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Too big to fail: Some empirical evidence on the causes and consequences of public banking interventions in the UK[☆]

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ABSTRACT

During the 2007–09 financial crisis, the banking sector received an extraordinary level of public support. In this empirical paper, we examine the determinants of a number of public sector interventions: government funding or central bank liquidity insurance schemes, public capital injections, and nationalizations. We use bank-level data spanning all British and foreign banks operating within the United Kingdom. We use multinomial logit regression techniques and find that a bank's size, relative to the size of the entire banking system, typically has a large positive and non-linear effect on the probability of public sector intervention for a bank. We also use instrumental variable techniques to show that British interventions helped; there is fragile evidence that the wholesale (non-core) funding of an affected institution increased significantly following capital injection or nationalization.

☆ Rose is Rocca Professor at UC Berkeley, CEPR Research Fellow and NBER Research Associate; Wieladek is Research Fellow at London Business School, on secondment from the Bank of England. The views expressed in this paper are those of the authors, and not necessarily those of the Bank of England or the Monetary Policy Committee. For comments and suggestions, we thank: Joshua Aizenman, Yin-Wong Cheung, Gerry Dwyer, Michael Hutchison, Mark Spiegel, and conference participants at SCIIE. We thank Mark Robson for permitting us to use the data in this study. For hospitality during the course of this paper, Rose thanks the University of Cape Town and Wieladek thanks LBS.

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1. Summary

Beginning in late 2007, the public sector around the world helped their struggling financial sectors in a number of different ways. Some banks were offered government funding or central bank liquidity insurance schemes, others received capital injections or were nationalized outright, and some were offered no support at all. To maintain future financial stability, it is important to not only understand the vulnerabilities that led the public sector to assist banks during the global financial crisis of 2008, but also assess the effectiveness of public sector help in stabilizing individual banks' funding.

In the first part of this study, we therefore ask empirically what determined the style and recipients of public interventions. We use a confidential Bank of England bank-level data set using information on the balance sheets of all UK-resident banks. Our results suggest that the size of a bank is an important determinant of key public British banking interventions: capital injections, nationalizations, and government funding or central bank liquidity insurance schemes. In particular, the size of a bank relative to that of the entire banking system increases the probability of an intervention, suggesting that large banks are more likely to receive public sector assistance. This finding is consistent with the idea that some banks in the British banking system were deemed to be 'Too big to fail'.

In the second part of this study, we study the consequences of public sector interventions in the British banking system. We argue that during the global financial crisis, financial institutions were subject to a bank run in wholesale markets. To improve our understanding of the effectiveness of these various public sector interventions, we study their effect on individual banks wholesale to total liabilities ratio. Typically it would be difficult to credibly isolate cause and effect in our question of interest, since the banks that received government help were also the ones that were obviously most affected by a run on their wholesale liabilities. Fortunately, we established that bank size is an important determinant of government intervention in the first past of our investigation. This is a structural feature and changes only slowly over time. It is unlikely to be affected by sudden movements in bank liabilities and can be used to predict government intervention. We therefore use a banks relative size with respect to the whole banking system to isolate the causal effect of British public sector interventions on an individual banks wholesale funding. We find that these interventions mattered in a tangible sense: they seemed to restore access to wholesale funding. More precisely, the share of wholesale (non-core) funding rose significantly following intervention. As one objective of UK public sector intervention during the global financial crisis was precisely to stabilize flighty financial market funding, it seems to have been effective.

2. Introduction and motivation

The Great Recession began as a financial crisis. Beginning in late 2007, governments around the world helped their struggling financial sectors in a number of different ways. Some banks were offered unusual liquidity support, others received capital injections or were nationalized outright, and some were offered no support at all. In this paper, we examine the nature of public-sector assistance to banks.

We ask empirically what determined the style and recipients of public interventions, and whether these interventions had a measurable impact on bank behavior. We use a confidential Bank of England bank-level data set using information on the balance sheets of all UK-resident banks. We find that a British bank's size had a strong effect on the likelihood of intervention: larger banks were more likely to be assisted. And these interventions mattered in a tangible sense: they seemed to restore access to wholesale funding. More precisely, the share of non-retail deposits in total liabilities rose by over 38% following intervention, an amount that is economically and statistically significant (though this evidence is not definitive). As one objective of crisis intervention was precisely to stabilize flighty financial market funding, it seems to have been effective.

3. Literature review

A fairly large literature studies the determinants of national banking crises with macroeconomic data. Caprio and Klingebiel (1997) find that excessive credit growth is an important determinant of banking crises across countries. In a comprehensive cross-country study with a multinomial logit