Discussion of Akinci, Benigno, Del Negro & Queralto's "The Financial (In)Stability Real Interest Rate, r**"

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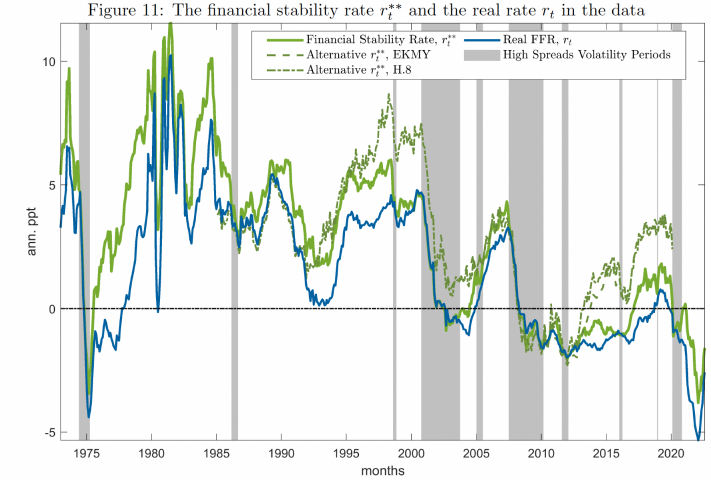
What exactly is r^{**}?

- A neutral real interest rate from perspective of financial stability rather than inflation (i.e., r^* à la Wicksell, 1936)
- Counterfactual real interest rate at which financing constraints are on the threshold of binding given state variables other than r
- If $r < r^{**} \Rightarrow$ financial stability such that economy can handle certain size shocks w/o constraint binding and creating financial accelerator
- If $r > r^{**} \Rightarrow$ financial instability given binding constraint
- r^{**} is meant to *quantify* how far the real interest rate is from the threshold level as possible guidance to policymakers

Summary of Akinci, Benigno, Del Negro & Queralto

- Develop a structural model building on Gertler & Kiyotaki (2010) to only have an occasionally-binding financing constraint
- Calibrate model to generate quantitatively plausible macro-finance interactions
- Use machine learning (ML) to recover complicated links between interest rates, financial variables, and financial stability
- ML with simulated data shows r^{**} can be accurately recovered using leverage, safe assets ratio ($R^2 = 0.997$) or credit spreads, real interest rate ($R^2 = 0.992$)
- Latter two considered as baseline in application to US data given better empirical analogues, producing plausible estimates of r^{**}

Estimates of r^{**}



Main Comment

- Impressive paper with a lot(!) going on (e.g., contributions in terms of model, application of ML, and validation of measure)
- I want to explore usefulness of r^{**}
- I believe it is useful, but it is also a reasonably complicated concept and implementation, so more exploration needed

1. Robustness to structure?

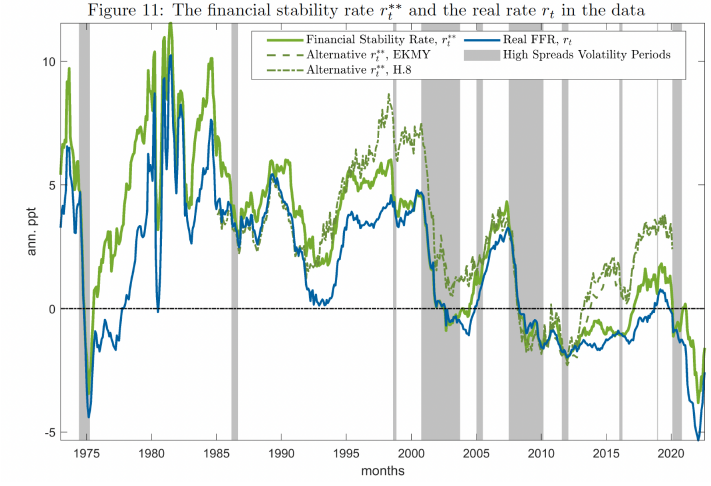
- Counterfactual concept of threshold level of interest rate for binding financing constraints identified given a structural model
- A 'real' model is used for simplicity, but would be good to have sense of quantitative robustness to variations in structure or even just calibration
- Is estimated r^{**}particularly sensitive to a particular structural parameter?
- Jones, Kulish & Morley (2024) find a "structural" shadow federal funds rate is fairly robust to different structures w/ and w/o QE
- Demonstration of some robustness to structure would be reassuring for quantitative implications of empirical measure of r^{**}

2. Usefulness for policy?

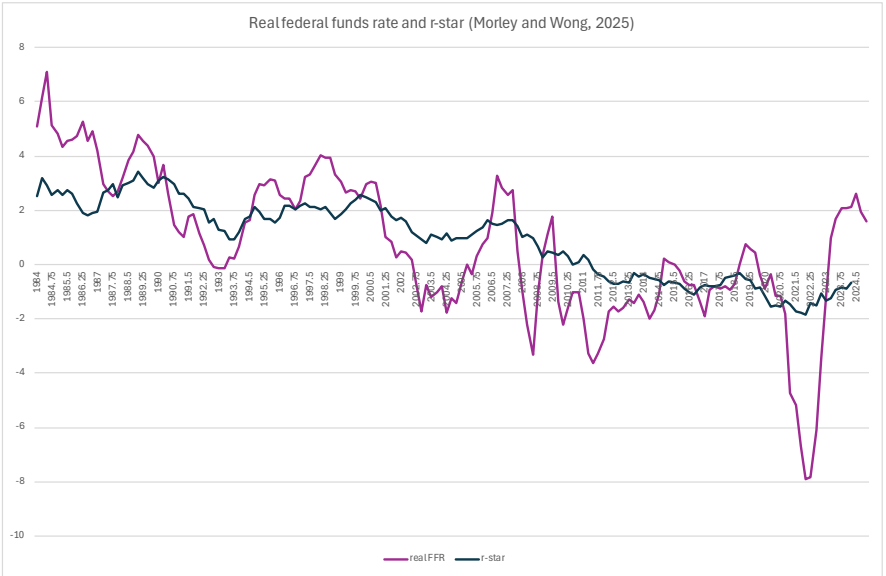
- It could be helpful to compare to traditional r^* measures to understand if/when r^* and r^{**} produce different signals for policy
- Main signal is when $r > r^{**}$ such that policymakers might lower r to restore financial stability (which happens in sample, except at ZLB)

$$r_t = \{r_t^*, r_t^{**}\} + \phi_\pi(\pi_t - \bar{\pi}) + \phi_y \tilde{y}_t$$

Estimates of r^{**}



Morley and Wong (2025) r^*



Other possible reaction functions?

- Is responding to r^{**} fundamentally different than adding (a nonlinear function of) credit spreads (ω_t) into the reaction function à la Cúrdia & Woodford (2010)?

$$r_t = r_t^* + \phi_\pi(\pi_t - \bar{\pi}) + \phi_y \tilde{y}_t - \phi_{\omega t} f(\omega_t)$$

- E.g., $f(\omega_t) = r_t - r_t^{**}$
- How does it compare with embedding information about financial cycle when measuring potential output, as suggested by Borio, Disyatat & Juselius (2017)?

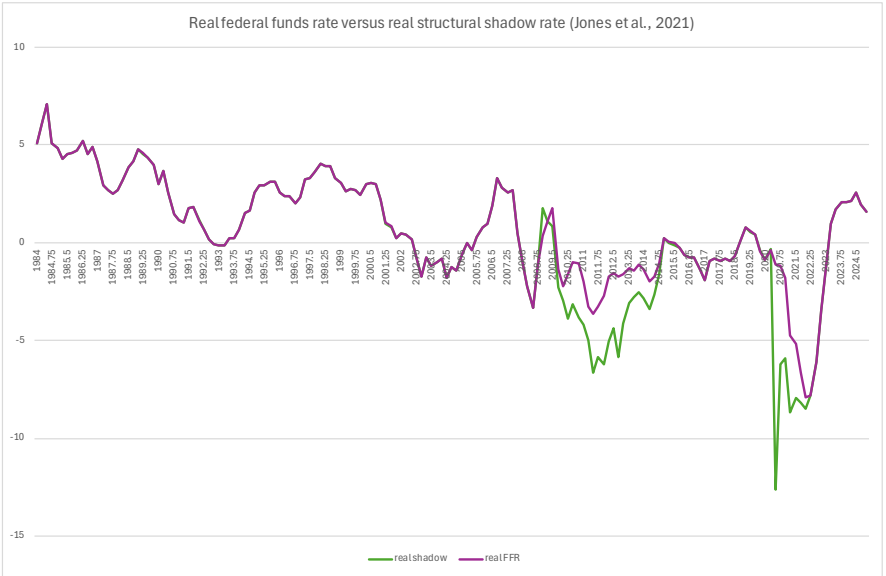
$$r_t = r_t^* + \phi_\pi(\pi_t - \bar{\pi}) + \phi_y \tilde{y}_t^{\text{BIS}}$$

- Output equivalent measure rather than interest rate equivalent

3. How to think about r^{**} at the ZLB?

- Policymakers can't easily cut r during the ZLB, but should we think about r^{**} compared to a shadow real rate in this setting?
- As I understand, the structural model doesn't have the ZLB, so a shadow rate might be better empirical analogue than the actual rate

Real federal funds rate or shadow rate?

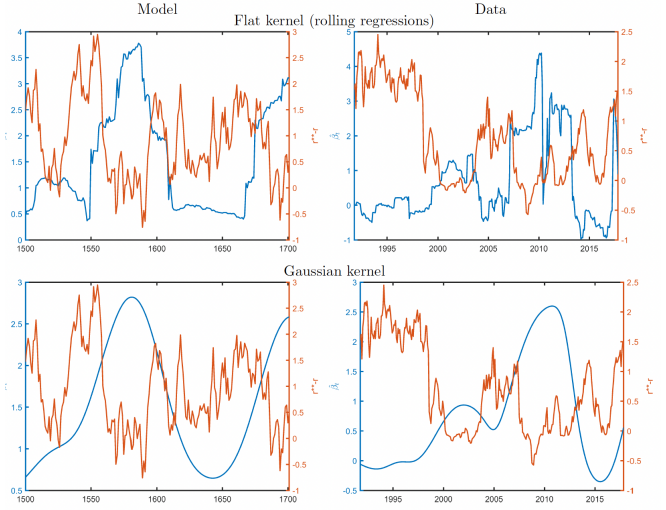


4. Usefulness for analysis?

- Again, $r - r^{**}$ effectively a nonlinear function of the credit risk spread
- E.g., comparison of $r^{**} - r$ to nonlinear effects $\hat{\beta}_t$ of monetary policy surprises on credit spreads as part of validation

Negative link b/w $r^{**} - r$ and $\hat{\beta}_t$

Figure 13: The sensitivity of financial conditions to interest rate shocks



Note: The figure plots the r**-r gap (orange) as well as the kernel-based estimates of β_t from the time-varying regression (32) (blue) using model-generated (left panels) and actual (right panels) data. The top panels use a flat kernel and the bottom panels use a Gaussian kernel. The kernel regression on the data is run from December 1991 to November 2017.

Potential role as a conditioning variable

- $r - r^{**}$ could be a particularly useful nonlinear function for forecasting or conditioning for state-dependent effects of monetary policy
- E.g., Alpanda, Granziera & Zubairy (2021) estimate local projections for 18 country panel and find business cycle more important than credit
- But their credit gap measured using BIS-style HP filter of household debt-to-GDP with $\lambda = 400{,}000$
- Perhaps $r - r^{**}$ performs better as conditioning state variable related to credit in a smooth transition local projection model?

Summary of Discussion

- Impressive paper
- More consideration of robustness to calibration and model structure would be helpful to understand r^{**} and its quantitative usefulness
- Can $r - r^{**}$ serve as better guide for policymakers as additional term for the reaction function rather than r^{**} as a sometimes substitute for r^{*}?
- Is $r - r^{**}$ a useful nonlinear function of credit spreads when considering state-dependent effects of monetary policy?