupted them, markets usually function well in famines.
- That does not mean markets alleviate them all that much. They just do not seem in practice to make things worse.
 - It seems probable that the places most susceptible to famine have the least developed markets. And it seems wrong to blame markets when they are not truly operating.
- Famines have not primarily ensued from “exchange entitlement declines” divorced from supply shocks.