

# 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 → 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

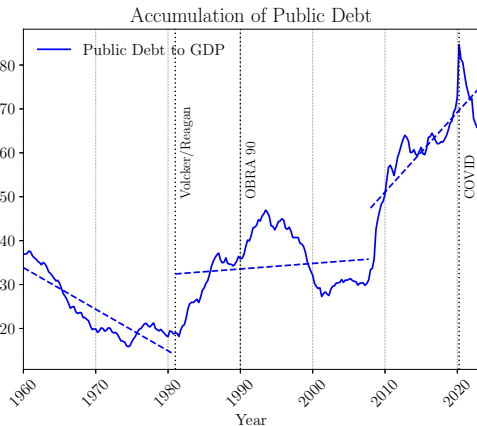
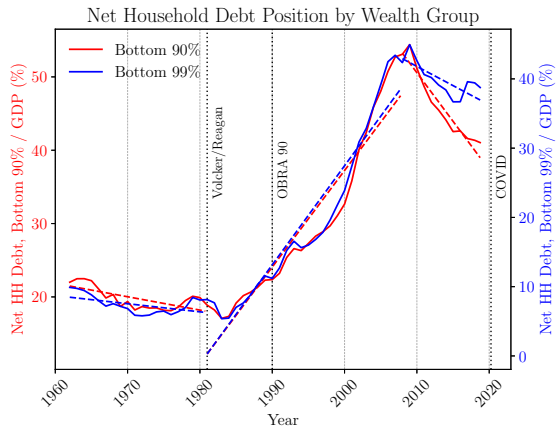
Are these phenomena related?

### This Paper's Argument

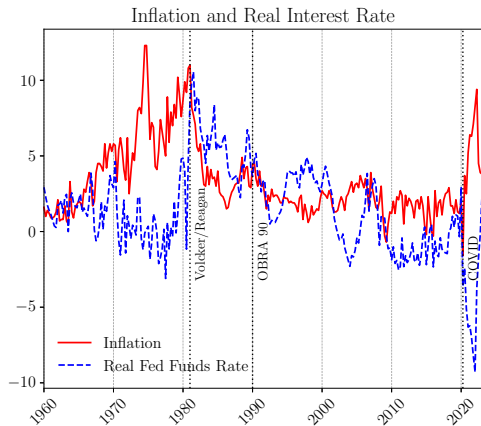
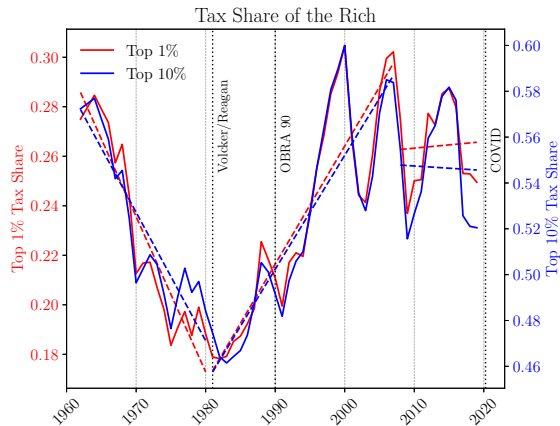
Yes.

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.

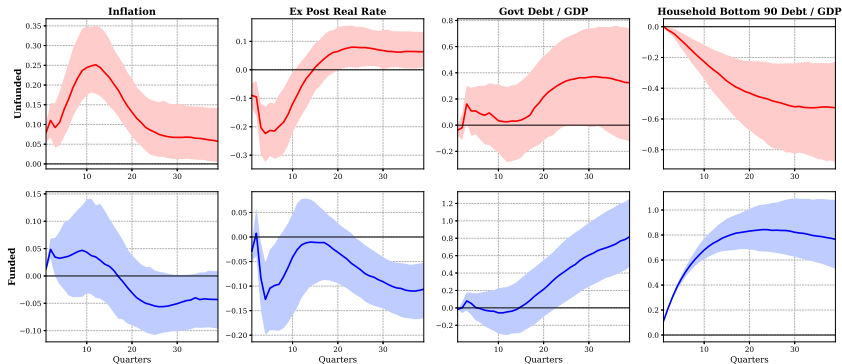
- Pre-1980s: **Unfunded**
  - **Financing:** Primarily via inflation “tax” and broad-based taxation.
  - **Mechanism:** Inflation erodes the real value of nominal assets (public and private debt).
  - **Outcome:** Keeps debt levels in check; discourages saving in nominal assets.
- Post-1980s: **Funded**
  - **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.**

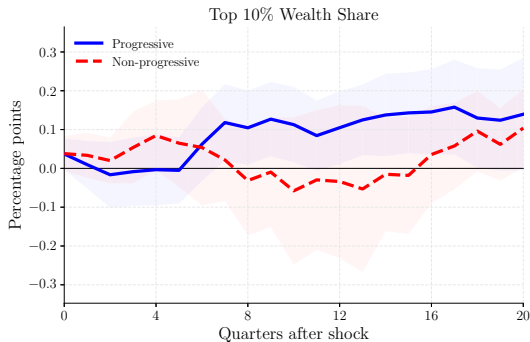
# An Agnostic Look at the Data: Fiscal Shocks and Debt

- 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  $\uparrow$ , GDP growth  $\uparrow$ .



# 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  $\bar{\zeta}_{H,t}^F$ : 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  $\bar{\zeta}_{H,t}^M$ : 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  $\omega$ , 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:**

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

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

**Investors:**

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

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

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

$$\text{Funded: } \bar{\zeta}_{H,t}^M = \rho_{\zeta}^M \bar{\zeta}_{H,t-1}^M + (1 - \rho_{\zeta}^M) \zeta_{H,t}^M \quad \text{Unfunded: } \bar{\zeta}_{H,t}^F = \rho_{\zeta}^F \bar{\zeta}_{H,t-1}^F + (1 - \rho_{\zeta}^F) \zeta_{H,t}^F$$

## Simple Model: Fiscal Block

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

Debt (*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*)

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

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

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

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

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

## Monetary-led / funded

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

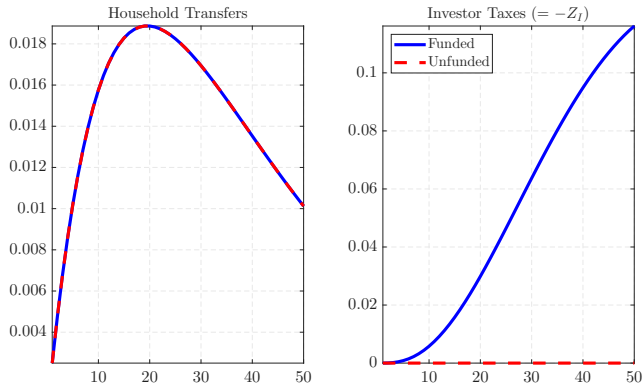
## Fiscally led / unfunded

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

## Endogenous-target case

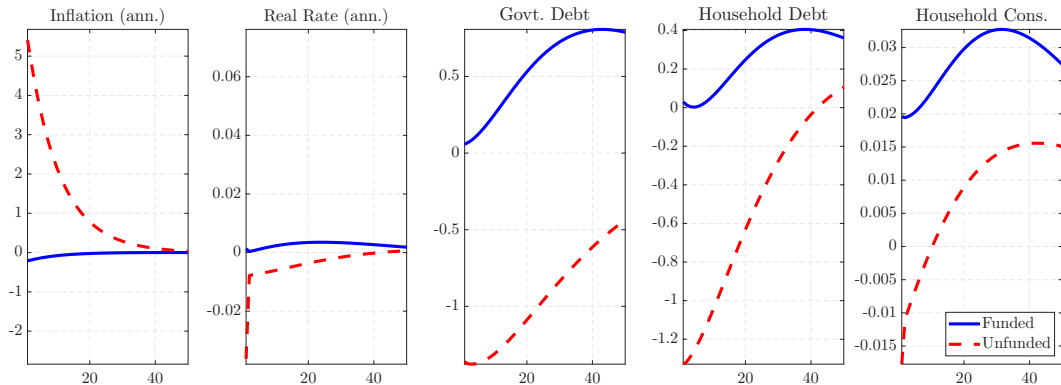
If  $\phi_\pi^F = 0$ , then:  $r_t^n = \phi_\pi^M(\pi_t - \pi_t^F)$ . Hence  $\pi_t^F$  behaves like an **endogenous inflation target**, pinned down by the fiscally led shadow economy.

## Simple Model: Path of Transfers



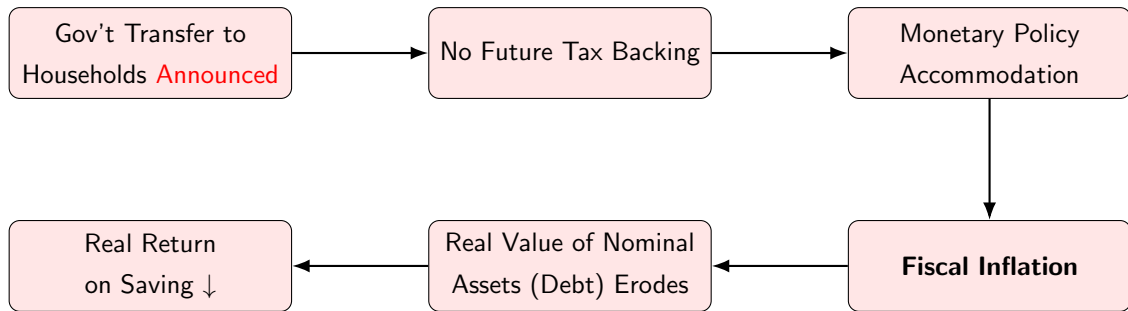
- Households receive transfers regardless the financing method of the transfer.
- Investors pay taxes only if transfers are funded (active fiscal regime).

# Simple Model: Impulse Responses



- **Unfunded:** fiscal inflation, real rate  $\downarrow$ , debt eroded
- **Funded:** deflation, real rate  $\uparrow$ , investor saving  $\uparrow$ , mortgage debt  $\uparrow$

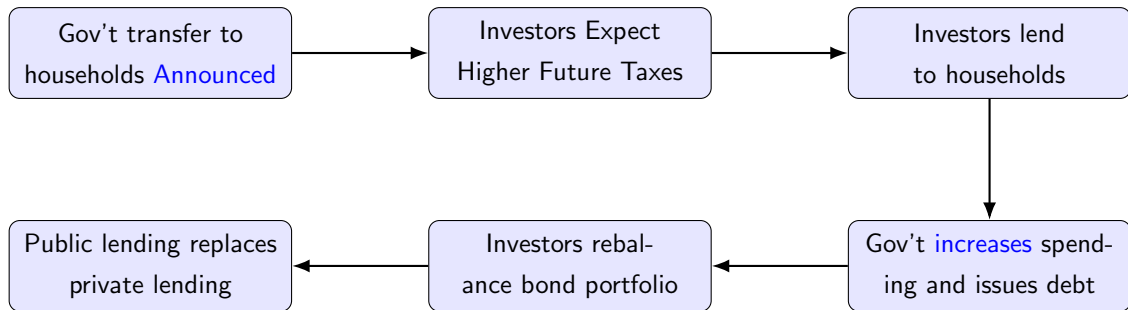
## Mechanism 1: Unfunded Transfers Create Fiscal Inflation



### Outcome

Inflation  $\uparrow$ , real interest rates  $\downarrow$ , 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.

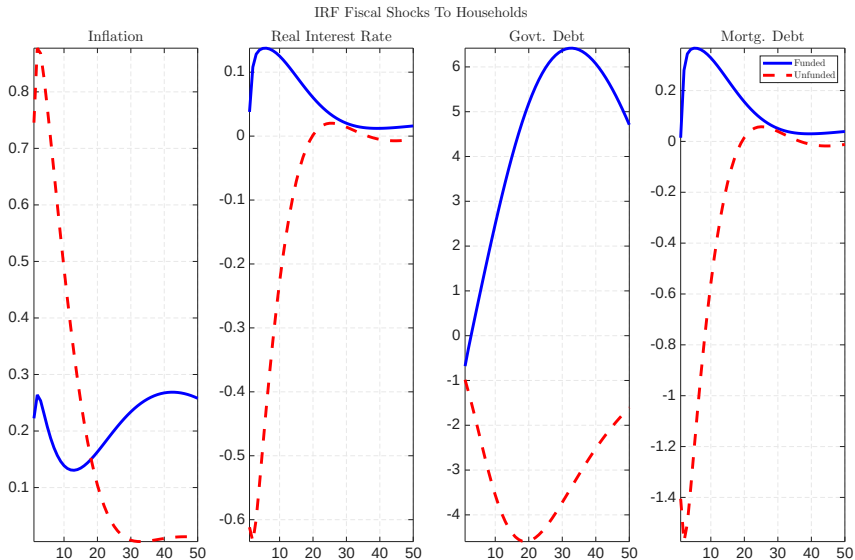
## Key Features Added

- 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 distortionary 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).

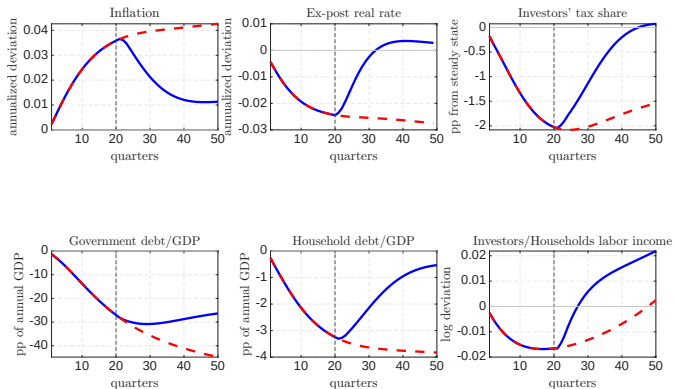
# Results: Estimated Impulse Responses



# Illustrating the Shift: An Announced Policy Change

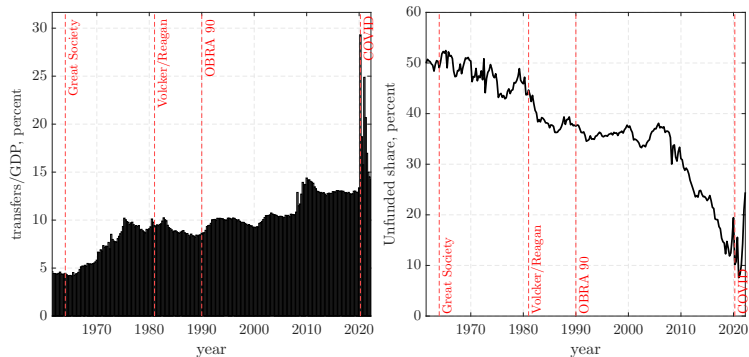
We simulate a conceptual experiment in the estimated model:

- 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.



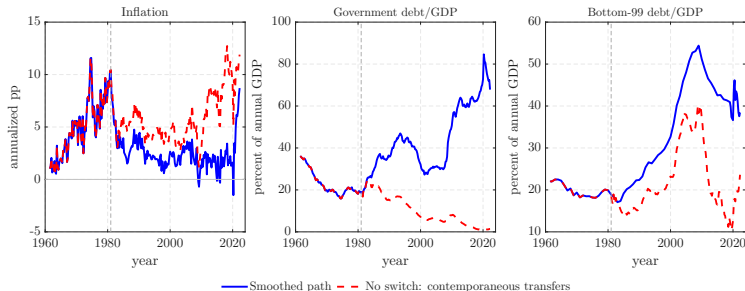
— Switched path - - Unfunded, no indexation

# 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

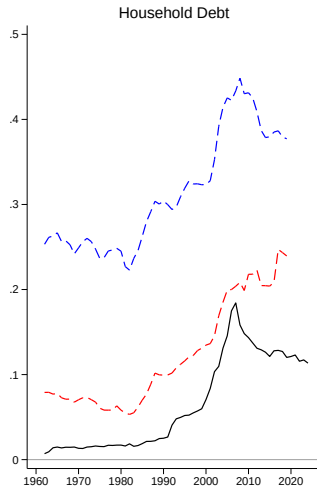
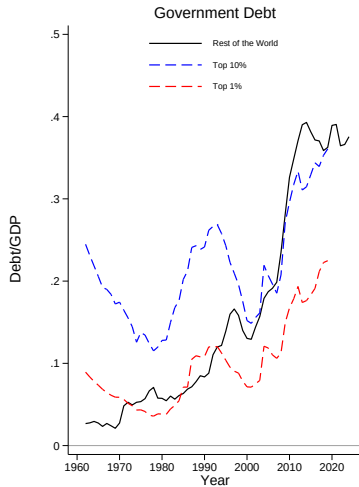
- ① **The Shift (c. 1980):** U.S. pivoted from financing a share of transfers via inflation to financing them via debt. Our model structurally identifies this break.
- ② **The Expectation:** This created a credible expectation that future taxes, primarily on high earners, would rise to service this new 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

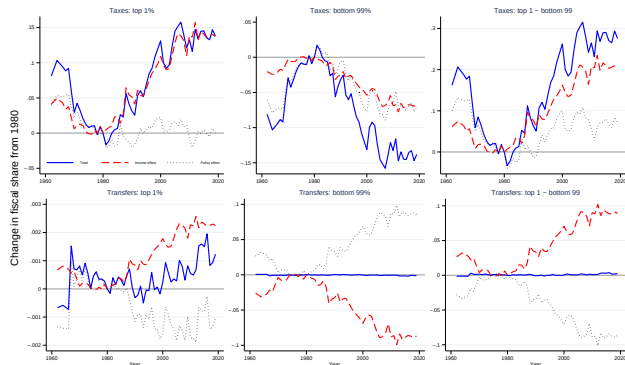
- We connect the literature on monetary-fiscal interactions with the literature on household inequality and the saving glut, showing they are deeply intertwined.
- The “saving glut of the rich” is an **endogenous response** to a structural shift in U.S. fiscal policy, not an exogenous shock.
- The move 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

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

where:

- $A_0$  = contemporaneous structural matrix,  $A_{\ell}$  = 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

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

Comparing covariance matrices across two regimes  $i, j$ :

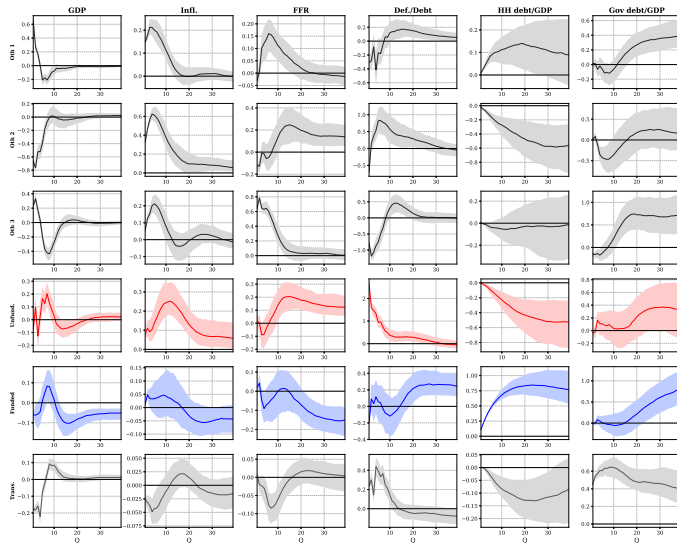
$$\Sigma_i^{-1} \Sigma_j = A_0' \Lambda_i^{-1} \Lambda_j A_0^{-1'}$$

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

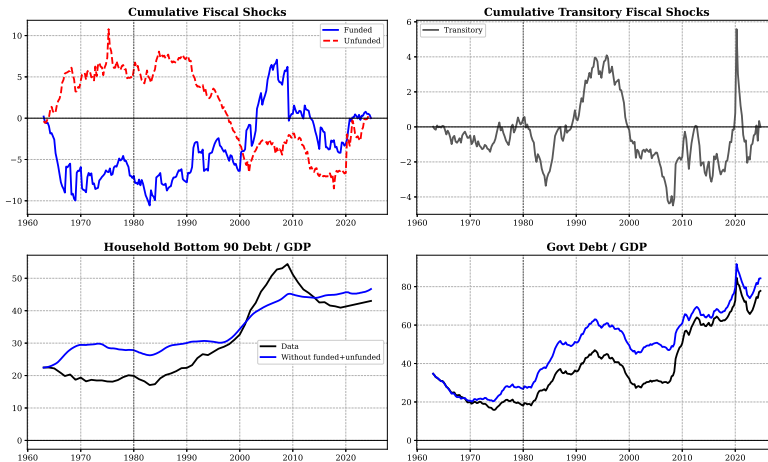
## Interpretation

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

# Model-free Evidence: Full IRFs

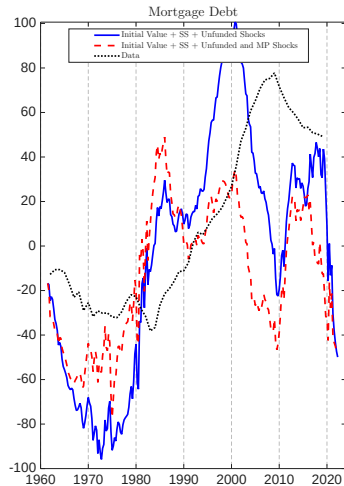
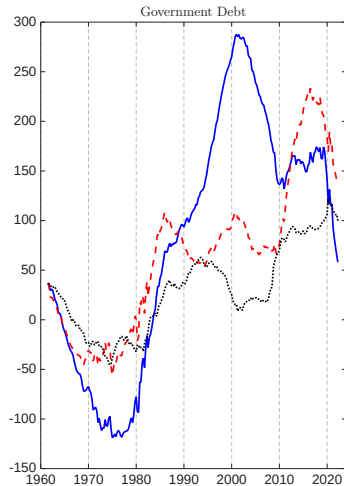


# Model-free Evidence: Historical Decomposition of Debt

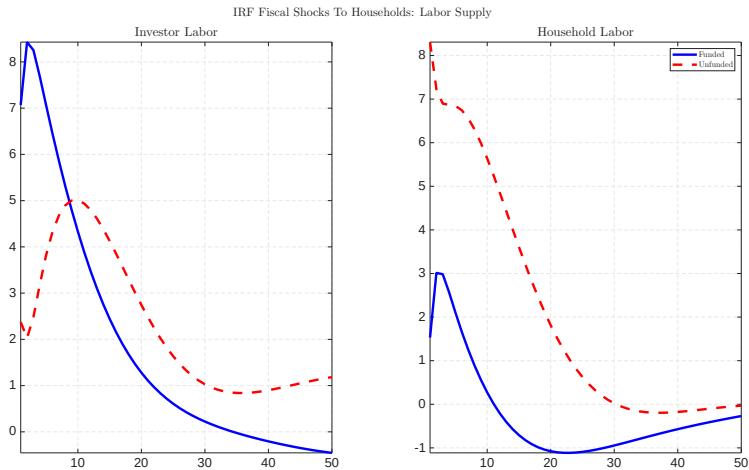


Historical decomposition of HH debt/GDP and govt debt/GDP into fiscal shock components.

# 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

IRF Fiscal Shocks To Households: Labor, Income Ratio & Rich Tax Revenue

