Bank regulation:
past, present and future

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Introduction

- Banking has changed dramatically in the last decade:
  - Great Financial Crisis, 2008
  - Sovereign Debt Crisis, 2011-12
  - Basel III
  - Banking Union, Bank Recovery & Resolution Directive (BRRD), …

- The policy response to the crises was monumental
  - It was urged by (legitimate!) public concerns on ‘bad’ finance.

- Today we can take stock of this process:
  - How do the reforms stand the test of time so far?
  - Which questions remain open for current and future policy makers?
Plan of the talk

- **A primer on bank regulation**

- **Lessons from the crisis:**
  - Capital
  - Procyclicality
  - Liquidity risk
  - Resolution rules

- **Three open questions:**
  - Bail-in mechanisms
  - State interventions
  - Optimal bank capital

- **Conclusions**
A primer on bank regulation

- Banks perform a crucial role in the economy:
  - screen/monitor long-term borrowers
  - provide short-term liquidity (demand deposits, credit lines)

- The maturity mismatch exposes banks to ‘runs’
  - **Deposit insurance**: prevents panics and ensures stable funding

- But DI makes risk shifting problems more acute: depositors have no incentive to monitor their banks.
  - **Capital requirements**:
    a) Improve incentives by increasing “skin in the game”
    b) build up loss absorption capacity.

- What did we learn on this from the recent crises?
Lesson 1: Bank capital was too low

- Capital was low relative to the banks’ risk exposures
- Capital is the foundation on which banks build up leverage
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Sutyagin House, 2007 (Shin, 2016)

<table>
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<tr>
<th>A</th>
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<tbody>
<tr>
<td>Loans</td>
<td>Deposits</td>
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<tr>
<td>Securities</td>
<td>Bonds</td>
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<tr>
<td>Cash</td>
<td>Equity</td>
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**Policy response:**
- higher capital ratio (8% RWA)
- new leverage ratio (3%)

- Is this enough, too much, about right? More on this later.
Lesson 2: The financial sector is procyclical

- Banks’ balance sheet amplify the economic cycle:

  - Stronger balance sheets → Increase B/S size → Asset price boom → Adjust leverage → Stronger balance sheets
  - Weaker balance sheets → Reduce B/S size → Asset price decline → Adjust leverage → Weaker balance sheets

T. Adrian, H. Shyn (2009), Liquidity and Leverage, NY Fed Staff Report 328
Lesson 2: The financial sector is procyclical

- Banks’ balance sheet amplify the economic cycle.
- Policy response: new macroprudential instruments.

Recent macroprudential interventions in Europe:

<table>
<thead>
<tr>
<th>Intervention</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-SII/O-SII</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Systemic risk buffer (SyRB)</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Countercyclical capital buffer (CCyB)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Loan-to-value (LTV)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Debt service-to-income (DSTI)</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Loan amortisation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Loan maturity</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Loan-to-income (LTI)</td>
<td>2</td>
<td></td>
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<tr>
<td>Risk weights (other)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Art. 458 - Risk weights</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Liquidity ratio</td>
<td>1</td>
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ESRB (2018), A Review of Macroprudential Policy in the EU
Lesson 3: Liquidity risks were neglected

- Banks were overly exposed to illiquidity risks
  - Lehman rolled over 25% of its debt every day through overnight repos.

- Short-term creditors can quickly run for the exit (or entrance!)

![Overnight Asset Backed Commercial Paper Spread](image-url)
Lesson 3: Liquidity risks were neglected

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- Policy response: new liquidity standards (NSFR, LCR)

Stability of different funding sources

<table>
<thead>
<tr>
<th>Stability</th>
<th>Funding Source</th>
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</thead>
<tbody>
<tr>
<td>Stable</td>
<td>Capital, liabilities and preferred equity &gt; 1 year</td>
</tr>
<tr>
<td></td>
<td>“Stable” deposits &lt; 1 year</td>
</tr>
<tr>
<td></td>
<td>“Less stable” deposits &lt; 1 year</td>
</tr>
<tr>
<td>Volatile</td>
<td>Wholesale funding</td>
</tr>
<tr>
<td></td>
<td>All other liabilities</td>
</tr>
</tbody>
</table>
Lesson 4: Resolution rules are critical

- Crises must be dealt with rapidly and efficiently

- The U.S. did it:
  - i. Stress tests + TARP recapitalization for big banks
  - ii. FDIC resolution for small banks

- Europe did not, due to:
  - i. lack of resolution frameworks and credible fiscal backstops
  - ii. domestic supervision of banks that operate across the EU
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- Policy response in the EU: Banking Union and BRRD
The real cost of the crises

Unemployment rates, US versus Euro Area:
Open questions

- The regulatory response required unprecedented global efforts.

- The 10 years since Lehman give us a new perspective on what has been done, and on what might need to be done next.

- I will focus on three issues:
  - Will the bail-in principle work as intended?
  - What is the role of the State in bank resolutions?
  - How much capital should banks hold?
(1) Will the bail-in principle work as intended?

- Skeptics argue that burden sharing rules might have unintended consequences: market volatility and contagion.

- Recent experiences with Contingent Convertible Bonds (CoCos) suggest they could be right.

What would happen in a crisis?
(1) Will the bail-in principle work as intended?

- The FDIC has successfully dealt with many failing banks:
  - It does not rely on convertible bonds
  - It has great(er) flexibility in using public funds to support market solutions
  - It can resort to public funds without imposing haircuts on creditors.

What is the role of the State in bank resolution?

- Limiting public support can reduce moral hazard problems.
- Italy has been “virtuous” in this respect:
  - The GFC was triggered by a non-bailout (Lehman)
  - Bailouts can be “socially optimal” in some cases
  - Bailouts can also yield profits for the State: $15 billion in the case of TARP
  - Bailouts can help avoiding the uncharted territory of bail-ins

But should public support be ruled out altogether?

Impact of interventions on government debt (% of GDP) [Add source]
What is the role of the State in bank resolution?

- In a monetary union this question is more complicated.
- (Some) risk sharing is surely optimal. But it needs fiscal discipline to be politically and economically feasible.
(3) How much capital should banks hold?

- **K* optimizes a tricky tradeoff:**
  - ↑K reduces public involvements and the social costs of bankruptcies…
  - … but increases the cost at which banks lend and create liquidity.

- Estimates of **K* around 20-25% are not uncommon**
- **We are going in that direction….**
(3) How much capital should banks hold?

- …some countries are already there

- The intricacies of bail-ins make $K$ even more desirable.

- The increase in $K$ should be *as fast as possible, but not faster*
Post-crisis regulation makes banking sector safer

But this is not the end of the road:

- How do the new rules work in “general equilibrium”?
- How will the financial sector adjust to them?
- How can they be improved?
- Should good, old capital play a more important role?

Perhaps being tougher “ex ante” (capital requirements) and more lenient “ex-post” (use of public funds) would be better.

Need capital markets. Must study the financial strategies of NFCs. Why NFCs shy away from capital markets? Severely under-researched (Generale, Signoretti, Panetta 2018)

I expect new research, answers (and perhaps new questions) from tomorrow’s researchers and policy makers.
Thank you