

BEHAVIOURAL MOVEMENT OF SELECTED MACROECONOMIC INDICATOR & ITS IMPACT

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Abstract Stock market plays an important role in the economy. The stock market plays a pivotal role in the growth of the industry and commerce of the country that influences the economy of the country to a great extent. The smooth functioning of stock market is important in both industry and investors point of view. It plays the most important role of supporting the growth of the industry and commerce in the country. The aim of the study is to analyse the relationship between selected macroeconomic factors and Indian stock market price. This study may help the investors in taking buying and selling decisions of securities. This study also helps the investors in taking better decision by analysing the relationship between various macroeconomic factors. For the purpose of the study, monthly data of ten macroeconomic variables are chosen. The variables chosen are Oil Price, Gold Rate, Exchange Rate and NSE. The data over the period of 2018 to 2020 is used for the study. The results would be highly useful for the traders, investors, and future research scholars.

Key words: Oil Price, Gold Rate, Exchange Rate and NSE.

INTRODUCTION

In financial cycles, we experience Period of expansion and recession. After the downturn, the expansion begins once more. Market analysts and Finance experts around the world have created models and hypotheses to understand the market and reduce the effect of economic and business cycle.

Both Micro and Macro-financial elements influence the exhibition of a business; it is basic that organizations know about these elements so as to decrease the effect of these on future incomes and productivity. Microeconomics factors, for example, demand and factors of production are controllable and the impact of which can without much of a stretch be envisioned and controlled, in any case, macroeconomic factors, for example, the unemployment rates, and corporation tax rate are beyond the control of an organization are outside the ability to control of an organisation.

The stock market is the indicator of country's economic condition. The Indian stock market has witnessed many changes during last two decades. Since liberalization lots of initiatives have been taken in the field of investments in financial sectors which attracts more foreign investments to our country. The flow of capital and stock market movements gets disturbed due to the changes in few macroeconomic variables of a country. Besides, fundamental factors like company's performance, sector growth, etc. are also influence the company's shares price.

The linkage of stock market and the uncertainty in the macroeconomic variables has attracted many investors, academicians and researchers since two decades. There is a wide range of macroeconomic variables that influence the share price of a company such as, gold rate, exchange rate, debt traded value, oil price, etc. As suggested in the Efficient Market Hypothesis theory, all the relevant information about the changes in the macroeconomic variables must reflect in the current stock price and no excess return can be made with this information. As per this statement, the macroeconomic variables will not influence the stock market movement. However, many researchers have critically examined the result of efficient market hypotheses theory, and revealed that, the market movements are largely influenced by the changes in the macro economic variables.

NEED FOR THE STUDY

A few examinations have been had to check the impact of macroeconomic variables on stock market movement. The features of few macroeconomic variables are varying from market to market and also vary with respect to period of study. Thus, in depth analysis is required to drive a valid interpretation about the impact of macroeconomic variables on stock market. Moreover, country like India is required this type of analysis to attract more foreign investment.

In this study, the researcher tends to analyse the level of impact of the macroeconomic variables on the stock market movement. Also, this examination will be useful for the investors, traders and policy makers to decide on the market movement with respect to the changes in the macroeconomic variables.

LITERATURE REVIEW

Joseph Tagne Talla (2013), Impact of Macroeconomic Variables on the Stock Market Prices of the Stockholm Stock Exchange (OMXS30), had taken monthly data over the period of 1993 to 2012 to analyse the impact of macroeconomic factors on the stock market returns, a case of Stockholm Stock Exchange. For the study secondary data was used of four macroeconomic variables i.e. exchange rate, consumer price index, money supply, and interest rate. Multivariate Regression Model, unit root test and Granger causality test were used to find the relationship. The results show that both currency depreciation and inflation have significant negative impact on stock market returns. Whereas interest rate does not have any significant relationship but it affects the stock market returns negatively. Money supply has positive relationship with the stock market returns though not significant. No unidirectional, using Granger Causality is found between the selected macroeconomic variables and the stock market returns.

Makan et. al. (2012) have tried to test the influence of macroeconomic variables on BSE stock prices. The macroeconomic variables are represented by the IIP, CPI, call rate, exchange rate, gold price, oil price and FII. Monthly data for the duration of April 2005 – March 2012 was considered. The paper employed Granger causality test, regression analysis and correlation analysis to examine such relationships. Based on the results it was concluded that three out of seven variables were relatively more significant and likely to influence Indian stock market. These factors were exchange rate, FII and call rate. There is a positive relation between FII and Sensex, call rate and Sensex whereas exchange rate and Sensex shows a negative relation. In granger causality test call rate was seen affecting BSE.

Akbar et. al. (2012) have studied the relationship between the Karachi stock exchange index and macroeconomic variables for the period of January 1999 to June 2008. Employing a co-integration and VECM, they found that there was a long-run equilibrium relationship exists between the stock market index and the set of macroeconomic variables. Their results indicated that

stock prices were positively related with money supply and short-term interest rates and negatively related with inflation and foreign exchange reserve.

OBJECTIVES OF THE STUDY

- To find the behavioural movement of macroeconomic variables such as crude oil, gold rate and NSE.
- To study the movement of exchange rate with reference to two currencies namely USD & EURO.

SCOPE OF THIS STUDY

- In spite of accessible numerous macroeconomic factors, the analyst considered just four factors such as, exchange rate, oil price, gold rate and NSE.
- The result of this study cannot be applied / integrated to whole market, as the information for the investigation were viewed as just for three financial years, 2018-19 to 2019-20.

METHODOLOGY

Descriptive research is used in this study to analyse the impact of macroeconomic variables on stock market movement. The secondary data on oil price, gold rate, exchange rate and NSE Nifty were collect from its authorized websites during the period 2018-19 to 2019-20. The regression model was applied to check the impact level of the macroeconomic variables on stock market movement and the association between the selected three macroeconomic variables such as, Exchange Rate (ER), Oil Rate (OR), Gold Rate (GR) were tested by using Descriptive Statistics in ANOVA. The units of the different variable are as follows.

Gold Rate : Rs. per Gram

Oil Price : USD per Barrel

Exchange Rate : Rs. per USD

ANALYSIS & INTERPRETATION

1. Selected macroeconomic variables

The collected gold rate, oil price, and exchange rate values were analysed by using descriptive statistics and tabulated below.

Table No: 01 Descriptive Statistics on Exchange Rate

	N	Range	Min	Max	Mean		SD	Skewness		Kurtosis	
	Stat	Stat	Stat	Stat	Stat	SE	Stat	Stat	SE	Stat	SE
USD to INR	732	8.57	68.36	76.94	72.0339	.08257	2.23393	.472	.090	-.912	.180
EURO to INR	732	13.04	76.27	89.32	80.9990	.11821	3.19827	.828	.090	-.437	.180
Valid N (listwise)	732										

Min: minimum; Max: maximum; SD: standard deviation; Stat: statistics; SE: standard error.

Figure No 1 Descriptive Statistics on Exchange Rate

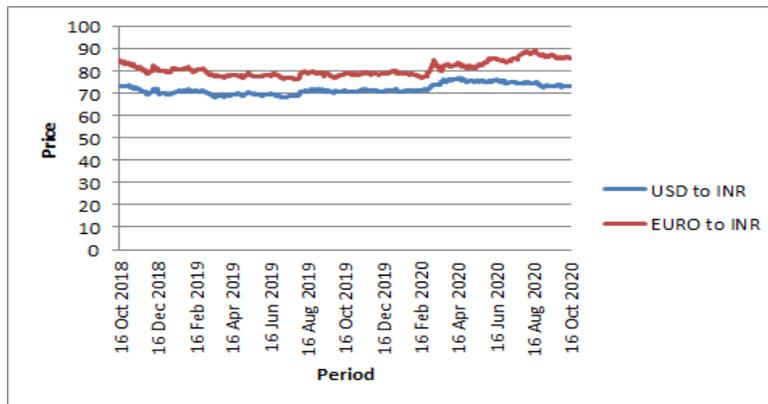


Table No 1 provides the data on descriptive statistics on exchange rate during the study period. Relationship between two currencies in relation with Indian Currency has taken for the study. The positive skewness indicates that, the right tail of the distribution is longer than the left tail. Moreover, the skewness values for the exchange rate between USD to INR is fairly symmetrical. It is also observed that the skewness values for the exchange rate between EURO to INR are not symmetrical.

From the Kurtosis value, it is observed that the distribution is shorter, tails are thinner than the normal distribution. The peak is lower and broader than mesokurtic, which means the data are light tailed or lack of out layers.

Table No: 02 Descriptive Statistics on Gold Rate

	N	Range	Min	Max	SD	Skewness	Kurtosis
	Stat	Stat	Stat	Stat	Stat	Stat	Stat

USD to INR	795	864.5	1204.9	2069.4	1426.6	1.092536	0.26532112
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Min: minimum; Max: maximum; SD: standard deviation; Stat: statistics; SE: standard error.

Figure No 2 Descriptive Statistics on Gold Rate



Table No 2 provides the data on descriptive statistics on gold rate during the study period. The positive skewness indicates that, the right tail of the distribution is longer than the left tail. Moreover, the skewness value of 1.09 indicates that the gold rates are positively skewed and the data are highly skewed.

From the Kurtosis value, it is observed that the distribution is shorter, tails are thinner than the normal distribution. The peak is lower and broader than mesokurtic, which means the data are light tailed or lack of out layers.

Table No: 03 Descriptive Statistics on Crude Oil

	N	Range	Min	Max	SD	Skewness	Kurtosis
	Stat	Stat	Stat	Stat	Stat	Stat	Stat
Crude Oil Price in USD	814	114.04	-37.63	76.41	12.70255	-1.37106	3.909458

Min: minimum; Max: maximum; SD: standard deviation; Stat: statistics; SE: standard error.

Figure No 3 Descriptive Statistics on Crude Oil

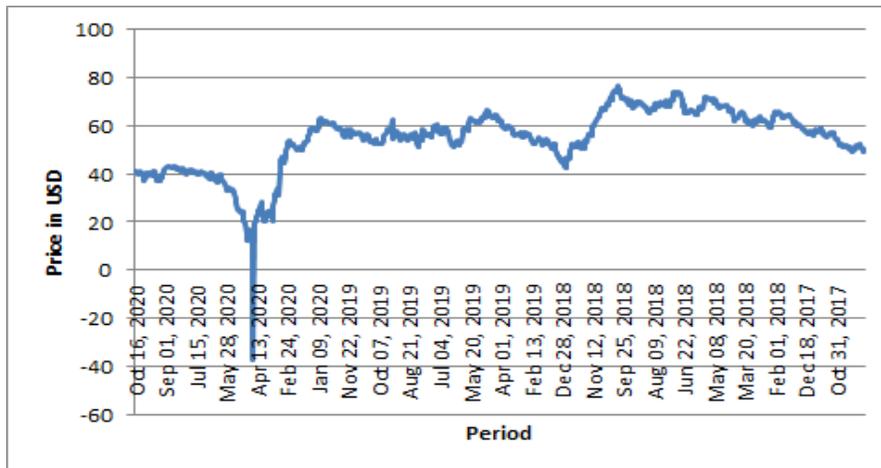


Table No 3 provides the data on descriptive statistics on crude oil rate during the study period. The positive skewness indicates that, the right tail of the distribution is longer than the left tail. Moreover, the skewness value of -1.37106 indicates that the crude oil rates are negatively skewed.

From the Kurtosis value, it is observed that the distribution is longer, tails are fatter than the normal distribution. The peak is higher and sharper than mesokurtic, which means the data are heavily tailed or profusion of out layers.

Table No: 04 Descriptive Statistics on NIFTY

	N	Range	Min	Max	SD	Skewness	Kurtosis
	Stat	Stat	Stat	Stat	Stat	Stat	Stat
NSE NIFTY	742	4752.05	7610.25	12362.3	795.8396	-0.80521	1.24367

Min: minimum; Max: maximum; SD: standard deviation; Stat: statistics; SE: standard error.

Figure No: 04 Descriptive Statistics on NIFTY

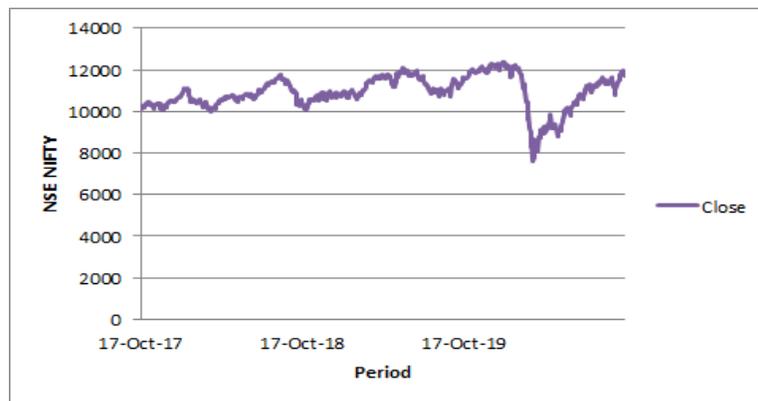


Table No 4 provides the data on descriptive statistics on NSE Nifty during the study period. The negative skewness indicates that it is fairly symmetrical.

From the Kurtosis value, it is observed that the distribution is shorter, tails are thinner than the normal distribution. The peak is lower and broader than mesokurtic, which means the data are light tailed or lack of out layers.

CONCLUSION

In this study, the behavioural movement of selected macro-economic variables are documented. The study revealed that, the value of slope between EURO (0.0019X) to INR was slightly higher than the slope of USD (0.0016X) to INR. The deviation between two currencies exchange rate was the lowest during Feb 2020 and reached highest value during Aug 2020. The gold rate continuously showing raising trend having the slope value of 2.6396X. However, there was a slight decline in the month of March 2020. The crude oil prices started declining from January 2020 and hit the lowest value in the month of April 2020. And it started showing increase in trend in upcoming months. However, the overall trend of crude oil for the last three years showing an upward movement and having a slope of 0.1092X. NSE Nifty index faced a sudden drop during Feb – Mar 2020. And afterwards showing steady and continuous progress.

By observing the movement of all variables discussed in the study, it is observed that the economy moving towards positive direction.

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