

基于机制转换Copula模型的股市量价尾部关系研究

吴吉林

山东大学经济研究院, 山东 济南 250100

Nonlinear Relationship of Tail Dependence between Price and Trading Volume in Chinese Stock Markets

WU Ji-lin

The Center for Economic Research, Shandong University, Jinan 250100, China

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摘要 针对传统模型只能考察正常市场条件下的量价关系,本文构建了机制转换Copula模型来研究极端市场条件下我国股市量价间的尾部相依性,发现沪深两市收益率、绝对收益率与交易量间的尾部关系存在明显的非对称特征。高收益率、高绝对收益率对应着高交易量,而低收益率、低绝对收益率与高、低交易量不存在对应关系。另外,量价间尾部关系与机制状态有关,呈现明显的周期性动态特征与结构性变化,结构变化点对应着股市周期中较大调整的开始或结束。研究还发现沪市量价间尾部关系要强于深市,但深市收益率与交易量尾部在两机制间的变动更大,而两市绝对收益率与交易量间的尾部相依性在两机制间变动较小。

关键词: 量价关系 尾部相依性 机制转换 混合Copula

Abstract: Because traditional models only capture volume-price relation under normal market condition, a regime switching Copula model is proposed to explore the tail dependence of volume-price under extreme market conditions, and it is found that there exist significant and asymmetric volume-price dependence at extremes for Shanghai and Shenzhen stock markets. In particular, extremely (absolute)high returns tend to be associated with extremely large trading volumes, while extremely (absolute)low returns tend not to be related to either large or small volumes. Additionally, volume-price is regime-dependent and shows obvious cyclic behavior and structure change. The structure change points correspond to the starts or ends of big market adjustments. It is also found volume-price dependence in Shanghai market is much stronger than that in Shenzhen market, but return-volume dependence has a bigger range in the regimes, however, the absolute return-volume dependence of the two market range in regimes has little difference.

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