

## **The impact of exchange rate fluctuation on NIFTY 50 with special reference to Dollar, Euro and British Pound**

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### **ABSTRACT**

*The study analyze the relationship between exchange rate fluctuation and the performance of NIFTY 50. Daily average closing prices of Dollar, British Pound Euro and NIFTY 50 are taken for the study. Period of the study is 30 days from 1 August 2018 to 14 September 2018. Statistical tools like ANOVA and correlation are used for analyzing the relationship between exchange rates and NIFTY 50. From the data analysis the results indicates there is no relationship between exchange rates and NIFTY 50 and there is a significant relationship between Dollar, British Pound and Euro each other.*

**Keywords:** Exchange Rate, Dollar, British Pound, Euro and NIFTY.

### **INTRODUCTION:**

In the modern era capital market play a vital role in the economic development of a country. The capital market can be divided in to primary market and secondary market. Primary market means where financial securities are firstly available for trading, secondary market deals with the publicly traded securities which are already issued in Primary Market, the secondary market popularly known as stock exchanges. Stock exchanges are one of the leading factors in capital market and considered as the index of economic prosperity of an economy. Stock market facilitates the free flow of excess fund to industry in the form of capital and it will boost the economic development. (Chavannavar, Patil, & Simoes, 2016) NIFTY 50 Index is National Stock Exchange of India's benchmark stock market index for Indian equity market. NIFTY 50 covers 13 sectors of the Indian economy and offers investment managers exposure to the Indian market in one portfolio. The Nifty 50 Index represents 65% of the free float market capitalization of the stocks. NIFTY volatility is influenced by the monetary policy of RBI.

Here in the Indian capital market we are not fully depend on the internal sources; many foreign investors are actively participating in the Indian capital market. However, it is not possible to maintain the same momentum of cash flow to industry for a longer period because several macro economic factors will influence it. Macro economic factors like monetary policy, fiscal policy, inflation and deflation, exchange rate, balance of payment etc Exchange rates have a big role in the capital flow and performance of the capital markets.

(Lioudis, 2018) Foreign exchange, or forex, is the conversion of one country's currency into another. In a free economy, a country's currency is valued according to the laws of supply and demand. In other words, a currency's value can be pegged to another country's currency, such as the U.S. dollar, or even to a basket of currencies. A country's currency value may also be set by the country's government. However, most countries float their currencies freely against those of other countries, which keep them in constant fluctuation. Since the first quarter of 2018-19 financial year Indian economy witnessed a blow of Rupee against leading currencies in the world. There are many causes for the crunch, like decreased foreign trade, increased of balance of payment, increased crude oil price etc. In this study I am attempting to analyze the

impact of exchange rates of three leading currencies like Dollar, Pound and Euro on the performance of National stock exchange of India Ltd (NSE).

### **REVIEW OF LITERATURE:**

According to (Sekhri & Haque, 2015) FDI and FIIs are highly influencing the Sensex and Nifty movement. The flow of FDI & FII geared up the Indian economy and provided the opportunities to Indian industry for up-gradation in technology, access to global managerial skills, ways to optimal utilization of human and natural resources and global competitive advantage with greater efficiency. The study is evident that there is a strong positive correlation between FDI & Sensex and FDI & Nifty and moderate positive correlation between FII & Sensex and FII & Nifty.

(Chowdhury & A, 2018) They suggest that one of the reasons of short term fluctuation in stock market is currency value. FDI along with FII will then account for increased investment in stock market. For developing economy, if technological constraints are associated with a country, the economy faces higher amount of FDI inflows with currency depreciation. But if technological advances are there for an economy, currency depreciation will lead to less FDI inflows. Country like India has very less exposure with technological advancement. Hence, when there is currency depreciation, it always attracts FDI to promote exports in the economy. Penetration of FDI into stock market eventually augments SENSEX in India to rise in long run.

(D, Raju, & G, 2016) They state that Dollar price more effect on Indian stock market. Since, only limited NIFTY price have been taken, and nifty market can also be affected by other unanticipated events also. In this study they try to convey the important sectors and there are a lot others sectors which might get affected based on their foreign currency exposure. According to them “If you want to analyze impact on currency movement on a stock market of your choice you need to focus on basic pointers like company status ( net exporter and net importer) and how much hedging company does so to mitigate the effect of exchange rate fluctuation on its profitability”

(Patel & Kagalwala, 2013) They found out there is no more impact of exchange rate (USD/INR) on Indian stock market (NIFTY and SENSEX). But there regression test which indicates that exchange rate have very little variation in NIFTY and Sensex and also ANOVA indicated that there is no relationship of exchange rate with NIFTY and Sensex. However, they conclude that there is no impact of exchange rate on Indian stock market.

(Rekha & Mary, 2017) After the study they found to know that the degree of volatility of foreign exchange rates is a very high on Nifty and concluding with currency fluctuations forms one of the important factors influencing the Indian stock market.

### **OBJECTIVES OF THE STUDY:**

- To study the relationship between the foreign exchange rates and the performance of NIFTY 50
- To study the inter relationship between the exchange rates of Dollar, Pound and Euro

### **HYPOTHESIS OF THE STUDY:**

- Ho: There is no significant relationship between foreign exchange rats and NIFTY 50
- H1: There is a significant relationship between foreign exchange rats and NIFTY 50

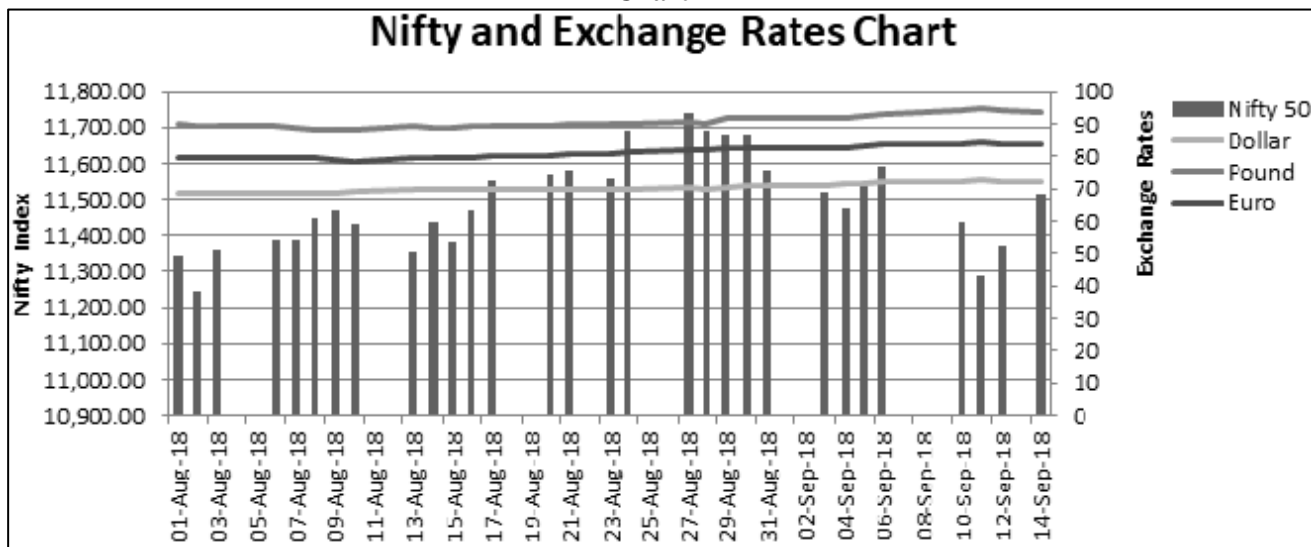
### **METHODOLOGY OF THE STUDY:**

The study is fully based on secondary data from National Stock Exchange Ltd and foreign exchange market of 30 working days of NSE (1 August 2018 to 14 September 2018) . Statistical tools like ANOVA and correlation has used for data analysis.

### **DATA ANALYSIS AND INTERPRETATION:**

The data are explained in two different ways graphically and mathematically

Chart 1



**Interpretation of NITY and exchange rates chart:**

**Nifty:**-In the study period Nifty varies from 11244.70 to 11738.50, a marginal variation of 493.80 points. It was started from 11,346.20 points (August 1, 2018) but Later on gradually increased to 11738.50 by 27 August. Since August 28 there was a negative tendency to go down. During the study period the average performance of Nifty was 11492.79 points.

**US Dollar:**-Throughout the study period we can see a gradual increase in the exchange rate of Dollar. During the thirty days of our study only eight days the exchange rates shows negative trend. The study started with Rs.68.35 for per Dollar but by the end of our study the exchange rate of rupee reached the mark of Rs.72.10 against a Dollar and the highest rate was Rs. 72.64 on 11 September 2018.

**British Pound:**-During our study period there was a marginal variation of Rs.6.72 against British pound. The initial stages of our study period was better for the Indian Rupee but later on Pound become strong and once it touched 94.69 mark (September 11, 2018). The average exchange rate was 90.63.

**Euro:**-It is observed that there is a high volatility in the exchange rate of Euro currency against Indian Rupee. During the research period 13 times out of 30 days the value may fluctuate. The highest rate was 84.31 and achieved on 11 September, 2018 and the lowest rate was 76.61 at 10 August, 2018.

Table 1

ANOVA Table			
Source of Variation	Sum of Squares	degree of freedom	Mean Square
Between Samples	SSC= 6242.665	K-1 = 2	MSE= 3121.332
With In samples	SSE= 558941.4	N-K = 87	MSE= 6207.46
<b>Total</b>	<b>SST= 565184.1</b>	<b>N-1 = 89</b>	

$F = 3121.332 / 6207.46,$   
 $F = 0.502835659$

The value of F at .5 level of significant for (2, 87) the degree of freedom = **3.1**

**Interpretation of ANOVA:**

**Ho:** There is no significant relationship between foreign exchange rats and Nifty 50

**H1:** There is a significant relationship between foreign exchange rats and Nifty 50

The table value is greater than the calculated value, so the null hypothesis is accepted.

**Table 2**

<b>Correlation</b>	
Correlation between Dollar and British Pound	0.920604468
Correlation between Dollar and Euro	0.921672599
Correlation between Euro and British Pound	0.964212075

**Interpretation of Carrel Pearson Correlation:**

- It is observed that there is a high positive correlation between the exchange rates of dollar and British Pound.
- The correlation between exchange rates between Dollar and Euro is very high and positive.
- The exchange rate correlation between Euro and pound is very high and positive

**Table 3**

<b>Correlation</b>	
Correlation between Dollar and NIFTY	0.199801
Correlation between Euro and NIFTY	0.114208
Correlation between British Pound and NIFTY	0.314513

**Interpretation of Carrel Pearson Correlation:**

- The correlation between NIFTY and Dollar has low positive correlation so exchange rates of Dollar cant influence the NIFTY performance
- It is observed that Euro cant influence the NIFTY
- It is found that the exchange rate of British Pound somewhat influence the NIFTY

**FINDINGS OF THE STUDY:**

- ANOVA result indicate exchange rate fluctuation not at all influence the performance of NIFTY 50
- It is observed that the exchange rates of Dollar, British Pound and Euro achieved maximum gain at 11 September ,2018 and the same day NIFTY index shows a negative trend
- In our study period the lowest exchange rate against Dollar was Rs.68.35 at 1 August 2018 and the same day NIFTY index shows a negative figure. In the case of Pound and Euro (low rates at 10 August 2018 Rs.86.96 and Rs.78.61 respectively) NIFTY follow the same pattern of performance what we already seen in the case of Dollar.
- The result of Correlation indicates the performance of one currency will positively influence each other
- The interrelationship between Dollar to NIFTY and Euro to NIFTY have no correlation
- But the inter relationship between British Pound to NIFTY , British Pound a little can influence the NIFTY

**CONCLUSION:**

I conclude the study the impact of currency fluctuation and NIFTY 50 with special reference to Dollar, Euro and Pound great satisfaction. In this analysis we can see that the currency exchange rates cud not affect the performance of NIFTY in any ways but in the general observation we found that in some occasions the NIFTY going towards the currency rates. The inter relationship between exchange rates of Dollar, British Pound and Euro have strongly related and one can influence the others in the same direction. Here in this study all the analytical results indicate exchange rate is not the core factor influence the performance of the stock market. The performances of the Indian capital market are influence by other micro economic factors like monitory policy, FDI, usual market conditions, performance of the industry etc

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**DATA USED FOR ANALYSIS:**

Date	Dollar	Pound	Euro
01-Aug-18	68.35	89.72	79.70
02-Aug-18	68.63	89.34	79.50
03-Aug-18	68.55	89.16	79.29
06-Aug-18	68.83	89.09	79.52
07-Aug-18	68.63	88.80	79.60
08-Aug-18	68.66	88.44	79.72
09-Aug-18	68.76	88.18	79.26
10-Aug-18	68.89	87.97	78.61
13-Aug-18	70.02	89.40	79.89
14-Aug-18	69.96	89.02	79.36
15-Aug-18	69.92	88.78	79.32
16-Aug-18	70.09	89.15	79.74
17-Aug-18	70.10	89.40	80.17
20-Aug-18	69.82	89.35	80.16
21-Aug-18	69.86	90.13	80.84

23-Aug-18	70.11	89.86	80.90
24-Aug-18	69.97	89.93	81.32
27-Aug-18	70.17	90.46	81.94
28-Aug-18	70.10	90.27	81.98
29-Aug-18	70.54	91.88	82.58
30-Aug-18	70.75	92.05	82.56
31-Aug-18	71.01	92.05	82.39
03-Sep-18	71.22	91.67	82.78
04-Sep-18	71.59	92.03	82.91
05-Sep-18	71.76	92.61	83.45
06-Sep-18	71.95	93.05	83.62
10-Sep-18	72.46	94.38	84.00
11-Sep-18	72.64	94.69	84.31
12-Sep-18	72.16	94.15	83.89
14-Sep-18	72.11	93.92	83.60

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