

中国ETF基金价格“已实现”波动率、跟踪误差之间的Granger关系研究

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The Granger Relationship Between the Volatility and Tracking Error of the ETF in Chinese Stock Market with High Frequency Data

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摘要 在高频数据条件下,中国ETF基金价格“已实现”波动率与跟踪误差之间是否存在着因果关系并存在着信息的先导效应?基于“已实现”波动、跟踪误差计算方法及Granger因果检验过程、VAR模型等,本文对此进行了深入研究。研究结果认为:中国ETF基金价格“已实现”波动率与两种跟踪误差分别具有Granger因果关系,后者是前者的Granger原因;中国ETF基金价格“已实现”波动率序列与两种跟踪误差序列的同期及一、二阶滞后相关性较高,而跟踪误差滞后于“已实现”波动率;当ETF基金的跟踪误差受外部市场条件的某一冲击后,将给ETF基金价格“已实现”波动率带来同向的冲击,这一冲击具有一定的持续性和滞后性。

关键词: 高频 基金 跟踪误差 “已实现”波动率

Abstract: We had an empirical test of the relationship between the realized volatility and tracking error of the ETF with high frequency data. We construct the measurement method for the realized volatility and tracking error of the ETF in Chinese stock market with high frequency data. The two kinds of tracking error are constructed by the absolute value and standard deviation method respectively. The statistical character, Ljung-Q and ADF value of the three kinds of series are analyzed. It has a demonstration that the realized volatility and tracking error of the ETF in Chinese stock market has causality relationship, the latter is the cause for the former. Furthermore, with the cross correlation of the realized volatility and tracking error of the ETF in Chinese stock market, it concludes that the series of the realized volatility and tracking error of the ETF have correlation relationships, and the former is lagged the latter appreciably, and it demonstrated their causality relationship in the paper. By the method of VAR and impulse response function, it shows that the volatility of the tracking error of the ETF in Chinese stock will has effect on the realized volatility, which has the characteristic of promoter and persistency.

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