Wealth Inequality in the United States since 1913

Emmanuel Saez (UC Berkeley)
Gabriel Zucman (LSE and UC Berkeley)

July 2014

Introduction

US Income inequality has increased sharply since the 1970s

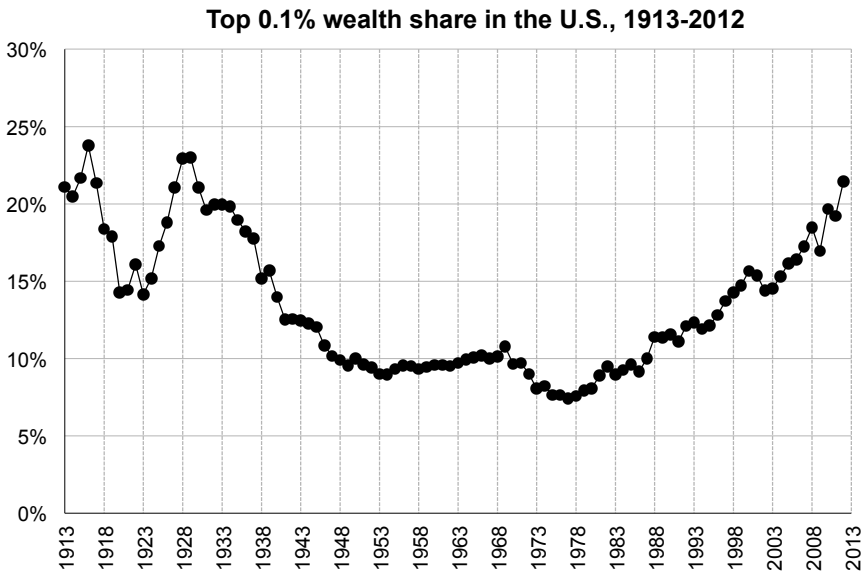
Mixed existing evidence on wealth inequality changes

$\Rightarrow$ Is inequality increase driven solely by labor income?

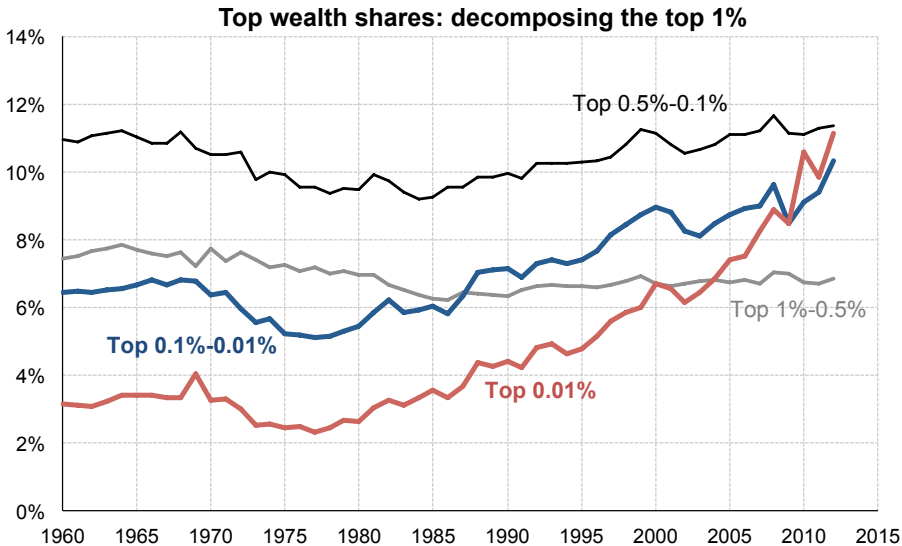
We capitalize income tax return data to estimate new annual series of US wealth concentration since 1913

Key result: Wealth inequality has surged but phenomenon is concentrated mostly within the top .1% (=wealth above $20m)

Back to the roaring 1920s



No increase in wealth shares below top 0.1% so far



Outline of the talk

1) The capitalization method

2) The distribution of wealth

3) Robustness and comparison with existing estimates

4) Decomposing wealth accumulation: income and saving rates

I- The capitalization method

To obtain wealth, we divide capital income by the rate of return

How the capitalization technique works:

Start from each capital income component reported on individual tax returns

Compute **aggregate** rate of return for each asset class (using Flow of Funds and aggregate tax data)

Multiply each individual capital income component by 1/rate of return of corresponding asset class

Simple idea, but lot of care needed in reconciling tax with Flow of Funds data

Key assumption: uniform return within asset class

$\Rightarrow$ Need detailed income components to obtain reliable results

Aggregate income and wealth

Aggregate wealth

W = Total assets minus liabilities of households at market value

Excludes durables, unfunded DB pensions, non-profits

Source: Flow of Funds since 1945, Goldsmith, Wolff (1989), Kopczuk and Saez (2004) before

Aggregate income

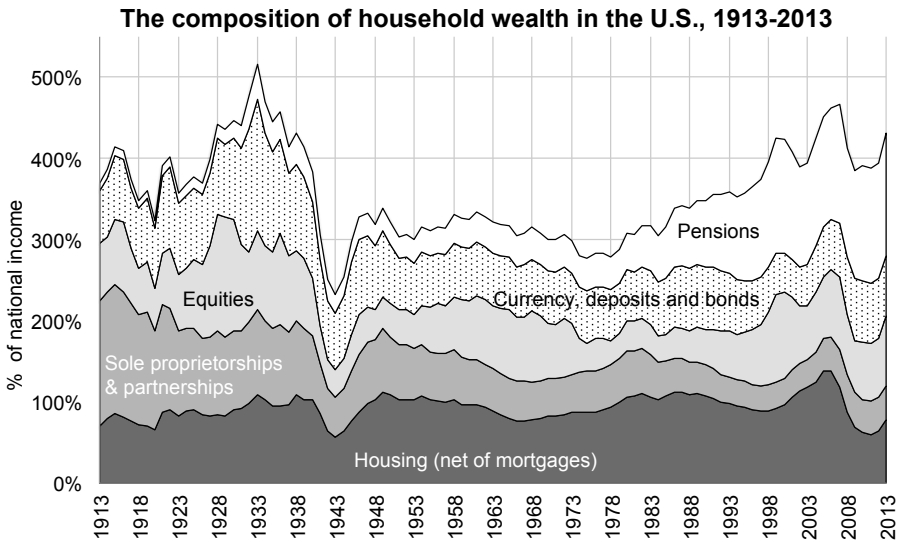
NIPA since 1929, Kuznets (1941) and King (1930) before 1929

Family unit

Top 1% = Top 1% of all family units [as in Piketty and Saez]

defs

A U-shaped wealth-income ratio



Distributional data: income tax returns

Consistent, annual, high quality data since 1913:

Composition tabulations by size of income 1913-

IRS micro-files with oversampling of the top 1962-

Various additional IRS published stats (estates, IRAs, trusts, foundations)

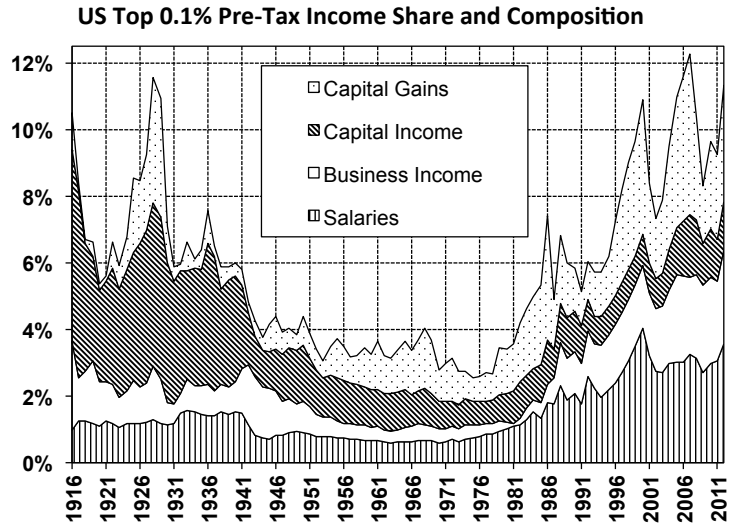
Detailed income categories:

Dividends, interest (+ tax exempt since 1987), rents, unincorporated business profits (S corporations, partnerships, sole prop.), royalties, realized capital gains, etc.

A lot of income "flows to" individual income tax returns

Mutual funds, S corporations, partnerships, holding companies...

Pre-1962 capitalization based on top income composition



Source: Piketty and Saez, 2003 updated to 2012

. Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers

How we deal with non-taxable income

Pensions

Published IRS data on market-value of IRAs ($\approx$ 30% of pension wealth)

Imputations for other forms of pension wealth (based on wages & pension distributions)

Owner-occupied housing

Property tax paid

Mortgage interest paid

$\Downarrow$

Only matters for top 10% but irrelevant for top 1% and above, because pensions and housing very small there

How we deal with avoidance and evasion

Tax avoidance:

Systematic reconciliation exercice with national accounts to identify potential gaps in tax data ▸ kinc

E.g., trust income $\rightarrow$ imputations on the basis of distributions (Retained trust inc. $\approx 2\%$ of household capital income) ▸ trusts

Tax evasion:

Third-party reporting means all dividends and interest earned through domestic banks well declared

Offshore wealth: If anything increases the trend in rising wealth top wealth shares by about 2-3 points [in progress]

Is the return constant within asset class?

Two potential issues:

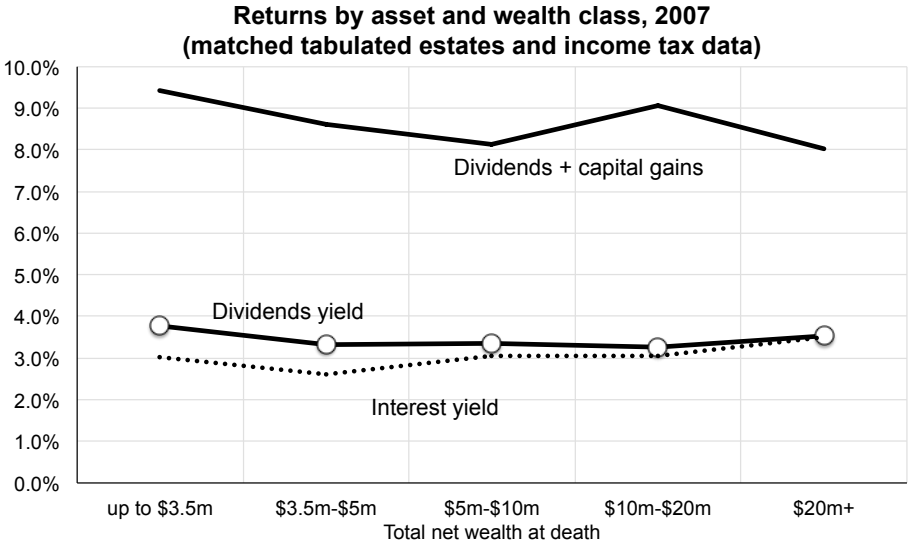
Maybe the very rich have higher equity/bond returns (e.g., better at spotting good investment opportunities) $\rightarrow$ level bias

Maybe this differential has increased since the 1970s (e.g., due to financial globalization/innovation) $\rightarrow$ trend bias

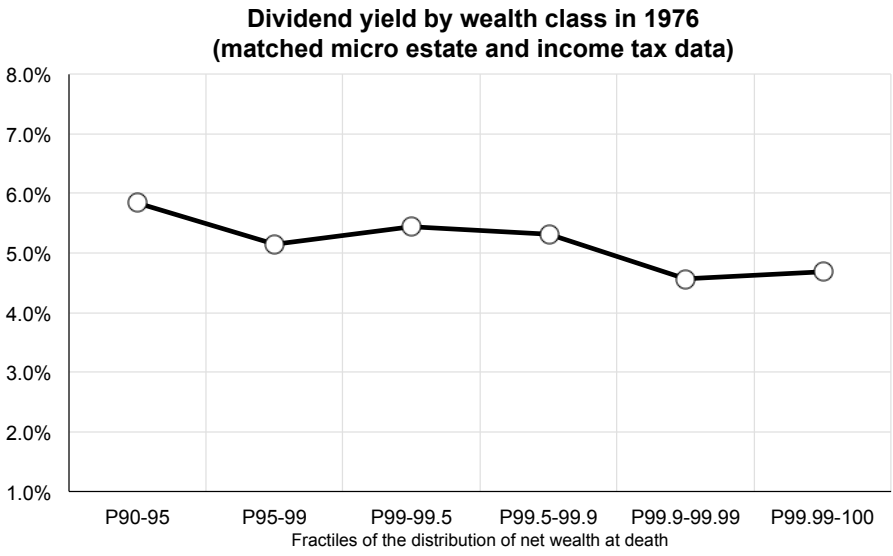
$\Downarrow$

Two checks show that return within asset class is flat and has remained flat

Check 1: No evidence that the wealthy have higher returns within asset class



The very rich did collect a lot of dividends in the 1970s



Check 2: The capitalization method works for SCF and foundations

Capitalization method can be checked with joint income and wealth micro-data:

1) SCF Data: provides individual micro-data for both wealth and (tax return) income component by component since 1989

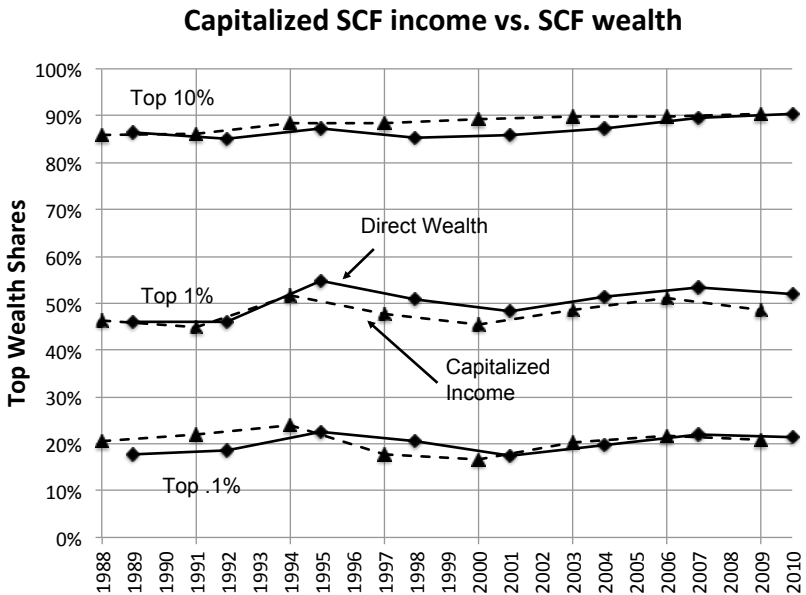
2) Foundation Data: publicly available IRS micro-data with information on both market value wealth and income

We apply same rates of returns & capitalization technique as for individual tax returns

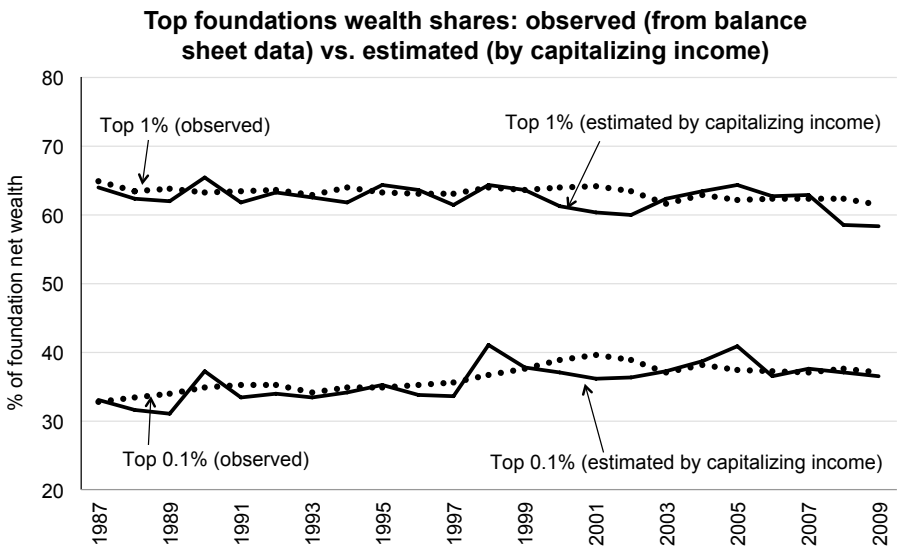
$\Downarrow$

By capitalizing income we are able to reproduce the correct wealth distribution

Capitalization method works for the SCF



Capitalization works for foundations



II- The US Wealth Distribution, 1913-2012

Wealth inequality is making a comeback

Main long-run trends in the distribution of wealth:

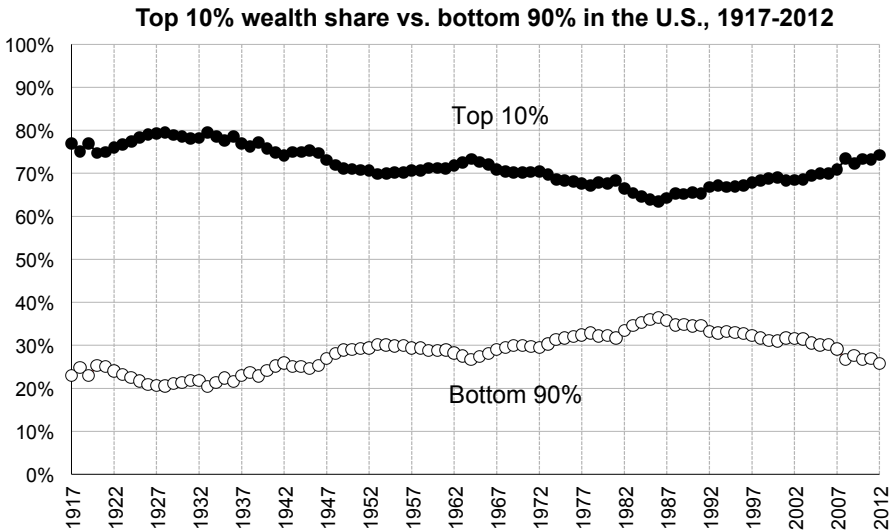
Long run U-shaped evolution for the very rich
(top 0.1%: >$20 million today)

Long run L-shaped evolution for the rich
(top 1% to 0.1%: between $4 million and 20 million today)

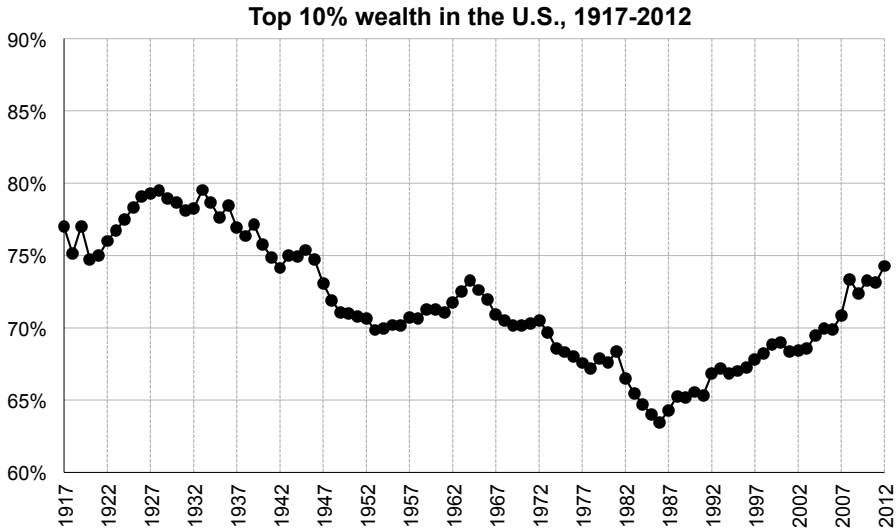
Long-run ∩-shaped for the middle-class
(top 50% to 90%: less than $500K today)

(Memo: Bottom 50% always owns $\approx$ 0 net wealth)

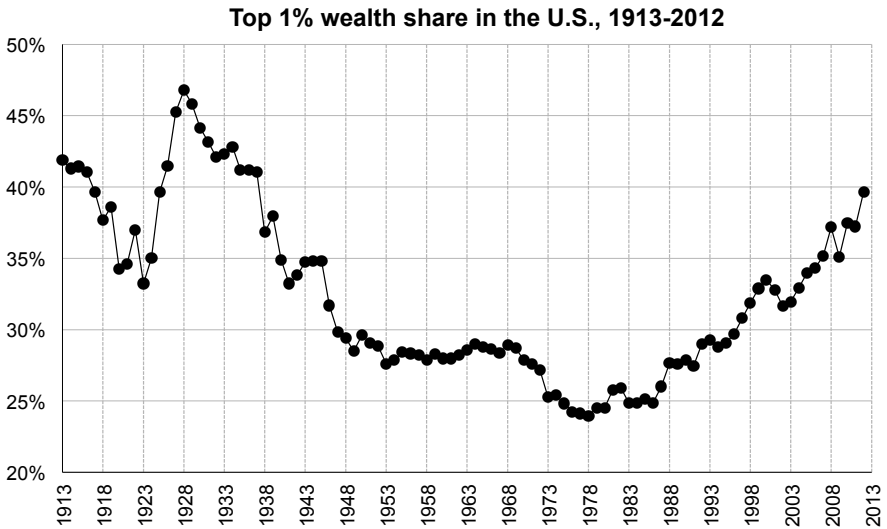
Wealth has always been very concentrated



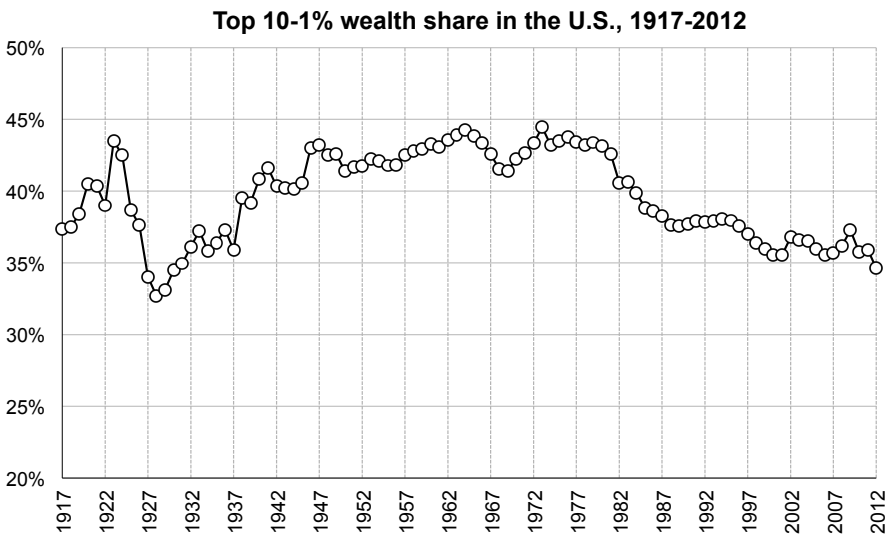
The top 10% is climbing back



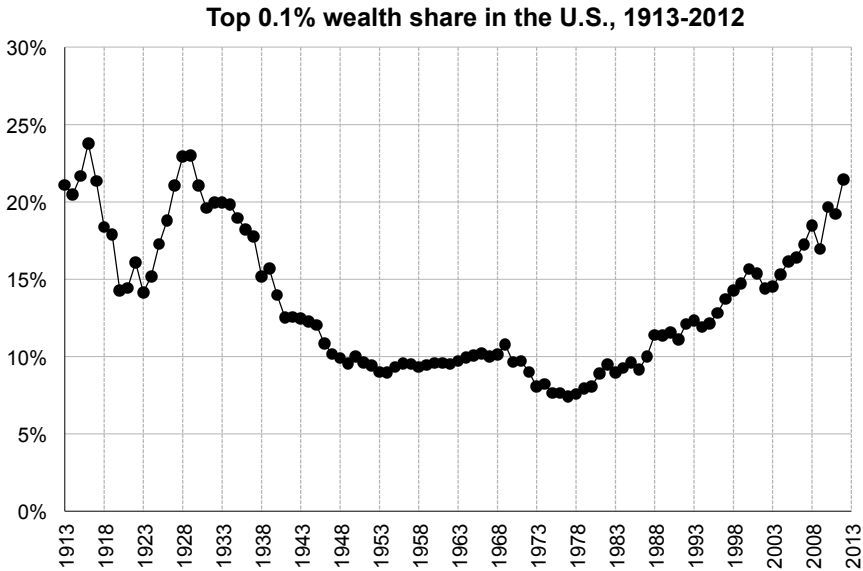
Top 1% has gained more than top 10%



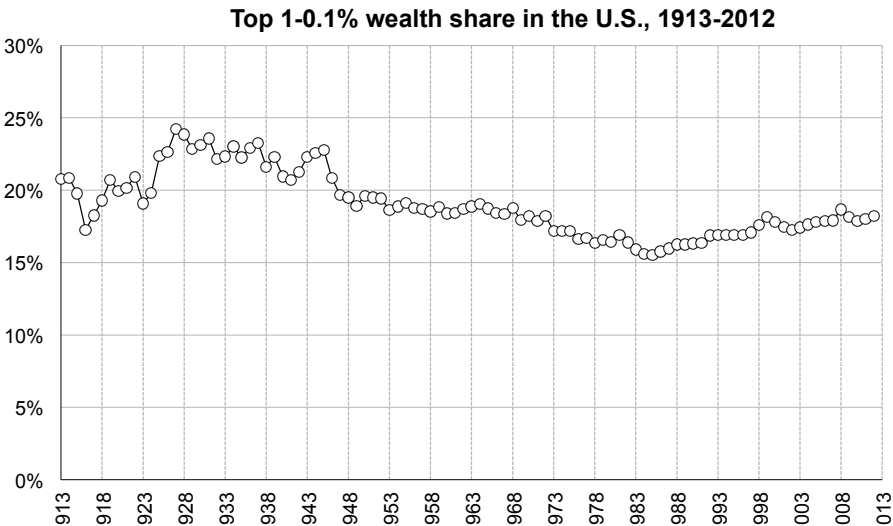
The middle rich are losing ground



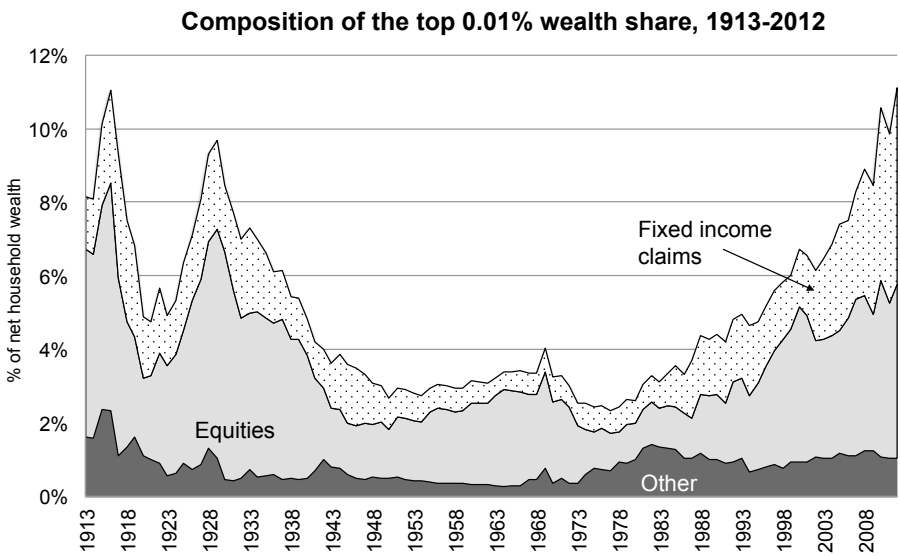
Top 1% surge is due to the top 0.1%



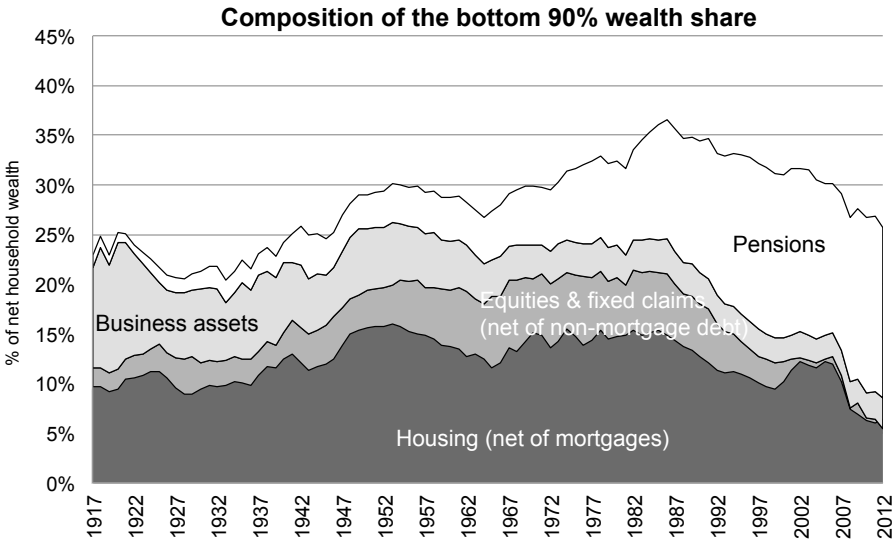
Almost no recovery for the merely rich



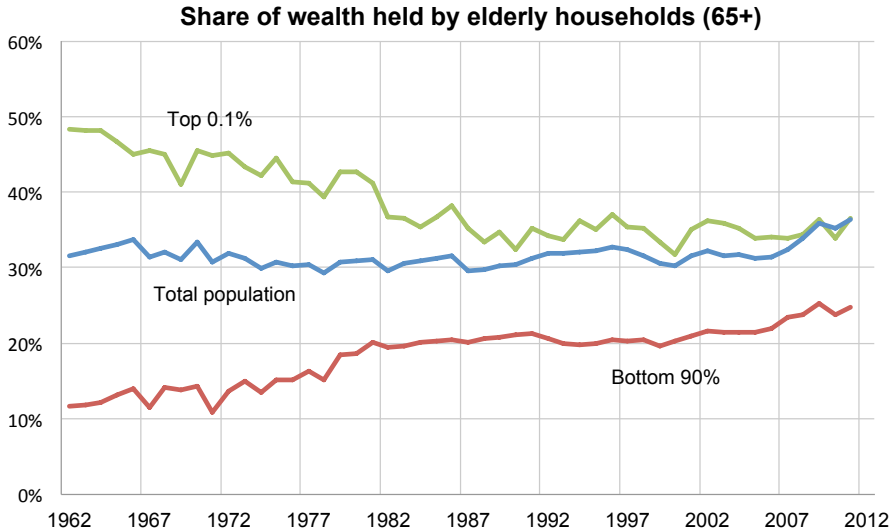
Top 0.01% share: $\times$ 4 in last 35 years



The rise and fall of middle-class wealth



Wealth is getting older, but at the very top remains younger than in the '60s-'70s



III- Robustness and comparison with existing estimates

Findings are robust to different methodological choices

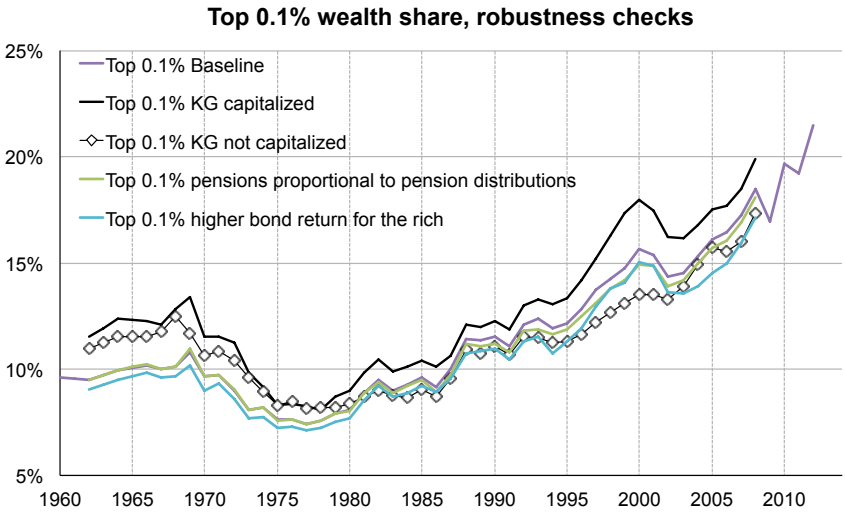
Robustness checks:

- Different treatment of capital gains
  - Capitalizing dividends only (Bill Gates world)
  - Capitalizing dividends plus capital gains (Warren Buffet world)
  - Capitalizing dividends plus capital gains for shares but not ranking (the best of both worlds)
- Allowing for bond yield rising with wealth
- Different imputations for pension wealth

$\Downarrow$

All show wealth inequalities rising fast at the very top, but not below the top 0.1%

Results robust to alternative treatment of pensions, capital gains, bond returns



Link with previous studies using alternative data

Forbes 400 rich list: large increase in wealth concentration consistent with our estimates

Surveys: SCF shows increase in top 10% but much less in top 1% or top .1%

SCF fails to capture surge in capital income concentration since 1989 $\Rightarrow$ SCF under-estimates top wealth shares surges

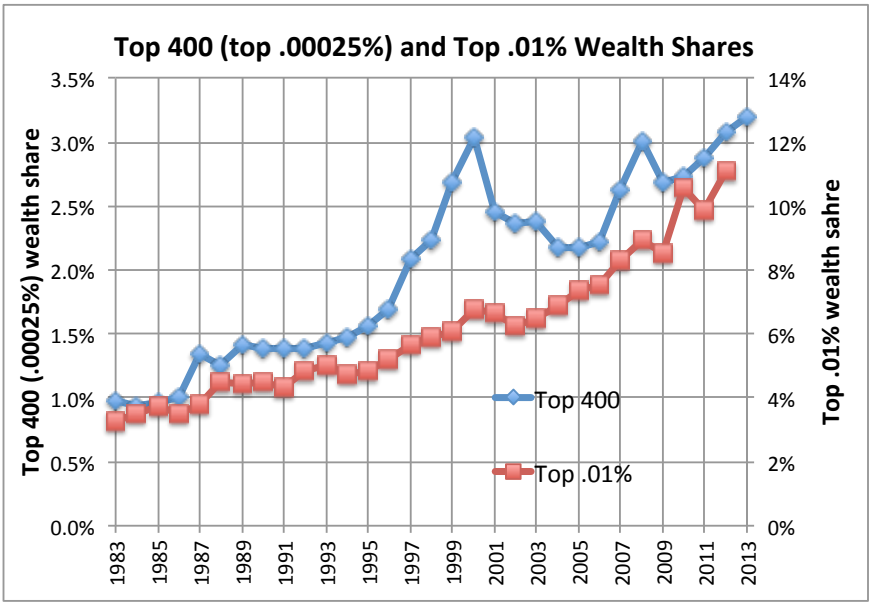
Estate tax multiplier: No increase in top 1% wealth share since 1980s (Kopczuk-Saez 2004)

Estate tax multiplier method fails to take into account widening mortality differential by wealth class

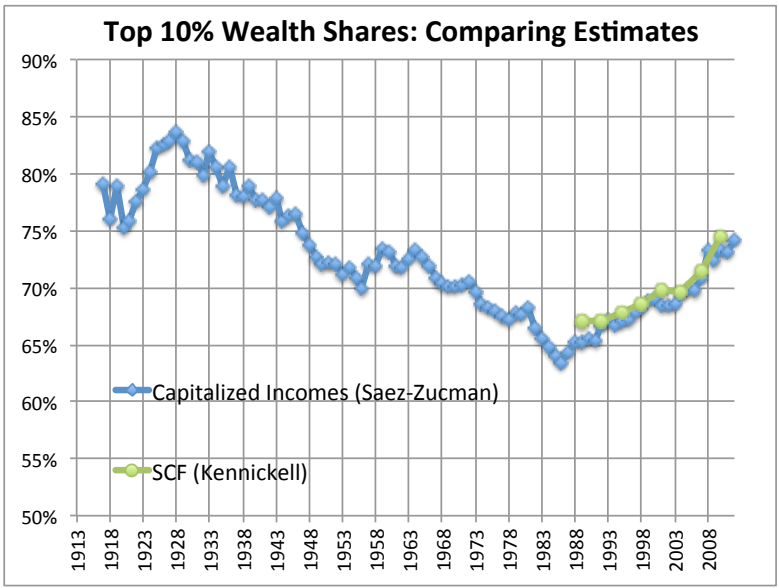
$\Downarrow$

Our capitalization analysis can help re-design SCF weights and estate multiplier weights

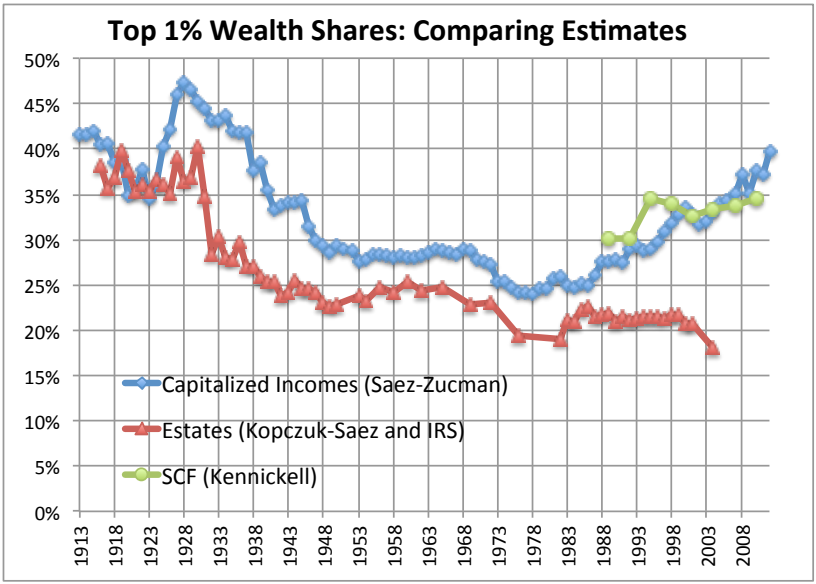
Our estimate for top 0.01% is consistent with Forbes rankings



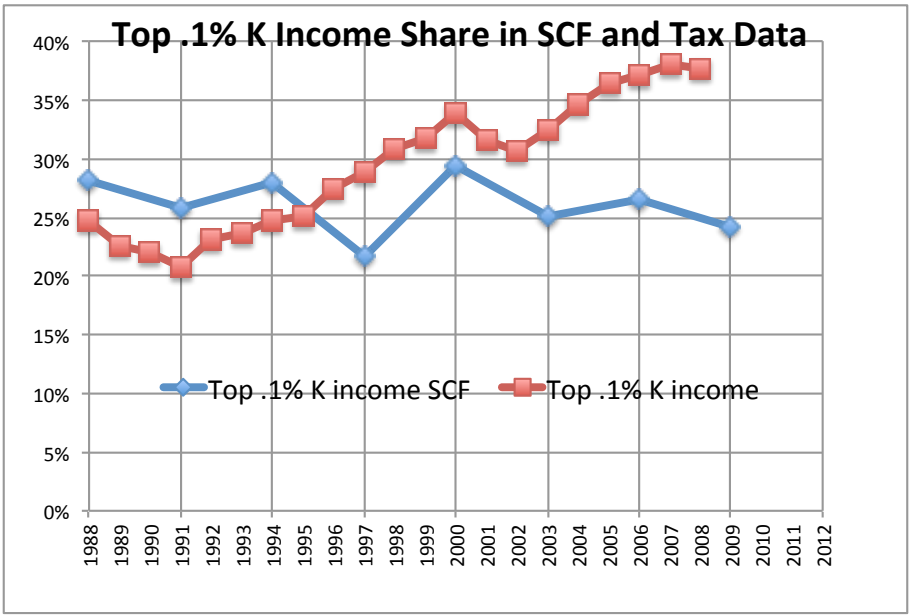
Our top 10% wealth share is consistent with SCF



Estate tax returns fail to capture rising top wealth shares



SCF fails to capture rising top capital income share



IV- Decomposing Wealth Accumulation: Saving Rates atnd Income Shares of Top Wealth Holders

Wealth distribution Dynamics

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 price effect on assets in year t

We define **synthetic** savings rate for fractile p (e.g., top 1%) so that

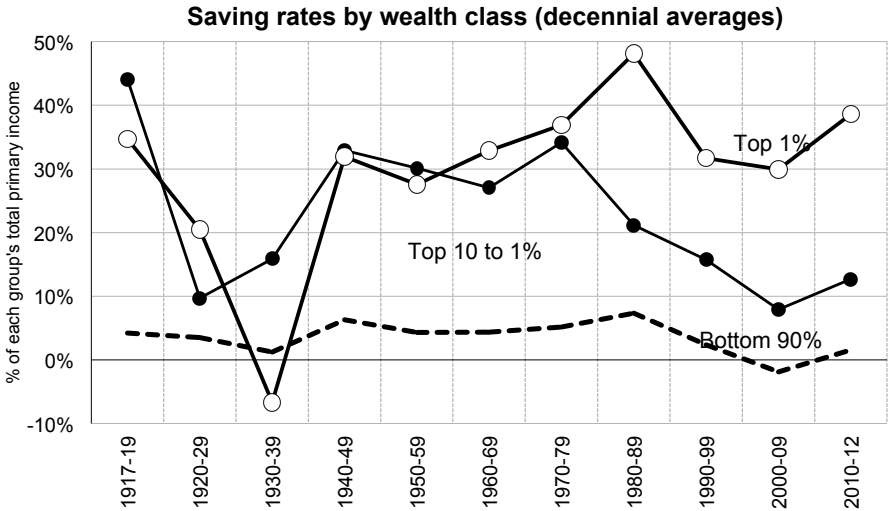
$$W_{t+1}^p = (1 + q_t^p) \cdot (W_t^p + s_t^p \cdot Y_t^p)$$

where $1 + q_t^p$ is price effect for fractile p based on W_t^p composition

$$\Rightarrow \textbf{long-run steady state: } sh_W^p = sh_Y^p \cdot \frac{s^p}{s}$$

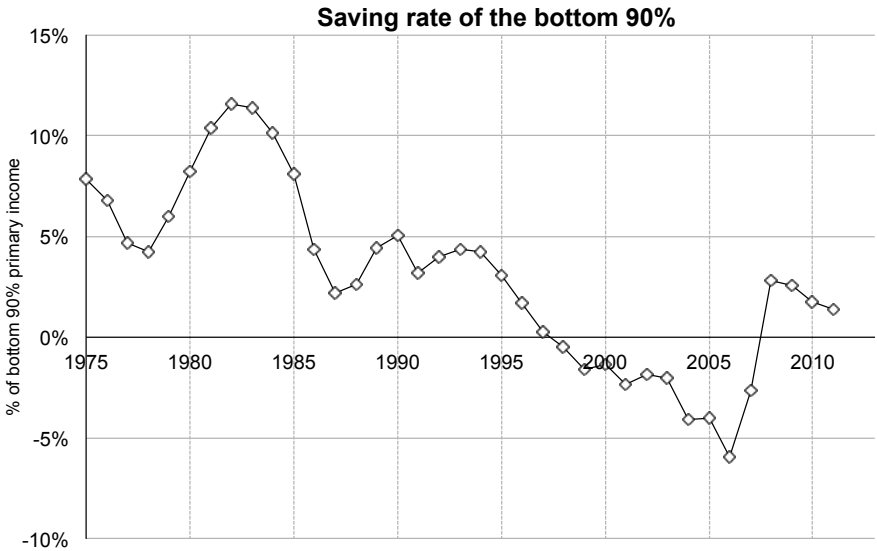
where sh_W^p is fractile p share of wealth, sh_Y^p is fractile p share of income, and s^p/s is relative savings rate of fractile p

Saving rates rise with wealth except in the 1930s

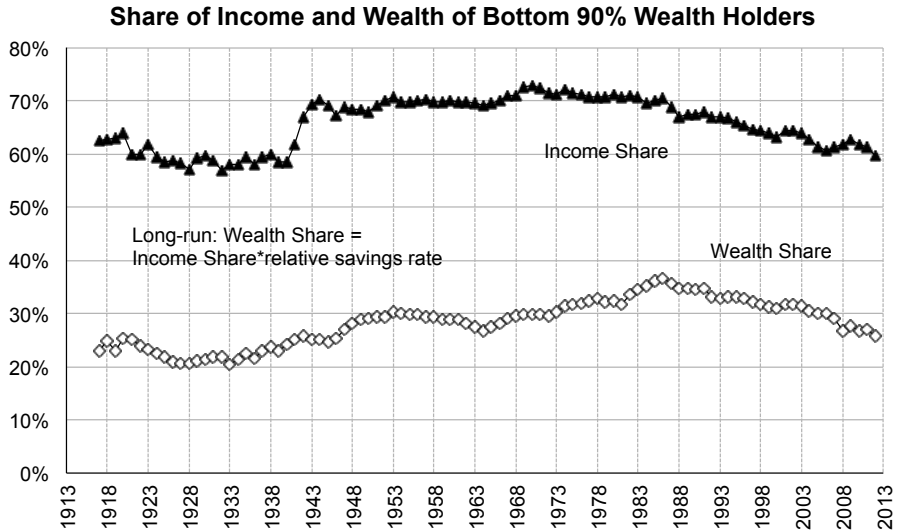


The rich save more as a fraction of their income, except in the 1930s when there was large dis-saving through corporations. NB: The average private saving rate has been 9.8% over 1913-2013.

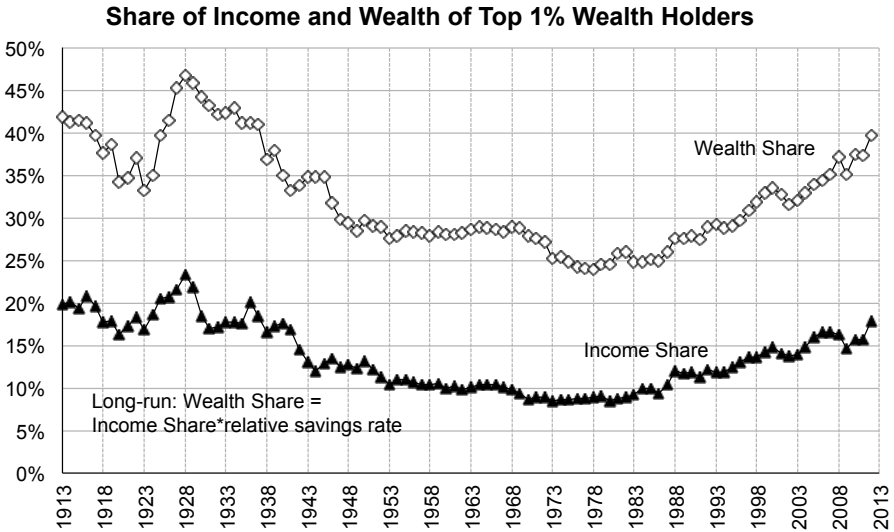
The bottom 90% massively dis-saved in the decade preceding the crisis



Slight decrease in income share of bottom 90% wealth holders



Sharp increase in income share of top 1% wealth holders



	Rates of growth, saving and return by wealth group				
	Real growth rate of wealth per family	**Real growth rate of income per family**	Private saving rate (personal + retained earnings)	Real rate of capital gains	Total pre-tax rate of return
	g_{wf}	g_{yf}	s = S/Y	q	r + q
			1917-1929		
All	**1.8%**	0.5%	10%	0.9%	9.0%
Bottom 90%	**1.0%**	0.0%	4%	0.1%	7.7%
Top 10%	**2.0%**	1.2%	21%	1.1%	9.4%
Top 1%	**3.0%**	1.4%	24%	1.6%	10.6%
			1929-1986		
All	**1.5%**	2.0%	12%	-0.6%	6.8%
Bottom 90%	**2.5%**	2.3%	5%	0.2%	6.8%
Top 10%	**1.1%**	1.4%	27%	-1.0%	6.8%
Top 1%	**0.4%**	0.5%	27%	-1.1%	7.2%
			1986-2012		
All	**1.9%**	1.3%	9%	0.9%	7.7%
Bottom 90%	**0.5%**	0.6%	1%	1.1%	7.8%
Top 10%	**2.5%**	2.5%	21%	0.8%	7.8%
Top 1%	**3.7%**	3.9%	35%	0.9%	8.2%

Effects of Savings and Income Inequality

Bottom 90%: Since mid-1980s, plummeting savings rate s^p for bottom 90% relative to aggregate s [due to surge in debt]

$\Rightarrow$ Decline in bottom 90% wealth share, and expected to continue

$\Rightarrow$ Need to encourage savings / discourage debt to reverse trend [=forced long-term savings + borrow against yourself]

Top 1%: Since mid-1970s, surge in income share held by top wealth holders and solid savings rate s^p (relative to aggregate s)

$\Rightarrow$ Large increase in top wealth shares, and expected to continue

$\Rightarrow$ Progressive taxation (income, wealth, inheritance) can reduce top incomes and savings rates of top wealth holders

Conclusion

A first step toward DINA

We are constructing new, consistent series on the distribution of wealth W and income $Y = Y_K + Y_L$ fully consistent with flow of funds and national accounts

Next step: construct a microfile with individual-level income (pre-tax and post-tax) and wealth consistent with macro flow of funds and national accounts

$=$ **distributional national accounts (DINA), reconciling macro growth and inequality studies**

Need for better wealth and savings data

Using additional data would enable us to refine our estimates:

E.g., matched property and individual income tax data

Limited additional administrative data collection effort could have high value:

401(k) accounts balance reporting (and not only IRAs)

Mortgage balances on forms 1098

Market value of portfolio securities on forms 1099

Purchases and sales of securities (to measure saving)

Necessary to obtain fully accurate distributional national accounts

Supplementary Slides

Wealth categories definition

Equities: corporate equities, including S corporation equities, and money market fund shares (treated as dividend-paying for income tax purposes)

Fixed claims: currency, deposits, bonds, and other interest-paying assets, net of non-mortgage debts

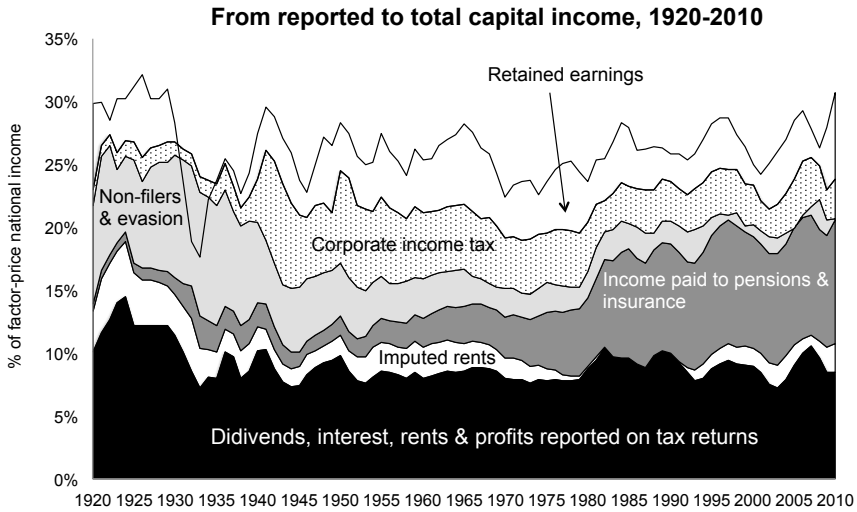
Business assets: sole proprietorships, farms (land and equipment), partnerships, intellectual property products

Housing: owner- and tenant-occupied housing, net of mortgage debt

Pensions: funded pension entitlements, life insurance reserves, IRAs. Excludes social security and unfunded defined benefit pensions

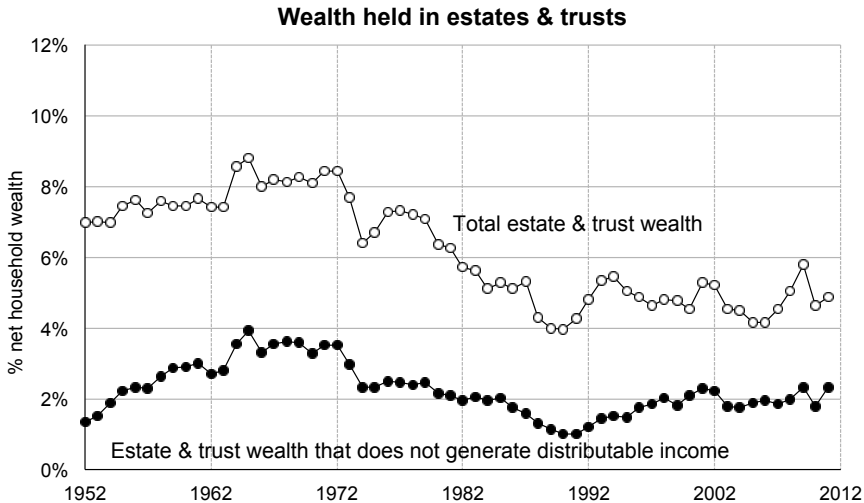
back

What tax data miss



back

Most trusts generate income taxable at the individual level



back