# Systemic Risk, Interbank Market Contagion, and the Lender of Last Resort Function

Michael Bowe, Olga Kolokolova, Marcin Jerzy Michalski†

This version: 7th April 2016

**Abstract**

We develop a theoretical model examining the financial stability policy of a central bank serving as both the lender of last resort and the regulator of the financial system. Our model accommodates the possibility of financial contagion through interbank market linkages, and adverse feedback from the financial system to the real economy. We identify the relative riskiness of the agents in the financial system, the probability of systemic distress, and the expected duration of credit supply reduction as the key factors influencing the design of financial stability policy. Results of model simulations indicate the existence of a substitution effect between reducing the expected scope of a central bank's assistance to an institution in distress and increasing bank reserve requirements.

*JEL classification:* E58, G01, G21, G28.

*Keywords:* Financial Stability, Central Bank Policy, Lender of Last Resort, Banking Crisis, Bank Regulation, Interbank Market.

---

† Michael Bowe is affiliated with Alliance Manchester Business School, the University of Manchester and the University of Vaasa. Olga Kolokolova and Marcin Michalski are affiliated with Alliance Manchester Business School, the University of Manchester. Please direct all enquiries and comments about this paper to Marcin Michalski (marcin.michalski@manchester.ac.uk).

We would like to thank Ian Garrett, Martin Arrowsmith, the participants at the BIS Irving Fisher Committee Workshop in Warsaw, and presentations at the University of Leicester and the University of Manchester for their helpful comments on an earlier version of the paper. The authors gratefully acknowledge the financial support of the University of Manchester and the Economic and Social Research Council.