

The Effect of Cash Reserve Ratio and Reverse Repo Rate on Stock Market Performance - Empirical Evidence from India

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Abstract: A stock market is a place where shares of public listed companies are traded. Trade in stock markets means the transfer for money of a stock or security from a seller to a buyer. The stock market is often considered the primary indicator of a country's economic strength and development. An economy where the stock market is on the rise is considered to be an up-and-coming economy. Monetary policy is the process by which central monetary authority of a country controls the supply of money in the economy in order to maintain the price stability in the economy. There are various instruments of monetary policy to control the flow of money in the economy.

This research paper tried to find out whether the movement in National Stock Exchange index NIFTY 50 is the result of some selected monetary policy instruments. The study considered monetary policy instruments as Cash Reserve Ratio and Reverse Repo Rate and NSE's NIFTY 50 by using monthly data from April 2016 to March 2018. For this, Correlation and Regression analysis have been used to see the effect of monetary policy instruments on NSE index.

Keywords: NSE NIFTY 50, Cash Reserve Ratio, Reverse Repo Rate, Indian stock market.

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I. Introduction

A stock market is the aggregation of buyers and sellers of stocks which represent ownership claims on businesses. Trade in stock markets means the transfer for money of a stock from a buyer to seller. Buyers and sellers are the two required parties to agree on a price.

Monetary policy is the process by which central monetary authority of a country; in India the RBI controls the supply of money in the economy by its control over interest rates in order to maintain the price stability in the economy. There are various instruments of monetary policy to control the flow of money in the economy, like open market operations, cash reserve ratio. Statutory liquidity ratio, bank rate policy, credit ceiling, credit authorization scheme, moral suasion, repo rate and reverse repo rate.

A stock exchange is an exchange where stock traders can buy and sell shares of stocks, bonds and other securities. The National Stock Exchange (NSE) is the leading and ranked as the largest stock exchange in India which began operations in 1994. NSE's flagship index, the NIFTY 50 is used extensively by investors in India and around the world as a barometer of the India capital market.

This research paper tried to find out whether the movement in National Stock Exchange index NIFTY 50 is the result of some selected monetary policy instruments. The study considered monetary policy instruments as Cash Reserve Ratio and Reverse Repo Rate and NSE's NIFTY 50 by using monthly data from April 2016 to March 2018. For this, Correlation and Regression analysis have been used to see the effect of monetary policy instruments on NSE index.

OBJECTIVES OF THE STUDY

- To find out the relationship between Cash Reserve Ratio and Indian Stock Market.
- To find out the relationship between Reverse Repo Rate and Indian Stock Market.
- To analyze the impact of Reverse Repo Rate and Cash Reserve Ratio on stock market performance.

HYPOTHESIS OF THE STUDY

H1= There is significant impact of Cash Reserve Ratio on stock market performance.

H2= There is significant impact of Reserve Repo Rate on stock market performance.

II. Review of Literature

Pooja Talreja (2014) analyzed the impact of change in policy rate on the share price with special reference to Nifty and the correlation between CRR, SLR, Repo Rate, Reverse Repo Rate and Nifty. The study found that the effect of CRR and SLR on Nifty movement is negative while the impact of Repo Rate and Reverse Repo Rate is positive.

Prof. Mrityunjaya B Chavannavar et al. (2016) investigated the relation and influence of changes in the monetary policy tools like, CRR, SLR, Repo Rate, Reverse Repo Rate and Bank Rate on Nifty. The study revealed that the changes in monetary policy tools affect the Nifty 50 in the long run but in the short term there is no significant difference is observed in the Nifty 50 movement.

S. Vanitha et al. (2013) analyzed the impact of cash reserve ratio and reverse repo rate on the share price return and also tested the returns performance of stock price during the pre and post announcement period. The results of the study revealed that the share price reacted to the announcements of CRR and Reverse Repo Rate.

III. Research Methodology

This study discusses the methodology to be used to conduct the study. The aim of this research work is to investigate the effect of monetary policy instruments on the Indian Stock Market Performance and for this the secondary data is collected. The study is used monthly data of two years from April 2016 to March 2018. Statistical tools are employed for testing the hypothesis of the study.

SAMPLE SIZE

The study followed a Descriptive research design and used the method of Convenience Sampling Technique. All the required data of 50 companies which are listed on NSE- NIFTY 50 are obtained from April 2016 to March 2018 i.e. the study targeted a sample of 50 companies listed on NIFTY 50.

STATISTICAL TOOLS

To investigate the impact of selected monetary policy instruments on stock market performance and to find out the relationship between them, the Multiple Linear Regression Analysis and Karl Pearson's Correlation Analysis have been used.

IV. Variables Of The Study

Dependent Variable: NSE- NIFTY 50

The National Stock Exchange of India was the first demutualized electronic exchange in the country and it was also the first exchange in the country to provide a modern and fully automated screen-based electronic trading system which offered easy trading facility to the investors spread across the length and breadth of the country. The index NIFTY 50 is NSE's benchmark broad based stock market index for the Indian stock market which represents the weighted average of 50 Indian company stocks. The index was launched by the NSE in 1996. In this study, an average of open and close price has been taken as the proxy of NIFTY 50.

Independent Variables

Cash Reserve Ratio

Cash Reserve Ratio is a certain percentage of bank deposits which banks are required to keep with RBI in the form of reserves. Higher the CRR with the RBI lower will be liquidity in the system and lower the CRR with the RBI higher will be liquidity. The RBI uses the CRR to drain out excessive money from the system.

Reverse Repo Rate

Reverse Repo Rate is the rate at which RBI borrows money from the commercial banks. Increased Reverse Repo Rate can encourage banks to park more money with the RBI to earn higher returns on the deposited funds and also decreases the money supply in the economy. It is used to control the money supply in the country.

V. Data Analysis And Interpretation

The study has used correlation and regression analysis for testing the hypothesis and analyzing the data.

Result of Correlation

The investigation of the relationship between the dependent variable (Close Price of NIFTY 50) and two macroeconomic variables has been used in this study. SPSS software for finding the result has been used. Output of SPSS is given in table 1.

Table 1
Correlation between Close Price of NIFTY 50 and Macroeconomic Factors

Independent Variable	Correlation Coefficient	Significance Level
Cash Reserve Ratio	.333	.111
Reverse Repo Rate	-.361	.083

From the table it can be seen that there is no relation between NIFTY 50 and cash reserve ratio and also no relation between reverse repo rate and NIFTY 50. Thus null hypothesis will be accepted in case of both the macroeconomic variables. It can say that macroeconomic variables used in this study are not significantly correlated to stock market performance.

Result of Regression

Then the study has investigated the impact of the stock market performance (Closing price of NIFTY 50) on this two macroeconomic variables used in this study. SPSS software has been used for finding the result. Output of SPSS is given in table 2.

Table 2
Regression Analysis: Regression Coefficients

Independent Variables	Unstandardized Coefficients	Standardized Coefficients	Significance Level
Cash Reserve Ratio	73255.452	.272	.187
Reverse Repo Rate	-2255.681	-.307	.139

In the above regression analysis the study has used monthly closing price of NIFTY 50 as dependent variable and cash reserve ratio and reverse repo rate as independent variables. From the table 2 it can be seen that the P value is higher than .05 thus all the results are statistically insignificant. It means cash reserve ratio and reverse repo rate do not influence the stock market performance. Thus regression analysis also gives evidence to accept the null hypothesis of the study.

VI. Conclusion And Suggestions

This study has investigated the impact of macroeconomic variables cash reserve ratio and reverse repo rate on Indian stock market performance by using monthly data for the period of April 2016 to March 2018. The two statistical tools are used in this study i.e. Karl Pearson's Correlation Analysis and Multiple Linear Regression Analysis to investigate the impact of cash reserve ratio and reverse repo rate on stock market performance and relationship between them.

Correlation analysis has shown the result that there is insignificant relationship between these two macroeconomic variables and stock market performance. Thus null hypothesis is accepted. Regression analysis has shown the result that there is insignificant relationship between both the macroeconomic variables and stock market performance. Thus again null hypothesis is accepted because P value is higher than .05. It means stock market performance does not affected by any changes in cash reserve ratio and reverse repo rate.

SUGGESTIONS FOR FURTHER RESEARCH

This research only focuses on two independent variables which are cash reserve ratio and reverse repo rate. Further research could include other variables such as inflation rate, interest rate, oil rate, gold rate and so on in order to obtain more accurate result or to explore the model to see the different relationship between stock market performance and macroeconomic variables. Besides, the period of the study is only of two years i.e. from April 2016 to March 2018. A longer period of data could have been generated a more refined result.

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Appendices
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Close	24	7849.80	11027.70	9289.1979	910.87400
CRR	24	3.99	4.00	3.9988	.00338
RRR	24	5.75	6.00	5.8521	.12378
Valid N (listwise)	24				

Correlations

		Close	CRR	RRR
Close	Pearson Correlation	1	.333	-.361
	Sig. (2-tailed)		.111	.083
	N	24	24	24
CRR	Pearson Correlation	.333	1	-.201
	Sig. (2-tailed)	.111		.345
	N	24	24	24
RRR	Pearson Correlation	-.361	-.201	1
	Sig. (2-tailed)	.083	.345	
	N	24	24	24

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	RRR, CRR ^b	.	Enter

- a. Dependent Variable: Close
- b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.449 ^a	.201	.125	851.91385

- a. Predictors: (Constant), RRR, CRR
- b. Dependent Variable: Close

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3842001.874	2	1921000.937	2.647	.094 ^b
	Residual	15240901.243	21	725757.202		
	Total	19082903.117	23			

- a. Dependent Variable: Close
- b. Predictors: (Constant), RRR, CRR

Coefficients^a

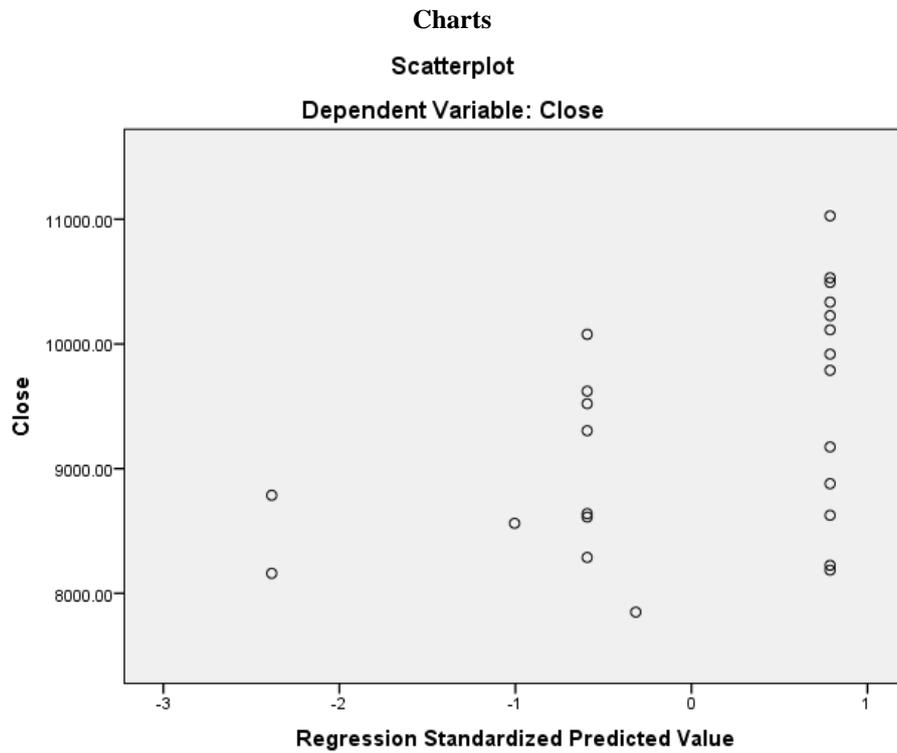
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-270440.612	216550.209		-1.249	.225
	CRR	73255.452	53681.776	.272	1.365	.187
	RRR	-2255.681	1465.130	-.307	-1.540	.139

- a. Dependent Variable: Close

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8314.5596	9611.0342	9289.1979	408.70963	24
Residual	-1425.23462	1416.66541	.00000	814.03187	24
Std. Predicted Value	-2.385	.787	.000	1.000	24
Std. Residual	-1.673	1.663	.000	.956	24

a. Dependent Variable: Close



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