Risk endogeneity at the lender/investor-of-last-resort
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Discussion

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* The views expressed in this paper are those of the author and do not necessarily represent those of the Federal Reserve Board or the Federal Reserve System.
This paper’s contribution

Big-picture question: Did the ECB/Eurosysten in its role as IOLR and LOLR take too much credit risk during the euro-area crisis?

- The authors calculate credit risk measures (expected loss and expected shortfall) for the Eurosystem around the announcement/implementation of several unconventional monetary policies.

- To model credit risk, they use a high-dimensional dependence copula (9 country-level banking sector and 5 sovereign sector). This methodology accounts for:
  - Fat tails
  - Time-varying volatility
  - Time-varying and asymmetric correlations
This paper’s main findings

“Risk is nonlinear in exposures”: (i) some announcements/operations increased exposure but reduced risk (ii) there are credit risk spillovers between IOLR/LOLR announcements/ implementations.

Some unconventional policies were more “risk efficient” than others: they were more effective relative to the risk incurred.

Spillovers from international unconventional monetary policy announcements were small.
This paper’s main challenges

- Central banks are not your “traditional” bank (no liquidity constrains and their announcements can influence their own risks, among others).

- Data availability: specific exposure and physical probabilities of defaults are not observable. The authors find clever ways to approximate for these.

- Computational burden increases rapidly as you consider more sovereign/banking sectors. The authors propose a variance-covariance structure that reduces the dimension of the problem.
Very interesting and ambitious paper (see the main challenges)

Policy relevant:

⇒ When is the central bank taking too much risk?
⇒ Which measures are more cost/risk effective?
⇒ Is communication an effective monetary policy tool?

My main comments:

1. Differentiating amount-of-risk from price-of-risk
2. Differentiating announcements from implementations of unconventional policies
3. Aggregating bank default probability at the country level
Comments
1. Amount-of-risk versus price-of-risk

- Sovereign probability of default is inferred from CDS spreads. Therefore, the authors need to translate risk-neutral to physical probabilities of default.

- Does the method in Heynderickx et al (2016) allow for conditional (available at each point in time) risk aversion?

- Monetary policy announcements have an effect on risk aversion.

- Can the effect of policy announcements on sovereign yields be used to disentangle the effect on risk aversion? Risk-free rate can be used to infer the properties of SDFs, but which risk-free rate?

Overall, can you then disentangle the effect of unconventional policies on risk aversion (price of risk) from that on the amount of risk the central bank is taking?
Credit Losses = $F(\text{Exposures at default (EAD), probability of default (PD), and loss given default (LGD)})$ 

- **Any announcement**: EAD is constant, PD might change but most of this change should be attributed to changes in risk aversion.
- **LOLR or allotments**: EAD increases, PD decreases because central bank provides liquidity to banks in trouble (closer to credit risk).
- **IOLR or asset purchases**: EAD increases, PD decreases but mostly through a discount-rate or risk aversion channel (not so much credit risk).
- **Pure signaling effect**: announcements not followed by implementation (OMT).

Overall, what are the channels through which announcements and the implementation of monetary policies affect the central bank’s balance sheet risk?
3. Country-level bank default probability

- How does Moody’s probabilities of default account for simultaneous defaults (systemic risk events)?

- Are you underestimating the risk of systemic events by aggregating bank-level probabilities of default at the country level?

- Which banks should the central bank be assisting? Banks more in trouble (in which case, PDs are higher than the median), banks that stand a chance recover (PDs might be lower than the median), or banks that are systemically relevant.

Overall, although I understand the computational limitations of considering bank-level PDs, the authors should consider the effect of the country-level aggregation or assess the robustness of their results to alternative aggregation methods.
Other comments

- Can this exercise be extended to other central banks?

- Does the “credibility” of the central bank matter for the effectiveness of its policies?

- Is communication an effective tool? How else can you explain the results around OMT announcements?

- When analyzing the risk efficiency of measures, LOLR and IOLR seem to have two somewhat different goals: the former seems to be mainly a financial stability tool (to provide liquidity to banks in trouble), while the latter seems to be more a monetary policy tool (to reduce interest rates at longer horizons).

- Would going below the ZLB be a better alternative in terms of cost effectiveness? Does this only apply to asset purchases?