The Saving Glut of the Rich

Atif Mian
Princeton

Ludwig Straub
Harvard

Amir Sufi
Chicago Booth

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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 \((Z)\)

\[
Z = C + G + I^n + F - \epsilon
\]  

(1)

• Use the government budget constraint \(S^g = T - R - G\), move \(C\) to LHS:

\[
\Theta = Z - T + R - C = I^n + F - S^g - \epsilon
\]  

(2)

• \(\Theta\) 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 \( \Theta_{it} \): 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

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

- $W_{it}$:
  - 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%)

- $\pi_j^t$:
  - 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

Income shares

DINA (original)  DINA (adjusted)  DFA

DINA (original)  DINA (adjusted)  CBO
Top 1% Annual Savings Relative to 1978-1982

Scaled by national income (relative to 78–82)

-0.02 0 0.02 0.04 0.06

63–67 68–72 73–77 78–82 83–87 88–92 93–97 98–02 03–07 08–16

Wealth–based approach
Income less consumption approach, DINA
Income less consumption, CBO
Where Do Savings by the Rich Settle?
Where Do Savings by the Rich Settle?

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

$$\Theta_{top1,t} = I^n_t + F_t + B^g_t - \Theta_{next9,t} - \Theta_{bot90,t}$$

• 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%: $\Theta_{\text{bot90}}$

Income less consumption, DINA

Income less consumption, CBO

Wealth–based approach

Scaled by national income (relative to 78–82)

$\top 1\%$, $\text{next 9}\%$, $\text{bottom 90}\%$
Integrating to Obtain Accumulated Absorption

• Start with:

\[ \Theta_{top1,t} + \Theta_{bot99,t} - I^n_t - F_t - B^g_t + \epsilon_t = 0 \]

• For each of the 6 variables, construct

\[ \hat{V}_t = V_t - V_{pre} \]

• Obtain:

\[ \bar{V} = \sum_{t=1983}^{2016} \hat{V}_t \]
Absorption of the Accumulated Savings by Top 1%

Scaled by NI before summation

- Top 1% Saving
- F
- I
- Bottom 99% Saving
- Gov Borrowing
- ε

1
0
-1
-2
-3
Decomposing Change in Savings
Savings by Top 1%: Driven by Financial Asset Accumulation

\[ \Theta_{top1,t} = \Theta_{top1,t}^{FA} + \Theta_{top1,t}^{RE} + D_{top1,t} \]
Dissaving by Bottom 90%: Lower Accumulation, More Borrowing

$$\Theta_{bot90,t} = \Theta_{bot90,t}^{FA} + \Theta_{bot90,t}^{RE} + D_{bot90,t}$$
Unveiling the Financial System to Measure Saving in Debt
Half of Rise in $\Theta_{top1}^{FA}$ Are Claims on HH+GOV debt

$$\Theta_{top1,t}^{FA} = \Theta_{top1,t}^{HHD} + \Theta_{top1,t}^{GOVD} + \Theta_{top1,t}^{RSD}$$
Net Household Debt across Wealth Distribution Relative to 1982

Scaled by NI, relative to 1982

1960 1980 2000 2020
Top 1% Next 9% Bottom 90%

-0.4
-0.2
0
0.2
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?

Government debt

<table>
<thead>
<tr>
<th>Fraction of total</th>
<th>RoW</th>
<th>Top 10%</th>
<th>P81–90</th>
<th>P51–80</th>
<th>Bottom 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 1%</td>
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<td></td>
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<td></td>
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<tr>
<td>Next 9%</td>
<td></td>
<td>blue</td>
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<tr>
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Household debt

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<td></td>
<td></td>
</tr>
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Rise in Top Income Shares: State-level Analysis
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:

\[ \theta_{ist} = \alpha_s + \alpha_t + \beta_i \tau_{st} + \Gamma \times X_{st} + \varepsilon_{st} \]

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

\[ \Delta w_{is} = \alpha + \overline{\beta}_i \times \Delta \tau_s + \Gamma \times X_s + \varepsilon_s \]
$$\theta_{ist} = \alpha_s + \alpha_t + \beta_i \cdot \tau_{st} + \varepsilon_{st}$$
\[ \Delta w_{is} = \alpha + \beta_i \cdot \Delta \tau_s + \varepsilon_s \]
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.
<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Total HH Debt</td>
<td>1.00</td>
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<tr>
<td>Pass-Through</td>
<td>0.62</td>
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<tr>
<td>FED</td>
<td>0.00</td>
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<tr>
<td>Mutual/Money Market Funds</td>
<td>0.09</td>
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<tr>
<td>Depository Institutions</td>
<td>0.46</td>
</tr>
<tr>
<td>Non-Fin. Corp Businesses</td>
<td>0.08</td>
</tr>
<tr>
<td>Non-Fin. Non-Corp Businesses</td>
<td>0.03</td>
</tr>
<tr>
<td>FED Mutual/Money Market Funds</td>
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</tr>
<tr>
<td>Money Market</td>
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</tr>
<tr>
<td>Bonds</td>
<td>0.05</td>
</tr>
<tr>
<td>Equity</td>
<td>0.08</td>
</tr>
<tr>
<td>Checkable Deposits</td>
<td>0.01</td>
</tr>
<tr>
<td>Time Deposits</td>
<td>0.25</td>
</tr>
<tr>
<td>Pensions</td>
<td>0.18</td>
</tr>
<tr>
<td>Life Ins. Reserves</td>
<td>0.04</td>
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Instruments through which Household Debt Held by Households

**Household debt held as asset**
1982–2007 change

- Mut/MM funds
- Bonds
- Time deposits
- Pensions
- Life annuities
- Equity
- Life reserves
- Checking deposits

Scaled by national income

**Government debt held as asset**
1982–2016 change

- Pensions
- Mut/MM funds
- Life annuities
- Equity
- Life reserves
- Time deposits
- Bonds
- Checking deposits

Scaled by national income
Non-financial business deposits and money market fund holdings

Scaled by national income

1960 1980 2000 2020
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.