Do Financial Crises Discipline Future Credit Growth?

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Introduction

• The frequency of banking crises in the past 40 years suggests that there are serious deficiencies in the provision of *ex ante* discipline over financial behavior.
  – Several countries have had repeated crises.

• There isn’t much research on discipline after the crisis has ended. Is there a learning effect?
Banking Crisis as Source of Discipline

• Question: Do banking crises encourage future discipline in the form of lower rates of credit growth than those prior to the crisis?
• We focus on credit growth, an important determinant of banking crises.
Literature Review

• Effect of political institutions on financial policies after the crisis:
  – Mian et al. (2014), Rosas et al. (2013), Broz (2012).

• Effect of degrees of democracy on post-crisis policy responses:
  – Market discipline and elections: Campello (2014)

• Our contribution: 1) Mechanism for ex-post discipline through regulatory discipline,
  2) Democracy as a conditioning factor.
DATA ANALYSIS

I. Banking Crisis as Source of Discipline: Credit Growth before and after a Financial Crisis

II. Sources of Variations in Pre- to Post-Crisis Changes in Credit Growth

   i. Regulatory Discipline
   ii. IMF Programs
   iii. Democracy
Data Description & Set Up


• Sub-sample of 42 cases with positive pre-crisis credit growth. Why? Little room for further contraction, probably not a cause of crisis.

• Before-after design.

• Pre and post-crisis samples are based on a 4-year time window around the onset year (t):
  – Pre-crisis sample period: t-3 to t
  – Post-crisis sample period: t+4 to t+7
  – Immediate post-crisis period (t+1 to t+3) are deleted
Credit Growth: Definition

• Credit growth is the annual change in the log of real credit.
  – Real credit is private bank credit deflated by CPI.
  – Source: IFS.

• Other proxies do exist (e.g. growth of credit/GDP, growth of real credit per capita), but we focus on real credit growth for the moment, and plan to do robustness checks in the future.
Findings on Banking Crisis as a Potential Source of Discipline

• On average rates of credit growth fell by 7.04 % points following banking crises and that these changes are statistically significant (P-value<0.001).

• There are substantial regional and within-region differences in rates of credit growth difference from pre-to post-crisis periods.
I. Regulatory Discipline

• Question: do banking crises encourage strengthening of bank capital regulation and supervision (CRS), a possible channel of discipline?

• Definition: High CRS scores are achieved if a country complies with and has adopted international standards of financial supervision and have independent regulatory agencies.

• CRS is a discrete variable (Abiad et al. 2008) with 4 possible categories:
  
  0.00 (unregulated)       0.67 (largely regulated)
  0.33 (less regulated)    1.00 (highly regulated)
Proportion of Countries with and without Post-Crisis Regulatory Changes

42 Episodes with positive pre-crisis CG

Increase in CRS 43%

No Change in CRS 57%
Post-crisis regulatory reform

- Examples of countries-years that changed post-crisis:
  - Sweden 91 (0 to 0.67)
  - Indonesia 97 (0 to 0.33)

- Examples of countries-years that did not change regulatory scores after the crisis: Argentina (80, 89), Ecuador (82), Egypt (80).
II. IMF Programs

• IMF programs following crises could be an external source of discipline.

• There is considerable dispute about the effectiveness of IMF programs

• We find that countries with IMF programs experience a sharper drop in credit growth after the crisis compared to those that did not (10.74% vs -3.75%)
  — Potentially, a greater discipline effect.
ii. IMF Programs

• Examples with IMF and negative before-after difference in CG:
  – Philippines 97, Ecuador 98, Thailand 97
• Examples with no IMF and positive before-after difference in CG:
  – China 98, India 93
• Note however, that countries with IMF programs have a higher pre-crisis CG average compared to countries with no IMF programs.
III. DEMOCRACY
Findings on Democracy, Credit Growth, and Regulatory Reform

• There is a significant increase in democracy scores from pre- to post-crisis.
  – Pre-crisis avg Polity score: 2.75, Post-crisis avg Polity Score: 4.15 (p-value < 0.05)

• There is a positive correlation between the drop in post-crisis credit growth and degrees of democracy.
  – Democracies (-7.51% points drop in CG) vs Non-democracies (-4.3% points)
Findings (cont’d)

- Democracies more likely to implement regulatory reform post-crisis

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<th>Kolmogorov-Smirnov tests for the equality of two distributions</th>
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<tr>
<td></td>
<td>Increase in CRS post-crisis (1)</td>
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<td>No change in CRS post-crisis (2)</td>
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<td>Difference (1)-(2)</td>
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<td>Average Democracy Score</td>
<td>5.31</td>
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<td>1.56</td>
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Summary and Future Plans

• Rates of credit growth tends to fall and financial regulation and supervision tends to strengthen following crises.
• There are substantial differences across countries in the responses of both credit growth and regulations.
• Preliminary results suggest that democracy plays a role.
• Future plans:
  – Complement our analysis with econometric regressions
  – Robustness checks (e.g. detrend CRS data, alternative banking crisis data from Reinhart and Rogoff)
  – There is scope to expand to other possible political and institutional factors such as the number of veto players.
  – Whether crises make future crises less likely.