


Does spot Nifty fluctuate with macroeconomic indicators?

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ABSTRACT

The major goal of this research is to examine the relationship between Spot Nifty (the current price of Nifty which comprises fifty shares acquainted by the national stock exchange of India) and selected macroeconomic variables such as the exchange rate of four countries, interest rate, and Foreign Institutional Investors, which immensely affect the execution of the financial market with reference to the Indian financial market. Data from the 15 years from 2003 to 2018 have been used to determine the clear picture of pre- and post-crisis 2008. The ADF test has been applied to test the stationary of the data. The research found a noteworthy interrelation which implies that there is a positive association between certain macroeconomic factors and spot Nifty.

Contribution/ Originality

This study contributes to determining the impact of the stock market on selected macroeconomic indicators. This study demonstrates the influence of certain economic factors on spot NIFTY.

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1. INTRODUCTION

Financial markets are the main indicators that reveal the strength of a country's economy. Then there are major economic determinants which lead to fluctuation in the stock market to a certain extent. It is apparent from a thorough study of several macroeconomic factors and how they impact the financial markets that fluctuations in the market are basically affected by expansive cash supply, inflation, credit/deposit proportion, and monetary shortfall separate from political shakiness. Operations of international and national financial market, derivative market, activities of foreign and domestic institutional investors, and other macroeconomic variables affect the unconventionality of the market.

The motivation behind the exploration is to discover the association between Spot Nifty and some macroeconomic indicators with reference to India. The NIFTY 50 index is the Indian National Stock Exchange benchmark broadly based stock market index for the Indian equity market. The full form of NIFTY is the National Stock Exchange Fifty. It represents the weighted average of 50 Indian company stocks in 13 sectors. Nifty comprises 50 shares acquainted by the National Stock Exchange (NSE) of India where shares of 50 top companies have been traded on the stock exchange. Now and then the NSE rearranges the figure of Nifty based on the performance of the company. Nifty's performance is one of the best relevant economic reflectors of the country and its performance helps investors to make investment decisions. Nifty is influenced by a plethora of factors such as GDP IIP data, budget, changes in interest rates, fuel prices, and more.

A rise of the Nifty by around 6% at the end of March this year left experts confused as they had predicted a decrease in the index because of macro worries. But their worries were justified as the big picture following a sound four-year recuperation, which made it look unstable. To get the highest profit from investment it is essential to thoroughly research the stock market and determine other factors which affected the prices of Nifty. This research will help investors, stakeholders, and shareholders to earn more profit as it will give an idea and update on the market scenario and economic environment.

A positive or negative correlation implies that there is an association between the two. Most studies have focused on the impact for 5 to 8 years. This study extends the period to 15 years with the view that a longer period will prompt better outcomes and an updated picture of the issue. The study has examined the result of pre- and post-crisis 2008 as we have taken the period from 2003 to 2018.

Any positive or negative move in the economy influences the securities exchanges, just like stagnation of India's economy influences Sensex and Nifty. Alongside stagnation in the economy there are other financial factors which realise a critical change in the stock valuation. The major ones are changes in interest rates, exchange rate, and FII (foreign institutional investors). Here we will see how these three significant factors affect the wellbeing of the markets. FII are institutional investors who invest in securities and other financial assets of the country they are based in. When we study the emerging economies on the Asian market, India is positioned fit for fund inflows given that we have had few improvements in the last year. FIIs were concerned about the performance of the emerging markets in general this year. Thus it's an imperative factor which affects the stock market, and understanding the association of FII investments and its movements with Nifty is very important.

The value of currency of a nation as against the currency of another nation is called an *exchange rate*. Exchange rates are essential for various sectors and a very good tool to analyze the economy and sectors such as IT, textiles, etc. if the exchange rates begin to fluctuate or suffer a severe fall, it might prompt financial specialists to envision a gradually expanding influence, bringing about a drop in the nation's stock trade. Therefore it's important to study any association of the exchange rates of other countries with Spot Nifty. In this study an association of exchange rates of four countries has been taken into consideration which makes the research imperative for Indian and global investors. It's been very clear for years that stock markets have been affected by minor changes in the rate of interest. Any increment in the rates implies that financial specialists and investors will have the capacity to acquire

less cash as borrowing winds up cost. Organizations in such situation can't get as much as is required and this negatively affects their income. All this indicates a fall in securities exchanges. Hence it's important to ascertain the association between interest rate and Spot Nifty.

This study endeavours to investigate how the Indian securities exchanges are influenced by different macroeconomic factors such as the interest rate (call money rate), exchange rate, and FIIs on Spot Nifty. At present a substantial number of worldwide players is cautiously determining the developments of securities exchanges in India. Hence a comprehension of macroeconomic factors that influence Indian securities exchanges might be valuable for policymakers, brokers, financial specialists, and every single other partner.

This study is divided into four sections. Section I demonstrates the related past literature. Section II clarifies the methodologies. Section III examines the empirical findings and outcomes determined after interpretation. Section IV gives a concise record of interpretation, suggestions, and their managerial implications.

2. LITERATURE REVIEW

The connection between macroeconomic development and securities exchange movement has recently, subjugated the scholars and academics. Substantial research has been done to examine the connection between securities exchange returns and scope of macroeconomic factors over various distinctive stock exchanges and scope of various time limits (Humpe and Macmillan, 2009). Various studies have examined securities exchange linkages, reconciliation, or relationship.

2.1. Stock market and exchange rate

Research on the share trading system and its impact on macroeconomic variables is not emergent on the planet. Macroeconomic measures have an explicit impact on the securities exchanges. Research by Buyuksalvarci and Abdioglu (2010) examined stock costs and their effect on macroeconomic factors of Turkey. The result of the examination revealed an unidirectional long-term connection between stock costs and macroeconomic factors.

The investigation of Kyereboah-Coleman and Agyire-Tettey (2008) uncovered that macroeconomic variables unfavourably influence the execution of money markets. Cash supply alone has a huge influence on the Turkish Stock Index. Singh (2010) attempted to find a relationship among three macroeconomic variables and BSE Sensex by applying unit root tests, correlation, and the Granger causality test. The result uncovered that the market list, exchange rate, Index of Industrial Production, and discount value file held a unit root and were coordinated.

Abu-Libdeh and Harasheh (2011) analysed the co-social and causality connections of stock costs in Palestine with factors such as Gross Domestic Product (GDP), inflation rate, exchange rate, LIBOR, and Balance of Trade (BOT), and gathered information from the first quarter of 2000 (March 2000) to the second quarter of 2010 (June 2010). They led an inquiry by utilizing the gathered quarterly information and applied the unit root test to the factors to apply the Granger causality test. Regression later showed a noteworthy connection between every macroeconomic variable concerning the stock costs of the PEX (Palestine Exchange) while the causality investigation dismissed any causal connections between all macroeconomic variables under examination and the stock costs of the PEX.

Megaravalli and Sampagnaro (2018) studied the long- and short-term connection between Indian, Chinese, and Japanese securities exchanges and key macroeconomic factors such as Inflation and the exchange rate. They used monthly series data from January 2008 to November 2016. The results of the pooled assessed consequences of the ASIAN 3 nations demonstrate that the swapping scale (exchange rate) has a positive and substantial long-term impact on securities exchanges while the inflation has a negative and inconsequential long-term impact. There is no factually noteworthy connection between macroeconomic factors and securities exchanges for the near future. This

examination accentuates the effect of macroeconomic factors on the share trading system execution of a developing economy (India and China) and developed economy (Japan).

2.2. Stock market and interest rate

Panda (2008) analysed that there is a long-run connection between stock costs and financing costs i.e. interest rate. Both long haul and momentary loan fees affect stock costs. It utilizes the month to month midpoints of the Sensex and Nifty to gauge stock costs in April 1996 – June 2006. The long haul financing costs are found to have an impact upon the stock costs adversely, while transient loan fees (interest rate) influence in a positive manner. In an investigation of Adjasi and Biekpe (2009) examined that higher instability in cocoa costs and interest rate escalates the unpredictability in the price of the stocks. Ahmad *et al.* (2010) analysed the connection between stock return, loan cost and trade rates in the Pakistani economy. For this, the information of transient financing cost, swapping scale (Rs./\$) and securities exchange returns (KSE-100) over the time of 1998-2009 has been taken. Multiple regression has been implemented in order to check the substantiality of even minor changes in interest rate and trade on stock returns. The outcomes show that both the adjustment in financing cost and change in conversion standard significantly affects stock returns over the time frame.

Kasman *et al.* (2011) explored the impacts of loan fee (interest rate) and foreign exchange rate variations on Turkish banks' stock returns implementing the OLS and GARCH estimation models. The outcomes recommend that financing cost and conversion scale changes have a negative and huge effect on the contingent bank stock return. Likewise, bank stock return sensitivities are observed to be more grounded for market return than loan costs and trade rates. The outcomes further show that financing cost and swapping scale unpredictability are the real determinants of the restrictive bank stock return instability. Shiva and Sethi (2015) investigated the relationship between Gold prices, exchange rate, interest rate, Sensex and Nifty and recognised the connection between them.

2.3. Stock market and FII

Mohapatra and Panda (2012) associated top ten ascents and best ten falls of Sensex with comparing net streams of FIIs and furthermore tried the effect of other macroeconomic factors alongside FIIs influencing Sensex for a multiyear time frame and found that IIP and Exchange rate (INR/USD) has a higher impact than FIIs on the securities exchanges. Singh and Sharma (2016) endeavoured to catch the effect of money related pressure usual in the Indian and also US budgetary framework on FII streams in the Indian equity market by utilizing logistic regression. The duration of month to month information ranges from 2004 to 2014. Attributable to the non-presence of any institutionalized list, the investigation initially develops Indian Financial Stress Index. The experimental outcomes have set up that with an expansion in financial stress in the Indian and US monetary framework, the prospect of positive FII flows diminishes and subsequently the possibility of negative flows surges.

Misra (2018) investigated the linkage that exists between BSE Sensex and macroeconomic factors, for example, Index of Industrial Production (IIP), inflation, the rate of interest, the cost of gold, the rate of trade, FII and supply of cash. The outcomes vitally demonstrate that BSE Sensex causes changes in the swapping scale and cash supply, FII, gold costs and IIP.

3. DATA AND METHODOLOGY

The present paper is intended to think through FII, Interest rate (call money rate) and Exchange rate to check their impact on spot Nifty within the time of fifteen years (2003 - 2018). The investigation is additionally planned to discover the dimension of reliance of Spot Nifty execution on chose monetary factors (Exchange rate, Interest rate and FII). The examination depends on auxiliary information as it were. The chronicled closing value time arrangement information of spot Nifty has been gathered from the official site of National Stock Exchange of India i.e. www.nseindia.com. The data set comprises of time series data of FII (in FII we have included these variables which are Gross purchase debt, Gross purchase equity, Gross sales debt, Gross sales equity, Net purchase debt, Net purchase equity and Sum of equity and debt), Exchange Rates(includes Euro, Dollar, Psterling, and Yen) and Interest rate(

includes call money Rate). The data has been analysed over a span of 15 years starting from 2003 – 2018. The reason for the basis the data has been taken from the year 2003 because it is a long span for analysis and for the authentication of the derived conclusion and secondly as per the literature review many studies have been conducted for the time period of 5, 8 or maximum ten years not more than that.

The further section discusses the “methods/ models/ techniques, etc. which the study proposes to use on the data to extract the required information for the raw data.

3.1. Measures of central tendency

The study uses the data collected from various sources in its original form. The series is then subjected to initial analysis with the help of basic statistical tools before proceeding with econometric modelling. An underlying evaluation of mean and standard deviation of the arrangement is done to remark on the factors under investigation. Standard deviation is regularly utilized as a proportion of the risk related with value variances of a given resource. Standard deviation is a factual estimation that reveals insight into chronicled instability. The study of basic statistical measures has been coupled with the graphical study. Other factual measures under research are skewness and kurtosis. Skewness measure will enable us to comprehend the unevenness from the ordinary dissemination of the statistical data while Kurtosis process the levelness of the dispersion of the series. Jarque-Bera (JB) test which is known as the goodness-of-fit test help to confirm the condition of the normality of the data also to check whether the data have the skewness and kurtosis even after being normally distributed. The formula to calculate this test is given in the following equation:

$$JB = \frac{n}{6} (S^2 + \frac{1}{4}(K - 3)^2) \dots\dots\dots (1)$$

Where,

JB = Jarque- Bera

N = Number of observations

S = Skewness of data

K = Kurtosis of data

In order to determine whether the data is normally distributed or not, JB measurement which has a chi-squared dispersion with two degrees of freedom has been used. The null hypothesis is a joint speculation of the skewness being zero and the abundance kurtosis being zero. Tests from an ordinary dispersion have a normal skewness of 0 and a normal abundance kurtosis of 0 (which is equivalent to a kurtosis of 3). As the meaning of JB appears, any deviation from this expands the JB measurement and shows that the information isn't normally distributed.

3.2. Test for stationary of data

After inferring whether the data is normally distributed or not, subsequently the investigation will continue to comprehend if the information under examination is stationary or not. A stationary procedure is the one whose joint possibility dispersion does not change when moved in time. Subsequently, the mean and variance, in the event that they are available, likewise don't change after some time and don't pursue any patterns.

A Time Series is stationary if has the accompanying conditions:

- μ (mean) is constant for all t.
- σ (variance) is constant for all t.
- The autocovariance function between X_{t_1} and X_{t_2} only depends on the interval t_1 and t_2 .

As it were, a stationary time arrangement (X_t) must have three highlights: finite variation, constant first moment, and that the second moment just relies upon ($X_{t_1} - X_{t_2}$) and not depends on t_1 and t_2 .

The advanced econometrics portrays different tests to check for the stationery of the information. In any case, these tests have a few or the other downside. Glynn *et al.* (2007) has completed a broad survey of the ongoing advancements in the testing of the unit root theories within the sight of basic change and gave experimental proof. The present investigation utilizes the Augmented Dickey-Fuller Test for the study.

The Augmented Dickey-Fuller Test (1984) is an enhanced version of the first Dickey-Fuller Test (1979). The Dickey-Fuller test expressed that a basic autoregressive model (where the variable under examination is relapsed on its previous value) is demonstrated by:

$$y_t = \alpha y_{t-1} + \mu_t \dots\dots\dots (2)$$

Where:

y_t = Variable under study

t = time index,

α = coefficient,

μ_t = error term.

In the event that $\alpha = 1$, unit root is available in the information implying that the arrangement of the variable under investigation [it] is non-stationary for this situation. The ADF test eliminates all the basic impacts (autocorrelation) in the time arrangement and afterward tests utilizing a similar methodology. The testing technique for ADF is characterized in the following equation:

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta \Delta y_{t-1} + \dots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \dots\dots\dots (3)$$

Where,

α = constant,

β = coefficient on a time trend and

p = the lag order of the autoregressive process.

Forcing the requirements $\alpha = 0$ and $\beta = 0$ relates to displaying an irregular walk and utilizing the limitation $\beta = 0$ compares to demonstrating an arbitrary stroll with a float. By comprising slags of the order p the ADF definition takes into consideration higher-arrange autoregressive procedures.

The hypothesis under examination while uses of the test are:

H_0 = Series has a unit root (Series is non-stationary)

H_1 = Series does not have a unit root (Series is stationary)

If the value of t-statistics is found to be more than the critical value then it implies that the null hypothesis will be rejected and it will be accepted in the case when the determined t-measurements is lower than the critical values. When the null hypothesis is found to be rejected as per the given condition then data is observed to be non-stationary, in that case, first difference of the data has to be determined. The first difference of the time series is nothing but the change between the time period that is between t and $t-1$. In other words,

$$\Delta Y_t = Y_t - Y_{t-1} \dots\dots\dots (4)$$

The difference of the series will be calculated until it becomes stationary.

Correlation and linear regression are very popular and found to be the most regularly used techniques for identifying the connection between two or more factors. The objective of determining correlation is to see whether two estimation factors co-fluctuate and to evaluate the quality of the connection between the factors, though regression communicates the relationship as a condition.

In general, we make use of the correlation coefficient, for example, the Pearson Product Moment Correlation Coefficient, to determine if there is a direct and linear connection between the factors. Moving on to predict the quality of the relationship, we figure out the correlation coefficient (r). Its numerical esteem ranges from +1.0 to -1.0. $r > 0$ shows positive straight affiliation, $r < 0$ demonstrates negative affiliation while $r = 0$ demonstrates no direct association.

4. FINDINGS

The study begins with the initial analysis of descriptive statistics of the data. Descriptive measures are determined to know the essential properties of the data. Mean, Median values can be easily interpreted. The table below summarizes the descriptive statistics of the time period.

The data set comprises of time series data of FII (in FII we have included these variables which are Gross purchase debt (GPD), Gross purchase equity (GPE), Gross sales debt (GSD), Gross sales equity (GSE), Net purchase debt (NPD), Net purchase equity (NPE), and Sum of equity and debt) (SED), Exchange Rates (includes Euro, US Dollar, Psterling, and JYen) and Interest rate [includes call money Rate (CALL MO)].

Table 1: Descriptive statistics of variables

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	J-Bera	Prob
CALLMO	6.20	6.33	14.07	0.73	2.01	0.29	3.68	4.30	0.12
NIFTY	3972.84	4360.00	6299.15	934.05	1615.28	-0.39	1.75	11.82	0.00**
EURO	61.70	59.68	85.12	50.88	7.43	0.91	3.81	21.80	0.00**
GPD	8841.27	5404.60	46988.20	-186.90	9447.70	1.01	3.59	24.27	0.00**
GPE	45303.99	49088.00	124882.30	3151.00	24195.58	0.21	2.73	1.35	0.51
GSD	7966.90	3025.00	43825.00	104.00	8759.98	1.11	3.90	31.45	0.00**
GSE	40665.92	42542.80	120455.30	2870.40	22829.55	0.34	3.30	2.97	0.23
JYEN	47.94	42.46	70.68	33.20	10.36	0.59	2.14	11.56	0.00**
NPD	874.37	341.10	20394.50	-31583.80	5157.04	-1.36	16.15	984.51	0.00**
NPE	4638.07	4028.70	29195.80	-17326.30	8454.68	0.48	3.45	6.12	0.05**
PSTERLING	80.14	79.77	101.10	67.21	6.34	0.60	4.11	14.64	0.00**
SED	5512.44	3968.70	36821.10	-40902.50	10879.42	0.05	5.68	39.18	0.00**
USDOLLAR	47.07	45.78	63.75	39.37	4.96	1.28	4.80	53.72	0.00**

Note: ** significant at 5% significance level

Skewness can be explained as the proportion of the unevenness of the dispersion of the arrangement around its mean. Kurtosis processes the levelness of the dispersion of the arrangement. Jarque-Bera test is usually used for checking whether the arrangement is ordinarily disseminated or not. The test signifies whether the given data is normally distributed or not. The null hypothesis is acknowledged shown information is not normally distributed. The high Jarque-Bera test measurements show the non-normality of the data that implies normal method like OLS may give wrong or biased results.

4.1. Test of stationary

Test of stationary, must for doing time series analysis for knowing the properties of the data. The Augmented Dickey-Fuller Test is applied to identify whether the data is stationary.

The hypotheses tested are:

#0 = Series has a unit root (Series is non-stationary)

#1 = Series does not have a unit root (Series is stationary)

Results of the ADF test resulted in the following:

Table 2: Results of ADF test

Series	Prob.	Lag	
CALLMO	0.0003	0	not stationary
CLOSENIFTY	0.5740	0	Stationary
EURO	0.9793	0	Stationary
GPD	0.2218	1	Stationary
GPE	0.0158	0	not stationary
GSD	0.7495	2	Stationary
GSE	0.2092	2	Stationary
JYEN	0.7815	1	Stationary
NPD	0.0000	0	not stationary
NPE	0.0000	0	not stationary
PSTERLING	0.5946	1	Stationary
SED	0.0000	0	not stationary
USDOLLAR	0.9556	1	Stationary

Note: Maximum lag: 12

It has been clearly observed from the results shown in the above table that the variables as Call money rate, GPE, NPD, NPE and SED reject the null hypotheses which mean data series is stationary which infers that there is no unit root. The other remaining variables as Nifty, Exchange Rate variables, GPE, GSD, GSE accepted the null hypothesis which states that data is not stationary. After the first difference, the non-stationary data has been converted to stationary.

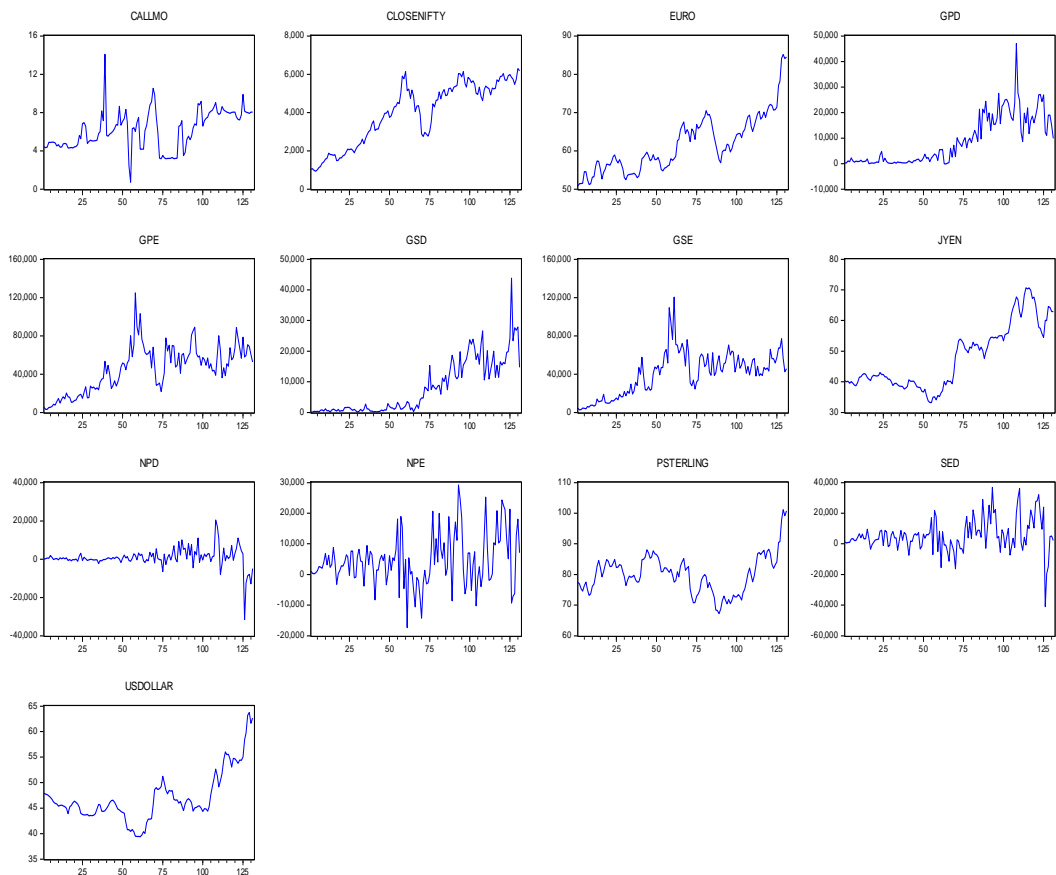


Figure 1: Graphical representation of the volatility of different macroeconomic variables and spot Nifty

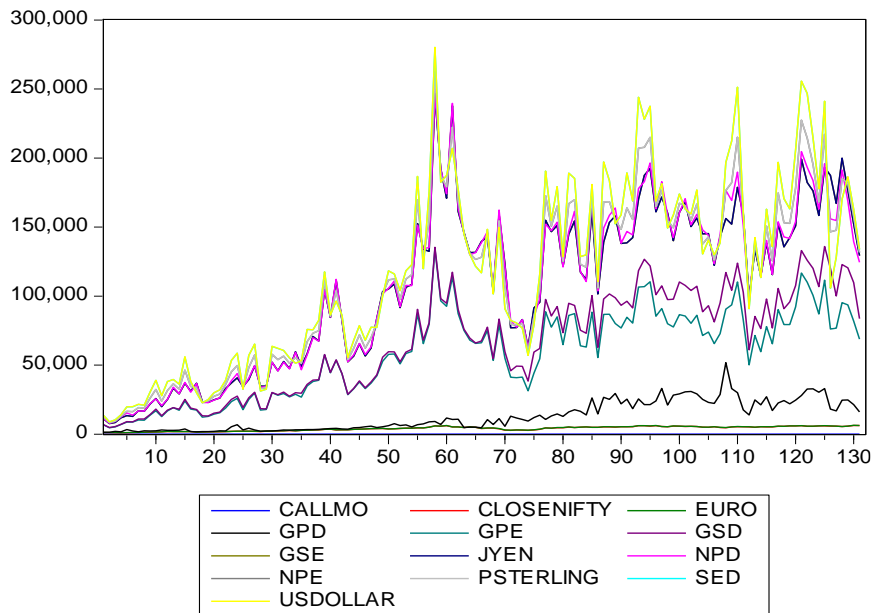


Figure 2: Graphical representation of the volatility between Nifty and macroeconomic variables

From the above, it can be seen that graphs have been plotted horizontally on x-axis and values of the variables on the y-axis. Graphs depicted that there is volatility in every variable. To begin with Call money rate, initially, it shows a constant growth. It results from short-term fluctuations in the series which are not systematic. It can be seen a break in the year 2007 – 2008 and then there is steadily growing with little fluctuations throughout. Moving on to close Nifty which is the closing price of spot Nifty depicts a constant growth rate and then instant breakdown which is due to the recession and then steadily growth can be seen. Now the graph depicted that in the case of Euro an upward trend can be seen with short-term fluctuations. The graph of GPD describes stable movement and then slightly upward movement.

Table 3: Results of correlation between macroeconomic variables and spot Nifty

Probability	Call Money	Close Nifty	Euro	GPD	GPE	GSD	GSE	JYEN	NPD	NPE	PSTERLING	SED	US DOLLAR
Call Money	1												
Close Nifty	0.414	1											
Euro	0.366	0.682	1										
GPD	0.376	0.693	0.612	1									
GPE	0.269	0.868	0.501	0.479	1								
GSD	0.381	0.701	0.756	0.842	0.449	1							
GSE	0.309	0.809	0.48	0.409	0.936	0.421	1						
JYEN	0.372	0.586	0.781	0.802	0.308	0.821	0.241	1					
NPD	0.044	0.078	-0.163	0.401	0.113	-0.156	0.033	0.073	1				
NPE	-0.065	0.297	0.136	0.265	0.332	0.149	-0.019	0.23	0.233	1			
PSTERLING	0.308	0.083	0.446	-0.135	0.0427	0.064	0.048	0.119	-0.356	-0.007	1		
SED	-0.029	0.268	0.029	0.397	0.311	0.042	0.001	0.214	0.654	0.887	-0.174	1	
US DOLLAR	0.307	0.309	0.779	0.497	0.08	0.6663	0.0223	0.783	-0.221	0.169	0.49	0.027	1

Correlation depicts the degree and kind of connection between any at least two factors in which they differ together over a period; an affirmative relation that is directly related occurs where the increase or decrease in variable leads to increase or decrease in other one. A 'negative correlation' signifies a relationship of high estimations of one with the low estimations of the other(s). Relationship may fluctuate from +1 to - 1. Calculated figures around +1 demonstrate more positive connection, and figures around - 1 indicate more of negative connection that is inverse relationship.

Here, as shown in the above table, results summarized the influence of some macroeconomic factors on spot Nifty with the help of correlation. This table depicted the correlation between spot Nifty and all other variables which are included in the study. To begin with, it is interpreted with the help of the table that there is a positive correlation between spot Nifty and Call money rate and though p-value is 0.00 depicts the significant relationship between both variables. There is direct connection between the factors and if there is an increase in the prices of spot Nifty then call money rate will also increase which implies that there is an impact of macroeconomic variables on spot Nifty or vice-versa.

Moving on we can predict from the table that there is a positive linear association between spot Nifty and Euro, GPD, GPE, GSE, GSD, JYEN, NPD, NPE Psterling, SED and Dollar. Increase or decrease the value of one variable will directly affect another variable which shows the impact of one on another. It can be seen that there is a significant relationship between them except NPD (a component of FII) and Psterling (currency of UK) as their p-value is more prominent and greater than 0.05 which infers that their relationship is not substantial.

Furthermore, the above table describes the correlation between all the variables included in the study with each and every other variable.

Table 4: Results of regression analysis

Dependent Variable: CLOSENIFTY				
Variable	Coefficient	Std. Error	t-Statistic	P-value
C	741.379	688.212	1.077	0.284
CALL_MO	62.795	28.187	2.228	0.0277*
GP_D	0.005	0.012	0.464	0.644
GP_E	0.046	0.006	7.929	0.0000*
GS_D	0.050	0.012	4.039	0.0001*
GS_E	-0.009	0.007	-1.389	0.167
EURO	41.328	16.536	2.499	0.0138*
JAPANESE_YEN	33.949	12.002	2.829	0.0055*
POUND_STERLING	17.012	12.204	1.394	0.166
US_DOLLAR	-103.336	23.885	-4.326	0.0000*
R-squared	0.905	Mean dependent variable		3972.839
Probability(F-statistic)	0.000	Durbin-Watson statistic		1.305

Note: Least square method of regression analysis has been used to determine the relationship.

*significant at 5% level

From the above table it can be seen that current price of Nifty, spot Nifty which is symbolize as CLOSENIFTY is the dependent variable whereas all other factors that is component of FII, exchange rates of different countries and call money rates are the independent variables by which least squared regression method can be developed and analysed to determine the relationship between dependent and independent variables.

Results of the above table depict that Gross purchase debt, Gross sales equity, and Pound sterling are not significant as the p value is more than 5% which accepts the null hypothesis. Thus these variables are not significant and cannot explain the dependent variable, spot Nifty. These variables cannot influence the change in the dependent variable. And the other independent variables, null hypothesis

have been rejected as the p value is less than 5% thus accepting the alternate hypothesis. These entire variables are significant and can explain the dependent variable.

For the good model the value of r^2 have to be observed which is 90 % in the above model, which approaches unity which proves that data has been nicely fitted, goodness of fit has been determined by the value of r square of the above regression model.

Moving on to the F-statistic value and the corresponding p-value explained that null hypothesis has been rejected and thus the independent variables jointly are significant to explain the value of dependent variable it concluded that all the independent variables have been jointly can influence the Spot Nifty which is a very good sign for being the good model of regression.

5. CONCLUSION

There is a relationship between Spot Nifty and macroeconomic factors. There are straight affiliations and positive connections among the factors and the relationship is substantial. The variables have an effect on each other. The null hypothesis is not accepted, and there is no enormous effect of the chosen macroeconomic factors on Spot Nifty. The speculation that the chosen macroeconomic factors have a huge effect on Spot Nifty has been acknowledged. Pound sterling and one of the parts of the FII do not have any effect on the development of Nifty. The development of the share trading system record is very fluctuating because of macroeconomic variables. There is a need to estimate the relationship among macroeconomic factors both for financial specialists and policymakers to settle their ventures and make investment choices.

This study has assessed the relationship of the exchange rate, interest rate, and FII with Spot Nifty. The recent scenario where investment markets are considerably incorporated has turned out to comprehend the basic essentials impacting the business sectors at the national and global dimension. There is a positive correlation between the selected macroeconomic variables and Spot Nifty. This implies that they have a long affiliation and support the investigation by Ahmed (2008). The significant implications of the investigation can be useful to the legislatures of India, policymakers, partners, and national and global financial investors. Current research has further opportunity to expand. By including different macroeconomic factors it is all the more fascinating to observe the factors by which the financial market is affected in European, US, and other established nations. Future research can concentrate on the relative investigation of developing and developed markets, and decipher the instability among these factors utilizing new procedures and devices.

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