Monetary Policy and Systemic Risk

Ester Faia

Goethe Universtiy Frankfurt and CEPR

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Monetary Policy and Bank Risk-Taking

- Host of papers has shown risk-taking channel based on bank individual risk"

- Empirical: Jimenez et al. 2014, Altunbas et al. 2010, Ioannidou et al. 2015, Dell'Arriccia et al. 2017, Angeloni, Faia and Lo Duca 2017.
- Theoretical-policy: Borio and Zhu 2008, Adrian and Shin 2009, Angeloni and Faia 2013

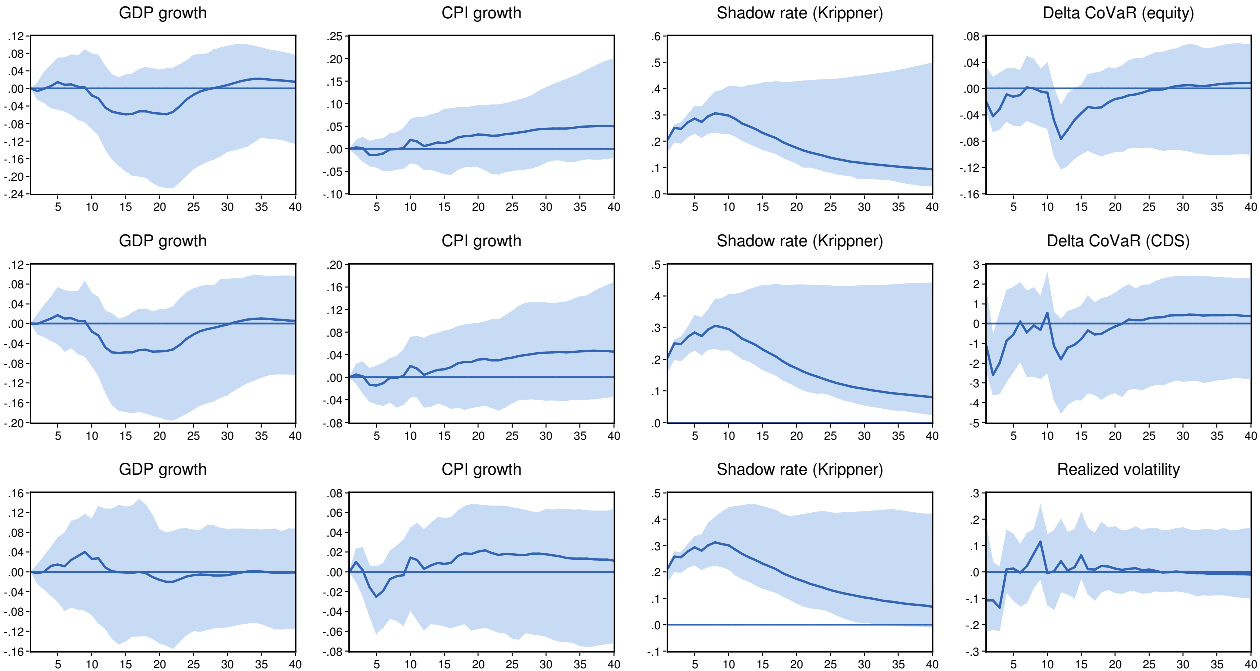
- Relevant for policy only to the extent that it affects the macroeconomy and systemic risk

Monetary Policy and Systemic Risk

- Macro evidence: Rey and Miranda-Agrippino (2016); macro theory: Bruno and Shin (2015 a,b)
- Faia and Karau (2017):

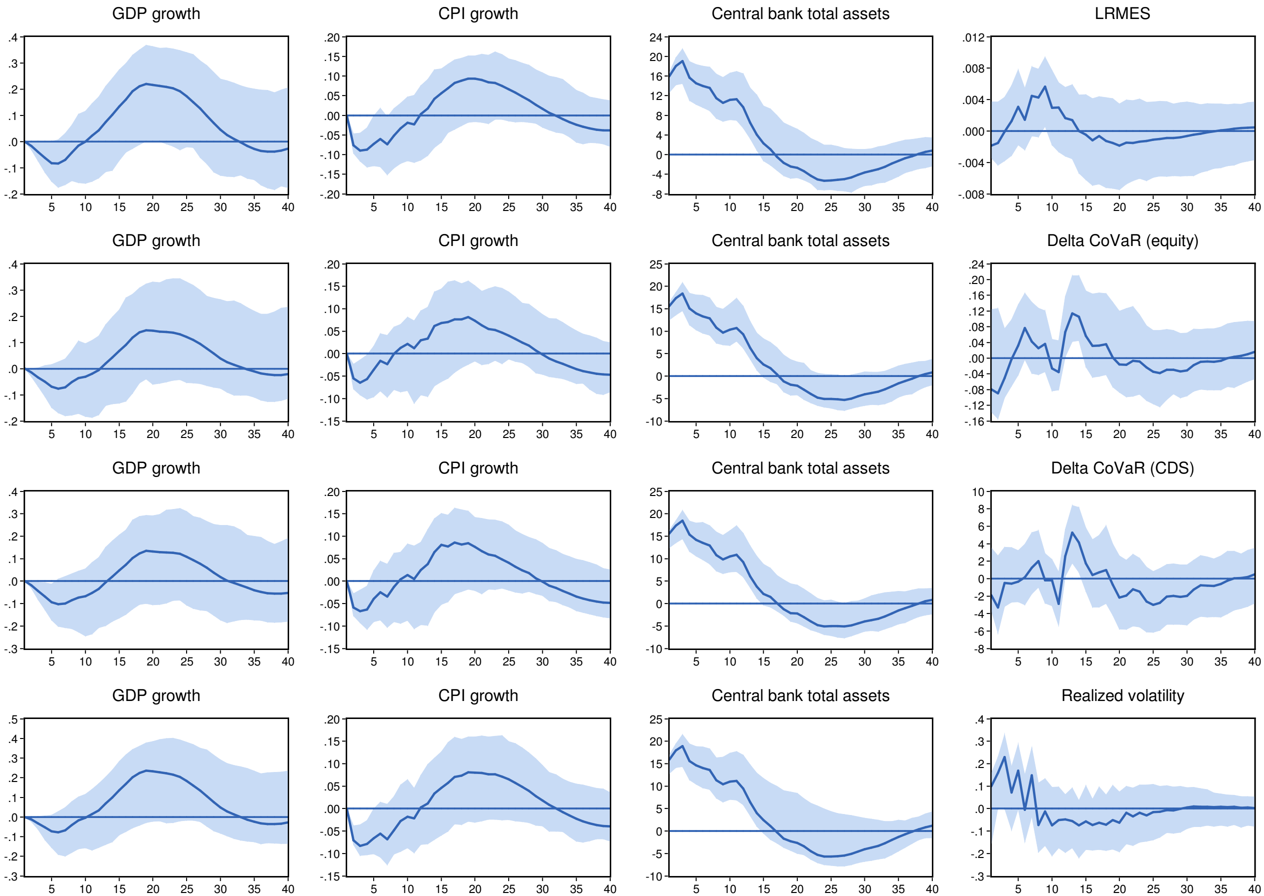
1. Impact of monetary policy (identified at high frequency; conventional and unconventional) on systemic risk
2. Systemic risk measured with: CoVaR (both equity and CDS), LMRES
2. Find evidence for leverage channel and US monetary policy

Figure 2: Panel VAR in pre-crisis sample



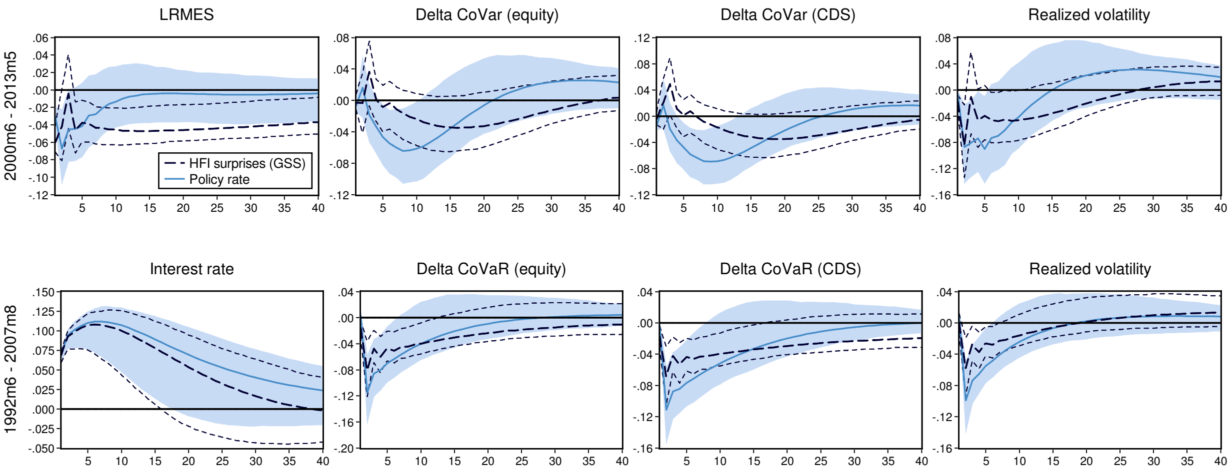
Note. Impulse responses in the panel VAR(12) to a one-standard deviation shock to Krippner's shadow rate. Countries included: US, Japan, UK, China, euro area (Germany, France, Spain, Netherlands, Italy). Model includes a constant and time trend. Time sample: 1992:06-2007:08. Remaining details as in Figure 1.

Figure 3: Panel VAR with central bank total assets in (post-)crisis sample



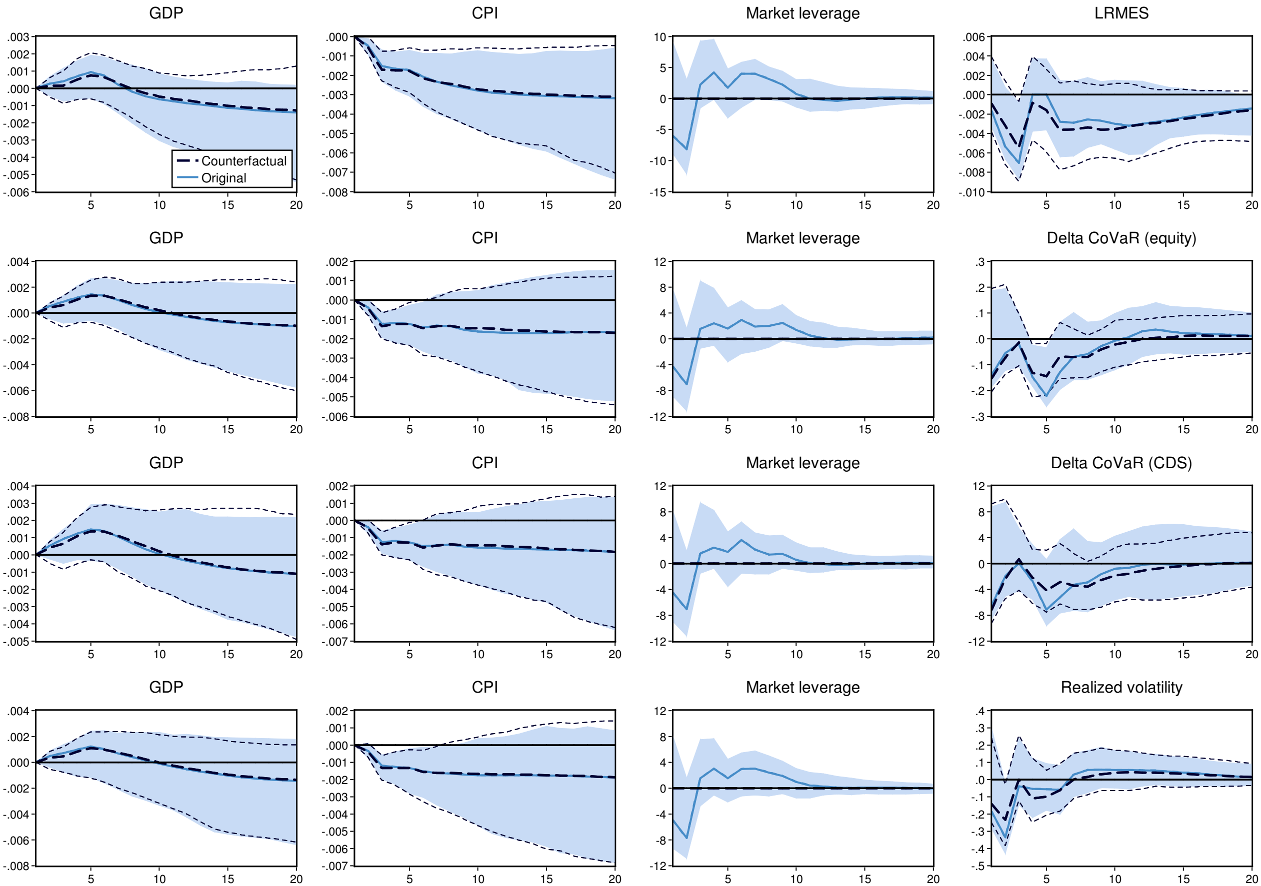
Note. Impulse responses in the panel VAR(12) to a one-standard deviation shock to central bank total assets. Variable ordering: GDP growth rate, CPI growth rate, first-differenced central bank total assets, risk measure. Time sample: 2007:09-2016:12. Remaining details as in Figure 1.

Figure 6: US hybrid FAVAR with Gürkaynak et al. (2005) surprise series



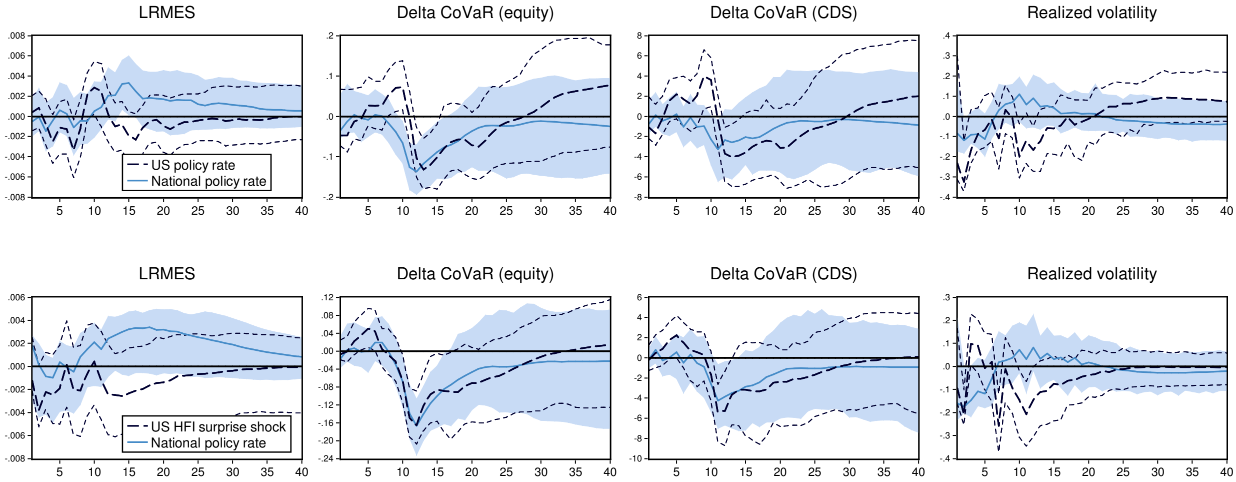
Note. Impulse responses in the FAVAR(3) (full sample, top panel) and FAVAR(2) (pre-crisis, bottom panel) model with three factors to a one-standard deviation shock to the policy rate (solid) and cumulated Gürkaynak et al. surprise shock series (dashed). Each model includes a large set of macroeconomic variables (see Table A.2) and all depicted risk measures. Dotted lines and shaded areas indicate 90% confidence bands.

Figure 10: Panel VAR with market leverage: monetary policy shocks



Note. Impulse responses in the quarterly panel VAR(4) to a one-standard deviation shock to Krippner's shadow rate. Shocks are identified by the variable ordering: log GDP, log CPI , Kripnner's shadow rate, market leverage growth rate, risk measure. Solid lines refer to the original model, dashed lines to the counterfactual responses with market leverage response to monetary policy shut off. Remaining details as in Figure 9.

Figure 12: Panel VAR with US monetary policy as 5th variable



Note. Impulse responses in the panel VAR(12) (without US economy) to a one-standard deviation shock to the national (solid) and US (dashed) montery policy measure. Shocks are identified by the variable ordering: log GDP, log CPI , US monetary policy measure, national policy rate, risk measure. Top panel uses the US policy rate, bottom panel the cumulated surprise shock series of Gürkaynak et al. (2005). Remaining details as in Figure 1.

Conclusions

- Risk-taking channel confirmed on many fronts
- Calls for setting optimal exit time
- Calls for optimal combination policy
- Macro-prudential shall internalize macro externalities