Fiscal Foundations of Inflation:
Seeing Beyond the Monetary Narrative

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Looming Fiscal Dominance?

- Low-frequency & interacting drivers. . .
  1. Aging populations & declining population growth
  2. Increasing polarization
  3. Rising populism
  4. Growing distrust in government institutions
  5. Expanding income inequality
- Present across countries to varying degrees
- Fiscal dominance strips away central bank operational independence
- Raise possibility historical norm—fiscal policy “takes care of itself”—will not be sustained

Blues for the Monetary Narrative

- Like a blues song: “call and response”
  - present a proposition of the Monetary Narrative (“call”)
  - offer counterargument/counterexample (“response”)
  - taken together, propositions comprise the full narrative
- What do I mean by “inflation”?
  - sustained periods of price-level growth above target
  - not temporary fluctuations
- Sprinkle in empirical evidence
  - mostly informal

Elements of the Monetary Narrative

Proposition #1

Inflation is always and everywhere a monetary phenomenon [Friedman (1963)]

The Reasoning:

- "Money" is special
- Used for transactions
- Dominated in rate of return
- Price level determined in money market only
- Beginning of the go-it-alone monetary policy view of inflation control

Money Is What Money Does

Seeing Beyond:

- Money's "specialness" was about stable money demand—not about policy *per se*
- What is "money?" Always vague. Does it include total government liabilities?
- The liabilities:
  - Currency (9.5%)
  - Reserves (13%)
  - Bonds (77.5%)

  These have the SAME BACKING—primary surpluses

- How can inflation depend on only a subset of liabilities?

The Price Level's Job

Seeing Beyond:

P = govt liabilities per goods basket

$$\boxed{\frac{\text{Liabilities}}{P} = \text{Assets}}$$

Liabilities: NOMINAL

- Promises to pay $$$
- NOT gold, NOT purchasing power

Assets: REAL

- Primary surpluses
- Indexed tax code
- Real expenditures

Two Policies, One Price Level

Seeing Beyond:

Demand for liabilities

$$\frac{L^d}{P} = \frac{1}{Q}E[PV(s)]$$

FISCAL POLICY

- Sets L (total liabilities)
- Sets s (primary surplus)

MONETARY POLICY

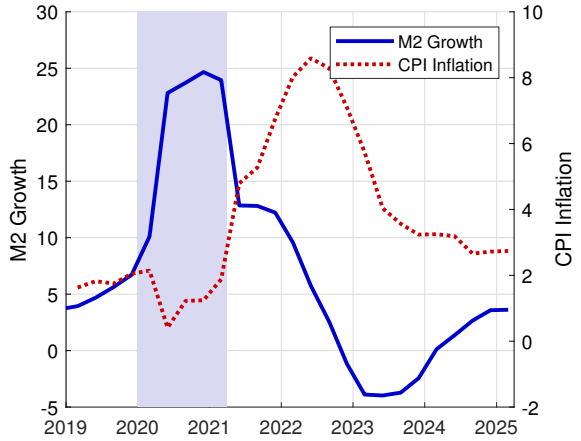
- Sets Q (nominal rates)
- Sets composition of L
- Affects level of L

Policies interact to determine P

The Monetarist Story: M2 Drives Inflation

Seeing Beyond:

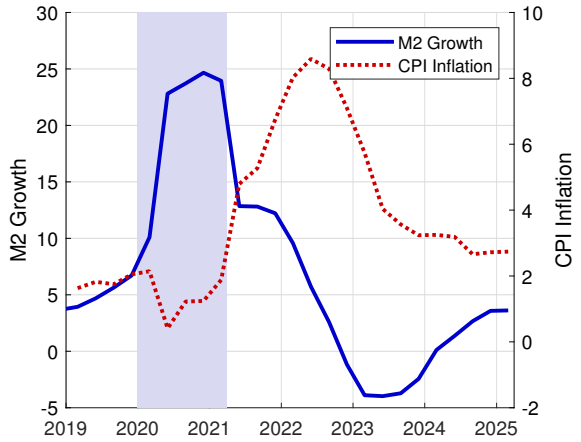
The Correlation: March 2020 - December 2023

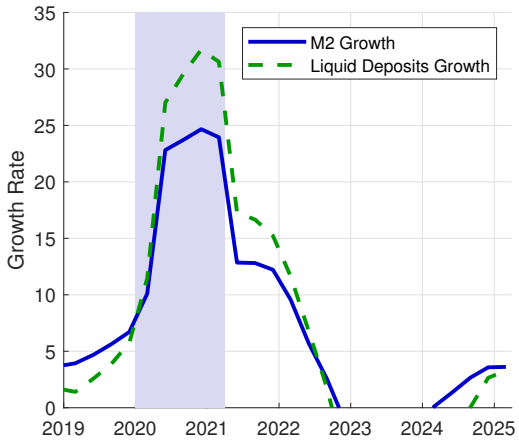


Where Did M2 Come From?

Seeing Beyond:

The Impulse: $5 Trillion in Direct Payments

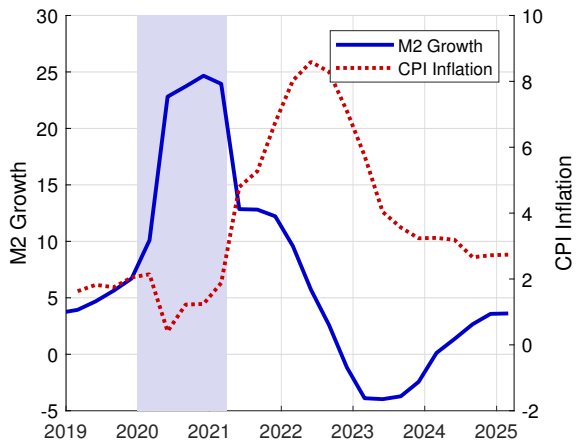


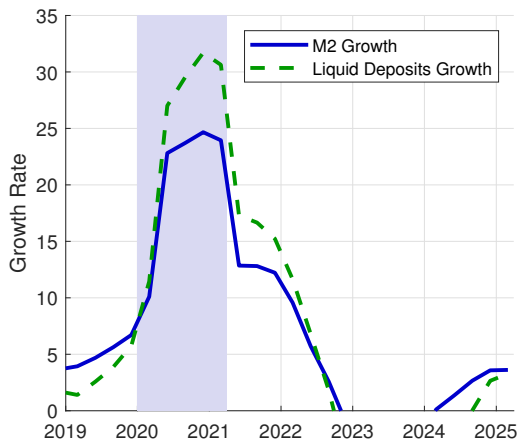


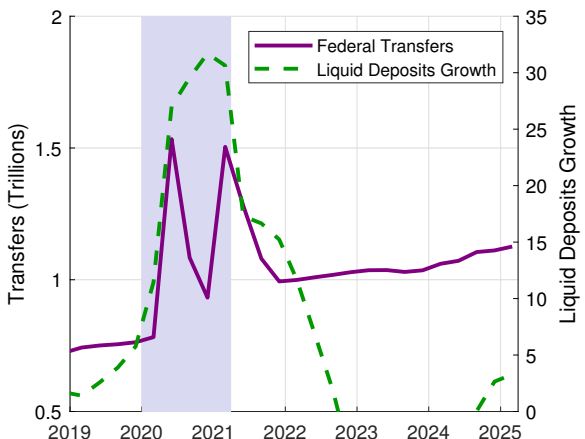
Causal Chain: Transfers to Bank Deposits

Seeing Beyond:

The Process: Fiscal Transfers Create Money



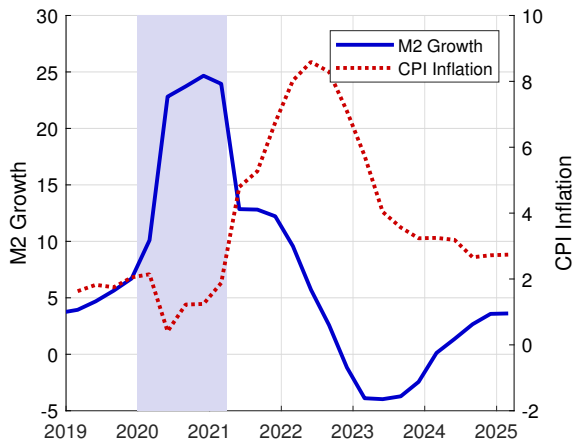


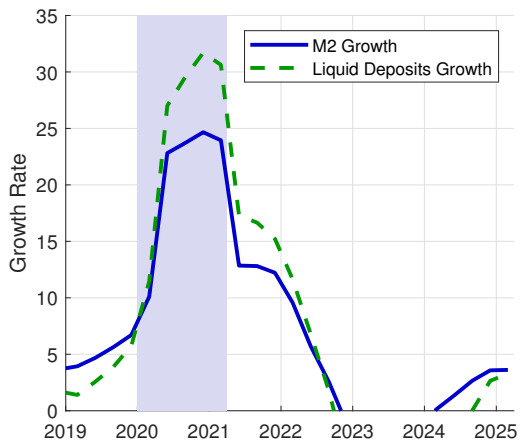


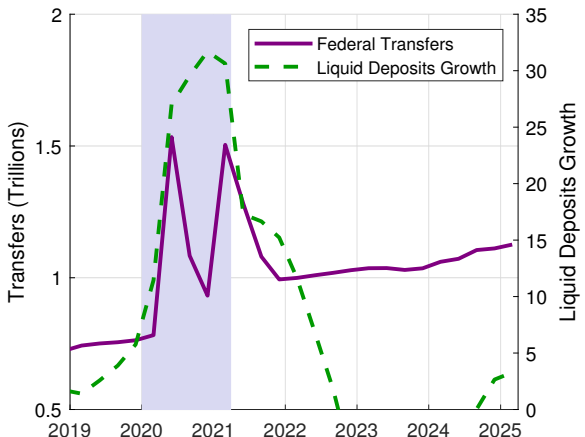
Fiscal Foundation: Unbacked Debt Growth

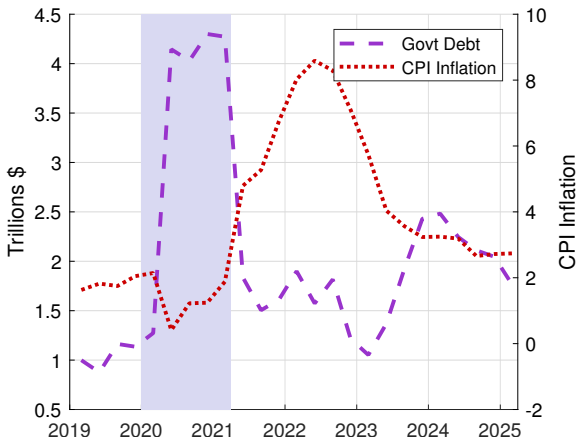
Seeing Beyond:

The Resolution: Inflation as Equilibrium Adjustment









Elements of the Monetary Narrative

Proposition #2

A committed & independent central bank can control inflation

The Reasoning:

- Commitment gets closer to fully optimal policy
- Independence frees monetary policy from political pressure
- If left unfettered, monetary policy can always control inflation
- Commitment $+$ independence necessary & sufficient for inflation control

Independence From What?

Seeing Beyond:

- Time-inconsistency a real issue for monetary & fiscal policy
- "Independence" is a fuzzy concept:
  - political?
  - operational?
  - economic?

  Commitment $+$ "independence" $\not\Rightarrow$ MP controls inflation
- Policies intertwined by government budget
- Central banks are political creations
- Economic independence a fiction
- Theoretical counterexamples trivial to construct

An Everyday Counterexample

Seeing Beyond:

- Example where MP *cannot* offset fiscal inflation
- Constant *expected* real interest rate
- MP: fixed rule—raises policy rate aggressively with inflation (committed & independent)
- FP: constant primary surplus $+$ random term (equally committed & independent)
- Nominal one-period debt
- One-time fiscal expansion—transfer payment
- Surprise transfers raise inflation, reduce real rate
- Nominal interest rate, inflation, nominal debt explode

Committed Central Bank Fails

The Setup:

1. Central bank is **independent**
   - Chooses a fixed rule: raise policy rate aggressively with inflation
2. Central bank is **committed**
   - Never deviates from rule: expectations of policy anchored
3. Fiscal authority makes one-time transfer: 1% of GDP

The Result:

1. Period 1: Transfer creates inflation of 3.02%
   - Real return: $\mathbf{-0.02\%}$ (finances the transfer)
2. Over 5 periods:
   - Policy rate rises: 3% $\rightarrow$ 11.52%
   - Inflation explodes: 2% $\rightarrow$ 7.43%

Independence + Commitment $\neq$ Inflation Control

Elements of the Monetary Narrative

Proposition #3

Contractionary monetary policy that raises the interest rate reduces inflation.

The Reasoning:

- Higher policy rate raises real rate
  - consumers & firms substitute out of current, into future demand
  - other aspects of transmission mechanism reinforce decline in demand
  - output falls below potential
  - firms reduce prices in face of depressed costs & demand
  - inflation falls via the Phillips curve

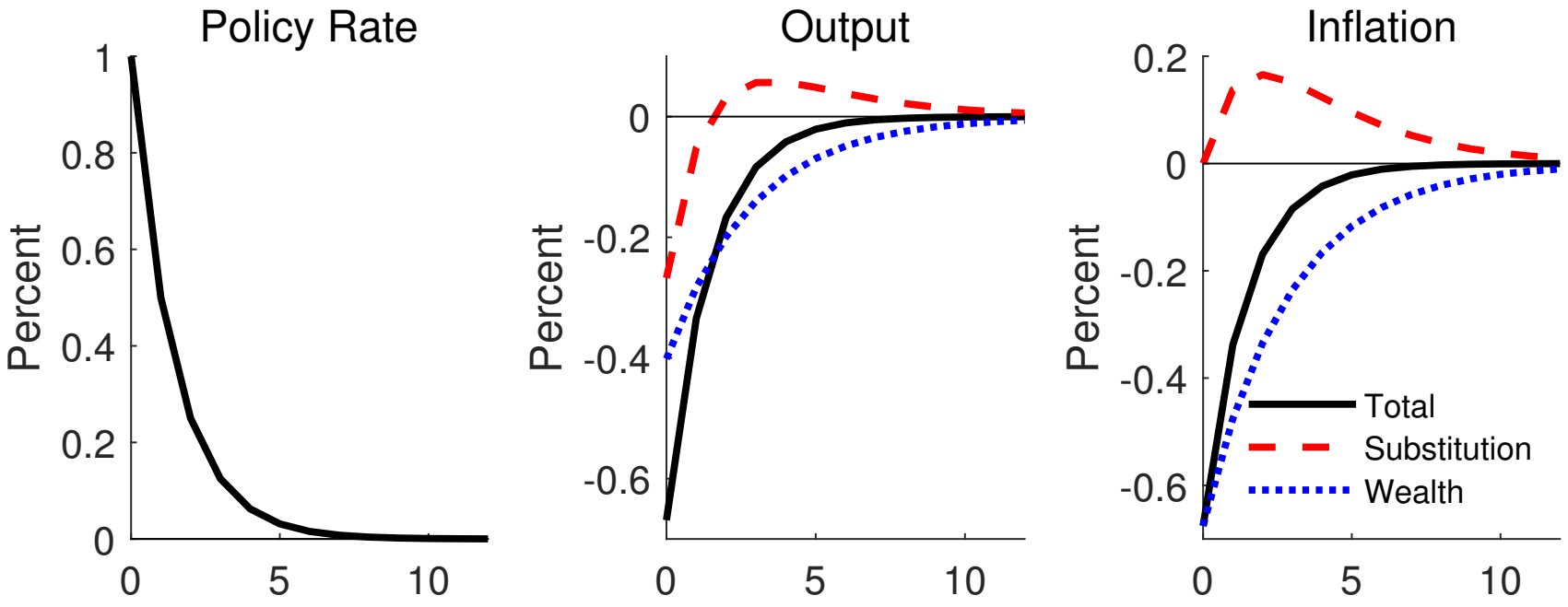
Is That the Whole Story?

Seeing Beyond:

- Higher interest rates raise interest payments on government debt
  - raise private-sector wealth (if not taxed away)
  - raises current & future aggregate demand
  - drives up inflation
- The Proposition forgot to mention something
  - fiscal contraction wipes out wealth effect
- Some old-fashioned microeconomics in new Keynesian model

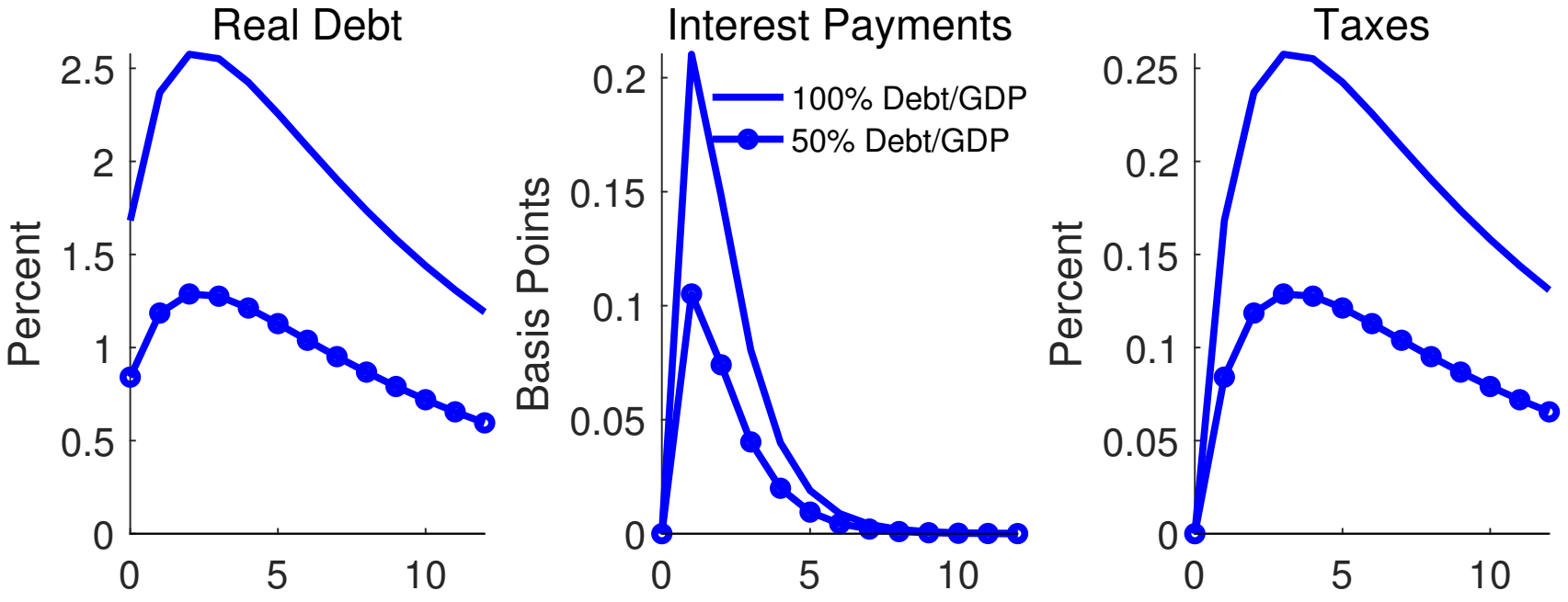
$$\text{Total Effect} = \text{Substitution Effect} + \text{Wealth Effect}$$

Microeconomic Decomposition



- Monetary policy does not live by substitution alone
- Negative wealth effects *essential* to Proposition

The *Sub Rosa* Fiscal Response



- Fiscal contraction follows monetary contraction
- Higher debt needs stronger fiscal backing

Elements of the Monetary Narrative

Proposition #4

"An effective commitment to long-run price stability is a nominal anchor. . . a target rate of inflation communicates to the public the price level the central bank is aiming to achieve at specified dates in the future" [Bernanke et al. (1999)]

The Reasoning:

- Monetary policy alone can convert a bubble asset into a fundamental asset
  - solves the "speculative hyperinflations" problem inherent to fiat currency
  - anchors long-run expectations of inflation
- Credibility & commitment front and center

Is the Anchor Tethered?

Seeing Beyond:

- What is the "fundamental" that monetary policy controls to back the inflation target?
  - can a purely *nominal* commitment anchor beliefs?
- Theoretical work (implicitly) adjusts fiscal policy to validate hyperinflations
- How can even a firm commitment to π^* anchor expectations?
- Two examples of nominal anchors
  - gold standard
  - price level target (easier to reason through than inflation target)

Gold: A Real Commitment

Seeing Beyond:

Gold Standard

Government announces:

Will exchange gold for dollars at parity G^*

Credibility requires:

- People believe govt will acquire gold necessary to fulfill transactions
- Need resources to buy gold—**taxes** (run on dollars quickly exhausts gold reserves)
- Govt's command of resources makes G^* credible

Gold standard carries a fiscal commitment

A Commitment of Words

Seeing Beyond:

Price level target

CB promises: "Do whatever it takes" to hit P^*

Key difference from gold:

No one can demand goods for dollars—that's what "fiat currency" means

But "whatever it takes" has fiscal consequences:

- Raise real interest rates $\rightarrow$ higher interest payments
- Higher wealth $\rightarrow$ higher demand
- **Requires taxes to offset wealth effect**
- MP has no tools to offset wealth effect

Elements of the Monetary Narrative

Proposition #5

Setting the policy interest rate (i) equal to the natural rate of interest (r^*) plus the inflation target (π^*) permits monetary policy to offset shocks to aggregate demand that would otherwise move the economy away from the desired position. [Woodford (2003)]

The Reasoning:

- r^* reflects all shocks to demand
- Higher r^* raises demand—can be offset with higher policy rate
- Delivers natural rate of output under flexible prices
- Even skeptical CBers frame policy as tracking r^*

Missing Half the Story

Seeing Beyond:

- Proposition is incomplete: what clears government budget?
- Any change in policy rate perturbs government budgets
  - higher rate reduces bond prices, requires larger face value of debt
  - higher rate raises future interest payments
- Outcome depends on fiscal backing of MP
- I'm setting aside. . .
  - formidable issues with measuring r^*
  - assumed neutrality of MP under flexible prices

Navigating By the Stars

Same Shock, Different Fiscal Worlds

Seeing Beyond:

Workhorse new Keynesian model

Claim: Setting $i_t = r_t^* + \pi^*$ stabilizes everything at zero

Test case: transitory increase in government purchases raises r_t^*
MP responds by raising i_t; if expected inflation unchanged, real interest rate rises

Case 1: Fully Backed

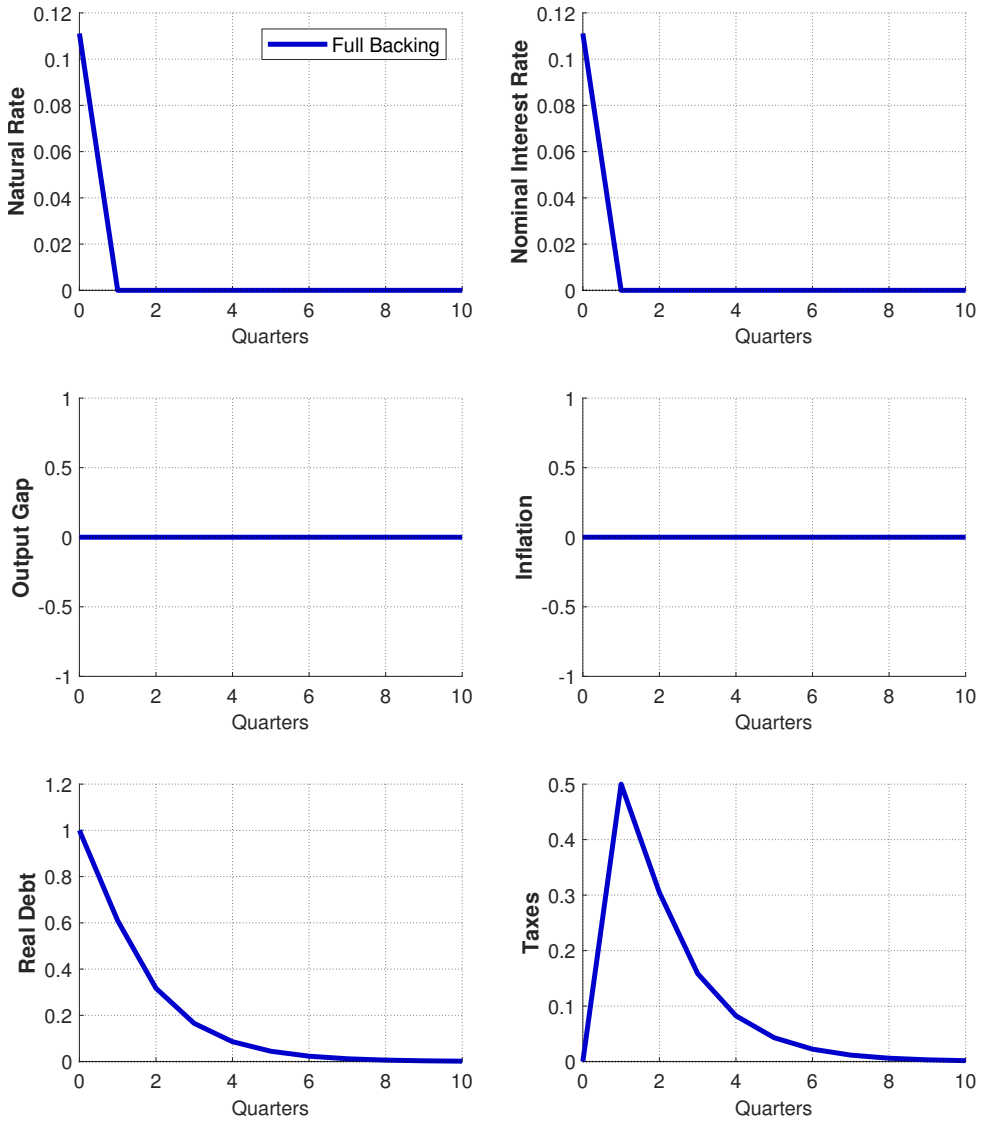
- FP adjusts taxes
- Offsets wealth effects
- Stabilization works

Case 2: Unbacked

- FP does nothing
- Wealth effects persist
- Inflation & output rise

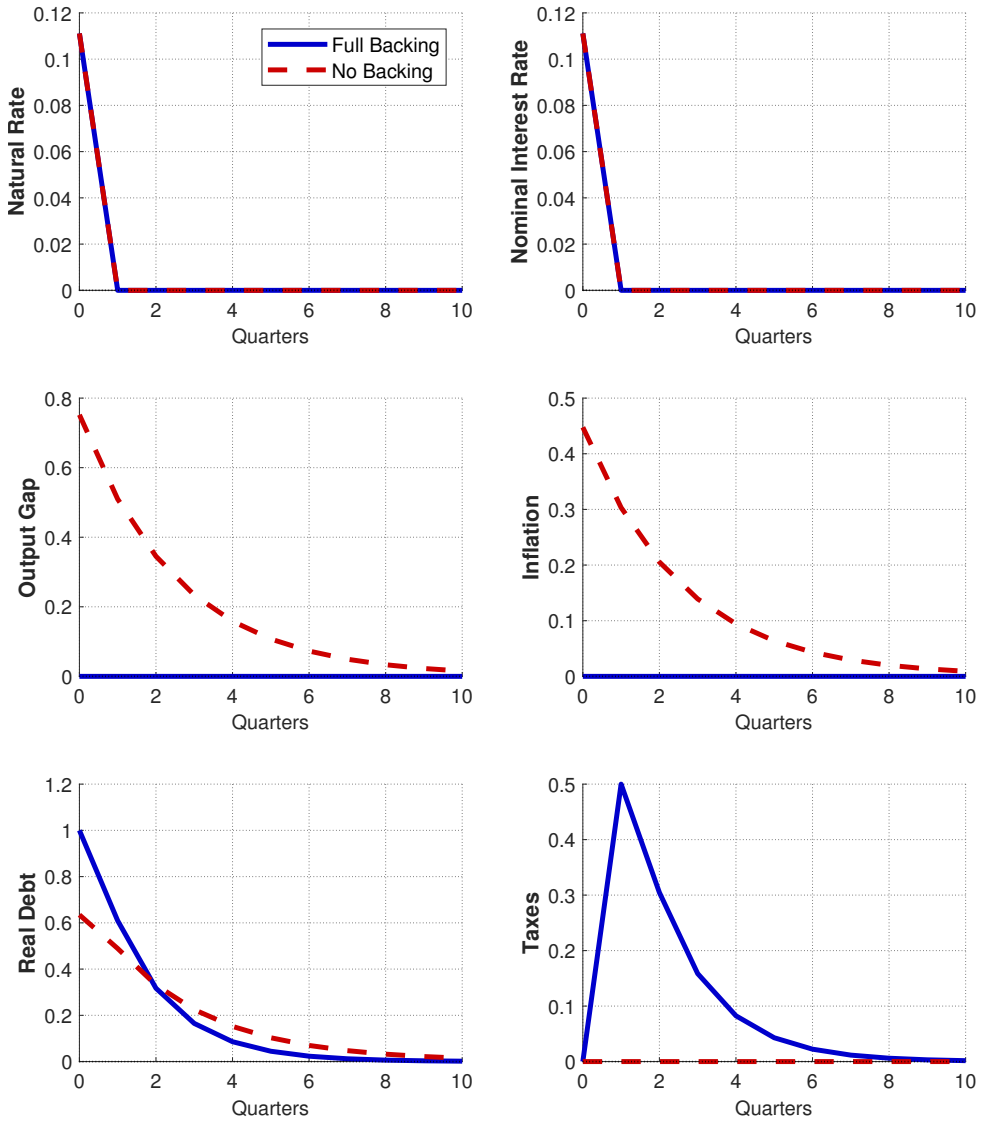
Same result for *any* shock to r^*

When the Narrative Works



Fiscal backing: supports the narrative

When It Don't



No fiscal backing: contradicts the narrative

Elements of the Monetary Narrative

Proposition #6

"If the Federal Reserve's inflation targets are treated as sacrosanct, what is the safety valve for unsustainable debt…? Austerity? Financial repression? Outright default?" [Rogoff (2025)]

The Reasoning:

- "Sacrosanct" = too sacred to be interfered with
  - elevates inflation target to holy writ
  - removes inflation from the discussion
- Orthodoxy of the narrative forces painful choices
- Echoes moralistic view of debt:
  - Dutch/German/Norwegian/Swedish/Old English: same word for "debt" & "guilt"

Can the US Legally Default on Debt?

Seeing Beyond:

Legal status: Unsettled law

Supreme Court's "baffling" 1935 decision:

- Congress canceled payments in gold $\rightarrow$ unconstitutionally changed contract terms
- But Court offered **no remedy**
- Ruling: If govt repays in dollars, all is well
- **No restrictions on purchasing power of dollars**

Was this "default"? Yes and No

- ✓ Changed contract terms $=$ default
- × Not relevant to current fiat regime

Historical Debt Adjustments Through Inflation

Seeing Beyond:

- US regularly adjusts real debt burdens via inflation surprises
- No legal challenges—nominal contracts honored
- Two contrasting episodes:

Period Start	Period End	Change Debt/GDP	Nominal Return	Inflation	Real Return	GDP Growth	Deficit /GDP	Residual
1974	1981	3.0	7.5	−8.1	**−0.6**	−3.3	5.8	1.1
1981	1993	28.3	36.5	−11.6	**24.1**	−10.9	17.8	−3.5

Hall-Sargent (2001) decomposition. First period: inflation eroded debt. Second period: disinflation raised real burden.

If Treasury Actually Defaulted

Seeing Beyond:

Consequences of refusing payment:

- Cascade of lawsuits
- Treasury market collapse
- Global financial upheaval
- Permanent reputational damage

Fed's likely response:

- Massive market interventions
- Unlimited liquidity provision
- Complete fiscal dominance

How "sacrosanct" would inflation targets be in this light?

Questions Beyond the Monetary Narrative

1. How grounded are our policy institutions in the Monetary Narrative?
2. Do institutional arrangements work once we acknowledge fiscal foundations?
3. How should we redesign institutions given these realities?
4. What can monetary policy achieve under fiscal dominance?

The fundamental inconsistency:
If we don't trust politicians with money printing, why trust them with debt printing?

I don't have answers—but we must ask the questions

Meanwhile, What Can Central Bankers Do?

- Stop living in a state of denial

  "Deficit financing and debt service issues play no role in our policy decision and never will" [Waller (2021)]

- Channel their inner Paul Volcker
  - deeply committed to controlling inflation
  - firmly believed in the importance of Fed independence
  - understood inflation is intrinsically about monetary & fiscal policy
  - talked honestly about policy interactions

Volcker Before Congress

- With Volcker we heard . . .

  1. ". . . we should not rely on monetary policy alone. . . to solve our economic problems. We also need a sustained, disciplined fiscal policy" (1979)

  2. "Monetary policy cannot—without peril—be relied on alone to reduce inflation. . . fiscal policy [plays] a central role" (1980)

  3. ". . . we must demonstrate a commitment to reduce inflation by consistently striving for budgetary discipline in the years ahead" (1980)

- Now we hear. . .

  "In the long run, the US is on an unsustainable fiscal path" [Powell (2025)]

US Fiscal Finance: Looking Forward

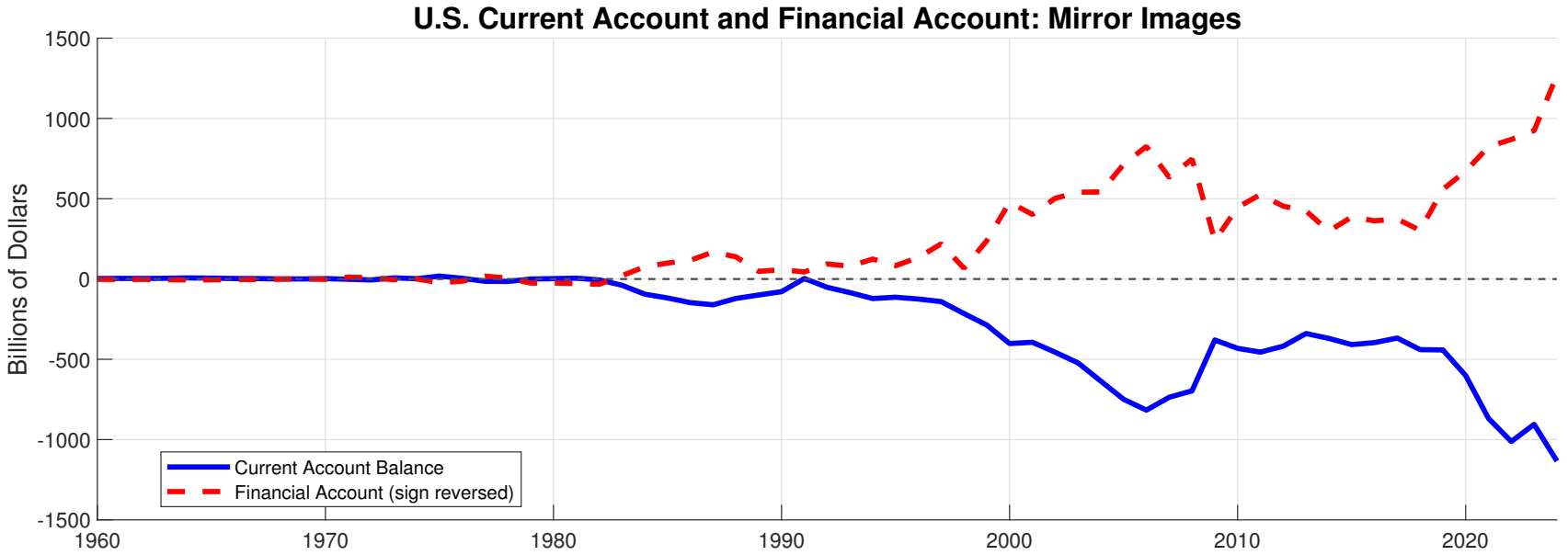
Shift to thinking about the future

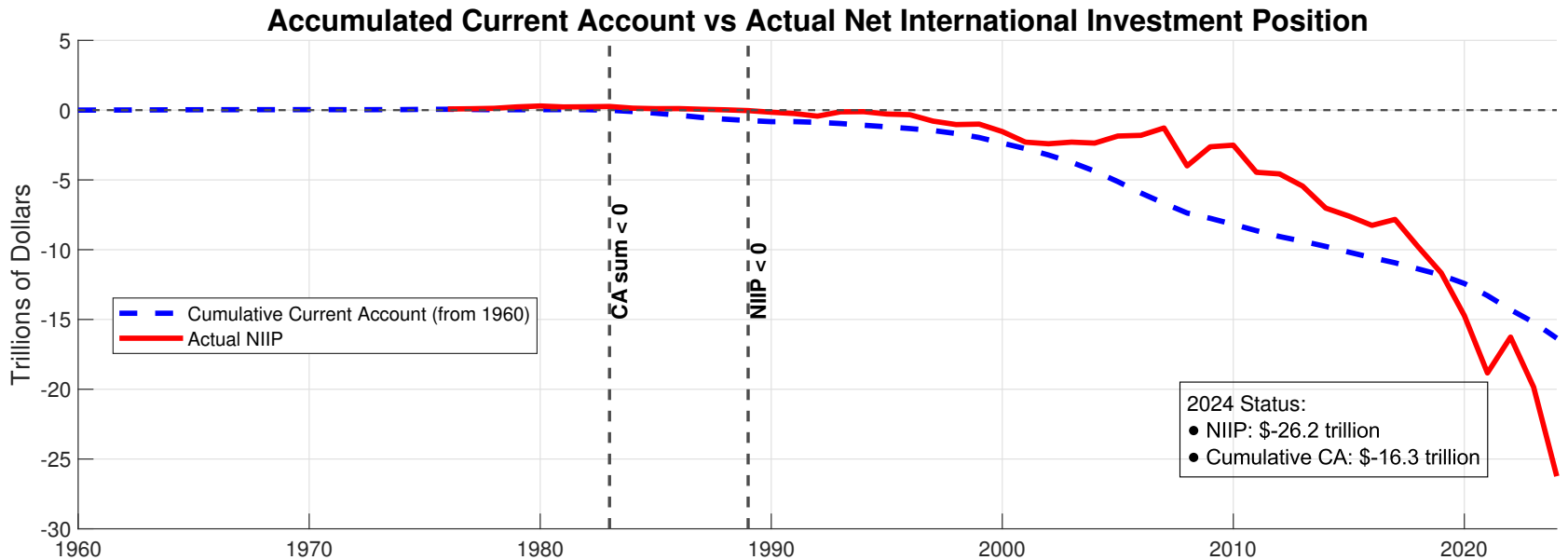
Two trends that threaten US fiscal space:

1. Declining foreign demand for Treasuries
2. Demographics $\rightarrow$ lower global savings

Result: Rising real rates & shrinking fiscal limits

Americans Borrow from Abroad—A Lot





NIIP Accounting

	Changes			
	2000–2019		2019–2024	
	Trillions Dollars	Annual Percent	Trillions Dollars	Annual Percent
Net International Investment Position	−9.1	**−9.2%**	−9.7	**−13.3%**
US Assets Abroad	17.2	5.2%	0.9	0.7%
Asset Components:				
Direct Investment	4.3	3.9%	0.7	1.5%
Portfolio Investment	9.1	**7.0%**	0.1	**0.1%**
Other Investment	1.8	**2.6%**	−0.2	**−0.7%**
US Liabilities	26.3	6.1%	10.6	4.9%
Liability Components:				
Direct Investment	5.9	4.8%	4.2	7.2%
Portfolio Investment	15.4	7.3%	5.5	4.8%
Other Investment	3.3	4.0%	0.8	2.5%

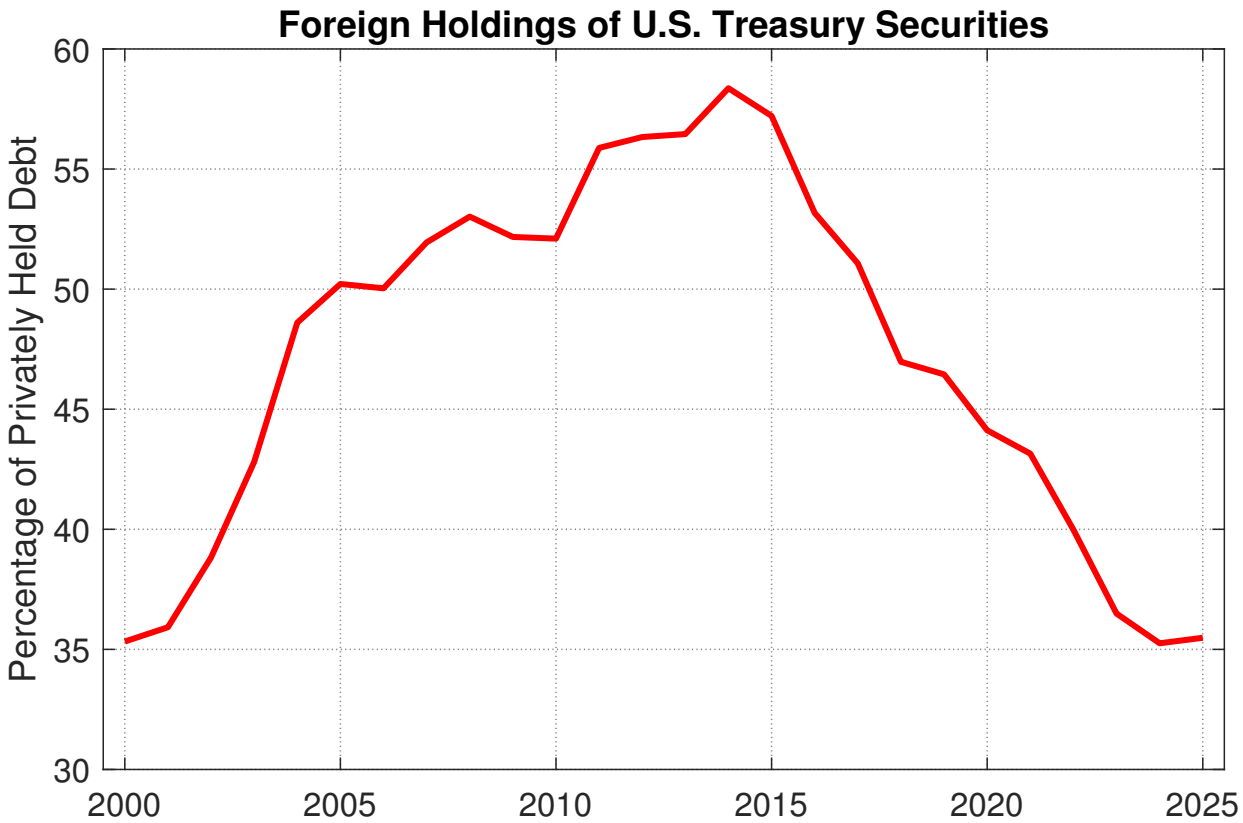
- Rate of indebtedness growing faster
- US assets abroad collapsed

NIIP Treasury Details

	Changes			
	2000–2019		2019–2024	
	Trillions Dollars	Annual Percent	Trillions Dollars	Annual Percent
Current Dollars:				
Total Treasury Debt	12.0	9.0%	9.8	10.7%
Treasury Securities (within Portfolio)	5.9	**10.6%**	1.6	**4.2%**
Constant Dollars:				
Total Treasury Debt	10.3	7.0%	5.4	6.6%
Treasury Securities (within Portfolio)	5.3	**8.5%**	0.1	**0.4%**

- Total Treasury debt growth similar in two periods
- Foreign absorption declined sharply (in current or constant dollars)

Foreign Holdings of Treasuries



- Percentage of privately held gross federal debt held by foreigners
- Biggest declines from China, Japan & Official Reserves

Global Demographics & Savings

The debate:

Bernanke (2005): Global savings glut drove down real rates

Blanchard (2019, 2022): Increased longevity dominates slower population growth

$\Rightarrow$ "continuing downward pressure on interest rate"

Goodhart-Pradhan (2020): Longevity $\Rightarrow$ greater prevalence of age-related diseases

$\Rightarrow$ will "chew up the extra savings"

What's the evidence?

A Little Empirics

Question: How will demographics affect global savings?

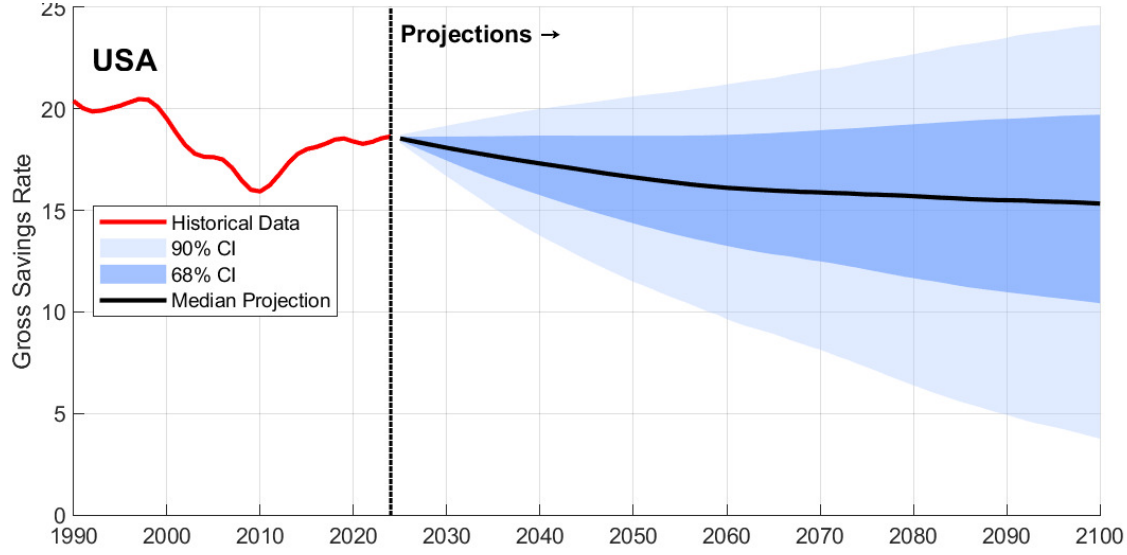
Approach:

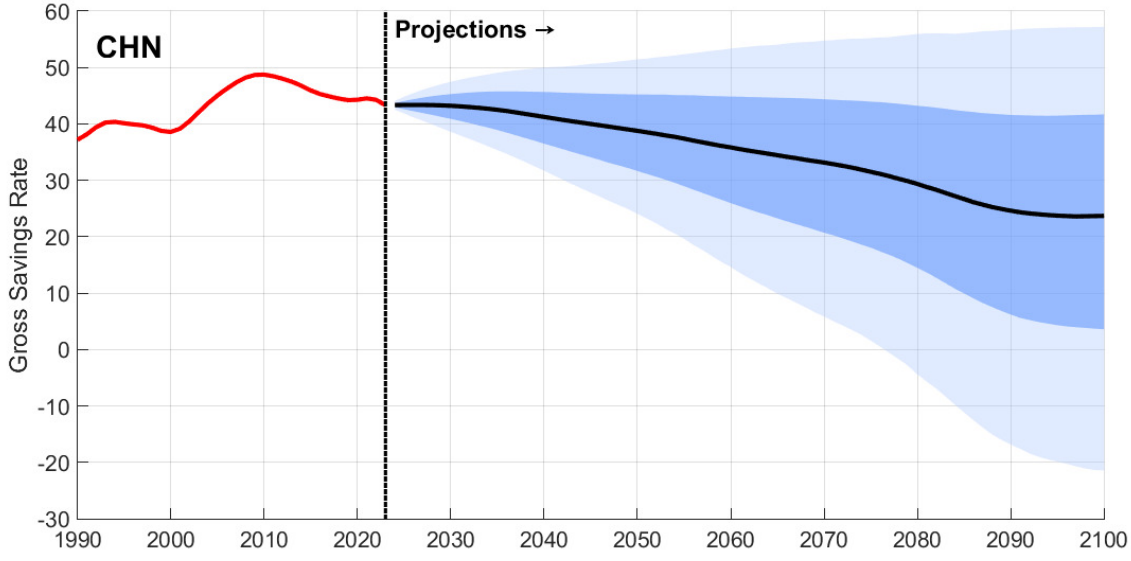
- 35 countries by real GDP 2024 (90% world GDP)
- Estimate: $s_t = \alpha_0 + \alpha_1 s_{t-1} + \beta_1 g_t + \beta_2 d_t + \epsilon_t$
  - s = savings rate
  - g = population growth
  - d = old-age dependency ratio
- Project forward using U.N. demographic forecasts

Data: World Bank (gross domestic savings rates), United Nations (demographics)

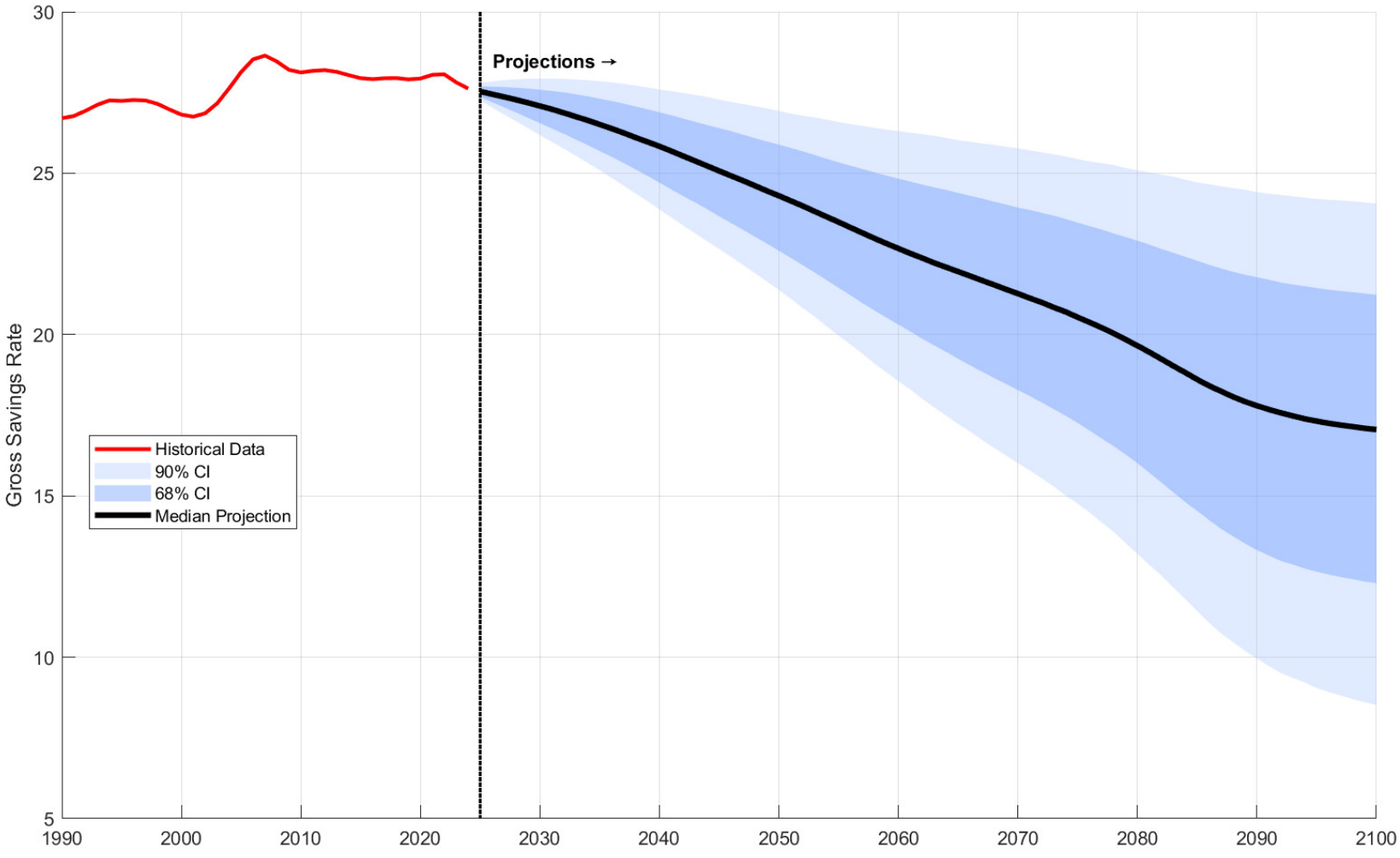
Method: Bayesian estimation, GDP-weighted aggregation

Projected Savings Rate: US & China





Projected World Savings Rate



The Future of r^*?

- r^* is supposed to be a medium- to long-run notion
- Tends to emphasize productivity in empirical estimates
- Why not include some things we know affect long-run developments?
  - demographics
  - technological innovation—AI
- Major implications for fiscal limits across countries
  - higher real rates reduce value of future primary surpluses
  - reduces distance between debt-GDP & limit
  - bad things happen