Discussion of “Market Responses to Policy Initiatives During the Global Financial Crisis”

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The opinions expressed are those of the author and do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco or anyone else in the Federal Reserve System.
Question: Which policy interventions affected Libor-OIS spreads?

Interbank Lending Conditions

Percent

3-Month Libor-OIS Spread

1-Month Libor-OIS Spread

Methodology: Event study
Event Study: Key Events

Financial Turmoil Timeline (March 2008-May 2008)

Mar 24 6 8 10 12 14 16 18 20 22 24 26 28 30
Apr 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
May 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

Mar 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Apr 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
May 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

Mar 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Apr 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
May 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

Click on any event for further information. This timeline is updated on the first of every month. If you encounter broken links or have other feedback, please email juli.feldman@nff.org.
Event Study: Key Events
Event Study: Key Events

Financial Turmoil Timeline (March 2009 - May 2009)

- Mar 2: All underwriters withdraw from the TARP plan.
- Apr 4: U.S. Federal Reserve begins buying credit default swaps.
- Apr 6: U.S. Federal Reserve announces a 30-basis point cut in the federal funds rate.
- Apr 8: U.S. Treasury announces its intent to buy mortgage-backed securities.
- Apr 11: U.S. Federal Reserve announces a 1% discount rate.
- Apr 14: U.S. Federal Reserve announces a 4% discount rate.
- Apr 16: U.S. Federal Reserve announces a 6% discount rate.
- Apr 18: U.S. Federal Reserve announces a 8% discount rate.
- Apr 20: U.S. Federal Reserve announces a 10% discount rate.
- Apr 22: U.S. Federal Reserve announces a 12% discount rate.
- Apr 24: U.S. Federal Reserve announces a 14% discount rate.
- Apr 26: U.S. Federal Reserve announces a 16% discount rate.
- Apr 28: U.S. Federal Reserve announces a 18% discount rate.
- Apr 30: U.S. Federal Reserve announces a 20% discount rate.
- May 2: U.S. Federal Reserve announces a 22% discount rate.
- May 4: U.S. Federal Reserve announces a 24% discount rate.
- May 6: U.S. Federal Reserve announces a 26% discount rate.
- May 8: U.S. Federal Reserve announces a 28% discount rate.
- May 10: U.S. Federal Reserve announces a 30% discount rate.
- May 12: U.S. Federal Reserve announces a 32% discount rate.
- May 14: U.S. Federal Reserve announces a 34% discount rate.
- May 16: U.S. Federal Reserve announces a 36% discount rate.
- May 18: U.S. Federal Reserve announces a 38% discount rate.
- May 20: U.S. Federal Reserve announces a 40% discount rate.
- May 22: U.S. Federal Reserve announces a 42% discount rate.
- May 24: U.S. Federal Reserve announces a 44% discount rate.
- May 26: U.S. Federal Reserve announces a 46% discount rate.
- May 28: U.S. Federal Reserve announces a 48% discount rate.
- May 30: U.S. Federal Reserve announces a 50% discount rate.

Financial Turmoil Timeline (June 2009 - August 2009)

- Jun 2: U.S. Federal Reserve announces a 5% discount rate.
- Jun 4: U.S. Federal Reserve announces a 5.5% discount rate.
- Jun 6: U.S. Federal Reserve announces a 6% discount rate.
- Jun 8: U.S. Federal Reserve announces a 6.5% discount rate.
- Jun 10: U.S. Federal Reserve announces a 7% discount rate.
- Jun 12: U.S. Federal Reserve announces a 7.5% discount rate.
- Jun 14: U.S. Federal Reserve announces a 8% discount rate.
- Jun 16: U.S. Federal Reserve announces a 8.5% discount rate.
- Jun 18: U.S. Federal Reserve announces a 9% discount rate.
- Jun 20: U.S. Federal Reserve announces a 9.5% discount rate.
- Jun 24: U.S. Federal Reserve announces a 10.5% discount rate.
- Jun 26: U.S. Federal Reserve announces a 11% discount rate.
- Jun 28: U.S. Federal Reserve announces a 11.5% discount rate.
- Jun 30: U.S. Federal Reserve announces a 12% discount rate.
- Jul 2: U.S. Federal Reserve announces a 12.5% discount rate.
- Jul 4: U.S. Federal Reserve announces a 13% discount rate.
- Jul 6: U.S. Federal Reserve announces a 13.5% discount rate.
- Jul 8: U.S. Federal Reserve announces a 14% discount rate.
- Jul 10: U.S. Federal Reserve announces a 14.5% discount rate.
- Jul 12: U.S. Federal Reserve announces a 15% discount rate.
- Jul 14: U.S. Federal Reserve announces a 15.5% discount rate.
- Jul 16: U.S. Federal Reserve announces a 16% discount rate.
- Jul 18: U.S. Federal Reserve announces a 16.5% discount rate.
- Jul 20: U.S. Federal Reserve announces a 17% discount rate.
- Jul 22: U.S. Federal Reserve announces a 17.5% discount rate.
- Jul 24: U.S. Federal Reserve announces a 18% discount rate.
- Jul 26: U.S. Federal Reserve announces a 18.5% discount rate.
- Jul 28: U.S. Federal Reserve announces a 19% discount rate.
- Jul 30: U.S. Federal Reserve announces a 19.5% discount rate.
- Aug 2: U.S. Federal Reserve announces a 20% discount rate.
- Aug 4: U.S. Federal Reserve announces a 20.5% discount rate.
- Aug 6: U.S. Federal Reserve announces a 21% discount rate.
- Aug 8: U.S. Federal Reserve announces a 21.5% discount rate.
- Aug 10: U.S. Federal Reserve announces a 22% discount rate.
- Aug 12: U.S. Federal Reserve announces a 22.5% discount rate.
- Aug 14: U.S. Federal Reserve announces a 23% discount rate.
- Aug 16: U.S. Federal Reserve announces a 23.5% discount rate.
- Aug 18: U.S. Federal Reserve announces a 24% discount rate.
- Aug 20: U.S. Federal Reserve announces a 24.5% discount rate.
- Aug 24: U.S. Federal Reserve announces a 25.5% discount rate.
- Aug 26: U.S. Federal Reserve announces a 26% discount rate.
- Aug 28: U.S. Federal Reserve announces a 26.5% discount rate.
- Aug 30: U.S. Federal Reserve announces a 27% discount rate.

Click on any event for further information. This timeline is updated on the first of every month. If you encounter broken links or have other feedback, please email nalclif@fedmlsnnf.org.
Overview of Results (Table 3)

<table>
<thead>
<tr>
<th></th>
<th>Subprime Phase</th>
<th>Global Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower interest rates</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Liquidity (domestic)</td>
<td>Bad</td>
<td>Good</td>
</tr>
<tr>
<td>Swaps</td>
<td>Good</td>
<td>Bad</td>
</tr>
<tr>
<td>Guarantees</td>
<td>Good</td>
<td>Bad</td>
</tr>
<tr>
<td>Bailouts/failures</td>
<td>Bad</td>
<td>Bad</td>
</tr>
<tr>
<td>Credit easing, QE, recapitalization, asset purchases</td>
<td>Mixed</td>
<td>Mixed</td>
</tr>
</tbody>
</table>
Comments

• Ambitious multinational empirical study of effects of a wide gamut of policies during crisis using panel of events.

• Focus on announcement effects avoids some difficult identification issues (but not all!)

• Most provocative result: standard monetary policy actions/inactions have large effect on Libor-OIS spreads.
Comments

• Should include complete event listing in appendix.

• Look more carefully at effects on CDS rates, bond spreads, equity prices, etc. and connections between these variables.

• Focus on major policy actions; for example, 12/12/07 TAF/swap announcement had large effect, but other actions didn’t.

• Stress test results is an important date.

• Thorny problem of endogeneity of policy actions
Decomposing the Effects of Policy Actions

Average CDS Spread for the Five Largest SCAP BHCs
Weekly average; BoA, JPM, Citigroup, Wells Fargo, Goldman Sachs

Introduction of Treasury guarantees on bank debt
SCAP results released
LOLR vs. Policies Directed at Solvency Fears

Interbank Lending Conditions

- Announcement of Term Auction Facility
- Introduction of Treasury guarantees on bank debt
- SCAP results released

1-Month Libor-OIS Spread
3-Month Libor-OIS Spread
Policy Endogeneity and Tests of Policy Effectiveness

Artificial Data
Monte Carlo Experiment

- Assume true DGP is a stationary process:
  \[ y(t) = 0.99 \times y(t-1) + u(t), \quad u \sim N(0,1) \]
- Define a “crisis” as occurring whenever 
  \[ y(t) > 2.5 \times \sigma_y \]
- Assume there is a policy action \([z(t)=1]\) in each crisis period.
- Policy has no effect by assumption.
Monte Carlo Experiment

• Regression:

\[
y(t) - y(t-1) = a + b1*z(t-1) + e(t) \quad (1)
\]

\[
y(t) - y(t-3) = a + b3*z(t-3) + e(t) \quad (2)
\]

• Estimation results using simulated data:

\[
b1 = -0.2 \quad (1)
\]

\[
b3 = -0.5 \quad (2)
\]
Challenges in Evaluating Policy Actions

• This example illustrates potential spurious estimates of policy actions even when policy is ineffective.

• The opposite issue can occur when policy is effective but occurs in response to shocks. In this case, estimated policy effect may be biased toward zero.

• Finally, announcements contain information regarding other future policy actions, so it is difficult to discern whether the action itself is effective or if it is the signal of future action.