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Bank resilience to systemic shocks and the stability of banking systems: Small is beautiful

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A B S T R A C T

Utilising a novel empirical approach and an extensive sample of listed European banks, we identify which bank characteristics offer a shelter from systemic shocks and compare the relative effects of several hypothetical prudential rules on a bank's risk exposure. While the results show that restrictions on a bank's leverage ratio and the imposition of liquidity requirements, as in the Basel III Accord, may improve the resilience of a bank to systemic events, they also demonstrate that bank size, the share of non-interest income and asset growth (none of which are at the centre of the new regulatory landscape) are key determinants of a bank's risk exposure. In particular, the introduction of a cap on bank absolute size appears the most effective tool, *ceteris paribus*, to reduce the default risk of a bank given systemic events. Furthermore, in spite of the integration process of the financial industry in Europe, the analysis presented here shows that such a cap should be country-specific with smaller economies requiring smaller banks. Finally, we show that the strengthening of individual bank stability obtained via size restrictions is accompanied by a reduction of the contribution to systemic risk for banks which are relatively large compared to the domestic economy.

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1. Introduction

The global financial crisis, which erupted in the middle of 2007, has highlighted the inadequacy of existing banking regulations with regards to safeguarding systemic stability. The regulatory framework is deemed to have been insufficient to limit excessive risk taking by banks and, consequently, to contain the number of bank defaults over the crisis period. As a result, a general consensus among academics and regulators has emerged on the need to modify the regulatory framework with the purpose of introducing new rules that aim to enhance the resilience of individual banks, and of the full financial system, to shocks (Keys et al., 2009). Overall, in spite of the growing importance of the macroprudential view of regulation (Acharya et al., 2010; Adrian and Brunnermeier, 2011; Brunnermeier et al., 2009; Morris and Shin, 2008) that focuses on the stability of the system as a whole and where the cost of regulation for an institution depends on the negative systemic externalities that it may cause, the microprudential approach to regulation remains a key component of the prospective new rules. In other words, the assessment of the riskiness of each institution and how to enhance the ability of each institution to resist shocks are still major regulatory objectives.

The microprudential perspective of regulation is clearly stated in the new accord on capital regulation, known as Basel III, that has been published by the Basel Committee on Banking Supervision in December 2010 and contains the key elements of the new regulatory framework. The Basel III Accord states how "The reforms strengthen bank level, or microprudential regulation, which will help raise the resilience of individual banking institutions to periods of stress" (Basel Committee on Banking Supervision, 2010; p. 2). To this end, the new rules, while aimed at increasing the overall capital requirements for banks above the conventional threshold of 8% by January 2019 and the quality of equity components as cushions against losses, introduce restrictions on bank characteristics in terms of leverage ratios and liquidity provisions.

However, whether the regulatory restrictions on these two bank characteristics may indeed be effective in strengthening the resilience of banks to systemic shocks and whether they need to be accompanied by the adoption of other prudential rules remain a matter of discussion (see Hellwig, 2010; Ibragimov et al., 2011). For instance, several policy initiatives go beyond the framework proposed by the Basel III Accord to focus on the importance of imposing restrictions on bank business models. This is the case of The Dodd–Frank Wall Street Reform and Consumer Protection Act, adopted in the US in July 2010, which introduces restrictions on bank diversification via the adoption of the 'Volcker rule'.[1] Similarly, in the UK the Independent Commission on Banking, established in June 2010, suggests the creation of ring-fence banks which have to focus, exclusively, on retail banking and have to be legally separated from other entities when they belong to a financial group. These banks, and all institutions deemed to be systemically relevant, are then required to respect stricter prudential requirements than in the Basel III Accord.

Several other proposals have advocated instead the introduction of prudential rules based on bank size (see Dermine and Schoenmaker, 2010). These proposals range from the adoption of a cap which limits the size of banks to the implementation of capital surcharges for large and complex banks as their resilience to shocks is critical for the stability of the whole financial system. In line with this argument, the Basel Committee (2011) has imposed higher capital standards on large, systemically important banks while the Dodd–Frank Act puts systemically important financial institutions, including all banking organisations with total assets greater than $50 billion, under the special supervision of the Federal Reserve, and states the possibility to apply additional capital surcharges on these institutions. Notably, while these regulatory initiatives are generally motivated by the difficulties faced by the largest financial institutions during the recent turmoil, they appear in sharp contrast with the policy followed by several regulatory authorities during the crisis. Essentially, regulators, by encouraging the acquisition of failing banks by large banking firms in an attempt to limit the impact of financial distresses, have favoured the formation of even larger and more complex financial institutions. For instance, US regulators promoted the mergers of Bank of America with Merrill Lynch and

[1] This rule, originally proposed by the former Chairman of the Federal Reserve Paul Volcker, limits the ability of banks to engage in proprietary trading and to invest in hedge and private equity funds.