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A STUDY ON EFFECTIVENESS OF RBI'S MONETARY POLICY IN FOSTERING ECONOMIC GROWTH

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ABSTRACT

This study investigates the impact of the Reserve Bank of India's (RBI) monetary policy on economic growth from 2014 to 2024, focusing on its ability to balance growth and inflation amidst a volatile global economic environment. By examining the influence of key monetary instruments—such as the bank rate, repo rate, reverse repo rate, and Statutory Liquidity Ratio (SLR)—on macroeconomic variables like GDP growth, inflation, money supply, and exchange rates, the study employs regression, correlation, and Vector Auto Regression (VAR) models using secondary data. The findings reveal that conventional tools like the bank rate and CRR have limited direct impact, while the reverse repo rate and SLR significantly affect economic indicators, particularly liquidity and currency stability. Policymakers are provided with recommendations to refine monetary interventions, ensuring sustainable economic growth, controlled inflation, and stable exchange rates in India.

Key Words: Monetary policy, Reserve Bank of India (RBI), Economic growth, inflation control, GDP, Macroeconomic indicators, Vector Auto Regression Model (VAR), CRR, SLR

1. INTRODUCTION

With a nominal GDP of over $3.7 trillion India has one of the biggest economies in the world and is currently ranked fifth in the world. Although being one of the world's largest economies expanding at the quickest rate, the economy of India still confronts a number of serious obstacles rising rates of inflation, joblessness, stressed banking industry, growing income disparity, exposure to outside threats etc. The success of monetary policy of RBI in promoting growth of the economy becomes critical in this regard.

Central bank's most important tool for controlling inflation, regulating the money supply, stabilizing the currency, and promoting economic growth is Monetary policy. Monetary policy serves two purposes. It keeps inflation under control by modifying the supply of money and interest rates, while also boosting growth by employing a variety of measures, including the repo rate, reverse repo rate, cash reserve ratio, SLR, and other operations.

When the RBI lowers the repo rate and bank rate, banks' borrowing costs fall making it affordable for businesses to invest in new projects and consumers to buy products and services, promoting economic activity and GDP development. Similarly, RBI decreases the money that is available for banks to lend by raising the CRR and the SLR to keep inflation under control. The RBI can also attract foreign investment by maintaining attractive interest rates through its monetary policies. RBI works to create a balanced and viable economic environment that fosters long-term growth and development by carefully calibrating its policy tools. Thus, it is essential to understand the complicated interaction between different monetary policy instruments and economic indicators.

2. LITERATURE REVIEW

"An analysis of the effect of monetary policy changes on macroeconomic factors" (2017) by **Moid U. Ahmad and Shamima Nasrin** investigates how alterations in monetary policy impact key economic indicators in India, aiming to enhance policy-making. Using statistical tools such as correlation, regression, co-integration, and Vector Auto Regression (VAR) on monthly and quarterly data from 2011 to 2014, the study examines variables like GDP, inflation, foreign exchange rate, bank credit, and velocity of money against policy rates like CRR, SLR, Repo rate, Reverse Repo rate, and Bank rate. Significant findings include negative correlations between GDP and CRR, SLR, and Repo rates, and positive correlations between GDP and bank credit and bank rate. The study enhances understanding of monetary policy impacts and offers insights for better economic stability and policy formulation.

The paper titled **"Inflation, economic growth and monetary policy in India: A macroeconomic analysis"** (2002) by **K Singh** aims to examine the necessity of inflation control and the role of the RBI's monetary policy in managing inflation, within Indian economy by understanding the relation between inflation and growth of the economy. The study finds that economic growth in India is negatively impacted when inflation exceeds 5 percent. The study suggests that

price-based instruments like interest rates will be more effective for inflation control than the current monetary policy instruments used by the RBI.

The paper, **"Monetary Policy Analysis in an Inflation Targeting Framework in Emerging Economies: The Case of India,"** (2014) by **Rudrani Bhattacharya and Ila Patnaik**, aims to develop a model for analysing monetary policy in India. The researchers use a semi-structural New Keynesian open economy model. Key findings include the significant impact of aggregate demand and monetary policies on inflation. The study concludes that an inflation-targeting framework is crucial for stabilizing inflation expectations in India.

The research paper **"A Study of Monetary Policy and its Has an Impact on GDP Performance (With Reference to Indian Economy)"** (2019) by **Shobhit Sagar** and **Prof. L.N. Koli** aims to examine how monetary policies affect India's GDP from 2014 to 2018. The researchers use correlation, descriptive and regression analysis to explore the connection between key macroeconomic factors like interest rates, money supply, inflation, and GDP. Their findings suggest that these variables have a small effect on GDP.

H. P. Mathur and Shailaja Singh's "Changing Economy Vis-à-vis Changing Monetary Policies: A Study to Assess the Impact of Reserve Bank of India (RBI) Policies of Interest Rates and Exchange Rates" (2016) examines how the RBI's monetary policies affect interest rates and exchange rates, as well as other economic variables. The study emphasizes whether macroeconomic variables' responses to interest rate fluctuations have a broad impact on money supply and economic stability. It discovers a significant impact of the RBI's policies on several sectors of the economy, affecting inflation rates, liquidity, and economic growth. The study suggests that effective implementation of the RBI's monetary policies, which include interest rates and currency rates, is critical for moulding India's economy.

3. RESEARCH DESIGN

3.1. PROBLEM STATEMENT

India, like many other countries, is currently dealing with the challenge of growing inflation, unpredictable global markets and varying levels of liquidity. This leads to decreased consumer spending, increased cost of living, currency devaluation, increased borrowing and debt levels, trade imbalances etc. As a result, RBI's role in stabilizing the economy while promoting growth becomes increasingly complex. This research aims to evaluate the efficacy of the RBI's strategies in achieving sustainable economic growth, addressing challenges such as inflation control, contraction of money supply and stabilising the exchange rates. The findings shall offer valuable inputs for policymakers to refine monetary interventions and enhance their efficacy in the current economic scenario.

3.2. NEED FOR THE STUDY

Considering the role that RBI's monetary policy plays, it becomes imperative to check how CRR (cash reserve ratio), Reverse repo rate, Bank rates, SLR (statutory liquidity ratio) and Repo Rate effect economic development & stability overtime. These relationships will help to empower policymakers in terms of increasing GDP growth, managing inflation ensuring healthy money supply and stable exchange rates. This understanding is essential for attaining balanced and sustainable economic development, reducing economic volatility, and improving the country's overall economic well-being.

3.3. OBJECTIVES

- To pinpoint and measure the indicators of economic growth
- To inspect the relationship between the efficacy of Monetary policies on selected economic indicators
- To Evaluate the Impact of RBI's Monetary Policy on fostering economic growth

3.4. RESEARCH METHODOLOGY

The study adopts quantitative research method and secondary data will be used to analyse the effectiveness of monetary policy by RBI which is available from published sources such as Reserve Bank of India (RBI) publications, various government & financial institution. The data will cover dependent variables including exchange rates, GDP, inflation rates, money supply and independent variables including policy rates over a specified period, from 2014 to 2024. The connection between monetary policy tools of RBI and various core macroeconomic indicators is first explored through correlation, regression and Vector Auto Regression Model.

3.5. LIMITATIONS

1. It may not fully account for global economic events and foreign shocks that have an independent impact on India's growth.
2. The complex interplay between monetary policy, other fiscal policies, structural reforms, and regulatory measures can make it difficult to assess the RBI's policy efficacy.
3. Furthermore, the time lag in the impact of monetary policy makes it challenging to pinpoint the exact timing of their impact due to lagged impacts of monetary policy on the economy.

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4. DATA ANALYSIS AND INTERPRETATION

4.1. CORRELATIONS

	CPI	GDP	Money Supply	Exchange Rate
CRR	p-value0.886 R-value (0.052)	p-value 0.292 R-value 0.371	p-value 0.611 R-value 0.184	p-value 0.460 R-value 0.265
SLR	p-value 0.661 R-value (0.159)	p-value 0.000 R-value (0.899)	p-value 0.000 R-value (0.943)	p-value 0.001 R-value (0.863)
Repo	p-value 0.679 R-value (0.150)	p-value 0.149 R-value (0.492)	p-value 0.042 R-value (0.649)	p-value 0.137 R-value (0.504)
RevRepo	p-value 0.190 R-value (0.452)	p-value 0.004 R-value (0.818)	p-value 0.000 R-value (0.944)	p-value 0.000 R-value (0.901)
Bank Rate	p-value 0.881 R-value (0.055)	p-value 0.079 R-value (0.579)	p-value 0.026 R-value (0.695)	p-value 0.099 R-value (0.551)

The correlation in this study will be used in an attempt to find links in between monetary policy tools with the RBI, such as SLR, Repo Rate and the CRR and some economic variables like GDP growth and inflation. Knowing these relationships is important to see how close these variables are, which could give an idea of the success of monetary policy.

Interpretation

There is a weak and statistically negligible positive link between CRR, CPI, money supply, and exchange rate. SLR has a substantial, statistically significant negative association indicating that higher SLR tends to slow GDP development, most likely because it limits the cash available for banks to lend, limiting economic activity and the availability of money inside the economy. The repo rate has no substantial impact on any of the macroeconomic variables. The reverse repo rate is strongly negatively correlated with GDP, money supply, and rate of exchange.

4.2. REGRESSIONS

Regression analysis enables quantification of the impact of changes in monetary policy rates on economic indicators, resulting in a more precise understanding of these linkages.

Regression 1: Reverse Repo Rate and GDP

H_0: Reverse Repo Rate is not a significant predictor of GDP.

H_1: Reverse Repo Rate is a significant predictor of GDP.

Interpretation: The p-value was 0.004 which was less than 0.05, Hence null hypothesis (**H_0**) was **rejected** and alternative hypothesis (**H_1**) was **accepted** So, Reverse Repo Rate is a significant predictor of GDP. Beta value is **-0.818**, we can say that for every one unit increase in **Reverse Repo Rate, GDP** will reduce by **81.8%.** This analysis supports the hypothesis that higher Reverse Repo Rates, which restrict the economy's liquidity, might contribute to slower economic growth.

Regression 2: Reverse Repo Rate and Consumer Price Index (CPI)

H_0: Reverse Repo Rate is not a significant predictor of CPI.

H_1: Reverse Repo Rate is a significant predictor of CPI.

Interpretation: The regression study indicates an inverse relation between the Reverse Repo Rate and inflation, where an increase in the Reverse Repo Rate is associated with a fall in inflation. However, this relationship was not statistically significant since the p-value was 0.190 which was greater than 0.05. Hence, we accepted null hypothesis that Reverse Repo Rate is not a significant predictor of CPI.

Regression 3: Reverse Repo Rate and Money Supply

H_0: Reverse Repo Rate is not a significant predictor of money supply.

H_1: Reverse Repo Rate is a significant predictor of money supply.

Interpretation: There is a good statistically significant and substantial negative link between the Reverse Repo Rate and the money circulation with a p-value of 0.000 which is smaller than 0.05. A unit rise in the Reverse Repo Rate corresponds to a 94.4% drop in the money supply. Higher Reverse Repo Rates encourage banks to deposit excess funds with the central bank, thereby lowering the economy's money supply.

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Regression 4: Reverse Repo Rate and the rate of Exchange

H_0: Reverse Repo Rate is not a significant predictor of Exchange rate.

H_1: Reverse Repo Rate is a significant predictor rate

Interpretation: The p-value of 0.000 suggested that higher Reverse Repo Rates will dramatically boost the currency. The unstandardized coefficient for the Reverse Repo Rate is -4.465, indicating that for every one-unit rise in the Reverse Repo Rate, the exchange rate falls by 4.465 units. The standardized coefficient (Beta) of -0.901 shows a highly unfavourable association. Overall, it may be inferred that the reverse repo rate is a significant predictor of the rate of exchange.

Regression 5: Repo Rate and Supply of Money

H_0: Repo Rate is not an important predictor of Money Supply.

H_1: Repo Rate is an important predictor of Money Supply.

Interpretation: In this case, the p-value was 0.042. Therefore, Repo Rate is an essential predictor of Supply of Money. The beta value was -0.649 which indicates that for each one-unit increase in the Repo Rate, the Supply of Money decreases by 64.9%. So, higher Repo Rates effectively reduce the money supply.

Regression 6: Statutory Liquidity Ratio (SLR) and GDP

H_0: SLR is not a significant predictor of GDP.

H_1: SLR is a significant predictor of GDP.

Interpretation: The bi-variate regression analysis between SLR and GDP indicated a very strong negative relationship with a Beta of -0.899. The p-value of 0.000 show that this relationship is highly statistically significant thereby rejecting null hypothesis. This implies that higher SLR significantly reduces GDP, likely by restricting banks' lending capacity, thereby constraining economic growth.

Regression 7: Statutory Liquidity Ratio (SLR) and Exchange Rate

H_0: SLR is not a significant predictor of Exchange rate.

H_1: SLR is a significant predictor of Exchange rate.

Interpretation: The p-value indicated a significant negative correlation, which implies that an increase in the SLR leads to an appreciation of the currency. It also suggests that higher SLR can effectively stabilize the exchange rate by controlling money supply and inflation.

Regression 8: Statutory Liquidity Ratio (SLR) and Money Supply

H_0: SLR is not a significant predictor of Money Supply.

H_1: SLR is a significant predictor of Money Supply.

Interpretation: The p-value of 0.000 show that the relationship is highly statistically significant. The beta value -0.943 shows negative relation between SLR and money supply indicating that for each one-unit increase in the SLR, the money supply decreases by 94.3%. This strong inverse relationship suggests that increasing the SLR constrains the banking sector's ability to lend, effectively reducing the amount of money circulating in the economy. Therefore, policymakers can use SLR adjustments as a powerful tool to control liquidity and manage economic stability.

Regression 10: Repo Rate, CRR, Bank Rate and GDP

H_0: Repo rate, CRR and Bank Rate is not a significant predictor of GDP.

H_1: Repo rate, CRR and Bank Rate is a significant predictor of GDP.

Interpretation: Here, in the multi-variate regression analysis, only the p-value of CRR was lesser than 0.05 proving to be an important predictor of GDP. CRR showed a moderate positive relationship (Beta = 0.617). The remaining two variables Bank Rate and repo rate showing a strong negative relationship.

4.3. VECTOR AUTO REGRESSION (VAR) MODEL

The VAR model is employed as it aids in projecting and analysing the impacts of policy changes over time, providing a more detailed picture of the fruitfulness of monetary policy. Several VAR systems could be examined based on the dependent and independent variables, but in line with the research objective, two specific VAR-based models are analysed as outlined below.

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VAR System 1: CRR, SLR and GDP

	CRR	SLR	GDP
CRR(-1)	0.249867	1.847725	-3513.903
	(1.71799)	(0.85745)	(26611.3)
	[0.14544]	[2.15491]	[-0.13205]
SLR(-1)	-0.040862	-0.468247	308.8354
	(1.10115)	(0.54958)	(17056.6)
	[-0.03711]	[-0.85201]	[0.01811]
GDP(-1)	-7.88E-07	-0.000118	1.014954
	(9.9E-05)	(5.0E-05)	(1.53833)
	[-0.00793]	[-2.37715]	[0.65978]
C	3.910059	36.89558	13351.17
	(28.4832)	(14.2159)	(441199.)
	[0.13728]	[2.59537]	[0.03026]
R-squared	0.048647	0.977587	0.881318
Adj. R-squared	-0.522165	0.964139	0.810109
Sum sq. resids	1.355825	0.337736	3.25E+08
S.E. equation	0.520735	0.259898	8066.087
F-statistic	0.085224	72.69410	12.37645
Log likelihood	-4.252782	2.001774	-91.08422
Akaike AIC	1.833952	0.444050	21.12983
Schwarz SC	1.921607	0.531706	21.21748
Mean dependent	3.983796	19.16389	141688.9
S.D. dependent	0.422071	1.372433	18510.16
Determinant resid covariance (dof adj.)		11570.21	
Determinant resid covariance		1983.918	
Log likelihood		-72.47907	
Akaike information criterion		18.77313	
Schwarz criterion		19.03609	
Number of coefficients		12	

CRR = C(1)*CRR(-1) + C(2)*SLR(-1) + C(3)*GDP(-1) + C(4)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.249867	1.717990	0.145441	0.8900
C(2)	-0.040862	1.101148	-0.037109	0.9718
C(3)	-7.88E-07	9.93E-05	-0.007932	0.9940
C(4)	3.910059	28.48316	0.137276	0.8962

R-squared	0.048647	Mean dependent var	3.983796
Adjusted R-squared	-0.522165	S.D. dependent var	0.422071
S.E. of regression	0.520735	Akaike info criterion	1.833952
Sum squared resid	1.355825	Schwarz criterion	1.921607
Log likelihood	-4.252782	Hannan-Quinn criter.	1.644792
F-statistic	0.085224	Durbin-Watson stat	1.811386
Prob(F-statistic)	0.965151		

SLR = C(5)*CRR(-1) + C(6)*SLR(-1) + C(7)*GDP(-1) + C(8)

	Coefficient	Std. Error	t-Statistic	Prob.
C(5)	1.847725	0.857447	2.154914	0.0837
C(6)	-0.468247	0.549582	-0.852006	0.4331
C(7)	-0.000118	4.96E-05	-2.377150	0.0634
C(8)	36.89558	14.21592	2.595371	0.0485

R-squared	0.977587	Mean dependent var	19.16389
Adjusted R-squared	0.964139	S.D. dependent var	1.372433
S.E. of regression	0.259898	Akaike info criterion	0.444050
Sum squared resid	0.337736	Schwarz criterion	0.531706
Log likelihood	2.001774	Hannan-Quinn criter.	0.254890
F-statistic	72.69410	Durbin-Watson stat	2.139690
Prob(F-statistic)	0.000152		

GDP = C(9)*CRR(-1) + C(10)*SLR(-1) + C(11)*GDP(-1) + C(12)

	Coefficient	Std. Error	t-Statistic	Prob.
C(9)	-3513.903	26611.33	-0.132045	0.9001
C(10)	308.8354	17056.56	0.018107	0.9863
C(11)	1.014954	1.538331	0.659776	0.5386
C(12)	13351.17	441198.6	0.030261	0.9770

R-squared	0.881318	Mean dependent var	141688.9
Adjusted R-squared	0.810109	S.D. dependent var	18510.16
S.E. of regression	8066.087	Akaike info criterion	21.12983
Sum squared resid	3.25E+08	Schwarz criterion	21.21748
Log likelihood	-91.08422	Hannan-Quinn criter.	20.94067
F-statistic	12.37645	Durbin-Watson stat	1.713076
Prob(F-statistic)	0.009456		

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Interpretation: As seen by low t-statistics and high p-values, none of the factors in the CRR equation—including lagged CRR, SLR, and GDP—show a significant effect, indicating poor predictive potential for CRR. Lagged SLR has a negative, but not statistically significant, effect on current SLR in the SLR equation. Nonetheless, the lagged GDP coefficient is almost significant and has a negative impact, indicating that a larger GDP in the past would reduce the current SLR. According to the GDP equation, historical GDP has a small but positive influence, meaning that lagged CRR and SLR have no discernible effects on GDP.

VAR System 2: Repo Rate, Reverse Repo Rate and GDP

REVERSE_REPO_RATE = C(1)*REVERSE_REPO_RATE(-1) + C(2) *REPO_RATE(-1) + C(3)*GDP(-1) + C(4)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.425987	0.464949	0.916203	0.4016
C(2)	0.205904	0.457174	0.450383	0.6713
C(3)	-2.21E-05	2.29E-05	-0.964016	0.3793
C(4)	4.283296	4.509774	0.949781	0.3858

R-squared	0.817713	Mean dependent var	4.697824
Adjusted R-squared	0.708340	S.D. dependent var	1.290149
S.E. of regression	0.696752	Akaike info criterion	2.416328
Sum squared resid	2.427317	Schwarz criterion	2.503983
Log likelihood	-6.873476	Hannan-Quinn criter.	2.227168
F-statistic	7.476405	Durbin-Watson stat	1.436592
Prob(F-statistic)	0.026948		

	REVERSE...	REPO_RATE	GDP
REVERSE_REPO_RA...	0.425987	-0.857772	-8313.579
	(0.46495)	(0.51082)	(3802.92)
	[0.91620]	[-1.67920]	[-2.18610]
REPO_RATE(-1)	0.205904	1.359185	4563.263
	(0.45717)	(0.50228)	(3739.33)
	[0.45038]	[2.70603]	[1.22034]
GDP(-1)	-2.21E-05	-4.92E-06	0.717300
	(2.3E-05)	(2.5E-05)	(0.18750)
	[-0.96402]	[-0.19540]	[3.82558]
C	4.283296	2.767093	61116.43
	(4.50977)	(4.95472)	(36886.5)
	[0.94978]	[0.55848]	[1.65688]
R-squared	0.817713	0.681489	0.940756
Adj. R-squared	0.708340	0.490383	0.905210
Sum sq. resids	2.427317	2.929912	1.62E+08
S.E. equation	0.696752	0.765495	5698.894
F-statistic	7.476405	3.566021	26.46581
Log likelihood	-6.873476	-7.720312	-87.95765
Akaike AIC	2.416328	2.604514	20.43503
Schwarz SC	2.503983	2.692169	20.52269
Mean dependent	4.697824	5.706481	141688.9
S.D. dependent	1.290149	1.072310	18510.16

Determinant resid covariance (dof adj.)	1252981.
Determinant resid covariance	214845.9
Log likelihood	-93.56088
Akaike information criterion	23.45797
Schwarz criterion	23.72094
Number of coefficients	12

REPO_RATE = C(5)*REVERSE_REPO_RATE(-1) + C(6)*REPO_RATE(-1) + C(7)*GDP(-1) + C(8)

	Coefficient	Std. Error	t-Statistic	Prob.
C(5)	-0.857772	0.510822	-1.679201	0.1539
C(6)	1.359185	0.502279	2.706034	0.0425
C(7)	-4.92E-06	2.52E-05	-0.195397	0.8528
C(8)	2.767093	4.954716	0.558477	0.6006

R-squared	0.681489	Mean dependent var	5.706481
Adjusted R-squared	0.490383	S.D. dependent var	1.072310
S.E. of regression	0.765495	Akaike info criterion	2.604514
Sum squared resid	2.929912	Schwarz criterion	2.692169
Log likelihood	-7.720312	Hannan-Quinn criter.	2.415354
F-statistic	3.566021	Durbin-Watson stat	1.890171
Prob(F-statistic)	0.102419		

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GDP = C(9)*REVERSE_REPO_RATE(-1) + C(10)*REPO_RATE(-1) + C(11)*GDP(-1) + C(12)

	Coefficient	Std. Error	t-Statistic	Prob.
C(9)	-8313.579	3802.922	-2.186103	0.0805
C(10)	4563.263	3739.329	1.220343	0.2767
C(11)	0.717300	0.187501	3.825584	0.0123
C(12)	61116.43	36886.47	1.656879	0.1584

R-squared	0.940756	Mean dependent var	141688.9
Adjusted R-squared	0.905210	S.D. dependent var	18510.16
S.E. of regression	5698.894	Akaike info criterion	20.43503
Sum squared resid	1.62E+08	Schwarz criterion	20.52269
Log likelihood	-87.95765	Hannan-Quinn criter.	20.24587
F-statistic	26.46581	Durbin-Watson stat	2.383208
Prob(F-statistic)	0.001703		

Interpretation: R-squared value for the Reverse Repo Rate equation is 0.818, indicating a high match. All the coefficients in this equation are not statistically significant, indicating that the predictors' individual effects on the Reverse Repo Rate are small. A strong autoregressive link is demonstrated by the Repo Rate lag coefficient alone, which is the sole significant component of the equation with an R-squared of 0.681, indicating considerable explanatory power.

VAR System 3: Reverse Repo Rate, SLR and CPI

	SLR	REVERSE...	CPI
SLR(-1)	0.977377	0.827971	-0.716843
	(0.18385)	(0.29416)	(0.52514)
	[5.31615]	[2.81468]	[-1.36504]
REVERSE_REPO_RA...	-0.193434	-0.219343	0.498793
	(0.24262)	(0.38820)	(0.69302)
	[-0.79726]	[-0.56503]	[0.71974]
CPI(-1)	0.066259	-0.457870	0.580461
	(0.13422)	(0.21475)	(0.38337)
	[0.49367]	[-2.13213]	[1.51410]
C	0.623964	-8.104589	13.55235
	(2.18395)	(3.49432)	(6.23813)
	[0.28571]	[-2.31936]	[2.17250]
R-squared	0.969957	0.912965	0.591191
Adj. R-squared	0.951930	0.860744	0.345906
Sum sq. resids	0.452712	1.158946	3.693576
S.E. equation	0.300903	0.481445	0.859485
F-statistic	53.80850	17.48274	2.410216
Log likelihood	0.683305	-3.546737	-8.762615
Akaike AIC	0.737043	1.677053	2.836137
Schwarz SC	0.824699	1.764708	2.923792
Mean dependent	19.16389	4.697824	4.980296
S.D. dependent	1.372433	1.290149	1.062719

Determinant resid covariance (dof adj.)	0.003133
Determinant resid covariance	0.000537
Log likelihood	-4.430866
Akaike information criterion	3.651304
Schwarz criterion	3.914270
Number of coefficients	12

SLR = C(1)*SLR(-1) + C(2)*REVERSE_REPO_RATE(-1) + C(3)*CPI(-1) + C(4)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.977377	0.183851	5.316148	0.0032
C(2)	-0.193434	0.242623	-0.797262	0.4615
C(3)	0.066259	0.134217	0.493667	0.6425
C(4)	0.623964	2.183945	0.285705	0.7866

R-squared	0.969957	Mean dependent var	19.16389
Adjusted R-squared	0.951930	S.D. dependent var	1.372433
S.E. of regression	0.300903	Akaike info criterion	0.737043
Sum squared resid	0.452712	Schwarz criterion	0.824699
Log likelihood	0.683305	Hannan-Quinn criter.	0.547883
F-statistic	53.80850	Durbin-Watson stat	3.144004
Prob(F-statistic)	0.000315		

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REVERSE_REPO_RATE = C(5)*SLR(-1) + C(6)*REVERSE_REPO_RATE(-1) + C(7)*CPI(-1) + C(8)

	Coefficient	Std. Error	t-Statistic	Prob.
C(5)	0.827971	0.294161	2.814684	0.0373
C(6)	-0.219343	0.388198	-0.565030	0.5965
C(7)	-0.457870	0.214747	-2.132130	0.0862
C(8)	-8.104589	3.494316	-2.319363	0.0681

R-squared	0.912965	Mean dependent var	4.697824
Adjusted R-squared	0.860744	S.D. dependent var	1.290149
S.E. of regression	0.481445	Akaike info criterion	1.677053
Sum squared resid	1.158946	Schwarz criterion	1.764708
Log likelihood	-3.546737	Hannan-Quinn criter.	1.487893
F-statistic	17.48274	Durbin-Watson stat	2.291728
Prob(F-statistic)	0.004409		

CPI = C(9)*SLR(-1) + C(10)*REVERSE_REPO_RATE(-1) + C(11)*CPI(-1) + C(12)

	Coefficient	Std. Error	t-Statistic	Prob.
C(9)	-0.716843	0.525143	-1.365044	0.2305
C(10)	0.498793	0.693019	0.719740	0.5039
C(11)	0.580461	0.383372	1.514096	0.1904
C(12)	13.55235	6.238125	2.172504	0.0819

R-squared	0.591191	Mean dependent var	4.980296
Adjusted R-squared	0.345906	S.D. dependent var	1.062719
S.E. of regression	0.859485	Akaike info criterion	2.836137
Sum squared resid	3.693576	Schwarz criterion	2.923792
Log likelihood	-8.762615	Hannan-Quinn criter.	2.646977
F-statistic	2.410216	Durbin-Watson stat	2.571235
Prob(F-statistic)	0.182832		

Interpretation: With a high t-statistic (5.316) and p-value (0.0032), the lagged SLR coefficient in the SLR equation is significant and demonstrates a substantial positive influence of previous SLR on its present value. The CPI and Reverse Repo Rate lag coefficients, on the other hand, have little effect on SLR and are not significant. The lagged SLR is significant (p = 0.0373) for the Reverse Repo Rate equation, indicating that the previous SLR has a major influence on the current Reverse Repo Rate. While the lagged coefficient of the Reverse Repo Rate is not significant, the CPI coefficient is close to significance, suggesting some effect. Finally, none of the coefficients in the CPI equation have statistical significance. In general, the model indicates the presence of notable correlations, especially those between SLR and Reverse Repo Rate.

4. FINDINGS

- CRR and macroeconomic measures such as GDP, supply of money, rate of exchange, and CPI do not statistically positively correlate.
- SLR and GDP, supply of money has a statistically significant negative correlation. That means, an increase in SLR by RBI forces the banks to reserve more money which contracts the broad money and effects the purchasing power. This has a direct effect on economic activity.
- No macroeconomic factor is significantly impacted by the repo rate.
- The money circulated within the economy is correlated negatively with bank rate, showing that a rise in bank rate reduces the quantum of money in circulation.
- The exchange rate, GDP and money in circulation all have a significant inverse link with the reverse repo rate.
- The argument that higher reverse repo rates might impede economic growth by lowering liquidity is supported by the regression analysis, which shows that an increase in the rate results in a significant decline in GDP.
- Reverse repo rate is a significant predictor of money supply and Exchange rate with higher reverse repo rates leading to a substantial reduction in money supply and appreciation of the currency.
- The significant inverse link between repo rate and money supply affirms the idea that raising the repo rate causes borrowing to become more costly, thereby decreasing liquidity.
- SLR has a negative relationship with GDP, Exchange rate and money supply showing that lower SLR can enhance economic growth by increasing banks' lending capacity. This increases the amount of money circulating in the economy and leads to depreciation of the currency.
- Neither CRR nor bank rate has a relationship with inflation as measured by CPI.
- The multivariate regression analysis CRR, Repo Rate, and GDP shows that only CRR is a significant predictor of GDP.

- The VAR analysis reveals strong relationships between the SLR and Reverse Repo Rate, particularly with the SLR having a major impact on the latter.

5. SUGGESTIONS

- In order to get desired economic outcomes, the results emphasize the need of utilizing a variety of monetary policy tools. Some measures, like the bank rate and CRR, may be less useful on their own, while others, like the reverse repo rate and SLR, have a considerable influence on specific indicators.
- When raising the reverse repo rate, the RBI should proceed with prudence because it has an inverse influence on the GDP, money in circulation, and exchange rate. Increased reverse repo rates can reduce liquidity, which can hinder economic development even while they help to stable the currency and manage inflation. It is advised to take a balanced approach.
- It seems that the SLR is a potent instrument for affecting exchange rate, supply of money and GDP. Therefore, to control liquidity and stabilize the economy, particularly in times of economic uncertainty, policymakers may take into account making SLR modifications.
- The repo rate may be a useful tool for controlling liquidity, as seen by its substantial impact on the money supply. However, its low impact on other measures, such as GDP and CPI, implies that it should be used in conjunction with other instruments, rather than as the only tool for monetary policy.
- The RBI's policy framework need to prioritize these instruments, given the noteworthy adverse effect of the reverse repo rate on GDP and the robust influence of SLR on several metrics.
- The VAR analysis would suggest looking at concentrating on the variables with strong predictive capacity for policy changes like the GDP and Money Supply.

6. CONCLUSION

It is evident from this research that a one-size-fits-all strategy is inadequate for a dynamic economy such as India's. These outcomes highlight how essential it is to approach monetary policy in a balanced, data-driven manner, carefully weighing each tool's efficacy against the overall state of an economy. The research indicates that future of monetary policy lies in a more flexible, responsive framework—one that can swiftly adjust to the constantly shifting rhythms of both local and international markets. The policies guiding the economy must also change as the economy does, with an emphasis on timeliness, accuracy, and the sensitive balance between stability and growth.

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