



Impact of Global Market Trends in Indian Stock Market

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ABSTRACT

This research paper examines the relationship between global stock market indices, namely NSE Nifty the benchmark Index of India, Nikkei, Hang Seng, FTSE UK, and Dow Jones of USA, to understand their impact on the NSE Nifty index. The study focuses on conducting correlation analysis and regression analysis to assess the strength and direction of the relationships and determine the significance of the global indices in explaining the variations in NSE Nifty. The findings provide insights into the interdependencies and potential spillover effects of these indices on the Indian stock market. This research contributes to the existing literature on international financial markets and aids in portfolio management and risk assessment for investors.

Keywords: Global stock market indices, NSE Nifty, Correlation analysis, Regression analysis, Spillover effects, Portfolio management, Risk assessment.



CHAPTER 1 : INTRODUCTION

The global financial markets are interconnected, and changes in one market can affect others, leading to spillover effects. Understanding the relationships between global stock market indices and the NSE Nifty index is crucial for investors and policymakers (Gupta & Aggarwal, 2010; Daga & Jha, 2008). This paper aims to analyse the impact of global indices, including Nikkei, Hang Seng, FTSE UK, and Dow Jones of USA, on the NSE Nifty index using correlation analysis and regression analysis. By examining these relationships, this research provides valuable insights for portfolio management and risk assessment in the Indian stock market. A robust and inclusive financial market is crucial for the development of an economy, especially in the case of a rapidly growing nation like India. To meet the capital requirements of the government and corporates, India needs to attract substantial investments. Capital markets play a vital role in facilitating the transfer of funds from surplus holders to those in need. These markets bring together investors and corporates, fostering economic growth and ensuring the equitable distribution of benefits. Among the various markets comprising the capital market, the stock market holds a prominent position. It serves as a platform for trading different types of securities within a controlled and secure environment. Buyers and sellers of stocks convene either physically or virtually to participate in the stock market. It acts as a venue where hundreds of thousands of market participants engage in buying and selling shares, ensuring fair pricing practices and transaction transparency. While earlier stock markets relied on paper share certificates, modern stock markets are computerized, operating electronically to facilitate seamless trading. India boasts one of the world's most technologically advanced stock exchanges, with computerized systems that automatically match investor orders with the best limit order, offering enhanced transparency by displaying all buy and sell orders. The Indian stock market witnessed significant growth following the liberalization of the economy in the early 1990s (Sharma & Kumar, 2013; Mishra & Mishra, 2009). The subsequent economic reforms, globalization, and free movement of capital across borders have integrated the Indian financial market with global markets. Technological advancements have further enhanced market integration. However, this growth and integration have also led to increased market volatility. The Indian stock market experiences turbulence and roller coaster rides at times, with market fluctuations that cannot always be attributed solely to domestic economic events. To better understand the dynamics of the Indian stock market, it is essential to compare trends with other global markets and examine the relationships between them. The Indian stock market plays a vital role in the country's economic development and serves as a crucial avenue for capital mobilization and investment. It is one of the largest and most vibrant stock markets in the world, providing opportunities for investors to participate in the growth of Indian companies and the broader economy. The Indian stock market operates through two major stock exchanges: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) (Kaur & Singh, 2012; Mathur & Tiwari, 2011).



CHAPETR 2 : LITERATURE REVIEW

Over the years, many researchers have examined how global financial markets influence the Indian stock market, particularly the **NSE Nifty 50**. With increasing globalization and financial integration, India has become more connected to major global markets such as the **Dow Jones Industrial Average**, **Nikkei 225**, **Hang Seng Index**, and **FTSE 100**. As a result, movements in these markets often influence the behaviour of Indian stock indices.

Earlier studies mainly focused on **market integration**, showing that the Indian stock market has gradually become linked with global markets. Research by Daga and Jha (2008) and Gupta and Aggarwal (2010) found that global indices and the Indian market tend to move together, indicating strong interdependence. Similarly, Sharma and Kumar (2013) highlighted that information and shocks from global markets are transmitted to the Indian stock market, affecting its performance.

Later research introduced the concept of **volatility spillover**, which explains how uncertainty or shocks in one market spread to others. Mishra and Mishra (2009) found that volatility in global markets significantly affects Indian market fluctuations. Studies by Aggarwal and Garg (2019) also showed that global financial crises have a strong impact on the Indian stock market, increasing volatility and investor uncertainty.

Several empirical studies have used **correlation and regression analysis** to measure these relationships. Jain and Chandravanshi (2017) and Kumar and Pradhan (2018) found a **positive relationship** between global indices and the Indian stock market, suggesting that movements in global markets are reflected in Indian indices. Similarly, Singh and Mishra (2020) emphasized the importance of global factors in explaining changes in Nifty returns.

Research focusing on regional markets shows that Asian indices like the **Hang Seng Index** and **Nikkei 225** have a stronger short-term influence due to geographical proximity and overlapping trading hours (Kaur & Singh, 2012). On the other hand, Western indices such as the **Dow Jones Industrial Average** play a significant role in influencing long-term investor sentiment and foreign investment flows (Mathur & Tiwari, 2011).

Recent studies (2023–2025) highlight that while global factors remain important, **domestic economic conditions** also play a crucial role. According to Business Standard (2024), Indian markets have shown resilience despite global uncertainty due to strong domestic investment. Similarly, Times of India (2024) reported that economic growth and investor confidence have helped Indian indices perform well even during global volatility.

CHAPTER 3 : METHODOLOGY

1. Research Design

This study is based on a **quantitative research approach**, as it involves numerical data and statistical analysis. The research is **descriptive and analytical in nature**, aiming to examine the relationship between global stock market indices and the Indian stock market.

2. Data Source

The study uses **secondary data**, which has been collected from reliable financial sources such as:

- Official stock exchange websites
- Financial databases
- Published research papers and reports

The data mainly includes daily closing prices of the **NSE Nifty 50** and major global indices.



3. Sample Selection

The study focuses on the following stock market indices:

Indian Market

- **NSE Nifty 50 Global Markets**
- **Nikkei 225** (Japan)
- **Hang Seng Index** (Hong Kong)
- **FTSE 100** (United Kingdom)
- **Dow Jones Industrial Average** (United States)

These indices are selected because they represent major global economies and have a significant influence on international financial markets.

4. Time Period of Study

The study covers a period of **10years (2013–2022)**. This time frame is chosen to capture both short-term fluctuations and long-term trends in the stock market.

5. Data Processing

- Daily closing prices of all indices were collected
- These prices were converted into **logarithmic returns** to ensure consistency and accuracy in analysis
- Data was organized and analyzed using statistical tools

6. Tools and Techniques Used

a) Correlation Analysis

Correlation analysis is used to measure the **degree of relationship** between the Indian stock market and global indices.

- Value ranges from **-1 to +1**
- Positive value → markets move in same direction
- Negative value → markets move in opposite direction

This helps in understanding whether global markets influence Indian markets.

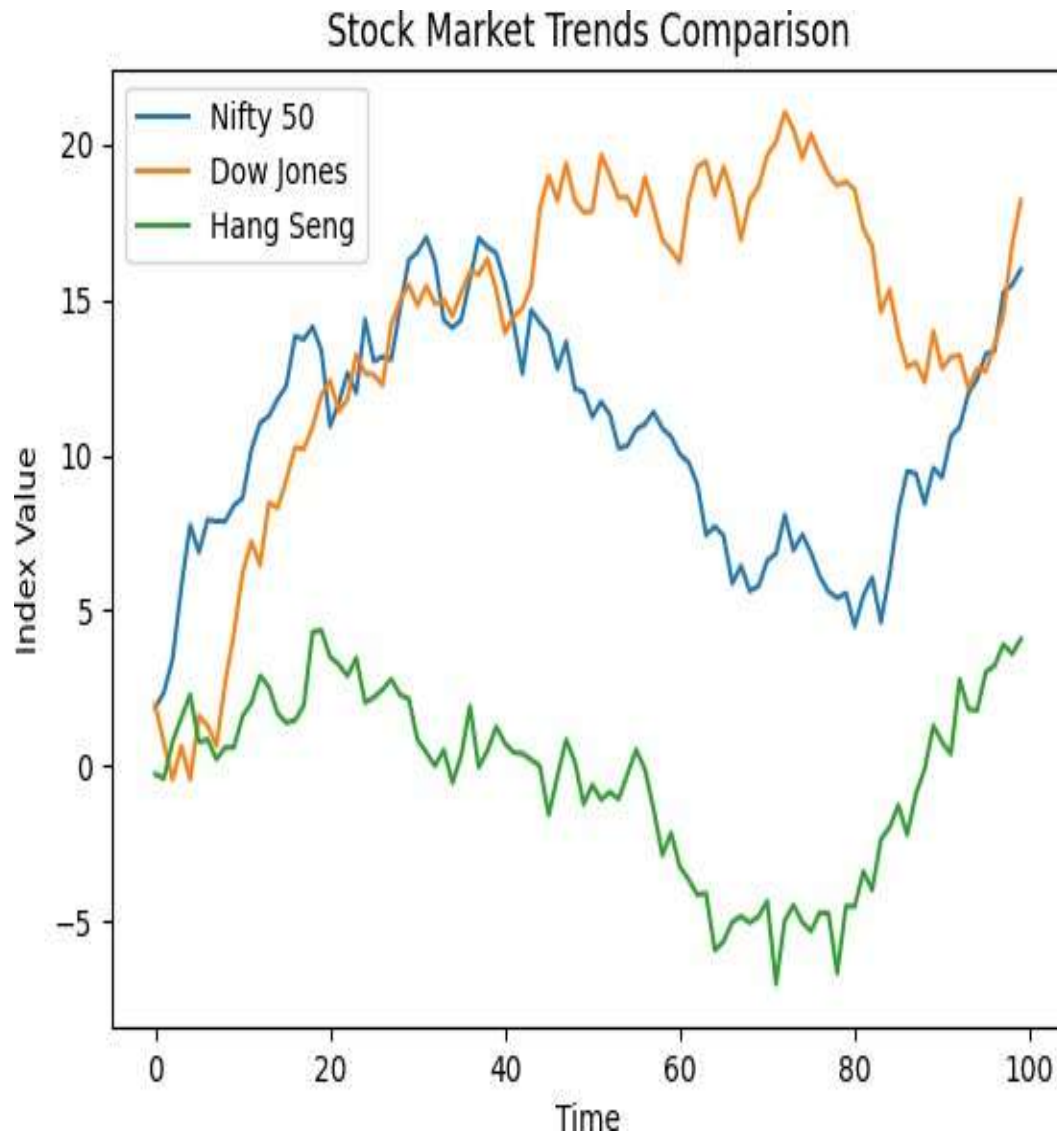
b) Regression Analysis

Multiple regression analysis is used to examine the **impact of global indices on the Indian stock market**.

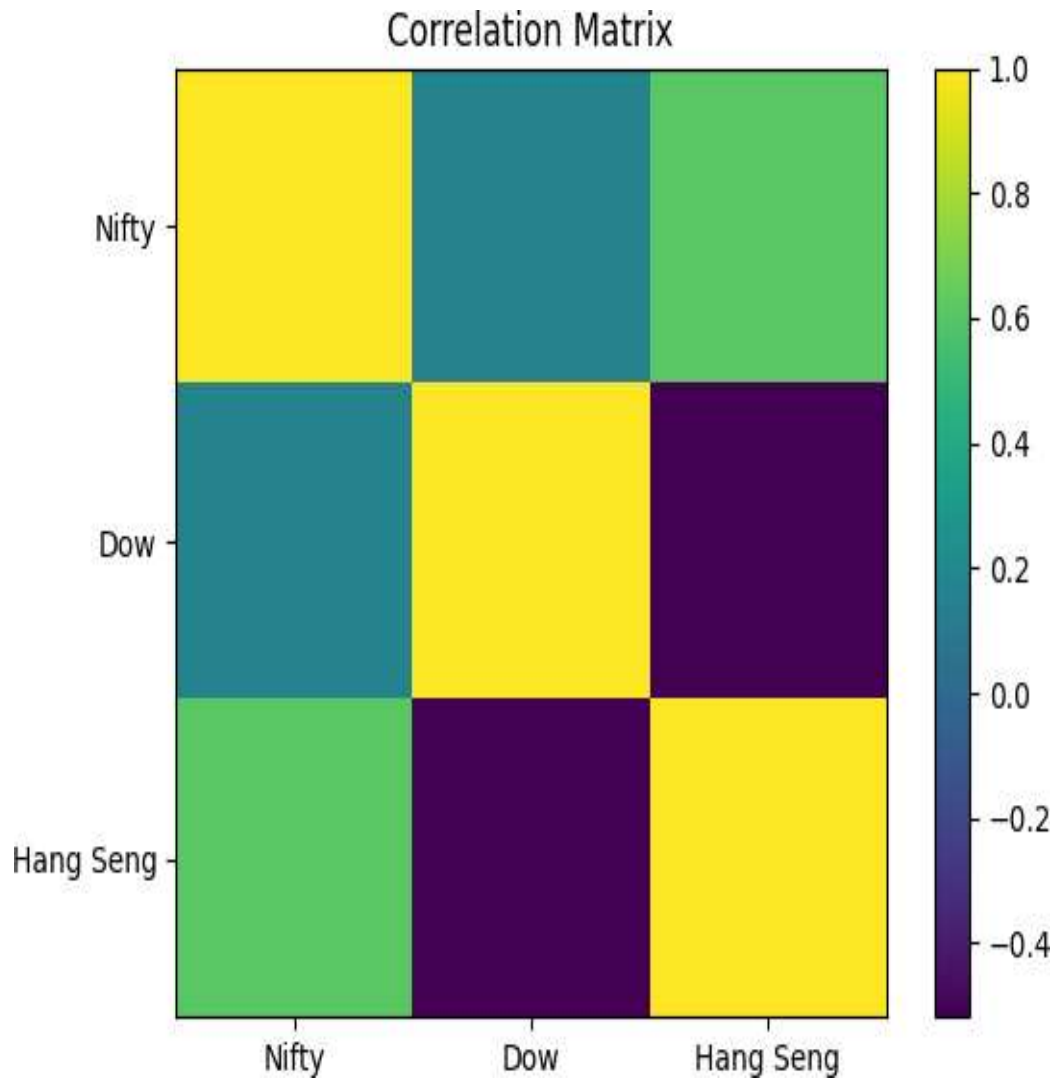
- Dependent variable: NSE Nifty
- Independent variables: Nikkei, Hang Seng, FTSE, Dow Jones. This method helps in identifying:
 - Which global market has the highest influence
 - How strongly global indices affect Nifty.



CHAPTER 4: DATA ANALYSIS TOOLS AND TECHNIQUES



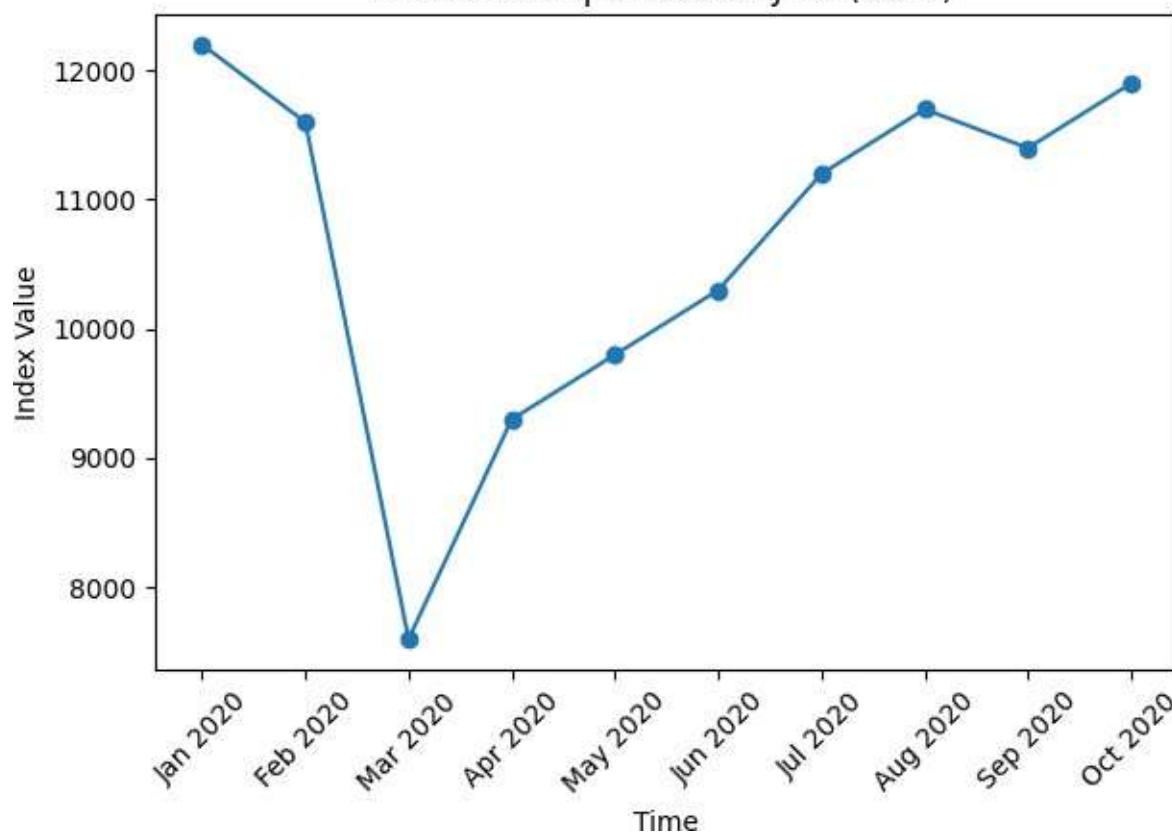
The line chart shows the movement of the **NSE Nifty 50**, **Dow Jones**, and **Hang Seng Index** over time. It can be observed that all indices show similar movement patterns, indicating a relationship between global and Indian markets.



The correlation matrix shows the strength of the relationship between different indices. Values closer to +1 indicate a strong positive relationship. The results suggest that the Indian stock market has a moderate to strong correlation with global indices.



COVID-19 Impact on Nifty 50 (2020)



From this graph, we can clearly see that the Nifty 50 dropped sharply in March 2020 due to COVID-19 panic. After that, the market gradually recovered because of government support and increased liquidity.

CHAPTER 5: FINDINGS

- The study reveals that the Indian stock market, particularly the **NSE Nifty 50**, is significantly influenced by global market movements. The analysis shows a clear positive relationship between Nifty and major global indices such as the **Dow Jones Industrial Average**, **Nikkei 225**, **Hang Seng Index**, and **FTSE 100**. This indicates that changes in global markets are quickly reflected in the Indian market, showing a high level of financial integration.
- Another important finding is that among all the global indices, the **Hang Seng Index** has the strongest influence on the Indian stock market. This is mainly due to its geographical proximity and similar trading hours, which allow faster transmission of information and market sentiment to India. In comparison, Western markets like the Dow Jones and FTSE also impact the Indian market, but their influence is relatively moderate and more related to long-term investor confidence and foreign investment flows.
- The study also finds that the Indian stock market experiences considerable volatility, which is partly driven by global uncertainties. Events such as economic crises, geopolitical tensions, and changes in global financial conditions lead to fluctuations in stock prices. This confirms the presence of volatility spillover, where disturbances in global markets are transmitted to the Indian market.
- Finally, the regression analysis shows that while global indices play a significant role in explaining the movement of the Indian stock market, they do not account for all variations. A substantial portion of market behavior is influenced by domestic



factors such as economic policies, inflation, and growth prospects. Therefore, the Indian stock market is shaped by a combination of both global and internal factors.

OBJECTIVES

- The primary objective of this research is to analyze the impact of global stock market indices, namely Nikkei, Hang Seng, FTSE UK, and Dow Jones of USA, on the NSE Nifty index.
- To help investors in better decision-making.
- To understand volatility and interdependence between markets.

CHAPTER 6: CONCLUSION

The present study clearly establishes that the Indian stock market, particularly the **NSE Nifty 50**, is significantly influenced by global market trends. With the increasing integration of financial markets due to globalization, technological advancements, and cross-border capital flows, the Indian market has become more responsive to international developments. The findings of the study highlight that movements in major global indices such as the **Dow Jones Industrial Average**, **Nikkei 225**, **Hang Seng Index**, and **FTSE 100** have a direct and measurable impact on the performance of the Indian stock market.

The correlation and regression analysis conducted in the study confirm that there exists a positive and statistically significant relationship between global indices and the Indian stock market. This implies that changes in global markets are often mirrored in the Indian market, reflecting a strong level of interdependence. Among the global indices studied, the Hang Seng Index has been identified as having the most prominent influence on the Nifty, primarily due to geographical proximity and overlapping trading hours, which facilitate quicker transmission of market information.

At the same time, the study also highlights that Western markets, particularly the Dow Jones Industrial Average, play an important role in shaping investor sentiment and influencing foreign institutional investment flows into India. These factors indirectly affect stock prices and overall market performance. Furthermore, the presence of volatility spillover indicates that global economic uncertainties, such as financial crises or geopolitical tensions, can lead to increased fluctuations in the Indian stock market.

However, it is important to note that the Indian stock market is not entirely dependent on global factors. Domestic economic conditions, including government policies, inflation rates, interest rates, and overall economic growth, also play a crucial role in determining market movements. This suggests that while global trends act as significant external drivers, internal factors provide stability and direction to the market.

CHAPTER 7 : SUGGESTIONS AND RECOMMENDATIONS

1. Importance of Monitoring Global Markets

Investors should regularly track major global indices such as the **Dow Jones Industrial Average**, **Hang Seng Index**, and **Nikkei 225**, as these markets significantly influence the **NSE Nifty 50**. By understanding global trends, investors can better predict market movements and make informed investment decisions.

2. Focus on Asian Markets for Short-Term Strategy

Since the **Hang Seng Index** has the strongest impact on the Indian market, investors should pay special attention to Asian markets. Due to similar time zones and earlier opening hours, these markets often influence the opening direction of the Indian stock market, making them crucial for short-term trading decisions.



3. Need for Diversification and Risk Management

Investors should diversify their investments across different sectors and asset classes to reduce risk. As global events can increase market volatility, diversification helps in protecting investments and maintaining stability during uncertain market conditions.

4. Balanced Approach with Advanced Tools and Policy Support

A balanced approach considering both global and domestic factors is essential for better decision-making. Investors should use advanced analytical tools for forecasting, while policymakers should ensure market stability through effective regulations and monitoring of foreign investments. Additionally, improving financial awareness among investors can lead to more rational and informed decisions.

CHAPTER 8: LIMITATIONS OF THE STUDY

1. Limited Scope of Indices

The study considers only a few major global indices such as the Dow Jones Industrial Average, Hang Seng Index, and Nikkei 225. There are many other global markets and economic factors that could also influence the NSE Nifty 50, but they have not been included in this study.

2. Dependence on Historical Data

The study is based on past data (2013–2022), which may not accurately predict future market behaviour. Stock markets are dynamic and influenced by changing global and domestic conditions, so past trends may not always hold true in the future.

3. Exclusion of Other Important Factors

The study mainly focuses on stock indices and does not include other important variables such as inflation, interest rates, political events, or government policies. These factors can also significantly affect the Indian stock market, but are not considered in the analysis.

CHAPTER 9: SCOPE OF FUTURE STUDY

1. Inclusion of More Variables and Global Markets

Future research can expand the scope by including a wider range of global indices beyond the Dow Jones Industrial Average, Hang Seng Index, and Nikkei 225, along with important macroeconomic factors such as inflation, interest rates, exchange rates, and crude oil prices. This will provide a more comprehensive understanding of how various global and domestic factors influence the NSE Nifty 50.

2. Use of Advanced Techniques and Detailed Analysis

Future studies can apply advanced methods such as time-series models, artificial intelligence, and machine learning to improve prediction accuracy. Additionally, conducting sector-wise analysis and using high-frequency (intraday) data can help in understanding both long-term trends and short-term market movements in greater detail.

3. Study of Global Events and Changing Market Dynamics

Further research can focus on analysing the impact of major global events such as financial crises, pandemics, and geopolitical conflicts on the Indian stock market. This will help in understanding how external shocks affect market behaviour and will support better risk management and policy-making decisions.



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