

# An Impact of Currency Fluctuations on Indian Stock Market

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**Abstract-** This paper discusses about the factors influencing and impact of currency fluctuation on global economy and Indian stock market, then we shift our focus to Indian rupees factors which causes the currency means rupee fluctuation has been discussed. And what are the factors impact on rupee fluctuation has been covered, in the end we discuss about the steps taken and data taken by RBI website, and what else can be done by investors to lessen the impact of currency fluctuation and what can be done prevent Indian rupee fluctuation. In this article we will identify exchange rate sensitive sectors and stock in Indian market and try to understand the correlation between stock price and exchange rate. Individual investor can exploit this knowledge to earn applicable returns in shortterm.

**Keywords:-**currency fluctuations, Interest rate, Foreign exchange market.

## I. INTRODUCTION

This study is advisor to examine the period of impact of currency fluctuation on Indian stock market. In order to observe in impact, and it has bearing in mind US dollar (USD) EURO, POUNDS, and currency fluctuation against Indian rupee as independent variables and national stock exchange index (NIFTY) as a dependent variable. The study has been conducted for the period of five years from 2011 to 2015. And calculating regression analysis in order to meet chosen objectives. This study concludes that some percent variations can be observed in NIFTY with the select currency fluctuation. The interchange rate measures also upset the worth of the organisation.

Upcoming paid and receivables dominated in external currency Thus on an instruction base, the effect of exchange degree vacillations on stock marketplace appears to be contingent on both the position of the kingdoms worldwide trade in the budget and the assessment of the vocation inequality.

Today's globalised economy and the other currencies & international financial system the effect of macroeconomic factors were dictating the rudiments and technicalities succeeded in the internal markets. In the recent past, Indian stock market have witnessed biggest crash of around some cross worth of investments have disappeared in a single day.

In this esteem the exploring felt that there is a need of examining the relative and the impact of US dollar, Euro & pounds fluctuations on Indian stock market. In order to observe the present market conditions and to disclose the facts to the investors.

This analysis purposes to learn the dynamics, features manipulating and Effect of variations in the currency. Currency fluctuations are basically the continuing deviations between the relative morals of the currency allotted by on country when likened to different currency. These vagaries are rather that ascend every day and affect the relative amount of argument amid several currency like dollar, Euro and pounds on a frequent basis with Nifty. It is these fluctuations that stockholder in coinage exchange transactions appearance too carefully in order to yield a revenues from their funds. Exchange rates among the most observed, investigated and governmentally operated economic measures.

## II. LITERATURE REVIEW

Essentially inspected the influence of interchange rate on us stock market earnings with co-ordination S&P500. By means of proceeds on S&P500 index has the reliant flexible and deviations in the US dollar-Euro exchange rates as the self-regulating flexible, reversion talent has charity to normalise elements stock marketplace proceeds depend on exchange rate. This paper also discovers the organisation between the argument rate and stock marketplace return to analysis whether there are any independent between the two. Consuming the unlike GARCH units there fallouts display the dollar gratefulness controls the S&P500 harmfully. Quarrel rate uncertainty also growths the instability of the S&P500 and decreases theyields. Surveyed the active networks between foreign exchange and stock market for India. Applied outcome show that normally proceeds in this two markets are not interrelated, though in current years, the return in stock market had essential inspiration on return in exchange rate with probable timber of slight inspiration in opposed direction these results have been opened up some interesting matters regarding the exchange rate and stock prices crucial association.

Exchange rate has oscillated a share from 1990-1991 Indian rupee had drop over by virtually 20% in the fiscal year. Reductions in the charge of rupee has influenced transfers rise ahead of salary. Importations have not been

considerable pretentious by distinguishing value of rupee representing positively prejudiced petition curve for imports. Results of breakdown basics of exports incomes and imports posters show the crucial role of change in exchange rate. Though the assessable facet is moderately more important in imports than exports.

This analysis set to found the connotation between exchange rate measure and stock market returns instability at the Nairobi securities exchange. The learning used secondary data composed from the Nairobi securities exchange and central bank of Kenya for the period 2007-2011. The training recoiled stock market proceeds impulsiveness nearby exchange rate measure. From the progression productivity the study familiar that exchange rate movement importantly affected the stock market returns explosiveness owed to its material content to depositors with the high fluctuation in the exchange rates in the exchange rate become superior accompanied by a huge stock market returns unpredictability.

### III. OBJECTIVES OF THE STUDY

To understand the currency market and the concept of exchange rate and currency fluctuation.

To analysis the factor affecting the demand for a currency.

To analysis the impact fluctuation on Dollar, Euro, and Pounds on volatility of the Nifty.

To find the relationship between exchange and currencies like USD, Euro, and Pounds.

### IV. METHODOLOGY

#### 4.1 Source of data:

The present study is depending up on the secondary data only. The daily data on NIFTY and varies currency values against Indian rupee has been takes from the website of national stock exchange, money control, Yahoo finance and investing.

#### Sample Size:

The study has considered 1998 trading days' data from Jan 2011 to Dec 2015.

#### Tools and Techniques:

Regression Analysis

Multiregression

R-Square

Adjusted R-square

### V. WHAT IS FOREIGN EXCHANGE MARKET?

The foreign market (forex FX, or currency market) is a world-wide isolated marketplace for the swapping of currencies. This includes all facets of buying, selling and swapping currencies at recent or determined prices. In terms of sizes of trading, it is by far the major market in the world. The main providers in this market are the large universal banks. Financial the world role has analysts of trading between a wide range of multiple types of buyers and sellers around the clock, with omission of weekends. The foreign exchange market does not regulate the relatively morals of different currencies, but sets the present market price of the worth of one currency has compulsory against another.

The foreign exchange market works widespread financial institutions, and it stimulates on common levels. Overdue the farewells banks turn to a smaller number of fiscal companies known as traders who are actively involved in large processes of foreign exchange trading. Most foreign exchange suppliers are banks, so this behindhand the panels market is recurrently called the inter-bank market even though a few guarantee companies and other kinds of financial firms are convoluted. Trades between foreign exchange dealers can be very large, joining hundreds of million dollars. Because of the advisor issues when with reference to two currencies, forex has little (if any) managerial entity regulating its actions.

### VI. HOW CURRENCY FLUCTUATION EFFECT ON STOCK MARKET

Whether or investors know it, there's a good chance that a portion of their equity holdings is exposed to currency fluctuations. When it comes to foreign currency movements, the source of company revenues is as important as where the company is based, even if the company is based in the United States. Here is premier on how currency fluctuation can affect stocks.

#### 6.1 Strong Dollar: Not Always Good

The US dollar fluctuates in value against the world's other currencies. For equity investors, a strong dollar is not always good thing. For example, an investor buy shares of XYZ Inc., which derives one third of its revenue from Japan, one third of Eurozone and one third of the United States, in a particular quarter, the euro and yen are weak

against the dollar. Upon converting revenue earned in those regions into dollar and calculating that quarter's profit, XYZ has fewer dollars, and that will crimp its profits.

### 6.2 Benefits of a Weak Dollar

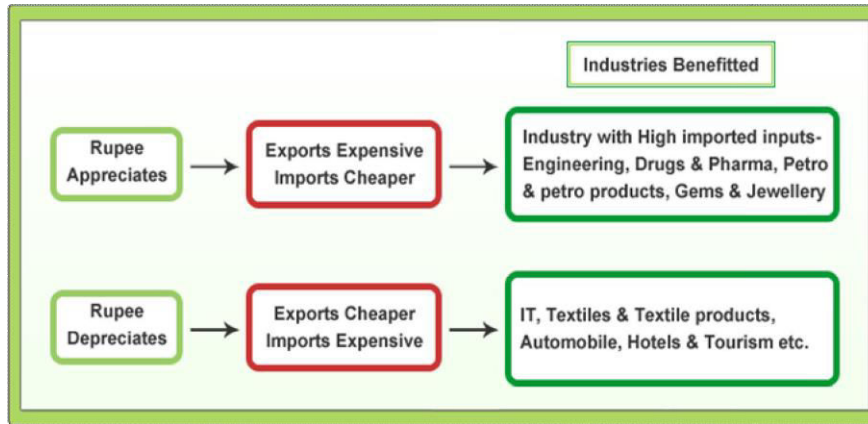
Just as a strong dollar can be a drag on a company's bottom line, a weak dollar can be a boon for the company and its shareholders. Using the XYZ example again, assume that the euro and yen were strong against the dollar during the quarter. That means it takes less of those currencies to buy more greenbacks. Transaction: XYZ will have more dollars as the dollar was weak against the euro and yen.

### 6.3 Global Investing

When investors buy foreign stocks, even if the stock is listed on a US exchange there is still exposure to that country's currency fluctuations against the dollar. T Rowe Price describes a scenario that benefits US investors in foreign stocks: if the dollar makes a strong gain against Chile's peso, demand for imports from Chile probably would rise because US buyers would be paying less for them. This might boost stock prices of Chilean export companies because it would increase their revenues and their products.

### 6.4 Volatility

One of the main reasons US stocks often appear less volatile than their foreign counterparts is because some foreign currencies are themselves volatile. Studies have shown that increased currency risk can mean higher portfolio volatility and perhaps hinder an investor's overall returns.



### 6.5 Statistical Tools Used for Currency Fluctuation Regression Analysis

The regression analysis helps us to measure the impact of an independent variable on a dependent variable. The R-squared value in the regression analysis calculation measures the total impact of the independent variable on the dependent variable. The analysis also generates the coefficient and corresponding probability values. If the probability value is less than 5 percent of a particular variable, then we can consider that the independent variable has a significant impact on the dependent variable. If the probability value is more than 5 percent, then one can conclude that the corresponding independent variable is not significant to explain the dependent variable.

#### Multiple R-Square

Is the percent of variance in the dependent variable explained by the independent variable? It is also called the coefficient of multiple determination.

$$\text{Nifty} = B_0 + B_1 \cdot X_1 + B_2 \cdot X_2 + B_3 \cdot X_3$$

#### Adjusted R-Square

When there are a large number of self-determining variables, it is conceivable that R-squared may become artificially large, simply because some independent variables unexplained differences "explain" minor parts of the differences of the dependent variable. It is so fundamental to adjust the value of R-squared as the quantity of independent variables grows. In the case of few independent variables, and normally adjusted R-squared is less than the R-squared.

Average calculation of Rupee value appreciation or depreciation against Dollar, Euro, pounds

Year	2011	2012	2013	2014	2015
Dollar	46.667	53.476	58.615	61.017	64.143

Euro	64.867	68.663	77.909	81.113	71.258
Pounds	74.764	84.722	91.791	100.564	98.164

Finally 2011 to 2015 average of rupee value is high depreciation on Dollar price (17.48). But against Euro Slightly (7%). But against pounds highly depreciation(23.14).

### 6.7 Hypothesis of the study

Following is the hypothesis consider for testing the relationship between Nifty and currency variable in world. H0: There is no significant relationship between Nifty and currency variable  
 H1: USD has a significant relationship on Nifty. H2: Euro has a significant relationship on Nifty. H3: Pounds has a significant relationship on nifty. Calculation of Regression Multi-Variate Analysis  
 This analysis shows to what extend Nifty Market are dependent on Dollar, Euro, Pounds Currencies.

Regression Statistics	
Multiple R	0.0331906
R-Square	0.0011016
Adjusted R Square	-0.0014081
Standard Error	5.2272968
Observations	1198

### ANOVA

ANOVA					
	Df	SS	MS	F	Significance F
Regression	3	35.98071	11.99357	0.438928	0.725192
Residual	1194	32625.61	27.32463		
Total	1197	32661.59			

	Coefficient s	S Error	t stat	P value	Lower 95%	Upper 95 %	Lower 95.0%	Upper 95.0%
Intercept	0.2144285	0.1513405	0.0141686	0.1567843	-0.0821	0.511	-0.082	0.5113
Dollar	0.2391771	0.3388919	0.7057622	0.4804736	-0.4254	0.904	-0.425	0.9040
Euro	-0.0391437	0.3123155	-0.125334	0.9002802	-0.6513	0.573	-0.651	0.5736
Pounds	-0.336325	0.3885788	-0.865526	0.3869235	-1.0986	0.426	-1.098	0.4260

As shown in Table 2, F test (0.438) is greater than Significance F (0.725). This indicate that price of determination or relation of nifty price with factors is strong. i.e., R square in this analysis negative value so in this study there is no impact of currency fluctuation on Nifty(-0.0014081).

In Table 3, we can see that Coefficient of Correlation is positive correlated(0.2144285).

$$\text{Nifty} = B_0 + B_1 * X_1 + B_2 * X_2 + B_3 * X_3$$

$$\text{Nifty} = 0.2144 - 0.239X_1 + 0.039X_2 + 0.0336X_3$$

Where, X1=Dollar, X2=Euro, X3=Pounds,

Here, the coefficient of USD, Euro, Pounds are found to be positive. This indicate one percentage increase in USD Euro Pounds, there is a predict increase in Nifty performance good in stock market. Whereas the Dollar rate is highly significant.

### VII. CONCLUSION

The study highlights about 3 Currencies like Dollar, Euro, and Pounds on Nifty stock market. The study is conducted for 5 years from 2011 to 2015. The conclusion states that Dollar price are most significant than Euro, and Pounds, as coefficients value of dollar is 9.71, Euro 2.143, and Pounds is 2.19. In this study R square value is negative so for these currency fluctuations there is no impact on nifty market. The result state that Dollar price more effect on Indian stock market. Since, only limited Nifty price have been taken, and nifty market can also be effected by other unanticipated events also.

This article covers important sectors and you can use it as reference to take informed decision. There are a lot others sectors which might get affected based on their foreign currency exposure. If you want to analyse impact on

currency movement on a stock market of your choice u 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.

#### VIII. REFERENCES

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