

Tree Networks to assess credit risk contagion

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Abstract

We propose a two-layered tree network model that decomposes credit risk contagion into a global component, made up of inter-sector contagion effects, and a local component made up of inter-institutional linkages. The model is effectively applied to a database containing time series of daily CDS spreads of major European companies and shows the importance of monitoring both global and local channels to assess credit risk contagion. The empirical application reveals evidence of a high inter-sector and inter-institutional vulnerability during the global financial crisis and during the European sovereign crisis in 2011. The results further identify the Manufacturing sector as the most central, while, at the company level, financial institutions dominated during the 2008-2009 crisis. Overall, our findings show that variations in sectorial risk factors play a significant role in the creations of vulnerable environments for risk propagation.