Bank Resolution Regimes and Systemic Risk

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Motivation

- Collapse of Lehman Brothers turned the crisis of 2007/2008 into a global financial crisis
- Many banks were bailed out due to *fears of contagion effects* from a disorderly bank default on the financial system
- Bank resolution had to rely on general corporate insolvency regimes
  ⇒ *Lack of comprehensive special bank resolution regimes*
- General insolvency regimes are **too slow** and **fail to take into account systemic repercussions**
“Never again”

- Promise of politicians: No further taxpayer-funded bailouts of banks in the future
- Important policy response: Introduction of bank resolution regimes worldwide

Goal of bank resolution procedures:
- Orderly resolution of banks without destabilizing the remaining financial system
- Introduction of resolution tools, such as bail-in of creditors, in order to avoid using taxpayers’ money
- Note: Many resolution procedures do not lead to a closure of banks
Bank resolution and systemic risk

- Bank resolution regimes may reduce spillovers to the financial system at the time of resolution
  - This could reduce bailout expectations and improve ex-ante incentives
  - This could lower the probability of crises and systemic risk
- But: Bank resolution procedures may also have destabilizing effects in crisis times
  - Direct interlinkages (cross-bank holdings)
  - Information effects (other banks’ investors fear resolution)
- Destabilizing effect of bank resolution would put in question the positive ex-ante effects as bank resolution is no longer credible
Research question

- **How does the presence of bank resolution regimes affect systemic risk, once a crisis hits?**

- Already before the global financial crisis, many countries had some components of bank resolution regimes

- This can be exploited to analyze the effects of such regimes on systemic risk contributions at bank level (measured by $\Delta CoVaR$)

- Effect may depend on the type of shock (system-wide vs. bank-specific) and on the design features of the regime

- **Goal:** Analyze the effects of bank resolution regimes on systemic risk contributions ($\Delta CoVaR$) in response to different shocks (system-wide and bank-specific)
Literature

- **Institutional & policy-oriented:**
  - Čihác and Nier (2009); FSB (2011, 2013); peer reviews by the FSB (2011–2018); IMF (2010–2017), Basel Committee (2011); Beck (2011); FDIC and BoE (2012); FINMA (2013); Avgouleas et al. (2013); Huertas (2016)

- **Case studies:**
  - Dübel (2013); World Bank (2016)

- **Theoretical studies:**
  - DeYoung et al. (2013); Chen et al. (2013); de Speigeleer et al. (2014)

- **Empirical studies:**
  - Schäfer et al. (2016); Beck et al. (2017); Hüser et al. (2017); Brown et al. (2018)
Contribution

- Compile a *broad data set* of the *legal* characteristics of bank resolution regimes
- Analyze the effects of financial shocks on *systemic risk contributions* at bank level depending on the presence of resolution regimes
- Consider banks from a large number of countries (22 FSB members)
  - Existing empirical studies are mostly case studies on individual countries
- Analyze which *features of a bank resolution regimes* reduce or increase systemic risk in a crisis
In the presence of more advanced bank resolution regimes, systemic risk contributions of banks \textit{rise less} after \textit{bank-specific shocks}.

But they \textit{rise more} in response to \textit{system-wide shocks}.

So far mixed results on different features of resolution regimes (work in progress).

\textbf{Caveat:} Since this paper does not study the \textit{ex-ante effects} of resolution regimes, its results are not be interpreted as an argument against bank resolution regimes.

It rather \textit{warns against too high expectations} of the power of resolution regimes \textit{in system-wide crises}. 
How to deal with failing banks

- Two types of statutory procedures to deal with bank failures
  
  1. Based on *corporate insolvency law*: court-based proceedings
  
  2. Based on a *special bank resolution regime*: proceedings are handled by a resolution authority
Insolvency procedures according to general corporate insolvency law

- focus on *one institution* only and aim at satisfying creditors
- are applied *late*, i.e., when a firm is no longer viable
- take place over an *extended period of time* (often many years)

Special bank resolution regimes

- take a *systemic perspective*
- may *override shareholder and creditor rights* based on an ex-ante legal foundation (bail-in)
- react in a *timely* manner (important due to liquidity concerns/danger of runs)
- provide *special resolution tools* to deal with complex banking institutions
- aim to preserve *critical functions* of financial institutions
Based on the Financial Stability Board’s (FSB) peer reviews and reports on “Key Attributes” of a successful resolution regime

**Main difficulty:** No information about *implementation dates*

Extensive search in legal and regulatory documents, complemented by a broad-based *survey among central banks and supervisory authorities*

Gather information about the *state and dates* of implementation in 22 FSB member countries (dropping Argentina and Saudi Arabia from the original FSB list due to lack of data)
### Subindex 1. General framework

1.1. Specific bank resolution framework  
1.2. Specifically designated bank resolution authority  
1.3. Another authority has powers to restructure/resolve banks  
1.4. Liquidate the bank without the need of court decision  
1.5. Resolution powers/tools can be used fast and flexibly. Proxy: court decision needed or not? 1 = No court decision needed

### Subindex 2. The resolution authority has the power to...

2.1. Remove and replace management  
2.2. Appoint an administrator  
2.3. Operate and resolve the firm  
2.4. Ensure continuity of essential services and functions  
2.5. Override rights of shareholders when applying resolution powers  
2.6. Temporarily stay the exercise of early termination rights  
2.7. Impose a moratorium with a suspension of payments to unsecured, creditors and customers plus creditor stay
Bank Resolution Index – Survey questions

Subindex 3. Resolution tools available to the resolution authority

3.1. Transfer or sell assets and liabilities, legal rights and obligations
3.2. Establishment of a bridge institution
3.3. Establishment of an asset management vehicle
3.4. Mandatory development of resolution and recovery plans

Subindex 4. The bail-in framework includes...

4.1. Bail-in tool
4.2. A minimum requirement of eligible liabilities (i.e. bail-inable debt)
4.3. Provisions to respect the hierarchy of claims while providing flexibility to depart from the general principle of equal (pari passu) treatment of creditors of the same class
4.4. Provisions constituting that public resources may only be used if private ones are not available and a bail-in was conducted
4.5. Resolution fund (publicly and privately financed)
Bank Resolution Index – Definition

\[ \text{Resolution}_{c,t} = \sum_{m=1}^{21} I_{m,c,t}, \]

where \( I_{m,c,t} \) takes the value of one if a particular resolution measure \( m \) exists in country \( c \) at time \( t \), and zero otherwise.

- The higher the index, the more compliant a country’s legislation is to the FSB’s recommendations.
- We also split the index into 4 categories: framework, powers, tools, bail-in framework.
Resolution index, All Countries

<table>
<thead>
<tr>
<th>Australia</th>
<th>Brazil</th>
<th>Canada</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>Germany</td>
<td>Hong Kong</td>
<td>India</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Italy</td>
<td>Japan</td>
<td>Mexico</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Republic of Korea</td>
<td>Russian Federation</td>
<td>Singapore</td>
</tr>
<tr>
<td>South Africa</td>
<td>Spain</td>
<td>Switzerland</td>
<td>Turkey</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>United States of America</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date

Average Resolution Index, by group: 1. Asia (7); 2: Europe (7); 3: Rest of sample (7); 4: United States of America (1)
Empirical model

- **Event-study analysis at daily frequency**
  - Focus on a period of 80 days before the event (“normal times”) and 7 days after the event
    - Include interactions with the shock at \((t-1)\) to remove anticipatory effects
    - Event dummy for the period between event date 0 and +6
    - Robustness: vary the length of the event window to capture longer-lived effects
  - Regress \(\Delta CoVaR\) on the event dummy and its interactions with the resolution index
  - Control variables: Macroeconomic variables, bank-level variables (both as interactions with the event), bank fixed effects
  - Two-way clustering at the *bank and time* level
Empirical model

- For each event, we run the following regression:

$$\Delta \text{CoVaR}_{i,c,t} = \gamma_i^{\text{event}} + \beta_1 \cdot \text{Event}_t + \beta_2 \cdot \text{Event}_t \cdot \text{Resolution}_{c,\text{before}} + \beta_3 \cdot \text{Event}_t \cdot \text{Bank Controls}_{i,c,\text{year} - 1} + \beta_4 \cdot \text{Event}_t \cdot \text{Macro Controls}_{c,\text{year} - 1} + \epsilon_{i,c,t}$$

- $\beta_1$ is positive (negative) if systemic risk increases (decreases) after an event
- $\beta_2$ is positive (negative) if systemic risk increases (decreases) more in the presence of a more advanced resolution regime

- Bank Controls: Size and Leverage, lagged by a year
- Macro Controls: GDP growth, Inflation, Financial development, lagged by a year
CoVaR methodology

- $VaR_q^i$ is defined as the $q\%$-quantile of $X^i$ where $X^i$ is the growth rate of the market value of a bank’s assets, i.e.,

$$Pr \left( X^i \leq VaR_q^i \right) = q\%$$

- $CoVaR^j|_i$ is the VaR of institution $j$, conditional on $X^i = VaR_q^i$ of institution $i$:

$$Pr \left( X^j \leq CoVaR^j|_i \mid X^i = VaR_q^i \right) = q\%$$

- Institution $i$’s contribution to the risk of the system is defined as

$$\Delta CoVaR^i_{system} = CoVaR^i_{system\mid X^i=VaR_q^i} - CoVaR^i_{system\mid X^i=\text{median}_i}$$

- Intuitively, the $\Delta CoVaR$ represents the marginal addition of a specific bank to the total risk of the financial system.
Average $\Delta\text{CoVaR}$, unweighted
**Average ΔCoVaR, by Group:** 1. Asia (7); 2: Europe (7); 3: Rest of sample (7); 4: United States of America (1)
Events

- **System-wide events**
  1. Outbreak of the subprime crisis: August 9–11, 2007
  3. Lehman Brothers’ collapse: September 15, 2008
  4. Greece’s bailout: May 5, 2010 – Announcement of the 1st Bailout Package and the 3rd Austerity Package (followed by riots in Greece)
  7. Draghi’s “Whatever it takes” announcement: July 26, 2012
  8. Cyprus’ bail-in: March 18, 2013

- **Bank-specific events**
  1. Société Générale admits to €4.9 billion rogue trading losses: January 21, 2008
  2. Start of resolution of Portuguese Banco Espírito Santo: August 4, 2014
  3. Deutsche Bank’s announcement of €6.8 billion losses: January 21, 2016
Data sources

- Resolution index: national laws and regulations, survey
- Bank balance sheet data: Bankscope
- Macroeconomic data: Datastream, World Bank
- Period: 2000 till 2016
- Frequency: daily ($\Delta CoVaR$) and annual (balance sheet data)
- 22 countries and 760 banks (at most top 100 banks per country)
Resolution index, Lehman, 5-day moving average: Average $\Delta$ CoVaR of banks in countries with below-median (blue) and above-median (red) resolution regimes.
Resolution index, Lehman, 5-day moving average: Average $\Delta CoVaR$ of banks in countries with below-median (blue) and above-median (red) resolution regimes
Resolution index, Deutsche Bank’s loss announcement, 5-day moving average: Average $\Delta$ CoVaR of banks in countries with below-median (blue) and above-median (red) resolution regimes
Resolution index, Deutsche Bank’s loss announcement, 5-day moving average: Average $\Delta CoVaR$ of banks in countries with below-median (blue) and above-median (red) resolution regimes.
Negative system-wide shocks, bank controls

<table>
<thead>
<tr>
<th>7 days after the shock</th>
<th>All Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subprime</strong>* 0.8976***</td>
<td>0.4383***</td>
</tr>
<tr>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td><strong>Shock * Resolution</strong> 0.0424***</td>
<td>0.0434***</td>
</tr>
<tr>
<td>(0.001)</td>
<td>(0.000)</td>
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<tr>
<td><strong>Shock * Size</strong> 0.1816***</td>
<td>0.0461***</td>
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<tr>
<td>(0.000)</td>
<td>(0.005)</td>
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<tr>
<td><strong>Shock * Leverage</strong> -0.0208***</td>
<td>-0.0072***</td>
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<tr>
<td>(0.000)</td>
<td>(0.002)</td>
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</table>

**Bank FE** Yes  Yes  Yes  Yes  Yes
**Observations** 63008  62920  64944  64504  66968
**Adjusted R-squared** 0.8933  0.9225  0.9177  0.9197  0.8935
**Within R-Squared** 0.2582  0.0548  0.1404  0.1816  0.3916
**Number of Banks** 716  715  738  733  761
### Results

#### 7 days after the shock

<table>
<thead>
<tr>
<th>Model</th>
<th>All Banks (1)</th>
<th>Subprime (2)</th>
<th>Bear Stearns (3)</th>
<th>Lehman (4)</th>
<th>Greek Bailout (5)</th>
<th>US Downgrade</th>
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</thead>
<tbody>
<tr>
<td>Shock</td>
<td>0.8977***</td>
<td>0.4383***</td>
<td>0.7706***</td>
<td>0.6632***</td>
<td>1.2883***</td>
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<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
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<td>(0.000)</td>
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<tr>
<td>Shock * Resolution</td>
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<td>0.0036</td>
<td>0.0370***</td>
<td>0.0549***</td>
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<td></td>
<td>(0.013)</td>
<td>(0.569)</td>
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<td>Shock * Size</td>
<td>0.1929***</td>
<td>0.0635***</td>
<td>0.1732***</td>
<td>0.1475***</td>
<td>0.2835***</td>
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<tr>
<td></td>
<td>(0.000)</td>
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<tr>
<td>Shock * Leverage</td>
<td>-0.0199***</td>
<td>-0.0064***</td>
<td>-0.0144***</td>
<td>-0.0162***</td>
<td>-0.0310***</td>
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<td></td>
<td>(0.000)</td>
<td>(0.003)</td>
<td>(0.000)</td>
<td>(0.000)</td>
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<tr>
<td>Shock * GDP Growth</td>
<td>-0.0653***</td>
<td>-0.0006</td>
<td>-0.1030***</td>
<td>-0.0250*</td>
<td>-0.0498**</td>
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<tr>
<td></td>
<td>(0.001)</td>
<td>(0.962)</td>
<td>(0.004)</td>
<td>(0.057)</td>
<td>(0.035)</td>
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<tr>
<td>Shock * Inflation</td>
<td>0.0803***</td>
<td>0.0304**</td>
<td>0.1609***</td>
<td>0.0079</td>
<td>0.0255</td>
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<tr>
<td></td>
<td>(0.000)</td>
<td>(0.038)</td>
<td>(0.000)</td>
<td>(0.608)</td>
<td>(0.149)</td>
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<td>Shock * Fin. Dev.</td>
<td>-0.0009</td>
<td>-0.0043***</td>
<td>0.0019</td>
<td>0.0010*</td>
<td>0.0022**</td>
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<tr>
<td></td>
<td>(0.620)</td>
<td>(0.001)</td>
<td>(0.566)</td>
<td>(0.063)</td>
<td>(0.040)</td>
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</table>

<table>
<thead>
<tr>
<th>Bank FE</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
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<tbody>
<tr>
<td>Observations</td>
<td>63008</td>
<td>62920</td>
<td>64944</td>
<td>64504</td>
<td>66968</td>
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<tr>
<td>Adjusted R-squared</td>
<td>0.8948</td>
<td>0.9232</td>
<td>0.9190</td>
<td>0.9201</td>
<td>0.8945</td>
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<tr>
<td>Within R-Squared</td>
<td>0.2690</td>
<td>0.0638</td>
<td>0.1533</td>
<td>0.1861</td>
<td>0.3978</td>
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<tr>
<td>Number of Banks</td>
<td>716</td>
<td>715</td>
<td>738</td>
<td>733</td>
<td>761</td>
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</table>
### Results

#### Empirical Model and Data

Positive system-wide shocks, bank and macro controls

<table>
<thead>
<tr>
<th></th>
<th>Greek Restructuring</th>
<th>Draghi</th>
<th>Cypriot Bail-in</th>
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</thead>
<tbody>
<tr>
<td><strong>Shock</strong></td>
<td>-0.4103***</td>
<td>-0.0613</td>
<td>-0.1382***</td>
</tr>
<tr>
<td><strong>Shock * Resolution</strong></td>
<td>-0.0466***</td>
<td>-0.0099**</td>
<td>-0.0085**</td>
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<tr>
<td><strong>Shock * Size</strong></td>
<td>-0.0829***</td>
<td>-0.0101</td>
<td>-0.0255***</td>
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<tr>
<td><strong>Shock * Leverage</strong></td>
<td>0.0092***</td>
<td>0.0010</td>
<td>0.0040***</td>
</tr>
<tr>
<td><strong>Shock * GDP Growth</strong></td>
<td>0.0193**</td>
<td>0.0102*</td>
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<tr>
<td><strong>Shock * Inflation</strong></td>
<td>-0.0088</td>
<td>-0.0110***</td>
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<td><strong>Shock * Fin. Dev.</strong></td>
<td>-0.0003</td>
<td>0.0000</td>
<td>-0.0002*</td>
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</table>

<table>
<thead>
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<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
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<tr>
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<td>65912</td>
<td>66880</td>
<td>66880</td>
<td>67320</td>
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<tr>
<td>Adjusted R-squared</td>
<td>0.8877</td>
<td>0.8877</td>
<td>0.9447</td>
<td>0.9447</td>
<td>0.9530</td>
<td>0.9530</td>
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<tr>
<td>Within R-Squared</td>
<td>0.0575</td>
<td>0.0582</td>
<td>0.0042</td>
<td>0.0044</td>
<td>0.0254</td>
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<tr>
<td>Number of Banks</td>
<td>749</td>
<td>749</td>
<td>760</td>
<td>760</td>
<td>765</td>
<td>765</td>
</tr>
</tbody>
</table>
Summary – System-wide shocks

- After a **negative** system-wide shock, systemic risk *increases*
- It increases *more* in the presence of a more advanced resolution regime (after controlling for bank and country characteristics)
- After a **positive** system-wide shock, systemic risk *decreases*
- It decreases *more* in the presence of a more advanced resolution regime

⇒ **Amplifying** effect of resolution regimes
**Negative bank-specific shocks, bank and macro controls**

7 days after the shock

<table>
<thead>
<tr>
<th></th>
<th>European Banks</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Société Générale (1)</td>
<td>B. Esp. Santo (2)</td>
<td>Deutsche Bank (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>0.3218*** (0.000)</td>
<td>0.2367** (0.032)</td>
<td>0.2377*** (0.000)</td>
<td>0.3292*** (0.000)</td>
<td>0.4785*** (0.000)</td>
<td>0.7122*** (0.000)</td>
</tr>
<tr>
<td>Shock * Resolution</td>
<td>-0.0180*** (0.000)</td>
<td>-0.0090 (0.102)</td>
<td>-0.0015 (0.822)</td>
<td>0.0153 (0.159)</td>
<td>-0.0265** (0.031)</td>
<td>-0.0191* (0.095)</td>
</tr>
<tr>
<td>Shock * Size</td>
<td>0.0768*** (0.000)</td>
<td>0.0707*** (0.000)</td>
<td>0.0456*** (0.000)</td>
<td>0.0481*** (0.000)</td>
<td>0.1022*** (0.000)</td>
<td>0.1066*** (0.000)</td>
</tr>
<tr>
<td>Shock * Leverage</td>
<td>-0.0044*** (0.009)</td>
<td>-0.0027* (0.061)</td>
<td>-0.0046*** (0.004)</td>
<td>-0.0033** (0.029)</td>
<td>-0.0077 (0.131)</td>
<td>-0.0057 (0.308)</td>
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<tr>
<td>Shock * GDP Growth</td>
<td>-0.0770 (0.101)</td>
<td>0.0008 (0.951)</td>
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<td></td>
<td></td>
<td>0.0409 (0.128)</td>
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<tr>
<td>Shock * Inflation</td>
<td>0.0628 (0.123)</td>
<td>0.0703*** (0.000)</td>
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<td></td>
<td></td>
<td>0.0484 (0.387)</td>
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<tr>
<td>Shock * Fin. Dev.</td>
<td>0.0028* (0.062)</td>
<td>0.0004 (0.524)</td>
<td></td>
<td></td>
<td></td>
<td>-0.0021 (0.328)</td>
</tr>
</tbody>
</table>

Bank FE: Yes, Yes, Yes, Yes, Yes, Yes
Observations: 22088, 22088, 21296, 21296, 15928, 15928
Adjusted R-squared: 0.8713, 0.8718, 0.9551, 0.9557, 0.8668, 0.8673
Within R-Squared: 0.0962, 0.0995, 0.1649, 0.1749, 0.1266, 0.1305
Number of Banks: 251, 251, 242, 242, 181, 181
After a **negative** *bank-specific shock*, systemic risk **increases**

It increases **less** in the presence of a more advanced resolution regime (after controlling for bank and country characteristics)

⇒ **Stabilizing** effect of resolution regimes
Index categories: Negative system-wide shocks, bank and macro controls

<table>
<thead>
<tr>
<th></th>
<th>All Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subprime (1)</td>
</tr>
<tr>
<td>Framework</td>
<td>-0.0910**</td>
</tr>
<tr>
<td>Powers</td>
<td>-0.0426</td>
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<tr>
<td>Tools</td>
<td>0.2183***</td>
</tr>
<tr>
<td>Bailin Framework</td>
<td>0.4016***</td>
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</tbody>
</table>

7 days after the shock
Index categories: Positive system-wide shocks, bank controls

<table>
<thead>
<tr>
<th></th>
<th>7 days after the shock</th>
<th>30 days after the shock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek Restructuring</td>
<td>-0.0378**</td>
<td>-0.0107*</td>
</tr>
<tr>
<td>Draghi</td>
<td>-0.0035</td>
<td>0.0049</td>
</tr>
<tr>
<td>Cypriot Bail-in</td>
<td>-0.0370**</td>
<td>-0.0081</td>
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<tr>
<td>Draghi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Framework</td>
<td>-0.0797***</td>
<td>-0.0180*</td>
</tr>
<tr>
<td>Tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bailin Framework</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Index categories: Negative bank-specific shocks, bank and macro controls

<table>
<thead>
<tr>
<th></th>
<th>30 days after</th>
<th>7 days after the shock</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>European Banks</td>
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<tr>
<td>Société Générale</td>
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<tr>
<td>Bank (1)</td>
<td>-0.0810***</td>
<td>0.1639</td>
</tr>
<tr>
<td>Bank + Macro (2)</td>
<td></td>
<td>-0.0179</td>
</tr>
<tr>
<td>B. Esp. Santo</td>
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<tr>
<td>Bank (3)</td>
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<td>Bank + Macro (4)</td>
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<tr>
<td>Deutsche Bank</td>
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<tr>
<td>Bank (5)</td>
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<tr>
<td>Bank + Macro (6)</td>
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<tr>
<td>Framework</td>
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<td>Powers</td>
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<tr>
<td>Bailin Framework</td>
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</table>
Summary – Index categories (preliminary)

- **Tools** and **Bail-in Framework** tend to have a destabilizing effect for negative system-wide shocks and a stabilizing effect during positive system-wide events.

- Stabilizing effect for bank-specific shocks derives mainly from **Tools**.

- More work needed.
Robustness Checks

- Addressing endogeneity
  - Regressing resolution regimes at country level on lagged $\text{Avg.}\Delta CoVaR$
    (or its volatility)
  - $\rightarrow$ No evidence for reverse causality

- Alternative specifications of Leverage ratio: Tier 1 capital ratio, Tier 1 capital to total assets $\rightarrow$ No change in results

- Adding Maturity mismatch as a bank variable $\rightarrow$ Insignificant results

- No lagging of Resolution index $\rightarrow$ No change in results

- Excluding banks affected by the events (Bear Stearns, Lehman, Deutsche Bank) $\rightarrow$ No change in results

- Excluding US for Subprime, Bear Stearns, Lehman, US Downgrade $\rightarrow$ No change in results
Conclusion

- A more advanced bank resolution regime may **increase** systemic risk in a crisis.
- Resolution procedures work well in *bank-specific crises* but may be destabilizing in a *system-wide crisis*.
- Consequence: One should not put too much confidence in resolution regimes, but they should be complemented by *additional regulatory measures*:
  - Bank size matters greatly for systemic repercussions: Structural reforms?
  - Lower leverage by itself does not solve the problem.
- Open question: Can we ever do without bailouts in a system-wide crisis?
Thank you very much for your attention!
A typical bank resolution procedure

- **Resolution**
  - **Recovery**
  - **Trigger**
  - **Stabilisation**
  - **Restructuring**

- **CoB USA Friday**
  - Supervisor determines that bank fails to meet threshold conditions
  - 1. Recap
  - 2. Stay on QFC termination
  - 3. Liquidity provision
  - 4. Retention of FMI access

- **Asia open Monday**
  - 1. Realisation of value
  - 2. Distribution of proceeds to investors according to strict seniority

**Source:** Huertas (2016)
The Financial Stability Board’s Key Attributes

- Commissioned by the Basel Committee & G-20 in 2009/2010 to prepare guidelines for an appropriate resolution regime
- In 2011, the FSB (2011) issued **12 Key Attributes**, e.g. scope, powers, funding, recovery and resolution planning
- FSB documents the implementation of the KAs in its 24 member jurisdictions
- Blueprint for the Bank Recovery and Resolution Directive (BRRD) in the EU
Bank resolution legislation worldwide

- **USA**: Two distinct resolution regimes for systemically important financial companies (Title II of Dodd-Frank Act) and for insured depository institutions (FDI Act)
- **UK**: Banking Act (July 20, 2009)
- **Germany**: Bank Restructuring Act (December 9, 2010)

**Europe:**
- **Bank Recovery and Resolution Directive (BRRD)**: Harmonized resolution tools in the EU, especially strict bail-in rules
- **Euro area**: **Single Resolution Mechanism** as a centralized resolution regime for significant banks, based on tools from BRRD (Single Resolution Board, Single Resolution Fund)
Resolution Index, United States
Resolution Index, Germany

![Graph showing the resolution index over time]

- **Resolution Index, Germany**

- **Graph**
  - X-axis: Date
  - Y-axis: Resolution Index

- **Legend**
  - Gray: Shock Days
  - Red: Resolution Index

- **Average Resolution Index**