A multi-agent methodology to assess the effectiveness of systemic risk adjusted capital requirements

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Abstract

We propose a multi-agent approach to compare the effectiveness of macro-prudential capital requirements, where banks are embedded in an artificial macroeconomy. Capital requirements are derived from alternative systemic-risk metrics that reflect both the vulnerability or impact of financial institutions. Our objective is to explore how systemic-risk measures could be translated in capital requirements and test them in a comprehensive framework. Based on our counterfactual scenarios, we find that macro-prudential capital requirements derived from vulnerability measures of systemic-risk can improve financial stability without jeopardizing output and credit supply. Moreover, macroprudential regulation applied to systemic important banks might be counterproductive for systemic groups of banks.

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