Fiscal Policy and the Saving Glut of the Rich

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Two Defining Economic Trends

Since the 1980s...

Fact 1: Shift in policy. (Clarida, Gali, Gertler, 1999, Bianchi and Ilut, 2017)

- Monetary policy not tolerating high inflation $\rightarrow$ shift in monetary/fiscal policy mix.

Fact 2: The saving glut of the rich. (Mian, Straub, Sufi, 2021)

- The top 1%'s share of private saving quadrupled relative to national income.
- Much of that excess saving was absorbed by non-productive debt.

Central Question

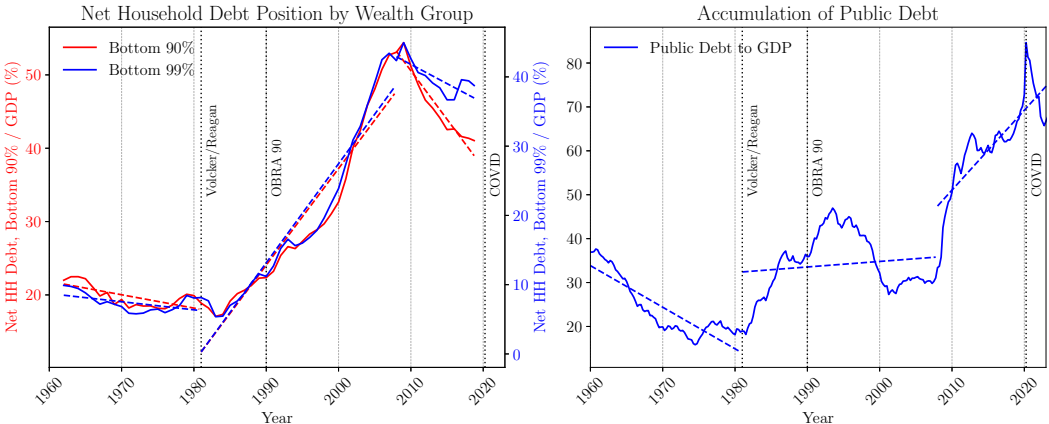
Are these phenomena related?

This Paper's Argument

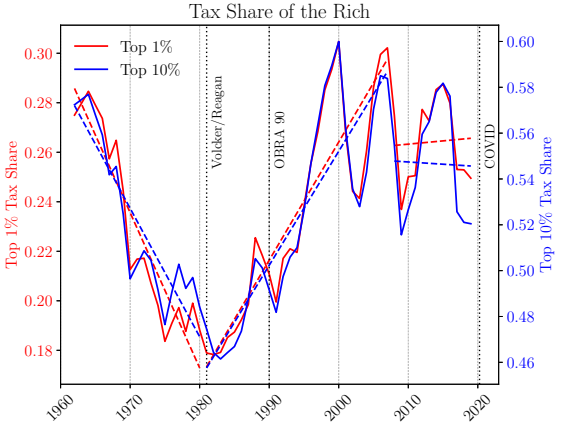
Yes.

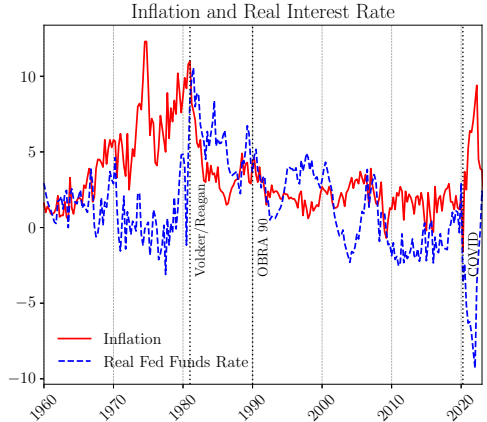
They are the outcome of a **fundamental shift in the financing of U.S. fiscal redistribution**.

Stylized Facts: Saving Glut of the Rich



Stylized Facts: Policy Shift, taxation, and inflation





Our Hypothesis: A Structural Shift in Fiscal Financing

These facts can be explained by a shift in how the government finances redistributive transfers.

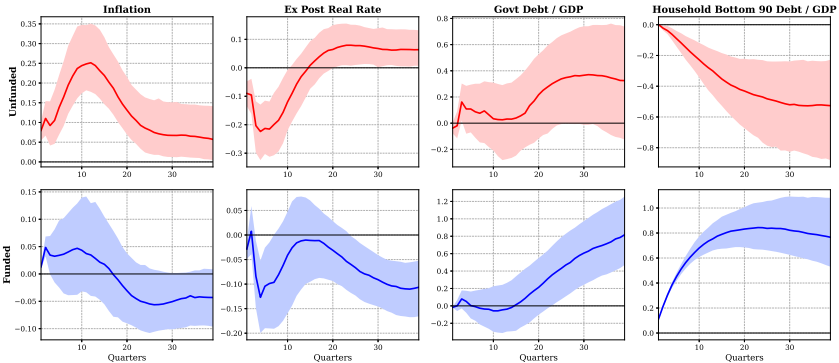
- Pre-1980s: Unfunded
  - **Financing:** Primarily via inflation "tax" and broad-based taxation.
  - **Mechanism:** Inflation erodes the real value of nominal assets (public and private debt).
  - **Outcome:** Keeps debt levels in check; discourages saving in nominal assets.
- Post-1980s: Funded
  - **Financing:** Primarily by issuing government debt.
  - **Mechanism:** Creates a credible expectation of future tax hikes to service the debt.
  - **Outcome:** Given tax progressivity, high earners have stronger incentives to save, while borrowers want to borrow to anticipate consumption.

Roadmap

1. **An Agnostic Look at the Data**: Heteroskedasticity-identified VAR.
2. **A Simple Model**: Isolating the core mechanisms of funded vs. unfunded transfers.
3. **The Quantitative Model**: A richer framework for empirical structural analysis.
4. **Quantitative Results**:
   - Estimated impulse responses.
   - Historical decomposition of transfers.
   - Evidence of a structural break in financing.
5. **Conclusion**.

An Agnostic Look at the Data: Fiscal Shocks and Debt

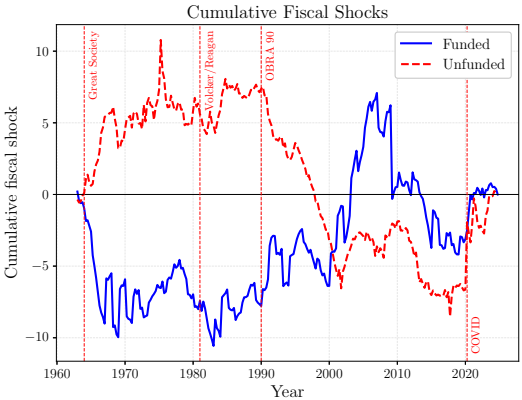
- Estimate VAR identified through heteroskedasticity *à la Brunnermeier et al. (2021)*.
  - GDP growth, inflation, FFR, deficit/debt, govt debt/GDP, household debt/GDP.
  - Label shocks *ex-post*. If fiscal shocks: deficit/debt ↑, GDP growth ↑.

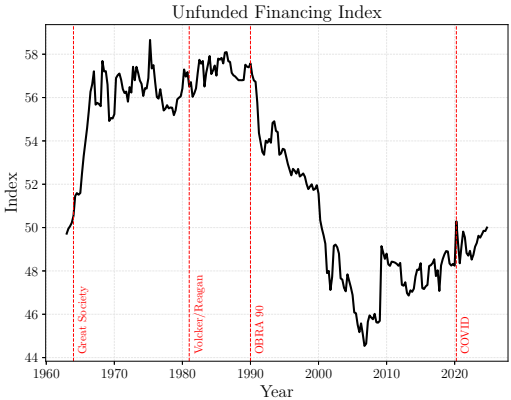


Decomposition Identification

An Agnostic Look at the Data: Historical Fiscal Shocks

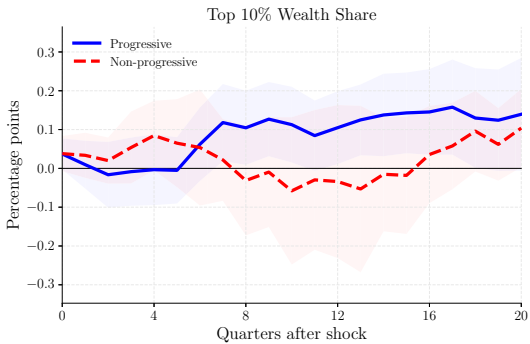
- Unfunded innovations are relatively more important until the mid-1980s.
  - Funded shocks dominant from the 1990s onward, with a partial reversal during COVID-19.





An Agnostic Look at the Data: Wealth Share after Spending Shock

- Spending news raises top-10 wealth shares more under progressive taxation.
- Suggestive evidence of a fiscal channel behind the saving glut of the rich.



Model Intuition

Announced welfare transfers

Unfunded transfers $\bar{\zeta}^F_{H,t}$: active fiscal / passive monetary

Before 1980s: More F component

- Govt + CB do not fully offset the program
- Fiscal inflation: $\pi^F > 0$
- Unfunded debt component: $b^F > 0$
- Investors expect no future tax hikes
- HH debt erodes $\iff$ investors save less

Funded transfers $\bar{\zeta}^M_{H,t}$: active monetary / passive fiscal

After 1980s: More M component

- Govt + CB back and stabilize the program
- Little fiscal inflation: $\pi^F \approx 0$
- Small unfunded debt component: $b^F \approx 0$
- Investors expect future tax hikes
- HH borrow more $\iff$ investors save more

A Simple Two-Agents Endowment Economy to Build Intuition

- Time is discrete and runs forever. Endowment Y_t grows at constant rate.
- *"Savers" (Investors)* — Measure $1 - \omega$, Top 10%.
  - Supply savings: hold government bonds and lend to households (Net lenders in S.S.).
  - Are subject to future tax increases.
- *"Borrowers" (Households)* — Measure ω, Bottom 90%.
  - Borrow via loans to smooth consumption (Net borrowers in S.S.).
  - Receive government transfers.
- *Government*
  - Issues debt, collects taxes from investors, provides transfers.
- *Monetary Authority*
  - Sets the nominal interest rate.

Simple Model: Agents

Households:

$$V^H(B^{(H)}_{H,t-1}, \mathcal{Z}_t) = \max_{C_{H,t}, B^{(H)}_{H,t}} \log C_{H,t} + \beta \mathbb{E}_t[V^H(B^{(H)}_{H,t}, \mathcal{Z}_{t+1})]$$

$$\text{s.t. } C_{H,t} + B^{(H)}_{H,t} = Y_{H,t} + R^{(H)}_{t-1} \frac{B^{(H)}_{H,t-1}}{\Pi_t} \underbrace{+ Z_{H,t}}_{\text{transfers}}$$

Investors:

$$V^I(B^{(H)}_{I,t-1}, B^{(G)}_{I,t-1}, \mathcal{Z}_t) = \max_{C_{I,t}, B^{(H)}_{I,t}, B^{(G)}_{I,t}} \log C_{I,t} + U(B^{(H)}_{I,t}) + \beta \mathbb{E}_t[V^I(B^{(H)}_{I,t}, B^{(G)}_{I,t}, \mathcal{Z}_{t+1})]$$

$$\text{s.t. } C_{I,t} + B^{(H)}_{I,t} + B^{(G)}_{I,t} = Y_{I,t} + R^{(H)}_{t-1} \frac{B^{(H)}_{I,t-1}}{\Pi_t} + R^{(G)}_{t-1} \frac{B^{(G)}_{I,t-1}}{\Pi_t} \underbrace{- Z_{I,t}}_{\text{taxes}}$$

Fiscal shocks: *announcements* of welfare programs ($\mathcal{Z}_t \equiv \{\bar{\zeta}^M_{H,t}, \bar{\zeta}^F_{H,t}, \zeta^M_{H,t}, \zeta^F_{H,t}\}$ log-AR(1) processes):

$$\text{Funded: } \bar{\zeta}^M_{H,t} = \rho^M_\zeta \, \bar{\zeta}^M_{H,t-1} + (1 - \rho^M_\zeta) \, \zeta^M_{H,t} \qquad \text{Unfunded: } \bar{\zeta}^F_{H,t} = \rho^F_\zeta \, \bar{\zeta}^F_{H,t-1} + (1 - \rho^F_\zeta) \, \zeta^F_{H,t}$$

Simple Model: Fiscal Block

Government Budget: $B_{G,t} = R_{t-1}^{(G)} \frac{B_{G,t-1}}{\Pi_t} - Z_{H,t} - Z_{I,t}$

$$\text{Debt } (\textit{log-linearized}): \; b_t \equiv \underbrace{b_t^M}_{\text{monetary-led / funded}} + \underbrace{b_t^F}_{\text{fiscally led / unfunded}}$$

Fiscal Rule (*log-linearized*)

$$\text{Actual:} \quad z_{H,t} = \underbrace{\bar{\zeta}_{H,t}^M}_{\text{monetary-led}} + \underbrace{\bar{\zeta}_{H,t}^F}_{\text{fiscally led}},$$

$$z_{I,t} = \underbrace{\gamma_I^M b_{t-1}^M}_{\text{future tax backing}} + \underbrace{\gamma_I^F b_{t-1}^F}_{\text{no full backing}}, \qquad \gamma_I^F \simeq 0.$$

How do we pin down the fiscally led portion of debt? Bianchi-Faccini-Melosi, 2023 QJE

- Construct a *fiscally led shadow economy*: only unfunded shocks are active.
- Fiscal policy does not stabilize b_t^F; monetary policy accommodates the associated fiscal inflation.

Monetary Block: Monetary-led vs. Fiscally led

$$\pi_t = \underbrace{\pi_t^M}_{\text{monetary-led}} + \underbrace{\pi_t^F}_{\text{fiscally led}}, \qquad \pi_t^M \equiv \pi_t - \pi_t^F.$$

$$r_t^n = \underbrace{\phi_\pi^M}_{>1} \underbrace{(\pi_t - \pi_t^F)}_{\pi_t^M} + \underbrace{\phi_\pi^F}_{\leq 1} \underbrace{\pi_t^F}_{\text{fiscal inflation}}.$$

Monetary-led / funded

Fiscal authority backs b_t^M. Monetary policy active: $\phi_\pi^M > 1$.

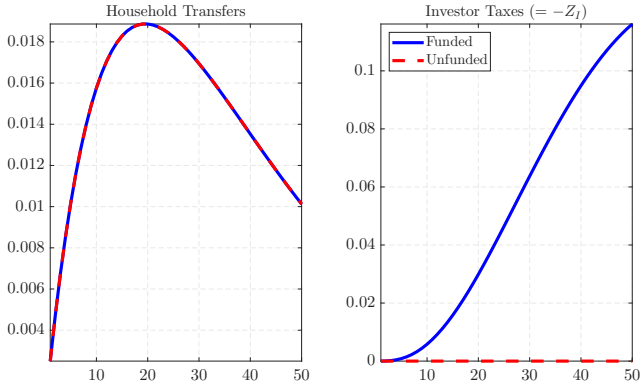
Fiscally led / unfunded

Shadow economy pins down (b_t^F, π_t^F). Monetary policy accommodates: $\phi_\pi^F \leq 1$.

Endogenous-target case

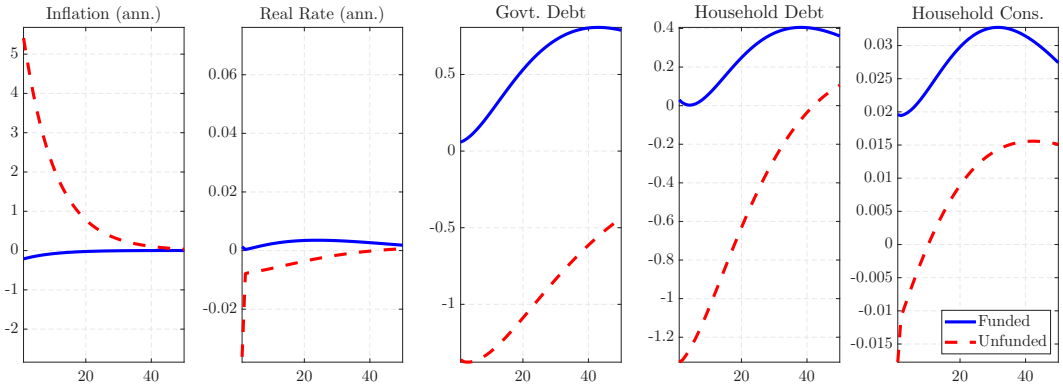
If $\phi_\pi^F = 0$, then: $r_t^n = \phi_\pi^M(\pi_t - \pi_t^F)$. Hence π_t^F behaves like an **endogenous inflation target**, pinned down by the fiscally led shadow economy.

Simple Model: Path of Transfers



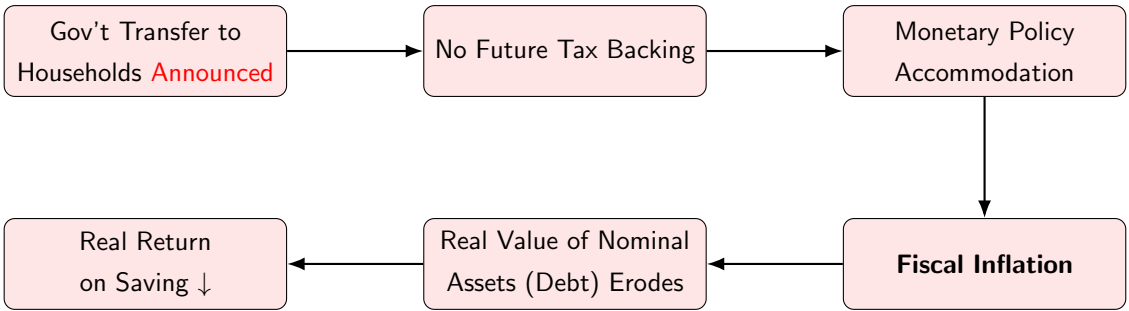
- Households receive transfers regardless the financing method of the transfer.
- Investors pay taxes only if transfers are funded (active fiscal regime).

Simple Model: Impulse Responses



- Unfunded: fiscal inflation, real rate ↓, debt eroded
- Funded: deflation, real rate ↑, investor saving ↑, mortgage debt ↑

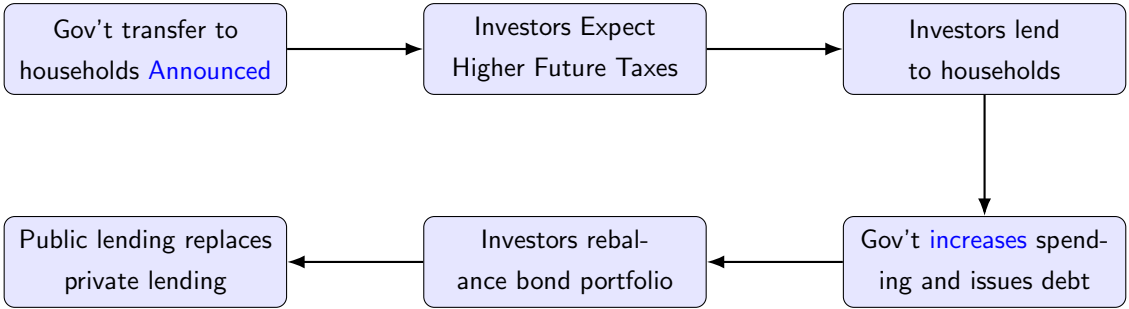
Mechanism 1: Unfunded Transfers Create Fiscal Inflation



Outcome

Inflation ↑, real interest rates ↓, and both public and private debt fall in real terms as Savers lend less and Borrowers deleverage.

Mechanism 2: Funded Transfers Create the Saving Glut of the Rich



Outcome

Government Debt ↑, Mortgage Debt ↑, and Savers accumulate assets.

This is the "Saving Glut of the Rich".

The Structural Shift Hypothesis

The simple model suggests a powerful hypothesis:

- Pre-1980s economy, low debt and high inflation, behaves like the unfunded regime.
- Post-1980s economy, rising debt and saving glut, behaves like the funded regime.

Hypothesis

The stylized facts can be explained by a structural shift in the U.S. from a fiscally-led, unfunded policy mix to a monetary-led, funded policy mix around the early 1980s.

To test this, we need a richer model to take to the data.

The Full Quantitative Model: Motivation & Features

Why a Richer Model?

- To quantitatively match U.S. business cycle and long-run dynamics.
- To conduct historical counterfactual analysis.
- To structurally estimate the timing and magnitude of the policy shift.

Key Features Added

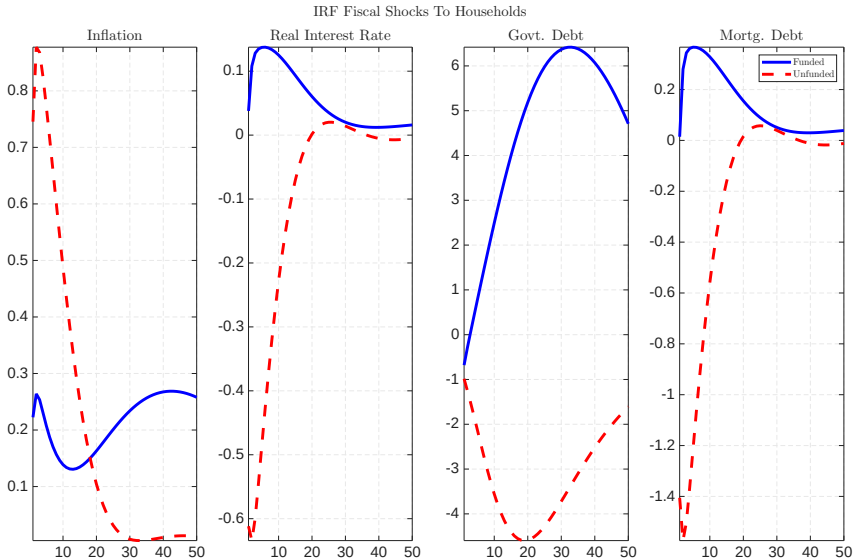
- Long-term private (mortgage) and public (gov't) debt.
- Capital accumulation, capital adjustment cost, utilization, habit formation.
- Nominal rigidities in prices and wages with indexation.
- Rich shock structure.
- Rich fiscal block with distorsionary taxes, government expenditure rules.

Estimation Strategy

- **Method:** Bayesian estimation using the Kalman filter.

- **Data:** 12 quarterly U.S. series, from **1960:Q1 to 2022:Q3**.
  - **Macro Data:** Real GDP, consumption, investment growth; hours gap; FFR; wage growth; GDP deflator inflation; real gov't transfers & consumption.
  - **Distributional Data:** Ratio of household liabilities to GDP for the **bottom 90th percentile** (Fed's Distributional Financial Accounts & DINA microfiles).

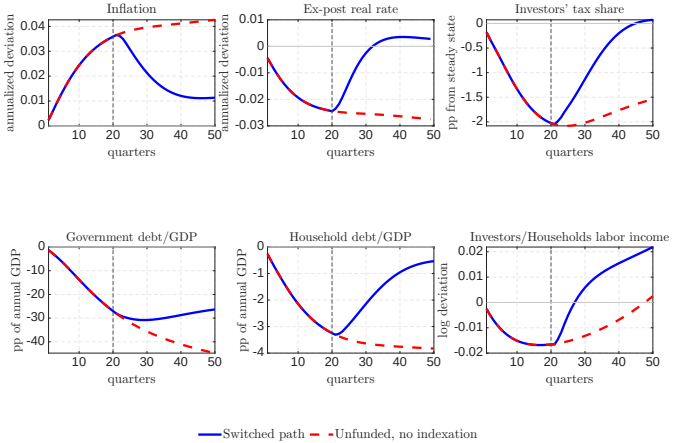
Results: Estimated Impulse Responses



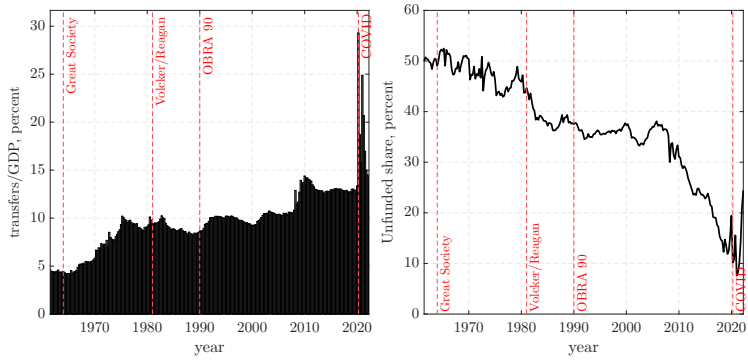
Illustrating the Shift: An Announced Policy Change

We simulate a conceptual experiment in the estimated model:

- For the first 20 quarters, the economy is hit by unfunded shocks.
- At quarter 20, a permanent shift to funded spending occurs and taxes are indexed to inflation.

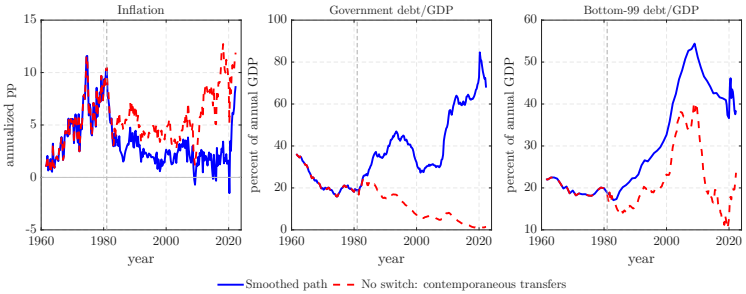


What Drives the Counterfactuals? A Look at Transfers



- **1960s-70s:** Large, positive innovations. Spending grew much faster than the economy.
- **Post-1980:** Growth in unfunded transfer spending decelerates.

The Smoking Gun: A Structural Break in Financing



- The model identifies a dramatic shift in the **composition** of spending around the early 1980s.
- If the shift had not occurred:
  - Inflation would have been higher.
  - Government and Household Debt would have been lower → no saving glut of the rich.

Tying It All Together: The Full Narrative

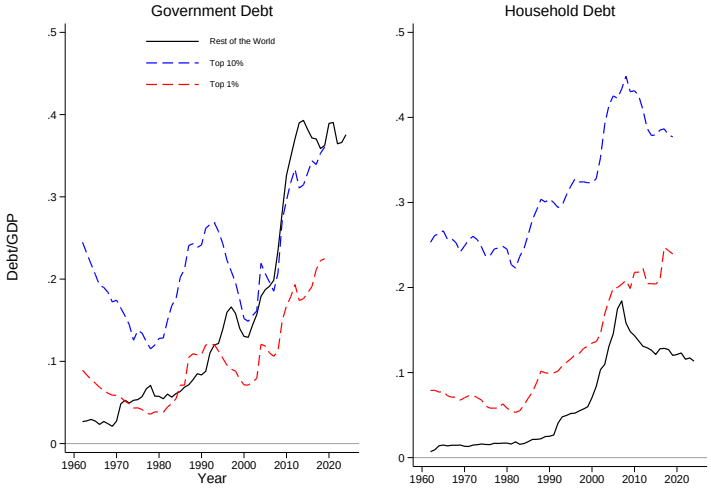
1. **The Shift (c. 1980):** U.S. pivoted from financing a share of transfers via inflation to financing them via debt. Our model structurally identifies this break.
2. **The Expectation:** This created a credible expectation that future taxes, primarily on high earners, would rise to service this new debt (Reagan Tax Reform Act, 1986, Clinton Omnibus Budget Reconciliation Act, 1993)
3. **The Response:** High earners increased their saving to prepare for these future tax liabilities, while borrowers have incentives to borrow in anticipation of future benefits.
4. **The Outcome:** This "saving glut" financed the surge in government debt and the initial leveraging-up of households, creating the macroeconomic landscape of the past 40 years.

Conclusion and Contributions

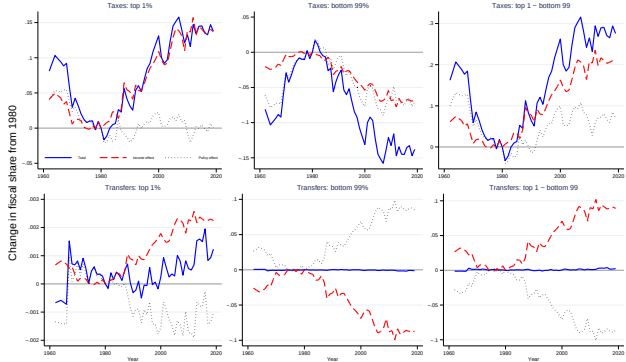
- We connect the literature on monetary-fiscal interactions with the literature on household inequality and the saving glut, showing they are deeply intertwined.
- The "saving glut of the rich" is an **endogenous response** to a structural shift in U.S. fiscal policy, not an exogenous shock.
- The move from **unfunded (inflation-financed)** to **funded (debt-financed)** redistribution is a key, quantitatively important driver of the joint dynamics of public debt, private debt, and wealth accumulation at the top.
- Our framework provides a **unified explanation** for three major stylized facts of the post-1980s U.S. economy $\Rightarrow$ New shift soon?

Appendix

Rest of the World



Decomposition Tax and Transfer Shares



- Comparison: Top 10% vs. Bottom 90%, holding income distribution fixed (base yy. 1980).
- Tax policy (income + corporate):
  - positive values = higher relative burden on Top 10% (progressive).
- Transfer policy (excl. Social Security):
  - negative values = higher relative benefits to Bottom 90% (progressive); decomposition

Details Data Motivating Evidence

- **Tax shares**
  - Distributional National Accounts (PSZ'18) (as in Mian, Straub, and Sufi 2021).
- **Mortgage debt**
  - Mian Straub and Sufi (2021) — PSZ and DFA series net household position bottom 90/GDP.
- **Government debt**
  - FRED Federal Debt: Total Public Debt as Percent of Gross Domestic Product.

Identification through Heteroskedasticity

$$A_0 y_t = \sum_{\ell=1}^{p} A_\ell y_{t-\ell} + C + \varepsilon_t, \qquad \mathbb{E}[\varepsilon_t \varepsilon_t'] = \Lambda_{m(t)}$$

where:

- A_0 = contemporaneous structural matrix, A_ℓ = lag dynamics, assumed *constant across regimes*
- $\Lambda_{m(t)}$ = diagonal matrix of shock variances, allowed to change across volatility regimes

Key identification assumption

- Structural shocks remain orthogonal, but their *relative variances* shift across regimes
- Oil crisis; Volcker disinflation; S&L crisis; Great Moderation; Financial crisis/Great Recession; ZLB recovery; COVID

Reduced form and rotation idea

$$u_t = A_0^{-1} \varepsilon_t, \qquad \Sigma_m = \mathbb{E}[u_t u_t' \mid m] = A_0^{-1} \Lambda_m A_0^{-1\prime}$$

Comparing covariance matrices across two regimes i, j:

$$\Sigma_i^{-1} \Sigma_j = A_0' \Lambda_i^{-1} \Lambda_j A_0^{-1\prime}$$

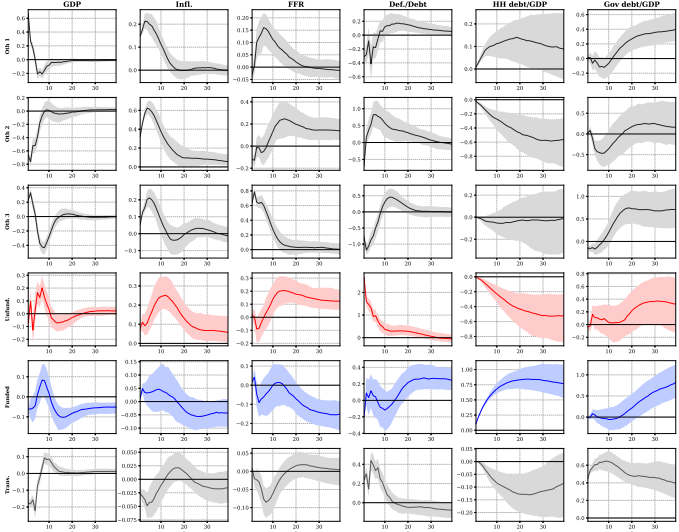
- Changes in volatility across regimes pin down the *rotation* from reduced-form shocks to structural shocks

Interpretation

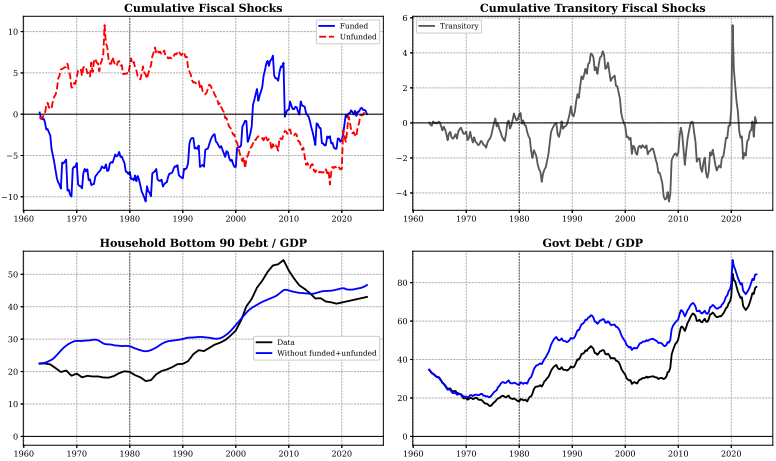
- Identification comes from structural breaks in *shock variances*, not from zero/sign restrictions

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Model-free Evidence: Full IRFs



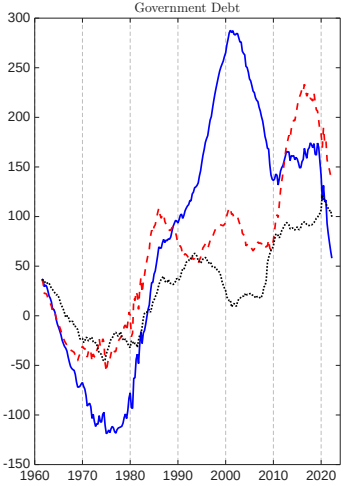
Model-free Evidence: Historical Decomposition of Debt

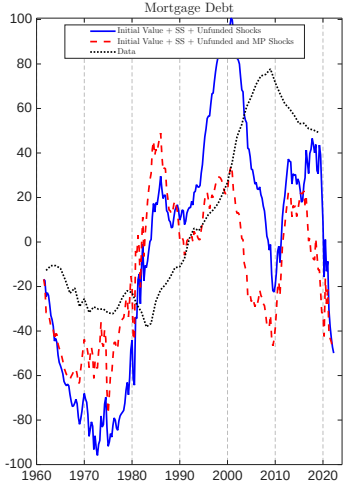


Historical decomposition of HH debt/GDP and govt debt/GDP into fiscal shock components.

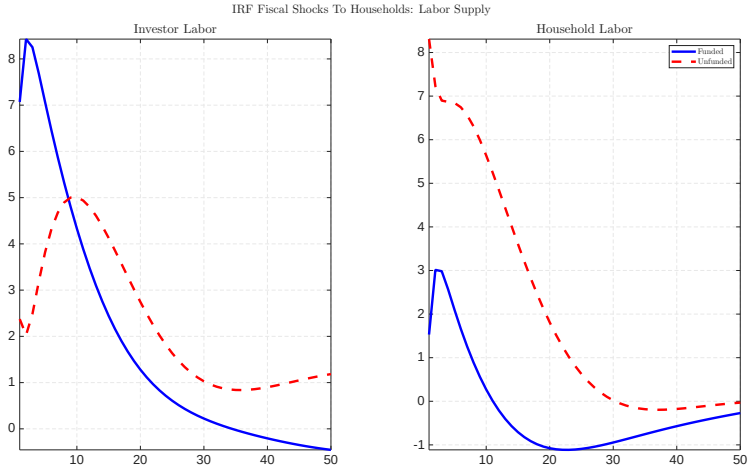
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Decomposing the Historical Rise in U.S. Debt





Simple Model: Labor Supply After Shock to Households



Simple Model: Labor Supply and Tax Revenue After Shock to Households

