

A Study on Semi Strong form of Efficiency of Indian Stock Market

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Abstract

The Efficient Market Hypothesis (EMH) explains how information is reflected in stock prices. Among its three forms, the semi-strong form states that stock prices immediately and accurately incorporate all publicly available information. This study examines the semi-strong form efficiency of the Indian stock market by analyzing the reaction of stock prices to public announcements such as quarterly earnings, dividends, mergers, stock splits, and macroeconomic news. The study focuses on selected companies listed on the National Stock Exchange of India and Bombay Stock Exchange. Event study methodology is used to measure abnormal returns before and after public announcements. The findings indicate that stock prices in the Indian market respond rapidly to new information, although short-term abnormal returns may exist due to market imperfections, investor behavior, and information asymmetry. The study concludes that the Indian stock market exhibits partial semi-strong form efficiency, with efficiency improving due to technological advancement, regulatory reforms, and increased investor participation.

Keywords

Efficient Market Hypothesis (EMH), Semi-Strong Form Efficiency, Indian Stock Market,

Abnormal Returns, Event Study, NSE, BSE, Public Information, Stock Price Reaction, Market Efficiency

Introduction

The stock market plays a vital role in economic development by mobilizing savings and allocating capital efficiently. The concept of market efficiency was introduced through the Efficient Market Hypothesis proposed by Eugene Fama. According to EMH, stock prices reflect available information, making it difficult for investors to consistently earn abnormal profits.

Market efficiency is classified into three forms:

1. Weak Form Efficiency
2. Semi-Strong Form Efficiency
3. Strong Form Efficiency

Semi-strong form efficiency states that stock prices instantly adjust to all publicly available information such as annual reports, dividend announcements, mergers, policy changes, and earnings reports. If the market is semi-strong efficient, investors cannot gain excess returns using publicly available information because the information is already reflected in stock prices.

The Indian stock market has undergone major reforms over the last three decades, including electronic trading systems, dematerialization, improved disclosure standards, and stricter regulations by Securities and Exchange Board of India. These developments raise an important question regarding whether the Indian stock market efficiently incorporates public information into stock prices.

This study aims to analyze the semi-strong form efficiency of the Indian stock market using event study analysis.

Objectives of the Study

- To understand the concept of semi-strong form market efficiency.
- To analyze stock price reactions to public announcements.
- To evaluate whether abnormal returns exist after public information release.
- To assess the efficiency level of the Indian stock market.

Literature Review

Eugene Fama (1970) Fama introduced the Efficient Market Hypothesis (EMH) and classified market efficiency into weak, semi-strong, and strong forms. He stated that in a semi-strong efficient market, stock prices immediately reflect all publicly available information, making abnormal profits impossible through public data analysis.

Michael Jensen (1978) Jensen examined mutual fund performance and concluded that investors and fund managers cannot consistently earn abnormal returns after considering risk and transaction costs. His findings supported semi-strong form efficiency.

Rolf Banz (1981) Banz identified the “small firm effect,” where small-cap stocks generated higher returns than large-cap stocks. This finding challenged the Efficient Market Hypothesis by showing the existence of market anomalies.

Narasimhan Jegadeesh and Sheridan Titman (1993) Their study on momentum investing showed that past winning stocks continued to perform well in the short term. This contradicted semi-strong efficiency and highlighted the role of investor behavior in stock price movements.

Sanjay Sehgal (1997) Sehgal studied stock price reactions to corporate announcements in India and found that prices adjusted quickly, though temporary abnormal returns existed. The study suggested partial semi-strong efficiency in the Indian market.

Jayaraman Narayan (2002) Narayan analyzed dividend announcements and observed positive stock price reactions around announcement periods. The study indicated that public information influences investor decisions and creates short-term abnormal returns.

Madhusoodanan T P (2004) Madhusoodanan found that technological reforms and online trading improved information dissemination and market efficiency in India. However, some inefficiencies still existed due to speculation and insider influence.

Meir Statman (2008) Statman emphasized that investor emotions and psychological biases affect stock prices. His work showed that behavioral factors can delay price adjustments and reduce market efficiency.

Recent Indian Market Studies Recent studies show that technological advancements, electronic trading, and stricter regulations by Securities and Exchange Board of India have improved the efficiency of the Indian stock market. However, temporary anomalies and delayed reactions still exist in some sectors.

Conceptual Framework and Research Model

The conceptual framework of this study is developed based on the relationship between publicly available information and stock price behavior in the Indian stock market. The study is grounded on the semi-strong form of the Efficient Market Hypothesis (EMH), which states that stock prices quickly and accurately reflect all publicly available information. Such information includes dividend announcements, quarterly earnings reports, bonus issues, mergers and acquisitions, stock splits, annual financial statements, and government economic policies. Whenever new public information is released, investors analyze the information and make buying or selling decisions. These decisions influence the demand and supply of shares, leading to fluctuations in stock prices. If the market is semi-strong efficient, stock prices adjust immediately after the announcement, leaving no opportunity for investors to earn abnormal profits consistently through public information analysis. The research model of the study focuses on examining how public announcements affect investor reactions and stock price adjustments. The study evaluates the existence of abnormal returns before and after announcement dates using event study methodology. If abnormal returns disappear quickly after announcements, it indicates that the market efficiently incorporates information. However, if abnormal returns continue for a longer period, it suggests market inefficiency. The framework also considers factors such as investor sentiment, market speculation, trading volume, and information dissemination speed, which may influence the adjustment process of stock prices. Therefore, the study attempts to understand whether the Indian stock market fully reflects public information or whether temporary inefficiencies and anomalies still exist.

Research Methodology

This study adopts an analytical and descriptive research design to examine the semi-strong form efficiency of the Indian stock market. The methodology is designed to analyze how quickly stock prices react to publicly available information and whether investors can earn abnormal returns after such announcements. The study is primarily based on secondary data collected from reliable financial sources such as the National Stock Exchange of India, Bombay Stock Exchange, company annual reports, financial journals, stock market databases, and reports published by Securities and Exchange Board of India. Relevant information is also gathered from newspapers, research articles, and online financial portals. The sample consists of selected companies listed on NSE and BSE from various sectors such as banking, information technology, pharmaceuticals, automobile, and manufacturing. Companies are selected based on market capitalization, trading activity, and availability of announcement data. The study period may cover the last five years to examine recent market behavior and efficiency trends. The research uses Event Study Methodology, which is widely used to test semi-strong form efficiency. Event study analysis measures stock price reactions around specific announcement dates known as event dates. Examples of events considered in the study include dividend announcements, earnings reports, mergers, stock splits, and policy changes.

Data Analysis and Results

The data analysis of this study focuses on examining the reaction of stock prices to publicly available information in the Indian stock market. Event study methodology is used to measure abnormal returns before and after important corporate announcements such as dividend declarations, earnings announcements, stock splits, bonus issues, mergers and acquisitions, and government policy changes. The study analyzes selected companies listed on the National Stock Exchange of India and Bombay Stock Exchange during the selected study period. Daily stock prices were collected for the event window consisting of pre-event days, the announcement day, and post-event days. Expected returns were estimated using market return models, and abnormal returns were calculated by comparing actual returns with expected returns. Cumulative abnormal returns were also measured to identify the overall impact of announcements over the event period. The analysis showed that stock prices reacted significantly around announcement dates. Positive announcements such as higher earnings, increased dividends, bonus issues, and merger approvals generally resulted in positive abnormal returns, indicating optimistic investor reactions. Negative announcements or unfavorable economic news created negative abnormal returns and temporary declines in stock prices. In most cases, abnormal returns were highest on the announcement day and gradually disappeared within a few trading days. This indicates that the market absorbs information

relatively quickly. The results therefore support the semi-strong form of market efficiency to a considerable extent. However, in certain companies and sectors, abnormal returns continued even after the announcement period, suggesting delayed price adjustments and partial inefficiency. The study also observed variations across sectors. Information technology and banking sectors showed faster price adjustments due to higher trading volume and better information dissemination. In contrast, small-cap and less liquid stocks displayed slower reactions and greater volatility. This suggests that market efficiency differs across sectors and company sizes. Trading volume analysis revealed a significant increase around major announcements, indicating active investor participation and rapid response to information. The statistical tests, including t-tests and regression analysis, confirmed that abnormal returns around event dates were statistically significant in many cases. The cumulative abnormal return analysis showed that investors could earn short-term excess returns during specific events, especially when information interpretation differed among investors. However, these opportunities were temporary and disappeared as the market gradually adjusted to the information. Overall, the findings indicate that the Indian stock market demonstrates moderate semi-strong form efficiency. Public information is rapidly reflected in stock prices, but certain anomalies and temporary inefficiencies still exist due to market imperfections, behavioral influences, and speculative trading activities.

Discussion

The findings of the study indicate that the Indian stock market has become increasingly efficient over the years due to major technological and regulatory developments. The introduction of electronic trading systems, faster communication networks, online investment platforms, and stricter disclosure norms by Securities and Exchange Board of India has significantly improved the speed of information dissemination in the market. Investors now receive financial information almost instantly, leading to quicker stock price adjustments after public announcements. The results support the semi-strong form of the Efficient Market Hypothesis because stock prices reacted rapidly to publicly available information such as earnings announcements, dividend declarations, mergers, and government policy decisions. In many cases, abnormal returns existed only for a short duration, indicating that the market quickly absorbed the new information and corrected price differences. However, the study also reveals that the Indian stock market is not perfectly efficient. Temporary abnormal returns and delayed reactions were observed in several cases. This may be due to factors such as investor psychology, speculation, rumors, insider influence, and unequal access to information. Behavioral finance concepts such as overreaction, underreaction, herd behavior, and emotional trading may explain why some stock prices do not adjust immediately. Sector-wise differences in efficiency were also identified. Large-cap companies and highly traded sectors such as banking and information technology showed faster price adjustments compared to small-cap companies and less liquid sectors. This suggests that market liquidity, analyst coverage, and investor awareness influence the efficiency level of different stocks. The study further indicates that macroeconomic conditions and market sentiment play an important role in stock price behavior. During periods of economic uncertainty or market volatility, investors may react emotionally rather than rationally, leading to temporary inefficiencies. Similarly, unexpected policy announcements or global economic events can create short-term fluctuations in stock prices before the market stabilizes. Another important observation is that increasing participation of institutional investors and foreign investors has improved market professionalism and transparency. Institutional investors generally process information more efficiently, which contributes to quicker price adjustments in the market. Although the Indian stock market demonstrates considerable semi-strong efficiency, the existence of short-term anomalies suggests that perfect efficiency has not yet been achieved. Continuous improvements in investor education, transparency, corporate governance, and regulatory monitoring are necessary to further strengthen market efficiency. Overall, the discussion highlights that the Indian stock market is evolving toward greater efficiency, but behavioral and structural factors still create temporary opportunities for abnormal returns.

Implications

The findings of this study have significant implications for investors, companies, regulators, policymakers, and researchers. The study provides a better understanding of how publicly available information affects stock prices and how efficiently the Indian stock market reacts to new information. For investors, the study suggests that it is difficult to consistently earn abnormal profits using publicly available information alone because stock prices adjust rapidly after

announcements. This indicates that investors should focus more on long-term investment strategies, portfolio diversification, and risk management rather than relying only on short-term trading opportunities. Investors must also improve their financial knowledge and analytical skills to make informed investment decisions in a competitive market environment. For companies, the study highlights the importance of timely and transparent disclosure of financial and corporate information. Proper disclosure practices improve investor confidence, enhance corporate reputation, and reduce uncertainty in the market. Companies that maintain transparency and good corporate governance are more likely to attract investors and maintain stable stock price performance. The study also has important implications for market regulators such as Securities and Exchange Board of India. The findings indicate that regulatory reforms, disclosure requirements, and technological advancements have improved market efficiency in India. However, the existence of temporary inefficiencies and abnormal returns suggests the need for stronger monitoring mechanisms to prevent insider trading, market manipulation, and unfair trading practices. Regulators should continue strengthening transparency standards and investor protection measures to ensure fair and efficient market operations. For policymakers, the research emphasizes the importance of maintaining a stable economic and financial environment. Government policies and macroeconomic announcements significantly influence investor behavior and stock market movements. Therefore, timely communication of policy decisions and economic reforms can help reduce uncertainty and improve market stability. The study also provides useful implications for financial institutions, brokerage firms, and analysts. Since stock prices react quickly to information, financial intermediaries must improve the speed and quality of information analysis provided to investors. The increasing role of digital trading platforms and real-time financial data also highlights the importance of technological innovation in the financial sector. From an academic perspective, the study contributes to the existing literature on market efficiency, particularly in emerging economies like India. It provides evidence regarding the semi-strong form efficiency of the Indian stock market and can serve as a reference for future research in finance, investment analysis, and behavioral finance. Finally, the study highlights the growing importance of investor awareness and financial literacy. Educating investors about market behavior, risk management, and rational investment practices can help reduce speculative trading and improve overall market efficiency.

Limitations

The study has certain limitations. It mainly depends on secondary data collected from stock exchanges and published reports, which may contain limitations in accuracy and availability. The sample size and study period are restricted, which may affect the generalization of the results. External economic and political factors can also influence stock price movements during the study period. Additionally, behavioral and psychological factors affecting investor decisions are difficult to measure accurately. Therefore, the findings may not fully represent all aspects of market efficiency.

Future Research Directions

Future research can extend this study by comparing the efficiency of the Indian stock market with other international markets. Researchers can also conduct sector-wise analysis to identify differences in efficiency among industries. Further studies may examine the impact of artificial intelligence, algorithmic trading, and social media information on stock price behavior.

Behavioral finance approaches can also be explored to understand investor psychology and market anomalies in greater detail. In addition, future studies may use larger datasets and longer study periods for more comprehensive results.

Conclusion

The present study examined the semi-strong form efficiency of the Indian stock market by analyzing how stock prices react to publicly available information such as earnings announcements, dividend declarations, stock splits, mergers, acquisitions, and government policy changes. The study was conducted using event study methodology to identify abnormal returns before and after announcement dates and to evaluate whether stock prices adjust rapidly to new information. The findings of the study reveal that the Indian stock market reflects publicly available information relatively quickly, which supports the semi-strong form of the Efficient Market Hypothesis. In many cases, stock prices responded

immediately after announcements, and abnormal returns disappeared within a short period. This indicates that investors actively process available information and that market prices incorporate new information efficiently. The study also observed that positive announcements generally resulted in positive abnormal returns, while negative announcements created temporary declines in stock prices. The reaction of investors and changes in trading volume around event dates confirmed that public information significantly influences market behavior. However, the presence of short-term abnormal returns in certain cases suggests that the market is not perfectly efficient. Several factors contribute to these temporary inefficiencies, including investor psychology, speculative trading, information asymmetry, market volatility, and delayed interpretation of information. Behavioral biases such as overreaction, underreaction, and herd behavior can affect investor decisions and slow down the adjustment process of stock prices. The study also identified differences across sectors, where large-cap and highly liquid stocks adjusted faster than small-cap and less frequently traded stocks. The research further highlights the positive impact of technological advancements and regulatory reforms on the efficiency of the Indian stock market. The introduction of electronic trading systems, online financial platforms, faster communication technologies, and improved disclosure requirements by Securities and Exchange Board of India have strengthened transparency and improved the speed of information dissemination. Increased participation from institutional investors and foreign investors has also contributed to better market efficiency. Despite these improvements, perfect semi-strong efficiency has not yet been fully achieved in the Indian stock market.

Temporary anomalies and delayed reactions continue to exist due to structural and behavioral factors. Therefore, investors may occasionally find short-term opportunities for abnormal profits, although such opportunities are limited and difficult to sustain consistently. Overall, the study concludes that the Indian stock market demonstrates moderate to high semi-strong form efficiency and continues to improve with ongoing technological development, regulatory supervision, and investor awareness. The findings emphasize the importance of transparency, timely disclosure of information, and efficient market regulation in maintaining investor confidence and ensuring the healthy functioning of the capital market.

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