Research Paper

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A Study of Foreign Institutional Inflows and Indian Stock Market Volatility

Commerce

KEYWORDS : FII, Indian Stock Market, , Volatility, Granger's causality test

Dr. Kajal Gandhi Assistant Professor, Shri Shikshayatan College

ABSTRACT

It is observed that a significant amount of capital is flowing from developed economies to emerging economies. It has been seen that the foreign institutional investments have played a dynamic role in emerging economies. The liberalization process undertaken by the government of India in early 1990s have brought about significant changes in the structure and functioning of the Indian stock market. One of the important policy measures included the allowance of foreign institutional investors in the Indian stock market in 1992. Entry of these FIIs has truly helped to change the face of Indian stock market. Positive fundamentals, gradual removal of structural barriers combined with fast growing markets have made India an attractive destination for foreign institutional investors. Today, FIIs are the key drivers of the Indian equity market and rising stakes in Indian companies. The volatility of the market which has been brought in by FIIs cannot be neglected in this regard. The increase in the volume of foreign institutional investment (FII) inflows in recent time has led to concerns regarding the volatility of these flows, threat of capital flight, its impact on the stock markets and influence of changes in regulatory regimes. In this paper using granger's causality test it is revealed that FIIs granger causes the volatility in Indian stock market.

Introduction

The economic liberalization process undertaken by the Indian government during early 1990s has opened up new dimensions for Indian economy. The Indian capital market especially stock market has achieved new heights with the implementation of liberalized reforms.

India's development strategy was focused on self-reliance and import substitution till 1980s. Shortfalls in the budget were mainly met by debt and development aids. It discouraged foreign investment or private commercial flows. With the reforms introduced in the early 1990s there was witnessed a gradual shift towards attracting foreign capital. Foreign Institutional Investors (FIIs), Non-resident Indians (NRIs) and People of Indian Origin (PIOs) were allowed to invest in primary and secondary capital markets in India through the portfolio investment scheme (PIS) from 14th September, 1992 with suitable control.

It could be said that since then, the foreign institutional investors have formed an integral part of Indian equity market. Global investment trends and macroeconomic fundamentals of India determined the level of foreign institutional investments in India.

Definition

A FII may be institution established or incorporated outside India which proposes to invest in securities in India. A FII may be a company or other institution established abroad. A FII might be any of the following:

• A Company or an institution incorporated outside India as pension Fund. Mutual Fund or Investment trust.

• An Asset management company, Nominee Company, Bank or Institutional portfolio manager

incorporated outside India and proposing to invest in India for broad based funds.

• Foreign Trustee or power of Attorney holder proposing to invest in India for broad based funds.

• Foreign university funds, Endowments, Foundation or Charitable trusts or charitable societies in existence for at least 5 years and that they are registered with a statutory in the country of their incorporation and it is legally permissible for them to invest in securities outside the country of their incorporation

A portfolio manager or mutual fund doing business in India, approved by SEBI, who act as investment agent for a foreign party and who makes investment in securities on behalf of the foreign party out of funds brought from abroad shall also be deemed to be the FII.

Need for FIIs

In developing nation like India, need for FII was felt not only to boost productivity but also to help building up foreign exchange reserve to meet our continuing trade deficits. Ms. Anne O. Krueger (IMF) underlines that "Capital flows plays an important role in capturing the benefits of globalization. India being a capital scarce country opened its doors to foreign institutional investors in September, 1992 to attract foreign investments.

FII Investment Policy of India

India embarked on a gradual shift towards capital account convertibility with the launch of the reforms in the early 1990s (Bose and Dipankar, 2004). Ever since September 14, 1992, when FIIs were first allowed to invest in all the securities traded on the primary and secondary markets, including shares, debentures and warrants issued by companies which were listed or were to be listed on the Stock Exchanges in India and in the schemes floated by domestic mutual funds. The holding of a single FII and of all FIIs, NRIs and OCBs in any company were subject to the limit of 5 per cent and 24 per cent of the company's total issued capital, respectively (Lahiri et al, 2004) Initially, Pension Funds, Mutual Funds, Investment Trusts, Assets Management Companies nominee companies and incorporated institutional portfolio managers were permitted to invest directly in the Indian stock market. In 1995, Security Exchange Board of India (SEBI) empowered by the Securities and Exchange Board of India Act, 1992 institutionalized the FII regulations, known as the Securities and Exchange Board of India (Foreign Institutional Investors) Regulations, November 14, 19957. These regulations allowed an institution established or incorporated outside India as a Pension Funds, Mutual Funds, Investment Trusts, insurance company or reinsurance company; any Asset Management Company or Nominee Company, Bank or Institutional Portfolio Manager, established or incorporated outside India and proposing to make investments in India on behalf of broad based

funds; any Trustee or Power of Attorney holder, incorporated or established outside India, and proposing to make investments in India on behalf of broad based funds to apply for FII status to carry out trading in equities and debentures listed on the Indian stock exchanges. Later on during 1996-97 the group was further expanded to include registered University Funds, Endowment, Foundations, Charitable Trusts and Charitable.

The FII regulations were amended in February 2000 to permit foreign firms and high net worth individuals to invest in subaccounts of high net worth individuals to invest in subaccounts of FIIs who are registered with SEBI.

Generally the ceiling for overall investment for FII is 24% of paid up capital of Indian company and the limit is 20% of paid up capital in case of Public Sector Company. However, the Reserve Bank of India has permitted higher ceilings on approval basis.

Literature Review

The foreign institutional investors favored India as one of the hottest destination for making investment due to presence of its strong fundamental factors. The stock market return is the main driving force which influences the investment decision and their extent by the foreign institutional investors.

Chakravorti(2001) and Rai and Bhanumurthy (2004) noted in their study that FII flow depended on stock market return. They suggested that the domestic equity return was the sole driver of inflow of FII in India.

A similar kind of observation was made by Pal(1988) , Samal (1997) and Rangrajan (2000) suggested that FII investment and SENSEX movements are closely correlated in Indian stock market.

Mukherjee, Bose and Coondoo (2002) analyzed the relation of daily FII flows to the Indian stock market for the period from January 1999 to May 2002. They observed in their study that return in the domestic stock market influences FII flows to and from Indian market but vice versa is not true. While FII sales and FII net investment influence Indian stock market movements, FII buying is not responsive to this market performance.

Ananthanarayan S.(2004) held that as a part of its initiative to liberalize financial markets, India opened up its gate to foreign institutional investors in September, 1992. The event was a landmark event as it resulted in globalizing its financial services industry. They studied the impact of trading of FIIs on major stock indices of India. They observed that unexpected flows have greater impact than expected flows on stock indices.

Bose Suchismita et al (2005) has examined the impact of reforms of the foreign institutional investor's investment policy on FII portfolio flows to the Indian stock market, an aspect, studies on determinant of FII flows to India. FIIs have been allowed to invest in domestic financial market since 1992, this decision to allow FII portfolio flows was influenced by several factors. The study helps in evaluating the impact of liberalization policies as well as measures for strengthening policy framework for FII flows in the post Asian crisis period.

Soumyen S.(2006) held in his study that the surge in inflows has not been matched by corresponding growth in the absorptive capacity of the Indian economy. The major cause for this is the persistent slowdown of Industrial activity since 1997. The Reserve Bank of India (RBI) at the same time been reluctant to let the rupee find its market clearing level under the circumstances. Problems of foreign capital are widening of current account deficit, monetization, appreciation of real exchange etc.

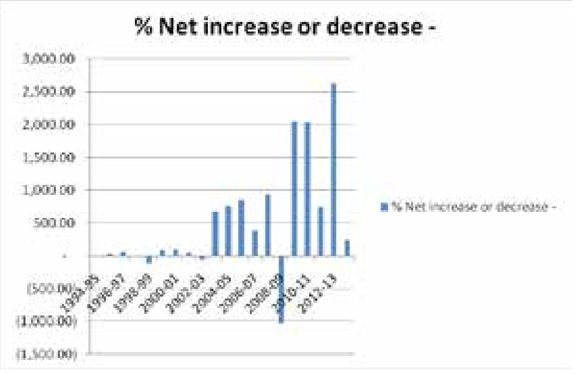
Suresh Babu and Prabheesh (2008) examined the causal relationship between foreign institutional investment and stock returns. The study has found bi directional causality between FIIs investment and stock returns. FIIs investment flows were more stock return driven.

Sehgal and Mulraj (2008) argued that although institutional investors hold a large volume of shares in various companies but they remain passive investors most of the time.

Trends of Foreign Institutional Investments over the Years

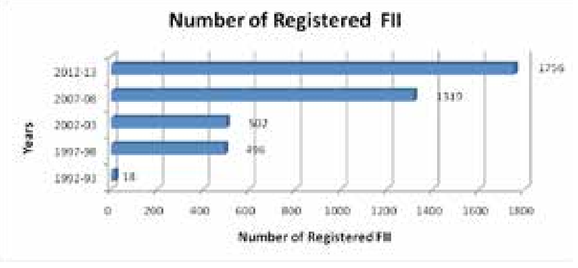
To overcome the problem of capital scarcity in the country, India opened its doors to foreign institutional investors in September,1992. Initially showing an increasing trend of foreign inflows these investors started withdrawing during 1998-99 i.e. immediately following the great Asian crisis of 1997. But there was a modest recovery in 1999-2000. FII flows further declined to $377 million in 2002-03. These years also witnessed fall in both BSE Sensex and NSE Nifty. Gradually, it showed some recovery and the years 2003-04 and 2004-05 have been remarkably robust years for such inflows.

Fig. 1: Net increase or Decrease of FII net investments in India



The figure below shows the number of registered foreign institutional investors from 1992-93 till 2012-13. It can be observed that the number of these FIIs have dramatically increased over the years.

Fig 2: Number of Registered Foreign Institutional Investors from 1992-93 till 2012-13



Source:SEBI,Handbook of Statistics 2011.

After the liberalization of registration norms for FIIS with SEBI, the number of registered FIIs has increased drastically. Within a period of five years from 1992-93 to 1997-98, the number of FIIs have increased from 18 to 496. In the year 2007-08 the number jumped to 1319. With the increase in number of FIIs, the number of sub accounts registered with FIIs reached to a new time high. The number of FII sub accounts has reached to 5325 as on Dec, 2009.

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Table 1: Net Buy/Sell in Indian Stock Market by Various Investors during last 8 Years

Trade Year	DII (Rs. In cr.)	FII (Rs. In cr.)	NIFTY (Gain/ Loss) %
2005	-2306.99	47,181.90	36.3%
2006	641.72	36,540.20	39.8%
2007	29871.72	71,486.30	54.8%
2008	84328.44	-52,987.40	-51.8%
2009	33052.65	83,424.20	75.8%
2010	-19053.93	133,266.30	17.9%
2011	32320.41	-2,714.20	-24.6%
2012	-60263.46	103,272.70	27.70%
Total	98,590.56	419,470.00	-

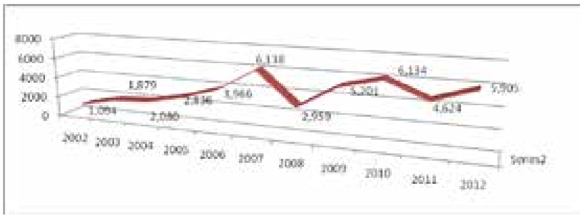
Source: Data is compiled from www.nseindia.com and www.sebi.gov.in and Handbook of Statistics on Indian Securities Market, 2012 (Table 22, p.47)

The above table shows behavior in terms of net buy/sell of domestic institutional investors and foreign institutional investors. It is observed that in most of the cases when foreign institutional investors are buying in Indian market the domestic institutional investors seems to be selling the stocks. The percentage increase or decrease in NSE NIFTY from 2005 to 2012 denotes clearly that whenever these foreign institutional investors have sold in large volumes in the market, the market has dipped.

Foreign Institutional Investment (FII) in emerging markets is believed to be the market mover (Gupta et.al., 2010). It is often blamed for stock market crashes. The net FII in India has been positive every year except for 1998-99, 2007-08 and 2008-09, and Indian Stock Market is believed to be dominated by Foreign Institutional Investors.

According to Michael Frenkel, et al, (2004), the Foreign Institutional Investors' share in emerging markets was in the range of 20% to 30%. They were often blamed for market volatility and their importance in the Indian stock market could not be overlooked. A closer look at the likely factors affecting the investments is the key to policy makers and domestic investors. The presence of this investors leads to the reform in securities trading, transaction systems, liquidity in markets etc. Such portfolio investment generates benefits for emerging economies (Bhagwati, 2001). On the flip side, Foreign Institutional Investors frequently move their investments, and those swings brought severe equity price fluctuations, resulting in increasing volatility. FII cash inflows increase the market indices and cash outflows decrease the India stock market indices. Also, it is likely that increased investment from overseas may shift the control of domestic firms to foreign hands.

Fig 3: CNX Nifty Performance over the period from 2002-2012.



If the performance of Nifty is observed along with FII movements (as mentioned in table 1), it is evident that nifty has gained whenever FIIs have invested in the market.

Objective of the study

The objective of this study is to identify whether there exist a causal relationship between net investment made by FIIs and the stock market indices in the Indian Stock Market. Here we analyze the relationship between foreign institutional investment and stock indices in India (NSE) with the aid of monthly data from January 2002 to Dec 2012.

Research Methodology

The data used in this empirical study are monthly stock market index and foreign institutional investments in Indian stock market. Monthly data for the period January, 2002 to December, 2012 are being used for the analysis. The S&P CNX NIFTY of National Stock Exchange (NSE) which is one of the most robust indices available for Indian stock market is considered for the purpose of analysis. The monthly FII investment for the said period have been collected from SEBI website and daily CNX Nifty closing indices for above mentioned period have been collected from NSE website. The study analyses the relationship between Nifty indices and FII investment. Several statistical tests have been applied in order to study behavior and dynamics of one series on another.

Analysis and Interpretations

The impact of fluctuations of FII on CNX Nifty values has simply been examined using the concept of Granger's causality test. To check for stationarity for the exchange rate and stock market, Augmented Dicker Fuller (ADF) Unit Root test was applied on all data series after transforming them into natural logarithms. It was observed that data are non stationary at this level.

But after applying ADF unit root tests on the first differences of the log values of both the series it was seen that the data becomes stationery. Now, Granger Causality test has been employed on the above data. This was experimented with a lag of 3 from the consideration.

TEST 1	P_val1
4.2795924	0.0064062

TEST 2	P_val2
13.50946	0.0036549

As shown in above results, both test statistics are significant at 5% level. Thus it would seem that FIIs granger causes stock prices. (for detailed workings refer Annexure-1).

Conclusion

In this study the dynamic linkage between foreign institutional investments and Indian stock market was examined by applying Grangers causality test. The empirical study shows a causal relation of foreign institutional investments on Indian stock market.

During recent times since FIIs are playing a dominant role in driving Indian stock market, they have almost one-third of all the assets under the custody of custodians in any period of time. But they have a thirst for short term profitability for which they often mobilise funds. The results are however, are tentative and there is a need to undertake an in-depth research to address the issue.

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Suggestions

As observed from this study that dominance of foreign investors in Indian stock market is playing an important role in volatility of the market when they outflow. To counter effect such, it is necessary that domestic investors specially the retail investors should participate more in the Indian stock market.

Annexure-1

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The AUTOREG Procedure

Dependent Variable D_L_nifty

Ordinary Least Squares Estimates

SSE	30.9646916	DFE	33
MSE	0.93832	Root MSE	0.96867
SBC	129.095964	AIC	117.273807
Regress R-Square	0.2522	Total R-Square	0.2522
Durbin-Watson	2.1171		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	0.1976	0.2188	0.90	0.3730
D_L_nifty_1	1	-0.6699	0.2328	-2.88	0.0070
D_L_nifty_2	1	-0.5329	0.2665	-2.00	0.0534
D_L_nifty_3	1	0.1149	0.2386	0.48	0.6332
D_L_fii_1	1	2.0225	3.2013	0.63	0.5319
D_L_fii_2	1	0.9479	2.8064	0.34	0.7377
D_L_fii_3	1	-4.9812	2.8485	-1.75	0.0896

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The AUTOREG Procedure

Dependent Variable D_L_nifty

Ordinary Least Squares Estimates

SSE	33.9314735	DFE	36
MSE	0.94254	Root MSE	0.97085
SBC	121.689142	AIC	114.933625
Regress R-Square	0.1806	Total R-Square	0.1806
Durbin-Watson	2.1511		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	0.0880	0.1693	0.52	0.6061
D_L_fii_1	1	-0.5559	0.2048	-2.71	0.0101
D_L_fii_2	1	-0.3924	0.2228	-1.76	0.0867
D_L_fii_3	1	-0.005648	0.2059	-0.03	0.9783

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IML Result

TEST1	P_VAL1
4.2795924	0.0064062

TEST2	P_VAL2
13.50946	0.0036549

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