A STUDY ON THE IMPACT OF CURRENCY FLUCTUATION ON SECTORAL INDICES IN INDIAN CAPITAL MARKET

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***Abstract*: This study has been undertaken to investigate the impact of currency fluctuation on selected sectoral indices in Indian capital market. The selected sectors for analysis in this paper are Nifty Bank, Auto, Pharma, Realty, Media and FMCG with USD/INR as dependent variable. The study covers the sample period of 2013-2017 by using correlation and regression. The finding of the study reveals that exchange rate has relationship with all the selected sectoral indices except Nifty Realty. And the regression reveals that nearly 40% of the independent variables cause the dependent variable.**

***Keywords*: exchange rate, sectoral indices, correlation, regression**

Introduction

The foreign exchange market is a global decentralized or over-the-counter market for the trading of currencies. This includes all aspects of buying, selling and exchanging currencies at current or determined prices. In terms of volume, it is by far the largest market in the world, that is followed by the credit market. The share market and foreign exchange market both are vital elements of a financial system. Stock market is a place where shares are issued and traded either through exchange or over the counter markets. BSE is the premier stock exchange in India and it has been recognized permanently while the other exchanges are renewed every five years. Apart from BSE, there are two other stock exchanges National Stock Exchange of India Ltd. (NSEI) and Over-the-counter Exchange of India Ltd (OTCEI). Both these exchanges were set up in 1992. Stock markets are said to reflect the health of the country's economy. On the other hand, major economic indicators determine stock market movements to a large extent. Besides, fundamental factors like corporate performance, industrial growth, etc., always exert a certain amount of influence on the stock markets.

Unlike a stock market, the foreign exchange market is divided into levels of access. At the top is the interbank foreign exchange market, which is made up of the largest commercial banks and securities dealers. Within the interbank market, spreads, which are the difference between the bid and ask prices, are sharp and not known to players outside the inner circle. Trading with both stocks and foreign exchange generally involve risk. The main component is Foreign currency assets. As per the data furnished by the Reserve Bank of India in its weekly statistical supplement, India's total foreign exchange reserves stands at US$368.231 billion for the week ended November 11, 2016.

Review of Literature

Rabia Najaf and Khakan Najaf (2016) analyses the relationship between Indian rupees-US dollar exchange rate and Nifty returns. The data from period of October 2008, to march, 2010 has been taken for the study. It has proved that exchange rate and Nifty returns are non-normally disturbed. Unit root tests have proved that there is negative relationship. The Granger causality test has shown that there is unidirectional relationship between exchange rate and Nifty returns.

Aruna Polisetty and Dr.Prasanna Kumar (2016) studied that the boom and depression of the capital market are reflected in all sectors of the economy. This study analyses the dynamic relationship between stock market and exchange rate. The exchange rate of rupee and US Dollar has been taken for the study. The study is conducted from 2005-2014 for a period of 10 years. Correlation between NSE NIFTY, BSE SENSEX with reference to Exchange Rates has been calculated.

M.Dileep Kumar, Farahan Jamil Saqib Muneer Seri Suriani (2015) investigated the relationship between the stock market and exchange market of Pakistan. KSE-100 index is used as a substitute of Stock Prices while currency rate of Pak Rupee against US Dollar (Rs/US$) is taken for exchange rate exposure. The data is on monthly basis and the time period is from January 2004 to December 2009. It was found that there is no relationship exists between exchange rate and stock price and both the variables are independent of each other.

Mr.Rakesh D and Dr. J K.Raja and Mr.Basavangowda.K.G (2016)analysed the factors influencing and impact of currency fluctuation on global economy and Indian stock market, factors which causes the rupee fluctuation. And the impact on rupee fluctuation, the steps and data taken by RBI website, and what can be done by investors to lessen the impact of currency fluctuation and prevent Indian rupee fluctuation.

Maheen Jamil and Mr.Naeen Ullah(2013) studies thatForeign exchange fluctuations have been found to have an impact on the stock market return and the fluctuations in the stock prices. This research uses the co integration technique to analyze the

impact of USD to PKR exchange rate on the stock return market in Pakistan. The stock market return has been studied by KSE 100 Index. The results show that a relationship between the two variables exists in the short run in Pakistan

Research Methodology

The present study is directed towards studying the dynamics between stock returns and exchange rates movement. It focuses towards Nifty sectoral returns and Indian Rupee-US Dollar Exchange Rates. The frequency of data is kept at monthly level and time span of study is taken from January 2013 to December 2017. The results from monthly data are more precise and are better able to capture the dynamics between exchange rates and Nifty sectors. A sample of six major sectors are considered for the study i.e., NIFTY Bank, NIFTY Auto, NIFTY Pharma, NIFTY Realty, NIFTY Media, NIFTY FMCG. The above mentioned samples are selected on the basis of total income generated to the Economy. The exchange rate of Indian rupee against US dollar (USD/INR) value is taken for this study. The data consists of – i) monthly average prices of the Nifty sectors, used to compute stock returns and ii) Indian Rupee/US Dollar ratios on a daily basis, used to compute exchange rates. The daily returns and exchange rates have been matched by calendar date. Data has been taken from NSE and RBI website.

Analysis

Table:1 Correlation between exchange rate and banking sector

		USD/IND	Banking sector
USD/INR	Pearson Correlation	1	0.513
	Sig.(2-tailed)		.000
	N	60	60
Banking sector	Pearson Correlation	0.513	1
	Sig.(2-tailed)	.000	
	N	60	60

The Banking sector and exchange rate are moderately correlated and the statistical analysis shows that there is positive correlation between banking sector and exchange rate since the value of r is 51.3%. Correlation is significant at 0.01 level.

Table : 2 Correlation between exchange rate and auto sector

		USD/INR	Auto sector
USD/INR	Pearson Correlation	1	0.675
	Sig.(2-tailed)		.000
	N	60	60
Auto Sector	Pearson Correlation	0.675	1
	Sig.(2-tailed)	.000	
	N	60	60

The Auto sector and exchange rate are moderately correlated and the statistical analysis shows that there is positive correlation between auto sector and exchange rate since the value of r is 67.5%. Correlation is significant at 0.01 level.

Table : 3 Correlation between exchange rate and Pharma sector

		USD/INR	Pharma sector
USD/INR	Pearson Correlation	1	0.718
	Sig.(2-tailed)		.000
	N	60	60
pharma Sector	Pearson Correlation	0.718	1
	Sig.(2-tailed)	.000	
	N	60	60

The pharma sector and exchange rate are strongly correlated and the statistical analysis shows that there is positive correlation between pharma sector and exchange rate since the value of r is 71.8%. Correlation is significant at 0.01 level

Table : 4 Correlation between exchange rate and media sector

		USD/INR	Media Sector
USD/INR	Pearson Correlation	1	0.653
	Sig.(2-tailed)		.000
	N	60	60
Media Sector	Pearson Correlation	0.653	1
	Sig.(2-tailed)	.000	
	N	60	60

The Media sector and exchange rate are moderately correlated and the statistical analysis shows that there is positive correlation between auto sector and exchange rate since the value of r is 65.3%. Correlation is significant at 0.01 level.

Table : 5 Correlation between exchange rate and Realty sector

		USD/INR	Realty Sector
USD/INR	Pearson Correlation	1	-0.359
	Sig.(2-tailed)		.000
	N	60	60
Realty Sector	Pearson Correlation	-0.359	1
	Sig.(2-tailed)	.000	
	N	60	60

The Realty sector and exchange rate are negatively correlated and the statistical analysis shows that there is positive correlation between realty sector and exchange rate since the value of r is 35.9%. Correlation is significant at 0.01 level.

Table : 6 Correlation between exchange rate and FMCG sector

		USD/INR	FMCG sector
USD/INR	Pearson Correlation	1	0.450
	Sig.(2-tailed)		.000
	N	60	60
FMCG Sector	Pearson Correlation	0.450	1
	Sig.(2-tailed)	.000	
	N	60	60

The FMCG sector and exchange rate are moderately correlated and the statistical analysis shows that there is positive correlation between FMCG sector and exchange rate since the value of r is 45%. Correlation is significant at 0.01 level.

Table : 7 Regression

Model	Sum of squares	Df	Mean Square	F	Sig.
Regression	713.347	6	118.891	98.305	.000
Residual	64.099	53	1.209		
Total	777.445	59			

a. predictors: (constant), auto.bank,pharma,media,FMCG,realty
b. dependent variable: USD

Table: 8 ANOVA

Model	R	R square	Adjusted R square	Std. Error of the estimate
1	.958	.918	.908	1.100

The exchange rate is 40% dependent on Independent variables, i.e., NIFTY Auto, NIFTY Bank, NIFTY pharma, NIFTY media, NIFTY realty, NIFTY FMCG.The regression model predicts the outcome variable i.e., exchange rate, significantly well. Significance is 0.000 which is less than 0.05.

Conclusion

The knowledge of the stock market structure is important or both investors ad portfolio managers to invest rationally. The main objective of this study is to investigate the impact of currency fluctuation(USD/INR) on the selected sectors listed in NSE. The findings of the study showed that all sectors are positively correlated. The regression reveals that all six sectors have positive relationship with the exchange rate. Also the R^2 value is found to be 40%. Thus the, present study shows that

both the stock market and the foreign exchange market are integrated.

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