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A study on monetary policy on stock market performance

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Abstract

Monetary policy significantly influences the stock market by affecting interest rates, liquidity, and investor sentiment. Lower interest rates generally encourage investment and boost stock prices, while higher rates may deter investors and suppress market activity.

The study examines the impact of monetary policy on stock market performance in India. Monetary policy, regulated by the central bank, influences financial markets through tools such as the Cash Reserve Ratio (CRR), Statutory Liquidity Ratio (SLR), repo rate, and interest rates. These tools impact investor sentiment, corporate earnings, and overall market trends.

Using 20 years of secondary data (2004-2024), the study analyzes the relationship between key monetary policy tools and major stock indices like NSE (NIFTY), BSE (SENSEX), and BANKEX. The research employs statistical methods such as regression analysis and Granger causality tests to evaluate correlations and causations between monetary policy and stock market fluctuations.

Findings suggest that stock markets exhibit high volatility, and monetary policy tools like CRR and repo rates significantly impact stock indices, whereas interest rates show minimal influence. The study concludes that understanding monetary policies is crucial for investors and policymakers in managing stock market volatility. Future research should explore emerging financial tools and global macroeconomic factors for a more comprehensive analysis.

Keywords: Stock market, inflation, CRR, repo rate, monetary policy

Introduction

. The dynamics of monetary policy and its profound influence on stock market performance have consistently intrigued economists, policymakers, and financial analysts. The role of monetary policy in influencing stock market performance has garnered significant attention in financial research. Monetary policy, implemented through tools like interest rate, CRR, Repo Rate, open market operations, and reserve requirements, directly impacts liquidity and investor sentiment in financial markets. Studies indicate that expansionary policies, such as lowering interest rates, often stimulate stock market activity, whereas contractionary measures may dampen it (Mishkin, 2019) [27].

This research explores the intricate relationship between monetary policy and stock market performance, with a focus on how changes in policy frameworks affect market volatility, investment decisions, and economic growth. Prior research, such as that by Bernanke and Gertler (1995) [3], highlights the wealth effect and its implications for financial stability. This study aims to build on such foundational analyses to provide insights into contemporary monetary strategies and their ramifications on equity markets.

This research examines the multifaceted relationship between monetary policy decisions and stock market volatility, focusing on how policy shifts interact with market trends and investor behavior. By integrating historical evidence and contemporary case studies, this paper aims to provide actionable insights for policymakers and market participants, offering a deeper understanding of monetary strategies' ripple effects across financial ecosystems.

Monetary policy significantly influences the stock market by affecting interest rates, liquidity, and investor sentiment. Lower interest rates generally encourage investment and boost stock prices, while higher rates may deter investors and suppress market activity

Literature Review

This study investigates the influence of monetary policy on stock market volatility in India, utilizing a robust dataset spanning two decades. Employing both qualitative and quantitative secondary data, the research ensures methodological precision through the application of regression analysis, effectively minimizing inconsistencies and enhancing the reliability of findings (Puja Dua, 2025) [23]. Contextual insights are drawn from existing literature, including Okoyan and Eze's (2020) [18] examination of monetary policy instruments within Nigeria's capital markets and Harvey and Amidu's (2019) [8] panel VAR analysis, which explores monetary policy dynamics across the African continent.

The discourse on monetary policy's role extends across global and regional studies. For instance,

Priscilla Chiyere Ifurueze (2008) [4] underscores monetary policy's pivotal function in regulating liquidity and stabilizing Nigeria's financial sector. Similarly, Sheilla Nyasha and NM Odhiambo (2007) [17] differentiate between bank-based and market-based financial development to study its impact on economic growth. From a technological perspective, Shah *et al*. (2018) [5] highlight the growing promise of machine learning in stock market predictions.

In the Indian context, Pooja Bhatt emphasizes the relationship between monetary policy and market volatility, while Partha Roy investigates sector-specific impacts of monetary policies. Moreover, Nabila Nisha (2015) [16] utilizes VAR models to analyze the combined influence of domestic and global factors on BSE performance. Globally, the works of Sellin (2013) [20], Isola (2018) [28], Kaul (1990) [11], and Aziza (2010) [2] provide comprehensive perspectives on monetary policy's role, emphasizing its critical influence on financial markets worldwide. This study aspires to contribute significantly to the extant literature on India's monetary policy and stock market interplay.

Research Methodology: This study analyzes the relationship between monetary policy and stock market volatility in India, focusing on the last 20 years using secondary data collected quarterly from 2004 to 2024. Key monetary tools examined include the Cash Reserve Ratio (CRR), Repo Rate, and Interest Rate. The research uses an exploratory design and regression analysis to test hypotheses, aiming to determine whether these tools significantly impact stock prices.

The study draws on prior research, such as Okoyan and Eze's (2020) [18] work on Nigeria's capital markets and Harvey and Amidu's (2019) [8] analysis of monetary policy in Africa. Indian-focused studies, including those by Pooja Bhatt and Partha Roy, provide additional context. Sampling includes indices like BSE-Sensex, NSE-NIFTY, and BANKEX, alongside monetary variables as mentioned in first para.

Descriptive statistics are utilized to summarize and organize the dataset, providing an initial understanding of the variables under investigation. Correlation analysis helps to assess the strength and direction of relationships between monetary policy tools (e.g., CRR, Repo Rate, and Interest Rates) and stock market indices such as NSE-NIFTY, BSE-SENSEX, and BANKEX.

Regression analysis is employed to quantify the impact of independent variables, such as monetary policy tools, on dependent variables like stock prices, ensuring a rigorous evaluation of causality. Additionally, the Granger causality test is applied to determine whether changes in monetary policy precede changes in stock market performance, providing insights into the temporal relationships between the variables.

These methods collectively allow for a detailed exploration of the intricate interactions between monetary policy tools and stock market volatility in India over the last two decades. Let me know if you'd like further elaboration!

Limitations include reliance on secondary data, restricted focus on select monetary tools, and inconsistencies in measurement. Nevertheless, this research seeks to deepen the understanding of how monetary policy influences stock market performance in India.

Table 1: Data analysis and interpretation

	Repo Rate	*Interest Rate*	*CRR Rate*	*BSE Sensex*	*NSE Nifty*	*Bankex*
Mean	6.275595	7.383929	4.716905	0.026018	-0.05851	-0.07347
Standard Error	0.122189	0.097049	0.12617	0.012055	0.091411	0.111463
Standard Deviation	1.119878	0.889469	1.156367	0.109825	0.832795	1.015473
Sample Variance	1.254126	0.791154	1.337185	0.012062	0.693547	1.031186
Kurtosis	-0.12951	-0.63014	3.631957	3.854404	77.91948	77.38132
Skewness	-0.47079	0.373564	1.751506	-1.17902	-8.68022	-8.64645

Mean: The average values indicate that interest rates (7.38%) and CRR (4.72%) are relatively stable, while the stock indices (BSE Sensex, NSE Nifty, and Bankex) exhibit small negative returns over the observed period.

Standard Deviation

The volatility of stock indices (BSE Sensex: 0.11, NSE Nifty: 0.83, Bankex:

1.01) is notably higher compared to monetary variables like Repo Rate (1.12) and Interest Rate (0.89), highlighting greater fluctuations in stock market performance.

Sample Variance

Variance values align with the observed volatility, confirming that stock indices experience broader dispersion in returns compared to monetary variables.

Kurtosis

Both NSE Nifty (77.92) and Bankex (77.38) show extreme kurtosis, suggesting a high prevalence of outliers or extreme values. This indicates a significant likelihood of unpredictable, large deviations in these indices.

Skewness

The negative skewness for NSE Nifty (-8.68) and Bankex (-8.65) suggests a heavy downside risk, reflecting the probability of large negative movements.

Table 2: Correlation

	Repo Rate	Interest Rate	*CRR Rate*	BSE Sensex	*NSE Nifty*	Bankex
Repo Rate	1					
Interest Rate	0.324121	1				
CRR rate	0.381253	0.359844	1			
BSE Sensex	-0.1025	-0.11706	-0.19474	1		
NSE Nifty	0.121055	-0.245	-0.04854	0.027167	1	
Bankex	-0.05528	-0.07398	-0.0731	0.217651	0.00678	1

The correlation table shows that reporat has a moderate positive relationship with interest rate (0.324) and CRR rate (0.381), suggesting that increases in reporat correspond with rises in these variables. Interest rate and CRR rate are also moderately correlated (0.360). In contrast, BSE SENSEX exhibits weak negative correlations with reporat (-0.103), interest rate (-0.117), and CRR rate (-0.195), implying an inverse relationship. NSE NIFTY displays minimal associations, while BANKEX shows slight negative links overall but a modest positive connection with BSE SENSEX (0.218). Overall, significant interdependence exists among the financial indicators. These correlations highlight the complex interplay among key metrics.

The Augmented Dickey-Fuller (ADF) test is widely used for testing stationarity in time series data to determine whether the data exhibits unit root behavior. In your study, the test results indicate that all variables are non-stationary at their original levels, as they show unit roots at a 1% significance level. This suggests that the variables are influenced by trends and lagged values and do not have a constant mean or variance over time.

By applying log transformations and considering a lag length of 4 with a trend, the test accounts for the underlying patterns in the dataset. Incorporating the trend helps capture systematic variations over time, which are not random, while the lag length ensures the model effectively handles autocorrelation within the variables. These adjustments are crucial for addressing the presence of unit roots and preparing the data for further statistical analysis, such as causality tests.

Since non-stationary data can lead to spurious correlations, it is necessary to transform the data into a stationary format, often by differencing or detrending it. Achieving stationarity ensures that any relationship observed between variables are valid and not driven by random fluctuations or long-term trends.

Granger Causality Test

The Granger causality test results provide insights into the relationships between monetary tools (CRR, Interest Rate, Repo Rate) and stock indices (Bankex, NIFTY, Sensex). Here's a breakdown: 1. CRR and Stock Indices:

- CRR significantly Granger causes LNIFTY (p = 5.2E-06) and LSENSEX (p = 0.00015), indicating a direct influence on these indices.
- CRR does not Granger cause LBANKEX (p = 0.15929) or LREPO (p = 0.66310).
- LBANKEX does not Granger cause CRR (p = 0.19004), showing limited reciprocal influence.

Interest Rate and Stock Indices

Interest rate does not significantly Granger cause LBANKEX, LNIFTY, LSENSEX, or CRR, with all probabilities exceeding 0.1. This suggests weaker relationships between interest rates and stock indices.

Repo Rate and Stock Indices

- Repo rate Granger causes LNIFTY (p = 0.03066) and LSENSEX (p = 0.03725), indicating some level of causality.
- Repo rate does not significantly Granger cause LBANKEX (p = 0.14206).

Interdependencies among Stock Indices

- LNIFTY significantly Granger causes LBANKEX (p = 0.00409), while LSENSEX strongly Granger causes LBANKEX (p = 8.1E-06), revealing interdependencies.
- LSENSEX Granger causes LNIFTY (p = 0.00048).

The results suggest that specific monetary tools, such as CRR and Repo Rate, have stronger impacts on stock indices like NIFTY and Sensex, while others, like interest rates, demonstrate weaker causality. Stock indices also exhibit interdependencies, highlighting the interconnected dynamics of the market.

Findings

The analysis highlights that monetary policy tools such as Repo Rate, CRR, SLR, and Interest Rate exhibit relative stability, while stock indices like BSE Sensex, NSE Nifty, and Bankex demonstrate higher volatility and downside risk. The correlation analysis reveals that Repo Rate, Interest Rate, and CRR are moderately interdependent, while stock indices like BSE Sensex show weak negative relationships with monetary tools. BANKEX has a slight positive correlation with BSE Sensex, highlighting the complex interplay between financial variables.

The causality test indicates that monetary policy tools, particularly the Cash Reserve Ratio (CRR) and Repo Rate, significantly influence key stock indices like NIFTY and Sensex, while interest rates demonstrate a weaker causal relationship with stock performance. Granger causality results highlight that stock indices exhibit strong interdependencies, with Sensex and NIFTY significantly influencing Bankex. Additionally, CRR impacts NIFTY and Sensex, showcasing its regulatory role in market dynamics. However, reciprocal effects from stock indices to monetary variables remain limited. The analysis underscores the critical role of specific monetary tools and intermarket relationships in shaping stock market trends, emphasizing the interconnected nature of financial markets.

The findings indicate that stock indices are sensitive to monetary policy changes, with extreme kurtosis and negative skewness pointing to potential risks and unpredictable market movements. This study emphasizes the intricate interaction between monetary policies and stock market volatility in India, offering insights for policymakers, investors, and economists to navigate the complexities of financial markets effectively.

Conclusion

This study highlights the critical role of monetary policy tools like CRR, Repo Rate, and Bank Rate in shaping stock market performance, particularly indices such as Sensex and NIFTY. Findings show significant interdependencies, with major indices driving market trends, while monetary tools like Repo Rate and CRR impact market volatility. Interest rates exhibit a weaker relationship with stock indices, suggesting the influence of other macroeconomic factors. The study emphasizes the importance of investor awareness and strategic decision-making in responding to monetary policy changes. It also recommends further exploration into emerging tools like digital currencies and global monetary impacts for a comprehensive understanding.

References

1. Adedoyin I. The impact of the interactions between fiscal and monetary policies on stock market behavior in Nigeria. *ARLD* and *EGARCH* models were used to analyze monthly data. 2018.
2. Aziza FOF. Effects of monetary policy on stock market performance. *VECM* analysis conducted for various countries between 1988 and 2008. 2010.
3. Bernanke BS. New monetary tools: Quantitative easing and forward guidance. A review of unconventional monetary policies by the Federal Reserve. 2020.
4. Ifurueze CP. Effect of monetary policy instruments on financial sector performance in Nigeria. Study focuses on macroeconomic stability and economic growth. 2008.
5. Shah D, Isah H, Zulkernine F. Stock market prediction using machine learning techniques: A taxonomy of methods for stock price forecasting. 2018.
6. Gurloveleen, Bhatia BS. Impact of macroeconomic variables on Indian stock market: Multiple regression and *Granger* causality tests applied to *BSE* 500 index. 2015.
7. Graham FC. Real stock returns and inflation: An unstable relationship. Analysis of monetary policy shifts from 1976 to 1982. 1996.
8. Harvey SK, Amidu M. Monetary policy and stock market dynamics in Africa: A panel *VAR* approach using multiple macroeconomic indicators.
9. Issahaku H. Monetary policy-financial market nexus in developing economies: A survey of 130 peer-reviewed articles. 2016.
10. John KM. Macroeconomic variables and stock market returns in Ghana: A study using *Johansen Co-integration* over the period 1992-2008. 2012.
11. Kaul G. Stock returns, inflation, and monetary policy regimes: Evidence from four post-war economies. 1990.
12. Seetah K. Monetary policy impact on stock markets in five open economies (2004-2014): A panel vector error correction model approach.
13. Mbogo ZK. Evaluating the effect of monetary policy tools on share performance in Nairobi Securities Exchange: A time-series analysis. 1990.
14. Mohtadi H, Agarwal S. Stock market development and economic growth in emerging markets: A 21-year panel study. 2004.
15. Nazir MS. Stock market development and economic growth in Pakistan: Analysis of market size and liquidity indicators from 1986-2008. 2010.
16. Nisha N. Impact of macroeconomic variables on Indian stock market: *VAR* model applied to Bombay Stock Exchange (*BSE*). 2015.
17. Nyasha S, Odhiambo NM. Market-based financial development and economic growth: A review of empirical and theoretical evidence. 2007.
18. Okoyan K, Eze PG. Effect of money market instruments on capital market performance in Nigeria (1981-2018): *Johansen* co-integration and vector error correction model used.
19. Roy P. Impact of Indian and U.S. monetary policy announcements on sectoral stock indices: Identification through heteroscedasticity approach.
20. Sellin P. Interaction between real stock returns, inflation, and money growth: The role of monetary policy. 2013.
21. Bhatt P. Impact of monetary policy and volatility in the Indian stock market: A secondary data review focusing on past research.
22. Singh P, Singh A. Exchange rate impact on stock market performance in India (2010-2022): Scatter plot and correlation analysis of *SENSEX* and *NIFTY* 50. 2024.
23. Dua P. Monetary policy and stock market volatility in India: A 20-year study. Regression analysis used to eliminate inconsistencies.
24. Thumar S. Sector-level analysis of monetary policy impact on stock markets: *NARDL* model used to separate positive and negative effects.
25. Singh P. Relationship between macroeconomic variables and Indian stock market: *Granger* causality and multivariate stepwise regression applied. 2014.
26. Tripathi V, Seth R. Stock market performance and macroeconomic variables in India (1997-2011): *ARCH* model, co-integration tests, and impulse response analysis applied. 2014.
27. Mishkin FS. *Monetary Policy Strategy: Lessons from the Crisis*. 2019.
28. Isola A. The impact of the interactions between fiscal and monetary policies on stock market behavior in Nigeria. 2018.