Comments on "Adding Financial Market Frictions to the NAWM"
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New Area Wide Model

- DSGE model of the ECB

- Frictions and imperfections in NAWM
  - Monopolistic competition in intermediate good and labour markets
  - Sticky prices and wages
  - Habit formation in consumption
  - Adjustment costs in investment

- New in this paper:
  - financial market frictions
  - housing
  => NAWM-FIN

Financial frictions

- Financial accelerator (/decelerator?)
  - Amplifies the effects of shocks
  - May also dampen

- Interest rate spreads

- Co-movements of house prices, equity prices, output, inflation etc.

- Both firms and households affected

Financial market frictions

- Entrepreneurs
  - Follows Bernanke Gertler and Gilchrist (1999)
  - External finance premium
    - Depends on leverage
    - Conter-cyclical
  - No quantitative rationing
  - Background
    - Idiosyncratic productivity shock, private information
    - Costly state verification
  - Nominal debt contracts => Fisher effect

- Patient and impatient households
- Impatient households
  - Credit constrained
  - Have a higher propensity to consume
- Transferring resources from patient to impatient households increases aggregate consumption

- Collateral constraint
  - Follows Iacoviello (2005)
  - Collateral constraints tied to housing values
  - Nominal debt contracts
  - Quantitative credit rationing
  - Costs of funds = risk-less rate (no premium)
  - No private information
- Mortgage equity withdrawal channel
  - Higher house prices => higher consumption

- Financial decelerator
  - Collateral constraint
  - Nominal debt contracts
  - Supply shock
- Negative supply shock => inflation ↑
  => real value of debt ↓ => collateral constraint slackened
  => impatient households can consume more
  => the effect of the negative shock on GDP dampened

Impulse responses

- Compared to NAWM responses of real variables to
    - monetary policy shocks amplified
    - permanent TFP shocks amplified
    - temporary TFP shocks dampened

- Cf. Iacoviello: demand shocks amplified, supply shocks dampened

Impulse responses

- Results that are harder to interprete:
- After a positive temporary TFP shock
  - Investment ↓ (sign reversal, compared to NAWM)
  - Price of capital ↓
  - Real net worth of the firm/entrepreneur ↓

  <= Fisher effect (lower inflation and higher real value of debt)?

  <= Different capital utilization cost (I-N rather than NAWM)?
  - Also: C ↓ on impact, GDP↓ on impact

Comments

- Two approaches to introduce financial frictions
  - external finance premium, for entrepreneurs (BGG)
  - collateral constraint, for households (Iacoviello)
- Sounds reasonable
- More typically, only one modeling approach followed
  - Borrowing constraint: Iacoviello (2005), Iacoviello and Neri (2008), Christensen et al. (2008)
- Empirical evidence: also households' borrowing costs may vary with their financial situation (loan to value ratio etc.)
- Robustness checks: the role of BGG, Iacoviello
- The role of nominal debt contracts

Banks

- What is role of banks in the model?

- Monitoring (costly state verification); but this is just a (technical) way to motivate external finance premium

- Why not direct lending from patient households to impatient households and entrepreneurs?

- No maturity transformation, risk of bank runs etc. ?

- The role of banks' balance sheets? No bank lending channel?

- Two types of banks
  - Building societies lend to households
  - (Commercial) Banks finance entrepreneurs
  - Adds institutional realism and/or affects results?

- Labour markets
  - Only impatient households supply labour to the housing construction sector
  - Partly insulates patient households from housing sector specific shocks?
- In equilibrium impatient households always borrow as much as they can (?) (cf. Iacoviello)

Questions, comments

- Does the model behave like BGG (1999), or like Iacoviello (2005)

- Financial accelerator
- Financial accelerator / decelerator, depending on the shock
- Clarifying the role of the these two elements would be useful

- Implications for monetary policy?
- What should the ECB do now?
  - Rising commodity prices, accelerating inflation
  - Risk of credit crunch
  - Asset prices

First, the dynamic behavior of the economy may well exhibit nonlinearities, at least in response to some shocks. [...] I believe that the design of monetary policy ought to reflect the public's preferences, especially with respect to avoiding particularly adverse economic outcomes.

Frederic Mishkin, January 11, 2008

Normal times vs. financial crisis

- Current turbulence
  - "Banks don't trust each other"

  - "Too connected to fail"

- Linear vs. non-linear model?

- How to estimate /calibrate a euro-area model, well-suited for the analysis of a financial crisis?

- The first (full-blown) euro-era financial crisis is yet to come

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- Possible lessons from "big 5" crisis?
  - Spain 1977, Norway 1987, Finland 1991, Sweden 1991, Japan 1992

- the role of exchange rate regimes often emphasized

  - national currencies, with fixed exchange rates

  - common currency, with a flexible exchange rate

- deepening integration of financial markets

- BUT Rogoff and Reinhart: This is time different
  - despite institutional differences, banking /financial crisis share many common features

- Build-up of house prices and equity prices before the crisis

- At the onset of the crisis asset prices fall
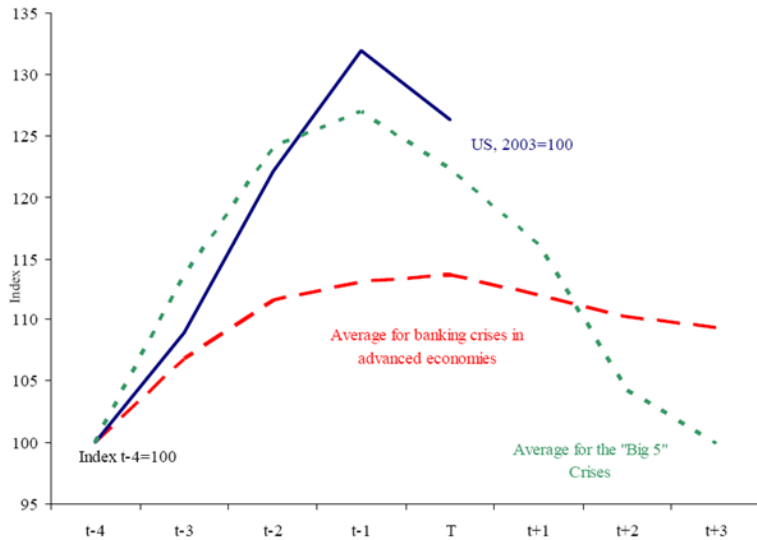
Figure 1: Real Housing Prices and Banking Crises

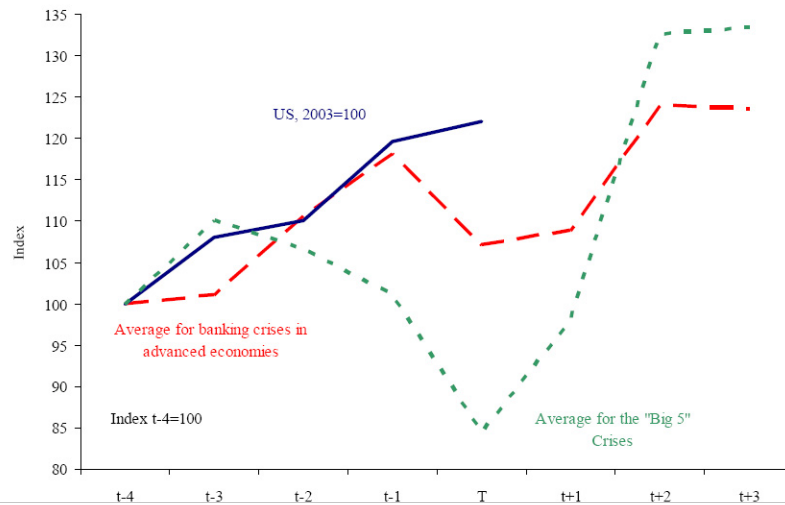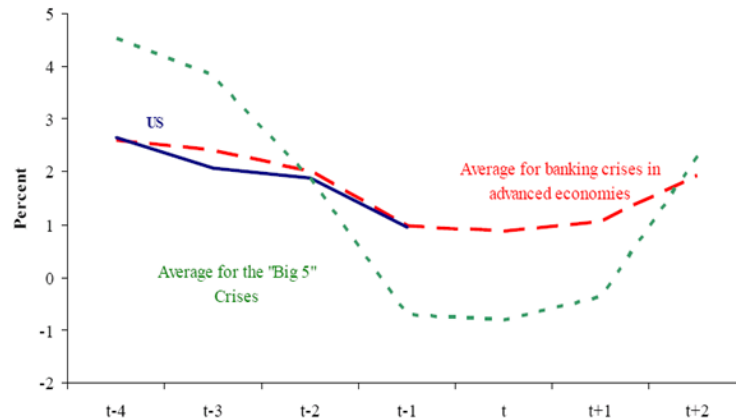Figure 2: Real Equity Prices and Banking Crises

Figure 4: Real GDP Growth per Capita and Banking Crises (PPP basis)

- T onset of the financial crisis
- Period = one year

Source: Reinhart and Rogoff (2007)