Bank Leverage and Monetary Policy's Risk-Taking Channel: Evidence from the United States

by

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Discussion by

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Issue

- Do low monetary policy rates (for a long time) impact banks' portfolio quality (i.e., do banks take more risk)?
- Previous evidence (among others):
  - Jiménez, Ongena, Peydró, and Saurina (Ectra2014) show that banks in Spain take more risk in low interest rate environments. In particular, it
    - induces **lowly** capitalized banks on the extensive margin to grant more loan applications to ex-ante risky firms and on the intensive margin to commit larger loan volumes with fewer collateral requirements to these firms
  - Ioannidou, Ongena, and Peydró (2009) show that banks take more risk and grant loans at low rates in Bolivia. In particular
    - banks with a **lower** capital ratio take more risks when the funds rate is lower

Issue

- Jiménez, Ongena, Peydró, and Saurina (Ectra) and Ioannidou, Ongena and Peydró (2009):
  - Upside: "monetary policy is **'exogenous'** to the country"
    - Spain: "blame it on Frankfurt"
    - Bolivia: dollarized economy with business cycle independent from US
  - Downside: not the US or Italy ☹
- This paper looks at the US
  - Upside: US and a long time period (1997-2011)
  - Downside:
    - no credit registry; they rely on survey data from Federal Reserve that covers about 60% of loans granted during one week every quarter
    - monetary policy is **endogenous** to
      - US business cycle
      - financial stability in US/ world

Methodology and Findings

- Methodology

$$\sigma_{kit} = \alpha_i + \lambda_j + \beta r_t + \gamma K_{it} + \theta X_{kit} + \mu Y_{it} + \rho Z_{jt} + \varepsilon_{kit}, \quad (1)$$

$$\sigma_{kit} = \alpha_i + \lambda_j + \beta r_t + \gamma K_{it} + \delta K_{it} r_t + \theta X_{kit} + \mu Y_{it} + \rho Z_{jt} + \varepsilon_{kit}. \quad (2)$$

- Findings: $\beta<0$; $\delta<0$
  - Ex-ante risk taking is negatively associated with increases in monetary policy rates. This link is less pronounced for banks with low capital
    - In line with theoretical model by same authors in JET14
  - Reformulate: low policy rates increase risk taking. This impact is most pronounced for banks with **high** capital
  - Economic magnitude:
    - a one standard deviation drop in interest rates (1.8%) leads to an increase in loan risk rating of 0.057 [0.06 (0.08) when one standard deviation below (above) sample mean Tier I] (compared to standard deviation of loan risk ratings of 0.85)

Findings (cont'd)

- Several robustness checks to mitigate endogeneity concerns
  - Focus on local banks (as endogeneity concerns may be lower)
  - Focus on markets with local banks only
  - Focus on states where business cycle is less in sinc with overal US cycle
  - Crisis versus non-crisis periods: interaction terms between bank capital and policy rates more negative in non-crisis periods
  - …

Comments: comparison results across countries

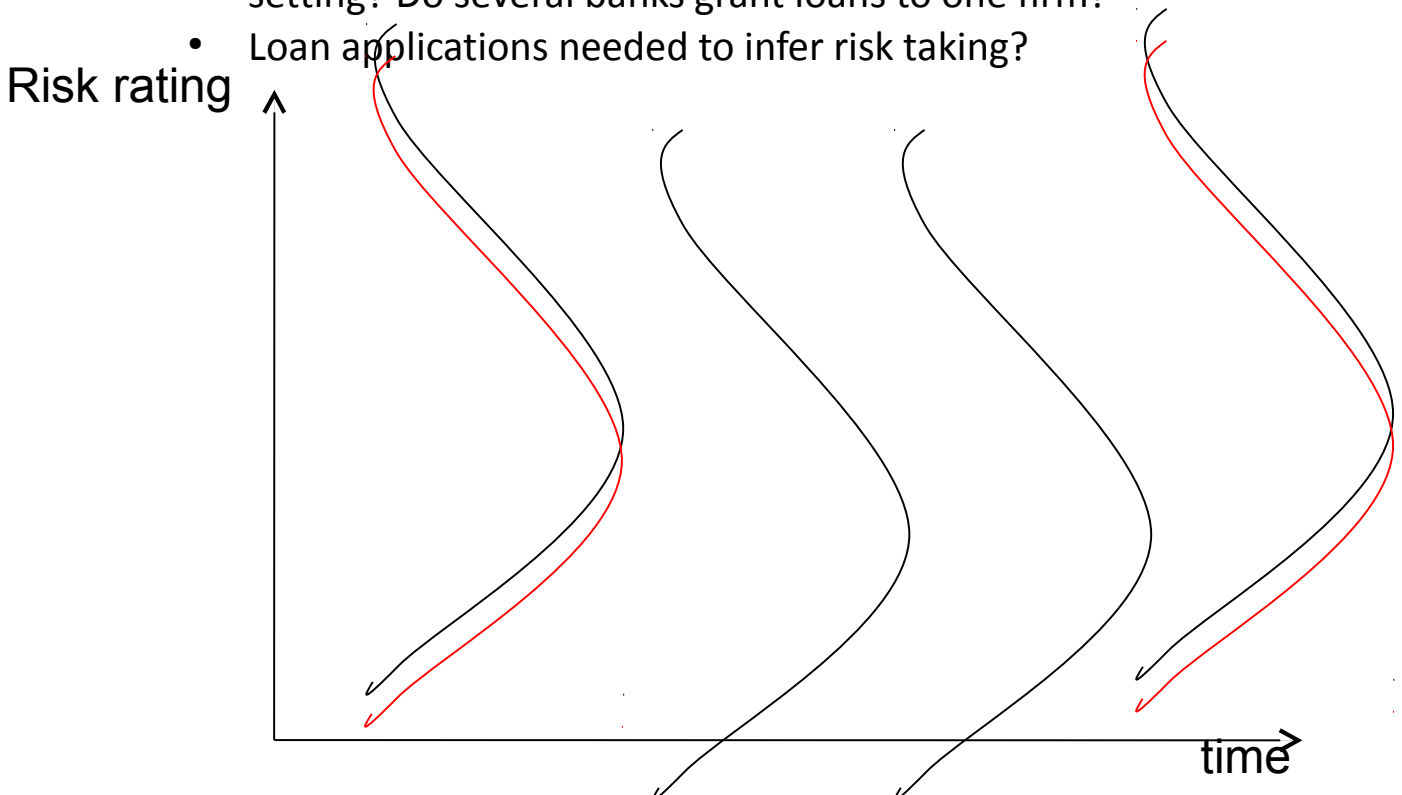
- All find evidence of bank risk taking
- However, different findings regarding impact **bank capital**
  - US: risk-taking channel more pronounced for **high-capitalized banks** whereas Spain and Bolivia find risk-taking channel more pronounced for **lower-capitalized banks**?
  - How to explain?
    - Different risk measures? Ex ante versus Ex post?
    - Different forces at work?
      - Less capital: less skin in the game and therefore more agency problems (Holmstrom and Tirole (QJE1997))
      - Drop in policy rate leads to lower capital ratios and therefore less monitoring (Dell'Ariccia, Laeven and Suarez (JET2014))
    - Technically:
      - Non-linear effects in terms of bank capital combined with different levels of bank capital across countries?
        - Bank capital to asset ratio across countries (World Bank Indicators)

Year	2004	2005	2006	2007	2008
Bolivia		11.5	11.3	10.0	9.0	9.3
Spain	6.7	6.8	6.4	6.7	5.9	
US	10.3	10.3	10.5	10.3	9.3	

    - Economically:
      - Different private and public monitoring across countries?
      - Accounting measures yielding spurious results?
      - Interaction picks up something else which is not related to bank capital

Comments (2) – Identification

- Control adequately for demand factors:
  - Policy rates drop for a reason.
    - Statically, a lower real rate should reduce risk (firm balance sheet channel, interest rate channel)
    - but rates may be low precisely when there are many high risks in town
  - Endogenous matching of banks and firms:
    - Fixed effects as in Khwaja and Mian (AER 2008) to control for demand. Possible in this setting? Do several banks grant loans to one firm?
    - Loan applications needed to infer risk taking?



Comments (3) – Identification

- Macro-controls:
  - Include yield spread as longer maturity loans not only driven by current policy rate

- Effects depending upon rating level? Social planner should be more concerned about risk taking for very high risk types.

- Risk taking measure by conditioning on borrowers credit history (Equifax or similar)?

- Other risk measures: NPLs?

Comments (4) – Identification

- Policy rate changes do not respond to financial stability concerns
  - Maybe true before Lehmann; but after??
- Improve control for demand effects?
  - Firms borrowing from several banks: are banks with higher capital more likely to give larger loans to these borrowers and in particular for firms with more risk?
- Use residuals from Taylor rule as exogenous policy rate shocks?
- Risk ratings definition depending upon business cycle and bank capital
  - Probably works against you

Comments (5) – further insights?

- Role of banking competition in risk taking (e.g. Ruckes (RFS2003); Dell'Ariccia and Marquez (JF2006))

- Exploring other dimensions of risk taking on which you have information!
  - Collateral?
  - Pricing?
  - Maturity?

Comments (6) – social planner?

- Social planner:
  - is more risk taking excessive?
  - Can you do (back of the envelope) calculations to see whether risk is reasonably priced?

Concluding remarks

- Topical paper on risk-taking channel!
- Unique evidence from the US employing great (though not perfect) data
- Understand better role of bank capitalization in results (in comparison to those of the literature)