

New Keynesian Perspectives on the Price Stability Mandate

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- A useful organizing framework
- Some comments on the MPS
 - CPI inflation as the targeted variable
 - The 2% inflation target
 - Hysteresis
- Rethinking monetary policy rules
 - Monetary policy during the inflation surge in Norway

A Useful Organizing Framework

- Inflation and the Markup Gap

$$\pi_t = \beta \mathbb{E}_t \{ \pi_{t+1} \} - \lambda (\mu_t - \mu_t^n)$$

- The Markup Gap and the Output Gap

$$\mu_t - \mu_t^n = -\chi (y_t - y_t^n)$$

- Inflation and the Output Gap

$$\pi_t = \beta \mathbb{E}_t \{ \pi_{t+1} \} + \kappa \tilde{y}_t$$

where $\tilde{y}_t \equiv y_t - y_t^n$

- Inflation and the policy-relevant output gap:

$$\pi_t = \beta \mathbb{E}_t \{ \pi_{t+1} \} + \kappa x_t + u_t$$

where $x_t \equiv y_t - y_t^e$ and $u_t \equiv \kappa (y_t^e - y_t^n)$

A Useful Organizing Framework

- Inflation and the policy-relevant output gap:

$$\pi_t = \beta \mathbb{E}_t \{ \pi_{t+1} \} + \kappa x_t + u_t \quad (1)$$

where $x_t \equiv y_t - y_t^e$ and $u_t \equiv \kappa(y_t^e - y_t^n)$

- Optimal policy:

$$\min \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t L(\pi_t, x_t)$$

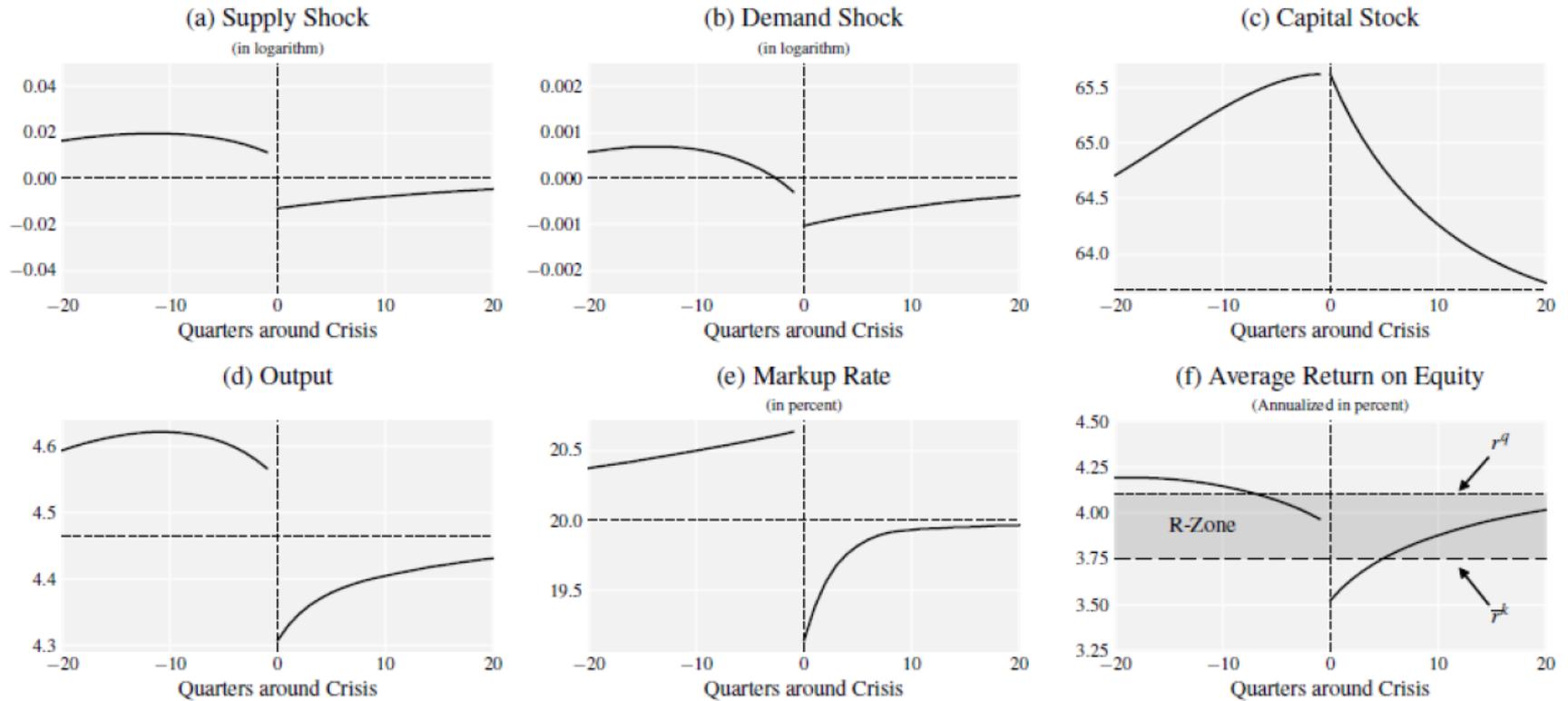
subject to (1) and an exogenous path for u_t .

- Case #1: Efficient Natural Equilibrium ($y_t^e = y_t^n$, $u_t = 0$)
 \Rightarrow *Divine Coincidence* \Rightarrow *Strict IT*
- Case #2: Inefficient Natural Equilibrium ($y_t^e \neq y_t^n$, $u_t \neq 0$)
 \Rightarrow *Policy Tradeoff* \Rightarrow *Flexible IT*

An Illustration: (Endogenous) Financial Crises

- Boissay-Collard-Galí-Manea (Restud, forthcoming)
- NK model with financial frictions (asymmetric information)
- Equilibrium: possibility of credit market collapse if MPK becomes too small
- Runup to crisis: favorable shocks, output boom, large K accumulation ($\uparrow y_t^n, \uparrow y_t^e$)
- Crisis: end of favorable shocks, capital overhang, low MPK , credit market collapse ($\downarrow\downarrow y_t^n, \downarrow y_t^e$)
- Strict inflation targeting: large, inefficient fluctuations in output
- Pre-emptive monetary policy: $y_t < y_t^n \Rightarrow$ undershooting of inflation target, but output smoothing and possible avoidance of financial crisis (through less K accumulation).
- Contrast with "exogenous" financial crises: no room for pre-emptive policy.

Figure 3: Average Dynamics Around Crises



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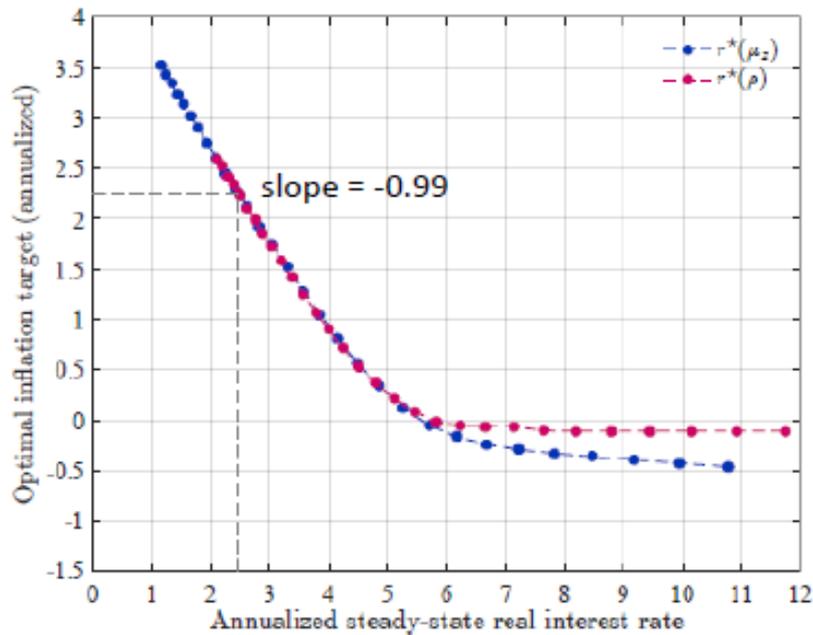
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The 2% Inflation Target

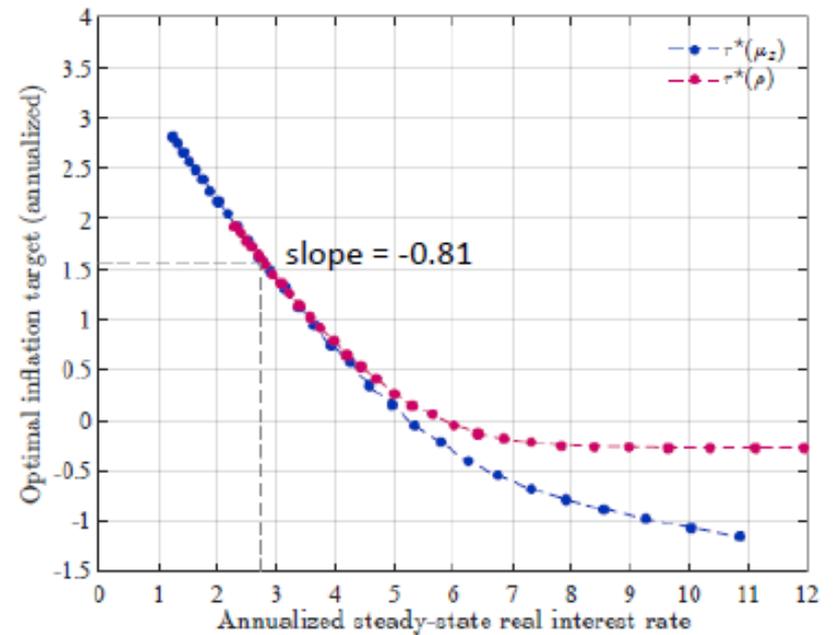
- Justification in the MPS
 - downward nominal wage rigidities
 - need for monetary policy space, given ZLB: $i = r^* + \pi^*$
- Global development since 2000s: decline in $r^* \Rightarrow$ Ceteris paribus: greater recurrence of ZLB episodes, inflation and output instability
- Andrade-Galí-Le Bihan-Matheron (2020, 2021): optimal (π^*, r^*) locus
- Estimates of r^* for Norway (Brubakk-Ellingsen-Robstad)
- NB's inflation target: 2.5% (2001-2018), 2.0% (2018-2025). Wrong direction!
- Implementation and credibility

The (r^*, π^*) Locus (at the posterior mean)

(a) US

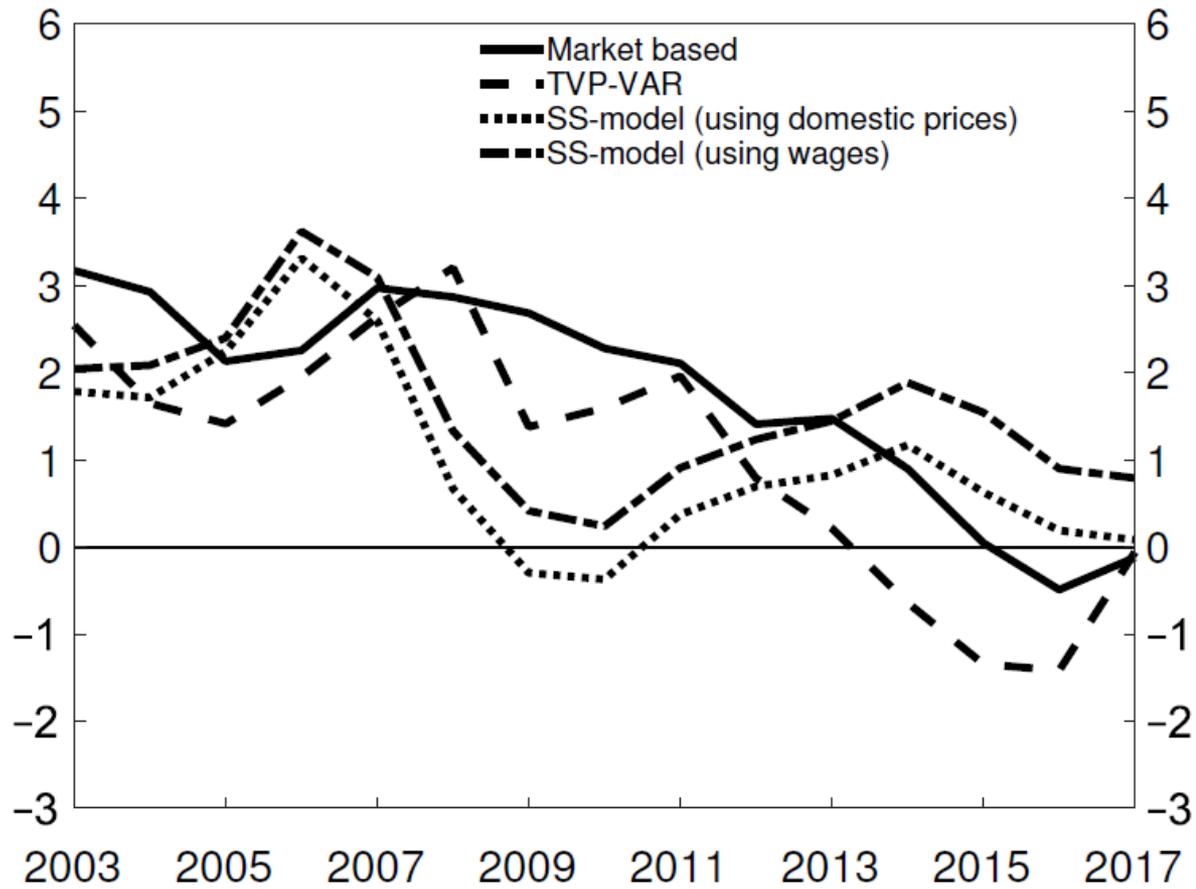


(b) EA



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CPI Inflation as a Target Variable

- Baseline NK-SOE model (Galí-Monacelli 2005) \Rightarrow *domestic* inflation targeting
- Largely robust to alternative assumptions on preferences and incomplete markets (De Paoli (2009), Faia-Monacelli (2008))
- CPI targeting optimal only under special set of assumptions (LCP, cooperation, linear utility in labor). See Engel (2011)
- Why is CPI targeting not optimal?

$$p_C = (1 - \alpha)p_H + \alpha(e + p^*)$$

Assume $p_C = 0$. Then

$$p_H = -\alpha(e + p^* - p_H)$$

\Rightarrow terms of trade changes require changes in p_H

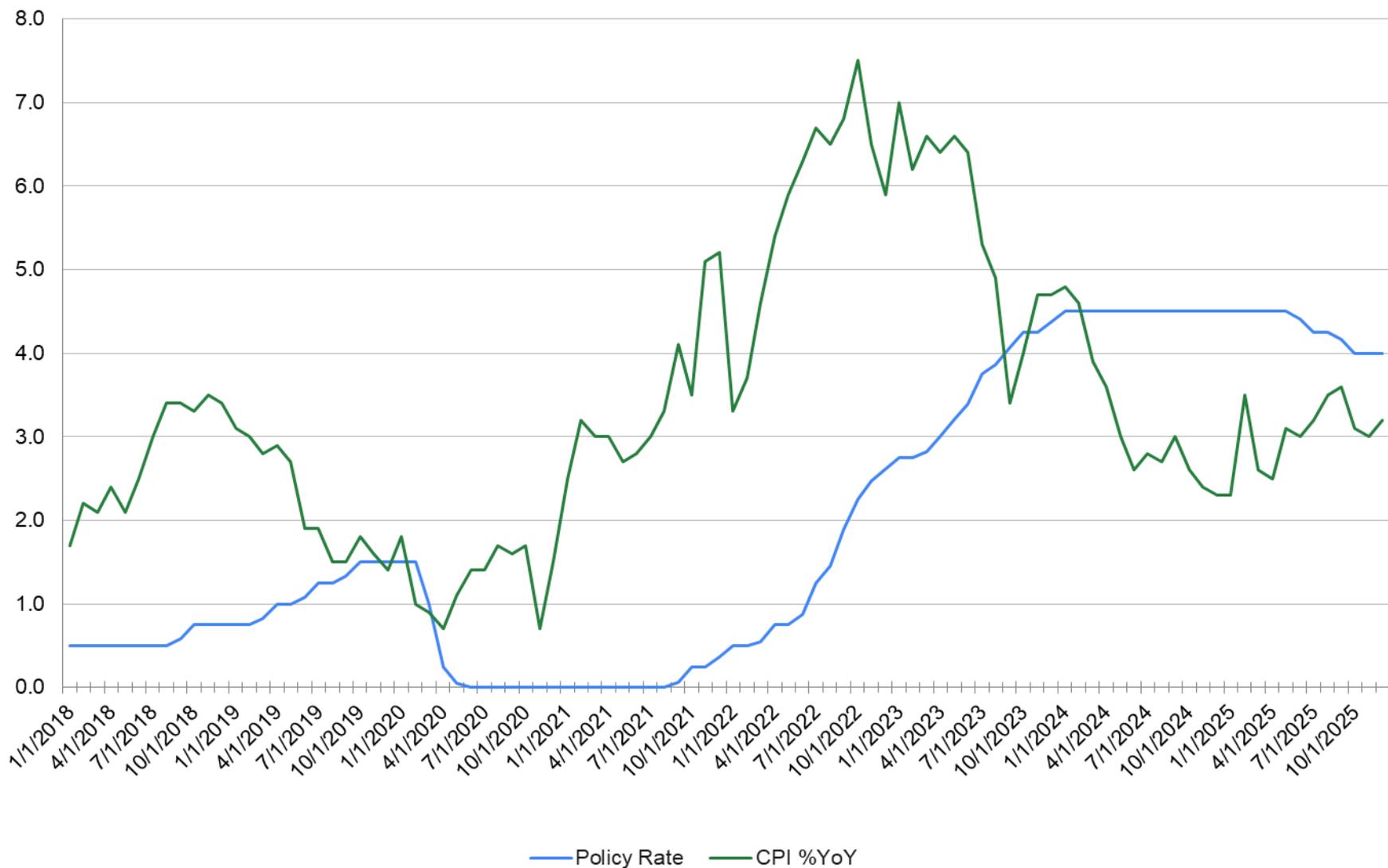
- Why is domestic inflation targeting optimal? If we relax the $p_C = 0$ constraint, any change in the terms of trade $e + p^* - p_H$ can be attained through changes in the nominal exchange rate.

Hysteresis

- Permanent effects of demand shocks (even if temporary).
- How should monetary policy respond?
- Key issue: Are the permanent effects "inefficient"? What is the source of hysteresis?
- Galí (2022): wage setting by "insiders" caring about "insiders" (Lindbeck-Snower, Blanchard-Summers,). Optimal monetary policy: large weight on unemployment rate stabilization.
- Furlanetto-Lepetit-Robstad-RubioRamírez-Ulvedal (2025): transmission through long-term unemployment, suggesting labor market frictions.
- Evidence for Norway? Relevant in practice?

Rethinking Monetary Policy Rules

- Jackson Hole discussion of Nakamura-Riblier-Steinsson
- Key idea: the policy rate is *not* a good indicator of the MP stance
- Alternative: *long run real rate*. Theoretical justification.
- Proposal: *Long real rate rules*
 - specification of MP in macro models
 - central bank communications
 - monetary policy evaluation (embeds FG and QE)
- A look at recent data from Norway





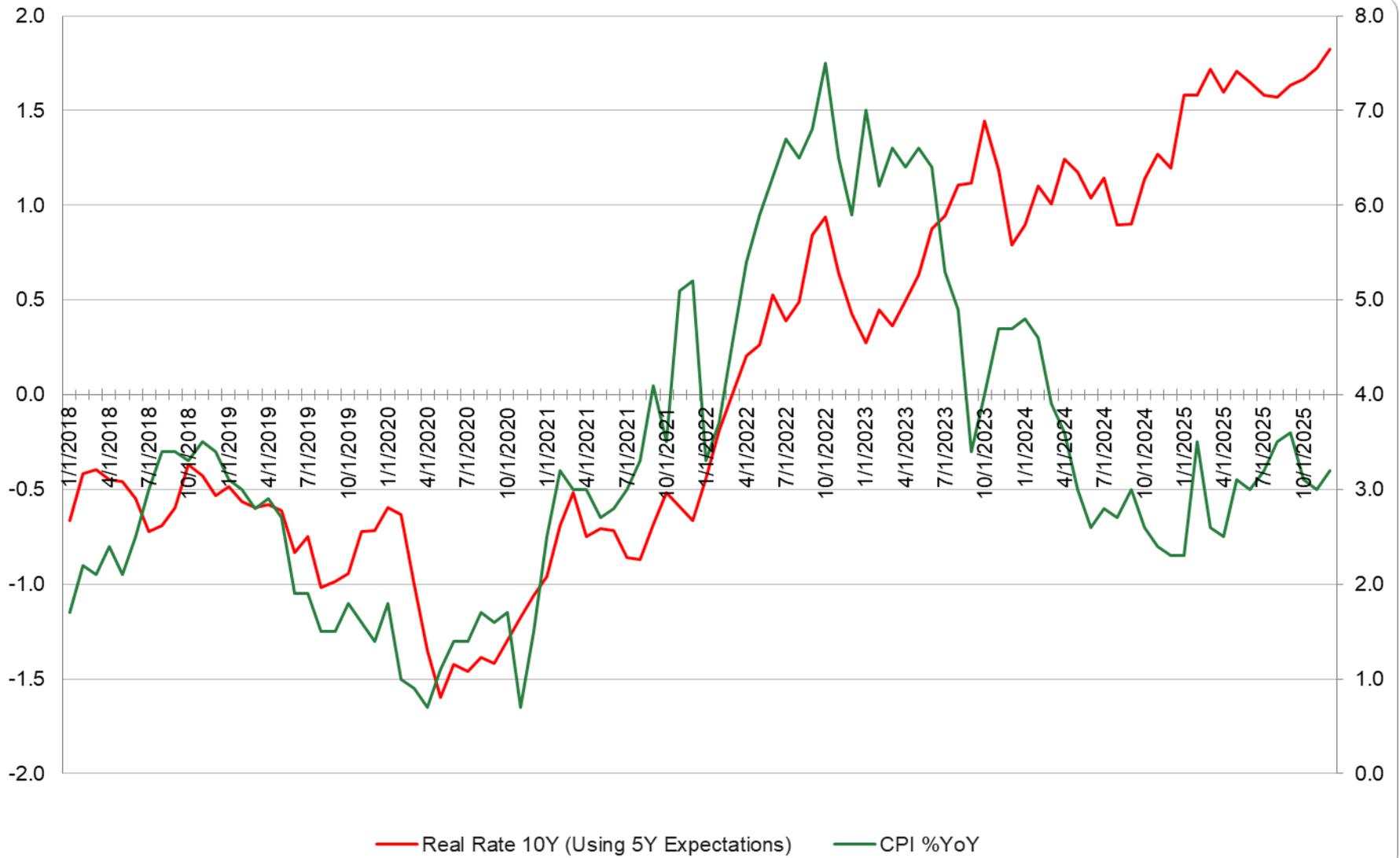
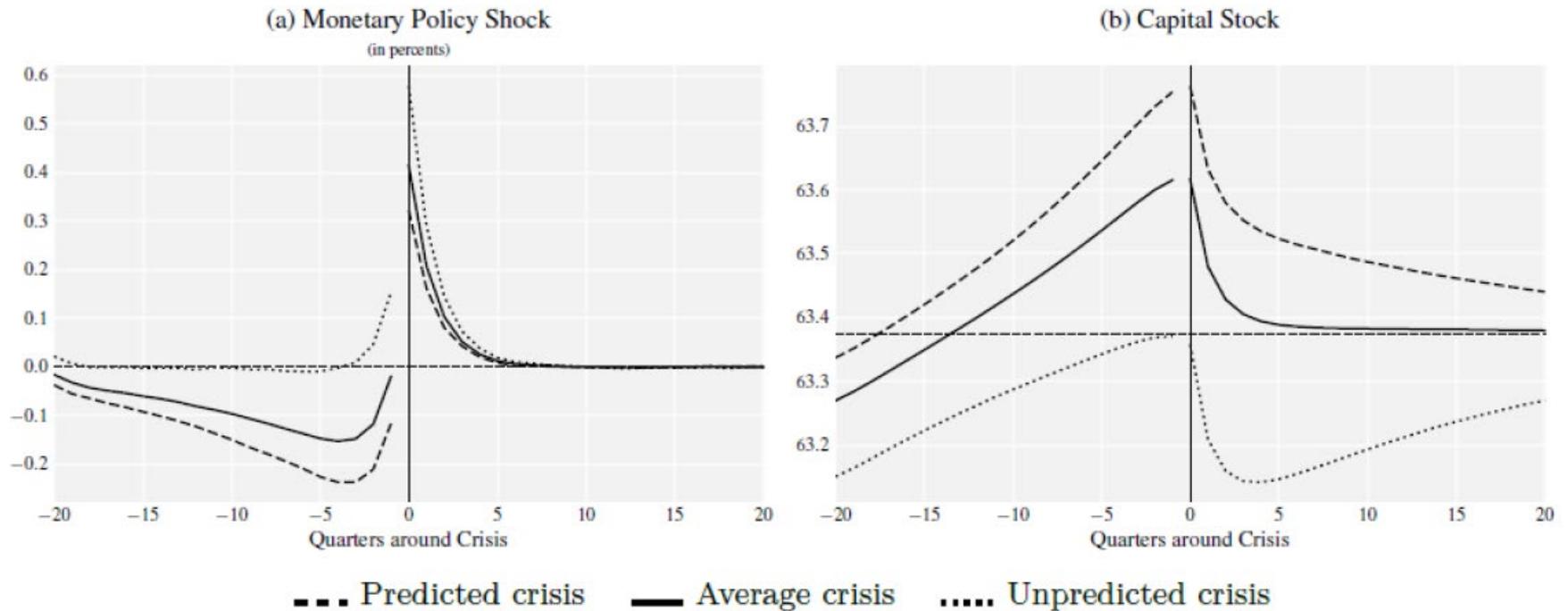
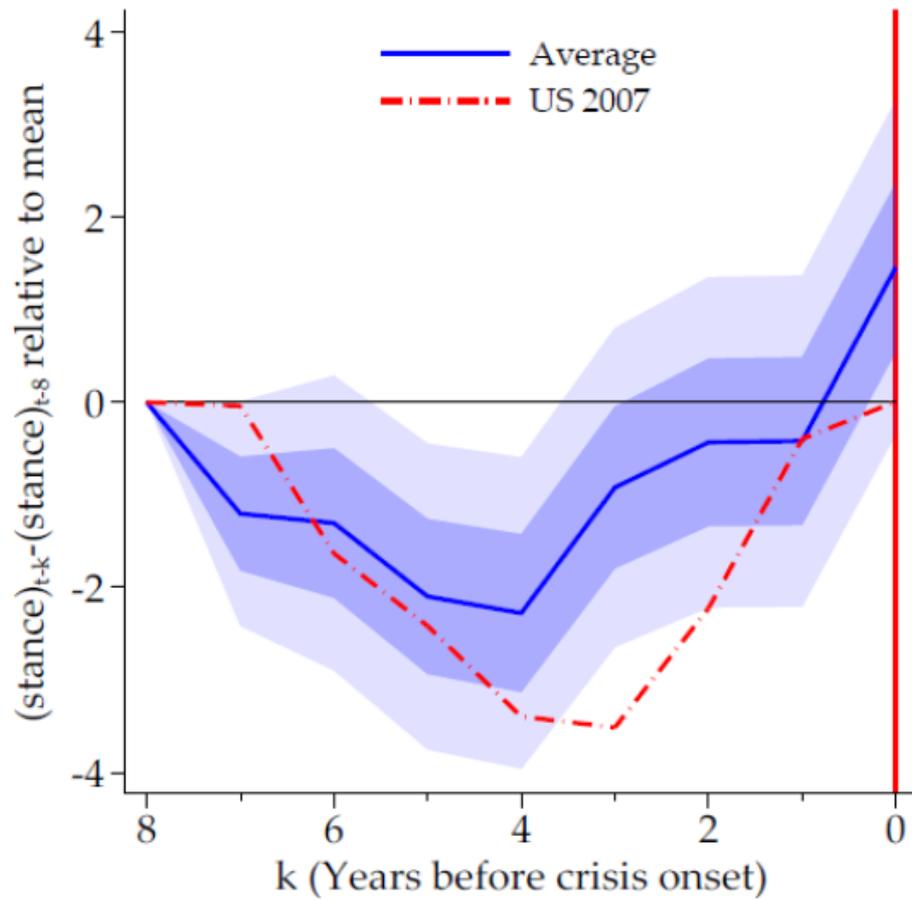


Figure 7: Rates too Low for too Long May Lead to a Crisis





Grimm-Jordà-Schularick-Taylor (2023)