

Network Connectivity and Systematic Risk*

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Abstract

The need for understanding the propagation mechanisms behind the recent financial crises lead the increased interest for works associated with systemic risks and interconnections. In this framework, network-based methods have been used to infer from data the linkages between institutions. Part of the literature postulates that systemic risk is strictly related (if not equal) to systematic risk. In this paper, we elaborate on this hypothesis and introduce a modelling framework where systemic and systematic risks co-exist. The model is a variation of the traditional CAPM/APT model where networks are used to infer the exogenous and contemporaneous links across assets. The systematic risk component acts in an additive way on both the systematic and idiosyncratic risk components.

Keywords: CAPM, Volatility, Network, interconnections, systematic risk, systemic risk.

JEL Classification: G10, G12, F35, C58.

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