"Fiscal Backing, Inflation and US Business Cycles" by Frank Smets & Raf Wouters

Discussion by Eric M. Leeper

University of Virginia

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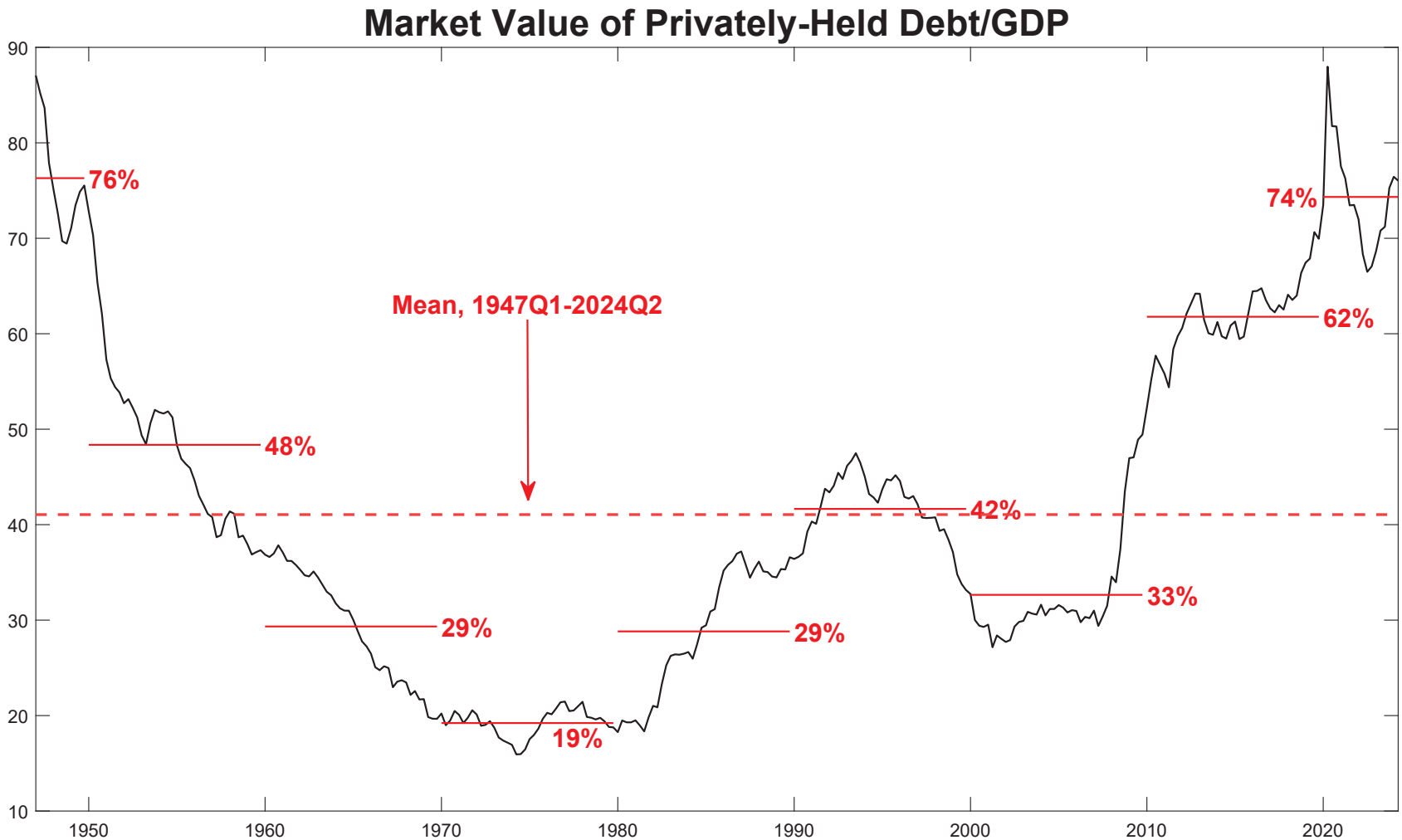
What Is Policy Doing & Why?

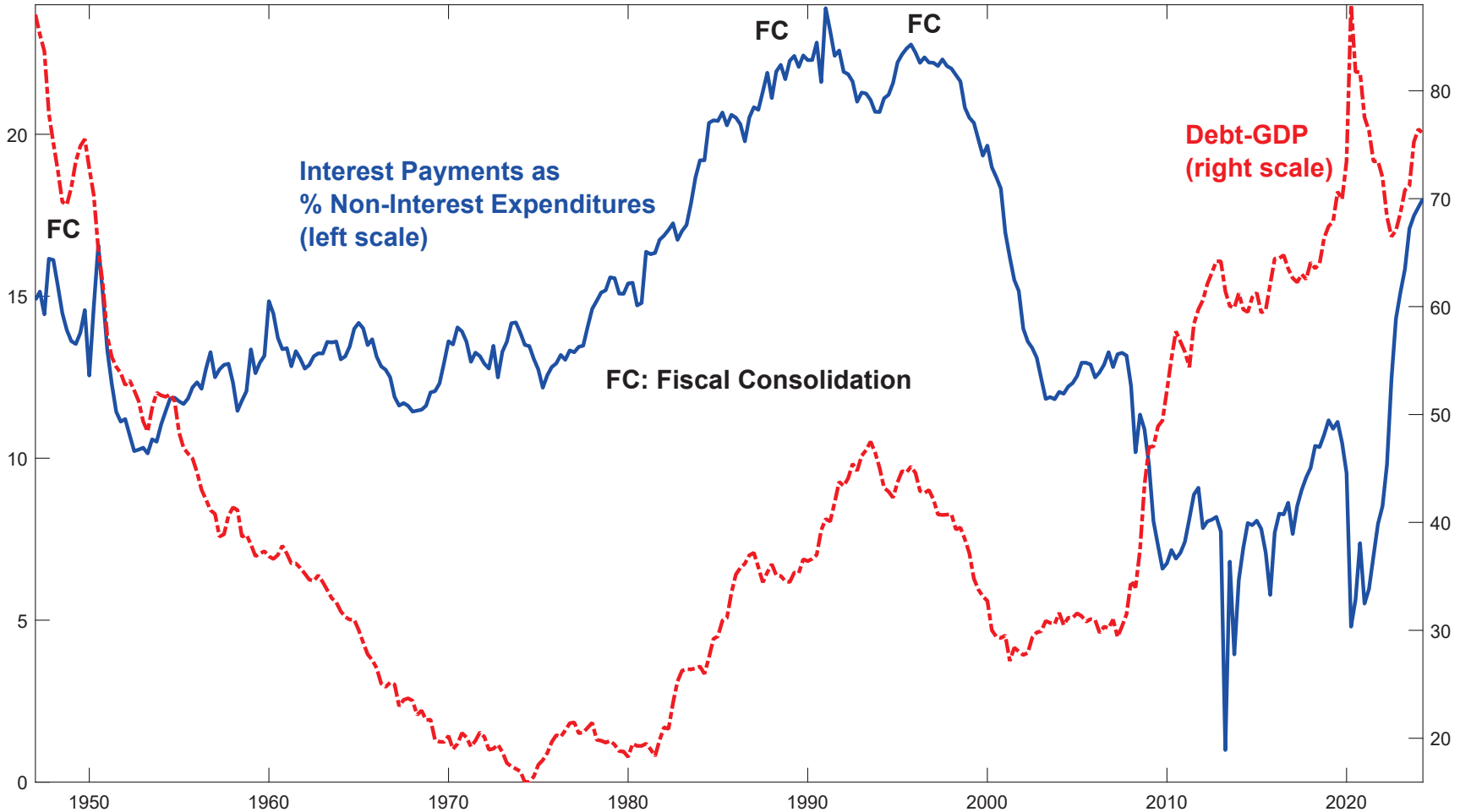
- I applaud Frank & Raf for entering the fray
  - paper explores useful generalizations of existing work
  - paper's findings plausible
  - much good empirical work remains to be done on monetary-fiscal interactions
  - no one better qualified than this formidable team
- Next steps: move beyond. . .
  - reduced-form treatments of policy
  - lump-sum taxes/transfers; G dumped in ocean
- How do policy authorities arrive at posited behavior?
- Can we understand state-dependent nature of funded/unfunded?

Huge Swings in Debt



Debt-GDP with sample mean & decade means: a random walk?

Discrete Fiscal Consolidations



Elected officials act when interest payments sufficiently crowd out other federal expenditures: continuous, marginal consolidations?

Policy Incentives

- Time-consistent MP well understood: incentive to inflate (*inflation bias*)
- Time-consistent FP less understood: incentive to reduce debt (*debt stabilization bias*)
  - incentive to use inflation to reduce debt burden
  - bond holders understand this, reducing bond prices
  - end up with more inflation & no reduction in burden
  - given inflation bias from debt, policy front-loads taxes to reduce debt & relieve inflation bias
  - shorter maturity raises temptation to inflate
- Simple two-period endowment economy
  - no initial debt, HHs receive transfer at $t = 1$
  - inflation & taxes socially costly both periods

Policy Incentives

$$\min_{\tau_1,\tau_2,\pi_1,\pi_2,b_1} \left[\tau_1^2 + \theta\pi_1^2 + \beta(\tau_2^2 + \theta\pi_2^2)\right]$$

subject to equilibrium conditions

$$\beta\frac{b_1}{1+\pi_2} = z_1 - \tau_1$$

$$\frac{b_1}{1+\pi_2} = \tau_2$$

β the equilibrium bond price

- Commitment solution immediate
  - perfectly smooth taxes & never inflate

$$\tau_1 = \tau_2 = b_1 = \frac{z_1}{1+\beta}$$

$$\pi_1 = \pi_2 = 0$$

Policy Incentives: Time-Consistent Policy

- Period 2 problem, taking period 1 outcomes as given, yields incentive compatibility constraint

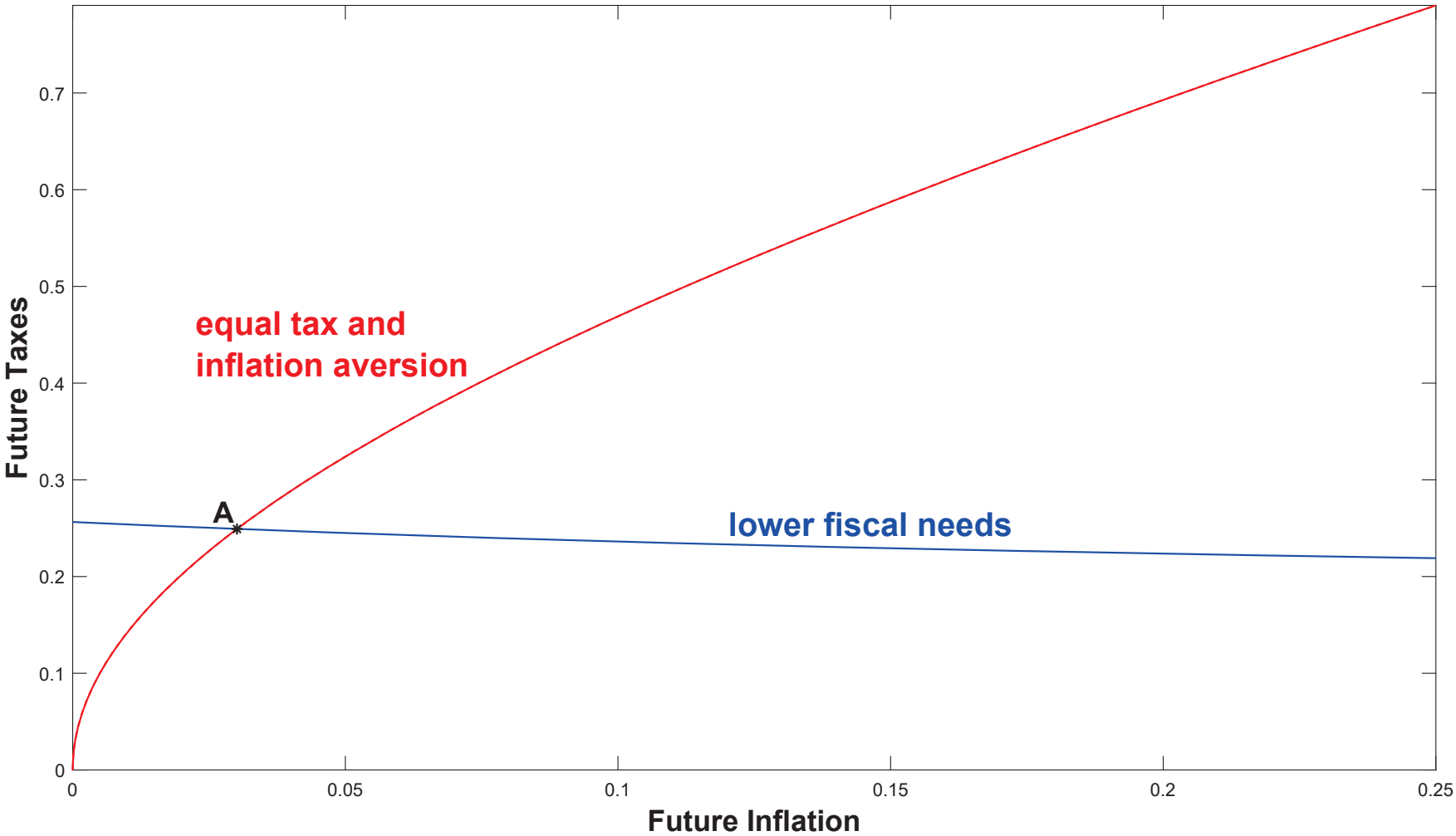
$$\theta\pi_2(1+\pi_2) = \tau_2^2 \qquad \text{(IC)}$$

- Unlike commitment, b_1 creates mix of higher π_2 & τ_2 to satisfy (IC)
  - agents anticipate this, drive down bond prices
  - no change in real returns
- Period 1, optimize s.t. solvency & (IC), to yield

$$\underbrace{\tau_1 = \tau_2}_{\text{tax smoothing}} + \underbrace{\mu\tau_2}_{\text{bias}}$$

  - $\mu > 0 \Rightarrow$ front-load taxes
  - an inability to commit $\Rightarrow$ cannot avoid temptation to inflate, which front-loading taxes alleviates

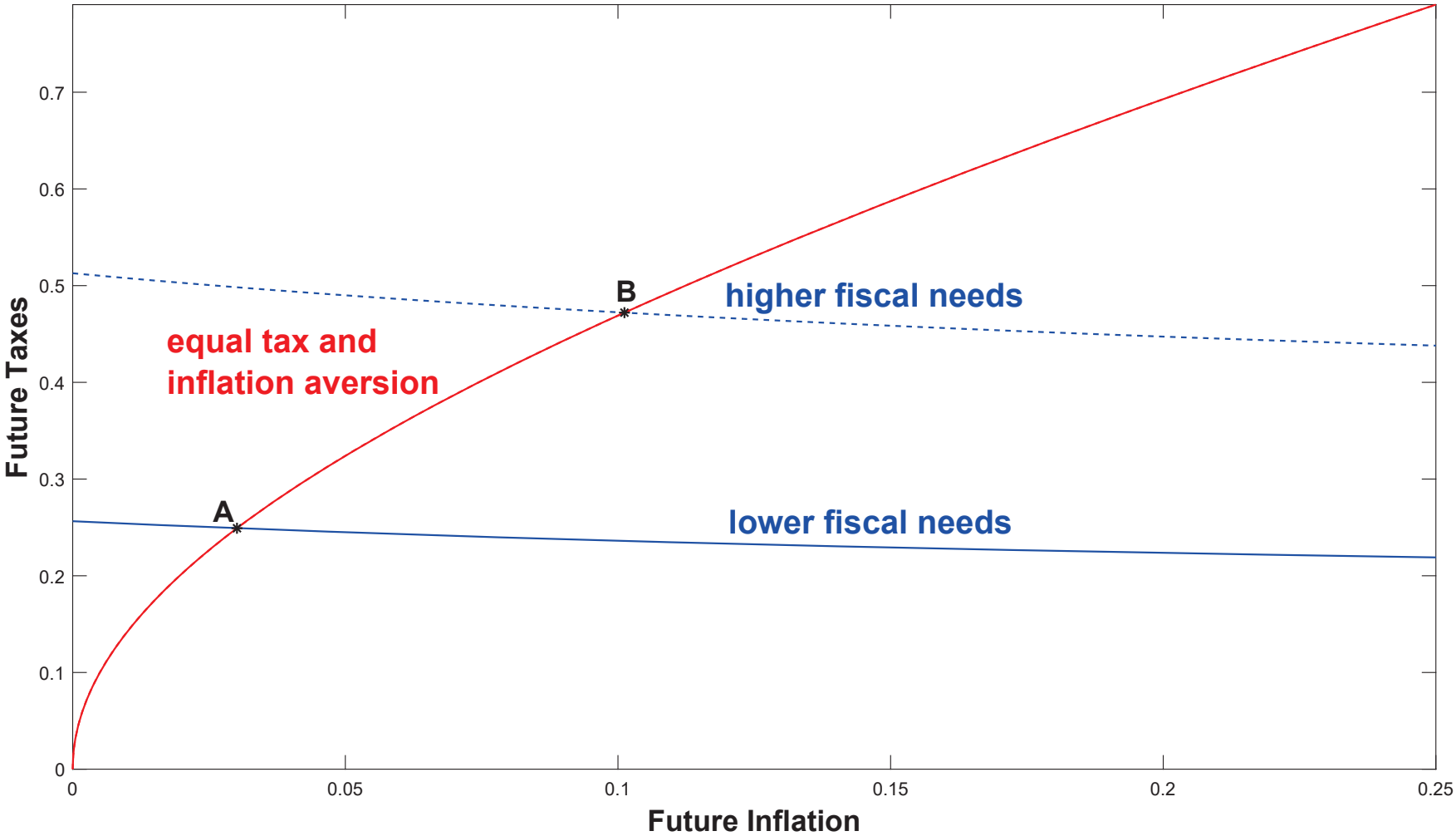
Scenario #1: Time-Consistent Policy



Low fiscal needs; equal tax & inflation aversion $\Rightarrow$ weak debt-stabilization bias, current taxes low

incentive compatibility; equilibrium conditions

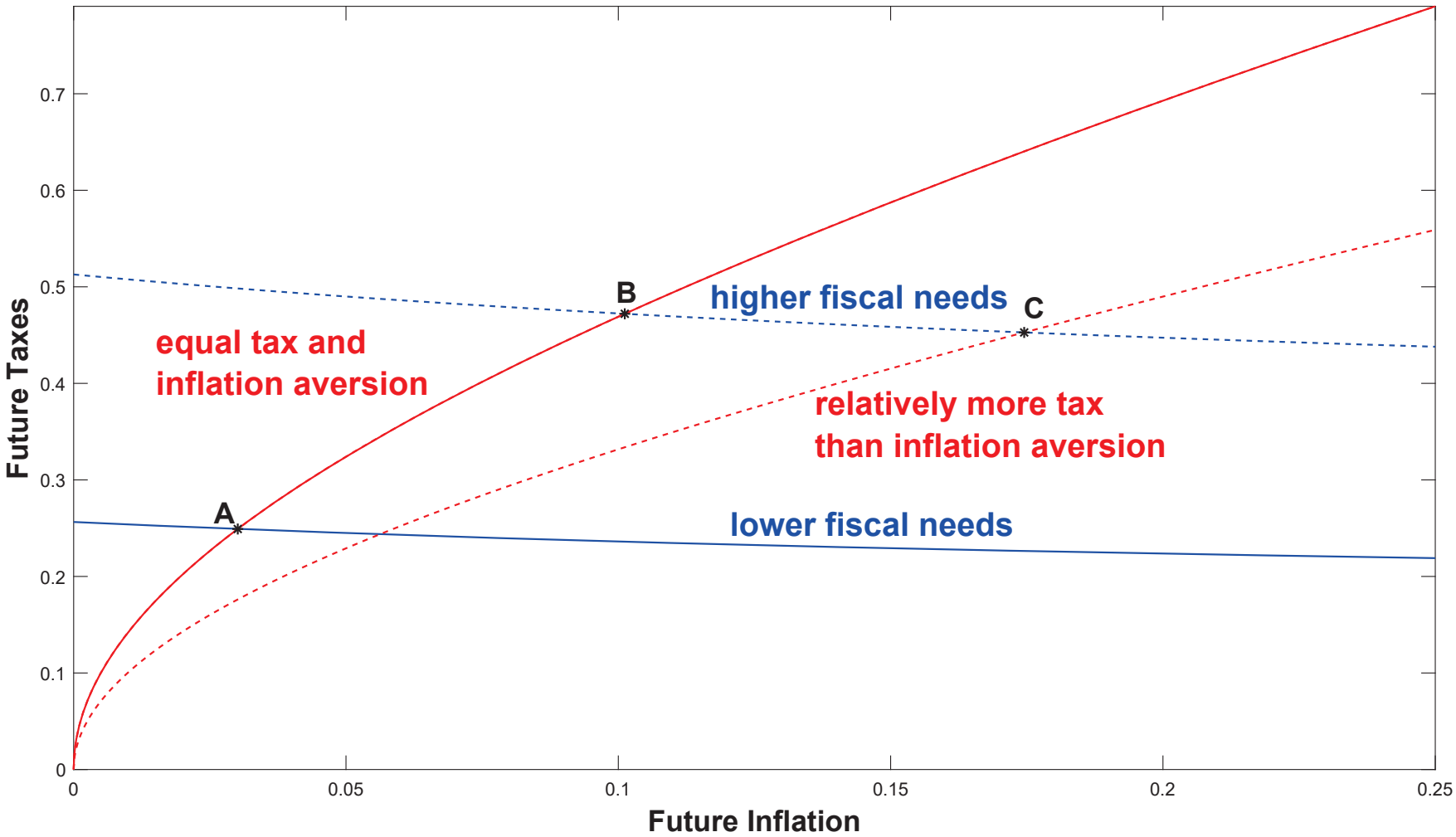
Scenario #2: Time-Consistent Policy



Higher fiscal needs; equal tax & inflation aversion $\Rightarrow$ stronger debt-stabilization bias, current taxes much higher

incentive compatibility; equilibrium conditions

Scenario #3: Time-Consistent Policy



Higher fiscal needs; relatively more tax than inflation aversion $\Rightarrow$
strong debt-stabilization bias, current taxes still higher

incentive compatibility; equilibrium conditions

Policy Modeling to Understand Data

- Fiscal simplifications aren't necessary to fit to data [Leeper-Leith-Liu (2021), Chen-Leeper-Leith (2022)]
  - Kirsanova-Leith-Liu (2024): independent CB initially reduces inflation, which encourages debt accumulation and eventually undermines lower inflation
- Purposeful policy is inherently state-dependent & fiscal state moves around a lot in data
- Populism, aging, inequality, polarization raise likelihood of fiscal dominance: strategic policy interactions amplified
- How should these drive research choices & policy advice?