

The risk of being all alike: Macroprudential capital buffers for SIFIs and systemic groups of banks in an ABM.

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Extended Abstract

The post-crisis consensus incorporated in Basel Framework widely recognises the criticalities of Systemic Important Financial Institutions (SIFIs) for financial stability. This is reflected in the additional regulatory conditions that SIFIs must satisfy on capital, leverage and liquidity. Following the Basel Committee recommendations, SIFIs are identified by a scoring mechanism that weights several indicators to classify each financial institution into a risk bucket. Conditional to it, some institutions might be identified as SIFIs and thus be subject to a more stringent regulation. The philosophy underlying this approach was designed as a response to the events that led to the Great Financial Crisis of 2007-8. In this view, few systemically important institutions work as amplifiers of financial distress. Therefore, they should be regulated to push away the likelihood of a bankruptcy and systemic instability. On the other hand, it can be argued that the enforcement of the Basel III package has shaped the financial system towards homogeneity. The tightening in regulation has reduced the degree of specialization of financial institutions making them converging to similar business model, concentrating their activity in the same sectors, and being exposed to similar risks. This "flight to homogeneity" gives rise to a form of systemic risk opposed to that of SIFIs, in which groups of firms can be "systemic as a herd". When financial institutions become more similar in terms of behavior and risk taking, they are exposed to common risks. So, despite firms are not systemic one-by-one, they can be collectively.

In this paper we propose an agent-based model by which we test the effectiveness of Basel III capital requirements under the two forms of systemic-risk. Moreover, we propose to regulate "systemic as a herd" financial institutions based on their systemic vulnerability. To do so, we adopt a multi-agent approach describing an artificial economy with households, firms and banks. The interconnections between the three classes of agents form a multilayer network that account for cross debit/credit relationships. Exploiting the flexibility of agent-based modelling, we shape the configuration of the network to generate two polar worlds: one is characterized by few systemic important banks who lend most of the credit to the real sector while borrowing interbank liquidity. The other shows an higher degree of homogeneity. Banks have no competitive advantages in lending to firms or interbank but have similar business models. In this context we focus on macroprudential regulation by implementing (i) a capital buffer for O-SII from Basel III and (ii) a systemic risk buffer built on measures of systemic vulnerability. The paper aims to test the hypothesis that capital surcharges based on systemic vulnerability work better than O-SII buffers (which rely on impact) when banks's behavior and characteristics are homogeneous. The paper is still preliminary and incomplete, results will be available at a later stage.