Deciphering Monetary Policy Shocks

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Point of Departure

- A key question in economics & finance is how monetary policy impacts the economy & financial markets.
- Standard approach: use of various monetary policy shocks based on high-frequency reactions of financial instruments during monetary policy announcements.
- Guided by economic theory they allow to indirectly infer what type of news is communicated by a central bank.

This Paper

- Directly infers which type of central bank news (i.e. topic) moves certain assets.
- Explains high-frequency market reactions during monetary policy announcements by innovations in central bank communication.
- Connects what markets hear to what the central bank actually says.

Event Setting

The ECB employs a highly consistent communication strategy for its MP announcements which consist of:

- Press release (monetary policy decision at 13:45 pm).
- Press conference (communication starting at 14:30 pm).

The press conference starts with a pre-scripted statement of the ECB president explaining the monetary policy decision and elaborating on the economic outlook. We focus on rich communication data about different topics during the press conference, separately from the policy decision itself (press release) from 2002–July 2020.

Monetary Policy Shocks

We use several sets of monetary policy shocks all based on high frequency market reactions during the ECB press conference provided by the EA-MPD (Altavilla et al., 2019).

Communication Measures

ECB press conference statements follow a clear and consistent topic structure. We directly adopt this structure and assign each paragraph to one of the following five topics:

- Rate guidance, economic activity, inflation, financial & monetary conditions, fiscal policy.

We then measure the ECB’s stance on each topic with a standard dictionary method by counting the number of negative words (Loughran and McDonald, 2011).

\[ \tau_T = 1 - \frac{\#\text{Negative Words in Topic } i}{\#\text{Total Words in Topic } i} \]

Only for rate guidance, we use manual classification to distinguish indications of easing (-1), unchanged policy (0), and tightening (1).

Econometric Methodology

We regress monetary policy shock (S) on changes in topic-specific stance (\(\Delta \tau_T\)) controlling for inter-press conference news (\(C_{jt}\)).

\[ S_t = \alpha + \sum_i \beta_i \Delta \tau_{T,i} + \sum_j \gamma_j C_{j,t} + \epsilon_t \]

We control for inter-press conference information in order to ensure that we capture the unexpected change in the ECB’s topic-specific stance.

Results

The following two figures show the statistically significant drivers of monetary policy shocks based on estimating equation (2). The bars indicate the change of the respective monetary policy shock in response to a one standard deviation move in the ECB’s topic-specific stance. The x-axis is scaled to represent estimated effects in percent of the mean absolute change of the respective monetary policy shock over all press conferences.

Conclusion

- Central banks can affect different segments of financial markets by communicating about different topics.
- As a result, using one of the other topics to explain the very same policy decision may lead to different implications for the yield curve.
- Researchers should use shocks based on joint reactions of interest rates and equity prices to capture the multifaceted nature of ECB communication.
- At least in the euro area we find evidence consistent with the notion of central bank information shocks.

References


