# Inequality and Macro-Finance

Atif Mian (Princeton University)
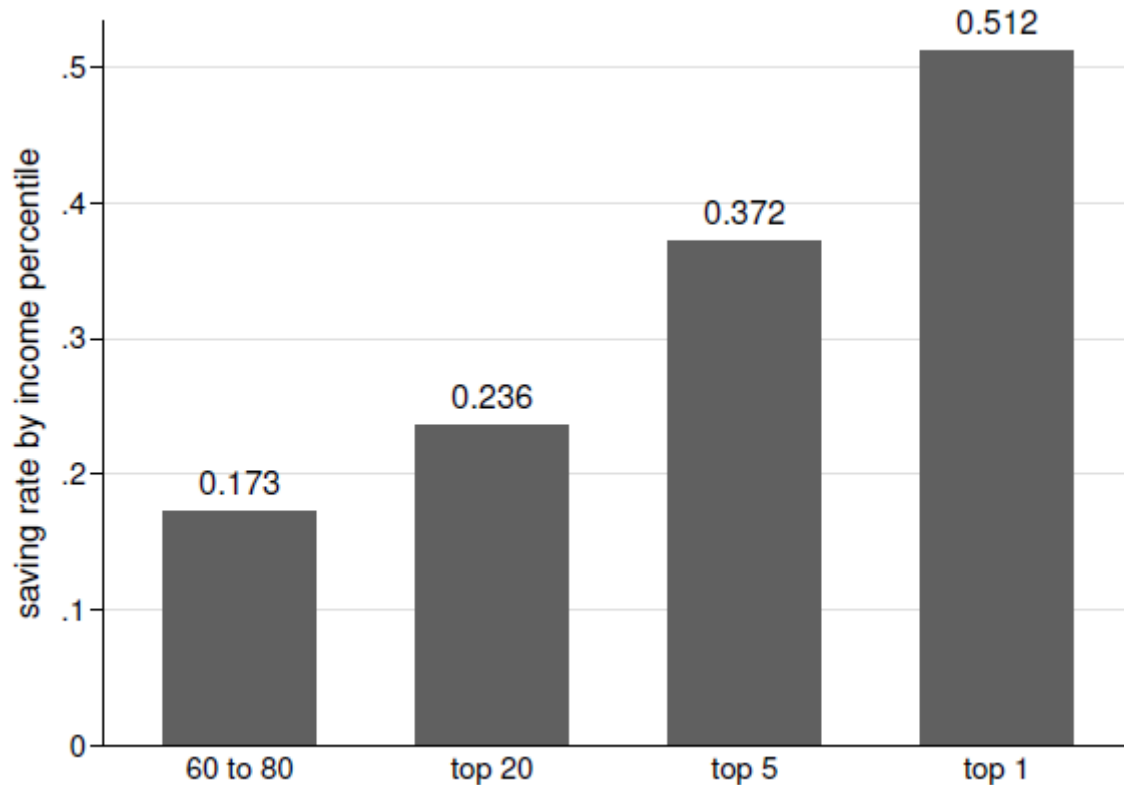
-based on joint work with

Amir Sufi (Chicago) and Ludwig Straub (Harvard)

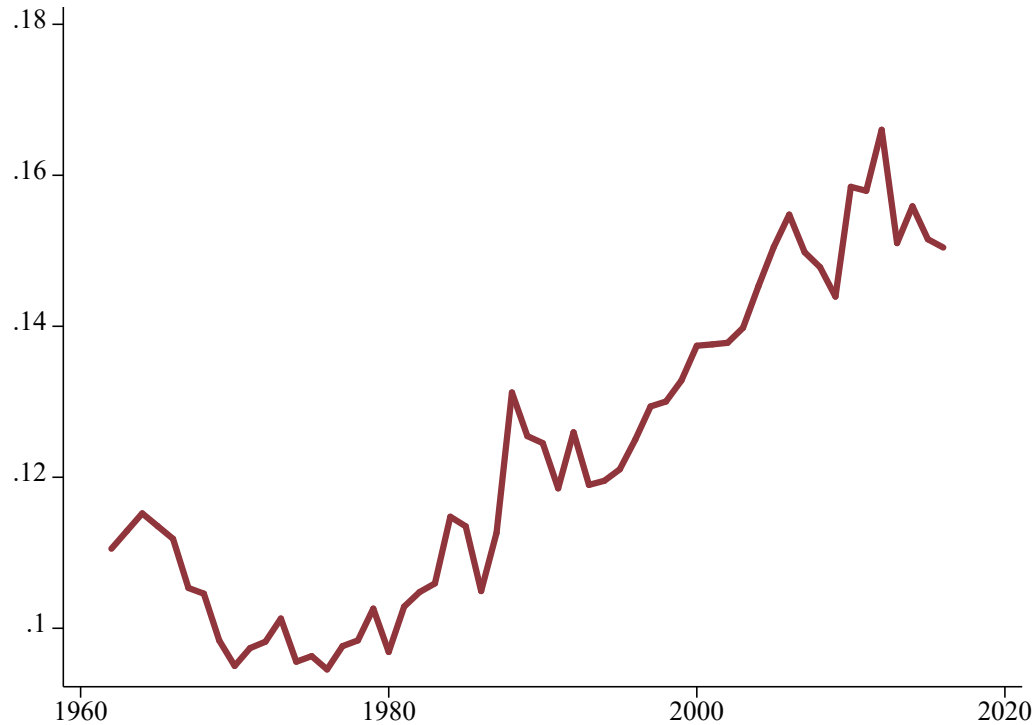# Fact #1: The rich save more out of *lifetime* income



Bar chart titled "saving rate by income percentile":
- 60 to 80: 0.173
- top 20: 0.236
- top 5: 0.372
- top 1: 0.512

From Dynan, et al, Table 3, column 2

# Fact #2: Rise in extreme inequality

## (share of income going to top 1%)

# Indebted Demand

- When rich save more out of lifetime income, and extreme inequality rises

  … need to stimulate demand today through debt creation: rich save/lend, non-rich borrow

  … but that reduces demand in the future when borrowers have to repay the debt

  … only solution is for interest rate to fall, so non-rich could borrow even more!

  … this **indebted demand** cycle continues, until interest rate hits zero lower bound (ZLB)

  … if extreme inequality persists, remain stuck in perpetual **debt trap**

# Indebted Demand model

- **Non-homothetic** preferences
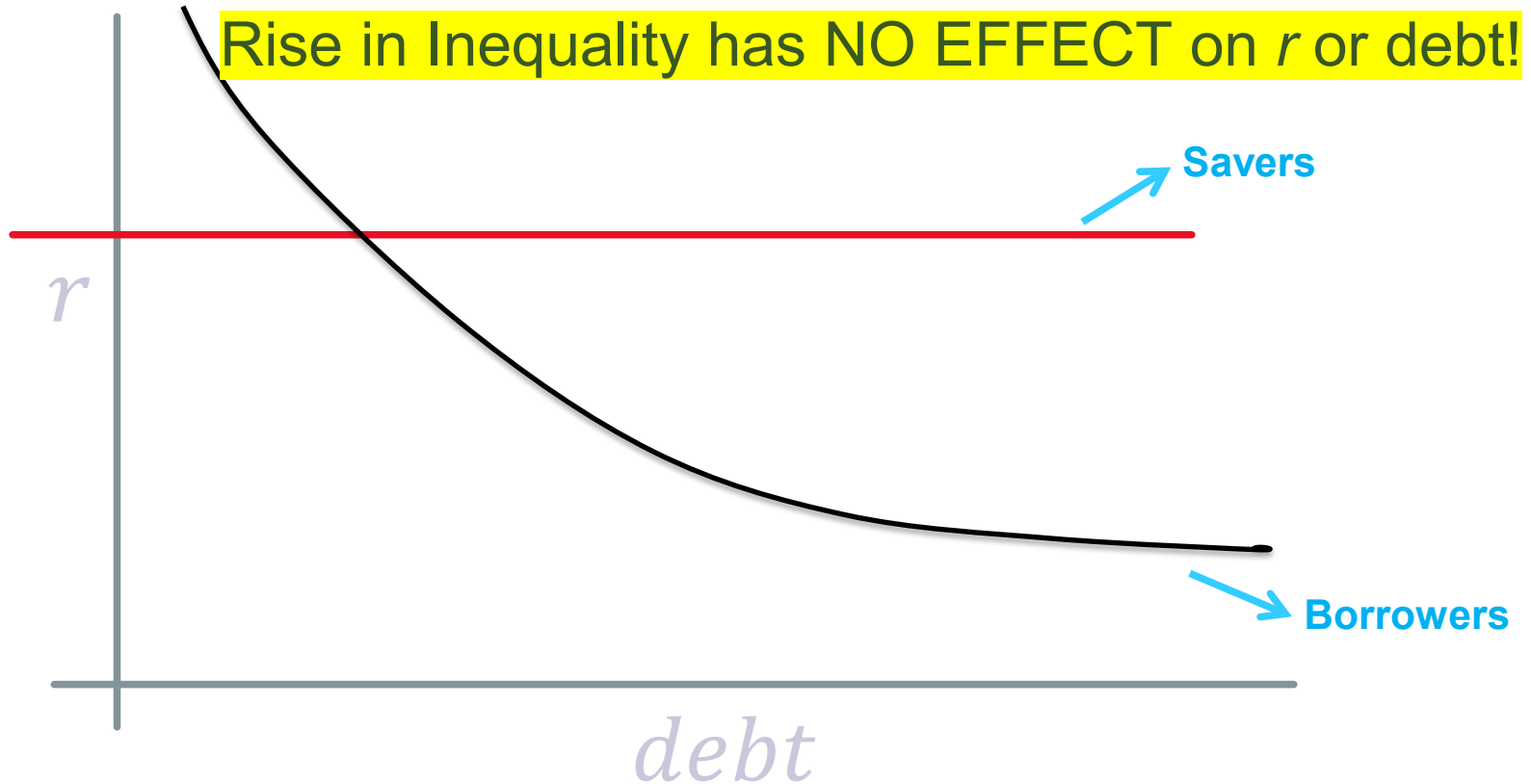  … people derive greater utility from accumulating wealth (*a*) as they get richer

$$\int_0^\infty e^{-(\rho+\delta)t} \left\{ \log c_t^i + \frac{\delta}{\rho} \cdot v(a_t^i) \right\} dt$$

- Euler equation in steady-state for the rich
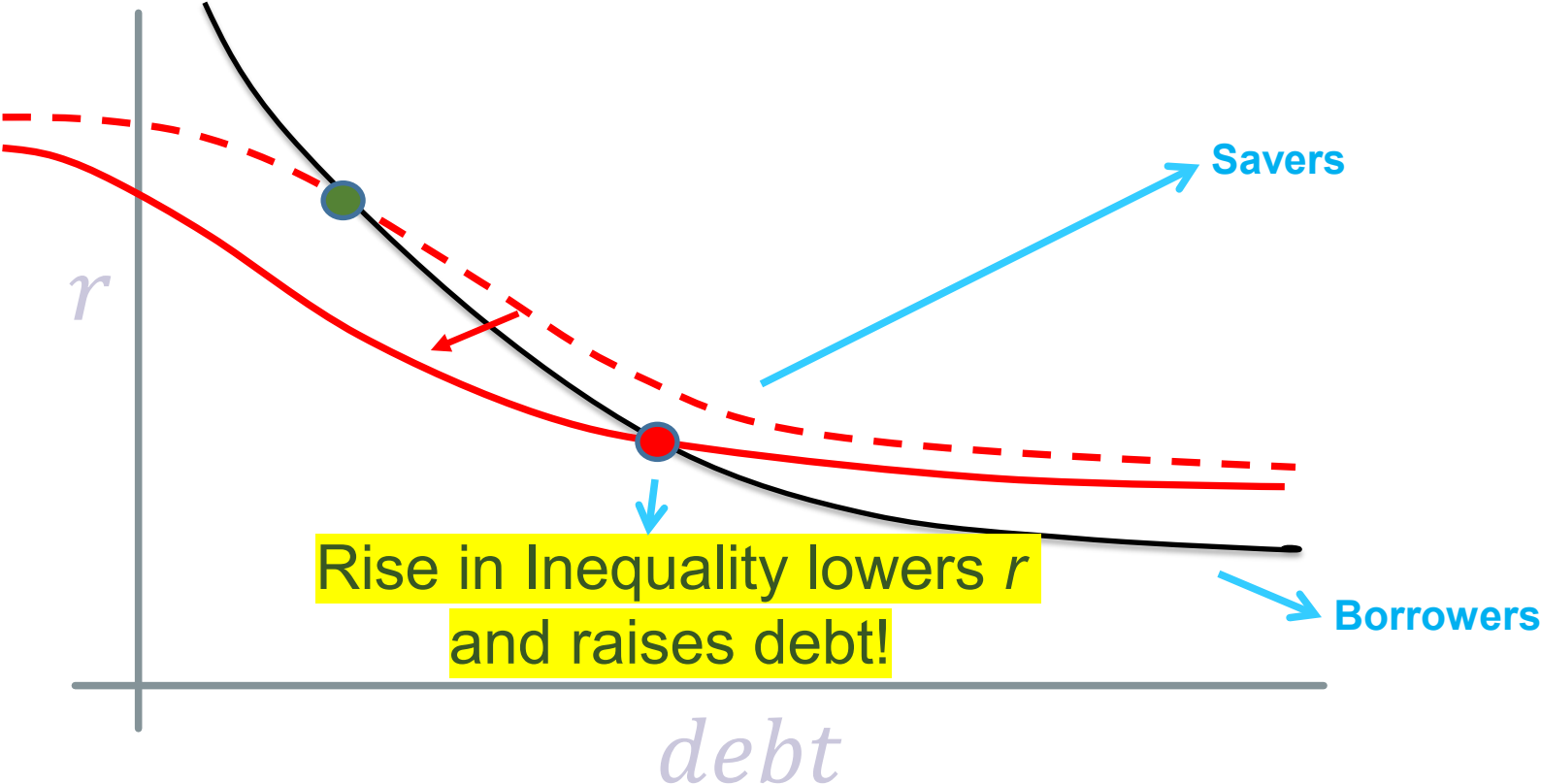  … determines the **long-run saving supply schedule**

$$r = \rho \cdot \frac{1 + \rho/\delta}{1 + \frac{\rho}{\delta} \cdot av'(a)}$$

See Mian, Sufi and Straub (QJE 2021) for formal details
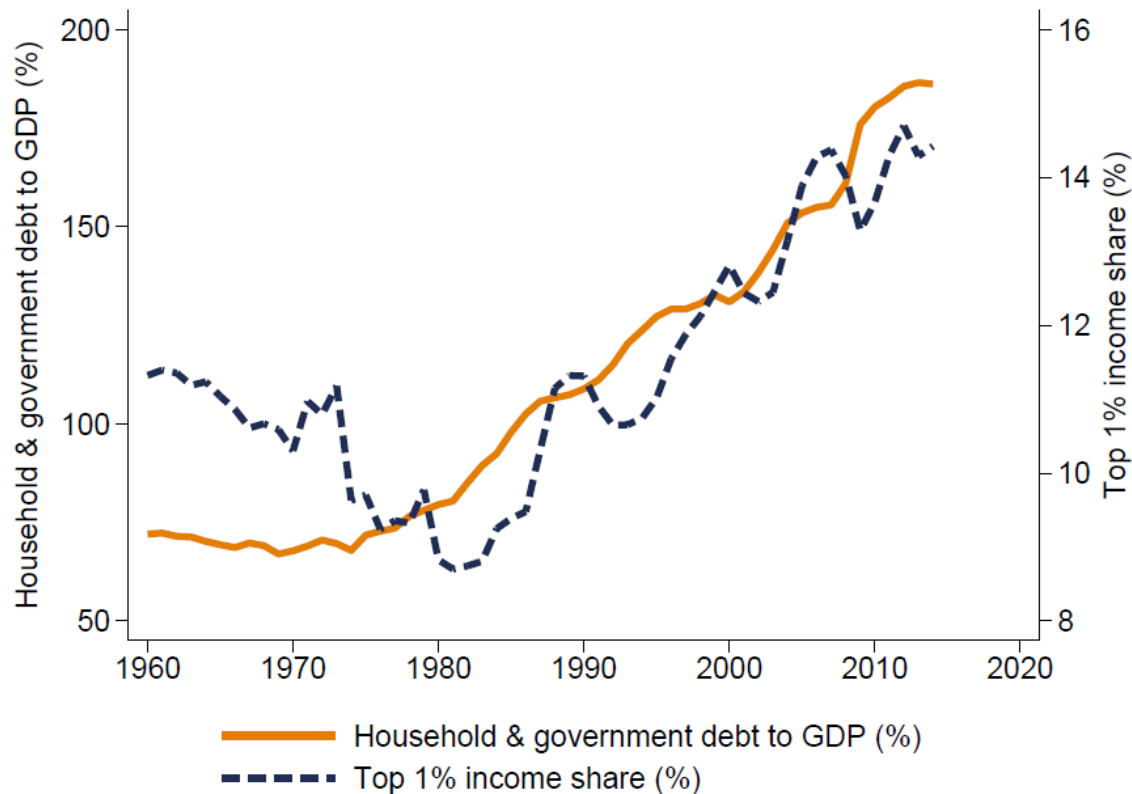
# **Standard homothetic models**



Rise in Inequality has NO EFFECT on *r* or debt!

*r*

*debt*

Savers

Borrowers

# Indebted Demand model

Savers

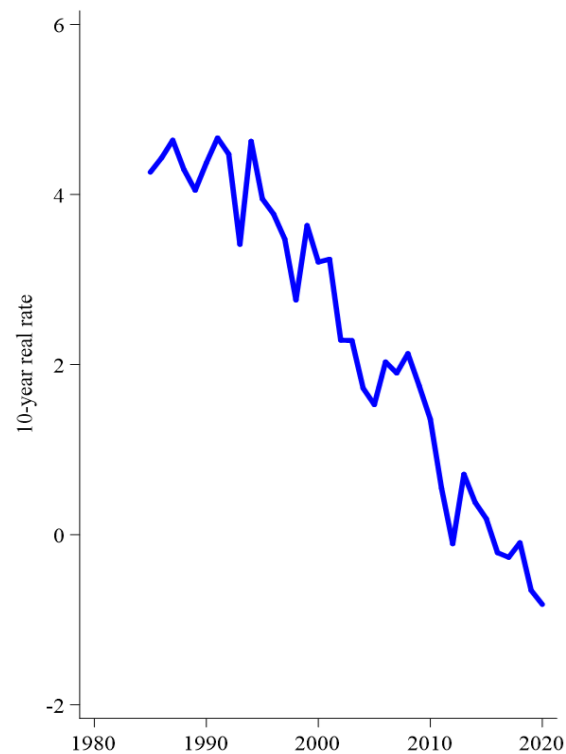Rise in Inequality lowers *r* and raises debt!

Borrowers

# Is the Indebted Demand theory
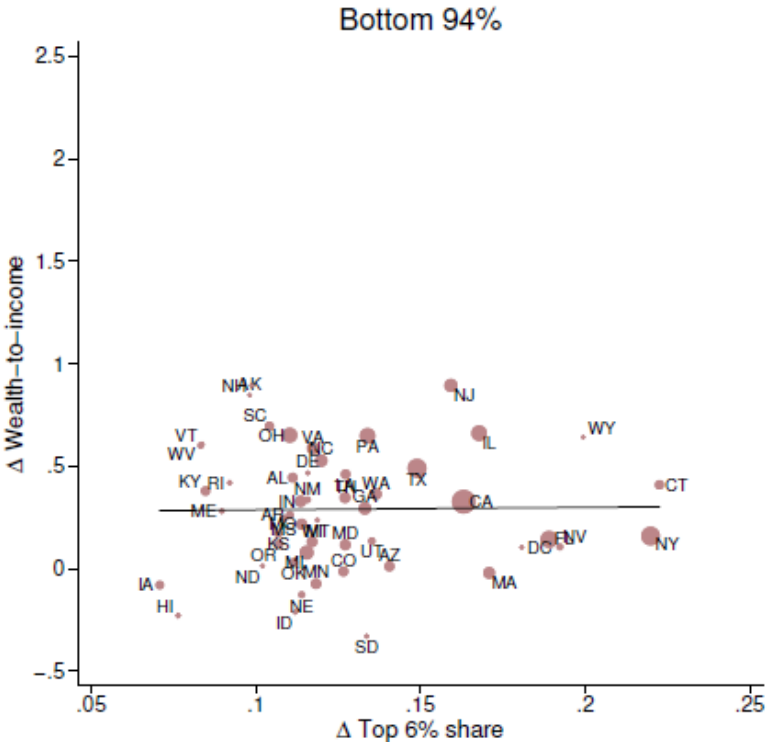
# empirically relevant?

# Rising inequality is associated with rising debt       …. and falling rates

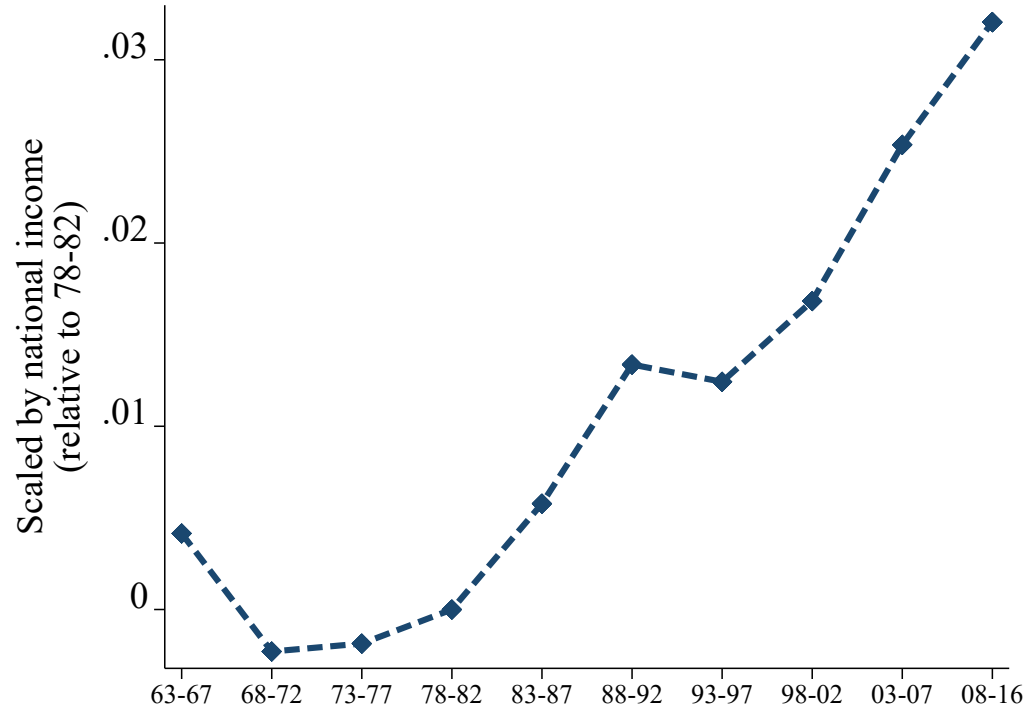# US State-level experiment
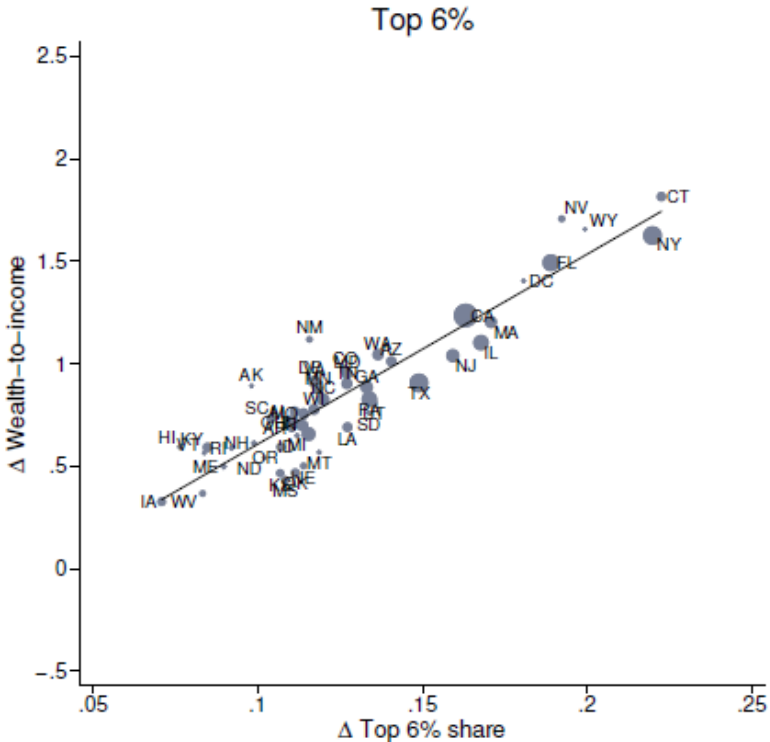
# Rise in saving coming from the top 1%
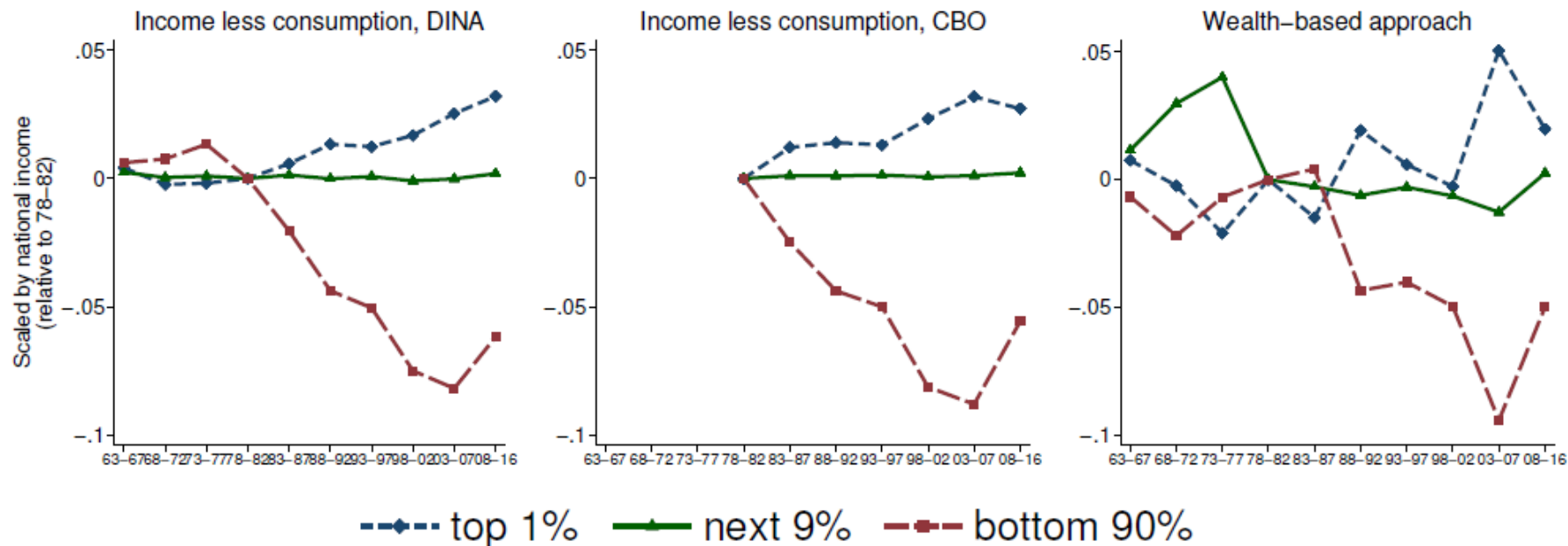


See Mian, Sufi and Straub ("Saving Glut of the Rich") for formal details
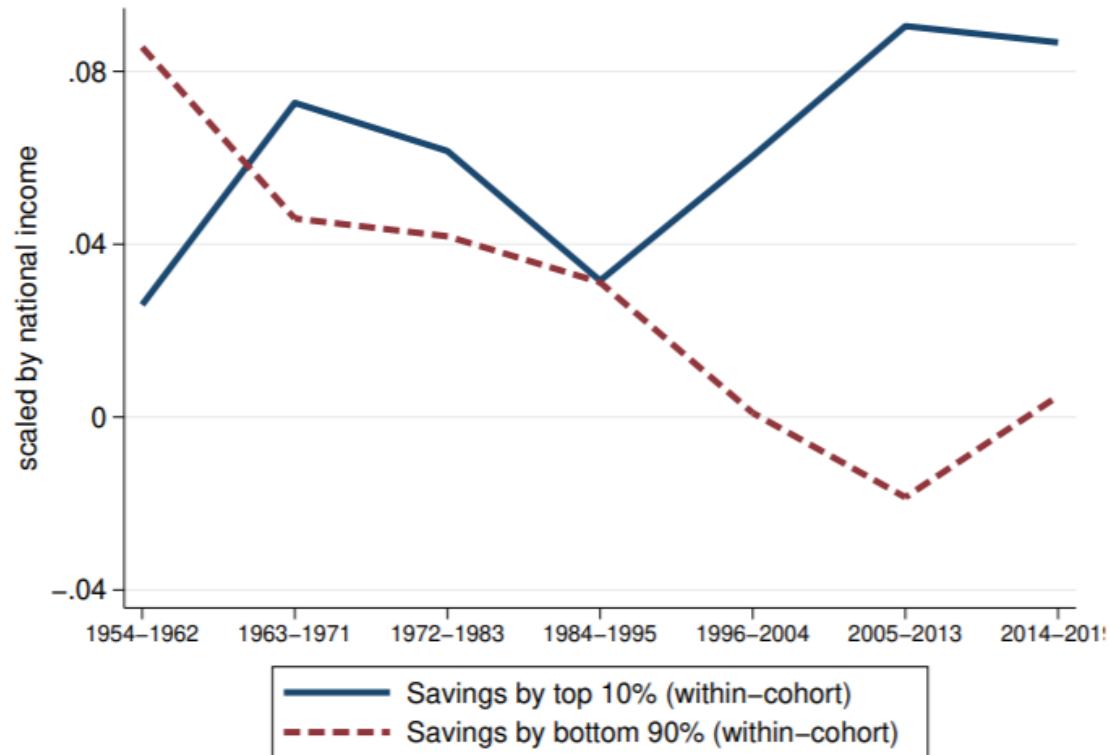
# Where does the saving glut of the rich go?
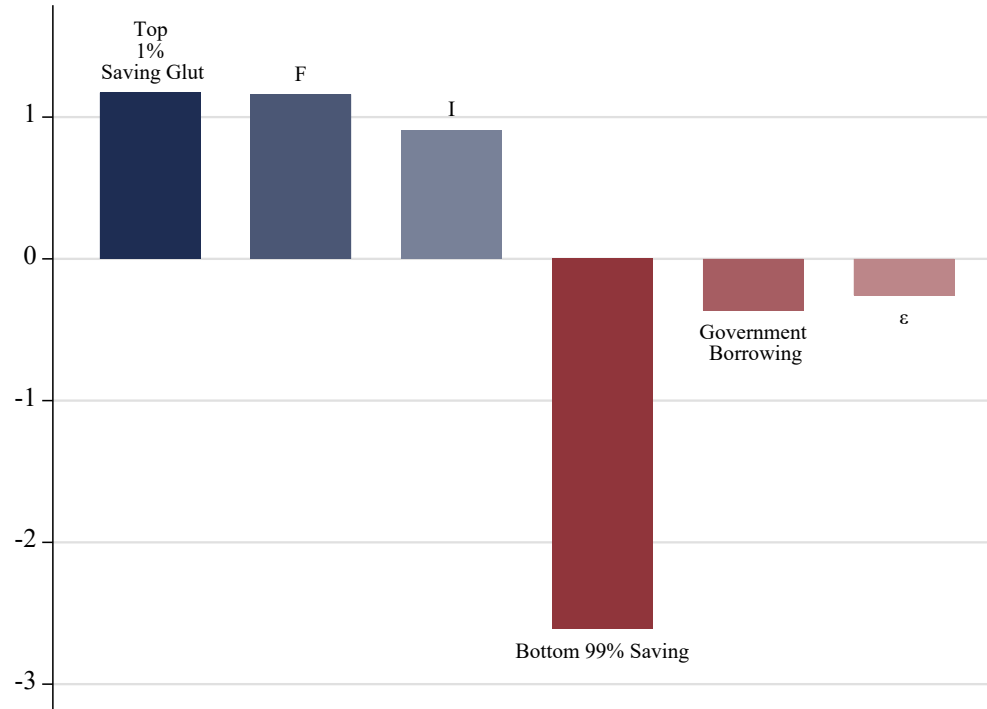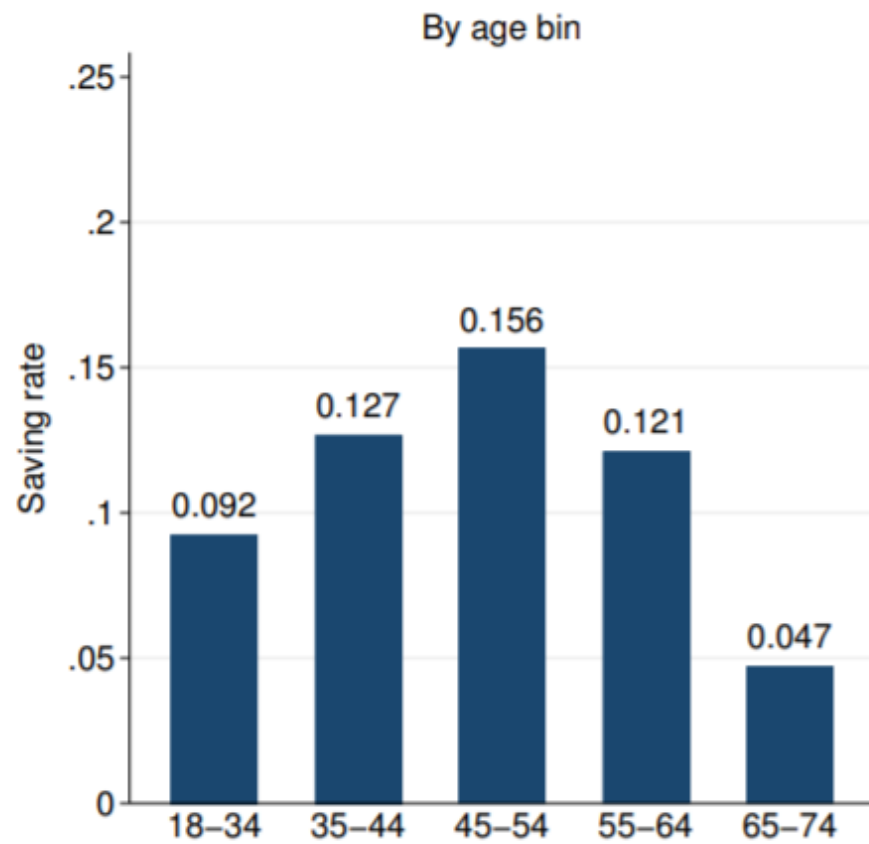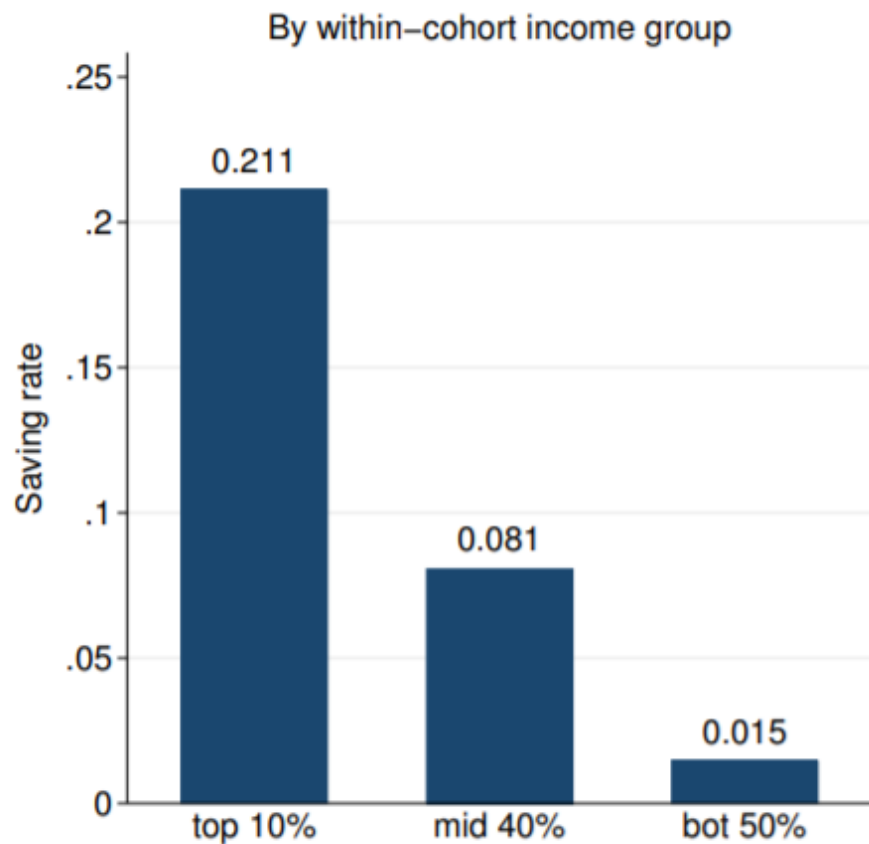
# Where does the saving glut of the rich go?

# Saving glut of the rich in the SCF+



See Mian, Sufi and Straub 2021 Jackson Hole symposium paper

# Estimated saving rates, 1953-2019



By within–cohort income group

By age bin

# Income shares over time, 1953-2019



Top 10% income share (within–cohort)
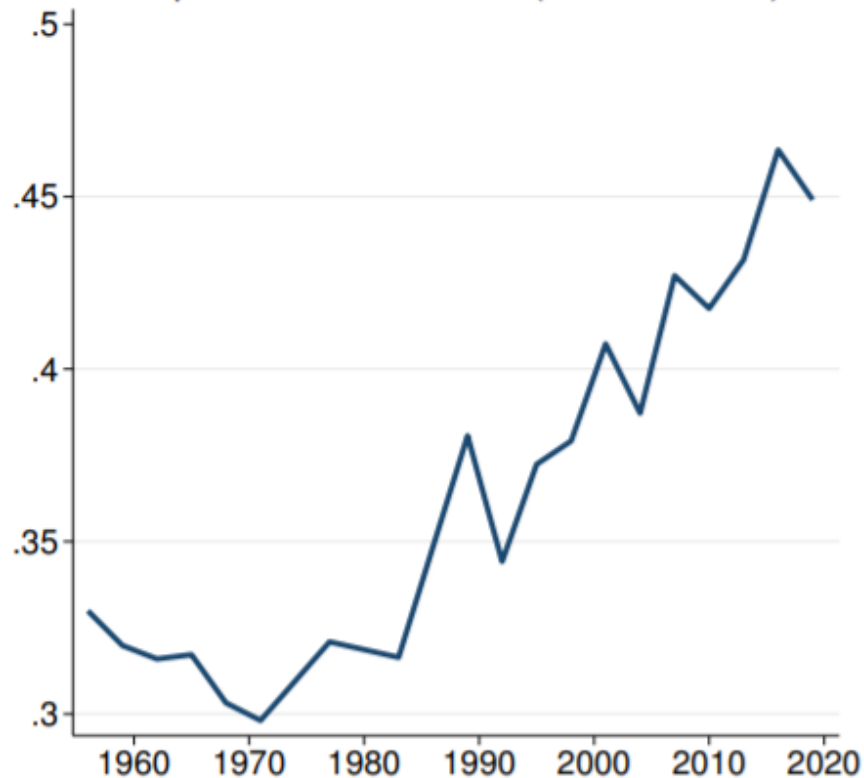
Age group 45–64 income share
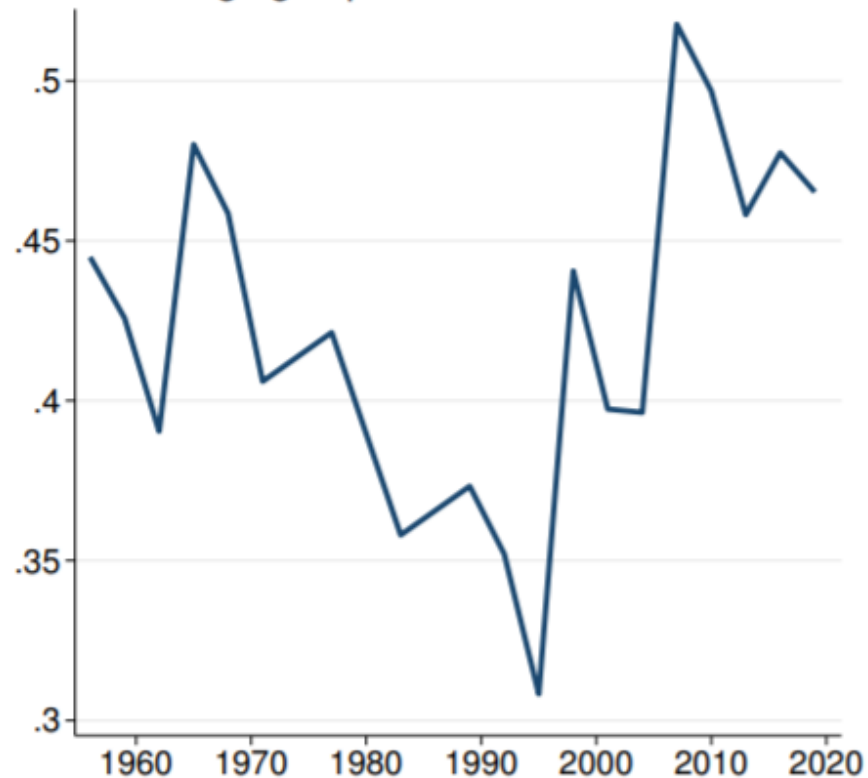
# Income shares: Inequality, demographics, and $r^*$



**Top 10% income share (within–cohort)**

R–sq = .74

1968
1965
1971
1962
1977
1983
1989
2001
1992
1998
2004
2007
1995
2019 2016
2010 2013

**Age group 45–64 income share**

R–sq = .04

1968
1965
1971
1962
1977
1989
1983
2001
1992
2004
1998
2007
1995
2019 2016
2013 2010
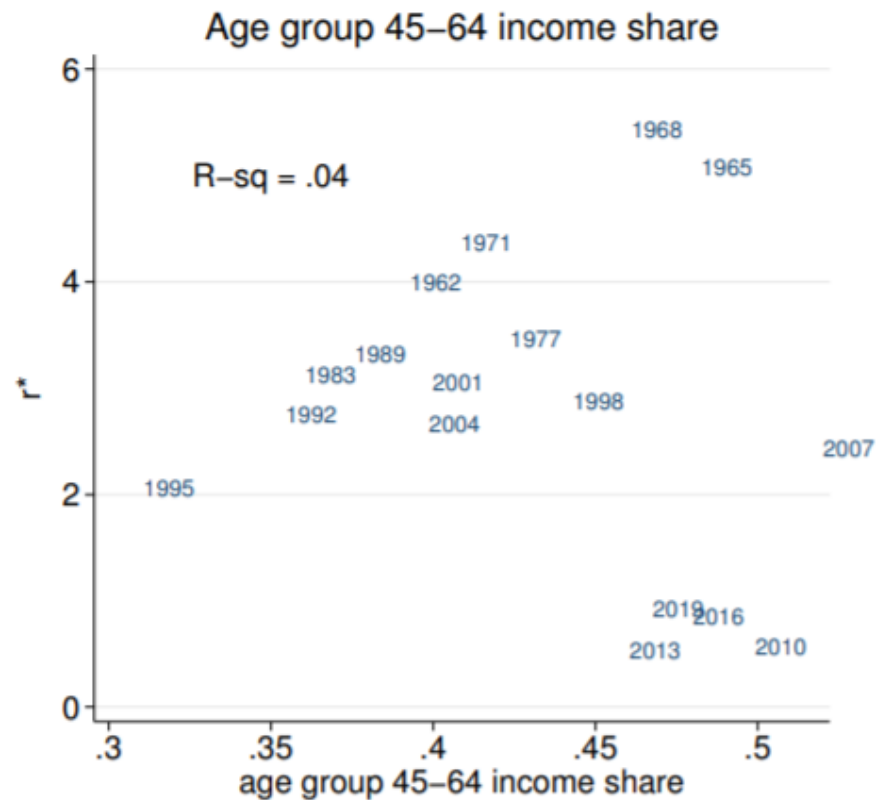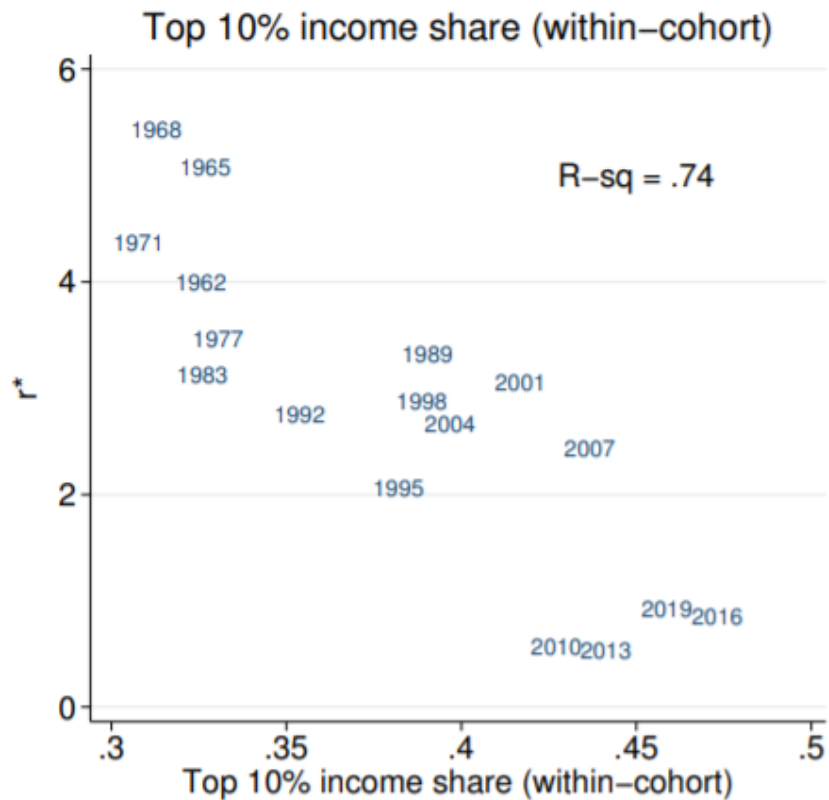
# What are the policy implications

# of Indebted Demand theory?

# Implications for monetary policy

- Rising inequality **forces the hand of monetary policy** by lowering r*

  … reduces space for monetary policy to operate

- Easy monetary policy often raises demand through debt creation

  … but that creates indebted demand, putting downward pressure on future rates: monetary policy has **limited ammunition**.

  "the sustainability of debt burdens depends on interest rates remaining low" – Mark Carney

- Persistent extreme inequality pushes monetary policy against ZLB, and economy stagnates inside a **debt trap**

# Implications for fiscal policy

- With "specialness", such as "convenience yield", of government debt, $R < G$ for government borrowing when aggregate demand is weak … fiscal policy is like a wealth tax!

- Rising inequality expands fiscal space

- There is an MMTesque "free lunch" when $R < G - \psi$, i.e. government can increase primary deficit permanently without ever having to raise taxes

- The design of tax policy is really important for moving and staying away from the ZLB

See Mian, Sufi and Straub "A Goldilocks Theory of Fiscal Policy"

# What should policy makers do?

- Revise macroeconomic models to incorporate the key role that inequality plays in determining macroeconomic dynamics and fundamentals

  … possibly explains persistent over-forecasting of interest rates

- Monetary policy is ill-equipped to deal with weak aggregate demand resulting from extreme inequality. Emphasis should be on,

  … policies that deliver equitable and inclusive growth

  … progressive taxation, consider wealth taxes

  ... Increase public investment, especially in areas that promote equality of opportunity

  … promote competitive markets