Brothers in Arms: Monetary-Fiscal Interactions Without Ricardian Equivalence

Morten Ravn, with Lukasz Rachel

Discussion: Stéphane Dupraz*

Riksbank

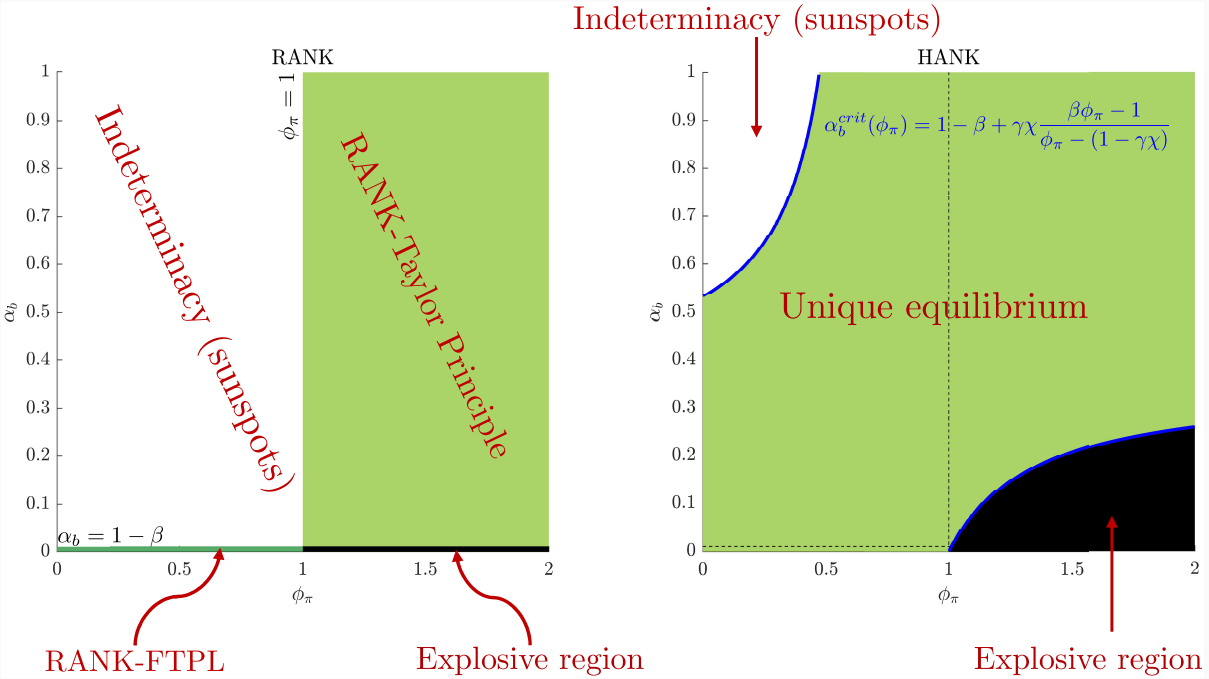
October 6, 2025

*The views expressed do not necessarily represent those of the Banque de France, the ECB or the Eurosystem

Summary: If the Ricardian Equivalence is Broken, Fix the Model

- **Perpetual-Youth set-up: Public debt is net wealth and enters the IS curve**

$$C_t = \frac{1}{\beta}\frac{\pi_{t+1}}{I_t}C_{t+1} + \chi\left(\frac{B_{t-1}}{P_t} - S_t\right)$$

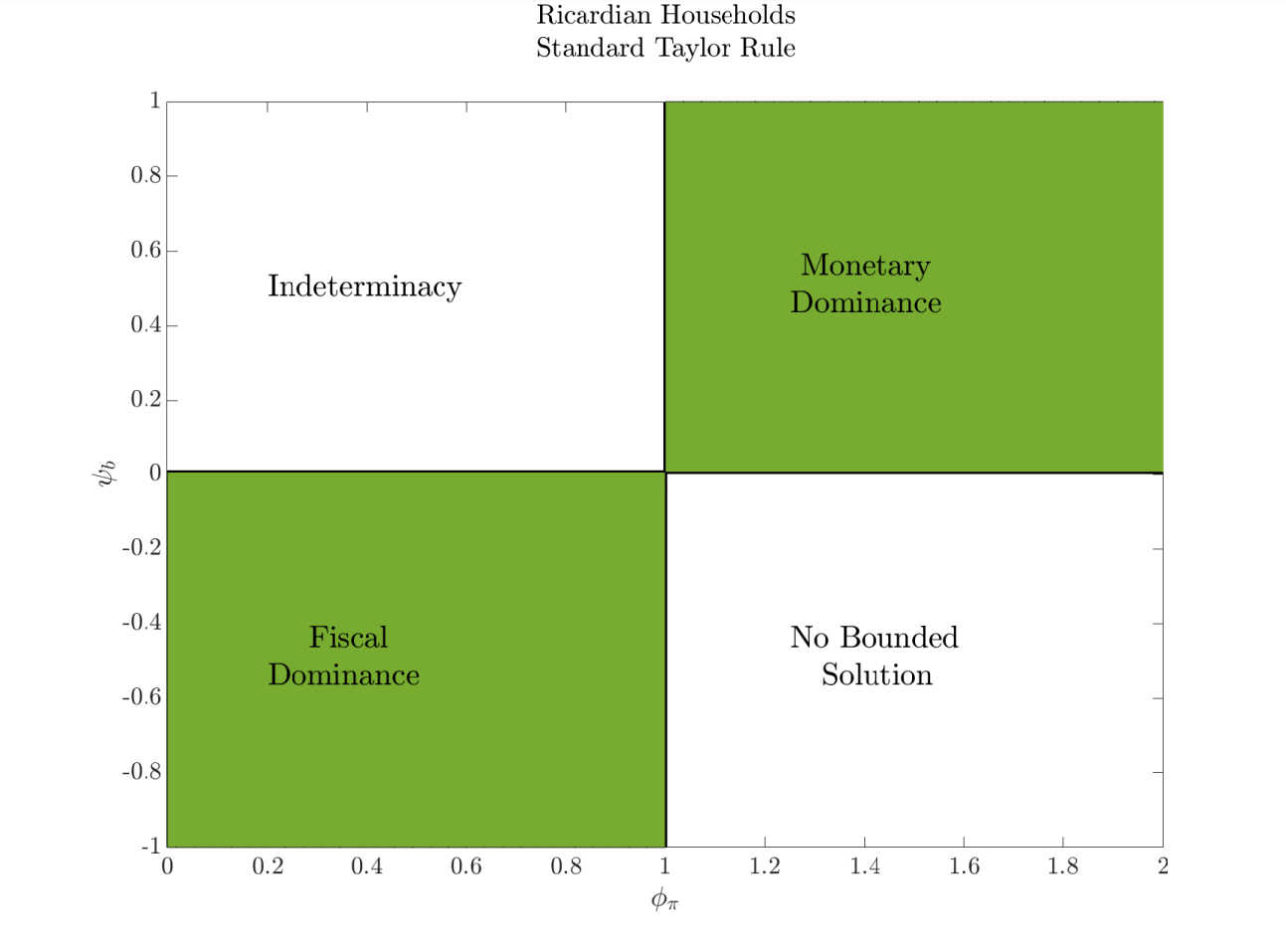


- **Makes a lot of change to monetary-fiscal interactions**
  1. Monetary-Dominance/Fiscal-Dominance dichotomy lost
  2. Determinacy (and absence of bounded solution) obtains more easily
  3. Deficits are inflationary eveywhere

...and much more!

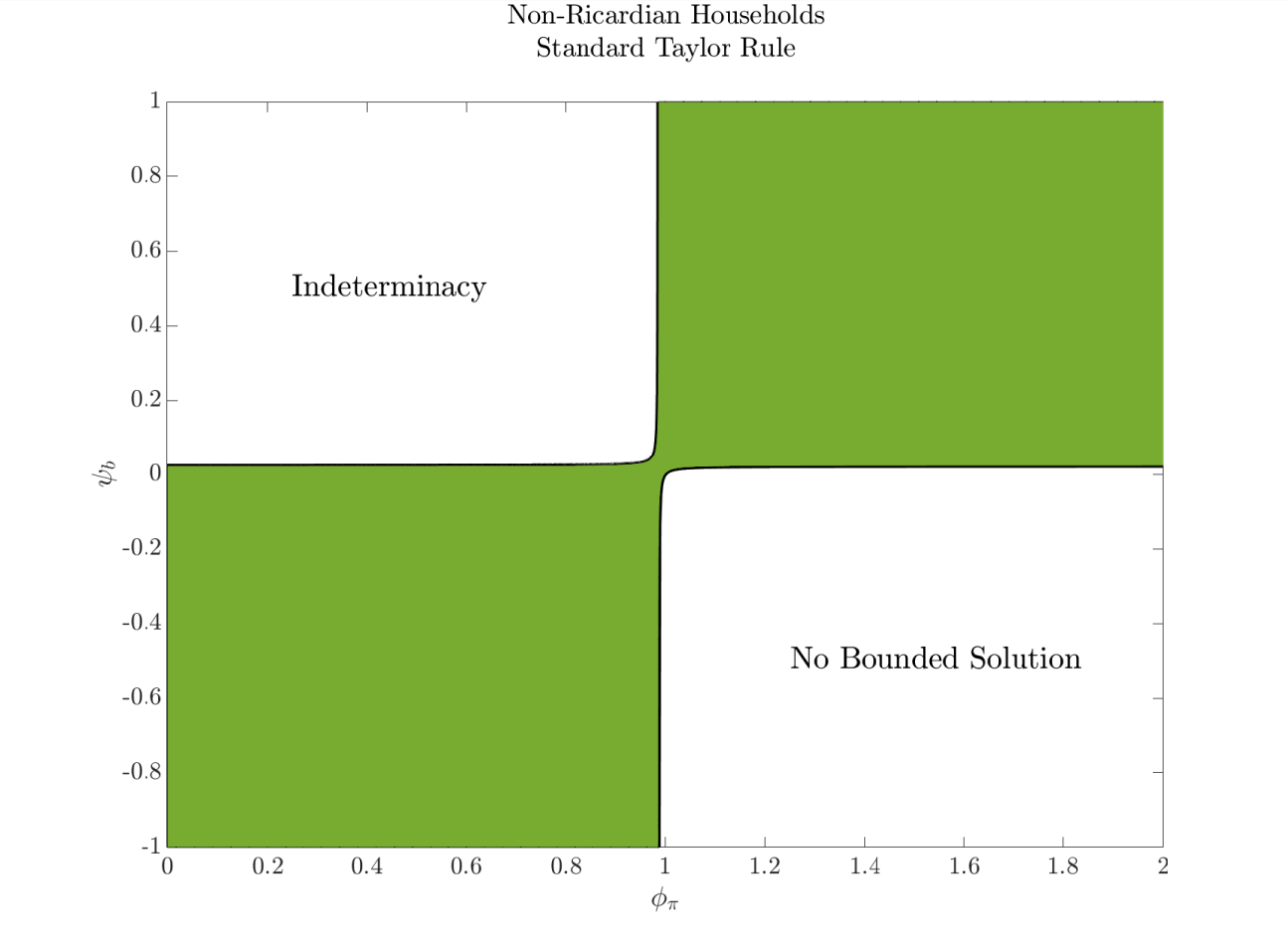
#1: Is Central Bank Control over Inflation Doomed?

- Leeper (1991): Ricardian HH with monetary policy $i_t = \phi_\pi \pi_t$



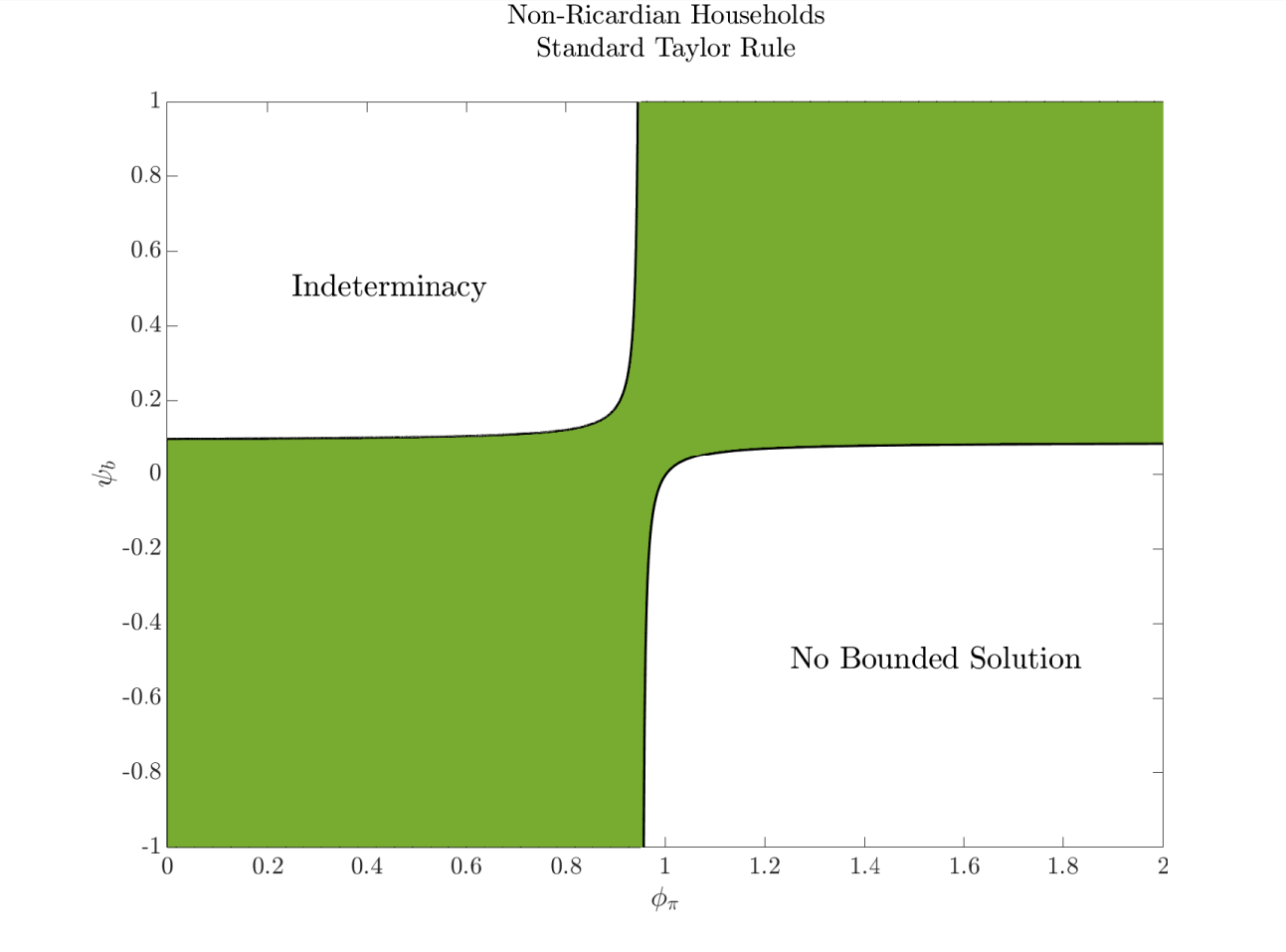
#1: Is Central Bank Control over Inflation Doomed?

- Dupraz Rogantini Picco (2024): Non-Ricardian HH with $i_t = \phi_\pi \pi_t$



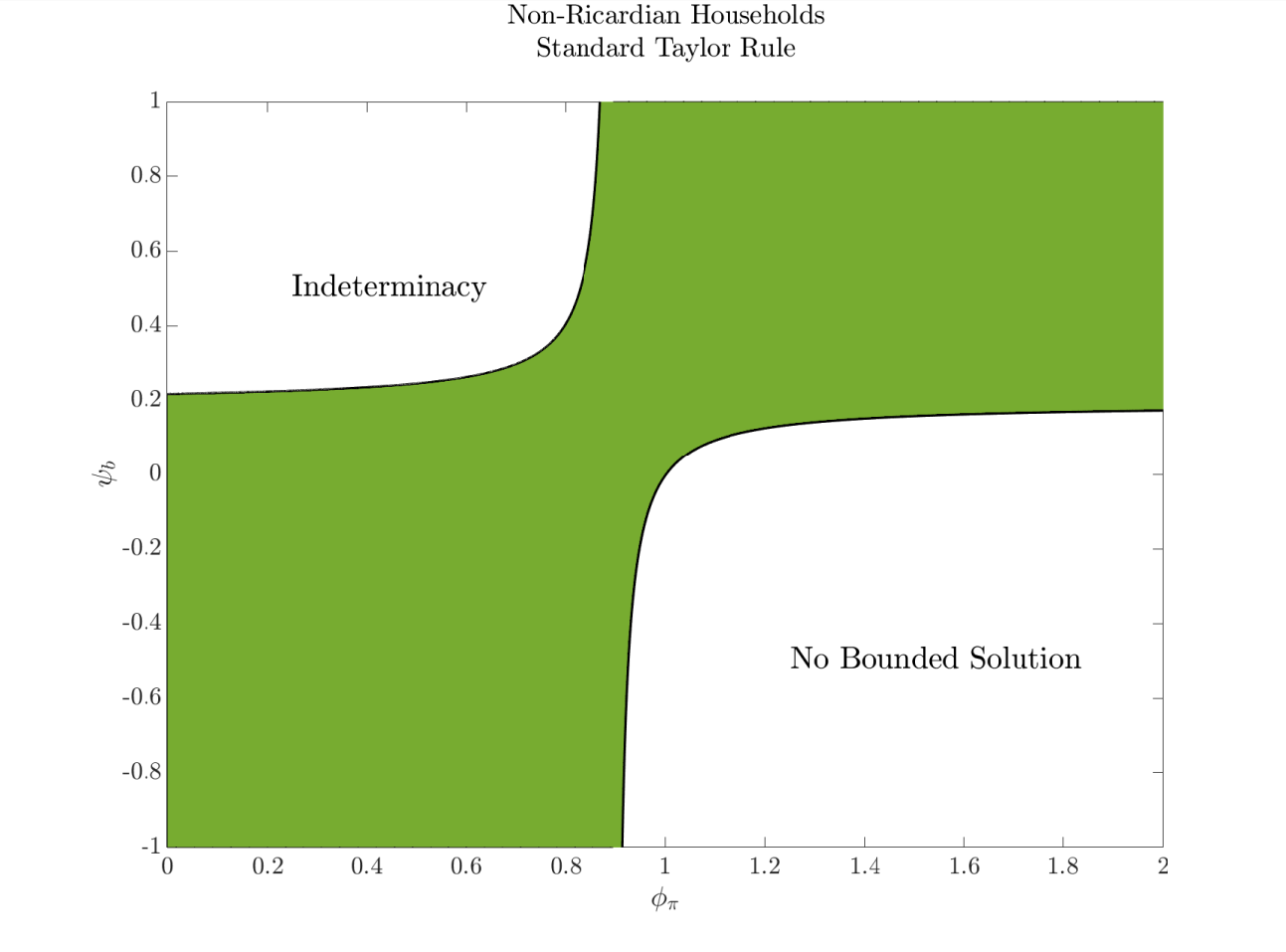
#1: Is Central Bank Control over Inflation Doomed?

- Dupraz Rogantini Picco (2024): Non-Ricardian HH with $i_t = \phi_\pi \pi_t$



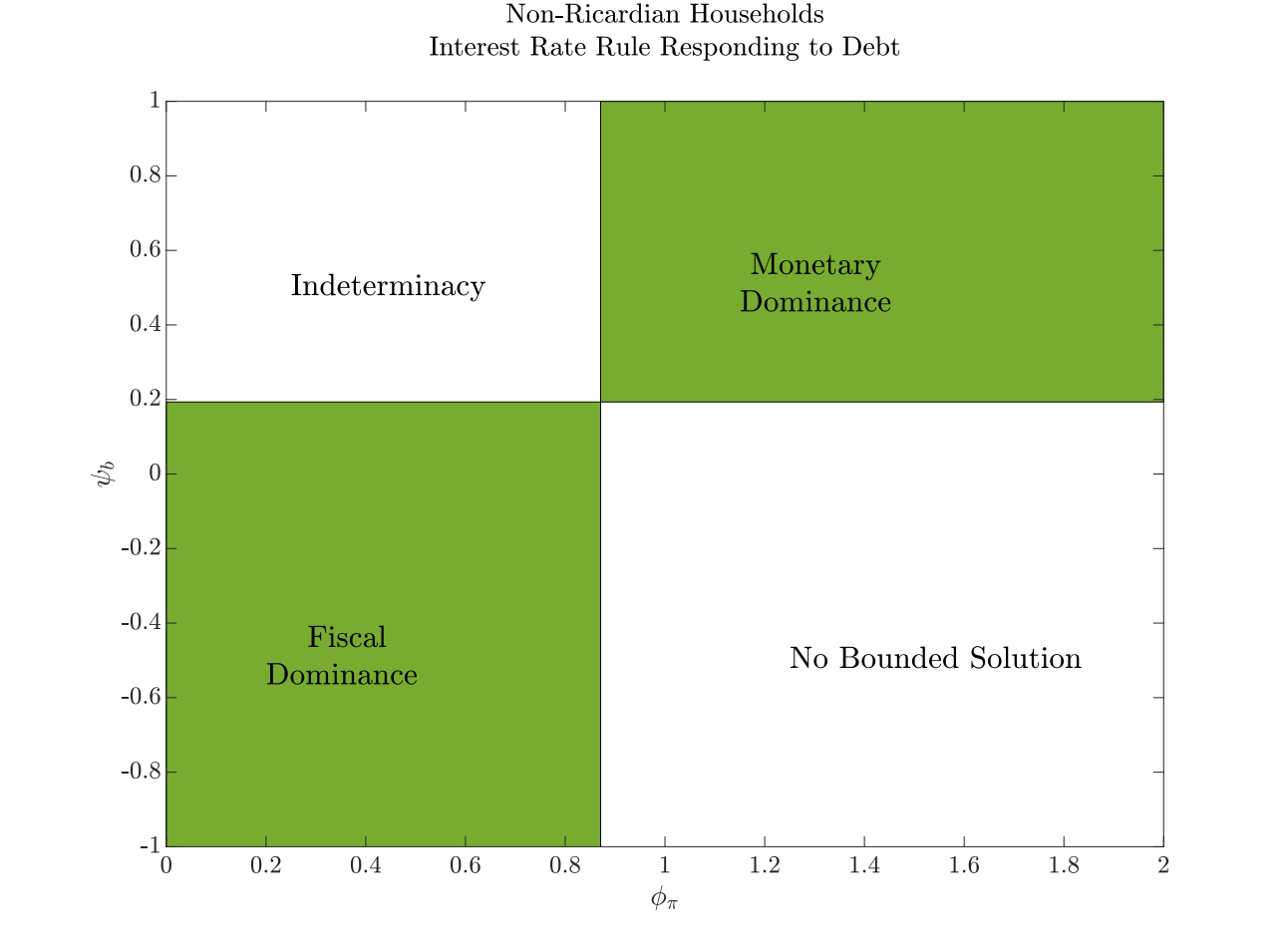
#1: Is Central Bank Control over Inflation Doomed?

- Dupraz Rogantini Picco (2024): Non-Ricardian HH with $i_t = \phi_\pi \pi_t$



#1: Is Central Bank Control over Inflation Doomed?

- Dupraz Rogantini Picco (2024): Non-Ricardian HH with $i_t = \phi_\pi \pi_t + \eta(b_{t-1} - \tau_t)$



#1: Is Central Bank Control over Inflation Doomed?

- **Central bank can deliver price stability if responds directly to debt**

$$i_t = \phi_\pi \pi_t + \eta(b_{t-1} - \tau_t)$$

  - Allows to track natural rate, which depends on debt when HH are not Ricardian

$$i_t = r_t^n + \phi_\pi \pi_t$$
$$r_t^n = \eta(b_{t-1} - \tau_t).$$

  - Restores a notion of monetary dominance (insulates inflation from public debt)

- **Yet threshold of α_b for monetary dominance is now higher ($\tau_t = \alpha_b b_{t-1} + \nu_t$)**

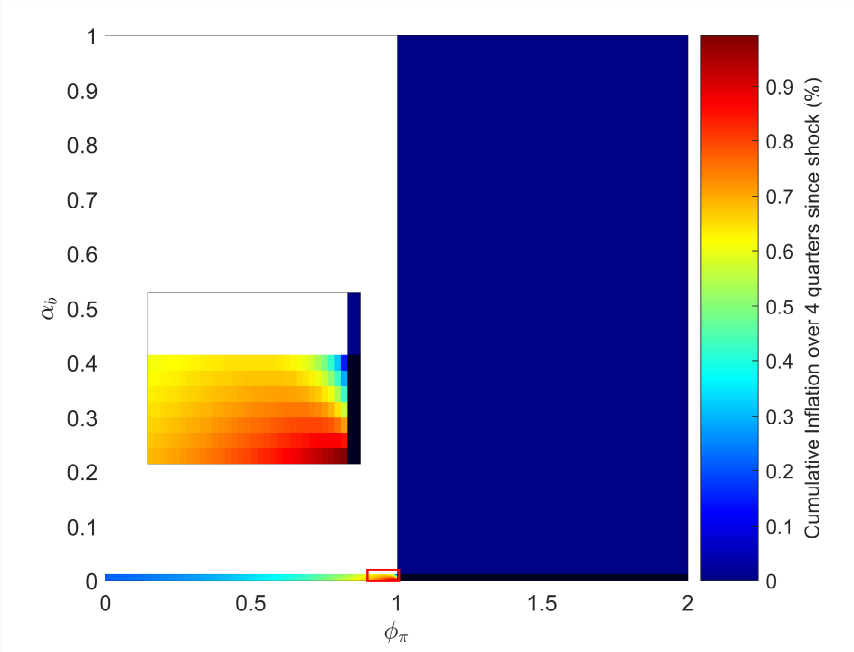
$$\alpha_b > \alpha_b^* = 1 - \frac{1}{R + \frac{b}{y}\eta}$$

  - Rachel Ravn, Section 4.2: α_b^* is very large!
  - ~ 0.35! vs. $\simeq r \simeq 0.0025$ for Ricardian HH
  - Monetary dominance only for narrow set of strongly debt-stabilizing fiscal policies

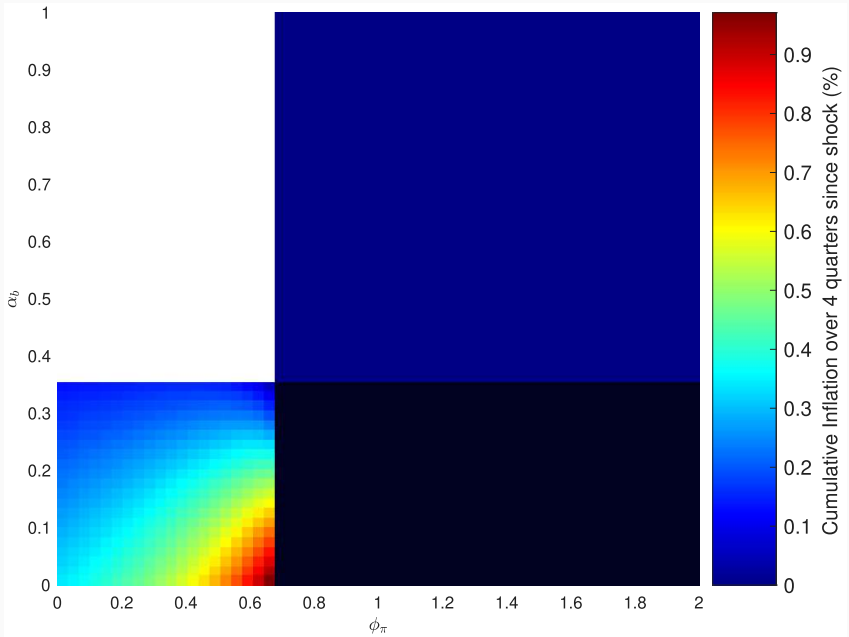
- **So is central bank control over inflation doomed after all?**

#1: Is Central Bank Control over Inflation Doomed?

Ricardian



Non-Ricardian



#2: Why is α_b threshold higher?

$$\alpha_b > \alpha_b^* = 1 - \frac{1}{R + \frac{b}{y}\eta}$$

- **Where does threshold α_b^* come from?**
  - Gvt FBC under price stability + Expression of the natural rate

$$b_t = R(b_{t-1} - s_t) + \frac{b}{y} r_t^n$$

$$r_t^n = \eta(b_{t-1} - \tau_t)$$

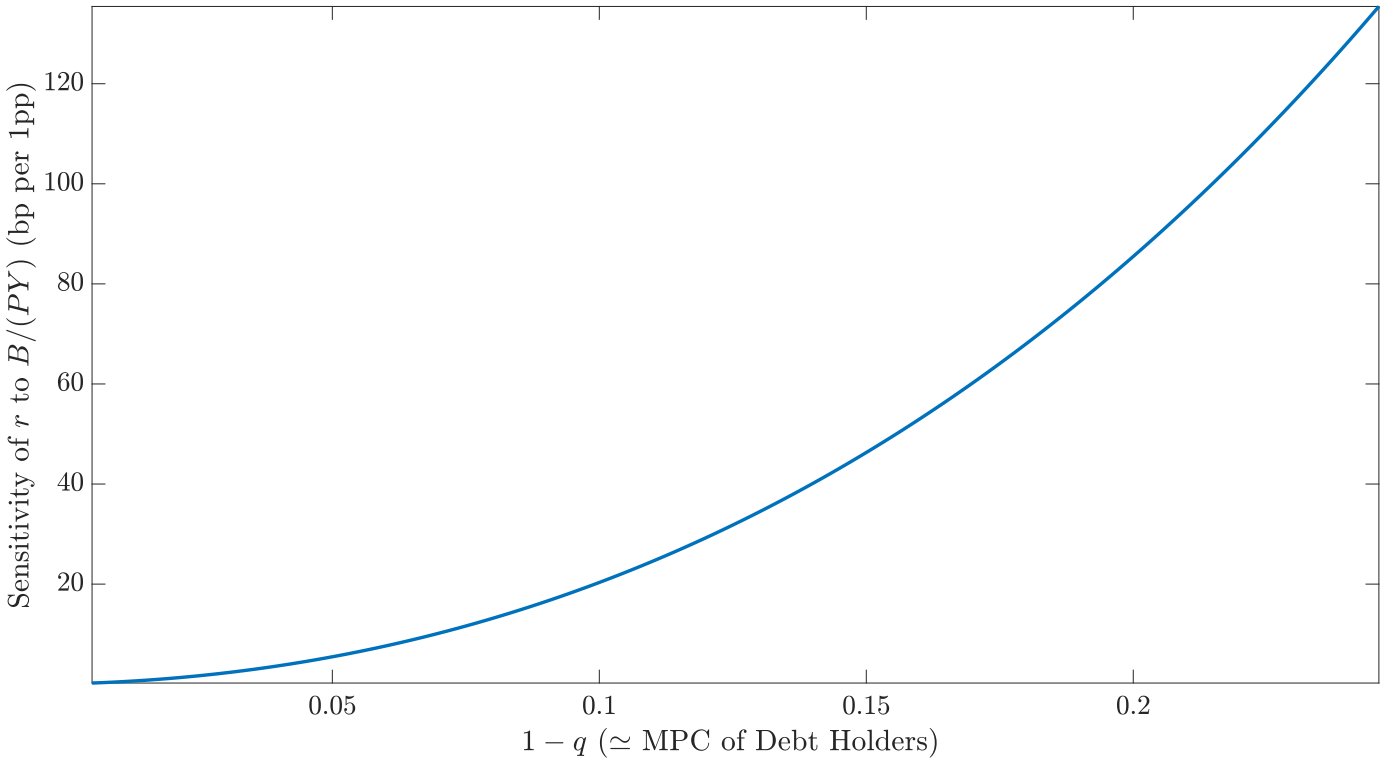
  - Together give dynamics of debt under price stability as:

$$b_t = \left(R + \eta \frac{b}{y}\right)(b_{t-1} - s_t)$$

  - Debt diverges faster absent increases in taxes because r^n now increases with b

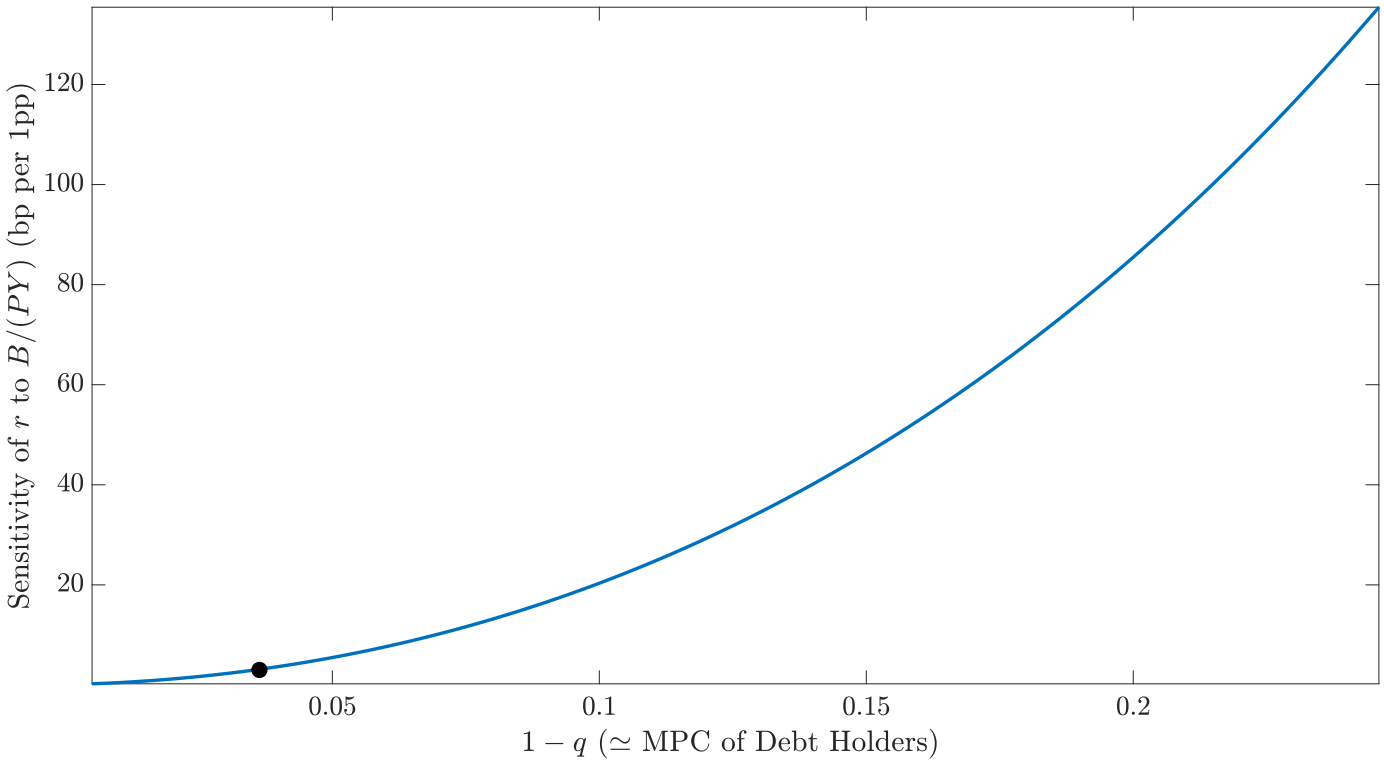
- **But how fast does r^n increase with the level of debt?**
  - In the paper, $q = 0.75 \rightarrow \eta \simeq 0.08$
  - If debt $\uparrow$ 1pp of annual GDP from B/Y=100%, annualized $r^n \uparrow$ by $16\eta \simeq 130bp$
  - Huge! 15pp $\uparrow$ in Debt-to-GDP since Covid $\rightarrow$ $r^n \uparrow$ by 20pp!

#3: How Fast Does r^n Increase With Public Debt?



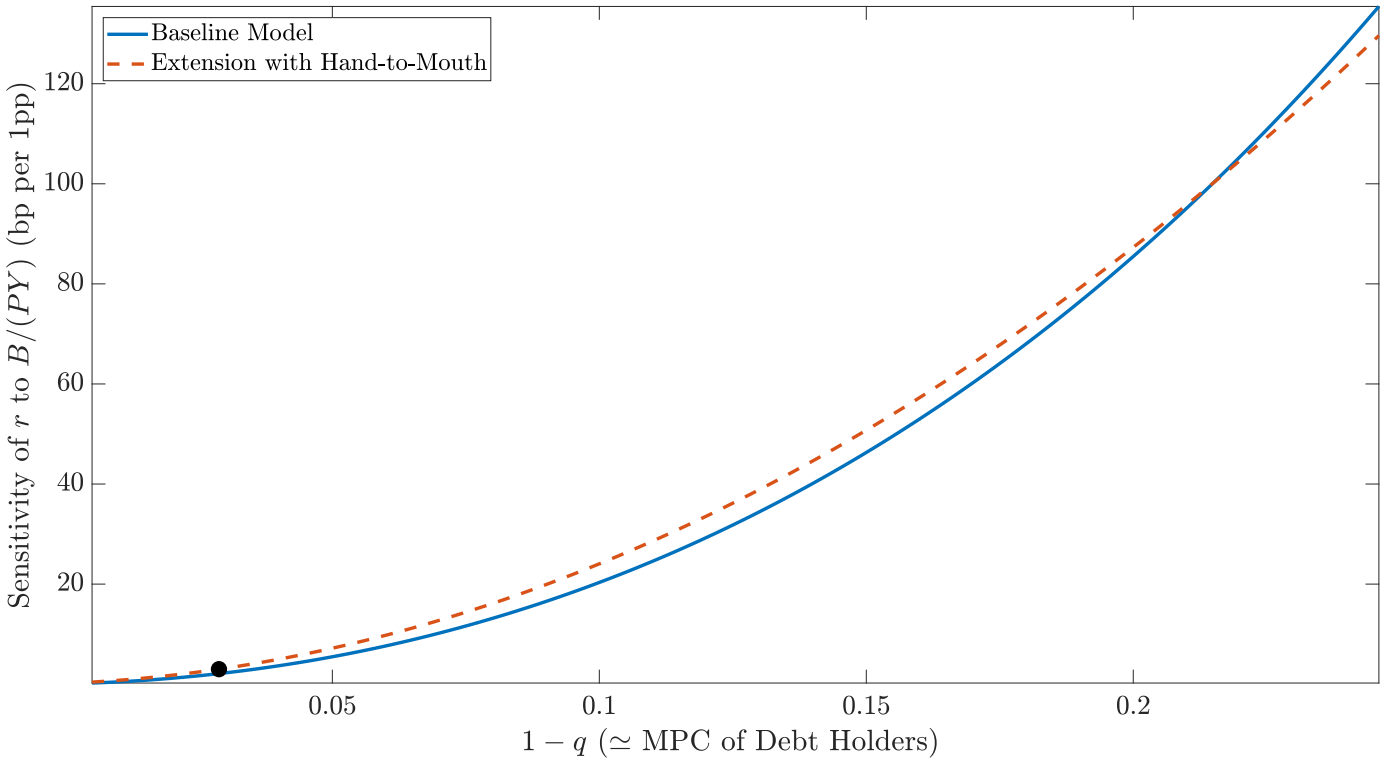
- **Model**: Sensitivity long-term r^n to B/Y as a function of $1-q$
  (No re-adjustment in the social fund transfer!)

#3: How Fast Does r^n Increase With Public Debt?



- **Data**: Laubach (2009), Engen Hubbard (2004): 3 to 4bp
- Requires $q \simeq 0.965$ (MPC $\simeq 0.035$)

#3: How Fast Does r^n Increase With Public Debt?

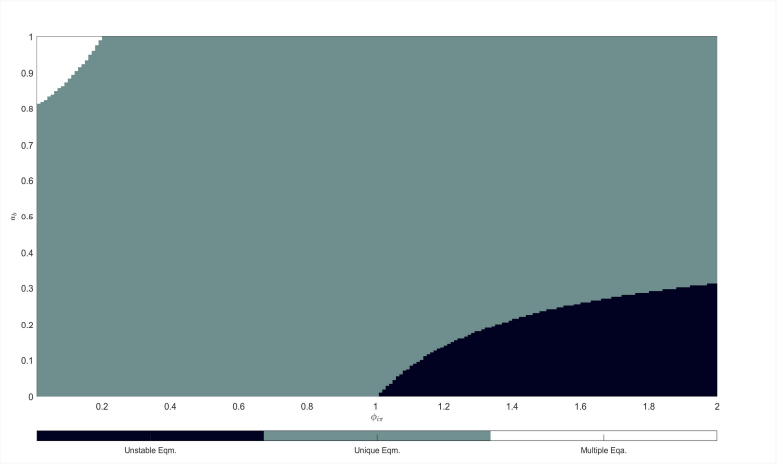


- To still match high average MPC in the data, extend model with HTM households
- To match r^n-sensitivity, still requires $q \simeq 0.97$ (Debt Holders' MPC $\simeq 0.03$)

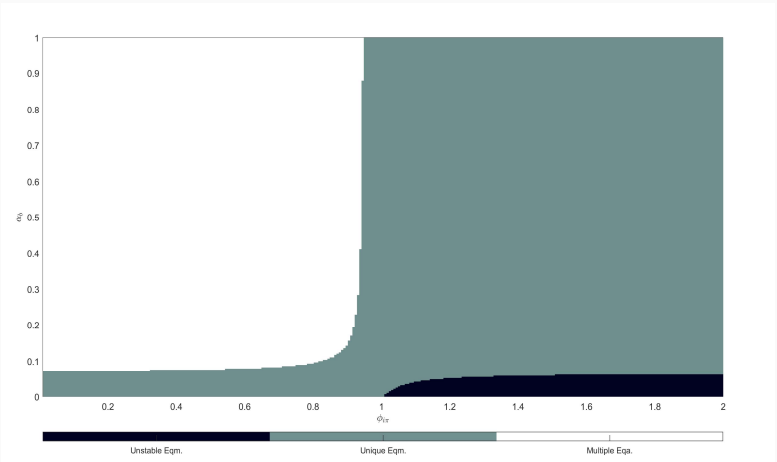
#3: How Fast Does r^n Increase With Public Debt?

- Also why capital changes determinacy region so much
- Even with low q, hence little elastic asset demand, an elastic capital supply dampens how much r^n increases with public debt
- With or without capital, important sufficient statistic to match is $\partial r^n / \partial b$

A) No capital, sticky prices and wages



C) Capital, short term debt



#3: How Fast Does r^n Increase With Public Debt?

- **Back to α_b^* threshold**

$$\alpha_b > \alpha_b^* \simeq r + \frac{b}{y}\eta$$

- **Empirical sensitivity implies α_b^* increases by about 0.03/4 $\simeq$ 0.0075**
  - From $\alpha_b^* = 0.0025$ to $\alpha_b^* = 0.01$ (From 1% to 4% in annualized terms)
  - Significant, but ~ 35 times smaller than under $q = 0.75$ calibration (w/o capital)

- **All this is local analysis! It's not captured in loglinearized model but:**
  - As debt increases, b/y increases and higher r^n multiplies a higher debt
  - As debt increases, $\partial r^n / \partial b$ becomes higher
  - Full conditions for central bank to keep control over inflation: non-linear model
  - Derived in Dupraz Rogantini Picco (2024)