A Cross-Market Examination of the Efficient Market Hypothesis: Evidence from Indian and Global Stock Markets

RAHUL PANDEY School of Business, Galgotias University

Abstract- This research investigates the validity and relevance of the Efficient Market Hypothesis (EMH) across both Indian and international financial markets. The EMH suggests that stock prices fully reflect all available information, making it nearly impossible to achieve consistent excess returns. This paper explores the three forms of EMH—weak, semi-strong, and strong—using both historical stock data analysis and event studies. The paper incorporates insights from NSE, BSE, NYSE, and NASDAQ markets to evaluate how information dissemination, investor behaviour, and market efficiency differ across developed and emerging markets. Findings reveal that while some efficiency characteristics exist in both market types, anomalies, behavioural factors, and information asymmetries often challenge EMH, especially in emerging markets.

Indexed Terms- Efficient Market Hypothesis, EMH, NSE, BSE, NYSE, stock market efficiency, weak form, semi-strong form, strong form, investor behavior, market anomalies

I. INTRODUCTION

1.1 Background

Capital markets are expected to process information efficiently so that security prices always reflect their fair value. This idea forms the foundation of the Efficient Market Hypothesis (EMH), introduced by Eugene Fama (1970). The hypothesis challenges active portfolio management by suggesting that it's nearly impossible to outperform the market consistently.

1.2 Research Problem

While EMH is a well-established theory, its real-world application is often debated. Developed markets like

the U.S. exhibit higher efficiency compared to emerging markets like India, where information asymmetry, limited regulations, and behavioral biases still exist.

II. OBJECTIVES OF THE STUDY

- To understand the concept and classifications of EMH.
- To analyze the level of efficiency in Indian vs. international stock markets.
- To evaluate the presence of weak, semi-strong, and strong form efficiency using real data.
- To identify behavioral and structural factors affecting EMH in different economies.

III. RESEARCH QUESTIONS

1. To what extent are Indian and global stock markets efficient?

Answer:

Global stock markets, particularly those in developed economies like the United States (NYSE, NASDAQ), tend to exhibit higher degrees of market efficiency especially in weak and semi-strong forms—due to better regulatory frameworks, high liquidity, advanced trading technology, and well-informed investor bases. In contrast, Indian stock markets (NSE and BSE) display partial weak-form efficiency in large-cap stocks but are less efficient in small- and mid-cap segments due to lower liquidity, information asymmetry, and behavioural biases. Semi-strong and strong-form efficiencies are still evolving in India, showing that emerging markets are not yet fully efficient.

2. How do investors react to new public information? In developed markets, investors generally react quickly and accurately to public information such as earnings announcements, economic indicators, and regulatory updates. This is aligned with semi-strong form efficiency, where new information is rapidly absorbed into stock prices. In Indian markets, however, there is often a delay or overreaction in price adjustment. Retail investors sometimes lack access or understanding of the information and are influenced by market sentiment, leading to inefficient price reactions. Hence, semistrong efficiency is weaker in India.

3. Are there pricing anomalies that contradict EMH? Answer:

Yes. Numerous pricing anomalies contradict the EMH and suggest that markets are not perfectly efficient. Common examples include:

- January Effect
- Weekend Effect
- Momentum and Reversal Patterns
- Undervaluation of Small-Cap Stocks
- Post-Earnings Announcement Drift

Such anomalies have been documented in both Indian and global markets, but they tend to be more persistent in emerging markets due to behavioural biases, lack of arbitrage activity, and market frictions.

4. Is it possible to beat the market using fundamental or technical analysis?

Answer:

Under EMH, particularly in its strong form, no consistent outperformance of the market is possible through either fundamental or technical analysis. However, in practice:

- In efficient markets (e.g., U.S.), it is difficult to beat the market consistently after adjusting for risk and costs.
- In less efficient markets (e.g., India), some traders and investors do achieve excess returns using technical patterns or fundamental mispricing's, especially in small and mid-cap stocks where inefficiencies are more likely.

This suggests that while EMH holds theoretical validity, market-beating strategies can work in specific conditions, particularly in emerging or inefficient segments.

IV. LITERATURE REVIEW

- Fama (1970) defined EMH in three forms:
- Weak Form: Past price data is reflected in current prices.
- Semi-Strong Form: All publicly available information is reflected.
- Strong Form: All public and private (insider) information is already priced in.
- Grossman & Stiglitz (1980) argue perfect efficiency is impossible due to information costs.
- Lo and MacKinlay (1988) provide empirical evidence against random walk in stock prices.
- Indian researchers like Gupta (2005) and Mukherjee & Naka (1995) found mixed efficiency in Indian markets.

V. RESEARCH METHODOLOGY

- Type of Research: Analytical and empirical
- Markets Analyzed: NSE, BSE, NYSE, NASDAQ
- Data Range: 2018–2024
- Tools Used: MS Excel, SPSS for regression and autocorrelation tests
- Tests Applied:
- Runs Test & Autocorrelation for Weak-form efficiency
- o Event Study for Semi-strong efficiency
- Case Studies (Insider Trading) for Strong-form efficiency

VI. DATA ANALYSIS & INTERPRETATION

6.1 Weak-Form Efficiency Test

Used daily closing prices of NIFTY 50, S&P 500, and NASDAQ.

- NSE/BSE: Showed weak-form efficiency in largecap stocks but not mid/small caps.
- NASDAQ/S&P 500: Mostly efficient; returns appeared random.

6.2 Semi-Strong Form Test

Examined market reactions to major earnings announcements.

- Indian markets showed delayed response to earnings.
- U.S. markets reacted almost instantly—implying higher semi-strong efficiency.

© JUN 2025 | IRE Journals | Volume 8 Issue 12 | ISSN: 2456-8880

6.3 Strong-Form Efficiency Test

Insider trading cases (e.g., SEBI charges) showed that private information still yields abnormal profits in India—violating strong-form efficiency. In contrast, the U.S. has stricter controls (e.g., SEC actions) limiting such behavior.

VII. FINDINGS

- Indian markets display *partial weak-form* and *limited semi-strong* efficiency.
- U.S. markets show strong evidence of *semi-strong form* efficiency.
- Strong-form efficiency is absent in both markets.
- Market anomalies like momentum and overreaction still exist, challenging EMH.

VIII. DISCUSSION

- EMH provides a useful baseline, but real-world data often deviates due to behavioral biases, insider access, and delayed reaction times.
- Emerging markets face limitations like low liquidity, investor irrationality, and poor regulation, making full efficiency difficult to attain.

CONCLUSION

The Efficient Market Hypothesis holds relevance in theory but faces limitations in real markets, especially in India. Developed markets align more closely with EMH principles, but even they experience inefficiencies. Investors should not blindly trust in EMH and must consider anomalies, behavioral finance, and tactical strategies.

RECOMMENDATIONS

- Improve financial literacy and digital access for retail investors in India.
- Enhance regulatory frameworks to reduce insider trading and price manipulation.
- Develop more high-frequency and AI-driven trading infrastructure for price discovery.

LIMITATIONS OF THE STUDY

- Only selected indices and periods were used.
- Did not include macroeconomic shocks like COVID-19 explicitly.
- Focused more on secondary data and limited primary research.

FUTURE SCOPE

- Include behavioral finance frameworks to further test EMH.
- Explore market efficiency in crypto assets and AIbased trading platforms.
- Compare EMH validity pre- and post-pandemic.

REFERENCES

- [1] Fama, Eugene F. (1970). "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance*.
- [2] Grossman, S., & Stiglitz, J. (1980). "On the Impossibility of Informationally Efficient Markets." *American Economic Review*.
- [3] Lo, A. W., & MacKinlay, A. C. (1988). "Stock Prices Do Not Follow Random Walks." *Review* of Financial Studies.
- [4] Gupta, R. (2005). "Stock Market Efficiency in India: A Study of NSE and BSE." *Indian Journal of Finance*.
- [5] SEBI and SEC Reports on Insider Trading