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IMPACT OF MACROECONOMIC VARIABLES ON STOCK MARKET

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ABSTRACT
This study explores the impact of key macroeconomic variables on the stock market, By utilizing SPSS for correlation and regression analysis, this research examines the relationships between these variables and stock market performance. The findings reveal that GDP and Interest Rates have a significant positive influence on the stock market, while CPI and Exchange Rates exhibit a more complex, mixed relationship. FDI shows a moderate impact, with variations based on economic conditions. These results underscore the importance of understanding macroeconomic indicators for investment decision making and policy formulation. The study offers valuable insights for investors, policymakers, and academics seeking to better understand the dynamic relationship between macroeconomic factors and stock market trends.
KEYWORDS: *Stock market, Macroeconomic factors, SEBI, BSE.*

INTRODUCTION

The stock market plays a pivotal role in the economic development of any country by facilitating the allocation of capital and enabling wealth creation. As a key component of financial markets, the stock market is influenced by various factors, with macroeconomic variables being some of the most significant. These variables, such as Gross Domestic Product (GDP), Consumer Pricing Index (CPI), Foreign Direct Investment (FDI), Interest Rates, and Exchange Rates, directly impact investor behavior, market liquidity, and the overall economic environment. In India, the Securities and Exchange Board of India (SEBI) regulates the stock market, ensuring fair practices, transparency, and investor protection. The Bombay Stock Exchange (BSE) is one of the largest and most influential stock exchanges in the country, providing a platform for trading securities and reflecting broader economic trends. The performance of stocks listed on the BSE is often influenced by both domestic and global macroeconomic factors.

This research focuses on examining the impact of five key macroeconomic variables GDP, CPI, FDI, Interest Rates, and Exchange Rates on the Indian stock market. By using statistical techniques such as correlation and regression analysis through SPSS, this study aims to quantify the influence of these factors on stock market performance. Understanding these relationships is crucial for investors, policymakers, and academics alike, as it provides valuable insights into the economic forces driving stock market trends.

REVIEW OF LITERATURE

Mittal et al. (2020) analyzed the Indian stock market from 1987 to 2019 and found that gold prices, inflation, and crude oil prices negatively affected stock returns, while exchange rate depreciation had no significant impact. They used ADF and OLS models for analysis.

Aggarwal and Saqib (2017) examined the NIFTY 50 index from 2001 to 2016, finding that US GDP, S\&P 500, gold prices, WPI, fiscal deficit, IPI, and exchange rates significantly influenced the index. Both domestic and international economic factors were crucial for stock market trends in India.

Sharma and Mahendru (2010) studied the BSE index and found that exchange rates and gold prices had a significant impact, while foreign exchange reserves and inflation had limited effects. Their study highlighted the role of currency fluctuations and commodity prices.

Fischer (1993) found that high inflation, large budget deficits, and distorted foreign exchange markets negatively impacted economic growth and, by extension, stock market performance.

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Jareno and Negrut (2016) analyzed the US stock market and confirmed that GDP, CPI, industrial production, unemployment, and interest rates significantly impacted stock prices, except for CPI.

Tangjitprom (2012) reviewed studies on the relationship between macroeconomic factors and stock returns, categorizing them into economic conditions, interest rates, price levels, and international activities. The review concluded that most studies support a significant relationship between these variables and stock returns.

SCOPE OF OBJECTIVE

This study aims to explore the impact of key macroeconomic variables GDP, CPI, FDI, Interest Rates and Exchange Rates on the Indian stock market, specifically focusing on the BSE SENSEX index. The objectives include identifying the major macroeconomic variables influencing stock market performance, analyzing their effect on the BSE SENSEX, and measuring the relationship between these variables and stock market trends using correlation and regression analysis. The goal is to provide empirical insights into how macroeconomic factors shape the stock market in India.

METHODOLOGY

This study employs a Descriptive Research Design to analyze the relationship between the Indian stock market, represented by the BSE SENSEX, and selected macroeconomic variables. Secondary data is collected from reliable sources such as the World Bank, Bank Bazar, and the Bombay Stock Exchange (BSE). The data spans a period of five years (2013 2023), providing a comprehensive view of stock market performance and macroeconomic factors. To analyze the data, Regression Analysis and the Correlation Matrix are used to determine the strength and direction of the relationships between the stock market and macroeconomic variables. These tools are applied using SPSS software to ensure accurate results, helping to identify how changes in macroeconomic factors, including GDP, CPI, FDI, Interest Rates, and Exchange Rates, influence the Indian stock market.

DATA ANALYSIS AND INTERPERATION

This chapter presents the statistical analysis and interpretation of the relationship between selected macroeconomic indicators and the Indian stock market, represented by the BSE Sensex. The analysis was carried out using correlation and multiple linear regression techniques to evaluate the strength, direction, and significance of the impact that each independent variable (GDP, CPI, FDI, Interest Rate, and Exchange Rate) has on the dependent variable (BSE Sensex).

CORRELATION ANALYSIS

	BSE	***GDP***	***CPI***	***FDI***	***IR***	***ER***
BSE	1	0.061	0.297	0.32	0.169	0.009
GDP	0.061	1	0.796	0.613	0.094	0.386
CPI	0.297	0.796	1	0.442	0.199	0.484
FDI	0.32	0.613	0.442	1	0.468	0.348
IR	0.169	0.094	0.199	0.468	1	0.024
ER	0.009	0.386	0.484	0.348	0.024	1

The results reveal that the BSE index has a weak negative correlation with GDP (0.061), indicating a minimal inverse relationship between economic growth and stock market performance during the period analyzed. A moderate negative correlation is observed between the BSE and CPI (0.297), suggesting that rising inflation tends to be associated with a decline in stock market performance. Interestingly, the BSE also shows a moderate negative correlation with FDI (0.32), which is somewhat counterintuitive, as foreign investment is generally expected to boost market confidence. This negative association might be due to sector specific factors or time lagged effects of FDI on the market.

The correlation between BSE and interest rates is weakly positive (0.169), implying that slight increases in interest rates may correspond with modest improvements in market performance, though the relationship is not strong. Additionally, the correlation between BSE and exchange rates is nearly negligible (0.009), indicating that currency fluctuations had minimal direct impact on the stock market during this period.

Among the inter variable relationships, a strong negative correlation is noted between GDP and CPI (0.796), highlighting that rising inflation may significantly coincide with a slowdown in economic growth. A moderate

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positive correlation between CPI and exchange rates (0.484) suggests that inflationary pressures might lead to currency depreciation. Furthermore, the moderate negative correlation between FDI and interest rates (0.468) indicates that higher interest rates could be a deterrent to foreign investment inflows.

REGRESSION ANALYSIS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	76.491	17.310		4.419	.007
	GDP	4.391	1.132	1.663	3.878	.012
	CPI	.484	.130	1.454	3.733	.014
	FDI	28.335	8.721	1.072	3.249	.023
	IR	2.842	1.579	.475	1.800	.132
	ER	1.182	.671	.439	1.761	.139
a. Dependent Variable: BSE						

The correlation and regression analyses together provide valuable insights into the relationship between key macroeconomic variables and the BSE index. The correlation matrix indicates that CPI and FDI are moderately negatively correlated with the BSE, while other variables like GDP, IR, and ER show weak or negligible correlations. The regression analysis further confirms that GDP, CPI, and FDI have a statistically significant negative impact on the BSE index, with GDP and CPI having the highest standardized beta coefficients, suggesting they are the most influential predictors. Although interest rate and exchange rate show some effect on the BSE, their impact is not statistically significant within the model. Overall, the findings suggest that inflation, foreign investment, and economic growth are critical factors influencing stock market performance in India, and managing these variables effectively is essential for ensuring market stability and investor confidence.

FINDINGS

The findings of the study reveal that among the selected macroeconomic variables, CPI, FDI, and GDP have the most significant influence on the BSE index. The Consumer Price Index (CPI), which measures inflation, shows a moderate negative correlation with the stock market and also emerges as a significant negative predictor in the regression analysis. This indicates that higher inflation adversely affects stock market performance, likely due to increased costs for businesses and reduced consumer spending. Similarly, Foreign Direct Investment (FDI) exhibits a moderate negative correlation and a statistically significant negative effect on the BSE index. This suggests that higher FDI inflows do not necessarily boost the stock market, potentially because such investments may be directed toward unlisted sectors or involve profit repatriation.

GDP, though weakly correlated with the BSE index, also has a statistically significant negative impact in the regression model. This finding is somewhat counterintuitive, as economic growth is generally expected to support market performance. However, structural economic factors or time lag effects might explain this inverse relationship. Interest rates (IR) show a weak positive correlation and an insignificant negative effect in the regression, implying that changes in interest rates had limited influence on the BSE during the study period. Likewise, the exchange rate (ER) demonstrates negligible correlation with the BSE and does not significantly affect stock market performance. Overall, the results suggest that CPI, FDI, and GDP are the most influential variables, all negatively affecting the stock market, highlighting the importance of stable inflation, well aligned foreign investments, and effective economic policy for market growth.

CONCLUSION

This study aimed to examine the impact of key macroeconomic variables—GDP, CPI, FDI, interest rate, and exchange rate—on the performance of the Indian stock market, represented by the BSE index. Based on the correlation and regression analyses, it is evident that CPI (inflation), FDI, and GDP are the most influential factors affecting stock market movements during the period under review. All three variables were found to have a statistically significant negative relationship with the BSE index, indicating that higher inflation, foreign investment inflows, and economic growth were associated with declines in market performance. These findings suggest that while economic growth and investment are generally expected to support the stock market, their actual effects can be complex and influenced by broader structural and policy factors.

Interest rate and exchange rate, although important macroeconomic indicators, did not show a significant impact on the BSE index in this study, implying their influence may be more indirect or dependent on specific economic conditions. Overall, the analysis underscores the importance of managing inflation, aligning FDI with stock market development, and ensuring that GDP growth translates effectively into capital market gains. A stable macroeconomic environment, supported by sound fiscal and monetary policies, is essential for fostering investor confidence and sustaining stock market growth in the long run.

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