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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Conference on
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

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

\[ \sigma_{kit} = \alpha_i + \lambda_j + \beta r_t + \gamma K_{it} + \delta K_{it} r_t + \theta X_{kit} + \mu Y_{it} + \rho Z_{jt} + \varepsilon_{kit}. \] (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 sync with overall 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)

<table>
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<th>Year</th>
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<td>10.3</td>
<td>10.5</td>
<td>10.3</td>
<td>9.3</td>
</tr>
</tbody>
</table>

• 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)