

Saliency, Systemic Risk and Spectral Risk Measures as Capital Requirements

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Abstract

In this paper, we evaluate the effectiveness of macroprudential capital requirements in the form of market risk measures in alleviating systemic risk, fire sales, and welfare losses in crisis resolution. We develop a general equilibrium, heterogeneous agent model with financial institutions subject to risk-based capital requirement constraint and compare the benchmark Value at Risk to three spectral risk measures. The key idea of alternative regulation is probability weighting so that regulators overweight or underweight outcomes relative to their objective probabilities. Within the context of our model, prudential instruments based on solely overweighting of tail market losses are preferable for policymakers aimed to reduce the likelihood of the systemic crises. In the steady-state, the financial sector exhibit risk-seeking when the risky asset upside is salient and risk-averse behavior when the downside is salient. Focusing both on upside and downside risks achieves higher households' welfare, but results in risk-seeking preferences of the financial sector and exacerbates the systemic risk. The results suggest that overweighting upside and downside tail risks can prevent fire sales, while underweighting leads to welfare improvements in the financial system after uncertainty shock.

Keywords : Systemic risk, Probability weighting function, Spectral risk measures, Capital requirements, Macroprudential regulation