Financial Stability and the Macroeconomy

Discussion

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1) Booms and Systemic Bank Crises
2) Over-leverage and macroeconomic fragility
3) Stress testing
1) Booms and Systemic Banking Crises
   F. Boissay, F. Collard and F. Smets

1. Dynamic general equilibrium model
2. Non-trivial heterogeneous banking sector
3. Interbank market
4. Market freezes
5. Systemic banking crises
6. Credit crunches
7. Severe recessions
• A sequence of favorable, non permanent, supply shocks hits the economy leading to a boom
• Reversion to average productivity reduces demand for credit and interest rates
• Counterparty risk in the interbank market goes up
• Market finance recedes
Two regimes

• Most of the time bank assets remain below the threshold for financial crises
• The model behaves like a standard financial accelerator model
• Once in a while – on average every forty years – there is a banking crisis, preceded with a credit boom and brings about both a credit crunch and a recession.
Asymmetric information

• Moral Hazard
• Cash diversion
• Adverse selection: lenders do not observe borrowers’ skills
• Holmström and Tirole – borrower’s pledgeable income limit interbank lending
Proposition 2
• Interbank loan market freeze

Proposition 3
• Credit crunch
Questions:

• Key insight: a banking crisis is not a dot-com crisis
• Are banking crisis preceded by favourable productivity shocks? What about bubbles?
• Understanding regime switching is crucial. So, is the interbank market collapse the whole story? Is the heterogeneity of the banking system the critical issue? What about liquidity spirals?
2) Bank Overleverage and Macroeconomic Fragility
Ryo Kato and Takayuki Tsuruga

• Combine Diamond and Rajan (2001a, 2012) into an overlapping-generations (OLG) model.
• Liquidity crises occur with non-zero probability.

**Result:**
• Individual competitive banks take on excessive risks.
Pecuniary externality

• Each bank individually fail to internalize the general equilibrium effect it generates on asset prices.

• In a static Arrow-Debreu framework the price of the asset would be observed. In a dynamic set up a pecuniarity externalities occur.

• Relevant: relate to excessive leverage, excessive lending, low risk premia in good times. Adrian and Shin (2009)
Policy implications

• Levy on Debt is not the solution (paradoxical)
• Pre-announced bank bailouts may ill-incentivize banks to take on even higher risks.
• Commitment to low interest rates has the same effect (as in Farhi and Tirole)
• Are capital requirements the solution?
Questions

- Active monetary policy could prevent banking crises
- Basel II, pillar 2, principle 2: the supervisor should assess the banks’ risk models. The general equilibrium dimension should be feed backed into microprudential regulation through the right risk weights. Is there a need for a « macroprudential policy »?
3) Stress-Testing U.S. Bank Holding Companies: A Dynamic Panel Quantile Regression Approach

- By F. Covas, Ben Rump and Egon Zakrajšek
- “Top-down” stress testing models
- Fixed effects quantile autoregressive model with exogenous macroeconomic variables
Results

• Fat tails

• Capital shortfalls estimated using the dynamic panel quantile regression model are higher than the capital shortfalls obtained using a linear dynamic panel data model.

• The approach captures non-linearities in bank losses
Figure 8: Empirical Density of Projected T1CR in 2009:Q4 - Bootstrap Approach
Macroeconomic variables

• Real gross domestic product
• Unemployment rate
• House price index
• Price index for commercial real estate
• Three-month Treasury yield
• Ten-year Treasury yield
• Ten-year yield on BBB-rated corporate bonds
Questions:

• Should the rate of growth of credit be one of the macro variables?
• Should the composition of credit matter?
• Is the capital conservation buffer well designed?
• Is the countercyclical buffer well designed?
Inside the black box

• « Non-linearities » or discontinuities due to regime shifting should be acknowledged.
• What are the seeds of a banking crisis?
• Macroprudential risks due to bubbles on asset prices, fire sale prices, herding and general equilibrium should be acknowledged and fed into microprudential regulation.
• Overall remaining risks (if any) should be the object of macroprudential policy.