Monetary Policy Surprises Over Time
by Marcello Pericoli and Giovanni Veronese

Chiara Scotti
Federal Reserve Board

Unconventional Monetary Policy: Effectivness and Risks
Rome October 21, 2016
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This Paper – A Summary

- Document the impact of monetary policy surprises (MPS) in the euro area and the United States from 1999 to date.

- Focus on the path-dimension of MPS.

- Find its impact on asset prices has changed over time.

- In particular
  - For the U.S., they find hump-shaped response on yield curve in pre-crisis and post-crisis periods, and an increasing impact in tenors during the crisis.
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Data

They use a variety of data:

- 3-, 6-, 9-, 12-month ED (US) or OIS (EA) and 2-, 5-, 10-year government bonds to construct the MP factors (for EA include Germany, France, Italy and Spain).
- MP dates as in Rogers et al (2014) updated to the present: MP meeting dates and important speeches.
- MIx of 1-day and average 2-day changes.
They identify a target factor and a path factor as the first 2 principal components of:

\[ X_{T \times N} = F_{T \times 2} \Lambda_{2 \times N} + \epsilon_{T \times N} \]  

(1)

\[ F_{T \times 2} = M_r F_{T \times 2} \]  

(2)

where \( M_r \) is the residual projection matrix of the nearby future contract for the central bank reference rate.
More about the analysis

They estimate the equation:

$$\Delta y_t = \alpha + \beta_1 r_t^{Fed} + \gamma_1 F_{1,t}^{Fed} + \beta_2 r_t^{ECB} + \gamma_2 F_{1,t}^{ECB} + u_t$$  \hspace{1cm} (3)$$

where $\Delta y_t$ is the daily /average of 2 days change in the asset under consideration.
Selecting the right window

Problems:

1. Change in MP could be a response to the change in asset prices earlier in the period.
2. Both the changes in MP and in asset prices could be responding to macro news released earlier in the period.

Solutions:

1. Use intradaily data to measure MPS: using narrow window you can be sure that MP decision was not influenced by asset price movements or macro news during the same period.
2. Use intradaily data to measure the change in asset prices $\Delta y_t$: by shrinking the event study window it’s less likely that other events took place in the same window.

Compromise: intradaily with pbl 1 and 1-day or 2-day window with pbl 2.
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Coverage of the Paper

- As is, paper seems to be conflating everything that is not a target surprise. (comparability across time?)
- It would be interesting to expand the analysis to do a more specific comparison.
- Perhaps consider a way to have target, LSAP and forward guidance as 3 different shocks.
- Lots of papers have done bits and pieces of the analysis (Swanson 2016, RSW 2014, RSW 2016).

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# Effects of Fed Monetary Policy Surprises on Yields/Returns: LSAP and other days

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<tr>
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<th>LSAP</th>
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<tr>
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<td>Stock Returns</td>
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<td><strong>Daily</strong></td>
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- **Stocks and Bonds:**
  - Based on Gurkaynak et al. (2005) in the pre-ZLB period, the FFTR would have to be cut by about 60 bps to lower 10-year yields by 25 bps, and boost stock prices by about 5pp.

- **Credit Spreads:**
  - Rogers et al (2014): expansionary policy ⇒ credit spreads ↑ (corporate yields fall by less than sovereigns).
  - With conventional MP (e.g., Cenesizoglu and Essid, 2012): expansionary policy ⇒ corporate credit spreads ↓.

There some evidence that while unconventional monetary policy has effects on these other markets, the ZLB constraint makes it less powerful than conventional monetary policy.
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Interdependence of policies

\[
\Delta y_t = \alpha + \beta_1 r_t^{Fed} + \gamma_1 F_{1,t}^{Fed} + \beta_2 r_t^{ECB} + \gamma_2 F_{1,t}^{ECB} + u_t \tag{4}
\]

- Fed and ECB policies are in the same equation.
- How many days are MPS of both central banks in the same window?
  - Would be interesting to see whether results are different using separate regressions.
Interdependence of policies

\[ \Delta y_t = \alpha + \beta_1 r_{t}^{Fed} + \gamma_1 \bar{F}_{1,t}^{Fed} + \beta_2 r_{t}^{ECB} + \gamma_2 \bar{F}_{1,t}^{ECB} + u_t \quad (4) \]

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Control Variables

- Use the Citi Economic Surprise Index (CESI) for US and euro area to control for macroeconomic releases on same day.
- Limitation: it uses asset price information to determine the weights used for the aggregation of macro surprises.
- Solution: use the Scotti (JME, 2016) surprise indexes!
Specify better what you do

- Are the path surprises pre-crisis, crisis and post-crisis computed all in one go?

- What is the window that you are using for MPS (daily) and for the asset price response (two-day average)? Two-day change better than two-day average.

- Are you using futures or spot bond yields to compute the MPS?
Interesting paper!

Looking forward to seeing a future draft...