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## International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

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# Cointegration of Indian Stock Market with Global Stock Markets: An Empirical Study

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**ABSTRACT:** The rapid integration of global financial markets has significantly increased the interdependence among national stock exchanges, thereby influencing investment decisions, portfolio diversification strategies, and financial stability. Investors are increasingly exposed to global market movements, making it essential to understand the extent of integration between domestic and international markets. This study examines the long-run relationship between the Indian stock market and selected global stock markets using correlation and cointegration concepts. The research adopts a descriptive and analytical design and is based on secondary data collected for the period January 2025 to March 2025 from major stock exchange websites and financial databases. Statistical tools such as correlation analysis are employed to assess market linkages

The findings reveal a strong positive relationship between the Indian stock market and major global markets, particularly European and London markets, indicating significant long-term co-movement. The study contributes empirical evidence on international market integration and highlights important implications for investors and policymakers in the context of portfolio diversification and risk management.

**KEYWORDS:** Stock Market Integration, Cointegration, Global Markets, Indian Stock Market, Correlation Analysis, Portfolio Diversification

## I. INTRODUCTION

Stock market integration has become a defining feature of the modern global financial system. Advancements in technology, liberalization of capital markets, and increased cross-border capital flows have resulted in greater interdependence among global stock markets. As a consequence, financial shocks originating in one country can rapidly transmit to other markets, affecting investment returns and financial stability.

India, as one of the fastest-growing emerging economies, has witnessed significant integration with global financial markets following economic reforms and increased participation of foreign institutional investors. Indian stock indices such as NIFTY and SENSEX increasingly respond to developments in global markets, including those in Europe, China, Latin America, and London.

Understanding the extent of this integration is crucial for investors seeking international diversification and for policymakers aiming to maintain market stability. Cointegration analysis provides a useful framework to examine whether stock markets share a long-term equilibrium relationship despite short-term fluctuations. This study analyzes the relationship between the Indian stock market and selected global stock markets to assess the degree of integration and its implications.

## II. REVIEW OF LITERATURE

The concept of market integration is deeply rooted in portfolio theory and time-series econometrics. Markowitz (1952) emphasized diversification as a means to reduce risk, assuming low correlation among asset returns. However, increasing global integration has challenged this assumption.



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Granger (1981) and Engle and Granger (1987) introduced the concept of cointegration, providing a method to analyze long-run relationships among non-stationary time series. Kasa (1992) identified common stochastic trends among developed markets, indicating strong integration.

Masih and Masih (1997) found long-run relationships between emerging and developed markets, while Bose and Mukherjee (2006) reported significant integration between Indian and Asian stock markets. Mukherjee and Mishra (2005) observed increased integration of Indian markets following liberalization.

Raj and Dhal (2008) highlighted the influence of global markets on Indian stock returns, and Singh and Singh (2010) identified bidirectional causality between Indian and Chinese markets. Tripathi and Sethi (2012) and Chittedi (2014) emphasized the impact of global shocks and crises on market co-movements.

Recent studies by Srivastava et al. (2015) and Mishra et al. (2016) confirm that rising correlations among global markets have reduced international diversification benefits. Despite extensive literature, continuous empirical evaluation remains essential due to evolving global financial dynamics. This study contributes by providing updated evidence on Indian stock market integration.

### III. RESEARCH QUESTIONS

1. Is there a significant relationship between the Indian stock market and selected global stock markets?
2. Do global stock markets exhibit long-term co-movement with the Indian stock market?

### IV. OBJECTIVES OF THE STUDY

- To analyze the relationship between the Indian stock market and selected global stock markets.
- To measure the degree of correlation among global stock markets.
- To examine the implications of stock market integration for investors and policymakers.

### V. RESEARCH HYPOTHESES

**H01:** There is no significant relationship between the Indian stock market and global stock markets.

**H02:** Indian stock markets are significantly influenced by global stock market movements.

### VI. RESEARCH METHODOLOGY

The study follows a **descriptive and analytical research design**. It relies exclusively on secondary data collected from reliable sources such as stock exchange websites, financial databases, and published reports.

#### Sample Selection

The sample consists of major stock market indices representing:

- Indian stock market
- European markets
- Chinese market
- Latin American markets
- London stock market

#### Data Sources

Secondary data collected from:

- NSE India
- BSE India
- World Federation of Exchanges
- IMF and World Bank reports



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### Variables of the Study

- **Independent Variable:** Global stock market indices
- **Dependent Variable:** Indian stock market indices

### Tools for Analysis

- Correlation analysis
- Comparative interpretation of cointegration concepts

## VII. DATA ANALYSIS AND INTERPRETATION

**Table 1: Correlation Coefficient of Selected Global Markets**

Market	Correlation Coefficient
Europe	0.9479
China	0.6854
Latin America	0.9037
London	0.9772

The correlation results indicate a strong positive relationship between the Indian stock market and major global markets. London and European markets show exceptionally high correlation, suggesting strong integration and synchronized movement. The Chinese market exhibits moderate correlation, indicating partial integration.

High correlation values reflect increased capital mobility, rapid information transmission, and global economic linkages. While integration enhances market efficiency, it also increases exposure to external shocks, reducing the effectiveness of international diversification.

## VIII. RESULTS AND DISCUSSION

The present study examines the extent of integration between the Indian stock market and selected global stock markets using correlation analysis. The results provide empirical evidence on the degree of co-movement between India and major international markets during the study period.

## IX. FINDINGS OF THE STUDY

- Indian stock markets exhibit strong correlation with major global stock markets.
- London and European markets demonstrate the highest degree of integration with India.
- Increasing global integration reduces the benefits of international portfolio diversification.
- Global economic and financial developments significantly influence Indian stock market movements.

## X. IMPLICATIONS OF THE STUDY

The study provides valuable insights for investors, portfolio managers, and policymakers. Investors should adopt advanced risk management strategies and consider diversification across asset classes rather than markets alone. Policymakers should strengthen regulatory mechanisms to mitigate the impact of global financial shocks and enhance market resilience.

## XI. CONCLUSION

The study concludes that the Indian stock market is significantly integrated with major global stock markets, exhibiting strong long-run co-movement. Globalization and financial integration have enhanced market efficiency but have also increased vulnerability to international shocks. A comprehensive understanding of these linkages is essential for informed investment decisions and effective policy formulation.



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