Global Inequality & Growth:
Drivers of wealth inequality

Ludvig Wier

Roadmap: drivers of wealth inequality

Savings

r>g

Inheritance

Savings

Key role of saving rate s_t^i and income Y_t^i

Individual i wealth accumulation can always be written:

$$W_{t+1}^i = \left(1 + q_t^i\right) \cdot \left(W_t^i + s_t^i Y_t^i\right)$$

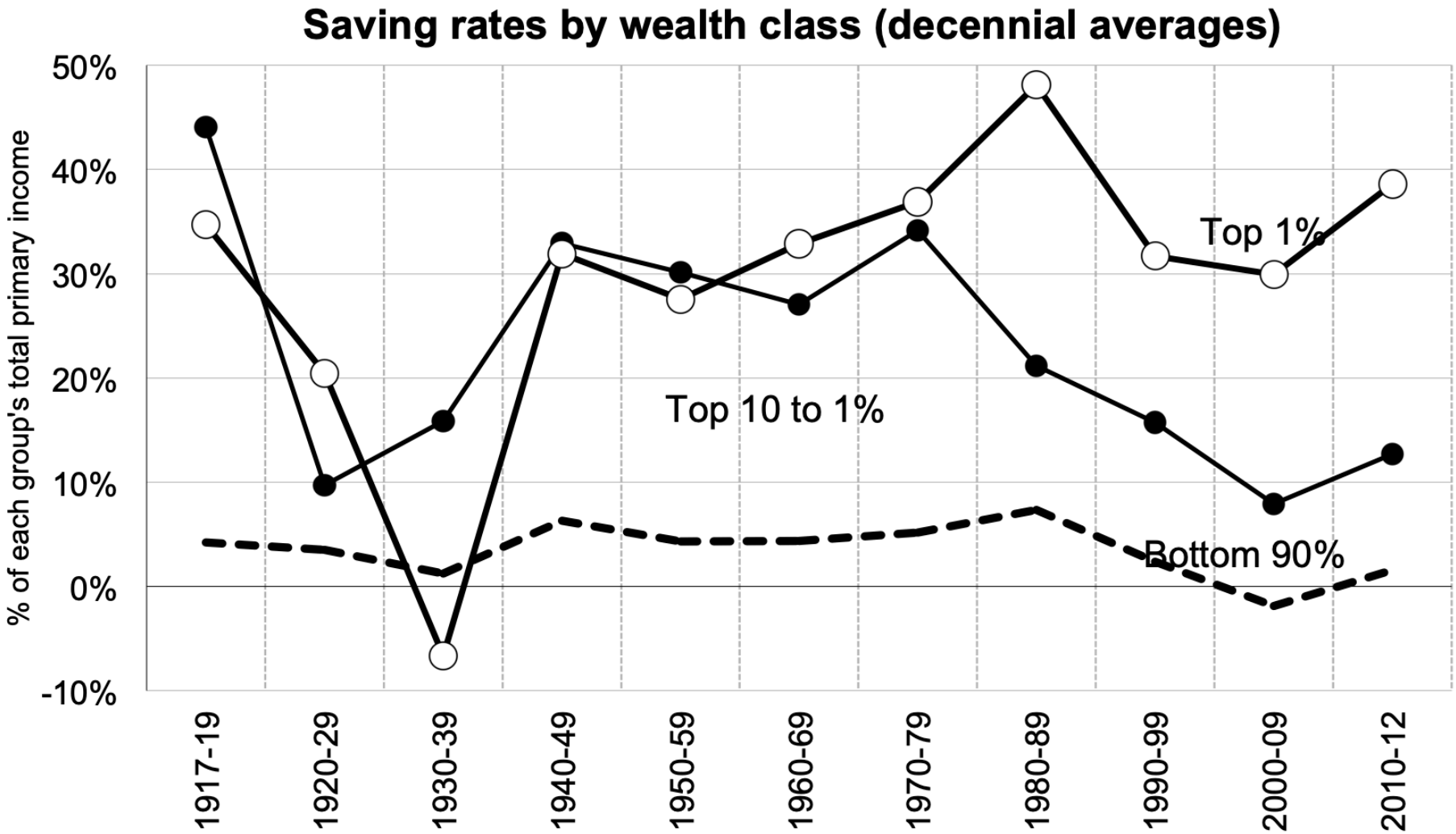
where W_t^i t is wealth, Y_t^i t is income, s_t^i is net savings rate, $1 + q_t^i$ is rate of capital gains (price effect) in year t

Long-run wealth inequality

In a long-run steady-state without price effect, then:

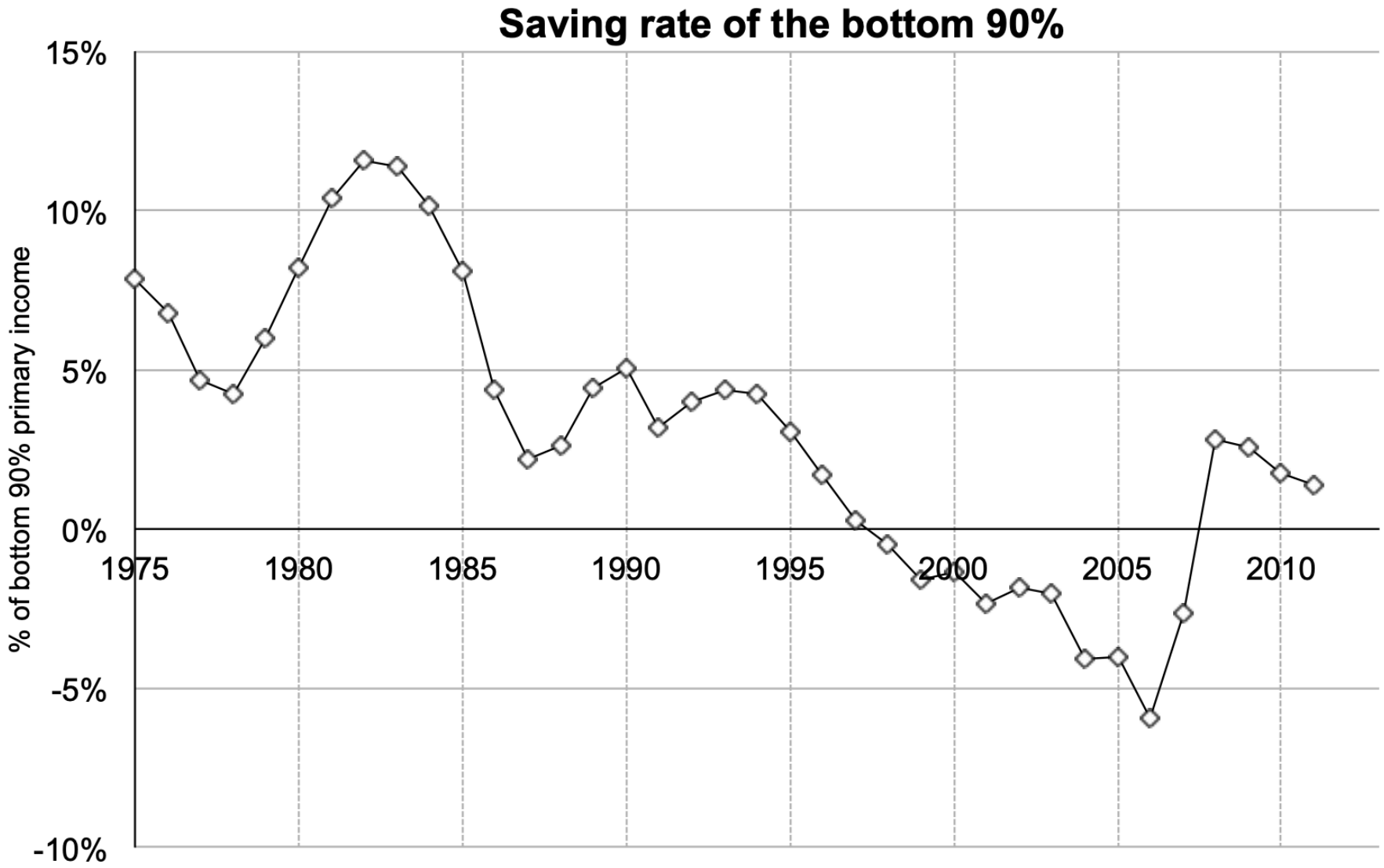
$$sh_W^P = sh_Y^P \cdot \frac{s^p}{s}$$

i.e. share of wealth= share of income · relative savings rate



The rich save more as a fraction of their income, except in the 1930s when there was large dis-saving through corporations. NB: The average private saving rate has been 9.8% over 1913-2013.

Source: Saez and Zucman (2016)



Source: Saez and Zucman (2016)

Kahoot! Steady state formula for the top 1% in the US

- Steady state wealth share: $sh_W^P = sh_Y^P \cdot \frac{s^p}{s}$
- Top 1 percent income share post-tax≈ 15%
- Top 1 percent savings rate ≈ 40%
- National savings rate ≈10%
- *Compute the steady state wealth share of the top 1%*

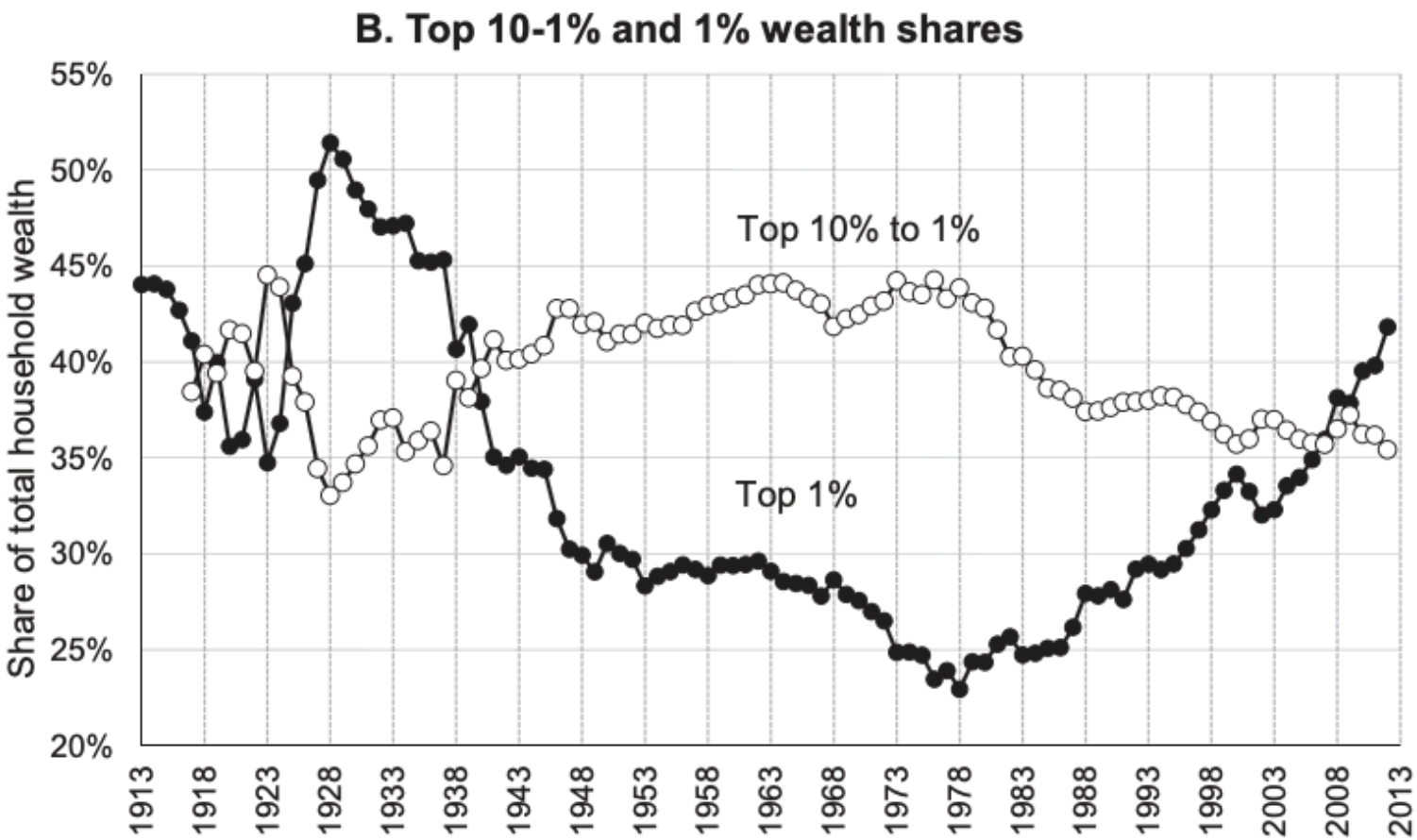
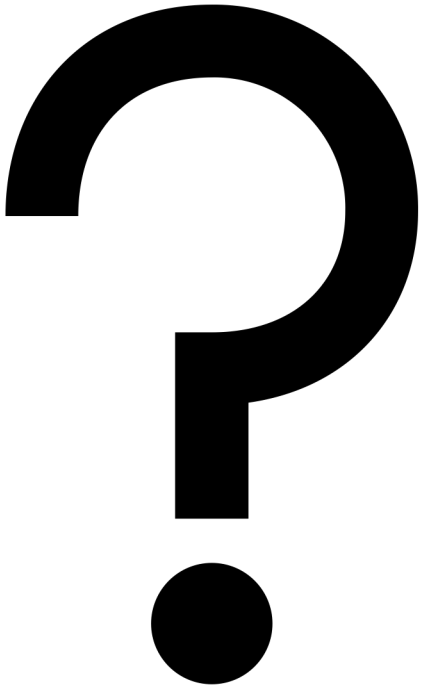


FIGURE VI

Top Wealth Shares in the United States, 1913–2012

What determines saving rates, i.e. why do some people save more than others?



Models of saving

- Life-cycle model (saving for retirement)
- Buffer stock savings (saving for a rainy day)
- Spenders and savers model (patience heterogeneity)
- Utility from wealth heterogeneity

Life-cycle model of saving

- People saving for their retirement …
- … cannot explain wealth inequality >> income inequality

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Buffer stock savings

- People saving for a rainy day …
- … would imply savings rate of poor > savings rate of rich

Spenders and savers model – Mankiw (2000)

The Savers-Spenders Theory of Fiscal Policy

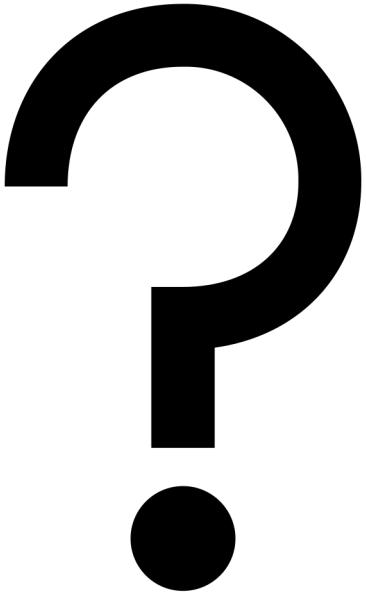
- Some people are patient saving for retirement and plan to leave bequests - rest live from paycheck to paycheck

  ⇒ follows mechanically from the two groups having (any) difference in time discount factors

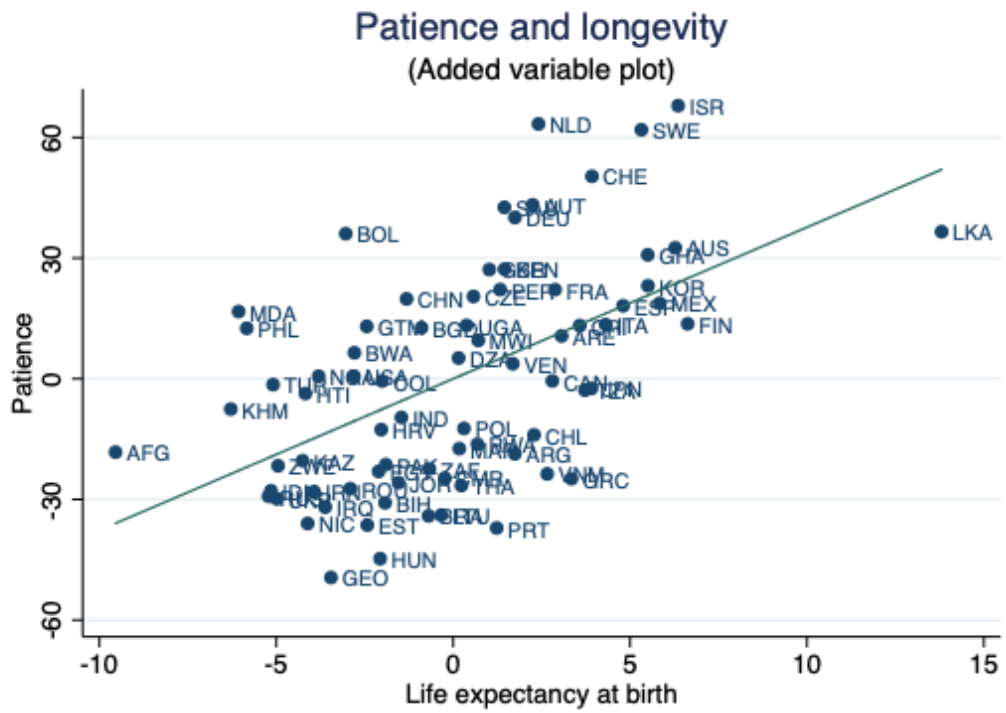
  ⇒ Savers accumulate entire wealth stock while spenders have zero wealth

- Does not try to explain *why* some people are more patient than others (exogenous)

Spenders and savers - what drives differences in patience?



Patience and life expectancy



(b) Conditional on Observables

- https://epub.ub.uni-muenchen.de/70091/1/201.pdf

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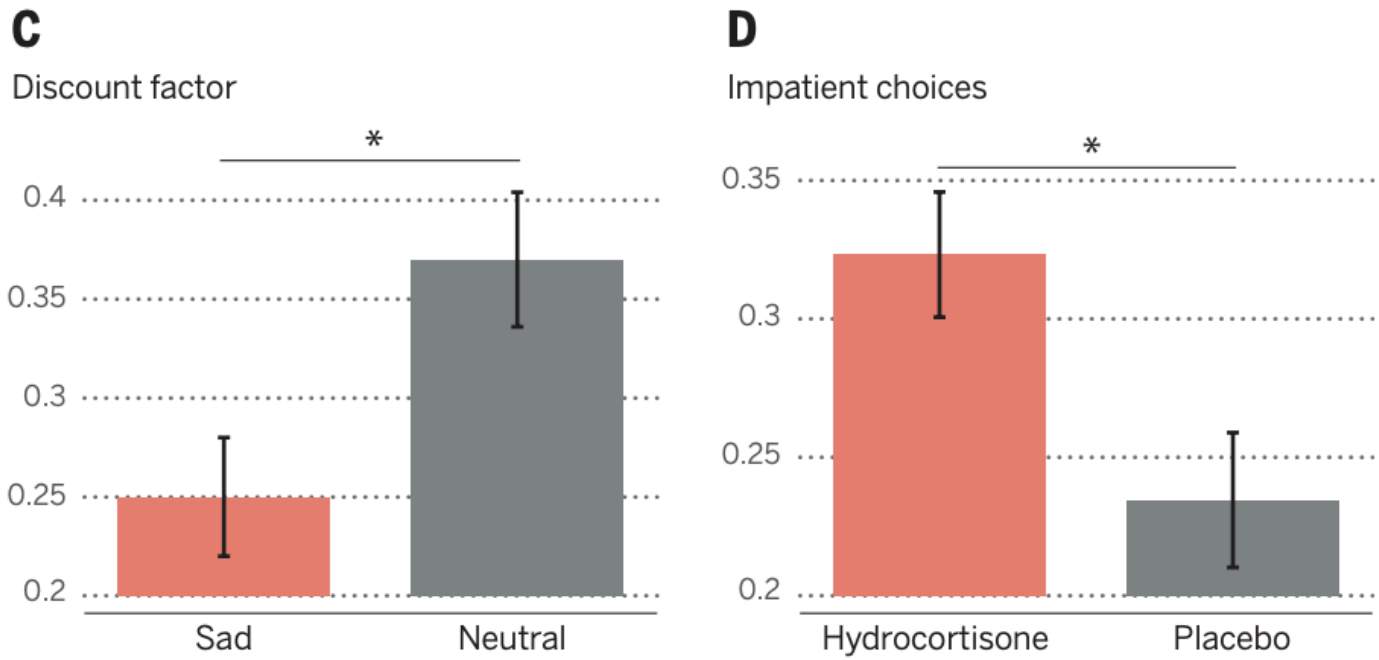
On the psychology of poverty



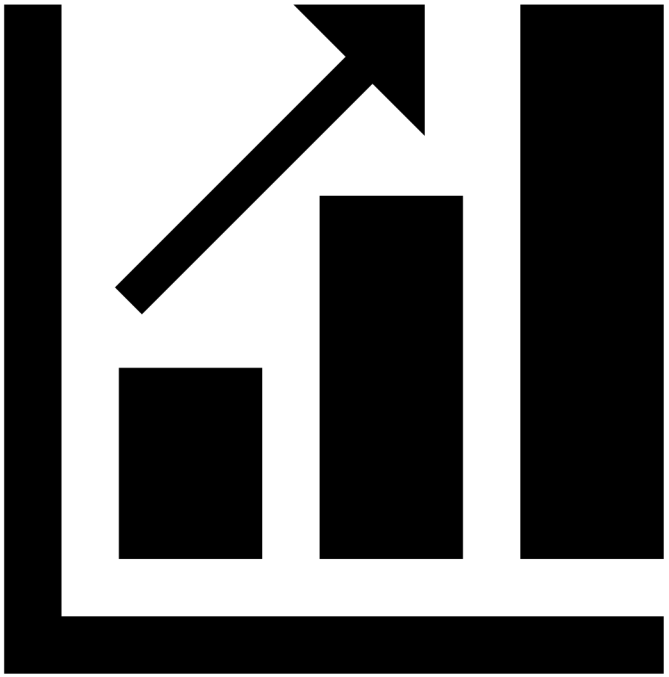
Haushofer and Fehr (2015)

Utility from wealth (Carroll, 2020)

Caroll asks "Why Do the Rich Save So Much?"

- Argues that the saving behavior of the richest households cannot be explained by models in which the only purpose of wealth accumulation is to finance future consumption, either their own or that of heirs
- Wealth accumulation must be an end in itself, or unspent wealth yields a flow of services (such as power or social status) which have the same practical effect on behavior as if wealth were intrinsically desirable

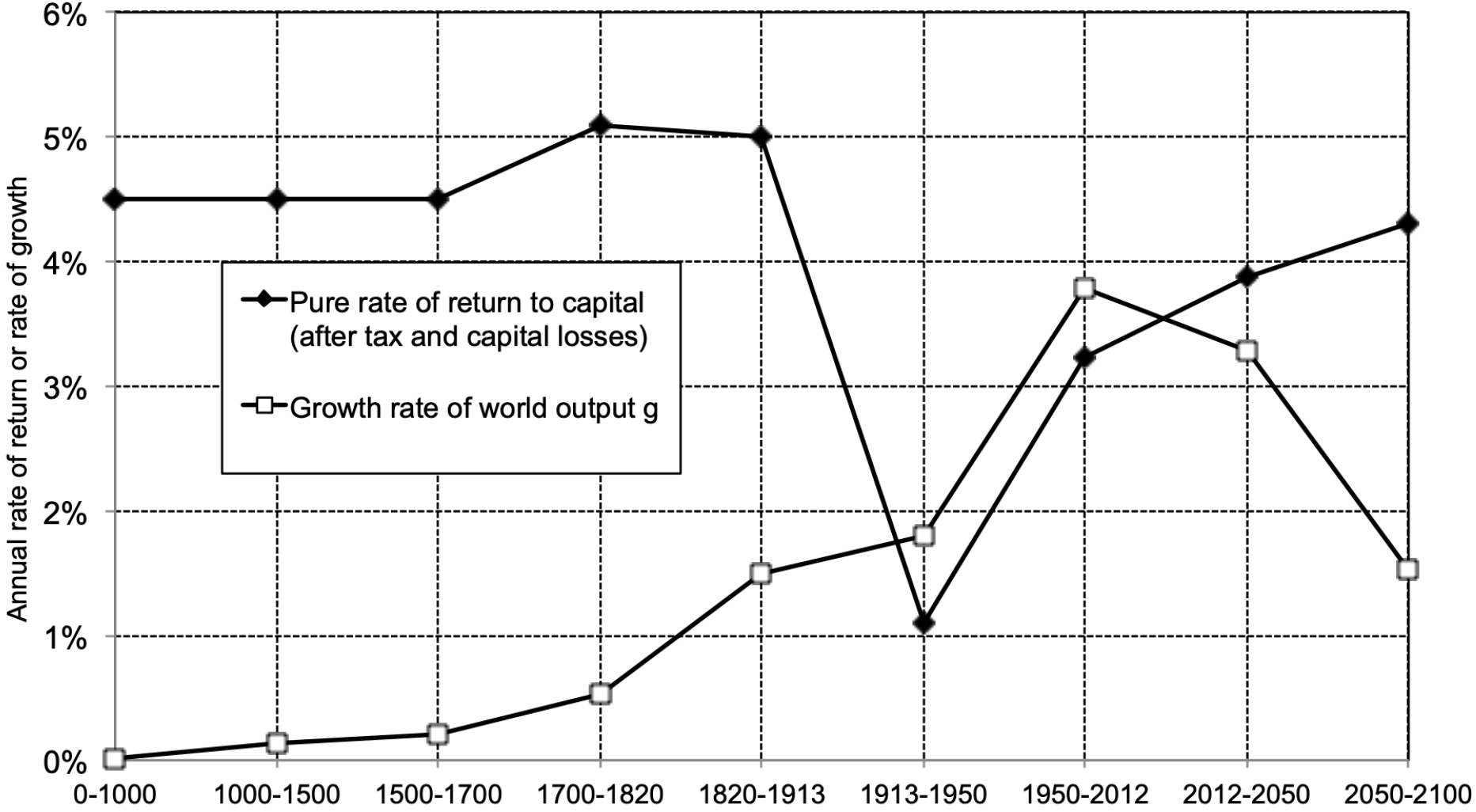
r>g



Why r > g matters for the wealth distribution

- r=rate of return on capital
- g=growth rate of entire economy
- Existing wealth concentration increases with r − g
- Example: if g = 1 and r = 4%, then a person whose income only derives from wealth K (hence has income rK) needs to save only g/r=25% for her wealth to grow as fast as the economy

Figure 10.10. After tax rate of return vs. growth rate at the world level, from Antiquity until 2100

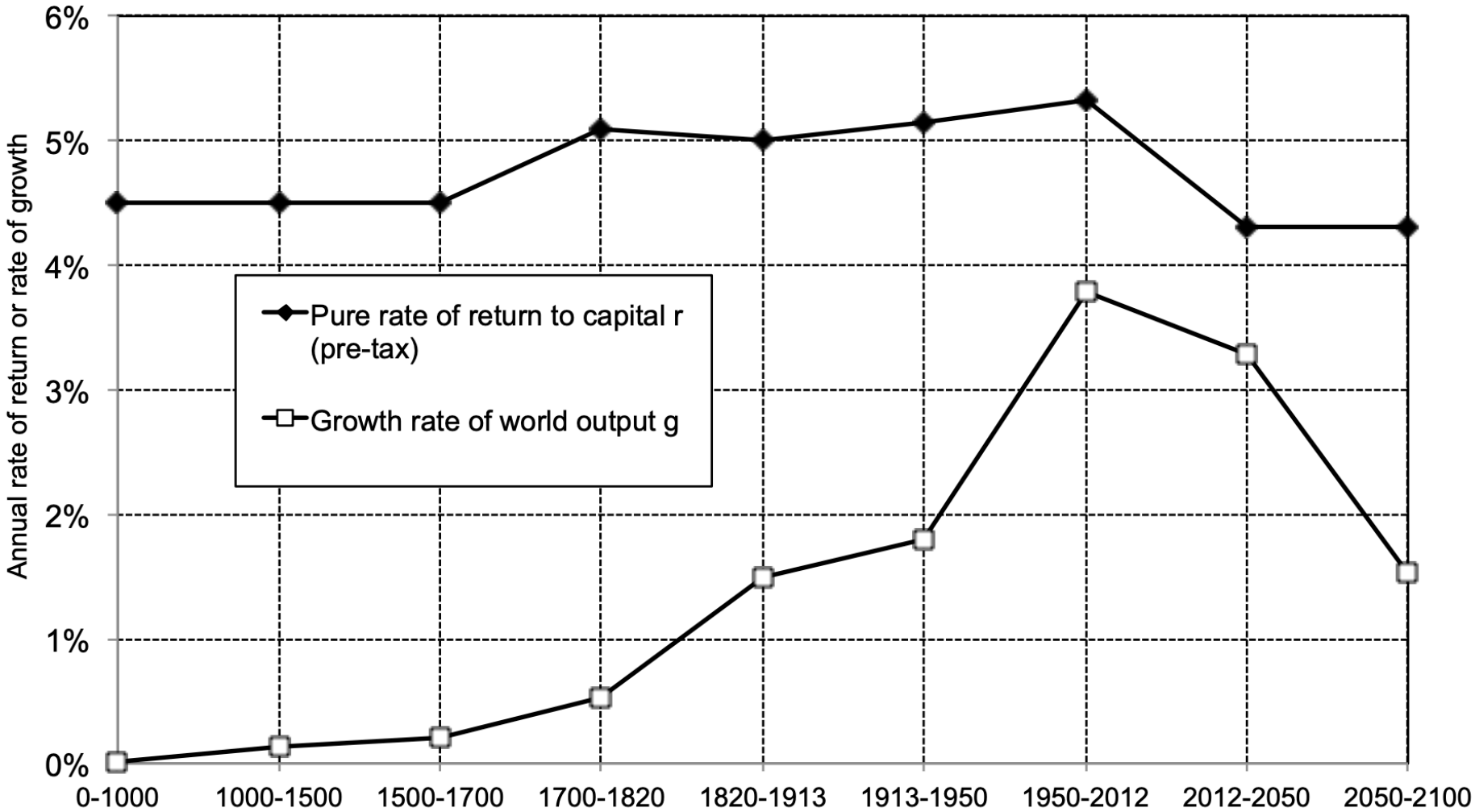


The rate of return to capital (after tax and capital losses) fell below the growth rate during the 20th century, and may again surpass it in the 21st century. Sources and series : see piketty.pse.ens.fr/capital21c

Key role of taxes on r!

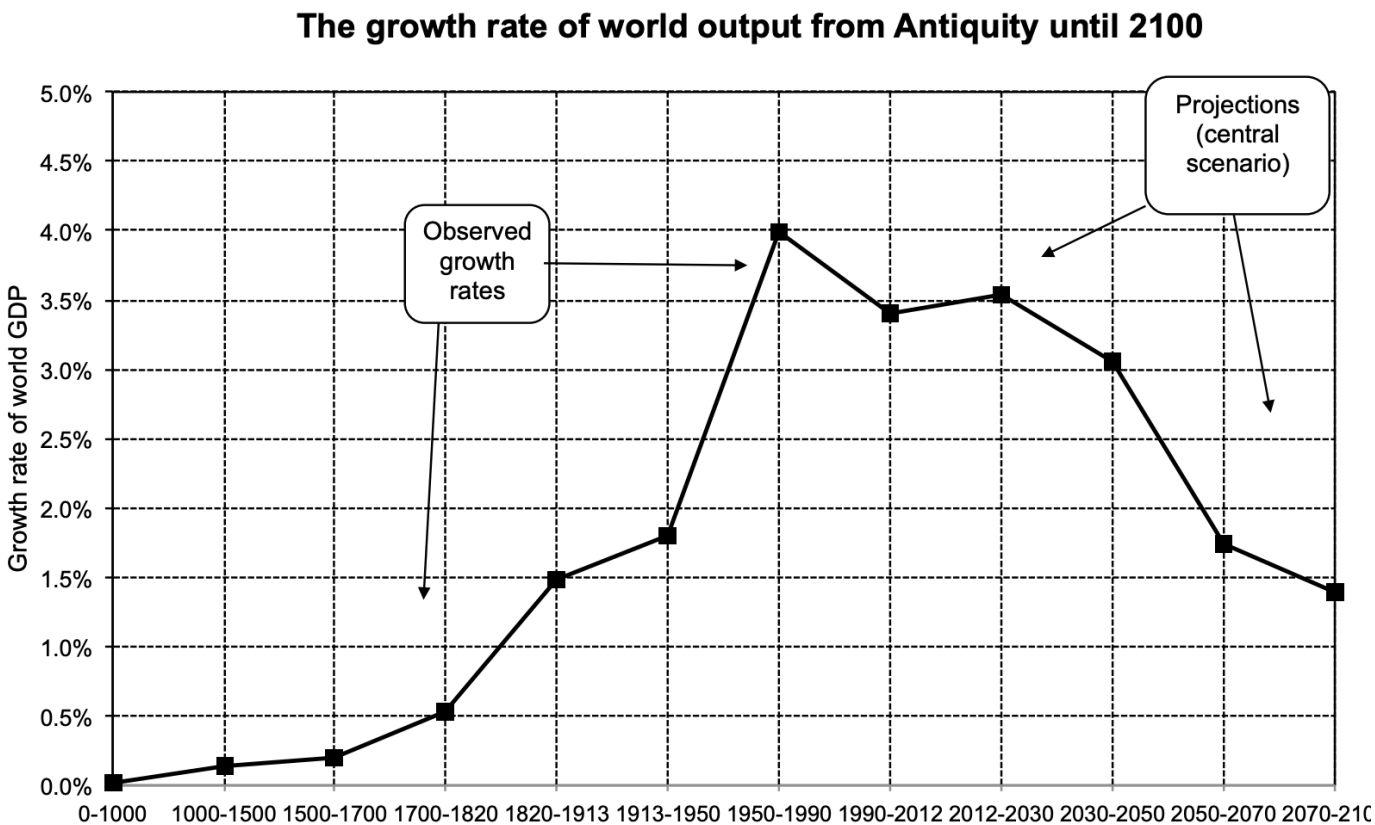
- Without taxes on r (corporate, dividends and wealth taxes) r>g through world history!
- Corporate taxes fully explain decline of r from 1913-1950

Figure 10.9. Rate of return vs. growth rate at the world level, from Antiquity until 2100



The rate of return to capital (pre-tax) has always been higher than the world growth rate, but the gap was reduced during the 20th century, and might widen again in the 21st century.
Sources and series: see piketty.pse.ens.fr/capital21c

Absent hike in tax on r, wealth inequality is set to grow!



The growth rate of world output surpassed 4% from 1950 to 1990. If the convergence process goes on it will drop below 2% by 2050. Sources: Piketty (2014), see piketty.pse.ens.fr/capital21c.

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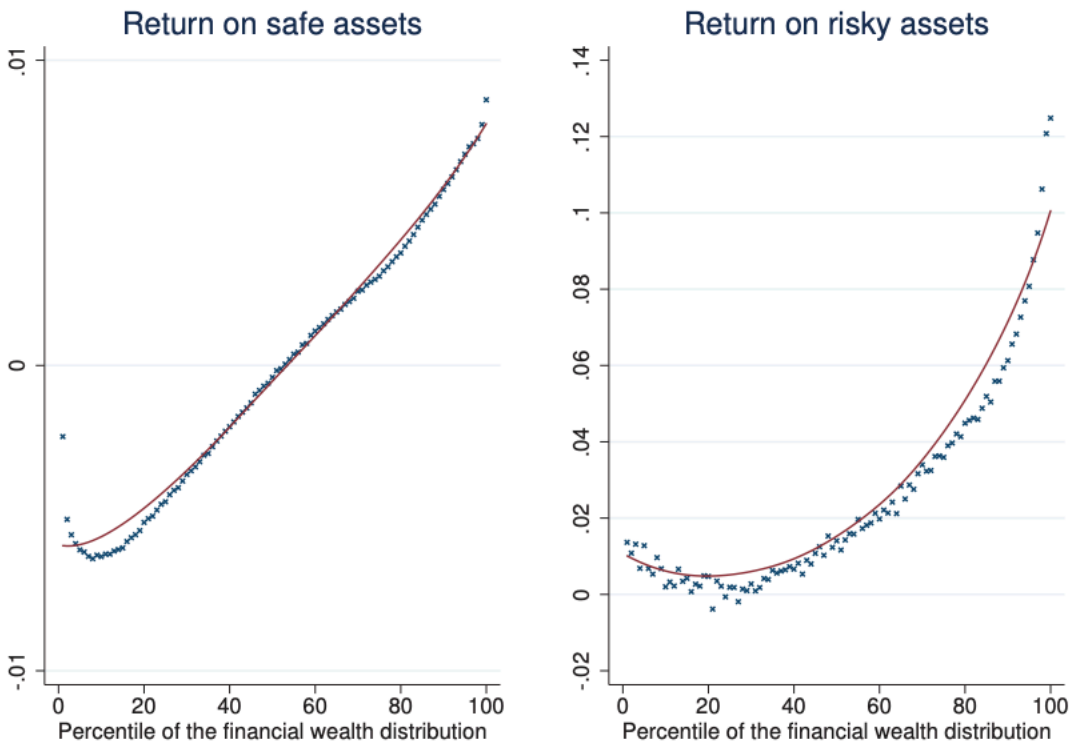
r>>g for the wealthiest

Panel A: Return to financial wealth



Panel B: Return to components of financial wealth

Fagereng, Andreas, et al. *Heterogeneity and persistence in returns to wealth*. No. w22822. National Bureau of Economic Research, 2016.

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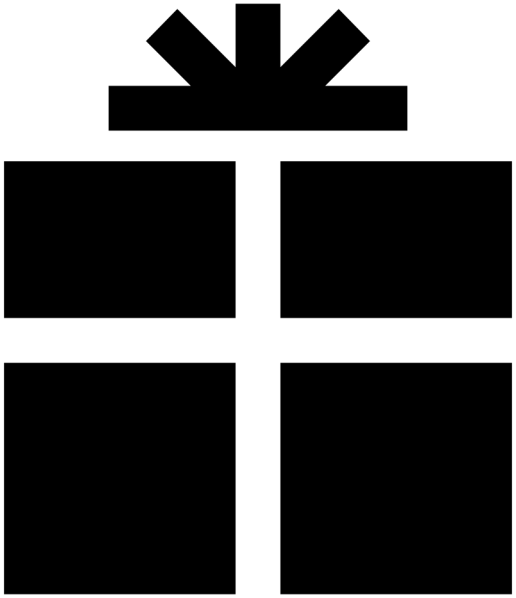
Inheritance



Kahoot: how do we measure the value of inheritance?

- You inherit a house worth 4 million
- 20 years later your house is now worth 20 million
- You own no other assets
- What percentage of your assets did you inherit?

How do we measure the value of inheritance?

- If we measure the value of your inheritance as 4 million … we are saying you created wealth corresponding to 16 million yourself … by not doing anything!

How do we measure the value of inheritance?

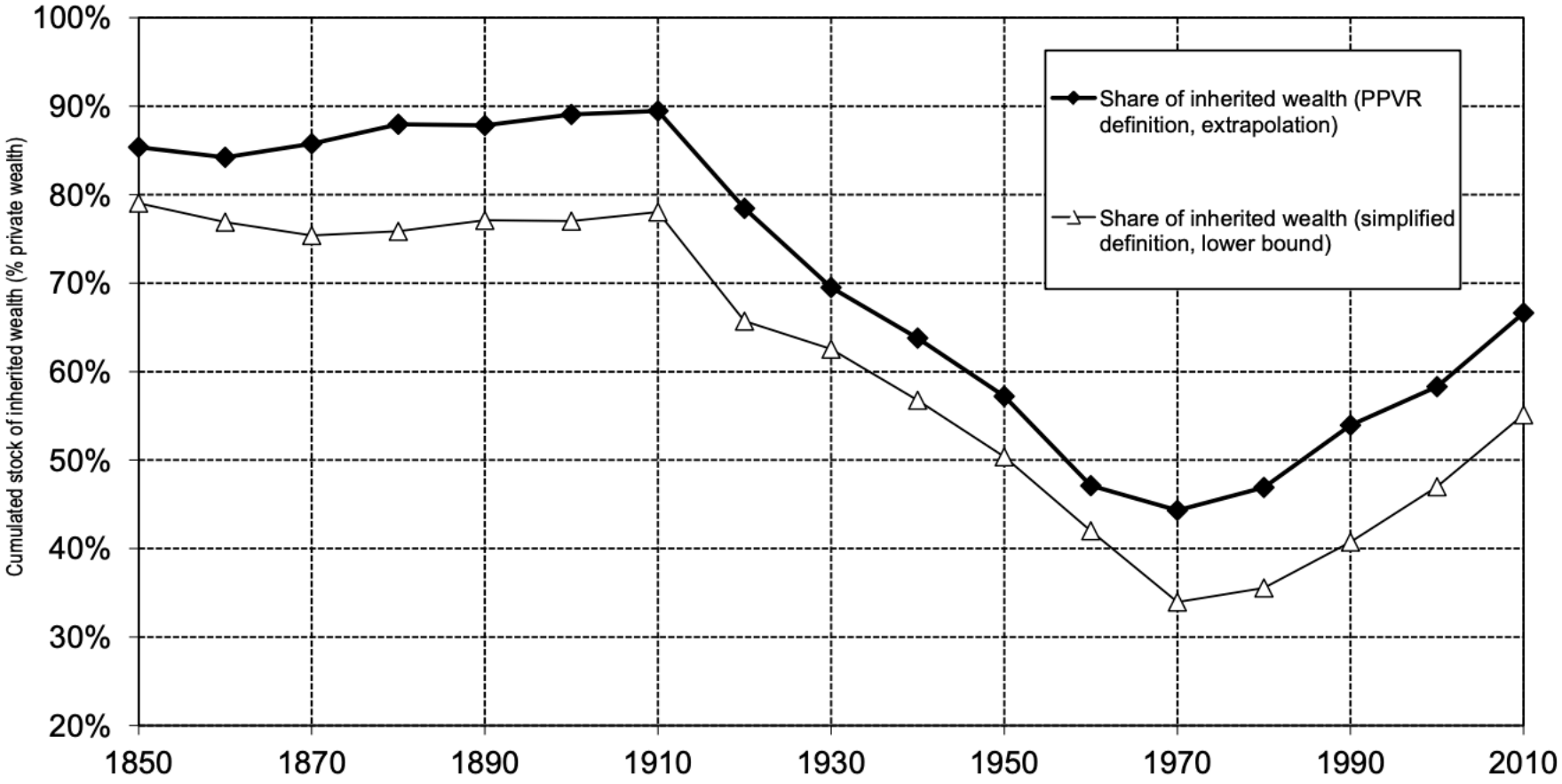
- What is the value of your inheritance if you sold your house immediately when you got it?

Key academic discussion: how to count the interest made from bequests as part of your inheritance

- Reasonable answer:

1) take the value of inheritance
2) inflate it with the nominal rate of return (≈8%) annually
3) deduct consumed inheritance

Figure 4.4. The cumulated stock of inherited wealth as a fraction of aggregate private wealth, France 1850-2010



Inherited wealth represents 80-90% of total wealth in France in the 19th century; this share fell to 40%-50% during the 20th century, and is back to about 60-70% in the early 21st century.

Source: Piketty and Zucman (2015)

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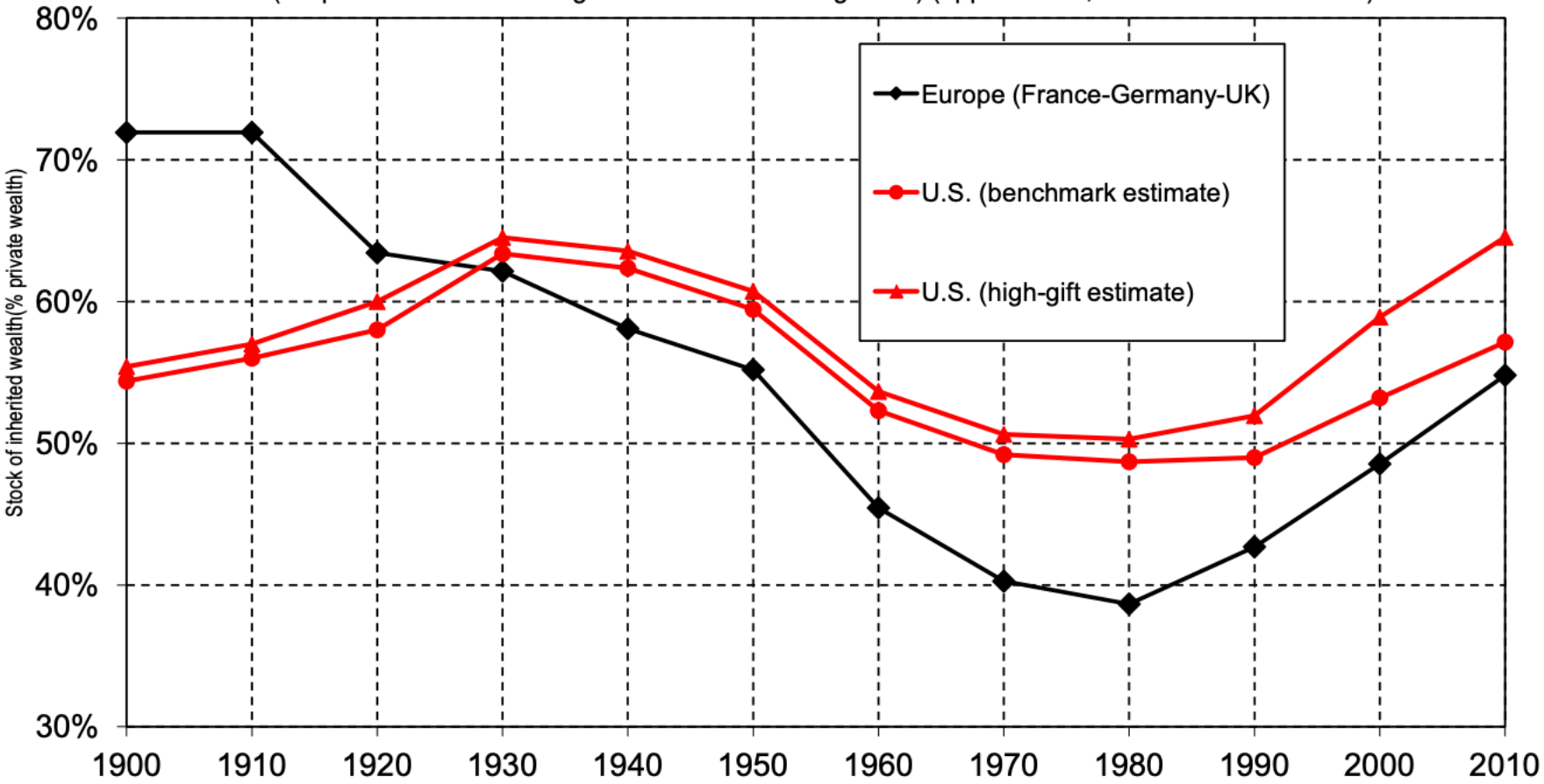
Figure 1. The share of inherited wealth. Europe and the U.S. 1900-2010

(simplified definitions using inheritance vs. saving flows) (approximate, lower-bound estimates)



The inheritance share in aggregate wealth accumulation was over 70% in Europe in 1900-1910. It fell abruptly following 1914-1945 shocks, down to 40% in 1970-1980 period. It is back to about 50-60% in 2000-2010 and rising. The U.S. pattern also appears to be U-shaped, but less marked, and with significant uncertainty regarding recent trends, due to data limitations.

Source: Alvaredo, Garbinti and Piketty (2015)

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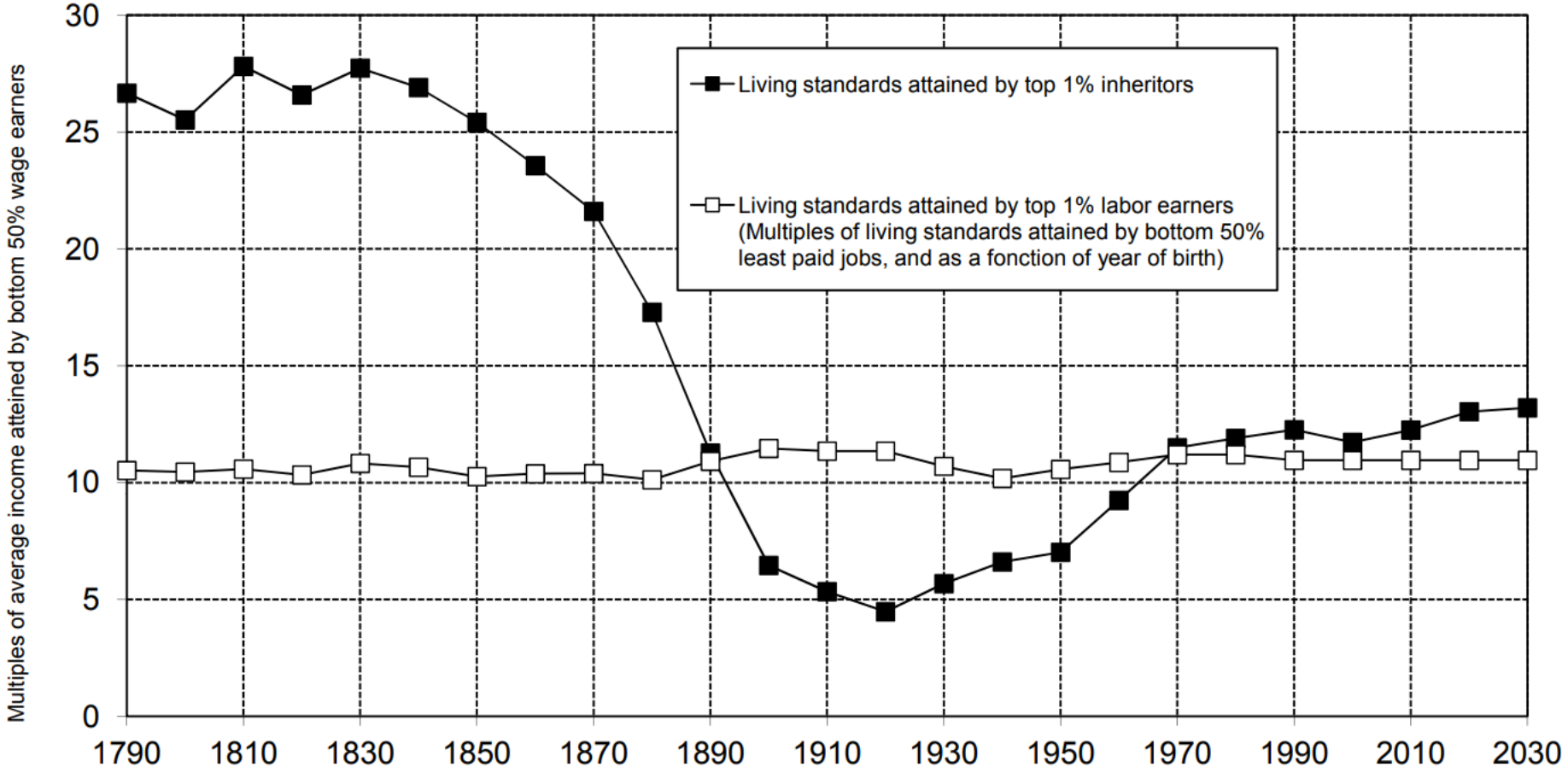
Figure 11.10. The dilemma of Rastignac for cohorts born in years 1790-2030



In the 19th century, the living standards that could be attained by the top 1% inheritors were a lot higher than those that could be attained by the top 1% labor earners. Sources and series: see piketty.pse.ens.fr/capital21c.

Source: Piketty (2014)

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Summary

- We have identified the drivers of wealth inequality: saving rates, income inequality, r>g and inheritance
- We have found that saving rates are a product of patience and utility of wealth - and that patience and utility are products of wealth!
- 60% of wealth is inherited!
- Steady-state wealth concentration might increase dramatically absent marked increases in capital taxation (and capital taxation is falling)

References

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