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UNDERCURRENTS OF DOMESTIC INSTITUTIONAL INVESTORS AND STOCK MARKET CAPITALIZATION IN INDIA

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ABSTRACT

The dynamics of economy in India are changing; it is becoming favourite destination throughout the world for the investments and especially investment by domestic institutional investors. First phase of the study examines the relationship between stock market and capitalisations of equity flows by DIIs. Study tries to capture the influential factor dominating between the flows of DIIs and stock market capitalisation and market trading volume. The study was conducted using monthly time series of Nifty, Sensex and DIIs activity for a period of five years ranging from January, 2014 to December, 2018. To check the non-stationary of the time series the Augmented Dickey-Fuller (ADF), KPSS and PP test were applied. The impact of DIIs (Buy/Sell/Net) capital flows on stock market capitalization and vice versa were established on the basis of Granger causality test. The study reveals that there is significant positive relationship between DIIs capital flows and stock market capitalization. Moreover, BSE and NSE market capitalization have significant bi-directional influence on DII flows.

Keywords: *Institutional Investors, DIIs, KPSS, PP Test, ADF, Capitalization* **.**

INTRODUCTION

Every progressive economy possibly will look for financial succour from the developed countries to escalate their pace of growth and development. On the contrary some time these foreign investments create havoc in the market, so it becomes quite challenging in the economy to sustain the growth and development. Time has come to transform the perspective and count on domestic savings and investments. Domestic institutional investors scaled up their investment in the resent years against the withdrawals by FIIs .DII have crossed the 10billion investment mark in the year 2018.DII pumped in more than Rs.1 lakh crore in equities during the year2018, which has enormously changed the scenario of Indian stock markets after a long interval. Ever since after the global financial crisis the stock market in India has witnessed huge investment by DII in the year 2018.In the year 2007 and 2008, net domestic institutions had invested Rs.24423 Crore and Rs.72966 crore which helped in saving the bad situation in global financial crisis. However, DII net start falling down after the year 2010 and shown high selling during the period. The negative phase of net DII continued till

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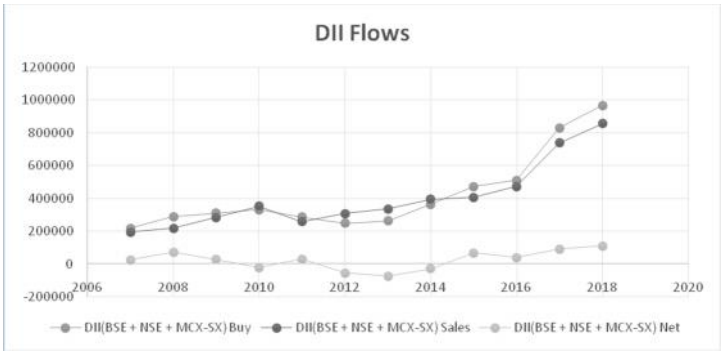
the year 2014 which was negative outflows of Rs.30329 crore exceeding the inflows. Soon after the beginning of year 2015 DII started back pumping money into stock market, which further strengthen the faith of investor and DII flows crossed 1 trillion mark in the year 2018. Market forecasters generally attribute this to FIIs, who are generally called as friends of good times, but this time it was DII which pumped in such a huge quantum of investment that has improved the length and breadth of stock market in India. This neutralized the impact of heavy selling by the FIIs during the period.



Source: BSE

High pressure of selling by FIIs has been generally borne by the DIIs even during the recent past and during global financial period. Domestic institutions have significantly improved their quantum with the money collective poured by mutual funds, pension funds, EPFO, corpus of new pension funds etc. there is a paradigm shift in allocation of investment by DIIs, specifically from small-medium cap to large cap portfolios . This shift has been reflected in the growth of stock market returns claiming the period.

REVIEW OF LITERATURE

Mishra and Debasish (2017) The study ascertains that how DII purchase and sale trade change differ from foreign intuitional investors. Study tested the hypothesis with the econometric technique of multivariate Vector Auto Regression analysis. Study examined the impact by including mutual funds (MFs), Banks, insurance companies along with other DIIs. The outcome of the analysis indicate that the foreign institutional investors (FIIs) appear to be very short term momentum buyers in their purchase trade and appear to be neither momentum nor contrarian sellers in their sale trade. Study pointed out that there is a herding behaviour of domestic institutions, foreign institutions and other intra groups. The variance decomposition analysis revealed that there is significant impact of investment flows and market index returns.

Karolyi (2002) Study found that there is a pattern of momentum trading followed by the foreign institutional investors in the Japan stock markets. Besides this he pointed out that domestic institutional investors still continue with the contrarian trading behaviour.

Yangbo et al. (2010) study examines the relationship among the mutual fund flows and stock market return in the Singapore and Hong Kong stock markets. Study revealed that there is bi-directional causality between mutual fund flows and returns of stock market of

Hong Kong but the results were not similar in the case of Singapore stock market. Study demonstrates that there is no granger causality between excess stock market return and flows of mutual funds in the stock market of Singapore. Study also indicated that market return has positive influence on flows of mutual funds and on the other side mutual fund flow whether expected flows or unexpected flows also have positive impact on stock market return of Singapore and Hong Kong stock Markets.

SSS Kumar (2009) the study examines how investor plays role in Indian stock market and explain how market movements are affected by these flows. The study sets out whether FII flows because any change in direction of movement in stock market returns. Study covers the Sensex and Nifty indices to examine co-movement with FII flows and mutual funds. Study adopted the Advance and Decline ratio (ADR) and Granger causality test using one period lag for analysis. The findings show that FIIs and mutual funds together can change or prediction of direction of stock market. The results on the base of Granger causality indicates that mutual funds in fact lead the market rise or fall and FII follow Suit. He also observed that market becoming more efficient with presence of FIIs as they go by fundamentals. Study reveals that FIIs create less noise trading as they are based on delivery basis. He also reveals that FII lead to information asymmetries, reform security trading and transaction system. Study explains that null hypothesis MF does not granger causes FII can be rejected but the hypothesis FII does not granger cause MF cannot be rejected. Study concluded that the forecasts of FII activity using MF activity can be improved whereas the reverse is not possible. Alexakis et al. (2005) Study indicated that the Greek equity market have bidirectional causality between mutual fund (MF) flow and stock returns for Greece.

OBJECTIVE OF THE STUDY

In the present epochs domestic institutional investors are emerging as pre-eminent reformist source against the foreign institutional investors, supported by domestic savings, pooled funds by mutual funds, monetary liquidity and formation of treasury reserves. These investment flows are proven as an advantageous to the economy, as these are highly favourable accompanied by their low unpredictable nature. It has become reasonably important to study new underlying forces of the DII flows and its impression on stock markets of India. The recurrent changes in flows of DIIs have brought perceptible changes in the economy, nitty-gritties of stock markets, domestic investors acuity and investment policies of the host country. The present work explores measures as to how DIIs investment can be motivated, so that the gap between investment and savings can be bridged and growth of Indian economy can be accelerated. The present study is an improvement over the earlier studies in several ways. It has used the recent period of data ranging from 2014 to 2018 to study the behaviour of stock market. It would study all the aspect of impact of DII investment on Indian market in terms of market capitalization and trading volume.

RESEARCH METHODOLOGY

To find the impact of DII on stock market capitalization the data set ranging from Jan, 2014 to Dec, 2018 (5years) has been taken from the website of BSE, NSE, SEBI and RBI.

Market capitalization and trading volume is taken from various issues of NSE (Indian Securities Market, A Review (ISMR**).**To see the impact of domestic flows on the market capitalization monthly data of DII (BUY), DII (SELL) and DII (NET) has been taken. To analyse the causal impact of variables on the other variables, Granger causality test suits the best. Granger causality test technique helps in finding the uni-directional or bi-directional causation between trading volume, Market capitalization and DII flows. The objective of this empirical study is to examine the short-run causality between stock markets and domestic institutional investors in India. Given the unresolved conclusions on the nature of causality in the time-series studies, this study applies the Granger causality (1969). Gries et al. Gries et al. (2009) applies only Philip-perron unit root test while several works by Perron (1989, 1998), Zivot and Andrews (1992), Gregory (1994), and Volgelsang and Perron (1998) have shown that both augmented Dickey Fuller (ADF) and Philip-Perron (PP) exhibit high size distortion: that is, a probability of accepting a false null and also incorrect probability of rejecting a true null. To avoid these problems and to allow for robustness, this study uses three unit root tests. (ADF, PP and KPSS).

The dynamic linkage was examined by using the concept of Granger Causality Test. The following equations were used for the purpose:

$$Y_t = \beta_0 + {}^{n}\Sigma_{i=1}\, \alpha_i X_{t-i} + {}^{n}\Sigma_{i=1}\, \beta_1 Y_{t-i} + E_{1t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

$$X_t = \lambda_0 + {}^{n}\Sigma_{i=1}\, \delta_i Y_{t-i} + {}^{n}\Sigma_{i=1} \lambda_1 X_{t-i} + E_{2t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

In the above equations Y_t, X_t are the variables to be tested and α_i, β_i,λ_i,δ_i are coefficients explaining the relation of dependent variable with the lag terms of independent variable and lag terms of dependent variable in itself.$E1_t$, $E2_t$ are mutually uncorrelated white noise errors. "t" is the time period and "I" is the number of lags. The null hypothesis is αi,=δ_i = 0. If αi is statistically significant but δ_i is not, it means X causes Y. In the reverse case Y causes X. But if both are significant then causality runs both ways. For analysis 2 lags are taken for the study, as it is prescribed that 2 lags are sufficient to explain causality relationship.

EMPIRICAL ANALYSIS

Test of Stationarity (Unit Root rest)

In order to proceed for the co integration analysis, one must establish that the variables possess the same order of integration. A variable is called integrated order of 'd', I(d), if it has to be differenced 'd' times to become stationary **(Kennedy, 1996)**.Augmented Dickey–Fuller (ADF) (1981) unit root tests is used to test the non stationarity in the data series. Considering the low power of the ADF test, the Phillips Perron (PP) test (1988), which takes account of the serial correlation and heteroscedasticity, as an alternative test is also used. Table no. shows the Test Statistics (TS) and the corresponding Critical Values (CV) at the 5% levels of significance. The null hypothesis for the presence of a unit root is rejected if the TS value is bigger (in absolute terms) than the corresponding CV statistic. Rejection of the null hypothesis implies that the series is stationary. The ADF unit-root test, KPSS, and Philips Perron test results are as shown below:

Table 2: Unit Root Test (1/01/2014 -31/12/2018)

Unit root test						
	ADF		KPSS		PP	
	Intercept	Trend Intercept	Intercept	Trend Intercept	Intercept	Trend Intercept
DIIB	-11.7262	-11.69106	0.096864	0.096874	-71.9573	-71.22125
DIIS	-11.61743	-11.58175	0.097369	0.089688	-88.93136	-107.1707
DIIN	-10.96463	-10.93317	0.162893	0.112732	-57.98211	-57.8906
NSE (MC)	-12.01289	-11.99123	0.108002	0.061659	-12.01493	-11.99355
BSE (MC)	-11.88908	-11.86153	0.079381	0.050350	-11.89247	-11.86524

The results in Table show that the null hypothesis for unit root at the level of all variables is rejected. The null hypothesis of the unit root at the level for all variables is rejected because the TS values of ADF, KPSS and PP tests are higher than the corresponding critical values (CV). It means that all the variables are integrated of order I (O) and all the series are stationary at level.The results of table 2 shows that all the data series are stationery and further the pairwise Granger Causality Test can be applied.

Table 3: Pair wise Granger Causality Tests (2014-2018)

Pairwise Granger Causality Tests, Sample: 2014M01 2018M12, Lags: 2			
Null Hypothesis:	**F-statistic**	**Probability**	**Remarks**
(BSE_MC) does not Granger Cause (DIIN)	1.61389	0.6158	Insignificant
(FIIN) does not Granger Cause (BSE_MC)	3.68302	0.0112	Significant at 5% level
(NSE_MC) does not Granger Cause (DIIN)	1.79791	0.2563	Insignificant
(DIIN) does not Granger Cause (NSE_MC)	3.31030	0.0153	Significant at 5% level
(BSE_MC) does not Granger Cause (DIIP)	5.77542	0.0006	Significant at 1% level
(DIIP) does not Granger Cause (BSE_MC)	2.61059	0.0305	Significant at 5% level
(NSE_MC) does not Granger Cause (DIIP)	5.80702	0.0019	Significant at 1% level
(DIIP) does not Granger Cause (NSE_MC)	5.80702	0.0008	Significant at 1% level
(BSE_MC) does not Granger Cause (DIIS)	6.46456	0.0169	Significant at 5% level
(DIIS) does not Granger Cause (BSE_MC)	6.34306	0.0012	Significant at 1% level
(NSE_MC) does not Granger Cause (DIIS)	5.80702	0.0019	Significant at 1% level
(DIIS) does not Granger Cause (NSE_MC)	6.34306	0.0017	Significant at 1% level

Table 3 represents the results based on Granger causality test. The null hypothesis that, NSE and BSE market capitalization does not granger cause DII (net) is found insignificant, which implies that rising or falling of NSE and BSE market capitalization does not influence the DII(net) flows in the market. However, DII (buy) significantly influence by the market capitalization of both the markets and that shows bi-directional causality. On the other hand DII (Sell) also granger causes NSE and BSE market capitalization and vise-versa. DII flows investment turned as a result of market capitalization which implies that as domestic investors initiated investment in the national market and it will boost the confidence of other investors in the market. The purchases have shown bi-directional causality with market capitalization, which implies that rise in the market attracts purchases of DIIs which in turn increases market capitalization. Study also reveals that sales done by DIIs in Indian stock market also have a bi-directional causality with the market capitalization.

CONCLUSION

FIIs has withdrawn approximately ninety thousand crore in the year 2018. FIIs withdrawn their money in pretext of expected mounting cost of federal reserve's and squeezed liquidity in the market. Emergence of DII have pumped in new life in stock market capitalization during the recent past which has significantly reduced the cost , reduced the risk of currency exchange and the axillary associated with the foreign money. DII positive flows will further provide resilient and safe persuasive investment in the market which is essential for substantial growth of economy. The investment boom additional public investment coincided significant change in saving via social security schemes, decision taken in cabinet to increase NPS share of employer by 4 % has improved the investment flow in the market. There is emergent need of involving DIIs for long term investments and confining the risk of FIIs and their flows. Indian economy should gears up to counter such situations, introduce firm policies to curb such out flows and restore investment potential of Indian stock markets.

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