A Theoretical and Empirical Comparison of Systemic Risk Measures

Sylvain Benoit*, Gilbert Colletaz*, Christophe Hurlin*, Christophe Pérignon†

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Abstract

We derive several popular systemic risk measures in a common framework and show that they can be expressed as transformations of market risk measures (e.g., beta). We also derive conditions under which the different measures lead to similar rankings of systemically important financial institutions (SIFIs). In an empirical analysis of US financial institutions, we show that (1) different systemic risk measures identify different SIFIs and that (2) firm rankings based on systemic risk estimates mirror rankings obtained by sorting firms on market risk or liabilities. One-factor linear models explain most of the variability of the systemic risk estimates, which indicates that systemic risk measures fall short in capturing the multiple facets of systemic risk.

Keywords: Banking Regulation, Systemically Important Financial Firms, Marginal Expected Shortfall, SRISK, CoVaR, Systemic vs. Systematic Risk.

JEL classification: G01, G32

*University of Orléans, Laboratoire d'Economie d'Orléans (LEO), Orléans, France. Emails: sylvain.benoit@univ-orleans.fr, gilbert.colletaz@univ-orleans.fr, christophe.hurlin@univ-orleans.fr.

†HEC Paris, France. Corresponding author. Email: perignon@hec.fr. We are extremely grateful to Tobias Adrian, Massimiliano Caporin, Laurent Clerc, Peter Feldhutter (EFA discussant), Eric Jondeau, Bertrand Maillet, Lasse Pedersen, Michael Rockinger, Olivier Scaillet, Mark Spiegel, Jérôme Taillard, David Thesmar, seminar participants at the Banque de France, and participants at the 2012 Annual Methods in International Finance Network Conference, 2012 Econometric Society European Meeting, 2012 EconomiX Workshop in Financial Econometrics, 2012 European Finance Association Meeting, 2012 French Finance Association Meeting, 2012 French Economic Association Meeting, 2012 Swissquote Conference on Liquidity and Systemic Risk, 6th CSDA International Conference on Computational and Financial Econometrics, and International Conference CREDIT 2012 for their comments. Financial support from the Deloitte - Société Générale Chair in Energy and Finance at HEC Paris (Pérignon) and from the Chair ACP/Risk Foundation: Regulation and Systemic Risk (Hurlin and Pérignon) is gratefully acknowledged.