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STTOCK MARKET BEHAVOIR: A FRACTAL ANALYSIS OF SAUDI STOCK EXCHANGE

Abstract:

The Saudi stock market is analyzed, using rescaled range analysis to estimate the fractal dimension of price returns and to test the Efficient Market Hypothesis. In order to determine the predictability of a time series, Hurst Exponent for each time series is measured and we find that Saudi market is not totally random during the time period under study. There exists long range dependene in Saudi stock market returns. For most instances, it is determined that the Saudi stock market returns comply with neither the weak form of the efficient market hypothesis nor the random walk assumption. Additionally, for completeness and as part of literature review we bring out Bachelier-Einstein's
absolute Brownian dynamics, and Samuelson-Merton models of Martingale with geometric Brownian dynamic structure of equations.

Keywords:

Fractal analysis, Hurst exponent, Efficient Market Hypothesis, Saudi stock market