Panel Discussion

Key Policy Lessons Learned for Central Banks

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Prepared for the Conference on “Central Bank Liquidity Tools” at the NY Fed
Market and funding liquidity is (still!) very important – not a new new kind of crisis

Systemic risk: definition
  • The joint failure of a significant part of the financial institutions
  • Leading to the freezing of parts of the capital markets
  • That has the potential to disrupt the real economy

Key drivers:
  • Liquidity spirals (feedback of losses, margin, and liquidity)
  • Financial sector’s central role in the economy
  • Bailouts

Systemic risk is very damaging
  • Losses of about 15-20% of GDP during banking crises over past 25 years.

Systemic risk is different from risk
  • Lehman 08 vs. Barings 95

What to do about systemic risk: treat it like pollution
  • Private regulation of systemic risk not feasible
  • Measure, price, and regulate systemic risk
  • Limit the amount, tax it, and require insurance against it
Chapter 13: “Regulating Systemic Risk”
Viral Acharya, Lasse Heje Pedersen, Thomas Philippon, and Matt Richardson

http://whitepapers.stern.nyu.edu/
Why Regulate Systemic Risk (1/2): Externalities

- **Externalities**
  - Market and funding liquidity spirals (Geanakoplos (1997), Brunnermeier and Pedersen (RFS, 2009))
  - Fire sales and depressed prices (Mitchell, Pedersen, and Pulvino (AER 2007))
  - Spillover to the real economy, credit unavailability, payment system, etc.

- **Consequences: Without regulation there is**
  - Excessive leverage
  - Excessive concentration in illiquid assets
  - Excessive loading on aggregate risk
Moral hazard
- “To-big-to-fail” → size bias
- “To-interconnected-to-fail” → counterparty risk bias
- “To-many-to-fail” → systemic risk bias

Costs
- Significant fraction of GDP often spend on bank bailouts
- Commitment not credible
Measuring Systemic Risk

- For each bank: measure its contribution to a general crisis
- E.g. standard risk management calculation
  - Take 1% worst case (output, stocks, bonds, credit,..)
  - Ask: on that day/month/quarter, how much did firm \( j \) contribute?
- Analogy
  - Allocation of economic risk capital within a firm
    - Each desk is charged for its (implicit) use of the firm’s economic capital
  - Allocation of capital requirements within an economy
    - Government capital is a public good
Pre-Crisis

Expected Shortfall (in Billion Dollars)
Data through June 07
Methods Similar to MES and MVaR

- Flexible technology
  - Can be done for profits, credit losses, etc.
  - Break down by divisions, desks, assets, geographical regions
  - Consistent with M&As, changes in size, positions, etc.

- Caveats on statistical methods
  - Cyclical behavior
  - Past data vs. future crisis

- Complement with scenario analysis
Our Proposal

1. **Systemic Capital Requirement** (Basel III)
   - Capital requirement proportional to estimated systemic risk

2. **Systemic Fees** (FDIC-style)
   - Fees proportional to estimated systemic risk
   - Create systemic fund.
   - Price risk using AAA tranches, out-of-money puts, etc.

3. **Systemic Insurance** provided by the private/public
   - Compulsory insurance of each bank’s own losses during general crisis
   - Payment goes to systemic fund, not the bank itself
   - Market price of insurance, but most of the insurance bought from the government
     - Analogy to terrorism insurance

➢ **Advantages of our proposal**
   - Incentives to limit systemic risk (to lower capital requirement, fee, insurance)
   - Estimates of systemic risk (by regulator and by the insurance market)
   - Reduce risk and cost of bailout (systemic fund)
## Regulating systemic risk

<table>
<thead>
<tr>
<th></th>
<th>Capital requirements</th>
<th>Taxes</th>
<th>Private Insurance</th>
<th>Public/Private Insurance</th>
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</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>Consistent with existing regulations</td>
<td>Easy to adjust</td>
<td>No need for extra capital on BS</td>
<td>Market price</td>
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<td></td>
<td>Transparent and easy to implement</td>
<td>Create a systemic fund</td>
<td>Extract market prices</td>
<td>Public power</td>
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<tr>
<td><strong>Disadvantages</strong></td>
<td>Cost of keeping large capital on balance sheet</td>
<td>Hard to figure out the price</td>
<td>Market not large enough for real systemic risk LOLR still there</td>
<td>Governance Coordination Find correct public price</td>
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