ROLE OF RUPEE vs. DOLLAR ON FII FUND FLOWS OF EQUITY AND DEBT OF INDIA

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ABSTRACT

In the global capital market Indian market is having its own significance role in attracting foreign funds into equity and debt market securities. This study has been emphasized from the period of 1997 to 2015. This paper focused to know the impact of economic factor such as rupee vs. dollar fluctuations and also how global funds influence on Indian bench marks.

Bi-variate correlation observed strong relation between NIFTY and funds flow of FII equity. Regression weight estimation indicated that FII flows of debt segment got influenced in the long run by the currency fluctuation. All the models of arch, garch, tarch, egarch and Parch probability values were observed in significance under multi regression and proven that currency fluctuation is having the stronger influence on defty volatility. The regression analysis of variance proved that global fund flows were having influence on Indian fund flows. This paper is use full to FII`s, mutual funds, portfolio manager and retail investors.

Keywords: FII, DEFTY, NIFTY, Rupeevs. Dollar, Equity and debt

INTRODUCTION

In today's era of globalization, capital flows know no barrier, over the last few years the capital flows–both physical and financial markets –have increased by leaps and bounds. The history of international capital flows goes back more than 100 years. There are important implications in economics and finance, as regards estimation of volatility in the equity market. An attempt is made in this paper to give financially viable significance to changes in the pattern of FII flows and its volatility in India during 1997 –2015.

The Foreign Institutional Investors (FII's) have emerged as remarkable players in the Indian stock market and their growing contribution adds as an important feature of the development of stock markets has its impact on the development of economy. It provides investors with an array of assets with varying degree of risk, return and liquidity. A major development in our country, post 1991 has been liberalization of the financial sector, especially that of capital markets. In India, FII has a positive impact on the stock market, corporate transparency and governance norms; stock market is regarded as a barometer.

The number of FII's registered with SEBI was 3 in 1992-93 and since then it has increased to 1713 in 2009-10. Indian stock market was opened to Foreign Institutional Investors on 14th September 1992. The FII's follow policies and guidelines of the Reserve Bank of India (RBI) and Security Exchange Board of India (SEBI) which has changed from time to time due to dynamic domestic and global environment. The FERA was replaced in 2000 by Foreign Exchange Management Act, (FEMA), 1999 which now controls foreign exchange related transactions for FII's approved by the RBI. The two routes for FII's are (70:30) route, wherein 70% of equity related investments is permissible and balance 30% is for debt. The second route is 100% debt security investment route; however, our focus is on the normal equity FII route. There has been an enormous increase of over 400% in the foreign investment flows to India from 1995 to 2007.

REVIEW OF LITERATURE:-

1. **Hemkant Kulshrestha**:-The abstract had focused to find the input of foreign institutional investor's funds on India foreign exchange resources. He had also found that relationship between FII`s investors and foreign resources. This paper is limited to 2 variables which are FII fund flows and foreign exchange resources this study had failed to consider various economic facts in influence on foreign resources but our study has been emphasized to measure currency fluctuation impact on FII fund flows into India.

2. **Karan Walia, Dr. Rimpi Walia, Monika Jain(2012**):-this abstract is focused to find the result of FII on stock market. They found the relationship between stock market and sensitivity index .this paper is limited to examine the pattern of fII on 9 years period. They attempted to explain the impact of fII on stock market. our study is that how fII effects on stock market

3. **P. Krishna Prasanna**;-this abstract is focused on the FII preferences in India. This paper examines the contribution of FII among some companies including BSE .it shows the relationship between 3 variables FII, financial performance, and stock performance. Our study is where FII are more invested on higher volume of shares on companies.

4. **Jatinder loomba**:-FII's as an important feature of the development of stock market in India. It also facilitates foreign capital flows, developing countries advised to strengthen stock markets. The limitation has positive correlation between FII activity and effects on Indian capital market. Our study is to ascertain the role of FII's in Indian capital market.

5. **Mr N Gopinathan &Dr S S Rau:-**FII's are incorporated outside India, which proposes investment in Indian securities, it examines FII's have been playing key role in the Indian capital market .as FII's bring great advantage in the emerging market. This study indicates whether FII has emerged the dominant investor group in the domestic market or not.

6. **Suchismita Boseand Dipankor**:-this abstract have focused on the impact of FII policy reforms on FII portfolio flows to Indian stock market. This paper examines assess the impact on FII flows of several policy through a multi variant garch regression model. The limitations includes two most important covariates BSE and past FII flows our results suggest that liberalization policies have had desired expansionary effect.

7. **Aswini A. and Mayank Kumar:-**the foreign institution investment being made in India affects the stock market condition and Indian economy as well. They had done to validate the null hypothesis of association between FII and stock market. Our study has collected the data of 19 years where they have only 10 years.

8. **M.Venkata Ramanaiah:-** Through import of inflation conflicts between economic interests of two or more countries can affect monetary policies of each other in a floating exchange regime. This article investigated whether the currencies of the industrial countries were impacting India's currency such that the Reserve Bank of India needed to intervene in the currency market.

9. **Prof. S Pardhasaradhi:-**the study of currency fluctuations impact on FII flows in to India. Augmented dickey fuller test has been applied for the data bi variate correlation depicts between variables like FII, NIFTY, rupee vs. dollar. This examines regression analysis indicated that the global currency dollar index having impact on defty and external flows into India. This analysis for the investors namely retailers, pensionfund, mf managers.

10. **Dr. Syed Tabasum Sultana:-**unprecedented globalizations witnessed economic growth resulting in fierce competition. The current paper makes an attempt to study the relationship and impact on FDI and FII Indian stock market using statistical measures correlation coefficient and multi regression. Based on 19 years data it was found that flow of FIImoving tandem with sensex and nifty .the study concludes that flow of FII'S in India determines the trend of Indian stock market.

OBJECTIVES:-

1. To know the relationship between external flows of the equity, debt, nifty & Composite Bond Index.
2. To measure the impact of currency fluctuation on foreign fund flow's equity and debt.
3. To know the currency fluctuation impact on volatility of DEFTY.
4. To measure the global Foreign Institutional Investors fund flows impact on Indian external fund flows.

HYPOTHESIS:

H0 - Null hypothesis: Rupee vs. dollar does not influence FII equity fund flows.

H0 - Null hypothesis: Rupee vs. dollar does not influence FII debt fund flows.

H0 - Null hypothesis: Rupee vs. dollar fluctuation does not influence defty volatility.

NEED: Indian markets after globalization started attracting foreign funds into India. Due to various reasons Indian participation is very less when it is compared with FII investments in to India. There is a notion in Indian capital market that FII's are dictating the terms to the Indian markets from many years. This notion had motivated me to focus on FII fund flows in to equity, debt market and how they are influencing the Indian markets. The pivotal point of the study is to analyze the role rupee vs. dollar in causing FII fund flows in to India.

SCOPE: the study has been emphasized from the period of 1997-2015 DEFTY indexes which will reflect NIFTY in terms of dollars to the FII'S has been considered from NSE India. The main focus of the analysis is to identify currency fluctuation is influencing the fund flows of EQUITY and DEBT from foreign into India. High volatility reflects higher risks hence how currency depreciation in terms of dollars is having the influence on the DEFTY, volatility from FII prospective.

Empherical study:

- composite bond index(CBI)
- NIFTY
- DEFTY
- FII flows of EQUITY and DEBT
- RUPEE VS DOLLAR
- FII global investment

RESEARCH METHODOLOGY

Bi - variate Correlation:- Bi-variate correlation is a measure of the relationship between the two variables; it measures the strength of their relationship, which can range from absolute value over any period of time.

$$r = \frac{\sum_{i=1}^{n}(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^{n}(X_i - \bar{X})^2}\sqrt{\sum_{i=1}^{n}(Y_i - \bar{Y})^2}}.$$

Anova: -Anova is a statistical test which analyzes variance. It is helpful in making comparison of two or more means which enables a researcher to draw various results and predictions about two or more sets of data.

$$t = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{{S_1}^2}{N_1} + \frac{{S_2}^2}{N_2}}}$$

Heteroskedasticity:-In finance, conditional heteroskedasticity often is seen in the prices of stocks and bonds. The level of volatility of these equities cannot be predicted over any period of time.

$$v = \frac{1}{n}\sum_{i=1}^{n}(e_i^2 - \frac{\mathbf{e}'\mathbf{e}}{n})^2$$

Arch:-An ARCH (Autoregressive Conditionally Heteroscedastic) model is a model for the variance of a time series. ARCH models are used to describe a changing, possibly volatile variance

$$\sigma_t^2 = \omega + \alpha\varepsilon_{t-1}^2$$

Garch: -A statistical model used by financial institutions to estimate the volatility of stock returns.

$$\sigma_t^2 = \omega + \sum_{i=1}^{q}\alpha_i\varepsilon_{t-i}^2 + \sum_{j=1}^{p}\beta_j\sigma_{t-j}^2,$$

Tarch: -(TARCH) models is to divide the distribution of the innovations into disjoint intervals and then approximate a piecewise linear function for the conditional standard deviation.

$$\boxed{\sigma_t^2 = a + br_{t-1,t}^2 + c\sigma_{t-1}^2}$$

Volatility: -A statistical measure of the dispersion of returns for a given security market index.

$$\sigma = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(u_i - \bar{u})^2}$$

Dickey Fuller: -A test to determine whether a time series is stationary or, specifically, whether the null hypothesis of a unit roots can be rejected.

$$\Delta X_t = (\alpha - 1)X_{t-1} + \varepsilon_t,$$

Linear Regression:-

Linear regression attempts to model the relationship between two variables by fitting a linear equation to observed data. $y = \alpha + \beta x,$

LIMITATIONS:

- Rupee vs. dollar 1997 data has not been considered at the analysis
- Global FII EQUITY investments were not considered from 1997-2007

- FII EQUITY and DEBT market investments data from the period of 2 months i.e. January and febuary of 1997 has not been considered.

DATA ANALYSIS

1st objective:

		cbi	fiiequty	nifty	fiidebt
cbi	Pearson Correlation	1	0.215	0.13	0.052
	Sig. (2-tailed)		0.377	0.597	0.834
	N	19	19	19	19
fiiequty	Pearson Correlation	0.215	1	.613**	0.263
	Sig. (2-tailed)	0.377		0.005	0.276
	N	19	19	19	19
nifty	Pearson Correlation	0.13	.613**	1	.613**
	Sig. (2-tailed)	0.597	0.005		0.005
	N	19	19	19	19
fiidebt	Pearson Correlation	0.052	0.263	.613**	1
	Sig. (2-tailed)	0.834	0.276	0.005	
	N	19	19	19	19
**. Correlation is significant at the 0.01 level (2-tailed).					

Interpretation: The above table shows that the correlation of bivariate is a stronger with FII equity and debt flows to NIFTY but it is slightly correlated between FII debts to CBI during the analysis period.

2nd objective: Model Summary

Multiple R	0.39
R Square	0.152
Adjusted R Square	-0.272
Std. Error of the Estimate	0.002
Log-likelihood Function Value	-28.543

	Sum of Squares	df	Mean Square	F	Sig.
Regression	0	2	0	0.358	0.719
Residual	0	4	0		
Total	0	6			

	Unstandardized (	Standardized (	t	Sig.		
	B	Std. Error	Beta	Std. Error		
(Constant)	20.11	8.227			2.444	0.071
fiiequty	0	0.001	-0.401	0.592	-0.677	0.536
fiidebt	-0.001	0.002	-0.486	0.592	-0.82	0.458

Interpretation: The above table revels that regression weight estimation test results observes non-significant as the probity value is observed **0.719** i.e. > 0.5. The R^2 value is 15.2% which is less base value of 60% Rupee v/s dollar had failed to affect the FII equity but it is having the influence FII debt flows.

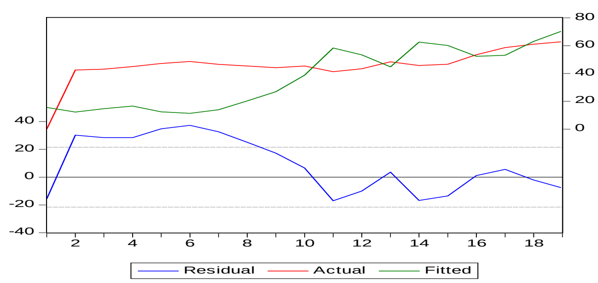
3rd objective: Heteroskedasticity Test: **ARCH**

F-statistic	31.8616	Prob. F(1,16)	0
Obs*R-squared	11.98265	Prob. Chi-Square(1)	0.0005

Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	68.95414	94.07066	0.733004	0.4742
RESID^2(-1)	0.828428	0.146765	5.644608	0
R-squared	0.665703	Mean dependent var		450.7545
Adjusted R-squared	0.644809	S.D. dependent var		465.4037
S.E. of regression	277.3708	Akaike info criterion		14.19303
Sum squared resid	1230953	Schwarz criterion		14.29196
Log likelihood	-125.7372	Hannan-Quinn criter.		14.20667
F-statistic	31.8616	Durbin-Watson stat		1.224027
Prob(F-statistic)	0.000037			

Interpretation: The above Arch test as indicated the data between Rupee v/s Dollar to defty is from to be significant under heteroskedasticity test.



Interpretation: The above graph of residual test indicates that trend line of defty moves always above the fitted lines which indicates that the defty is having the volatility during the study period hence multi regression model can be applied to identify the influence variable.

Multi regression:-

	Variable	Coefficient	Std. Error	z-Statistic	Prob.
ARCH	DEFTY	0.01379	0.000692	19.93212	0
GARCH	DEFTY	0.013451	0.000969	13.87473	0
TARCH	DEFTY	0.01359	0.000732	18.56982	0
EGARCH	DEFTY	0.013854	0.000352	39.37072	0
PARCH	DEFTY	0.016281	0.001135	14.34597	0

Interpretation: The above table of multi regression depicts that all the models are proven that currency fluctuation are influencing the defty volatility because the probity values is found to be significance in all models such has Arch,Garch,Tarch,Egarch,Parch.

FINDINGS:

1. FII equity and debt are found to be strong correlation with NIFTY the CBI
2. Rupee v/s Dollar failed to influence the FII equity but it was succeed in influencing FII fund flow in to debt segment.
3. Rupee v/s Dollar is having the strong influence on the defty volatility during the analysis period.
4. Global FII funds flows ware having significant influence on India external funds flows of equity and debt.

CONCLUSION:

We conclude the analysis of Rupee vs. Dollar impact on FII fund Flows of equity and debt. This study has considered the data from 1997 to 2015. Indian equity markets are playing vital role in emerging economies of the globe. After the globalization, India started attracting global funds more effectively when it is compared with the past flows of FII's. There were many economic factors which were influencing the India equity and debt market investment flows, but this paper has focused Rupee v/s Dollar impact on volatility of equity segment from the foreign investor's perspective. The study revealed the stronger influence on fund flow in to India but currency fluctuation influence has been observed on the bench mark (defty) volatility. Hence further study is recommended in this area by considering the various economic factors which may have impact on external flows into debt & equity segments of Indian capital market.

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Conflict of Interest Reported: Nil; Source of Funding: None Reported.