It is not R* but R** we should worry about!

Gianluca Benigno

HEC- Lausanne

SUERF & OeNB conference on “Equilibrium real interest rates – concepts, current and future drivers: new insights and policy implications" on 7 Dec 2023, Vienna.

Based on joint work with O. Akinci (FRBNY), M. Del Negro (FRBNY), A. Queralto (Board of Governors).

Disclaimers: views are my own and do not represent the views of the Federal Reserve Bank of New York, the Federal Reserve System or the FOMC

https://www.youtube.com/watch?v=wPQ65Qt3tuo

Background

Why do we need another star?

- The natural rate of interest r* is associated with the notion of macroeconomic stability, the rate consistent with output equaling its natural rate and constant inflation (Wicksell, Woodford,... Laubach and Williams, ...);
- Our research introduces r**, the financial (In)Stability real interest rate, the threshold real rate above which financial instability arises;
- Goal of r**: map the notion of financial stability onto the interest rate space, and complement r* as a guide to policy.

R^* versus R^{**}: Trade-offs

- R^{**} is associated with the notion of financial stability. One interpretation is in terms of policy space.

  - l if $r > r^{**}$ we enter a region of financial distress;
  - l if $r < r^{**}$ we are in a region of financial stability;

- How does this relate with the notion of macroeconomic stability?

  - l if $r^{**} > r^*$ macroeconomic stability is compatible with financial stability;
  - l if $r^{**} < r^*$ macroeconomic stability is not compatible with financial stability.

Outline

- Concept of R** : simple macrofinance model with an occasionally binding financing constraint;

- Discuss the drivers and dynamics of R**

    - ”**Financial Dominance**": persistently low real interest rates generate financial vulnerabilities and an eventual drop in r**, which may constraint monetary policy (monetary policy determines its own boundary)

- Provide and empirical measure of R**.

Determinants

Generic financial Intermediary

Assets	Liabilities
Interest Rate Sensitive Assets	Deposit
Safe Assets	Liabilities

Leverage Constraint (Gertler, Karadi, Kiyotaki): financial stress and amplification

➢ Leverage Constraint depends on the share of safe assets

Construction and Determinants

We construct R**, the financial instability real interest rate, as the threshold interest rate above which leverage constraint is binding.

What are the determinants of R ?

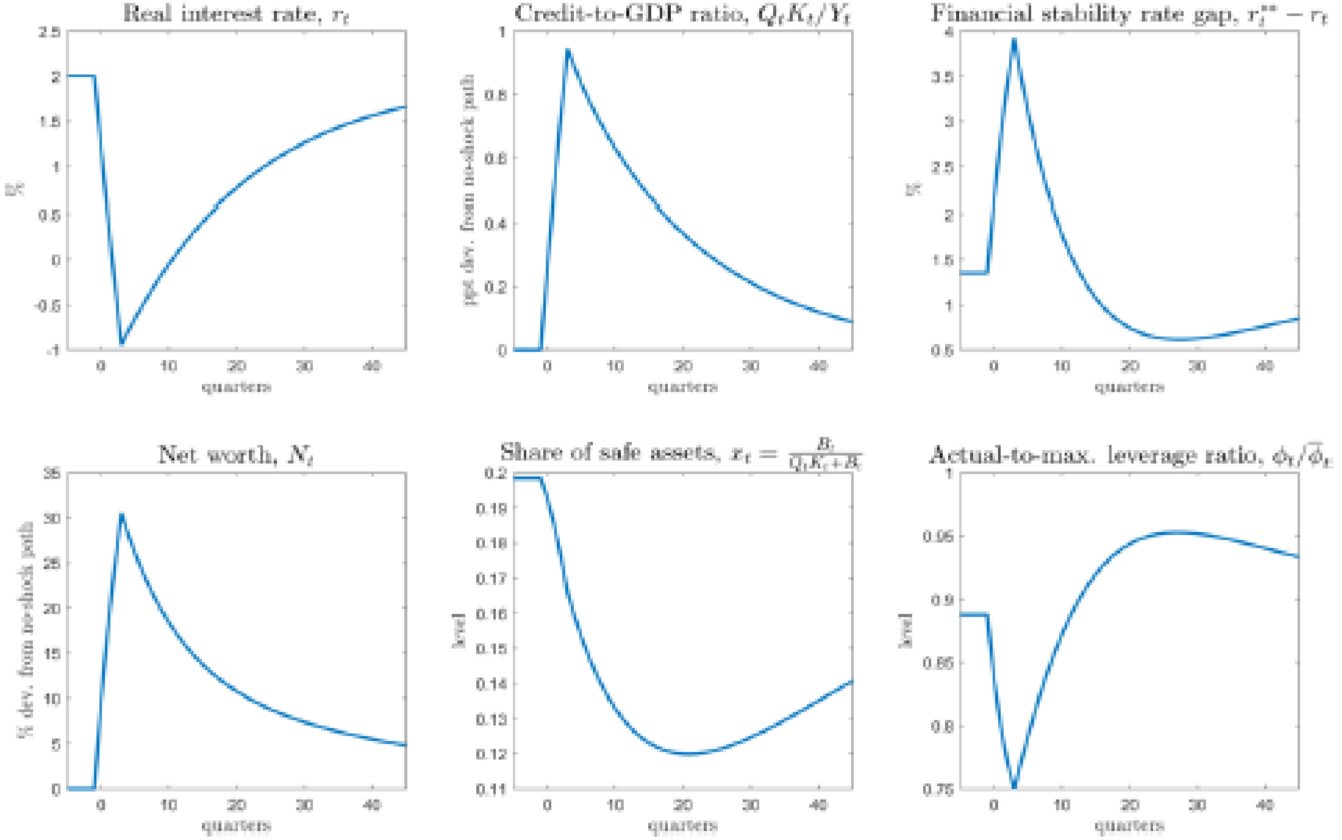
- R** is positively related with the share of safe assets.
- R** is positive related to the value of interest rate sensitive assets.

Prolonged low interest rates can move financial intermediary into distress region

- Low R reduces equity by lowering return on intermediary interest rate sensitive assets. Shift towards riskier assets. Leverage increases and this now reduces R and policy space.
- QT: reducing amount of safe assets and lower R**.

Financial Dominance

Figure 6: Dynamics of r**: response to a decline in real interest rates



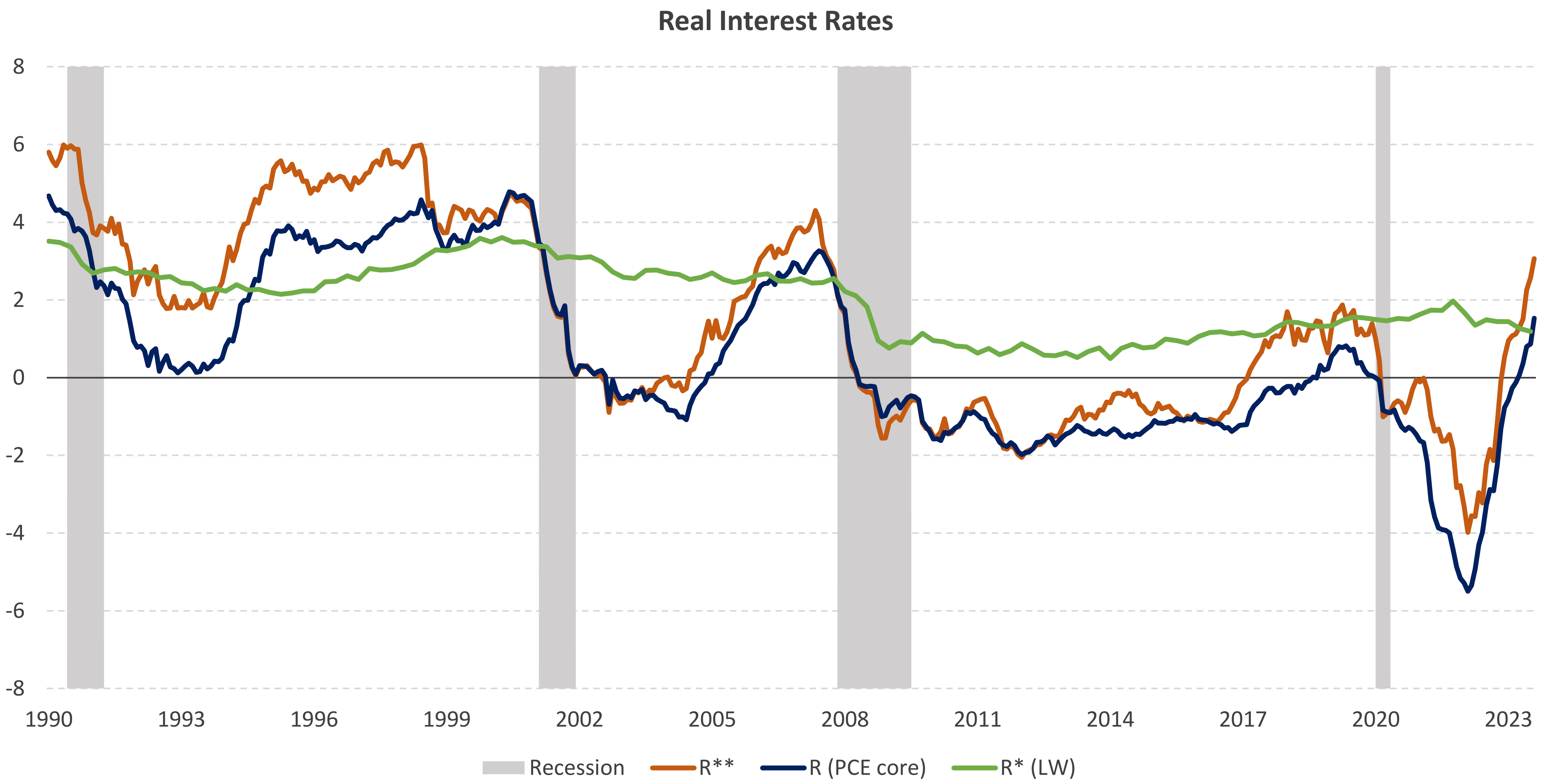
Note: Responses to an unexpected 3 percentage-point fall in the real interest rate, r_t. The economy is at the risk-adjusted steady-state in the initial period. Variables indicated % dev. computed as percent deviations relative to their risk-adjusted steady-state values.

- ➢ Persistently low rates today cause vulnerabilities to build up =) reduce monetary policy space for maintaining "financial stability" in the future

Measuring R**

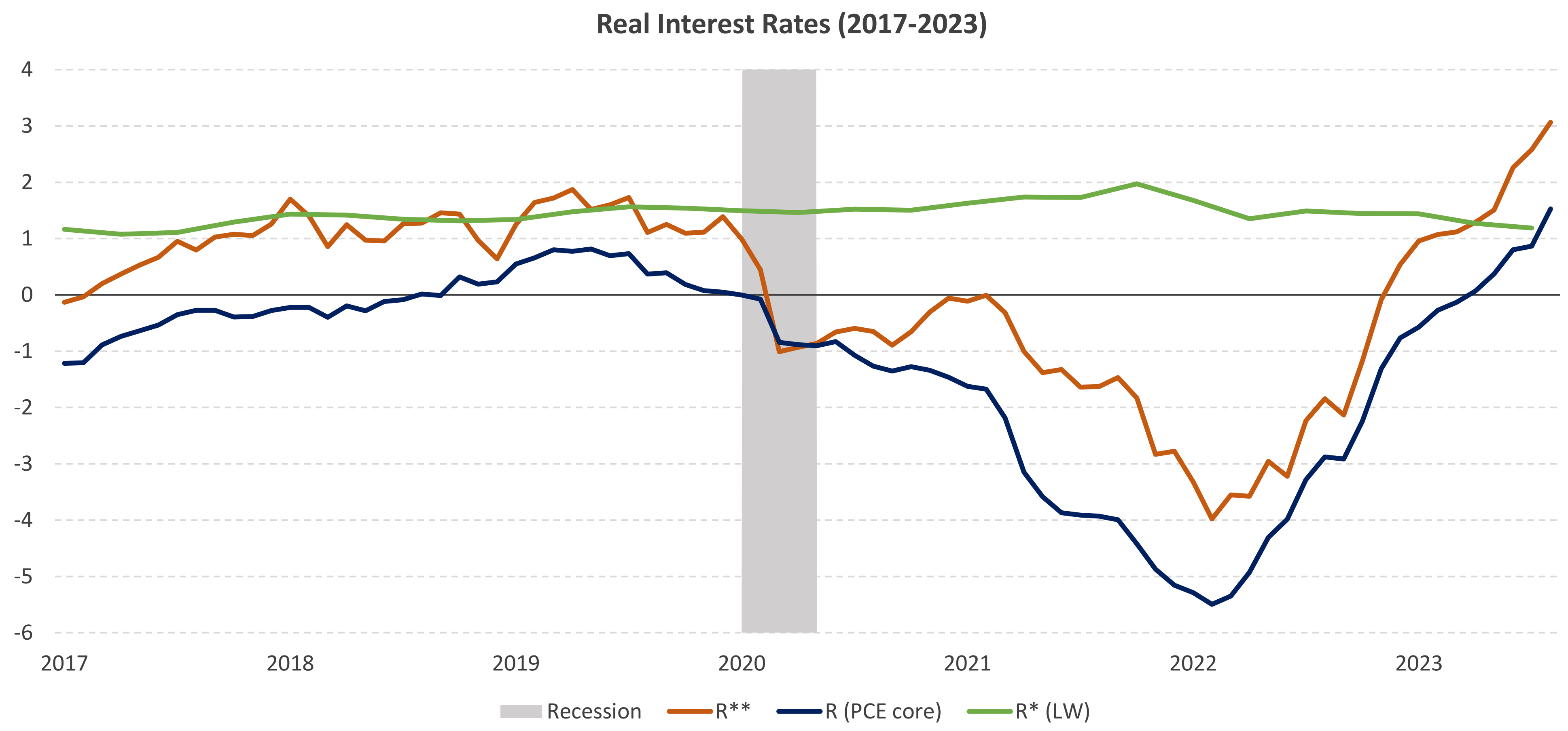
- Structural Approach: quantitative model
- Machine Learning to uncover model links between concept and variables that we can observe in the data.

Measuring R**



Real Interest Rates
8
6
4
2
0
-2
-4
-6
-8
1990
1993
1996
1999
2002
2005
2008
2011
2014
2017
2020
2023
Recession
R**
R (PCE core)
R* (LW)

Measuring R**: zoom in



Conclusions

- Introduce a new concept: R**

  - ➢ threshold real interest rate above which the tightness of financial conditions may generate financial instability.

- R** enables us to translate financial vulnerabilities into an object comparable to the monetary policy rate and to the natural real interest rate

- Different nature of economic cycles: more dominated by financial episodes. This is why we should worry about R** more than R*.

Appendix: Ex-post Policy Stance (U.S.)