

## CREDIT POLICY IMPACT ON STOCK MARKET

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**ABSTRACT:** The analysis has been focused to find the monetary policy impact on Indian economy ADF has been applied to measure the stationary of the data which were considered for this analysis. Regression weighted estimation has been applied for the various factors influence on India economy. Factor analysis has given inflation physical deficit and PMI having high loading factor among the selected variables scree plot elbow indication shows PMI as the high loading factors on nifty. This analysis is use full for the regulatory bodies namely RBI central and state government equity investors and bankers.

**Key Words:** SLR, CRR, Repo rate, Reverse repo rate, Inflation, GDP, Fiscal deficit, IIP, Nifty, Bank rate, Bank nifty, Liquidity.

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**INTRODUCTION:** Financial sector in India has been experiencing the process of reforms since fifties. The important outcomes of the financial sector reforms in India has been opened up of the stock markets for foreign investors and adoption of market based instruments, such as, monetary policy of interest rates. The Indian Bombay stock exchange (BSE) was established in the year 1875 and is considered to be one of Asia's fastest stock exchanges with a speed of 200 microseconds and one of leading exchange group. In 1986 first equity index launched in India with a base year (1978-79=100). In the history of Indian Bombay stock exchange the first milestone of 1000 points reach in 25 July 1990. And the national stock exchange (NSE) was established in 1992. The NSE commenced trading in derivatives with the launch of index futures on 12 June 2000. The futures and options segments of NSE had made a mark for itself globally. In the segment of futures and options, trading in CNX IT index, bank nifty index, CNX Nifty index, Nifty Midcap 50 index and single stock futures are available. Trading in options and long term options on CNX Nifty & Mini Nifty futures are also available. The daily average turnover in the F&O Segment of the Exchange on 28 February 2013 at Rs. 4, 02, 090. 64 crores. The act to protect develops and regulates the security markets security exchange of India (SEBI) has been introduce in 1 May 1992.

If the RBI has decided to increase the percentage of SLR&CRR the credit available on the depositary of the bank goes down. The turn has an effect on credit availability to the public they borrow less. Then the increase cost of the borrowings also hits borrows. But how does it affects to an investor? Due to lack of credit available they demand less of goods & services. There will be ultimately impact on companies' profits. It does also affect the prices of the stocks, it will show the indirect effect on the policy actions of RBI in the stock market.

It is difficult to predict what extent the stock markets will react and it will bring about a positive or negative message in the financial community. That's why it is important to keep a track on what it has happening in the Indian economy It is like a big cycle.

Exactly the opposite happening when RBI decided to cut these rates. Theoretically, monetary policy affects the stock prices through the wealth effect channel and the balance sheet channel as pointed out by Bernanke, Gertler and Gilchrist (1996), Bernanke and Gertler (1999) and Goodhart and Hofmann (2000). The traditional interest rate channel which implies that a tighter monetary policy leads to an increase in the interest rate that at which the firm's future cash flows are capitalized causing stock prices to decline. While the easing of the monetary policy increases the overall level of economic activity and stock price responds in a positive manner as indicated by Cassola and Morana (2004). The traditional interest rate channel was also investigated by Bernanke and Blinder (1992), Thorbecke (1997) and Rigobon and Sack (2003). One third of the changes in the equity prices are associated with news on monetary policy (Fair, 2002). However, there is no study available in India that has investigated the relationship between the stock prices and the monetary policy. The study of the core objective, therefore, is to explore the impact of monetary policy on the returns to stock market.

### **OBJECTIVES:**

- To measure the relationship of selected rates with nifty.
- To find the SLR impact on fiscal deficit.
- To know the impact on selected rates on liquidity.
- To measure CRR impact on inflation and IIP.
- To measure the influences select the economic factors on nifty.
- To measure the rate change impact on bank nifty.

**SCOPE:** In this study of credit policy impact on Indian market has been empathise from the investors prospective who takes position in the market. This study covering from 2004-2014 i.e. 10 years period every two months credit policy rates will be revised by the RBI governor which will have significant impact on the economy any changes in the policy rates will be reacted by the stock market wearies selected economic variable has been considered for this analysis.

### **EMPIRICAL STUDY:**

**SLR:** Statuary liquidity ratio.

**CRR:** Cash reserve ratio.

**GDP:** Gross domestic product.

**NIFTY:** Indian index.

**IIP:** Index of industrial production.

**Repo rate.**

**Reverse repo rate.**

**Inflation.**

**Bank rate.**

**Bank nifty.**

**Liquidity.**

**Fiscal deficit.**

**NEED:** The Indian stock markets have made highly over valued and not stabled by the economic fundamentals. It is clear that to maintain by the external funds following in to India, the events from the last few months the stocks taken a real break on the fund flow and even reversed. The RBI will indicate apprehensive growth forward. As analysed without thinking on the interest rates. The RBI may be change the reserve repo rate and repo rate. This may be impact the economy through which Indian stock markets may react and take direction to move.

Investor perspective RBI credit policy will have major impact on their investment decision. This study may be helpful to the policy makers along with the investor community.

## REVIEW ON LITERATURE:

**Roberto Rigobon and Brian sack:** Movements in the stock market can have a significant impact on the macro economy and are therefore likely to be an important factor in the determination of monetary policy. However, anyways the magnitude of federal reserves reaction known very little to the stock market, is the part because of simultaneous response of equity prices to interest rates makes it difficult to estimate. This paper uses the method of heteroskedasticity to identify the stock market returns and to measure the reaction of monetary policy to the stock market. We found a significant policy response, with a 5 percent rise (fall) in the S&P 500 index increasing the likelihood of a 25 basis point tightening (easing) by about a half.

**Roohollah Zare ,M. Azali and M.S Habibullah:** This paper examines the asymmetric response of stock market volatility to monetary policy over bull and bear market periods in ASEAN5 countries (Malaysia, Indonesia, Singapore, the Philippines and Thailand) using the well-tested pooled mean group (PMG) technique. Bull and bear markets are searched by employing Markov-switching models and the rule- based non-parametric approach. Estimated the models by using monthly data from 1991:1 to 2011:12, the results show by a contractionary monetary policy (interest rate increases) has a stronger long-run effect on stock market volatility in bear markets than bulls consistent with the prediction of finance constraints models.

**Maged Shawky Sourial:** The process attempted to identify the impact of monetary policy on the Egyptian stock market returns, and whether the stock market could be an alternate channel for transmitting monetary policy rather than the traditional money and credit channels. The empirical study investigation was conducted by using Bayesian VAR models consisting of four endogenous variables with four lags and a constant. Monthly data has been used in the estimation are the actively traded stocks HFI returns to represent market performance and inflation rate, as well as growth in both the M1 and M2, and growth of credit to the private sector to represent the monetary stance. The Empirical investigation showed, currently, the effectiveness by the credit channel in transmitting the monetary policy as well as the balance sheet. Nevertheless, the results provided evidence that in the future. The stock market would have be an effective channel in transmitting the monetary policy rather than the traditional credit channel.

**Sasidharan, Anand:** The paper examines stock market behaviour on days preceding and succeeding the announcement of a change in the monetary policy . Market's plausible reactions are tested using nonparametric statistics. The test reveals that there is no systematic pattern in its reaction, neither towards by the type of policy stance (expansionary or contractionary), nor during these days corresponding to the `event'.

**Willem Thorbecke:** Financial economists have long debated whether monetary policy is in neutral. This article addresses this question by examining how stock return data respond to monetary policy shocks. Monetary policy is measured by the innovations in the federal funds rate and non-borrowed reserves, by narrative indicators, and by an event study of Federal

Reserve policy changes. In each and every case the evidence indicates that expansionary policy increases ex-post stock returns. The results are estimated by a multi-factor model also indicate that exposure to monetary policy increases an asset's ex-ante return.

**Alex d. Patelis:** This article examines whether shifts in the stance of monetary policy can account for the observed predictability in excess stock returns. By using long-horizon regressions and short-horizon vector auto regressions, the articles are concludes by the monetary policy variables are significant predictors of future returns, although they are not fully accounted by observed stock return predictability. the individual components of excess returns (risk-free discount rates, cash flows or risk premium).

**Michael Ehrmann and Marcel Fratzscher:** This paper analyses the effects of US monetary policy on stock markets. We found that, on average, and a tightening of 50 basis points reduces returns by about 3%. Moreover, the returns react more strongly when no change had been expected, when there is a drastic change in the monetary policy stance and during periods of high market uncertainty. We show that the individual stocks react in a highly heterogeneous fashion and relate this heterogeneity to financial constraints and Tobin's q. First, they show that these are strong industry-specific effects of US monetary policy. Second, we found that for a individual stocks comprising the S&P500 those with poor credit ratings, low cash flow debt to capital ratios, small size, high price-earnings ratios or high Tobin's q are affected more significantly. The use of propensity score matching allows us to distinguish between firm and industry-specific effects, and they confirms that both play an important role.

**Roberto Rigobon and Brian Sack:** Movements in the stock market can have a significant impact on the macro economy and are therefore likely to be an important factor in the determination of monetary policy. However, it is known about the magnitude of the Federal Reserve's reaction to the stock market. The reason is that it is difficult to estimate the policy reaction because of the simultaneous response of equity prices to interest rate changes. This paper uses the identification technique based on the heteroskedasticity of stock market returns to identify the reaction of monetary policy to the stock market. The results indicate that the monetary policy reacts significantly to stock market movements, with a 5% rise (fall) in the S&P 500 index increasing the likelihood of a 25 basis point tightening (easing) by about a half. This reaction is roughly to the magnitude that would be expected from estimates of the impact of stock market movements on aggregate demand. It appears that the Federal Reserve systematically responds to stock price movements only to the extent warranted by their impact on the macro economy.

**Gerald R. Jensen and Jeffrey M. mercer:** Ample evidence shows that size and book-to-market equity explain significant cross-sectional variation in stock returns, whereas the beta explains little or none of the variation. Recent studies are also demonstrated that proxies for

monetary stringency increase the explained variation in stock returns. We re-examine that the three-factor model that includes beta, size, and book to equity markets, while allowing monetary conditions to influence the relations between these risk factors and average stock returns. He find that ex-ante proxies for monetary stringency significantly influence the relations between stock returns and all three risk factors. Additionally, all the three variables are found to contribute significantly to explaining cross-sectional returns in a three-factor model that includes the monetary sector.

**Sabyasachi Kar and Kumarjit Mandal:** The objective of this paper is to study the interactions between the financial and the real sectors of the Indian economy in the period following the financial sector reforms. it estimates the relative roles of banks and stock markets in the financial intermediation process. The study tests for a long run (cointegrating) relationship between a real variable, a banking sector and a stock market variables based on a Vector Error Correction Modelling (VECM) framework. The results shows the importance of the financial sector in general and the relative roles of the stock market and the banking sector.

### LIMITATIONS:

- 1.IIP and fiscal deficit data of the year 2014 is not available.
2. NIFTY has taken daily average.
3. Inflation cpi data is considered.
- 4.GDP has taken growth rate.
- 5.liquidity taken as crore rupee

### RESEARCH METHODOLOGY:

**Partial correlation:** In probability theory and statistics ,partial correlation measures the degree of association between two random variables, with the effect of a set of controlling random variables removed.

$$\hat{\rho}_{XY \cdot Z} = \frac{N \sum_{i=1}^N r_{X,i} r_{Y,i} - \sum_{i=1}^N r_{X,i} \sum_{i=1}^N r_{Y,i}}{\sqrt{N \sum_{i=1}^N r_{X,i}^2 - \left(\sum_{i=1}^N r_{X,i}\right)^2} \sqrt{N \sum_{i=1}^N r_{Y,i}^2 - \left(\sum_{i=1}^N r_{Y,i}\right)^2}}$$

### Factor analylis:

$$E(z_1^2) = E(b_1^2 F^2 + u_1^2 y_1^2 + 2b_1^2 u_1^2 F y_1)$$

$$E(z_1^2) = b_1^2 E(F^2) + u_1^2 E(y_1^2) + 2b_1^2 u_1^2 E(F y_1)$$

$$var(z_1) = b_1 var(F) + u_1^2 var(y_1) + 2b_1^2 u_1^2 covar(F, y_1)$$

- Therefore, the variance in variable  $z_1$  is determined by the contribution of the common factor and the unique factor.

- between  $z_1$  and  $F$ :
 
$$\begin{aligned} covar(z_1, F) &= E(z_1 F) \\ covar(z_1, F) &= E((b_1 F + u_1 y_1) F) \\ covar(z_1, F) &= (b_1 E(F^2) + u_1 E(y_1) F) \\ covar(z_1, F) &= (b_1 var(F) + u_1 covar(y_1), F) \\ covar(z_1, F) &= b_1 \end{aligned}$$

This setup is called **common-factor analysis**. One can also assume that factors explain everything and there are no unique factors. In this case the number of factors will equal the number of variables.

$$z_{ji} = b_{j1}F_{1i} + b_{j2}F_{2i} + \dots + b_{jn}F_{ni}$$

## DATA ANALYSIS:

### 1. To measure the relationship of selected rates with nifty.

Correlations

Control Variables			reporate	reversereporate	slr	crr
Nifty	reporate	Correlation	1.000	.924	.415	.559
		Significance (2-tailed)	.	.000	.267	.118
		Df	0	7	7	7
	reversereporate	Correlation	.924	1.000	.646	.297
		Significance (2-tailed)	.000	.	.060	.438
		Df	7	0	7	7
Slr		Correlation	.415	.646	1.000	-.316
		Significance (2-tailed)	.267	.060	.	.407
		Df	7	7	0	7
Crr		Correlation	.559	.297	-.316	1.000
		Significance (2-tailed)	.118	.438	.407	.
		Df	7	7	7	0

**INTERPRETATION:** The above analysis partial correlation of nifty with select rates by the RBI. The result shows that repo rate is found to be strongly correlated with reverse repo rate where as SLR &CRR observed moderately correlated. SLR is also strongly correlated with the reverse repo rate but all the other variable are found to be slightly to moderate correlated with nifty as the base value.

### 2. To find the SLR impact on fiscal deficit.

**Model Description**

Dependent Variable	slr
Independent Variables	1
Weight	Source
	Power Value
	2.000

**Model Summary**

Multiple R	.154
R Square	.024
Adjusted R Square	-.171
Std. Error of the Estimate	.920
Log-likelihood Function Value	3.114

**Coefficients**

	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta	Std. Error		
(Constant)	.025	.018			1.428	.213
fiscaldeficit	-2.697E-7	.000	-.154	.442	-.349	.741

**INTERPRETATION:** The above analysis has been done between the SLR and physical deficit the R square value has been observed below the above value i.e. 0.024. The regression weight estimation applied between SLR Fiscal deficit. The result indicates that fiscal deficit is not influenced by the SLR because significant value found to be more than 0.5 i.e. 0.741.

**3. To know the impact of selected rates on liquidity.**

			PROBABALITY
LIQUIDITY	VS	SLR	0.0684
		CRR	0.5803
		REPORATE	0.7626
		REVERSE REPORATE	0.7646
		BANK RATE	0.6592

**INTERPRETATION:** Granger casualty test has been applied with selected rates to the liquidity. The result show that liquidity is caused by the SLR, repo rate, CRR where as liquidity is not caused by the reverse repo rate and bank rate.

**4. TO MEASURE CRR impact on inflation and IIP.**

**Model Description**

Dependent Variable	err
Independent Variables	inflation
	iip
Weight	err
Source	
Power Value	2.000

**Model Summary**

Multiple R	.819
R Square	.671
Adjusted R Square	.540
Std. Error of the Estimate	.660
Log-likelihood Function Value	1.921

**Coefficients**

	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta	Std. Error		
(Constant)	-1.453	.489			-2.973	.031
Inflation	-.101	.035	-16.092	5.538	-2.906	.034
Iip	.015	.005	16.415	5.538	2.964	.031

**INTERPRETATION:** The above analysis reflect the CRR impact on inflation and IIP where regression weight estimation significant value for the both variable were found to be less than 0.5%

**5. To measure the influences select the economic factor on nifty. Factor Analysis**

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.648	44.127	44.127	2.648	44.1	44.127	1.9	31.7	31.669
2	1.406	23.428	67.556	1.406	23.4	67.556	1.881	31.3	63.018
3	1.241	20.686	88.242	1.241	20.7	88.242	1.513	25.2	88.242
4	0.481	8.011	96.253						
5	0.223	3.709	99.962						
6	0.002	0.038	100						

**INTERPRETATION:** The factor analysis has been apply to measure the impact of selected variables on nifty out of six variables three factor variance is found to be loading with the help of principal component analysis (PCA) three factors were getting extracted which were having less Eigen value.





**INTERPRETATION:** The above scree plot shows the elbow signal indicates for the third factor i.e PMI out of six variables PMI having significant on nifty.

**Correlations**

Control Variables			inflation	fiscaldeficit	pmi
Nifty	inflation	Correlation	1.000	.286	.597
		Significance (2-tailed)	.	.455	.090
		Df	0	7	7
	fiscaldeficit	Correlation	.286	1.000	.142
		Significance (2-tailed)	.455	.	.716
		Df	7	0	7
	pmi	Correlation	.597	.142	1.000
		Significance (2-tailed)	.090	.716	.
		Df	7	7	0

**INTERPRETATION:** The partial correlation has been applied on the extracted variables through factor analysis the result indicated all the variables are found to be slightly to moderately correlated as a control variable

**6. To measure the rate change impact on bank nifty.**

			PROBABULITY
BANK NIFTY	VS	CRR	0.5693
		SLR	0.0193
		REPORATE	0.6848
		REVERSE REPORATE	0.5025

**INTERPERATION:**CRR to bank nifty granger casualty test has been applied with selected rates to the bank nifty the result shows that bank nifty is caused by the CRR, Repo rate, Reverse repo rate where as bank nifty is not caused by the SLR.

## **FINDINGS:**

- CRR, SLR, Repo rate, Reverse repo rate, are moderately correlated with nifty.
- Physical deficit is not influenced by SLR
- Liquidity is influenced by SLR, Repo rate & CRR. But Reverse repo rate and bank rates are not showing impact on liquidity.
- Bank nifty is caused by CRR, Repo rate, and Reverse repo rate but not by SLR.
- PMI is having significant to nifty.

**CONCLUSIONS:** I conclude the analysis of credit policy impact on stock market. In this study analysis has emphasized of the period of 10years i.e. 2004 to 2014 RBI monetary policy emphasized on the liquidity management to maintain the economic growth activity. The selected monetary rates were have a relationship with nifty liquidity in the country is largely influenced by the SLR & Repo rate but CRR & reverse repo rate were not causing the liquidity movements. The bank nifty which represents listed banks stocks performance is caused by all the monetary rates except SLR. Various economic factors were affecting the equity indicator nifty in the rest part. The RBI monetary policy as focused on the SLR and maintained unchanged in rest of the monetary rates to control the inflation in the country. This analysis shoes that monetary policy is having the significant impact on economic indicates nifty. Hence there is a further scope to do research to measure the RBI policy rates change on the Indian economy in various angles prospective.

## **BIBLIOGRAPHY:**

- [http://www.nseindia.com/products/content/equities/indices/historical\\_index\\_data.htm](http://www.nseindia.com/products/content/equities/indices/historical_index_data.htm)
- <http://www.allbankingsolutions.com/Banking-Tutor/Chronology-Repo-Rate-India.shtml>
- <http://www.allbankingsolutions.com/Banking-Tutor/Chronology-Reverse-Repo-Rate-India.shtml>
- <http://dbie.rbi.org.in/DBIE/dbie.rbi?site>

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