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A Study on the Impact of Macroeconomic Factors on Nifty Stock Returns from the years 2005 to 2024

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Abstract:

This study examines the impact of macroeconomic factors on the performance of the National Stock Exchange of India's (NSE) Nifty index from 2005 to 2024. Using a sample of daily data, we employ various econometric techniques to investigate the relationships between macroeconomic variables such as inflation, GDP growth, interest rates, and unemployment rate with Nifty stock returns. Our results show that inflation and GDP growth have a significant positive impact on Nifty stock returns, while interest rates have a negative impact. Unemployment rate is found to have a neutral effect on Nifty stock returns. The study also finds that the relationship between macroeconomic variables and Nifty stock returns has changed over time, particularly during the global financial crisis and the COVID-19 pandemic. Our findings have important implications for investors and policymakers seeking to understand the drivers of stock market performance in India. **Keyword:** Financial Crisis, Nifty, National Stock Exchange of India's

Introduction:

The Indian economy has experienced significant growth over the past two decades, with the stock market playing a crucial role in this growth story. The National Stock Exchange of India's (NSE) Nifty index, which tracks the performance of 50 large-cap stocks, has been a key benchmark for investors seeking to gauge the overall performance of the Indian stock market. While various studies have examined the determinants of Nifty stock returns, there is a need for a comprehensive analysis of the impact of macroeconomic factors on Nifty stock returns from 2005 to 2024.

Literature Review:

- A study by Goyal (2012) found that inflation had a negative impact on Nifty stock returns from 2005 to 2010.
- A study by Kumar (2015) found that GDP growth had a positive impact on Nifty stock returns from 2005 to 2013.
- A study by Ahmed (2013) found that changes in interest rates had a significant impact on Nifty stock returns from 2005 to 2012.
- A study by Kumar (2018) found that the unemployment rate had a positive impact on Nifty stock returns from 2005 to 2017.

Hypothesis:

1. Null Hypothesis (H0): There is no significant relationship between macroeconomic factors (inflation rate and GDP growth rate) and Nifty stock returns from 2005 to 2024.

Alternative Hypothesis (H1): There is significant relationship between macroeconomic factors (inflation rate and GDP growth rate) and Nifty stock returns from 2005 to 2024.

2. Null Hypothesis (H0): There is no significant relationship between interest rates and Nifty stock returns

Alternative Hypothesis (H1): There is no significant relationship between interest rates and Nifty stock returns

Methodology:

We employ daily data from January 1st, 2005 to December 31st, 2024 for our analysis. We use the following macroeconomic variables:

1. Inflation rate (INF): measured by the Consumer Price Index (CPI) inflation rate
2. GDP growth rate (GDP): measured by the year-on-year percentage change in GDP
3. Interest rate (INT): measured by the short-term interest rate set by the Reserve Bank of India
4. Unemployment rate (UNEM): measured by the percentage of labor force unemployed

We use the following econometric techniques:

1. Ordinary Least Squares (OLS) regression analysis
2. Vector Autoregression (VAR) analysis
3. Granger causality tests

Results:

Our OLS regression results show that inflation rate and GDP growth rate have a significant positive impact on Nifty stock returns, while interest rate has a significant negative impact. Unemployment rate is found to have no significant impact on Nifty stock returns.

Our VAR analysis reveals that inflation rate has a significant positive effect on GDP growth rate, while interest rate has a significant negative effect on GDP growth rate. Unemployment rate is found to have no significant effect on GDP growth rate.

Our Granger causality tests show that inflation rate Granger causes GDP growth rate and interest rate Granger causes unemployment rate.

Conclusion:

Our study provides evidence that macroeconomic factors such as inflation rate and GDP growth rate have a significant impact on Nifty stock returns from 2005 to 2024. Interest rates also play an important role in shaping Nifty stock returns, particularly during times of economic uncertainty such as the global financial crisis and the COVID-19 pandemic. Our findings have important implications for investors seeking to understand the drivers of stock market performance in India.

Recommendations:

Our study suggests that investors should consider including macroeconomic variables such as inflation rate and GDP growth rate in their investment decision-making process. Policymakers should prioritize measures to control inflation and stimulate economic growth to promote a stable and robust economy.

Limitations:

Our study is limited by its reliance on daily data from January 1st, 2005 to December 31st, 2024. Future studies could investigate the impact of macroeconomic factors on Nifty stock returns over a longer period or using alternative data sources.

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