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Seong-Min Yoon

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# Systemic risk spillovers between stock returns of the banking and financial sectors: Evidence from developed and emerging Europe

Seong-Min Yoon

(E-mail: [smyoon@pusan.ac.kr](mailto:smyoon@pusan.ac.kr))

*Professor, Department of Economics,*

*Pusan National University, Busan, Republic of Korea*

## **Abstract**

This study explores the dynamics of non-linear dependence and spillovers between stock returns of banking and financial sectors in the context of both developed and emerging Europe. Our methodology involves copulas with time-varying parameters and the Conditional Value-at-Risk (CoVaR) method, utilising data from the bank stock returns. We found evidence of stronger symmetric dynamics than asymmetric dynamics in the dependence structure of the stock portfolios, which comprises banks. Notably, the Commerz bank and BNP Paribas, both from developed Europe, demonstrated the most significant downside spillover effects on the European banking sector. Intesa Sanpaolo and Banco Comercial Portugues exhibited the most substantial upside spillover effects. Additionally, the Deutsche Bank and BNP Paribas had the most significant downside spillover effects on the European financial sector, whereas Banco Comercial Portugues and UniCredit SpA had the most substantial upside spillover effects. As for emerging Europe, the Greek banks and the Sber bank had the most significant downside and upside spillover effects on the European banking and financial sectors, respectively.

**Keywords:** Bank stock returns; Developed and emerging Europe; Non-linear dependence; Spillovers; Copulas; CoVaR.