EFFECT OF FOREIGN PORTFOLIO AND INSTITUTIONAL INVESTMENT IN THE INDIAN STOCK MARKET

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Abstract

This study deals with the impact of the Foreign Portfolio investment and Foreign Institutional Investment(FPI and FII) in Indian stock market volatility, returns, impact, and relationship with macroeconomic factors. This study aims to analyze the volatility of SENSEX returns during the periods before and after allowing Foreign Institutional Investment in India and also focuses on the financial sequence of the FPI and its determinants. The data required for the study were SENSEX and NIFTY values, Industrial Index of Production, Exchange Rate, Forex Reserve, Consumer Price Index, Money Circulation Foreign Institutional/Portfolio Investment – Equity and debt-net, Purchase and sale, Domestic Equity and debt – Net, Purchase & Sale, BSE Equity – Net, and Purchase & Sale, collected over a long period of 37 years studied in different blocks and from different perspectives. The study identified significant effects in equity by FPI/FII compared to debt investment. This implies that investors can earn profit by closely monitoring the ER trends. The government must maintain optimum money circulation as there is a bi-directional relationship between FPI/FII Net and money circulation. Furthermore, undertaking a strong diversified portfolio strategy can reduce investors' microeconomic risk.

Keywords: Foreign Portfolio Investment, Sensex, Volatility, Institutional Investment, Stock market.

Introduction

India's policy stance has been changing substantially, with a challenging futuristic observation of growing global FDI and the flow of foreign portfolios, because, capital infusions of the former type have created a positive impact on GDP through a myriad of contributing factors, and capital flow of the latter type enabled better valuation of corporates and together enabled a certain degree of macro-economic stability with rising forex reserves and strengthening of rupees to an extent. A wide range of approaches to reforms the stability of the exchange rate, robust growth in exports, forex reserves and trade deficits after the Gulf crisis were laid out in the Rangarajan Committee's report, chaired by Dr.C.Rangarajan, former Governor of the Reserve Bank of India (Reddy, 2006). In the last two decades to 2017-18, many changes in the increasing opening for higher/wider (across many sectors) flow of FII/FPI into the country have been made despite the political changes that have also occurred. This is a positive indication of the policy front and reiterates the fact that India's politico-economic ideals point towards a unified direction and consolidation as an ideal requirement for stability on the policy front. The subject matter of this study is the effect of FPI and FII on Indian stock market returns, policies, volatility, and relationship with macroeconomic factors. A systematic and updated analysis to analyzes the volatility of SENSEX returns during the periods before and after allowing FII in India, and also focuses on overall facts in the financial sequence of FII/FPI and its determinants. It includes the Consumer Price Index, Exchange Rate, SENSEX, Index of Industrial Production, NIFTY, FII equity, FII debt, foreign exchange reserve, and money circulation.

Background of the study

Globally, stepped-up flows of the FII have not only increased the liquidity of the global capital market but also substantially lowered the cost of capital. India is a great beneficiary of foreign capital inflow. This translated into a significant foreign exchange reserve built up of the order of $427 bn by 3rd week of April 2018 from a meager $3bn in 1996, and the 10-year government bond rate eased to 7.38% in Jan. 2018 against a steep 13.96% in May 1996. Additionally, the dynamics of the capital market, particularly the international capital market, have drawn the attention of researchers seeking to investigate the market more intensively and frequently. Thus, the researcher ventured into finding out the happening, examining the trend, policy paradigms, and relationship between Foreign Institutional/Portfolio Investment and relevant economic variables.

Statement of the Problem

The researcher analyzes the behaviour of FIIs and the extent of the impact of FII on volatility and other relationships with different determinants. The literature review showed that most research on Foreign Institutional Investment in India has analyzed the factors that determine FII flows in India. Previous studies have shown a significant relationship between flows of FII and factors such as the USD exchange rate, indices, CPI, BSE & NSE stock's returns. Most researchers have analyzed stock returns or the SENSEX for volatility but fail to compare the pre-post scenario of FII inflows and discern the real impact. This study considers both cases. The present study aims to fill this research gap by attempting to analyze variables such as the Foreign Exchange Reserve (FER), Money Circulation, Domestic Institutional Investment (DII), and the internal components of FII such as Equity and Debt that impact the flow of FII in India.

Review of Literature

An existing study provides knowledge on the field, identifies the gaps that could be filled in, and helps to justify the research. Aspects and facts related to volatility, causality, and relationships with determinants.

Volatility

Recent volatility patterns branch primarily from the lasting and considerable turn down in stock prices from the elevation reached in 2000 (Grouard, 2000). In addition to these cyclical factors, this study inspects the way the market world, may also have a blow on volatility. FII has a positive effect on equity ROI found in the pre-Asian crisis and post-Asian crisis periods, noticing a repeal relationship. (Poon & Granger, 2003) found that the analysis of measurement and volatility forecasting through ARCH and GARCH time series models, provides appropriate results. (Pandey & Surya, 2008) observed the volatility of the Indian stock market from 2000 to 2008 and found co-movements with the key factors of stock exchanges in Asia. Service exports exceeded expectations between 1998 and 2008. The market was reinforced by the participatory notes in SEBI's clarification of FII's investment. The value of Indian money flourished. (Behera, 2010) examined the impact of FIIs' volatility and return on equity investment by employing the GARCH model and ordinarily least squares and observed that FII had a significant effect on both returns and liquidity, and concluded that capital flows of FII and stock market fluctuation are highly significant (Bashir & Zahoor, 2014).

Causality and Relationship

The causality and relationship among macroeconomic factors such as interest rates, inflation, industrial production, and stock market indices in the financial system, where the US, Japan and UK financial markets are more mature than in other markets. (Covirg et al., 2007)

observed that overseas fund managers lacked information about fund managers from domestic stocks rather than domestic ones. They concluded that foreign funds ownership is significant to foreign sales magnitude, membership index, and foreign listings. (Karimullah, 2009) scrutinized the impact of FIIs' investment behaviour on equity and observed a bi-directional causality between stock returns and FIIs. (Suresh & Prabheesh, 2008) found the scale of interdependency and causal relationships between FII and Nifty, pointing out that FII was positively inter-correlated with Nifty, which was higher in the downward phase than in the upward phase. Compared with the FPI, Indian stock markets are strongly connected with FIIs, and stock market valuation has a strong positive relationship with FDI (Gupta et al., 2012). A high level correlation between the flow of FIIs and lifting in the stock market index over a long-term period, and investment in FIIs in equity had a positive effect on the Indian economy and stock market (Rekha & Jain, 2015). Furthermore, considering the greater possibility of homogeneity of trading behaviour in one market, this study analyzes both the BSE and NSE markets for certain cases. There are incongruous findings from various existing studies regarding the causality relationship among FIIs/FPI net-inflows, macroeconomic variables, capitalization of the stock market, and BSE/NSE returns, and they fail to find a causal relationship between money circulation and FII/FPI in the Indian market. This study fills these gaps and investigates foreign institutional and portfolio investments in various respects.

Need for the study

Although Foreign Institutional Investment (FII) has many benefits, such as increasing forex reserves, domestic savings, domestic investments, and availability of capital reserves, there are a few important negative contents that have been continuously raised against these flows of FII, such as their intrinsic nature of fair weather friendship leading to preference for short-term

returns, speculative or otherwise, problem of inflation, false representation of economy with many shell companies involved, problem for small investors, and junk fund without commitment to specific countries or group of countries volatility is not generally in the interest of long-term investors. India is an emerging market with ample opportunities to attract foreign institutional investments. The above reasons lead the researcher to analyze the behaviour of FIIs and the depth of the impact of FII on stock market volatility and other relevant macroeconomic variables and factors in India.

Scope of the study

The scope of this study is limited to the Indian economy and stock market, which has attracted FII/FPIs for well over two to two and a half decades. The FPI regime was effective from June 01, 2014, as per the SEBI, and the subsequent FII was treated as FPI. Therefore, researchers have used the term FII/FPI. The study was conducted for the periods (i) January 1996 to September 2008 as Phase I, that is, before the introduction of FIIs or Pre-FIIs regime in short, (ii) January 2009 to December 2022 as Phase II, the period after the introduction of FIIs, (iii) January 2013 to May 2020 as Phase III for comparing various variables; and (iv) from February 2015 to December 2022 as Phase IV to comparing the effect of Foreign Institutional/Portfolio Investment-Net, Purchases & Sales, Domestic Institutional Investment-Net, Purchases & Sales, Foreign Institutional/Portfolio Investment BSE Equity-Net, Purchases and Sales, SENSEX, and NIFTY. The Causal relationship between FII/FPI-Net and Money Circulation (MC) is included as a special case and tested for the period from February 2013 to October 2022. Thus, a fairly long period of 37 years has been studied in different blocks and from different perspectives.

Methodology

The predominant characteristic of this research is to gain further knowledge on this fairly researched capital market domain world with precise definitive insights through relevant hypotheses and analytical tools, followed by a methodical presentation. The data required for the study are SENSEX and NIFTY values, CPI, Industrial Index of Production, Forex Reserve, Exchange Rate, Money Circulation Foreign Institutional/Portfolio Investment – Equity and debt-net, Purchase and sale, Domestic Equity and debt – Net, Purchase & Sale, BSE Equity – Net, and Purchase & Sale. The data type is secondary. Data were collected from various websites, such as www.bse.india.com/www.nseindia.com/www.sebi.gov.in/www.rbiindia.com/www.ststs.oecd.org/ www.in.investing.com/www.profitndtv.com/www.way2wealth.com. GARCH and TARCH models were used to analyze the collected data.

Analysis and Interpretation

The study selected the TARCH model because it obviates the problem of GARCH models. The period from January 1996 to September 2008 was selected for the Pre-FII Regime and from January 2009 to December 2022 for the Post-FII Regime to analyze the Volatility of SENSEX.

H1: The series of SENSEX log returns in which the Pre- and Post-FII regime are non-stationary.

Table 1; ADF Unit Root Test for SENSEX for Pre and Post-FII Regimes

Null Hypothesis	p-value	Result	Inference
SENSEX before FII is not stationary	1.325e-132***	-35.3721 Reject	SENSEX before FII is stationary

SENSEX after FII is not stationary	1.67e-139***	-40.7892 Reject	SENSEX after FII is stationary
Lag order 2, level of variables Before FII, sample size – Log difference of 2535 daily observations, period: Jan 1996 to Sep. 2008, After FII, sample size – Log difference of 3407 daily observations, Period: Jan. 2009 to December 2022.			

Source: Computed using Gretlw32 software ****** 1% level ** 5% level***

The samples' log difference of SENSEX before the FII regime and after the FII regime are rejected at the 5% significance level of their null hypotheses of non-stationarity, and samples are found to be stationary. The p-value before the FII regime was 1.315e-132; and for the period after the FII regime, it was 1.67e-139 (Table 1).

Table 2: GARCH – Estimates of log difference of daily Stock returns based on SENSEX Pre-Post FII Regime. (Jan. 1996-Dec.2008, Jan.2009-Dec.2022)

Conditional Variance equation	***Before FII***	***After FII***
Omega-Coefficient	4.32332e-06	9.51236e-06
Std. Error	2.13304e-06	3.20658e-06
Z	2.027	2.967
p-value	0.0427 **	0.003 **
Alpha-coefficient	0.0932685	0.135205
Std.Error	0.0225240	0.02519150
Z	4.141	5.217
p-value	3.46e-05***	1.82e-07 ***
Beta-coefficient	0.895600	0.832609

Std.Error	0.0258167	0.0342708
Z	34.69	24.30
P-value	1.09e-263 ***	2.21e-130 ***
Model: GARCH [Bollerslev] (Normal) * Sample: 2538 (T=2537) Before FII.		

Source: Computed using Gretlw32 Software ***1% level, **5% level

The Generalized Autoregressive Conditional Heteroscedasticity of the logged SENSEX returns for the periods before and after the FII regime (January 1996 to September 2008 and January 2008 to December 2022 (Table 2) shows that the value (β) coefficient was positive and very high for the pre-FII period (0.895600) and slightly lower for the post-FII period than before (0.832609), and there was persistent volatility clustering in both cases. Because the (β) value is greater than the α value, the conditional variance is more dependent on the forecast difference in the last period. In addition, it can be observed from the ARCH and GARCH coefficients that volatility died out at rates of 0.01113 and 0.03219 before and after the FII regime, respectively, and is given by 1- (α + β). The statistical significance of α and β indicates that, at the 1% level volatility from past periods has an effect on current fluctuation. The sum of the two estimated regression coefficients of the model is 0.0932685+0.895600-0.98887 (α + β) for the period before FII and 0.135205 + 0.832609 = 0.96781 (α + β) for the period after FII. Both values are very close to unity suggesting that conditional variance is present in the returns. In the Post-FII Regime, the alpha coefficient increased to 0.135205 for the Pre-FII Regime (0.0932685) and the beta component rejected 0.832609. In simple terms, information is rapidly disseminated, and its quality has developed in the post-FII market regime.

Table 3: TARCH – Estimates of log difference of daily Stock returns based on SENSEX for Pre& Post FII Regime

Equation	*Coefficient*	*Std.Error*	*Z*	*P-value*
Period: Jan. 1996 – Sept. 2008				
Conditional mean equation Const	0.00105745	0.000263607	4.011	6.03e-05 ***
Conditional variance equation				
Alpha	0.105236	0.0228981	4.596	4.31e-06 ***
Gamma	-0.1679900	0.103660	-1.621	0.1051
Beta	0.897992	0.0237383	37.83	0.0000 ***
Period: Jan. 2009 – Dec.2022				
Conditional mean equation Const	0.000675339	0.000235241	2.871	0.0041 ***
Conditional variance equation	1.43561e-05	4.13339e-06	3.473	0.0005 ***
Alpha	0.141514	0.0214529	6.597	4.21e-011
Gamma	0.251715	0.0602834	4.176	2.97e-05***
Beta	0.831421	0.0311752	26.67	1.07e-156 ***

The outcomes of the TARCH – Pre FII regime show that positive news had an impact of 0.105236 magnitude, and negative news had an impact of 0.105236 + (-0.1679900) = - 0.06275 magnitudes on the Mumbai Stock Exchange. In the BSE market, good news increases volatility

slightly more than bad news (Aswini & Mayank, 2014). The post-FII regime shows that positive news had an impact of 0.141514 scales, and negative news had an impact of 0.141514 + 0.251715 = 0.393229 scales in the BSE. This establishes that investor psychology is reading too much about negative triggers. The time-varying volatility of stock return's is asymmetric because the gamma value (-0.1679900) is not equal to zero ($\gamma \neq 0$). In addition, the gamma value of -0.1679900 is lower than zero ($\gamma < 0$), and the leverage effect does not exist. The stock volatility persistence that influences the expectation of fluctuation for many periods in the future is 0.919228. Post FII regime gamma value of 0.251715 is higher than 0 ($\gamma > 0$), and leverage impact exists. The persistence of shocks to volatility is given by: $\beta+\alpha+\gamma/2$. The persistence shocks to volatility that influence the expectation of fluctuation for many periods in the future is 1.098793.

Table 4: Correlation Coefficient Period: 2015:01 – 2022:05, 5% (two-tailed)

	FII	**FII_E**	**FII_D**	**ER**	**CPI**	**IIP**	**SEN**	**NIF**	**FER**
FII	1.0000	.8687	.6918	-.2513	-.0637	.1719	.3642	.3745	-.0707
FII_E		1.0000	.2433	-.2721	-.0423	.1367	.4920	.5079	.0969
FII_D			1.0000	-.0954	-.0632	.1373	-.0041	-.0070	.0028
ER				1.0000	.0782	.0321	-.4250	-.4310	.1178
CPI					1.0000	-.1793	.0136	-.0022	.1093
IIP						1.0000	.0614	.0741	.1606
SEN							1.0000	.9921	.058
NIF								1.0000	.0027
FER									1.0000

Table 4 shows that net flows of FII on the one hand and the FII_E and FII_D on the other, each taken separately, had a positive correlation with high values, viz., .8687 and .6918 respectively. This is, of course, an expected phenomenon, as FII_E and FII_D are the parts of FII total. However, the relatively smaller correlation with FII_D is an indicative pointer to the equity tilt of FII. However, FII_E and FII_D are correlated with a moderate value of, .2433; this is as expected because these are mutually competitive investment avenues for investors of any kind. It was observed that net flows of FII and NIFTY/SENSEX had a positively moderate correlation (i.e., .3642/.3745, respectively). In a way, the recorded extent of correlation is fine, because it is said that a third of the movements or size of the Indian bourses is represented by FII.

Further, (table 4) shows a negative correlation (-.0637) comparing the Consumer Price Index and flows of FII. This indicates that during inflationary trends, Foreign Institutional investors struggle to invest in India because, while inflation, real returns from exposures in India decline. Thus, the FII either returned or downsized their Indian holdings. The relationship between the FII and FER was insignificant, with a correlation of -.0707. A non-relation is a pointer to ponder over. It is possible that, the FII inflows are floating in the market and add to the country's forex reserves. However, FDI has built up India's forex reserves. There was a moderately positive correlation between FII and IIP (.1719), indicating a positive reaction to FIIs growth for industrial production. Here, the financial sector is in a nexus with the real sector. The correlation matrix between SEN/NIF/FIIs and ER is negative (-.4250, -.4310, and -.2513), which means an increase in SEN/NIF/FII results in a decrease in the exchange rate of INR per $, depicting a downward dollar value.

H2: The FII/ER/CPI/IIP/SEN/NIF/FER/FII_E/FII_D/MC time series are non-stationary or have unit roots.

Table 5: Unit root test of ADF

Null Hypothesis	p-value	Result	Inference
FII (E&D) is not stationary	4.201e-018***	Reject -9.5716	FII (E&D) are stationary
FII_E is not stationary	4.733e-022***	Reject -10.5492	FII_E is stationary
FII_D is not stationary	6.933e-015***	Reject -8.71014	FII_D is stationary
ER is not stationary	9.17e-007***	Reject -6.64966	ER is stationary
CPI is not stationary	3.919e-008***	Reject -7.45748	CPI is stationary
IIP is not stationary	2.11e-005***	Reject -5.45346	IIP is stationary
SEN is not stationary	6.391e-011***	Reject -9.16435	SEN is stationary
NIF is not stationary	1.99e-011***	Reject -9.50822	NIF is stationary
FER is not stationary	9.888e-047***	Reject -15.7228	FER is stationary
MC is not stationary	0.03113	Reject -3.58394	MC is stationary
Lag order 2, First difference of variable. Period:2015:01 – 2022:05			

Source: Computed using Gretlw32 software ***1% level, **5% level.

In the unit root test of the stationary test (table 5), the null hypotheses of the variables FII (E and D), FII_E, FII_D, SENSEX, CPI, HP, NIFTY, FER and ER Dollar are rejected at the 5% significance level for their non-stationarity. All variables are significant at the 0.01 level in their stationarity.

H3: There is no significant relationship between the FII and ER/SEN/IIP/FII_E/CPI/NIF/FII_D.

The Johansen test allows more than one co-integrating relationship to be more generally suitable than the Engle-Granger test. This test was conducted prior to the causality test. The

estimation period for analyzing the co-integration relationship among the variables was from 2015 January to May 2022.

Table 6: Johansen Co-Integration Test Results

Rank	Eigenvalue	Trace test	p-value	Lmax test	p-value
None	1.0000	2425.6	0.0000	1949.8	0.0000
1	0.79593	475.79	0.0000	136.68	0.0000
2	0.68458	339.11	0.0000	99.232	0.0000
3	0.57147	239.88	0.0000	72.876	0.0000
4	0.51629	167.00	0.0000	62.459	0.0000
5	0.38222	104.54	0.0000	41.419	0.0000
6	0.33472	63.125	0.0000	35.049	0.0000
7	0.27853	28.076	0.0000	28.076	0.0000

Table 6 confirms that the eight vectors have co-integrating features, that is, there is a significant relationship among the identified variables (p-value 0.000) hence, the null hypothesis is rejected at the 5% significance level.

Table 7: Granger causality test between macroeconomic variables and FII/FPI

Hypothesis	**F Statistic**	**p-value**	**Accept/Reject Hypothesis**	**Direction/ Nature of Causality**
FII does not Granger cause FII_E	3.8616	0.0250**	Reject	Bidirectional relation
FII_E does not Granger cause FII	5.0688	0.0084***	Reject	

FII does not Granger cause FII_D FII_D does not Granger cause FII	3.6764 5.0689	0.0296** 0.0084***	Reject Reject	Bidirectional relation
FII does not Granger cause ER ER does not Granger cause FII	2.3133 5.4507	0.1054* 0.0060***	Accept Reject	Unidirectional relation
FII does not Granger cause CPI CPI does not Granger cause FII	0.7583 1.1577	0.4717 0.3193	Accept Accept	No Causality
FII does not Granger cause IIP IIP does not Granger cause FII	0.7199 3.0045	0.4899 0.0551*	Accept Reject	No Causality
FII does not Granger cause SEN SEN does not Granger cause FII	0.9619 5.5052	0.3865 0.0880*	Accept Reject	No Causality
FII does not Granger cause NIF NIF does not Granger cause FII	0.9773 2.6516	0.3807 0.0767*	Accept Reject	No Causality
FII does not Granger cause FER FER does not Granger cause FII	0.2800 1.337	0.7565 0.2683	Accept Accept	No Causality
FII / FPI does not Granger cause MC MC does not Granger cause FII / FPI	4.9629 9.8675	0.0087*** 0.0001***	Reject Reject	Bidirectional relation

*Computed using R software

It can be inferred that FII does Granger cause and effect FII_E and FII_D, as both null hypotheses, of each set are rejected (table 7), resulting in a bi-directional relationship. This is an obvious result. In each case, the p-value is less than 0.05, for forward co-integration, and less than 0.01 for reverse order co-integration. A bidirectional relationship was observed between FII/FPI and MC. Money Circulation is the only factor, other than the component factors of FII,

namely FII_E, and FII_D, which have a bidirectional relationship with FII/FPI. A unidirectional relationship between FII and ER was observed. Hence, ER anger caused and affected FII at a p-value of 0.006, which is highly significant. The FII also had a causal relationship with ER (p-value 0.11 and test value of 0.1054*). The FII and SEN/NIF had no causality but, SEN and NIF had a causal effect at 0.10 level with FII (with p-values of 0.0880*/0.0767*). Furthermore, IIP had a causal relationship with FII at 0.10 level with a value of 0.0551*. FII and CPI/ NIF/IIP/BSE/FER had no causalities at the level of 0.05.

Table 8: Test for granger causality between FII/FPI and other macroeconomic variables – melt down period excluded.

Hypothesis	F Statistic	p-value	Accept/Reject Hypothesis	Direction/ Nature of Causality
FII does not Granger cause FII_E	4.1957	0.0200**	Reject	Bi-directional relation
FII_E does not Granger cause FII	5.4407	0.0069***	Reject	
FII does not Granger cause FII_D	3.6887	0.0312**	Reject	Bi-directional relation
FII_D does not Granger cause FII	5.4409	0.0069***	Reject	
FII does not Granger cause ER	4.3956	0.0168**	Reject	Bi-directional relation
ER does not Granger cause FII	4.4022	0.0167**	Reject	
FII does not Granger cause CPI	1.7482	0.1833	Accept	No Causality
CPI does not Granger cause FII	1.0969	0.3409	Accept	
FII does not Granger cause IIP	0.5571	0.5759	Accept	No Causality
IIP does not Granger cause FII	2.4385	0.0963*	Accept	
FII does not Granger cause SEN	1.1041	0.3385	Accept	Unidirectional

SEN does not Granger cause FII	3.5219	0.0361**	Reject	relation
FII does not Granger cause NIF NIF does not Granger cause FII	1.1226 3.8294	0.3325 0.0275**	Accept Reject	Unidirectional relation
FII does not Granger cause FER FER does not Granger cause FII	0.8763 1.3137	0.4219 0.2768	Accept Accept	No Causality
FII / FPI does not Granger cause MC MC does not Granger cause FII / FPI	5.2778 3.6275	0.0069*** 0.0307**	Reject Reject	Bidirectional relation

* Computed using R software

To study the impact, the Granger test was conducted by eliminating the global melt-down period from January 2012 to December 2013 on stationary values. Table 8 shows the causes and effects of FII and macroeconomic factors. The null hypothesis is rejected at the 5% significance level, which indicates that the Grangers cause and effect does not influence the FII_E/FII_D/ER/MC values ranging between 0.0168 and 0.0312. Moreover, the null hypotheses that FII_E, FII_D, ER, and MC do not granger cause and effect FII are rejected and affect FII as the p-value is less than 0.05. A bi-directional relationship was observed between the FII/FPI and FII_E/FII_D/ER/MC. A unidirectional relationship between the FII and SEN/NIF was observed. Hence, the SEN/NIF Granger causes and effects. But FII had no causal relationship with SEN/NIF only at 0.10 levels did IIP granger cause FII.

Recommendations

India attracted investors from the USA, Luxembourg, Canada, Mauritius, the UK and Japan in 2020. This is insufficient, and other countries are attracted to investment, especially Asia's emerging countries so that India can fly high in the ASIAN market.

Investment in equity by FII/FPIs shows a significant effect compared with debt investment. Therefore, the government can take further steps to increase investments through debt instruments. Incidentally, this could lead to increased interest. Investors can use market volatility patterns to earn profit. It is suggested that investors can predict future values using 10-day and 30-day moving averages, which are in line with the actual points, and gain short-term profits. The government should monitor the volatility of the abnormality and apply circuit breakers, if necessary. Investors can turn bad news in their favour as bad news increases volatility substantially and the leverage effect also exists. Investors can buy low when a fall in returns and occurs sell high when an increase in returns results. SEBI should monitor volatility and avoid abnormal volatility if leverage is high to avoid loss to customers by regulating circuit breakers, The Government should take appropriate measures to control inflationary trends because high inflation leads to real returns on investment.

Conclusion

In India, FIIs constitute an important portion of foreign capital flows. In 1997, the FII investment started with a total net Foreign Institutional Investment of Rs. 0.13bn, which increased to Rs. 457.65 bn. in 2007-08, to Rs.516.49bn. in 2018-19, to Rs.2774.61bn. in 2019-20, to Rs.181.78 bn. by 2020-21 and to Rs.484.11bn by 2021-22. There was only three years of net outflows. The net outflows of FII noticed in 2002-2003 had a negative investment of Rs. 15.84 bn. in 2012-13, the period of global recession, the FIIs withdrew largely, and the investment was a net investment of Rs.458.11 bn. The third net outflow was recorded in 2019-20 with an FII net investment of Rs.181.75 bn.

The study concluded on the basis of the entire analysis that four factors from the nine selected variables were highly significant in influencing FIIs/FPI at .05 levels. FII/FPI, FII_E,

FII_D, and MC showed a bi-directional relationships. FII has a closer relationship with FII Equity than with FII Debt. There was a unidirectional relationship between ER and FII at the level of 0.05. At 0.10 the levels of FII Granger caused ER, IIP, SENSEX, and NIFTY. However, a bidirectional relationship was observed at a level of 0.05, and a unidirectional relationship was observed between SEN/NIF and FII_Net during the melt-down period. Investors can earn profits by closely monitoring the ER trends. The Government must maintain optimum money circulation and a bi-directional relationship with Net FII/FPI.

The importance of FII has become vital in economic scenario. Although many studies have been conducted in this area, the majority have concentrated only on limited variables. This study analyzed nine sub-variables, Equity and Debt. It is possible to analyze the impact of Mutual Funds, Endowment Funds, Insurance Funds, and Pension Funds on the Indian Stock market. Research can be conducted for other indices, such as NIFTY and Dow Jones. Future research may consider other variables such as FDI, Foreign borrowings, money supply, interest rate, and some microeconomic variables, and particular companies' performance and their results influencing the stock price can be analyzed in future research. This helps investors decrease microeconomic risk through a strong portfolio diversification strategy.

REFERENCES

1. Aswini A. and Mayank Kumar (2014), "Impact of FII on Stock Market in India", Global Journal of Finance & Management, Vol.6, No.8 (2014), pp.0975-6477.
2. Bashir Ahmad Joo and Zahoor Ahmad Mir (2014), "Impact of FIIs Investment on Volatility of Indian Stock Market: An Empirical Investigation", Journal of Business and Economic Policies, Vol.1, No.2; December 2014, ISSN:2375-0774.

3. Behera, H.K (2010), "An Assessment of Foreign Investment in Indian Capital Market, Retrieved from http://ssrn.com/abstract=2258352.
4. Covirg, NG.L.K. andVicentiu Lau Sie Ting (2007). "Do domestic and Foreign fund Managers have similar preferences for stock characteristics? A cross country analysis", Journal of International Business Studies, 37 (2006), pp.407-429.
5. Dr.Rekha Mehta and Akansha Jain (2015), "FIIs Foreign Exchange Reserve, Nexus in India", Pacific Business Review International, Vol.8, Issue 1, July 2015, pp.79-86.
6. Grouard, M.H.(2000). Stock Market Volatility: from Empirical data to their interpretation, pp.05-22
7. Gupta, Shaveta, et al (2012), "Impact of Foreign Investments on Stock Market", Effective Management, pp.1-11.
8. Karimullah (2009), "FIIs Investment Behaviour and Indian Stock Market: A Causality Test", © Apeejay Journal of Management and Technology January 2009, Vol.4, No.1.
9. Khan, Mohamad Amir, et al. (2010), "Investigation of Causality between FIIs' Investment and Stock Market Returns", International Research Journal of Finance and Economics, Issue 40 (2010).
10. Mei-Ling Chen et al (2009), "Investment Preference and Strategies of Foreign Institutional Investors across Different Industries in Taiwan", Pacific Basin Financial Market Policy, 12, 675.
11. Pandey, A. & Surya, B.K. (2008), "Linkage between Stock Returns on Bombay Stock Exchange and Asian Exchanges: An Empirical Analysis", Indian Journal of Capital Markets, Vol. (II) Issue (III) pp.1-12.

12. Poon, S.H and C.Granger (2003). " Forecasting Volatility in Financial Markets: A Review, Journals of Economic Literature, XLI, 478-539.
13. Text of the First Diamond Jubilee Lecture delivered by Dr.Y.V.Reddy, Government of the Reserve Bank of India, at the Inauguration of the Diamond Jubilee Celebrations of the Department of Commerce, Osmania University, Hyderabad, 16 December 2006.