

Correspondence between Monetary Policies and Stock Prices



R. Jeyalakshmi, P. Vasumathi

Abstract: Money supply in an economy plays a vital role in determining the prices of stocks. This study uses repo rate and reverse repo rate as a proxy for money supply and the stock return from CNX Nifty as the dependant variable. This study uses monthly data for 10 years. The study is aimed at determining the relationship between repo rate, reverse repo rate and stock price return. The study identifies that repo rate and reverse repo rate are significantly affecting the stock return.

Keywords: Nifty, Repo rate, Reverse repo rate, Stock return

I. INTRODUCTION

Investment companies and individual investors spend lot of investment in terms of money and time to know about the reason behind the fluctuations in stock market [5]. The reason behind stock market volatility is a complex interconnected maze which could not be solved easily. Though there are many reasons behind the changes in stock market, few factors are considered to be vital. Technical analysts believe that industry specific factors play a major role in stock market return. But, in the other hand economist believe that macroeconomic determinants are the vital factors in determining the stock returns. The economy is broadly classified into money market and capital market. The changing value of money has a stronger impact on economy. RBI regulates the inflation by changing the repo rates. The money market has strong relationship with the capital market[3]

a. Repo Rate and Reverse Repo rate

When banks seek money in a shortfall situation, then the Central bank (Reserve Bank of India) of an economy lends money to the bank at some interest. This repo rate will be adjusted to regulate the inflation and the flow of money in an economy. The commercial banks in a country keep their surplus money in the central bank with a rate called reverse repo rate. Increase or decrease in repo rate affects the money supply and the changes in money supply have some psychological as well material effect in the stock market [1]. The increase in reverse repo rate curbs the money supply and thereby increases the inflation and hence, the stock market gets affected.

Revised Manuscript Received on February 28, 2020.

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II. REVIEW OF LITERATURE

LaxamiKumari and NagendrakumarJha(2019) attempted to identify the effect of repo rate on stock price volatility. The study used data from April 2016 to March 2018. The correlation analysis and regression analysis made proved that the repo rate has no influence over stock prices [4]. **Rigobon and Sack(2004)** stated that an unanticipated 25 basis point increase in interest rate has a 17% decline in stock prices of S&P index. **Choi andJen(1991)** advocated that the market risk and interest rate risk has a stronger impact on stock price volatility[2].

III. NEED FOR THE STUDY

Many researchers have a consensus thought from their results that economic policies have some influence in stock prices. Various macroeconomic factors have influence over stock price volatility [6]. But most of the macroeconomics data are computed after the occurrence of the event, such as inflation. But the factors such as central bank's lending rate and reverse repo rate helps to predict the future economy. In this regard this study is focusing on identifying the relationship between repo rate, reverse repo rate and stock price volatility.

IV. OBJECTIVES OF THE STUDY

- To analyse the effect of policy rates on Nifty movements
- To identify the relationship between repo rate, reverse repo rate and stock price movement.

V. RESEARCH METHODOLOGY

The financial analysis can be done by analyzing the price factors, quantity of economic data and regulatory framework by institutions and government. Price based measure is a often used method and it is a reliable method as it uses the market data. This study also involves the use of average of the monthly prices of CNX Nifty. The Monthly average is the average of the daily closing prices of the CNX Nifty. The repo rate and reverse repo rate data are obtained from RBI Bulletin. Data from January 2008 to December 2018 is used in this data as ten years data will be helpful in predicting the trend. The data obtained is treated with correlation analysis and regression analysis to check the objectives.

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VI. DATA ANALYSIS

a. Correlation between dependant variable and independent variable

The value $r = -0.52$, ($r < .5$) shows that there exists a strong negative correlation between the two variables repo rate and Nifty. Since the value is negative, it indicates that the values are negatively correlated. This means that the increase in repo rate may decrease the stock price value. The reverse repo rate and nifty are not well correlated as the r value is less than 0.5.

b. Regression Table

Model Summary

Model	R	R ²	Adj. R ²	Standard Error of estimates
1	0.747	0.558	0.292	1318.41485

c. ANOVA Table

Model	Sum of Squares	d f	Mean Square	F	Sig.	
1	Regression	1.095E7	3	3650644.56	2.10	.219 ^a
	Residual	8691088.6	5	1738217.72	4	
	Total	1.954E7	8	5		

d. Co-efficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
(Constant)	1366.094	2836.657		.482	.650
	6501.318	4366.908	5.834	1.465	.245
Reverse repo	-	4224.311	-5.405	-	.226
Repo	5839.237			1.323	

Model summary of the data under study is given in the first table. There is a strong correlation between the variables under study as the correlation value $r = 0.747$. The second table is the result of ANOVA test. The P-value, 0.0219 which is greater than 0.05 indicates that the contribution of the predictor variables repo rate and reverse repo rate is significantly influencing the stock return of Nifty.

The third table gives the coefficients values. these values are needed to formulate regression equation. The a value is the Y intercept which is given under column B and the values against the repo rate(6500.318), reverse repo rate(-5939.237) is the slope of regression lines which is given under the un standardized co-efficients and the values of b_1 and b_2 in the multiple regression equation

$$Y_j = a + b_1 X_{1j} + b_2 X_{2j}$$

Hence the multiple regression equation is formulated as

$$Y = 1366.094 + 6500.318 \text{Repo rate} - 5939.237 \text{Reverse repo rate}$$

The above equation clearly explains that cash reserve ratio and reverse repo rate inversely influence the share price whereas the share prices has a direct relationship with repo rate.

VII. CONCLUSION

The stock returns are volatile in nature and the volatility is defined by many macroeconomic and micro economic

Table 1: Correlations

	CNX Nifty	Repo rate	Rev Repo rate
CNX Nifty	1	-0.52	.044
	Pearson Correlation		
	Sig. (2-tailed)	.783	.783
	N	42	42
Repo Rate	-0.52	1	.564*
	Pearson Correlation		
	Sig. (2-tailed)	.783	.014
	N	42	42
Rev Repo rate	.044	.564*	1
	Pearson Correlation		
	Sig. (2-tailed)	.783	.014
	N	42	42

factors. This study identified the relationship between repo rate and reverse repo rate. Both the factors are found to have a significant relationship with the stock price volatility. The repo rate is having a positive and direct relationship with stock return whereas the reverse repo rate is inversely proportionate to stock return. Hence the investors are advised to check the repo rate and reverse repo rate trend before they invest.

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