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A Study of Efficient Market Hypothesis in Indian Foreign Exchange Market

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Abstract

The Efficient Market Hypothesis (EMH) is a significant theory in the financial economics, positing that asset prices fully reflect all available information, thereby rendering it impossible to consistently achieve returns above the market average on a risk-adjusted basis. In the context of the Indian Foreign Exchange Market (IFEM), the study of the EMH holds particular significance given the growing integration of India into the global economy and the increasing prominence of the Indian Rupee (INR) as an international currency. As India's economy continues to expand and its financial markets become more interconnected with global markets, understanding the efficiency of the IFEM becomes essential for policymakers, investors, and market participants alike. The application of EMH within the context of the Indian Foreign Exchange Market (IFEM) is used in this paper to assess the efficiency of the IFEM by examining the nominal daily exchange rates of a basket of four major currencies—USD, EURO, GBP, and YEN—against the Indian Rupee (INR) from January 1st 2009, to December 31st 2023. This paper employs Lo-Mackinlay Variance Ratio Test to investigate the presence of serial correlation in the Forex Market in relation to the exchange rate return which serves as a key indicator of Market inefficiency. To examine the presence of unit root in exchange rate series, Augmented Dickey Fuller (ADF) is utilized which determines the fundamental aspect in time series analysis. The findings of the Variance Ratio and ADF test in the study shows stationarity pattern in the daily exchange rate data and indicates that IFEM operates in accordance with the weak form of EMH. This suggests that there is significant higher variability in short-term returns, indicating that it is not possible to predict the future price movement based on only historical data of exchange rate. This finding shows that the IFEM follows the weak form of Efficient Market Hypothesis.

Keywords

Efficient Market Hypothesis (EMH), Indian Foreign Exchange Market (IEFM), Exchange Rates, Market Efficiency, Lo-Mackinlay Variance Ratio, Augmented Dickey Fuller (ADF)