

Econ 133 – Global Inequality and Growth

Wealth inequality across time and space

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What we've learned so far:

- Income $Y =$ labor income $Y_L +$ capital income Y_K
- We've seen what can explain changes in labor income inequality
- Now we turn to the capital side of inequality: wealth W and capital income $Y_K = r \times W$

Roadmap

- Measurement of wealth inequality
- How the inequality of wealth has changed over time
- The interplay between wealth and income inequality
- Reference for this lecture: Saez and Zucman (2016)

1 How to measure wealth inequality?

Lack of annual wealth tax declarations for the entire population → need to use indirect methods

1.1 Estate tax multiplier method

- Method developed in late 19th century
- Start with wealth-at-death reported on estate (or inheritance) tax returns

- Compute mortality rate by age and gender
- Then weight wealth-at-death by inverse of mortality rate
- Widely used because of availability of estate tax data
- Limit: need to assume that conditional on age and gender, death is a random event

1.2 Capitalization of investment income

- Start from capital income reported in personal income tax returns
- Compute rate of return on each asset class
- Multiply capital income by inverse of rate of return
- Limit: does not work well if taxable rates of return vary with wealth

1.3 Survey data with top-end correction

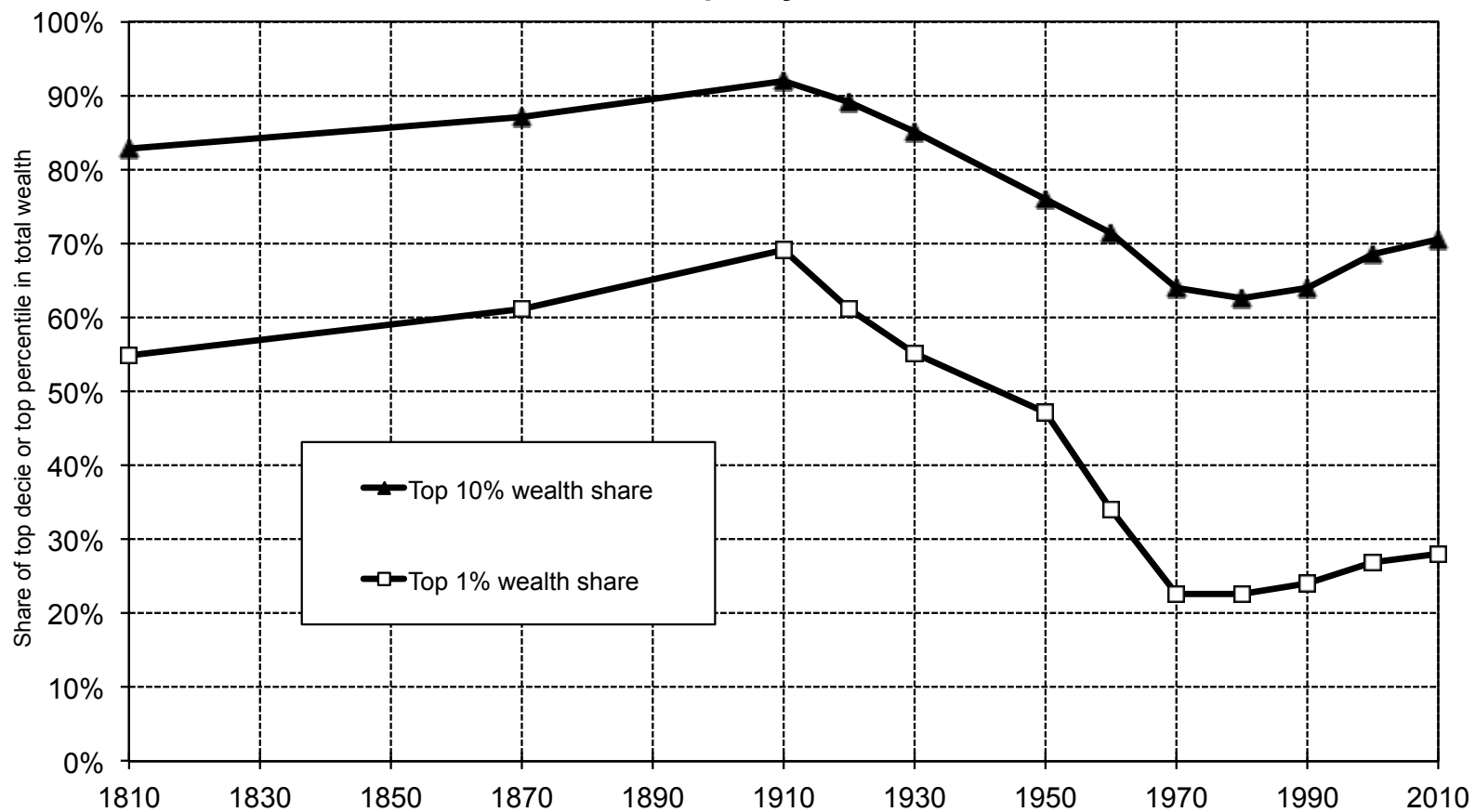
- Main problem of surveys: poor coverage of the top
- Information from the very top can be obtained from named-lists of rich individuals, e.g., Forbes
- These lists have limitations (diversified wealth; debts)
- But they can be useful to supplement surveys

2 Trends in wealth concentration

2.1 Europe

- Extreme inequ. in 19th century: top 10% \approx 90%; top 1% \approx 60%
- Then sharp decline following WW, Great Depression, progressive taxation \rightarrow wealth inequality is lower today than a century ago
- Uncertainty on recent evolution due to offshore wealth (see lecture 18)

Wealth inequality in Britain, 1810-2010



The top decile owns 80-90% of total wealth in 1810-1910, and 70% today.

Sources and series: see piketty.pse.ens.fr/capital21c.

Source: Piketty (2014)

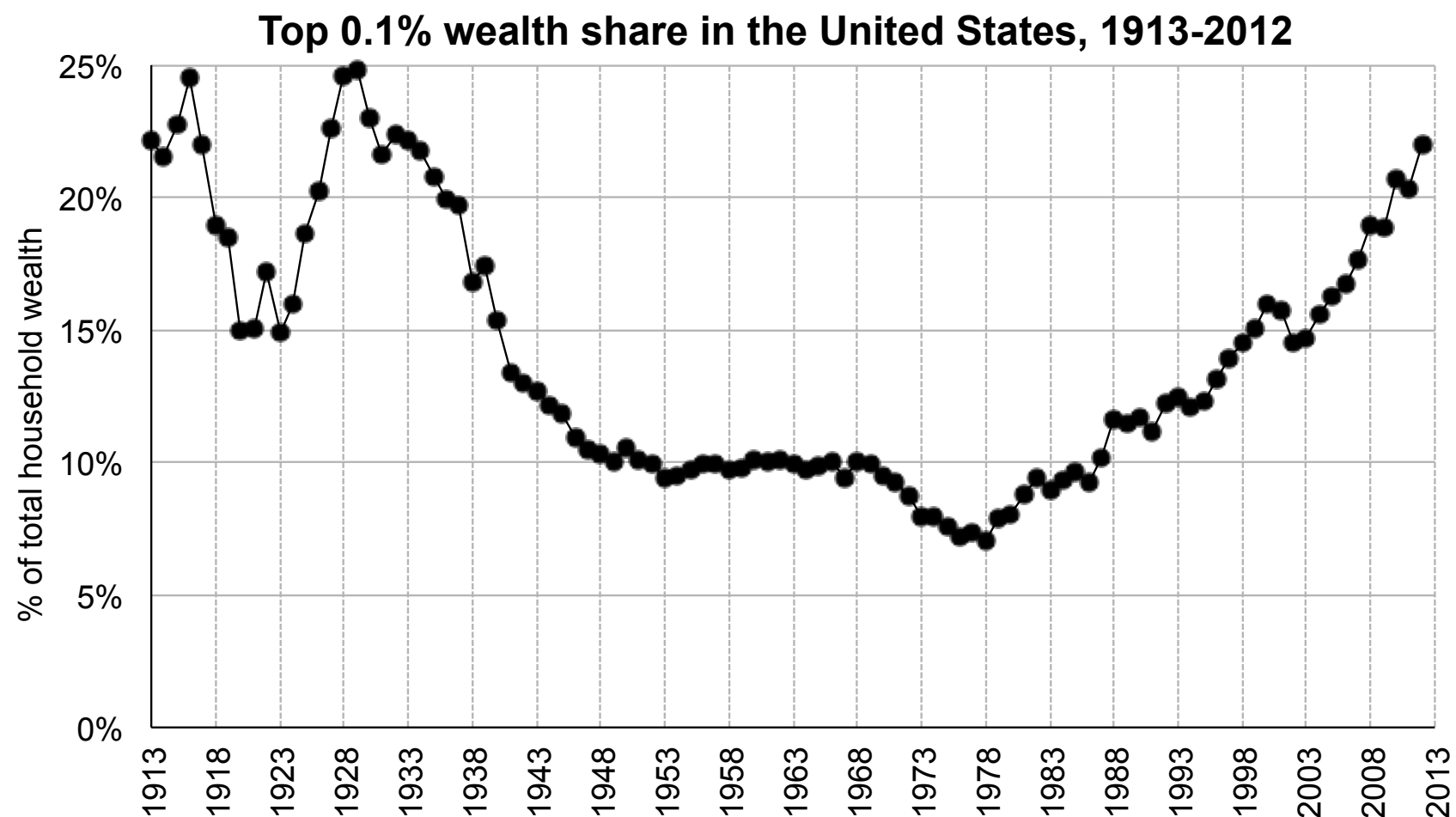
2.2 United States

- Before World War I, wealth was less concentrated in the US than in Europe
- Substantial fall in wealth inequality in the 1930s and 1940s
- Then gradual and dramatic increase since the late 1970s
- Great reversal: the US used to be much more equal than Europe, and now is much more unequal

Table 1: Thresholds and average wealth in top wealth groups, 2012

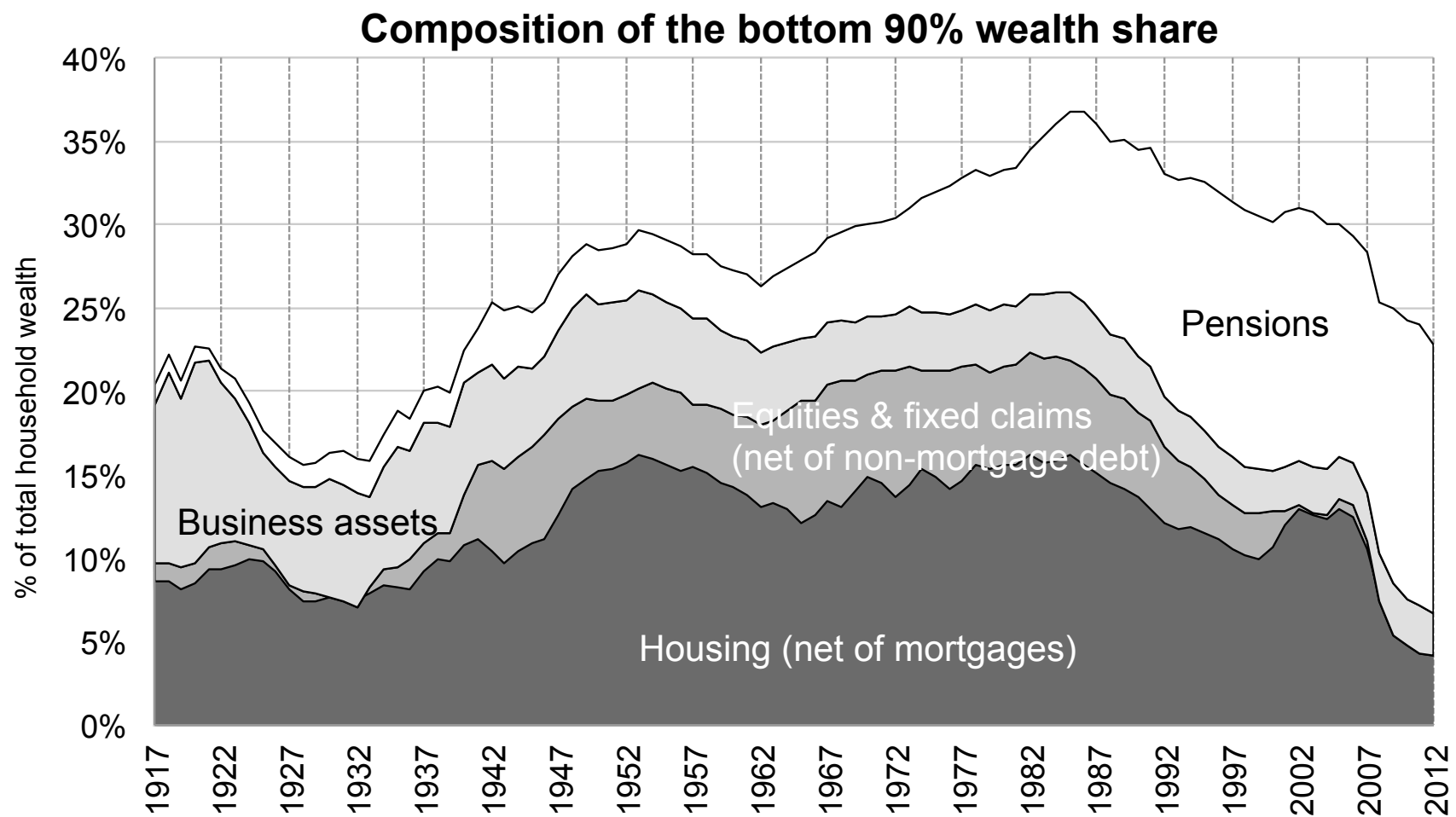
Wealth group	Number of families	Wealth threshold	Average wealth	Wealth share
A. Top Wealth Groups				
Full Population	160,700,000		\$343,000	100%
Top 10%	16,070,000	\$660,000	\$2,560,000	77.2%
Top 1%	1,607,000	\$3,960,000	\$13,840,000	41.8%
Top 0.1%	160,700	\$20,600,000	\$72,800,000	22.0%
Top .01%	16,070	\$111,000,000	\$371,000,000	11.2%
B. Intermediate Wealth Groups				
Bottom 90%	144,600,000		\$84,000	22.8%
Top 10-1%	14,463,000	\$660,000	\$1,310,000	35.4%
Top 1-0.1%	1,446,300	\$3,960,000	\$7,290,000	19.8%
Top 0.1-0.01%	144,600	\$20,600,000	\$39,700,000	10.8%
Top .01%	16,070	\$111,000,000	\$371,000,000	11.2%

Source: Saez and Zucman (2016)



This figure depicts the share of total household wealth held by the 0.1% richest families, as estimated by capitalizing income tax returns. In 2012, the top 0.1% includes about 160,000 families with net wealth above \$20.6 million. Source: Appendix Table B1.

Source: Saez and Zucman (2016)



Source: Saez and Zucman (2016)

3 The interplay between income and wealth inequality

3.1 Change in W inequality \rightarrow change in Y ineq.

- In Europe: fall of the top 1% income share over 20th century = due to decline of wealth inequality
- Changes in wealth inequality historically key driver of changes in overall income inequality

3.2 Change in Y inequality \rightarrow change in W ineq.

Key role of saving rate

- Individual i wealth accumulation can always be written:

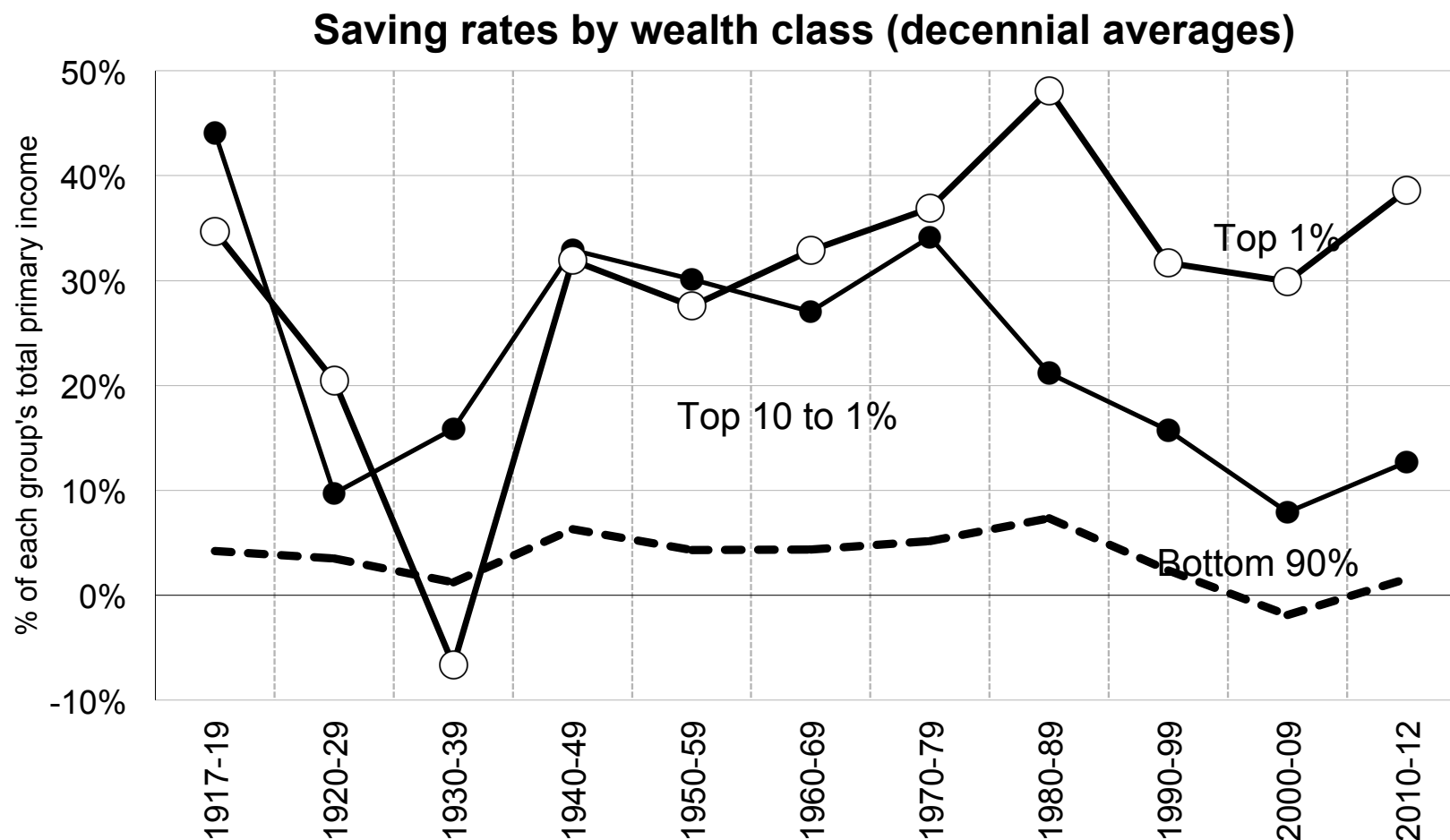
$$W_{t+1}^i = (1 + q_t^i) \cdot (W_t^i + s_t^i \cdot Y_t^i)$$

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

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

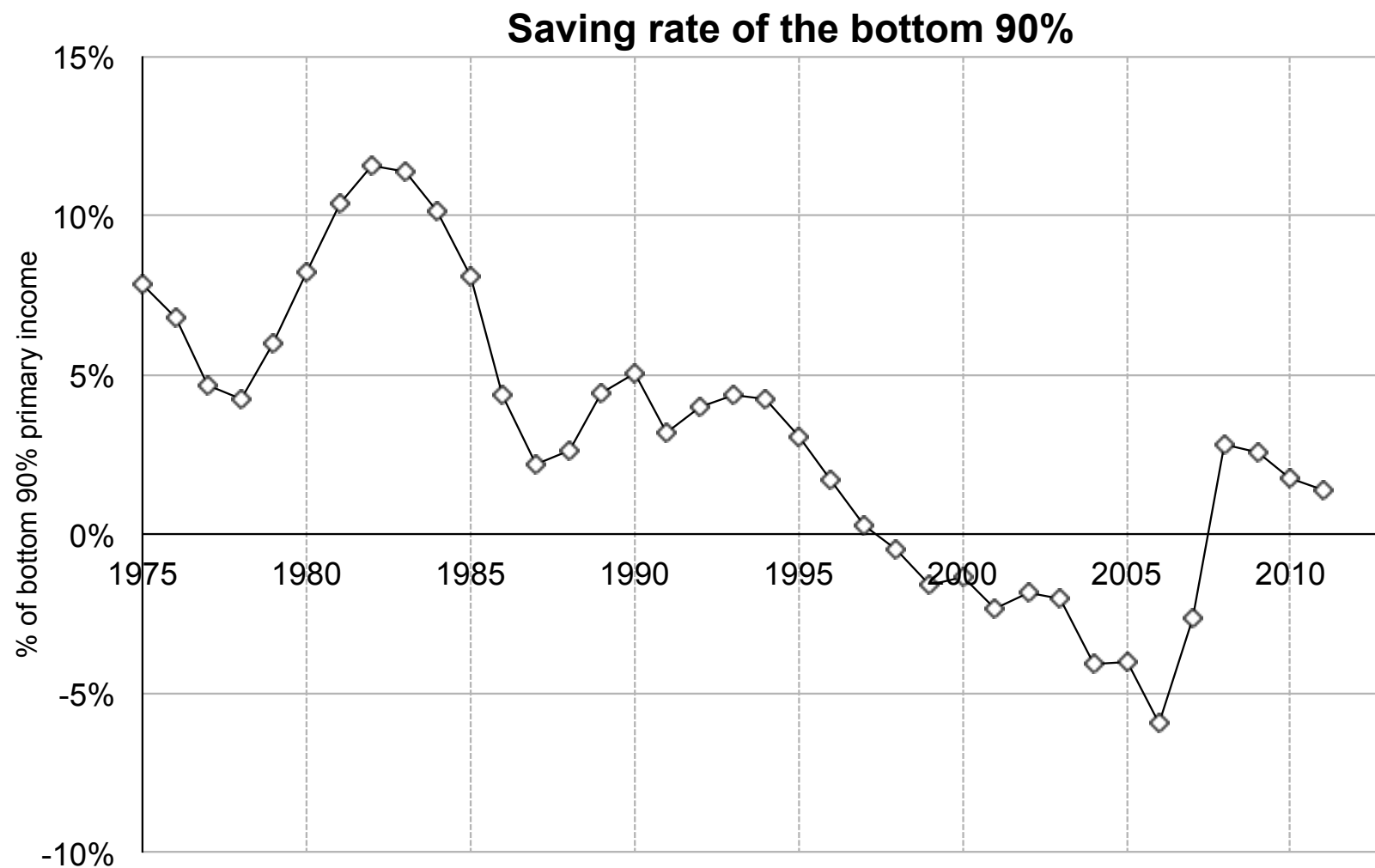
$$sh_W^p = sh_Y^p \cdot \frac{s^p}{s}$$

- where sh_W^p is share of wealth owned by fractile p (e.g., top 1%), sh_Y^p share of income earned by p , and s^p/s is relative savings rate
- This is a generalization of Harrod-Domar-Solow formula $\beta = s/g$
- Shows key role of relative saving rates



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)

4 Summary

- There are several ways to measure wealth inequality
- Wealth concentration has followed a very marked U-shaped evolution over the course of the 20th century in the US
- Wealth shapes income, and income shapes wealth through saving
- Key role of progressive taxation and saving incentives in shaping wealth inequality

References

Piketty, Thomas, *Capital in the 21st Century*, Cambridge: Harvard University Press, 2014, Chapter 1 (web)

Saez, Emmanuel, and Gabriel Zucman, "Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Returns", *Quarterly Journal of Economics*, 2016 (web)