**Traffic Lights for Systemic Risk Detection**

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**Abstract**

Girardi and Ergün (2013) (GE) modify Adrian and Brunnermeier’s (2016) Conditional Value at Risk (CoVaR) from the maximum loss of the system conditional on the financial institution being in its VaR, to the financial institution being at most at its VaR. Here we extend GE’s CoVaR computation using Filtered Historical Simulation and a DCC multivariate GARCH model of Engle (2002). Filtered Historical Simulation allows us to compute one-day ahead forecasts of CoVaR and ∆CoVaR. Additionally, we propose a new Traffic Light System of Systemic Stress that provides a comprehensive color-based classification that groups companies according to both the level of stress reaction of the system when the company is in distress and the level of stress of the company. Our Traffic Light System can be used to enhance the performance and robustness of current systemic risk measures.

**Keywords:** DDC, conditional correlations, CoVaR, FHS, Systemic Risk

**JEL codes:** G11, G21, G32, G38