

高频连涨连跌收益率的相依结构以及CVaR分析

叶五一, 李磊, 缪柏其

中国科学技术大学统计与金融系, 安徽 合肥 230026

Dependence Structure and CVaR Analysis of Continuously Rising and Falling Return

YE Wu-yi, LI Lei, MIAO Bai-qi

Department of Statistics and Finance, University of Science and Technology of China, Hefei 230026, China

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摘要 本文通过高频分笔数据定义了高频连涨、连跌收益率,并对两者的边缘分布以及相关特征进行了分析。为了在连涨(连跌)条件下对连跌(连涨)收益率的风险特征或者条件分位点进行分析,首先对两种收益率进行了两种不同的配对,得到两者的联合序列,并应用Copula方法来分析对两种收益率之间的相依结构,进而基于联合分布对条件VaR进行估计。最后对美国市场的BAC和JPM两支股票进行了实证分析,并从CVaR的角度验证了上涨和下跌时的不对称性以及杠杆效应。

关键词: 分笔高频数据 连涨(连跌)收益率 Copula 条件VaR

Abstract: In this paper, the high-frequency continuously rising and falling return is defined from tick-by-tick return, and the marginal distributions and correlated character of above defined returns are analyzed. In order to analyze the financial risk of continuously rising (falling) return given continuously falling (rising) return, the continuously rising and falling return are paired first to obtain two joint series, and the dependence structure are analyzed by Copula method. The conditional Value at Risk is calculated from the estimated joint distribution. At last, an empirical analysis of two stocks called BAC and JPM from American Stock markets is presented, and the asymmetric property and leverage effect of rising and falling are also verified from the angle of CVaR.

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