Which Are the SIFIs?

A *Component Expected Shortfall (CES) Approach* to Systemic Risk

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Abstract

In this paper we propose a *component approach* to systemic risk which allows to decompose the risk of the aggregate financial system (measured by *Expected Shortfall, ES*) while accounting for the firm characteristics. Developed by analogy with the *Component Value-at-Risk* concept, our new systemic risk measure is based on the *Component ES (CES)* and presents several advantages. It is a hybrid measure, which combines the *Too Interconnected To Fail* and the *Too Big To Fail* logics. CES relies only on publicly available daily data and encompasses the popular *Marginal ES* measure (Acharya et al., 2010). CES can be used to assess the contribution of a firm to systemic risk at a precise date but also to forecast its contribution over a certain period (out-of-sample). An empirical application along the lines of Brownlees and Engle (2012) verifies the ability of CES to identify the most systemically risky firms during the 2007-2009 financial crisis. We show that our measure identifies the institutions labeled as SIFIs by the Financial Stability Board (FSB).

- *Keywords*: Systemic Risk, Component Expected Shortfall, Marginal Expected Shortfall
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