



Changing trends in stock market with reference to the National Stock Exchange: Implications for Indian economy

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Abstract

The stock market, which is a critical component of any national economy, reflects the pulse of economic and commercial activities and investors' sentiment in the country and abroad. In India, the National Stock Exchange (NSE) plays a pivotal role in shaping the financial landscape and the capital market that is regarded as a critical financial instruments including short-term and long-term debt and equity, which are used by the government, corporations and financial institutions to raise money. Over the past two decades, the NSE has witnessed several transformations driven by technological advancements, regulatory reforms and changing investor behavior. These changes are driven by macroeconomic factors, global economic shifts, policy reforms, and evolving market structures. Apart from these, the capital market is also vulnerable to domestic political events and international crises. This research paper explores the changing trends in the Indian stock market, particularly focusing on the NSE, and analyzes their implications for the Indian economy. The study probes into various dimensions, such as market liquidity, financial inclusion, investment patterns and technological innovations, while examining the NSE's evolving role in supporting India's economic growth.

Keywords: Stock market, national stock exchange (NSE), Indian economy, technological advancements, regulatory reforms, investor behavior, market liquidity, financial inclusion

Introduction

The concept of 'Capital' is a key factor in economic growth and development. With the accumulation of capital, the state further generates various resources to expedite the process of economic growth and prosperity. Hence, economic growth and capital accumulation are often positively correlated. Adding capital to the economy facilitates faster growth, even in situations of shortage and deficit. Capital markets are the domains for financial instruments, including short-term and long-term debt and equity, which are used by the government, corporations and financial institutions to raise money. Hence, the utilization of capital is very crucial. Examples of well-developed markets include the Global Depository and American Depository. The capital market operates through raising new capital and trading in existing securities, with key constituents including stock exchanges, banks, investment trusts, specialized financial institutions, mutual funds, Post Office saving banks, non-banking financial institutions and international financial investors. The supply in the market comes from various sectors of the economy.

The stock market serves as a barometer of economic health, influencing investment, consumption, and economic policy. India's financial markets, particularly the National Stock Exchange (NSE), have undergone significant changes in recent years. The NSE, established in 1992, is one of the world's largest stock exchanges in terms of volumes of trading, making it a key player in the Indian economy. The establishment of the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) has significantly impacted capital markets. This research paper explores the recent trends shaping the stock market, evaluates their causes and examines the broader implications for India's economic trajectory.

Indian capital market: A historical perspective

The capital market in India has a history dating back to the 18th century when East India Company's securities were traded. The main trading centres were Bombay and Calcutta, with the former being the chief trading center. During the American Civil War in the mid 19th century, trading activities flourished, leading to a boom in share prices. The Bombay Stock Exchange was recognized in May 1927 under the Bombay Securities Contracts Control Act, 1925. During British rule, the capital market in India was not so well organized and developed; hence many foreign companies were forced to depend on the London Capital Market for funds. Post-independence, the market remained small due to strict regulations and the priorities on agricultural and public sector undertakings. This was due to the focus of the government on socialistic and welfare oriented policies. The stock market became popular as 'Satta Bazaar' in the 1950s, with speculators favoring certain stocks.

The 1960s saw two wars with neighboring Pakistan and droughts, leading to *bearish** trends. The 1970s saw *Badla* trading that resumed under the disguised form of 'hand-delivery contracts-A' group. However, the Dividend Restriction Ordinance in 1974 led to a slump in market capitalization and dilution of multinational company majority stocks in India. The FERA (Foreign Exchange Regulation Act) dilution created an equity cult in India that led to popular Scrips' like Reliance Textiles, that dominated trading at all Stock Exchanges ever since. Driven by the policy of liberalization and introduction of Convertible Debentures and Public Sector Bonds, the 1990s saw a significant growth in the securities market in India. The decade saw the emergence of liberalization and globalization, with new legislations like the Capital Issues (Control) Act, 1947 repealed in 1992, and the establishment

of SEBI as a regulator. This period saw the entry of Foreign Institutional Investors (FIIs), euro-issues, free pricing, new trading practices and new stock exchanges. However, few major capital market scams occurred during the same period, such as the 1992 Securities Scam, which led to major financial sector reforms in the equity market. The market underwent significant technological changes, with the National Stock Exchange and Over the Counter Exchange of India becoming the dominant players. The Indian capital market entered the twenty-first century with the Ketan Parekh Scam. This scam and the entry of FIIs emerged as major factors in shaping the Indian financial markets. These developments led to the discontinuation of *Badla*, rolling settlement, futures trading and internet trading. Today, the Indian capital market is more organized, integrated and mature. With advances in Information and Communications Technology (ICT) and the internet transforming the investor class, the nature and character of the Indian Stock Exchanges have undergone a sea change.

Stock exchange: Driving force of the economy

A stock exchange is defined under the stocks Contracts (Regulation) Act, 1956, as a company created to support, oversee and manage the purchase, sale and exchange of stocks. It offers marketability, pricing stability and an equitable assessment of securities as an organized security market. Additionally, it facilitates the transfer and movement of savings among investments and helps raise money for business and government. India's stock exchanges are essential to the nation's development and industrial expansion because they enable the government to raise domestic funds for development initiatives. They also encourage widespread investment in the capital structure of industries. A robust stock exchange can help India establish a socialist society with a more equitable distribution of income and wealth, as well as a property foundation. No contemporary democratic state can operate without a robust financial market to complement and supplement its endeavors to achieve economic growth. The stock exchanges hence play a critical role in this pursuit of the state. The Stock Exchange helps producers raise cash, investors save and store value in financial assets, millions of people are employed and eventually the citizens as a whole benefit from it. A subset of savers, who invest in commercial companies and non-banking financial intermediaries also benefit from it. The Stock Exchange is thought to be a perfect or almost ideal market that fosters entrepreneurship and broadens the pool of possible investors.

The relationship between stock markets and economic growth has been a subject of interest in financial research. Traditional models, such as the Efficient Market Hypothesis (EMH), suggest that stock prices fully reflect all available information, making them useful indicators of future economic conditions. Studies have demonstrated that stock market performance is often positively correlated with macroeconomic variables such as GDP growth, industrial production, and consumption levels. In India, a growing body of literature points to the NSE's expanding influence on the country's economic and financial systems. The National Stock Exchange of India (NSE) has been a key player in the evolution of the Indian capital market since its inception in 1992. The NSE has adapted to new trends and technologies, enhancing market accessibility, efficiency and

transparency. Its operations have been shaped by market expansions, legal changes and technological advancements. High-frequency trading, algorithmic trading and sophisticated trading platforms have transformed the execution of transactions. Blockchain technology has been used to increase security and transparency, aligning with global digitalization trends. The NSE has also been influenced by regulatory changes, such as stricter disclosure regulations and improved monitoring systems. The NSE has also expanded its influence into new market sectors, such as derivatives and equity indices. Accessibility has been a priority, with initiatives to raise investor awareness and increase market participation. The NSE has also embraced environmental, social, and governance (ESG) factors, encouraging businesses to adopt sustainable practices. Despite these challenges, the NSE remains committed to market expansion and technology improvements.

The NSE, since its inception, has revolutionized stock trading in India. Prior to the 1990s, the Indian stock markets were largely unregulated, inefficient and prone to manipulations. The NSE introduced electronic trading systems, which brought transparency, liquidity, and efficiency. Several academic papers have documented the NSE's role in improving market access and deepening financial markets, as well as its contribution to the rapid growth of equity culture in India. Technological innovations such as algorithmic trading, high-frequency trading (HFT), and block chain applications have fundamentally altered stock market operations. Several researches highlight the benefits and risks associated with these advancements. While technological developments have improved liquidity and reduced trading costs, they have also raised concerns about market volatility and systemic risks. The NSE's adoption of advanced technology has enabled it to handle high trading volumes, contributing to the rise of retail investors and democratization of the stock market.

Literature review

Technological advancements have profoundly impacted capital markets, enhancing efficiency and accessibility. According to Anand and Singh (2019) ^[1], the NSE's adoption of high-frequency trading and algorithmic trading has revolutionized trading practices, making them faster and more efficient (Anand & Singh, 2019) ^[1]. The introduction of advanced trading platforms, such as the NSE's National Exchange for Automated Trading (NEAT), has further facilitated seamless transactions (Gupta & Narayan, 2021) ^[4, 5]. The role of blockchain technology in enhancing market transparency and security has also been noted. Sharma and Sinha (2022) ^[14] explore how block chain can mitigate issues related to fraud and settlement delays, aligning with global trends towards digitalization in financial markets (Sharma & Sinha, 2022) ^[14]. These innovations reflect a broader trend of integrating cutting-edge technologies into trading and investment processes. Regulatory frameworks have significantly influenced the functioning of capital markets. The Securities and Exchange Board of India (SEBI) has implemented several reforms to enhance market integrity and protect investors. According to Patel and Kumar (2020) ^[10], these reforms include stricter disclosure requirements and enhanced surveillance mechanisms (Patel & Kumar, 2020) ^[10]. The NSE's proactive approach in adapting to these regulations has strengthened investor confidence and market stability. In their analysis, Das and

Choudhury (2018) ^[3] highlight how SEBI's regulatory changes, such as the introduction of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, have impacted market practices and investor behavior (Das & Choudhury, 2018) ^[3]. These reforms have been instrumental in improving transparency and fairness in the NSE. The NSE's expansion into new market segments reflects a trend of diversification in capital markets. The introduction of derivatives trading, including futures and options, has provided investors with more sophisticated tools for risk management. According to Gupta and Singh (2021) ^[4, 5, 17], the NSE's focus on equity indices like the Nifty 50 has also become a benchmark for both domestic and international investors (Gupta & Singh, 2021) ^[4, 5, 17]. The NSE's foray into commodities and currency markets further illustrates this diversification. According to Mehta and Sharma (2019) ^[9], these expansions cater to the evolving needs of investors and enhance the overall market ecosystem (Mehta & Sharma, 2019) ^[9]. Such diversification aligns with global trends towards broadening market offerings and increasing investment opportunities. Improving market accessibility has been a key focus for the NSE. The rise of online trading platforms and mobile applications has made it easier for investors to engage with the market. According to Joshi and Verma (2020) ^[7], these technological advancements have democratized trading, allowing retail investors to participate more actively (Joshi & Verma, 2020) ^[7]. Educational initiatives and investor awareness programs have also been pivotal in enhancing market accessibility. Patel and Sharma (2021) ^[11] discuss how the NSE's efforts to educate and inform investors have contributed to a more informed and engaged investor base (Patel & Sharma, 2021) ^[11]. These initiatives are crucial for promoting broader participation in the capital market.

The growing emphasis on Environmental, Social, and Governance (ESG) criteria reflects a broader trend in global capital markets. According to Rathi and Singh (2022) ^[12], the NSE's integration of ESG factors into its market framework aligns with the global shift towards sustainable investing (Rathi & Singh, 2022) ^[12]. This trend is indicative of a broader movement towards incorporating social and environmental considerations into investment decisions. However, despite its advancements, the NSE faces several challenges. Market volatility, cyber security threats and ongoing global economic uncertainties remain its primary concerns. Singh and Kumar (2021) ^[17] explore these challenges and suggest that continuous innovation and adaptation are essential for maintaining market stability and growth (Singh & Kumar, 2021) ^[17]. Looking ahead, the integration of Artificial Intelligence (AI) and Machine Learning (ML) is likely to play a significant role in shaping the future of trading and investment in India. According to Sharma and Agarwal (2023) ^[13], these technologies offer the potential to further enhance market efficiency and decision-making processes (Sharma & Agarwal, 2023) ^[13].

The literature on the National Stock Exchange highlights the dynamic nature of capital markets and the significant trends that are shaping their evolution. Technological innovations, regulatory reforms, market expansions and increasing focus on ESG criteria are key factors influencing the NSE's development. As the capital market continues to evolve, ongoing research and analysis will be essential for understanding these trends and their implications for global finance.

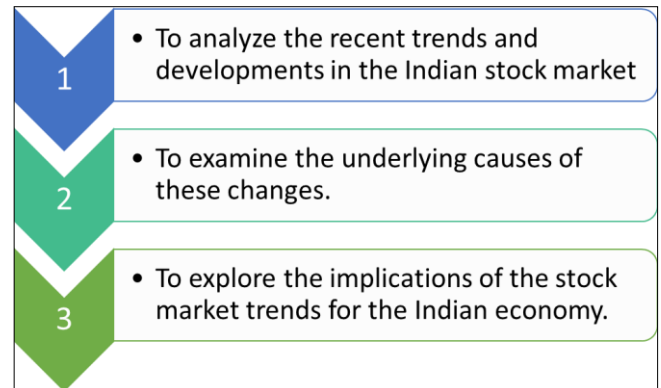


Fig 1: Objectives of the study

The above figure 1 highlights the different objectives of the present study that attempts to analyze the recent trends and developments in the Indian stock market, to examine the underlying causes of these changes. The paper has also explored the implications of the stock market trends for the Indian economy. This study utilizes a mixed-method approach, combining quantitative analysis of stock market data from the NSE and qualitative assessment of regulatory changes, market structure and technological innovations. Based on the review of literature the theoretical framework for the study was conceptualised with regard to the technological innovations that have significantly impacted the stock markets thereby enhancing its efficiency and accessibility. Data on market capitalization, trading volume, investor participation and sectoral indices have been drawn from NSE's archives and historical records. Additionally, discussions with the financial experts and a review of policy documents from the Securities and Exchange Board of India (SEBI) were conducted to gain insights into the regulatory environment and its impact on the market. Secondary sources, books, articles in the journals have been reviewed for further analysis.

Capital market and its challenges

In the above section, the paper examined key academic and industry sources that highlighted the importance of technological innovations, regulatory reforms, market expansions and other trends impacting the NSE. India's stock exchanges, established in the 18th century, are crucial for trading ownership or creditor ship securities, industrial securities and government securities. However, improper organization, regulation and control can lead to misuse by vested investors. A detailed study of the NSE, India's largest stock exchange, can identify key problem areas and provide recommendations for improving its functioning. Hence the present study aims to examine the following objectives. The capital market along with its stakeholders like investors, investment bankers, traders, financial experts together form the pivotal sector of the global financial system, and its evolution reflects broader economic and technological changes. The National Stock Exchange of India (NSE) is a significant player in this domain, serving as a case study for the shifting trends in capital markets. However, despite their crucial role in the economy, the capital markets face multiple challenges and are marked by pertinent problems emerging from market manipulation, institutional dysfunctions, systemic crisis and structural issues.

Relevance and academic significance

One of the most significant changes in the NSE has been the widespread adoption of technology. Algorithmic trading, block chain based clearing systems and improved data analytics have streamlined trading processes. These developments have increased market efficiency and liquidity while reducing transaction costs. The introduction of high-frequency trading (HFT) systems has further enhanced market liquidity, though concerns over market manipulation and systemic risk persist. The study also focuses on assessing market accessibility through data analysis of trading activity data, investor education surveys and ESG integration. The results show increased retail investor participation and educational impact, leading to more informed trading decisions and increased market engagement. ESG integration is also examined through ESG investment data and corporate ESG disclosures. The increase in ESG-compliant investment products indicates towards growing investor interest in sustainability and aligns with broader market trends. Improved ESG disclosures by companies indicate greater transparency and adherence to sustainability practices. Challenges include market volatility data, cybersecurity incident reports and technological advancements. Historical data on market volatility highlights periods of significant fluctuations, while cybersecurity measures highlight the need for robust security measures. Emerging technologies like artificial intelligence and machine learning offer potential solutions for market efficiency and risk management.

Implications for the Indian economy

- Increased efficiency in stock trading can encourage greater investment in equities, leading to an enhanced capital formation process. This has a positive impact on industrial expansion, job creation and economic growth. However, heightened market volatility due to HFT could present challenges for economic stability.
- The growing participation of retail investors in the NSE reflects greater financial inclusion and broadening of the investor base. This shift aids in the deepening of capital markets and enhances domestic savings' role in financing economic growth. However, the influx of inexperienced investors may exacerbate market volatility, requiring stronger investor protection measures.
- The rise of sectoral indices allows for more targeted investments, which can channel capital into high-growth industries, thereby promoting industrial development and job creation. The focus on ESG investments suggests a shift towards sustainable growth, which could position India favorably in global markets by attracting international investment.
- Stronger regulatory frameworks improve investor confidence, leading to increased foreign direct investment (FDI) and portfolio inflows. Enhanced market stability, achieved through regulatory oversight, is crucial for long-term economic growth and maintaining financial stability in a rapidly globalizing economy.

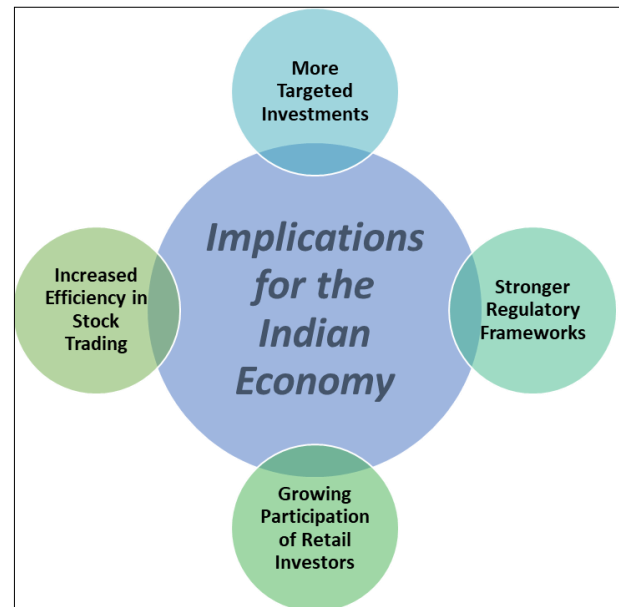


Fig 2: Implications for Indian Economy

Over the past decade, retail investor participation in the Indian stock market has surged, driven by factors such as increased internet penetration, mobile trading apps, and more accessible financial education. Demonetization (2016) and the COVID-19 pandemic (2020-21) were major triggers that pushed individuals to seek better returns in equities, resulting in a noticeable shift from traditional savings instruments like fixed deposits to the stock market. Sectoral indices, such as those focused on information technology (IT), pharmaceuticals, and banking, have gained prominence, reflecting sector-specific economic trends. In addition, environmental, social and governance (ESG) considerations are becoming a focal point for investors. Companies listed on the NSE have begun to align with global sustainability trends, integrating ESG criteria into their reporting and business practices. The role of regulatory bodies such as the SEBI has been critical in maintaining market integrity and investor confidence. Reforms including tighter corporate governance standards, the introduction of Real Estate Investment Trusts (REITs), and the liberalization of foreign portfolio investment have contributed to greater transparency and stability in the Indian stock market. The NSE has undergone significant transformation, driven by technological innovation, increased retail participation, and regulatory changes. These trends have had broad implications for the Indian economy, influencing everything from capital formation to industrial growth. However, challenges such as market volatility, regulatory enforcement, and the risk of market manipulation remain concerns that policymakers must address to ensure the sustainable growth of the stock market.

Conclusion

Capital plays a crucial role in economic growth, as it is the primary factor in the production and distribution of goods and services. The process of capital accumulation is often seen as a significant correlation between economic growth and capital accumulation, even in times of shortage. The utilization of capital is also crucial for accelerating production growth. The NSE, as a central pillar of India's financial architecture reflects the changing dynamics of the Indian stock market. Technological advancements, rising

retail participation and evolving investor preferences have reshaped the landscape, creating both opportunities and challenges for the macro economic landscape of India. These trends highlight the critical role of policy intervention and regulatory oversight in fostering a stable, inclusive, and dynamic financial environment.

The National Stock Exchange (NSE) has experienced transformative changes in recent years, driven by technological advancements, regulatory reforms, market expansions, and a growing emphasis on sustainability. These changes reflect broader global trends in capital markets and have had substantial implications for trading practices, market efficiency, and investor engagement. Further, SEBI's regulatory reforms have positively impacted the NSE by improving compliance, disclosure standards, and investor protection. These reforms have strengthened market integrity and reduced instances of fraud and manipulation, contributing to a more stable and transparent trading environment. The NSE's expansion into derivatives, commodities, and currency markets has broadened investment opportunities and improved market dynamics. The introduction of new market segments has provided investors with a wider range of tools for risk management and portfolio diversification, reflecting a trend towards greater market complexity and depth. The growing emphasis on Environmental, Social, and Governance (ESG) criteria aligns with global trends towards sustainable investing. The integration of ESG factors into the NSE's framework has influenced investment trends and promoted responsible corporate practices, contributing to long-term market sustainability.

Policy recommendations

The study recommends few measures to improve market efficiency and stability in the financial sector.

- Increased retail participation necessitates better financial literacy programs and enhanced regulatory oversight to prevent market manipulation.
- Encouraging more companies to adopt ESG practices can improve long-term sustainability and attract foreign investors to focus on responsible investing.
- While technology has improved efficiency, regulators must closely monitor the risks associated with HFT and algorithmic trading to mitigate market volatility and systemic risks.
- The study further suggests strengthening technological oversight, enhancing regulatory adaptation, promoting market diversification, improving investor education, integrating ESG practices, addressing cybersecurity concerns and volatility, and
- Leveraging emerging technologies is the critical game changer and hence should be adopted in an expeditious manner.

By implementing these recommendations, the NSE can build on its achievements, address existing challenges, and continue to evolve in alignment with global capital market trends. This in turn will help build a more efficient, transparent and inclusive capital market, benefiting all stakeholders involved, besides contributing to the national economic development agenda. Despite these advancements, the NSE faces ongoing challenges such as market volatility, cyber security threats, and the need for continuous technological innovation. The future of the NSE will likely

to be shaped by emerging technologies, which offer potential solutions for enhancing market efficiency and addressing existing challenges. With the adoption of the progressive reforms, the stock market will become a vital engine of India's economic growth, providing both domestic and foreign investors with opportunities to contribute to the country's development trajectory.

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