MA09-005 - Mathematics of Financial Risk Measurement and Stochastic Dependence

Abstract

Scientists and politicians share the view that conceptional failures in financial regulation and supervision were fundamental causes of the current global economic crisis. An appropriate risk measurement is of major importance for the determination of a necessary solvency capital for banks and insurers, from the perspective of supervision, risk management, credit rating and risk-sensitive capital allocation. Within this project we want to develop a consistent framework for the management of risk and assessment of regulatory capital and to provide rules to share risk in an optimal way. Underestimation of joint defaults is another fundamental cause of the crisis. Our second contribution is a deep analysis of statistical dependence in the financial market to incorporate the high risk caused by joint defaults of obligors into the future models.

Keywords:
mathematical finance, risk measures, capital requirement, stochastic dependence, credit ratings

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Further links to the persons involved and to the project can be found under
https://www.wwtf.at/funding/programmes/past/ma/MA09-005/