MACROECONOMICS

How to Calculate Systemic Risk Surcharges

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Chapter in Quantifying Systemic Risk (University of Chicago, 2013)

Current and past financial crises show that systemic risk emerges when aggregate capitalization of the financial sector is low. Individual firms lack the capital needed to operate, and others are unable to step into the breach. Systemic risk therefore can be broadly thought of as the failure of a significant part of the financial sector leading to a reduction in credit availability that has the potential to adversely affect the real economy.

Existing financial regulation such as the Basel capital requirements seeks to limit each institution's risk. However, unless the external costs of systemic risk are internalized by each institution, the institution will have the incentive to take risks that are supposedly borne by others in the economy. That is, each individual firm may take actions to prevent its own collapse but not necessarily the collapse of the entire system. It is in this sense that a financial institution's risk can be viewed as a negative externality on the system.

As a result, a growing part of the literature argues that financial regulation should focus on limiting systemic risk. In these frameworks, each institution must face a "surcharge" based on the extent to which it is likely to contribute to systemic risk. The idea is that such surcharges provide incentives for the financial firm to limit its contributions to systemic risk; that is, to lower its surcharge by reducing size, leverage, risk and correlation with the rest of the financial sector and the economy.

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