Monetary Policy and Financial Stability

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September 9, 2025

Tinbergen Rule

- The Tinbergen Rule (after Jan Tinbergen): To achieve multiple independent policy goals (targets), you must have at least an equal number of independent policy instruments.
- Two important goals: 1) low and stable inflation 2) financial stability or no crises
- Following Tinbergen, need at least two instruments
  - Tackle inflation with interest rate policy
  - Achieve financial stability with macro-prudential policies

Separation principle.

- Central banks now call this the Separation Principle:
  - Monetary policy and financial stability can, and should be addressed by different instruments
  - Separate Monetary Policy Committee and Financial Stability Committee, even located in different organizations
- But Tinbergen did not say
  - Two instruments would be enough
  - When only one instrument is powerful, should we not accept trade offs?
    - Perhaps set instrument to achieve a little bit of both targets?

When Credit Bites Back: Jorda, Schularick, and Taylor (2013)

- Examine 154 business cycles in the 14 countries
- 35 coincide with financial crises
- Examine the effects of excess credit
  - higher credit/gdp growth relative to mean in expansions
- Findings
  - Financial crisis recessions worse
  - Closely related to credit intensity of expansion

The effects of excess credit...

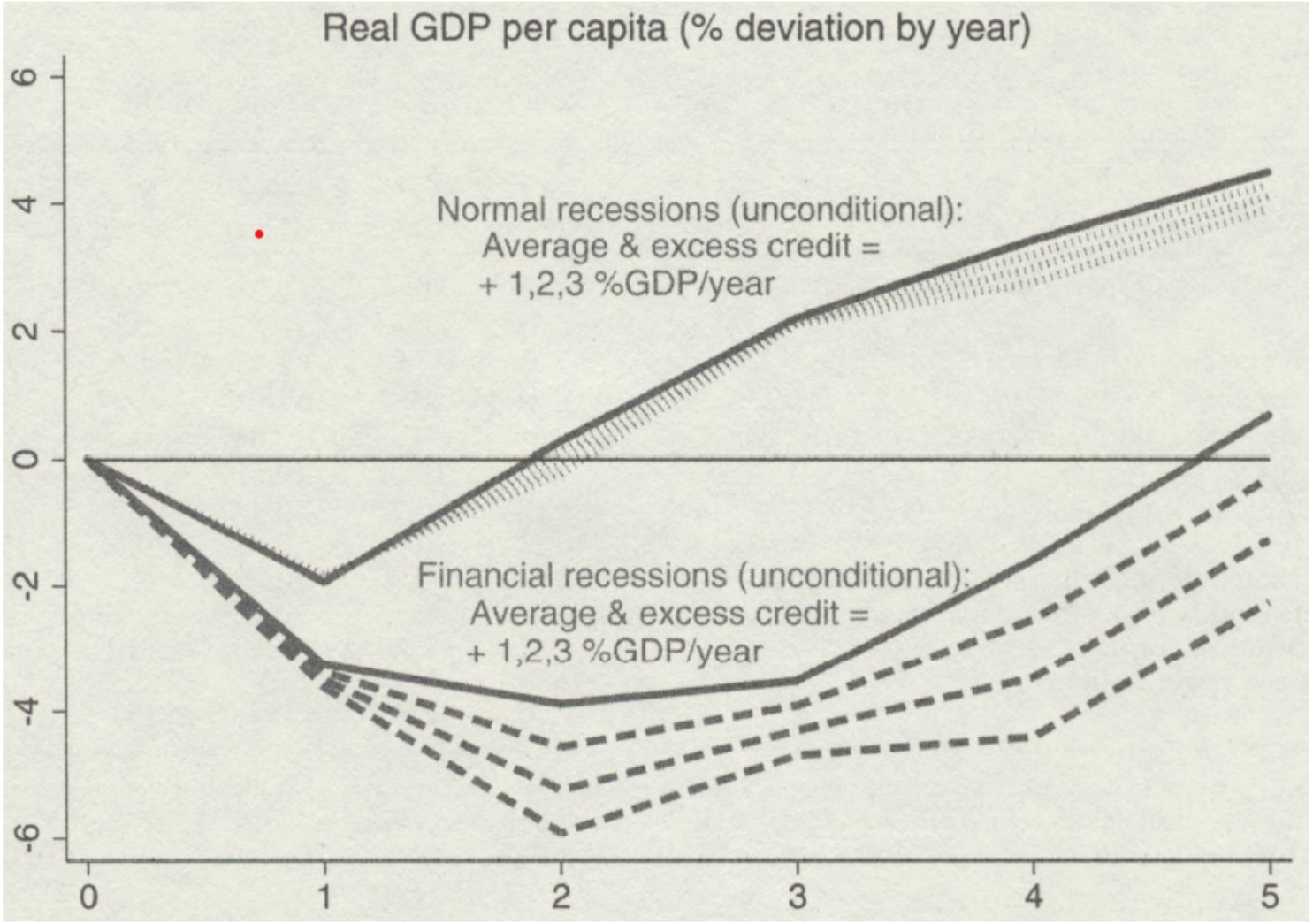


FIG. 1. Unconditional Paths under Continuous Excess Credit Treatment.

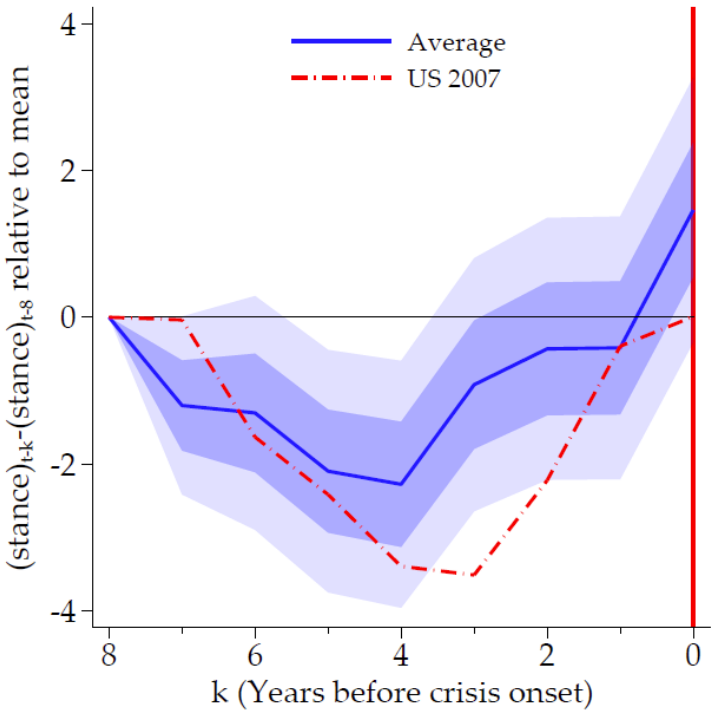
Accommodative Monetary Policy and Financial Instability: Grimm,et al. (2023)

- Stance of monetary policy => real policy rate less a measure of real neutral rate

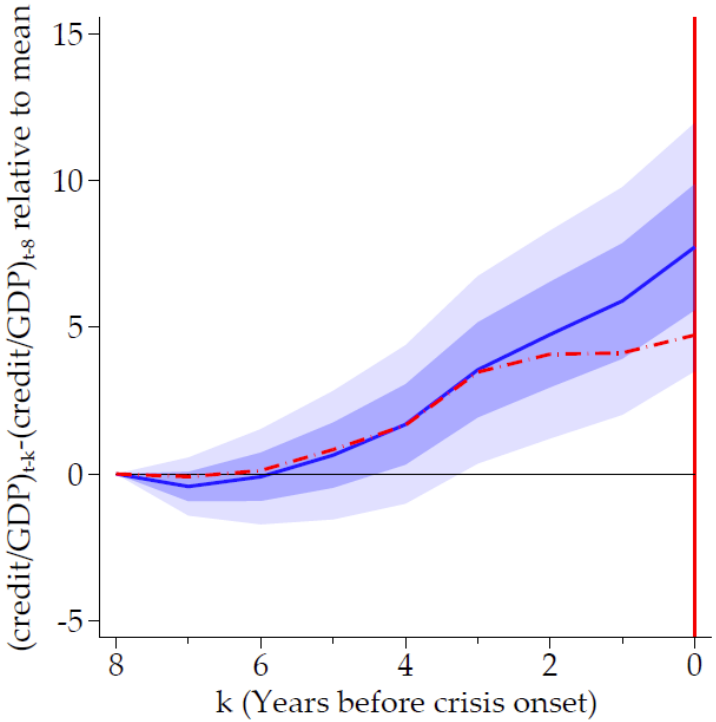
Policy stance and credit growth before crisis

Figure 1: *The stance of monetary policy and credit growth before financial crisis events.*

(a) *stance (pps)*

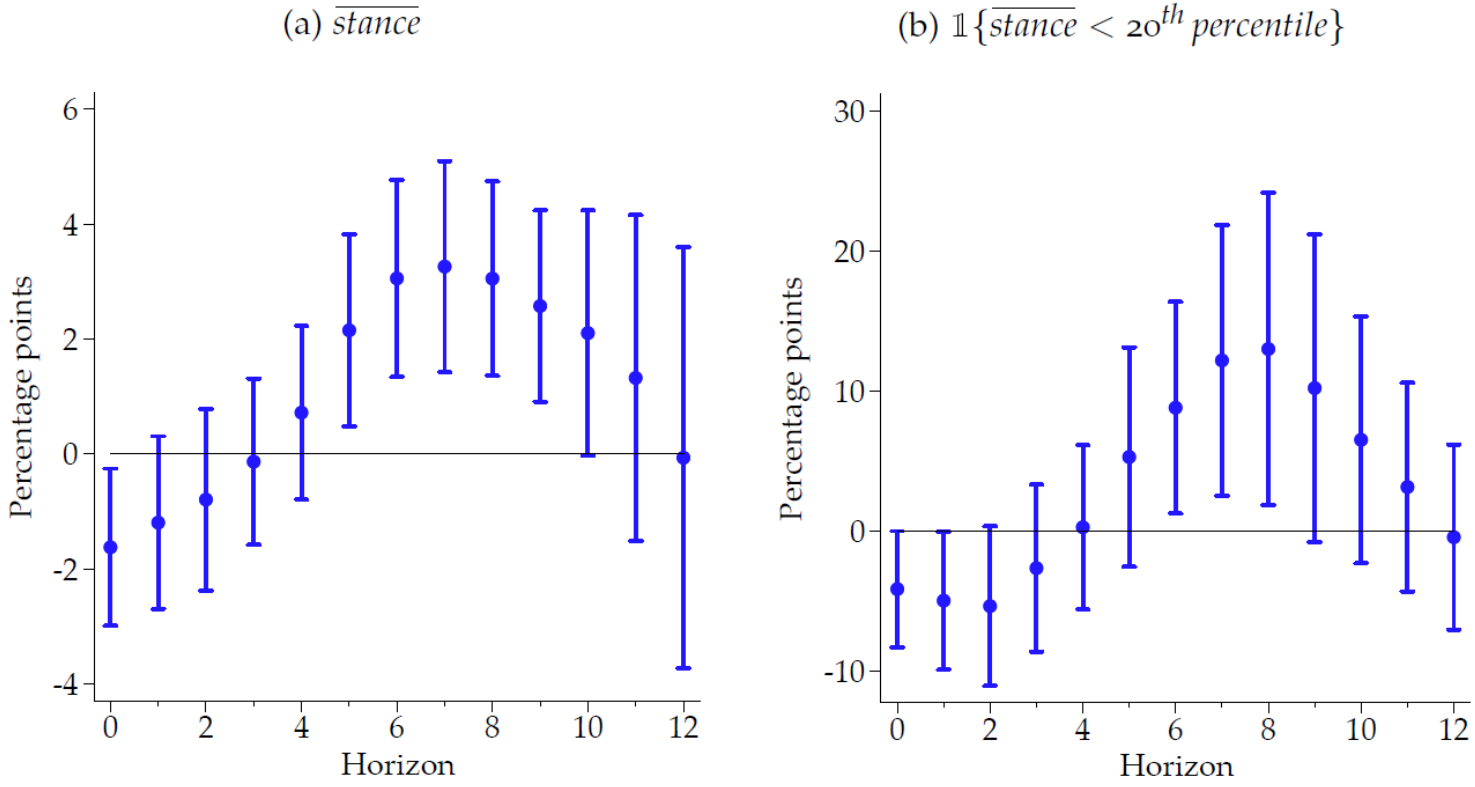


(b) *Credit-to-GDP ratio (pps)*



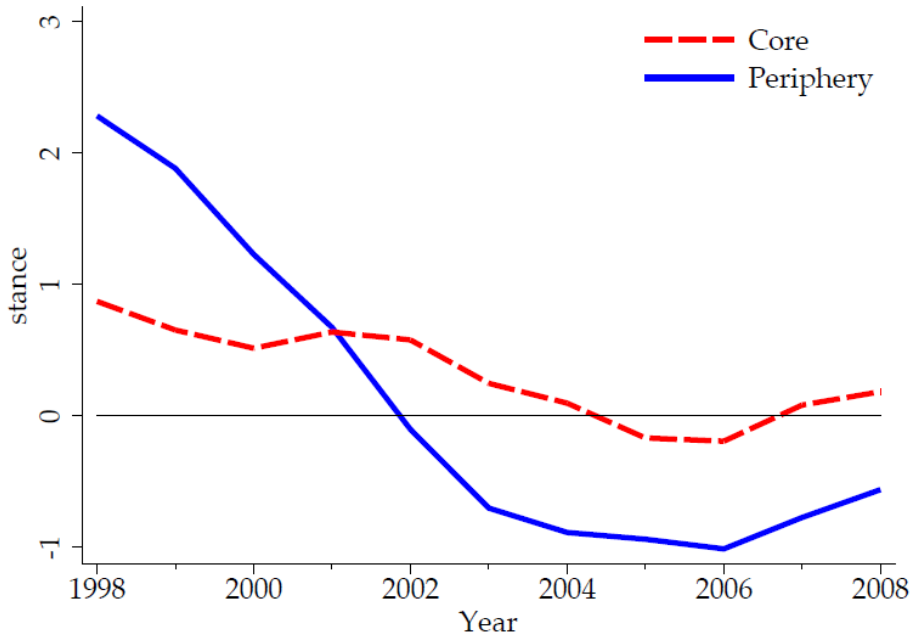
∇ Probability of crisis and 5 yr average stance (a) Lower by 1% (b) in lowest 20th percentile

Figure 3: *The connection between loose monetary policy and financial crises.*



But isn't policy endogenous?

Figure 10: *The stance of monetary policy in the eurozone before the Global Financial Crisis.*

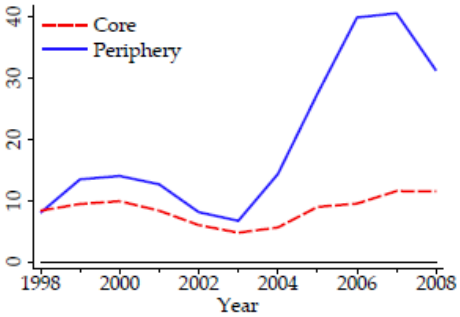


Notes: The figure shows the unweighted average of $\overline{stance}$ as defined in equation (4) for the core countries (Belgium, Denmark, France, Germany, Netherlands) and for the periphery countries (Ireland, Italy, Portugal, Spain) of the eurozone.

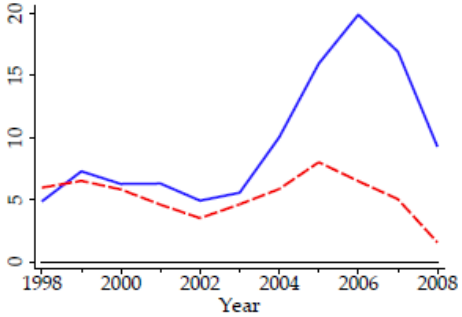
Effect of divergent policy on credit and asset prices

Figure 12: *Credit and asset prices in the eurozone before the Global Financial Crisis.*

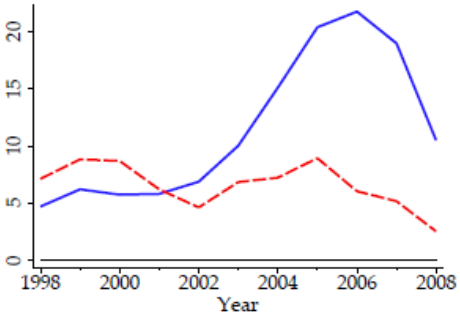
(a) *Total credit*



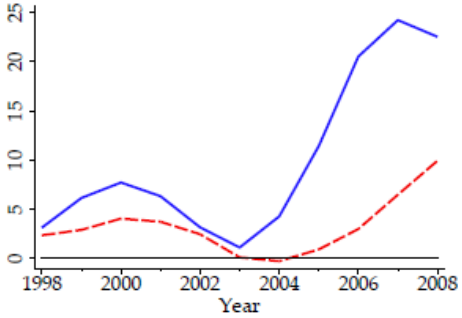
(b) *Household credit*



(c) *Mortgage credit*

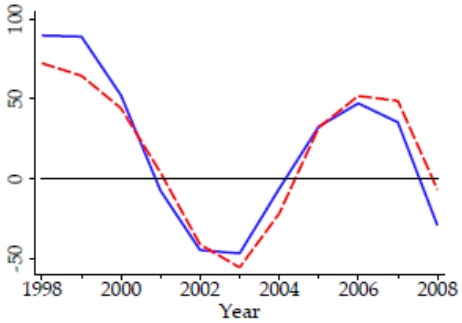


(d) *Business credit*



(e) *House prices*

(f) *Stock prices*



Is it monetary policy transmitted through banks? Morais et al. (2018)

- Foreign-owned banks in Mexico (account for 60% of local bank credit)
  - One standard deviation reduction in foreign monetary policy rates increases
    - credit volume by corresponding foreign banks in Mexico by 2.1%
    - lengthens loan maturity by 6.7%
    - and increases probability of future loan delinquencies by 9.8%
  - Suggest a risk taking local response to easing of monetary conditions/QE in home country

Why do low rates precipitate risk taking?

Households

- Low risk free rates increase investment in risky assets (Lian, Ma, and Wang (2018))
  - Reference point
  - Salience
- Search for yield to cover fixed savings needs

Financial intermediaries

- Search for yield to cover fixed liabilities or fixed costs (Rajan (2005), Drechsler, Savov, and Schnabl (2018))
- Inflows burning a hole in your pocket (Granja, Leuz, and Rajan (2022))
- Exacerbated by herd behavior or FOMO (Stein (1989), Rajan (1994))

Another instrument? Liquidity expansion and contraction

- Central bank balance sheet expansion injects liquid central bank reserves into banks: Quantitative Easing (QE)
  - Free extra instrument?
- Used to
  - Stabilize financial markets
  - As a monetary policy instrument when central bank faced with the zero lower bound
- Should flooding the market with liquidity not reduce liquidity shocks (periods when liquidity seems to evaporate from markets)?
  - However, September 2019, Mar 2020, Mar 2023, April 2025

Sustained liquidity infusion encourages liquidity use, dependence

- Liquidity is like a drug, induces dependence (Acharya and Rajan (2022))
- It is costly for banks to simply hold liquid central bank reserves. Therefore they "use" them and become vulnerable to shortfalls (heightened in time of quantitative tightening (QT))
- Evidence in Acharya, Chauhan, Rajan, and Steffen (2024)): Against reserve holdings acquired in QE,
  - US banks issued "cheap" uninsured demand deposits. Also ran down time deposits.
  - Banks wrote lines of credit to all who might need liquidity.
  - Banks funded levered speculation, e.g., bond basis trade.
- Each action created claims to some portion of the bank-held central bank reserves.
- Liquidity supply creates its own demand, leaving little spare.

Bond basis trade shows how low rates and easy liquidity interact

First, insurance companies and pension funds search for yield when rates low (Kashyap, Stein, Wallen, Younger (2025))

- Buy riskier corporate bonds to get extra yield.
- Since corp bonds typically have short maturities, these funds buy treasury bond futures to get duration.

Hedge funds sell bond futures

- Buy treasury bonds to hedge, earn bond – futures spread
- Finance bond purchases in repo market
- Hugely levered

When liquidity dries up ("repocalypse"), especially likely during QT: Central bank intervenes to repair markets.

Central bank intervention further vitiates separation

- Illiquidity, fire sales, and bank runs are inefficient ex post.
  - Central bank intervention can reduce or eliminate them.
- One policy response might be
  - While the Fed cannot recognize or prevent asset price booms, it can "mitigate the fallout when it occurs and, hopefully, ease the transition to the next expansion." Greenspan (2004)
- Fed put (interest rate, special facilities, liquidity)

... and increases distortions

- But intervention can undermine the disciplinary role of deposit contract (Diamond and Rajan (2001)), exacerbating moral hazard.
- Bagehot Rule: Lend freely against good collateral at a high rate.
- What rate? The rate that would prevail in the private market absent intervention (Acharya, Rajan, and Shu (2025))
  - Hard for central bank to charge that rate ex post in the midst of turmoil
    - Fed facility in 2023
  - Hard to charge that rate ex ante as insurance premia build up
    - Pre-committed facilities (King (2016))
    - Deposit insurance

The Safety Net: Central Bank Balance Sheets and Financial Crises, 1587-2020 (Ferguson, et al. (2023))

- Central bank intervention turbo-charges incentive effects of accommodative policy.
- Does intervention sow the seeds of the next crisis (Ferguson, et al. (2023))?
- Find liquidity support during financial crises
  - ensures crises are less severe
  - however, raises the probability of future boom-bust episodes.

Does the Separation Principle hold?

Probably not.

- Using prudential measures alone is like trying to stop a car by waving outside the window while monetary policy is jamming on accelerator

Leads to asymmetric monetary policy

- In normal times, no attempt to rein in risk taking from the monetary side
  - Let the supervisors take care of it!
- In times of stress, intervene to save the system
  - The supervisors were asleep at the wheel, we are the only game in town
- Boom to bust to boom again

Conclusion

Might a bust be too big for even the central bank – more likely today when many governments fiscally constrained.

- While supervisory and macro prudential tools should be used fully, they will likely be insufficient in the modern financial system.
- Monetary policy settings should also take into account evidence of heightened leverage and credit market overheating (BIS (various), Borio and Lowe (2002))