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Long memory and data frequency in financial markets

ABSTRACT

This paper investigates persistence in financial time series at three different frequencies (daily, weekly and monthly). The analysis is carried out for various financial markets (stock markets, FOREX, commodity markets) over the period from 2000 to 2016 using two different long memory approaches (R/S analysis and fractional integration) for robustness purposes. The results indicate that persistence is higher at lower frequencies, for both returns and their volatility. This is true of the stock markets (both developed and emerging) and partially of the FOREX and commodity markets examined. Such evidence against the random walk behaviour implies predictability and is inconsistent with the Efficient Market Hypothesis (EMH), since abnormal profits can be made using trading strategies based on trend analysis.

KEYWORDS: Persistence, long memory, R/S analysis, fractional integration