The Saving Glut of the Rich

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Summary of Results

1. Savings by Americans in the top 1% have increased substantially since the early 1980s; 3 to 4pp of national income annually
2. Such savings have been associated with dissaving by bottom 90% and by the government; investment has not increased
3. "Unveiling" the financial system reveals that half of financial asset accumulation of the rich are direct claims on household and government debt
4. State-level analysis points to rise in top income shares as a key force generating the saving glut of the rich

Measuring Savings across Distribution

Savings in the NIPA

- Start with national income (Z)

$$Z = C + G + I^n + F - \epsilon \tag{1}$$

- Use the government budget constraint $S^g = T - R - G$, move C to LHS:

$$\Theta = Z - T + R - C = I^n + F - S^g - \epsilon \tag{2}$$

- Θ is the key concept of **aggregate private savings** (includes personal and business savings)

Accounting for the Distribution

- Split savings by income or wealth distribution:

$$\Theta_{top1} + \Theta_{next9} + \Theta_{bot90} = I^n + F - S^g - \epsilon$$

- Central challenge is measurement of Θ_{it}: savings by group i in year t

- Two approaches:

  - Income less consumption approach:

$$\Theta_{it} = Z_{it} - T_{it} + R_{it} - C_{it}$$

  - Wealth-based approach

$$\Theta_{it} = \sum_{j \in J} \left(\Delta W_{it}^j - \pi_t^j W_{i,t-1}^j \right)$$

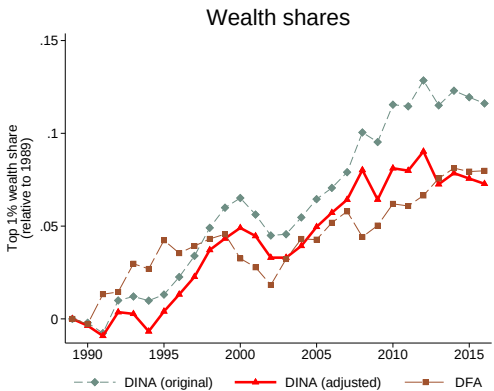
Measurement: Income less consumption approach

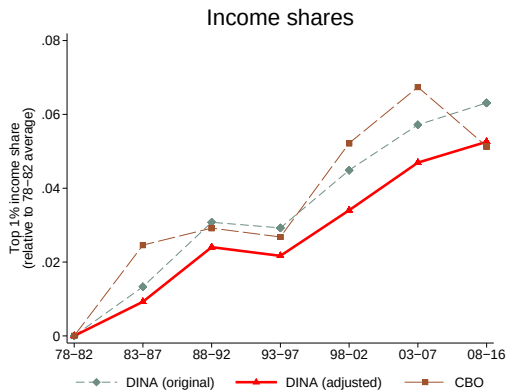
- $Z_{it} - T_{it} + R_{it}$:
  - Distributional National Accounts (DINA, Piketty et al 2018); Congressional Budget Office
  - Adjust DINA for pension income issue raised in Auten and Splinter 2019
- C_{it}:
  - Two inputs: (1) consumption share in a baseline year and (2) assumption on long-run evolution of consumption to income ratio
  - Baseline uses SCF (Fisher et al 2016)
  - Consumption to income ratio of top 1% assumed to be constant over time (conservative assumption)

Measurement: Wealth-based approach

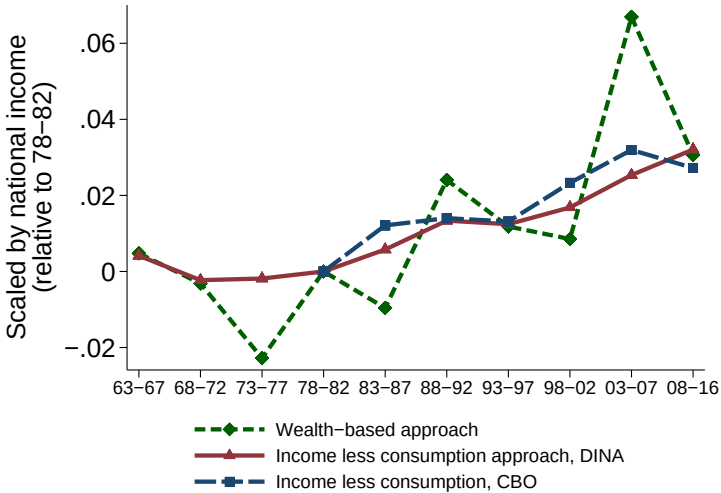
- W_{it}^j:
  - DINA (Saez Zucman 2016; Piketty et al 2018); Distributional Financial Accounts
  - Adjust fixed income return of top 1% as in Bricker et al 2018; Smith et al 2020 (100 basis points higher for top 1%)
- π_t^j:
  - As in Saez Zucman 2016 (and others), with a few changes
  - Ensure that total savings adds up to national accounts
  - Take into account debt write-downs

Top 1% Shares


Wealth shares
Top 1% wealth share
(relative to 1989)
.15
.1
.05
0
1990
1995
2000
2005
2010
2015
DINA (original)
DINA (adjusted)
DFA


Income shares
Top 1% income share
(relative to 78–82 average)
.08
.06
.04
.02
0
78–82
83–87
88–92
93–97
98–02
03–07
08–16
DINA (original)
DINA (adjusted)
CBO

Top 1% Annual Savings Relative to 1978-1982



Where Do Savings by the Rich Settle?

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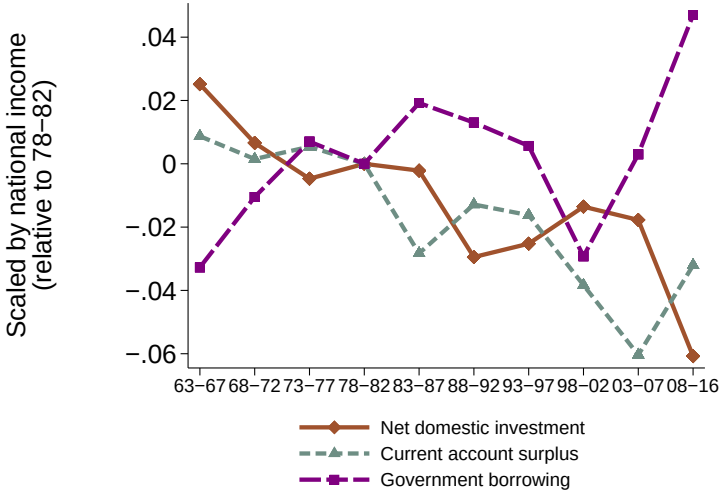
- Re-arranging the NIPA equation and scaling by Z_t yields:

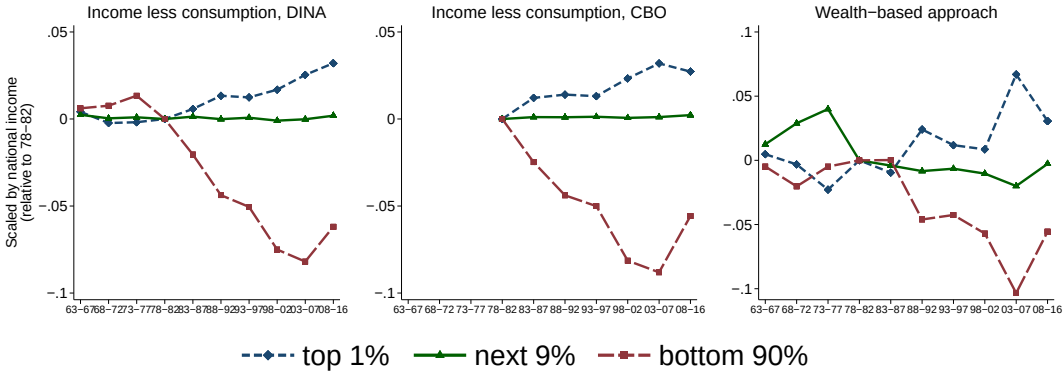
$$\Theta_{top1,t} = I_t^n + F_t + B_t^g - \Theta_{next9,t} - \Theta_{bot90,t}$$

- Saving glut could be invested, could be sent overseas ...
- or could finance dissaving by the bottom 99% and the government

Traditional absorption: I_t^n, F_t, B_t^g



Absorption by bottom 90%: Θ_{bot90}



Integrating to Obtain Accumulated Absorption

- Start with:

$$\Theta_{top1,t} + \Theta_{bot99,t} - I_t^n - F_t - B_t^g + \epsilon_t = 0$$

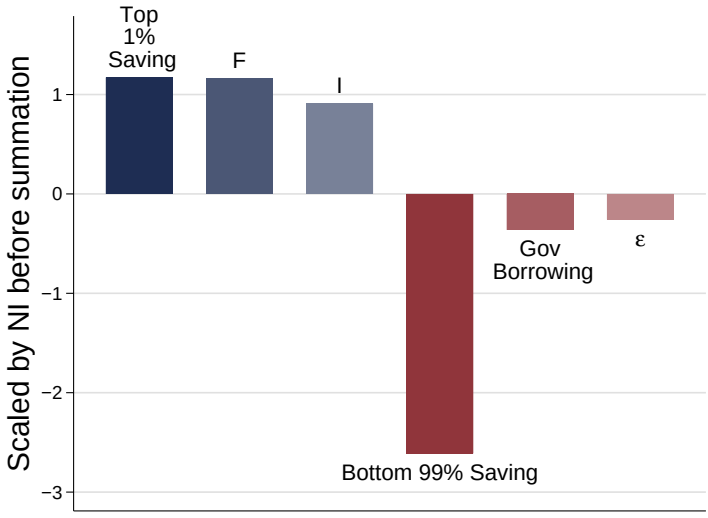
- For each of the 6 variables, construct

$$\hat{V}_t = V_t - V_{pre}$$

- Obtain:

$$\overline{V} = \sum_{t=1983}^{2016} \hat{V}_t$$

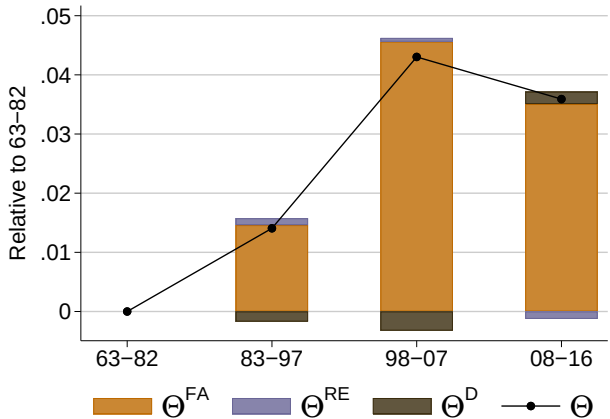
Absorption of the Accumulated Savings by Top 1%



Decomposing Change in Savings

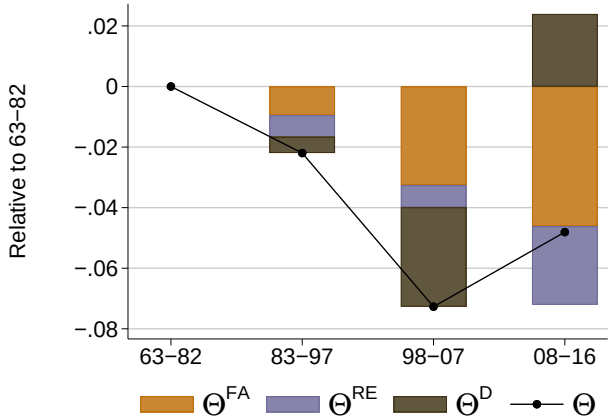
Savings by Top 1%: Driven by Financial Asset Accumulation

$$\Theta_{top1,t} = \Theta^{FA}_{top1,t} + \Theta^{RE}_{top1,t} + D_{top1,t}$$



Dissaving by Bottom 90%: Lower Accumulation, More Borrowing

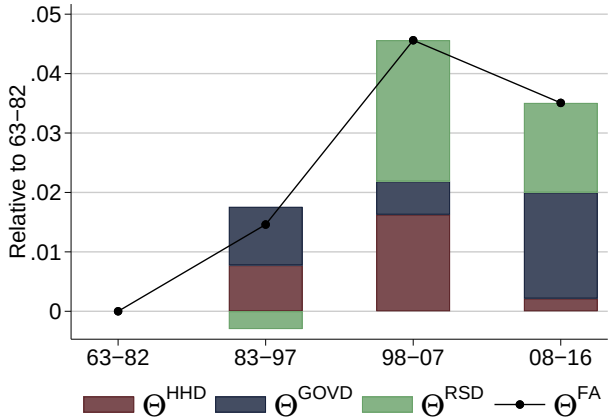
$$\Theta_{bot90,t} = \Theta^{FA}_{bot90,t} + \Theta^{RE}_{bot90,t} + D_{bot90,t}$$



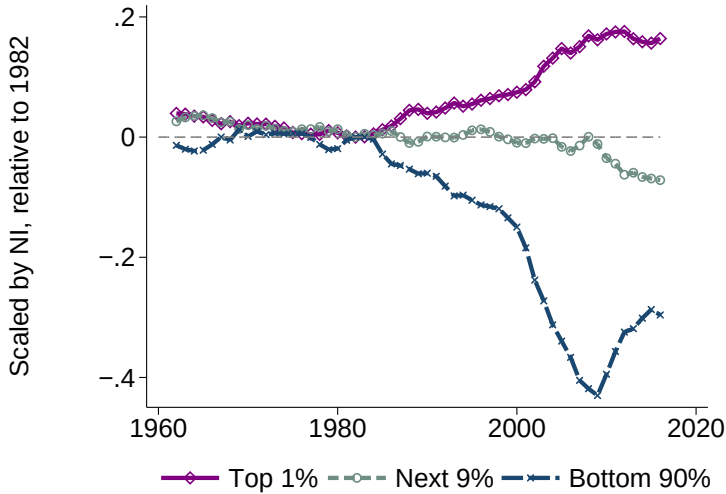
Unveiling the Financial System to Measure Saving in Debt

Half of Rise in Θ^{FA}_{top1} Are Claims on HH+GOV debt

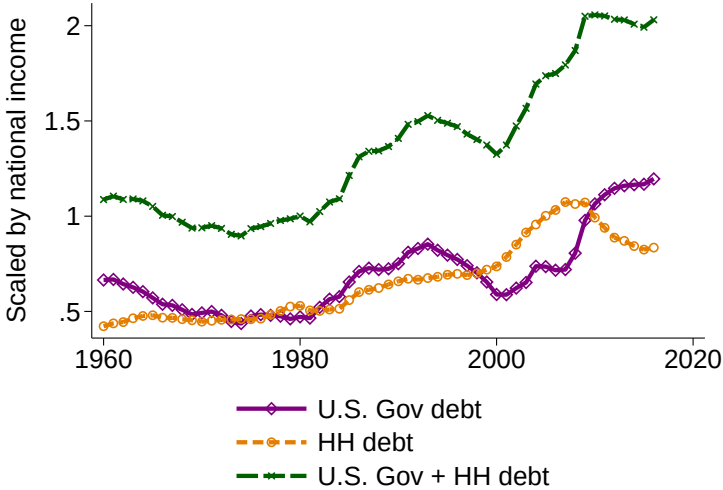
$$\Theta^{FA}_{top1,t} = \Theta^{HHD}_{top1,t} + \Theta^{GOVD}_{top1,t} + \Theta^{RSD}_{top1,t}$$



Net Household Debt across Wealth Distribution Relative to 1982

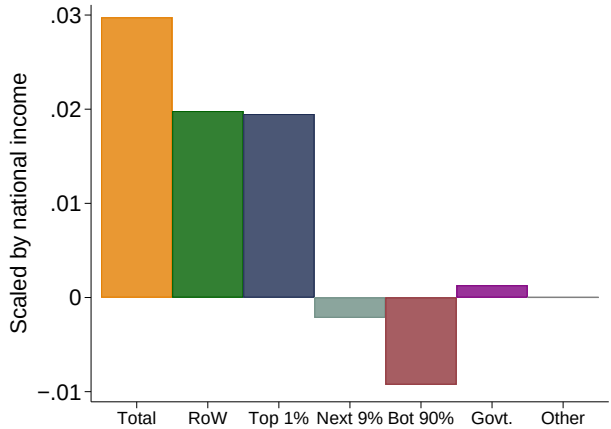


How Much of Rise in Debt Financed by the Rich?

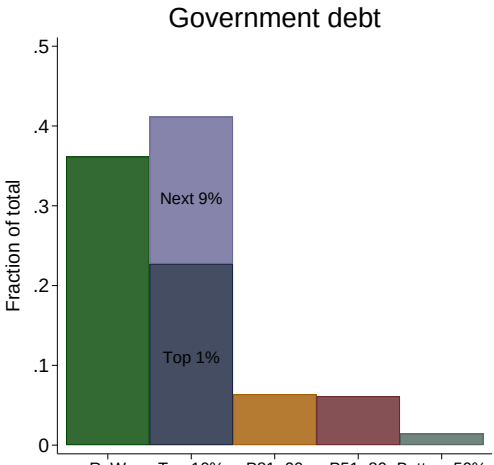


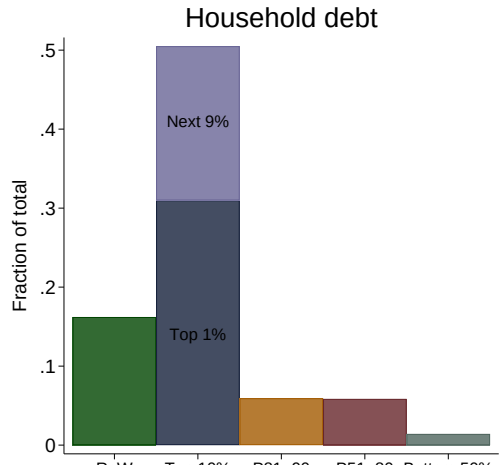
Who Has Financed Rise in HH+GOV Debt?

- Annual additional borrowing about 3 pp of national income comparing 63-82 and 83-16; half from rest of world, half from top 1%



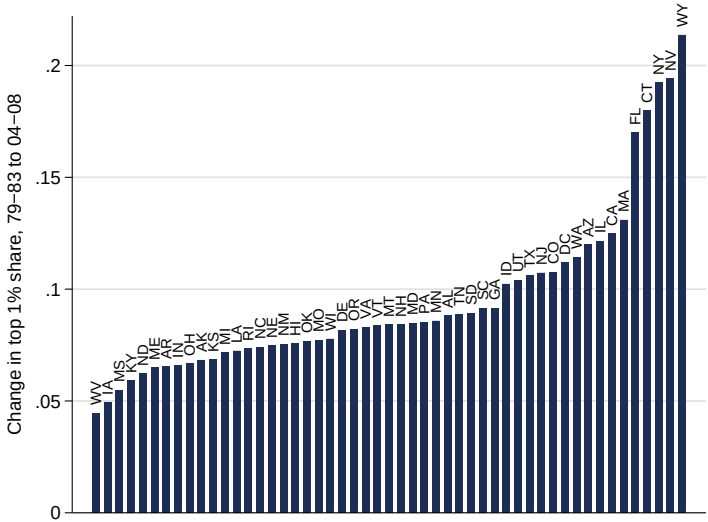
Who Holds HH, GOV Debt as of 2016?





Rise in Top Income Shares: State-level Analysis

Change in Top 1% Share of Income Across States



State-level Estimation Strategy

- Goal is to estimate:

$$\beta_i = \frac{\partial \theta_{is}}{\partial \tau_s}$$

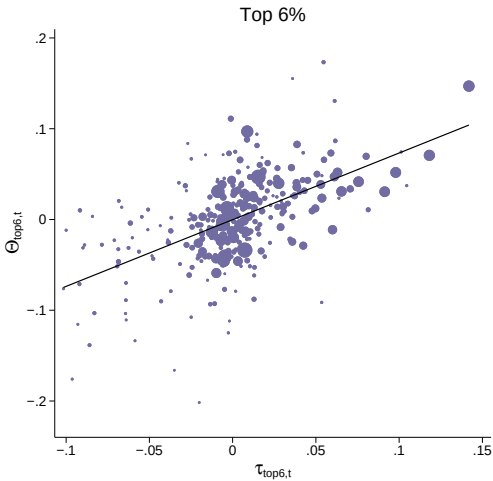
- Two approaches
  - Using savings as LHS in state-panel regression:

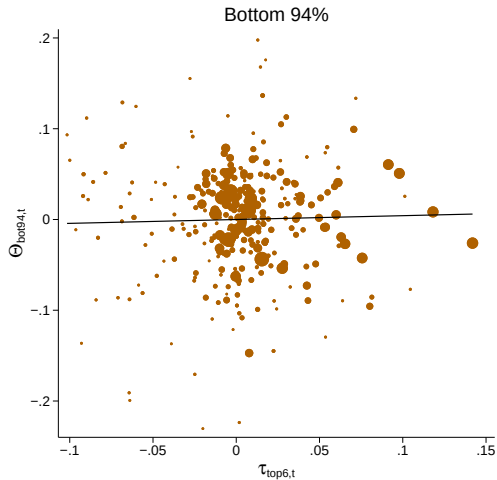
$$\theta_{ist} = \alpha_s + \alpha_t + \beta_i * \tau_{st} + \Gamma * X_{st} + \varepsilon_{st}$$

  - Use savings and wealth equation ($\theta_{ist} = w_{ist} - \frac{1+\overline{\pi}_{st}}{1+g_{st}} w_{ist-1}$) to derive long-diff spec:

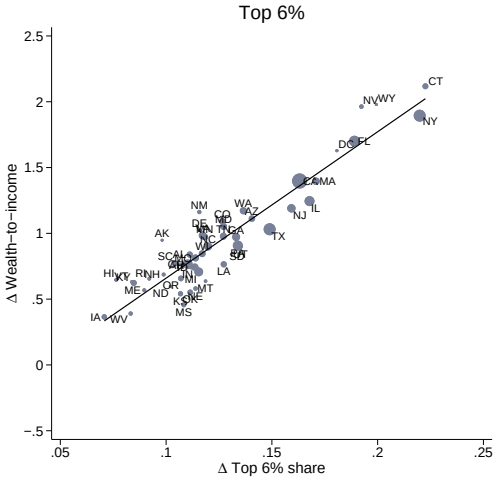
$$\Delta w_{is} = \alpha + \overline{\beta}_i * \Delta \tau_s + \Gamma * X_s + \varepsilon_s$$

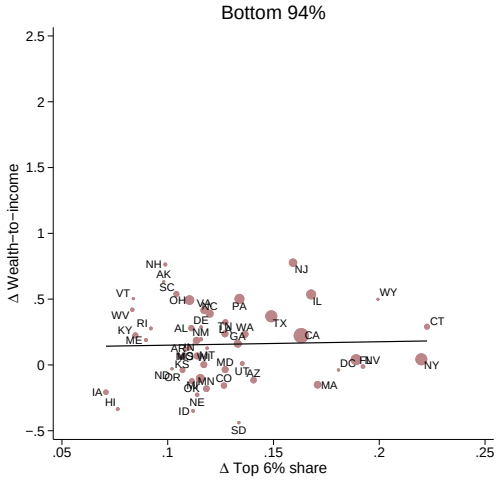
$$\theta_{ist} = \alpha_s + \alpha_t + \beta_i * \tau_{st} + \varepsilon_{st}$$





$$\Delta w_{is} = \alpha + \overline{\beta}_i * \Delta \tau_s + \varepsilon_s$$





Conclusion

Implications

- Global saving glut has been put forth as explanation of decline in interest rates and rise in debt; saving glut of the rich should receive more attention
- National saving rates are misleading, as they do not capture saving by the rich and dissaving by the non-rich
- Findings call into question the notion that a rise in savings automatically means more investment; not true with savings by the rich in the United States
- Financial system is channeling funds to households and governments, while investment is weak. Why?

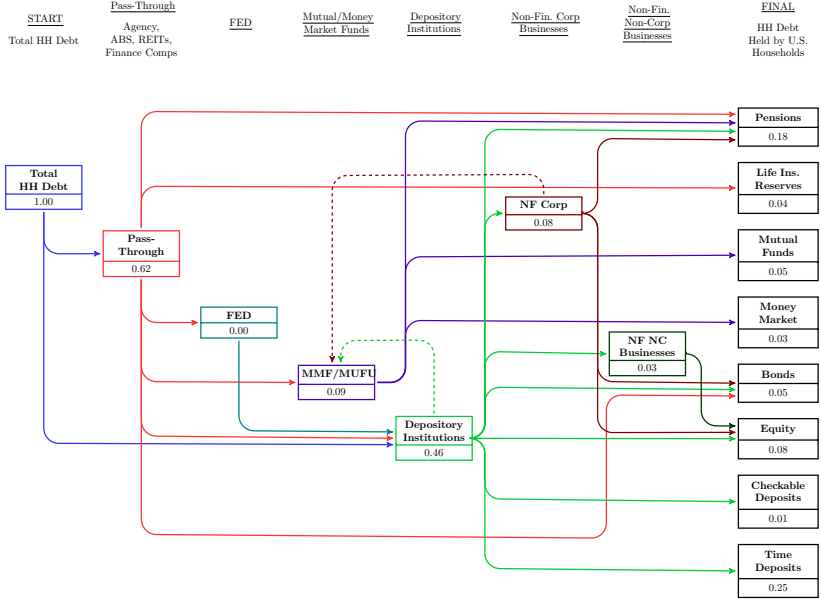
Extra Slides

Saving in Debt

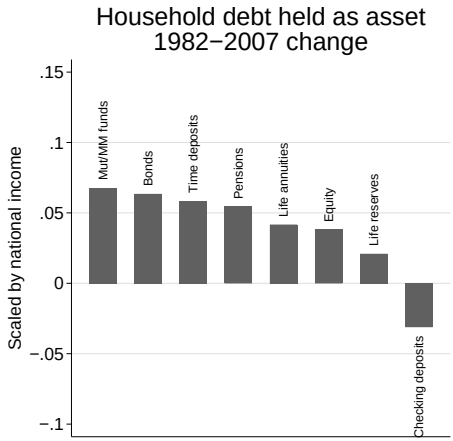
- Goal is to measure how much of the wealth of top 1% represents a claim on government and household debt
- Matrix representation:

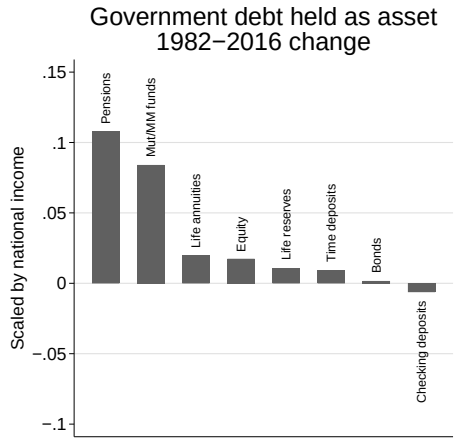
$$\begin{bmatrix} A_1 \\ A_2 \\ \vdots \\ A_I \end{bmatrix} = \begin{bmatrix} \omega_{1,1} & \omega_{1,2} & \cdots & \cdots & \omega_{1,J} \\ \omega_{2,1} & \omega_{2,2} & \cdots & \cdots & \omega_{2,J} \\ \vdots & \vdots & \ddots & \ddots & \vdots \\ \omega_{I,1} & \omega_{I,2} & \cdots & \cdots & \omega_{I,J} \end{bmatrix} \begin{bmatrix} F_1 \\ F_2 \\ \vdots \\ F_J \end{bmatrix}$$

- The vector F_j requires us to "unveil" the financial system; the top 1% hold household debt through banks, non-financial businesses, mutual funds, etc.

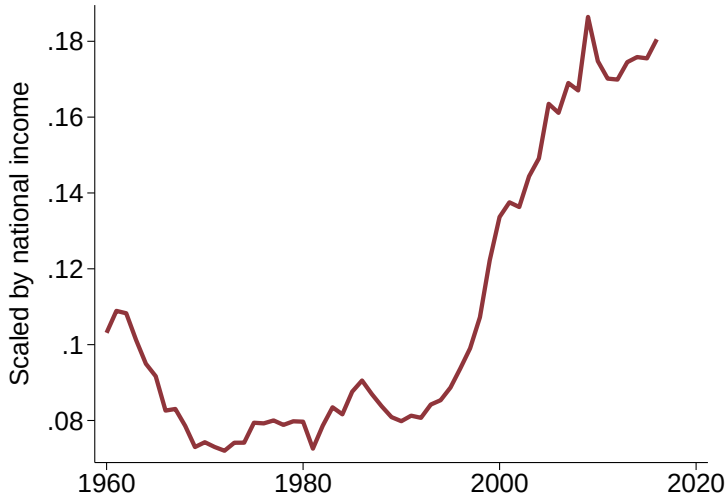

START
Total HH Debt
Pass-Through
Agency, ABS, REITs, Finance Comps
FED
Mutual/Money Market Funds
Depository Institutions
Non-Fin. Corp Businesses
Non-Fin. Non-Corp Businesses
FINAL
HH Debt Held by U.S. Households
Total HH Debt
1.00
Pass-Through
0.62
FED
0.00
MMF/MUFU
0.09
Depository Institutions
0.46
NF Corp
0.08
NF NC Businesses
0.03
Pensions
0.18
Life Ins. Reserves
0.04
Mutual Funds
0.05
Money Market
0.03
Bonds
0.05
Equity
0.08
Checkable Deposits
0.01
Time Deposits
0.25

Instruments through which Household Debt Held by Households





Non-financial business deposits and money market fund holdings



Note: Survey Data Misses Many Sources of Income

- The measure of saving used here includes both personal and business saving
- Survey data misses all of business saving, and many sources of personal saving
- Business saving (undistributed corporate profits) averaged 4.2% of national income from 2012 to 2015, completely ignored in survey measures of income
- Survey data misses 21% of personal income (Heathcote, et al 2010) including employer-contributions to pensions and income on pensions that is not yet distributed