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

• J.E.L Classification: C22, C53, G01, G32

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