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基于TDAR模型的VaR估计方法及应用

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The Estimating Method of VaR Based on the Threshold Double AR Model and its Application

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摘要 文献中, 在险值估计方法一般基于线性假设, 但是该假设在实际中很难满足,需要为此提出非线性的在险值估计方法。与以往传统模型一般假定变化发生在"时间"点上不同,门限双自回归 (TDAR)因状态空间的不同而建立不同模型来对非对称性、结构变点等非线性现象进行刻画,并同时允许均值和波动率过程的结构变化。本文首次基于TDAR建立TDAR-VaR方法,并对上证指数和香港恒生指数进行了实证研究和对杠杆效应进行了分析。实证分析发现TDAR-VaR较好地预测了市场风险。

关键词： 门限双自回归模型　 在险值　 非线性　 杠杆效应

Abstract： In most literature, the measurement methods of VaR are based on the linear statement. However, in practice this assumption cannot be satisfied quite well. So it is needed to put forward the nonlinear estimation method of VaR. In contrast to the traditional model that allows model changes to occur in the "time" space, the threshold double AR model (TDAR) uses threshold space to model the nonlinear phenomena such as asymmetry and the structure change, and also allows the structure change of mean and volatility. In this paper, the method of TDAR-VaR is presented for the first time, and the empirical research and the leverage effect analysis on SZZS and HIS index are also covered. The empirical analysis shows that this method can predict the market risk very well.

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