

# Implied Risk Exposures

Sylvain Benoit\*

Christophe Hurlin\*

Christophe Pérignon<sup>†</sup>

October 1, 2014

## Abstract

We show how to reverse-engineer banks' risk disclosures, such as Value-at-Risk, to obtain an implied measure of their exposures to equity, interest rate, foreign exchange, and commodity risks. Factor Implied Risk Exposures (FIRE) are obtained by breaking down a change in risk disclosure into a market volatility component and a bank-specific risk exposure component. In a study of large US and international banks, we show that (1) changes in risk exposures are negatively correlated with market volatility and (2) changes in risk exposures are positively correlated across banks, which is consistent with banks exhibiting commonality in trading.

*Keywords:* Risk Disclosure, (Stressed) Value-at-Risk, Regulatory Capital, Systemic Risk

*JEL Classification:* G21, G28, G32

---

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

<sup>†</sup>HEC Paris, France. Corresponding author. Email: [perignon@hec.fr](mailto:perignon@hec.fr). We are grateful to an anonymous referee, Yacine Ait-Sahalia, Laurent Calvet, Serge Darolles, Darrell Duffie, Bruno Feunou, Eric Jondeau, Steven Ongena (associate editor), Jean-Paul Renne, Olivier Scaillet, David Thesmar, participants at the 2013 International Conference of the Financial Engineering and Banking Society, 2013 Meeting of the French Economic Association, 2013 Meeting of the French Finance Association, 2013 Meeting of the Northern Finance Association, and 7th International Conference on Computational and Financial Econometrics, as well as seminar participants at the University of Orléans for their comments. We also thank Bertrand Maillet for providing us with some of the data used in this paper. Financial support from the Deloitte - Société Générale Chair in Energy and Finance at HEC Paris and from the Chair ACPR/Risk Foundation: Regulation and Systemic Risk is gratefully acknowledged. Part of this study was completed while Sylvain Benoit was visiting the Cass Business School.