AN ECONOMETRIC STUDY OF HERDING BEHAVIOUR OF DOMESTIC INSTITUTIONAL INVESTORS IN INDIAN CAPITAL MARKET: AN AUTO REGRESSIVE DISTRIBUTED LAG APPROACH

TOM JACOB*, RINCY RAPHAEL**, AJINA V.S.***

Abstract: The Indian equity market is one of emerging markets’ best-performing and most promising markets. The funds that play a significant role in the Indian capital market are divided into two categories: domestic institutional flows and foreign institutional flows. There have been several studies on the flows of funds from foreign institutional investors, but only a few studies on domestic institutional investors have been conducted. Using monthly data from 2007 to 2021, this research study focuses on the impact of domestic institutional investment flow on the performance of stock market indexes. The study takes into account two sorts of variables: net flows of domestic institutional investors and the Sensex index. The data was obtained from the Reserve Bank of India’s official website. The Granger Causality Test and the Auto Regressive Distributed Lag (ARDL) model reveal that domestic institutional investors have no beneficial impact on the Sensex since their investments have a short run impact on the index’s movement during the entire study period.

Keywords: DIIs, Stock Market, ARDL, AIC, ADF.

1. INTRODUCTION

An economy’s ability to promote and sustain growth is heavily reliant on the functioning of the capital market. It serves as a crucial and efficient mechanism for channeling and mobilizing capital to enterprises, both private and public, in order

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to promote economic growth. It is critical in mobilizing savings for investment in productive assets with a view to improving a country's long-term growth prospects, and it serves as a major catalyst in the transformation of the economy into a more efficient, innovative, and competitive market place in the global arena, among other things. It is a reliable source of investment in the economy that is cost-effective. A new era in Indian financial reform began with the founding of the Securities and Exchange Board of India (SEBI). The Securities and Exchange Board of India Act 1992 specifies how to safeguard investors and regulate the securities market. Various laws have been passed from time to time in order to support and maintain a healthy growth of the Indian securities market. The Securities and Exchange Board of India support the orderly and healthy expansion of the Indian capital market. When an economy's capital market is well-developed, it reflects the economic conditions and progress of the economy.

The Indian equity market is one of the most successful and promising markets in the world's emerging economies, with a record of strong performance. The funds that play a significant role in the Indian Capital Market are divided into two categories: domestic institutional flows and foreign institutional flows. Domestic institutional flows are the primary source of funds for the Indian Capital Market. Since the Financial Liberalization Act of 1991, the Indian stock market has experienced a significant increase in the number of foreign institutional investors. The inflows of Foreign Institutional Investors into the Indian capital market were critical to the market's health. Normally, when foreign institutional investors (FIIs) are the net purchasers, the market experiences a rise; but, when they become the net selling, the market experiences a precipitous decline (Bikhchandani and Sharma 2001). Domestic players, on the other hand, were maturing slowly but steadily over time. On the other hand, they were making significant investments in the market, giving it a more stable environment in which to invest. Our study is unique in that it focuses solely on the investment patterns of DIIs, in contrast to all other previous studies, which were primarily concerned with FIIs' investment patterns.

Generally speaking, domestic institutional investors refer to Indian institutional investors who make investments in the Indian financial market. DIIs are mainly mutual fund firms, insurance companies, and banks in India. Prior to 2007, there was no consolidated data for domestic institutional investors; however, since 2007, the Securities and Exchange Board of India has taken the initiative and made the consolidated data for domestic institutional investors. A very essential and crucial role in providing support to the Indian stock market is played by DIIs, particularly when Foreign Institutional Investors (FIIs) become net sellers (Bose,
The purpose of this study is to determine the impact of domestic institutional investors on the Indian stock market. It seeks to determine whether or not the flows, whether positive or negative, have any effect on the performance of the Indian stock exchange. It refers to the role of domestic institutional investment plays in increasing or reducing the performance of the Indian stock market. This type of investment decision is influenced by a variety of domestic economic and political developments as well as international trends.

It is necessary to establish powerful DIIs in order to counteract the disruptive nature of FII trading. These DIIs would act as a buffer against the negative impact of FII trading. When foreign institutional investors (FIIs) withdraw capital from the market, domestic institutional investors (DIIs) tend to support the market, as was the case in 2018, when FIIs sold more than Rs. 340 billion while DIIs remained net buyers of more than Rs. 1090 billion. Since the Narendra Modi-led National Democratic Alliance (NDA) government came to office in 2014, Indian equity markets have outpaced emerging markets by 26 percent in dollar terms over the last four years. Over the last four years, DIIs have also invested significantly more than FIIs, primarily in Indian equities, where they have made significant infusions of capital. Despite the fact that domestic institutional investors are pouring large sums of money into domestic equities, they are unable to absorb the influx of foreign capital in the near to medium term. Despite the fact that mutual funds are rising in influence, they are still a long way from matching the power of foreign institutional flows. Because they support the market and act as a buffer when the market falls, they have been able to acquire equities at reduced prices at every downturn in the market, which has given them comfort. DIIs have the potential to outperform FIIs in terms of overall impact, but this will only be feasible over a period of time as the scale of their investment grows. For domestic institutional investors (DIIs), the vast majority of domestic savings is channeled via mutual fund investments. It was already obvious in the last few years that there was a shift toward financial savings. When opposed to actual assets such as gold and real estate, Indians are increasingly putting their money into financial investments.

2. REVIEW OF THE LITERATURE

The Indian capital market is dominated by institutional investors, who play a key role. In the first review section, we analyses the significant contribution of foreign institutional investors (FIIs) to the Indian capital market, as well as their investing patterns and the volatility of indices as a result of FIIs. According to De
Mello (1999) and Narayanan and Bhat (2011), foreign capital inflows are a significant driver of economic growth in developing countries. According to Arora and Baluja (2013), in comparison to foreign direct investments (FDIs), foreign institutional investments (FIIs) are short-term in nature and can be withdrawn at any time. According to Jain, M., et al. (2012), “the Sensex has gone upwards when there are positive inflows of FIIs and has moved downwards when there are negative inflows of FIIs.” Pal (2005) discovered that foreign institutional investors' (FIIs) trading activities in the Indian stock market have expanded dramatically, and that the stock market’s high turnover is primarily due to FIIs trading. Foreign capital flows and the Indian stock market have a strong positive link, according to Sultana and Pardhasaradhi (2012), who discovered a high degree of statistically significant correlation between them. Jain at el (2012) discovered a highly favourable link between foreign institutional investors’ investments and the Sensex. Anubha (2013) discovered that foreign institutional investors' (FIIs) investments have a statistically significant positive impact on the stock market and on major stock indices. Agarwal (1997) and Nair and Trivedi (2003) discovered that foreign institutional investors' (FIIs) investment and equities returns had a significant positive association. Behera (2017) discovered that foreign institutional investors' (FIIs) investments have a favourable influence on both liquidity and returns. Furthermore, foreign institutional investors (FIIs) investments create volatility in the Indian stock market. Krishna (2009) indicated in his research that foreign institutional investors' (FIIs) involvement has a significant impact on both liquidity and volatility. According to Batra (2003) and Karmakar (2006), the investment by foreign institutional investors (FIIs) contributed to the increase in volatility of the stock market. According to Mohan (2006),FIIs entry into the market has a destabilizing effect on the values of numerous equities. According to Bohn and Tesar (1996) and Berko and Clark (1997), foreign institutional investors (FIIs) purchase when the market rises and sell when the market falls, and that this conduct causes stock prices to deviate from their underlying values. It was demonstrated by Gupta (2011) that foreign institutional investors’ investment flows are unpredictable, and that the heightened volatility associated with FIIs investments leads to dramatic price changes in the Indian stock market. Because of the large volume of investments, Gordon and Gupta (2003) found that foreign institutional investors (FIIs) perform the role of market makers and book their gains, meaning that they buy financial assets when the prices are decreasing and sell them when the prices are climbing. According to Kumar et al. (2002), foreign institutional investors (FIIs) and Indian mutual funds are the most significant forces
in the capital market. According to Loomba (2012), heightened volatility associated with FIIs investments results in extreme price changes, and FIIs were the net sellers in all of the major market crashes during the period under consideration. Joo and Mir (1914) discovered that the volatility of the Indian stock market has grown over the period of study by the Foreign Institutional Investors (FIIs). The amount of volatility peaked during the financial crisis and then gradually declined to moderate levels over the following months.

According to Mazumdar (2004), foreign institutional investors (FII) have increased liquidity in the Indian stock market (including both BSE and NSE securities). Finally, according to the findings of the study, a positive correlation was discovered between foreign institutional investors, market capitalization, and the BSE and NSE indices, demonstrating that foreign institutional investors were a significant driver of the liquidity and volatility of the Indian capital market. Mukherjee (2011) conducted an investigation on the stochastic causal relationship between foreign institutional investment (FII) and stock market return. The purpose of this study was to gain a better understanding of the dynamic relationship between Indian stock market results based on the BSE Sensex and foreign institutional investment (FII) flows. The study, which aimed to determine the direction of causality by the use of the granger causality test, discovered that both stock market returns and FII granger flows were caused by one another. In other words, it had been discovered that both benefited from bidirectional causality.

Bose and Coondoo (2004) investigated the influence of several policy changes affecting foreign institutional investment on the performance of the Indian stock market. When the Multivariate Garch Model was employed for this purpose, it was discovered that there has been a rise in foreign institutional investment in the Indian economy since the liberalization of trade and commerce. According to Mishra and Pradhan (2010), the influence of net equity investment by foreign institutional investors on the performance of the Indian stock market return was investigated. Using Regression Analysis, it was discovered that foreign institutional fund flows are responsible for a 19.74 percent change in the Sensex return. Clark and Berko (1997) evaluated the causation behavior of the variables using daily data on foreign institutional flows and the closing price of the Nifty index, as provided by the National Stock Exchange of India. To conduct this investigation, the time span from January 2003 to February 2011 was taken into consideration. According to the findings, foreign funds flowing into the stock market have a short-term effect on returns, while the returns themselves have an impact on them in the long run.
Sharma & Mittal (2019) investigated the Causal Relationship between Foreign Portfolio Investment and Indian Stock market NSE index Nifty Return. Different variables associated with portfolio investment such as FPIP, FPIS, FPIN, Ratio FPIP, Ratio FPIS, Ratio FPIN have been taken in their study. NSE Nifty has been taken as the benchmark for the Indian stock market. Monthly data from April 2010 to March 2019 have been taken as the sample. In their study they check the causality for the time series data Granger Causality test has been applied. The result of the study showed that there is no causality between FPIS and NSE Return and the same result is reported for Ratio FPIN and NSE Returns during the study period. Result also revealed the evidence for bi-directional causality between Ratio of FPIP and Returns, Unidirectional Causality found to exist when causality test is applied on the Ratio of FPIS, FPIP, FPIN, and NSE Returns for the period under study. Sias (2004) in their study did not find any evidence of herding Institutional investors' demand for a security this quarter is positively correlated with their demand for the security last quarter. Results of the study are most consistent with the hypothesis that institutions herd as a result of inferring information from each other's trades. Lin and Swanson (2008) investigated the herding behaviors and investment performance of foreign investors in the U.S. market. Little evidence is found of foreigners' herding behavior within one time period. Foreigners' buy-side behavior of buying U.S. equities as a group is positively related to past high returns in the U.S. market and this buy-side behavior leads to superior investment performance.

After that, we discuss about the role of domestic institutional investors in the Indian capital market in the second half of the study. Ajay (2008) conducted a study on the preferences of foreign institutional investors (FIIs) and domestic institutional investors (DIIs) in the Indian stock market. Foreign institutional investors (FIIs) are not the sole participants in the Indian capital market. DIIs played a significant part in the development of India's capital market. He also looks into the shareholding patterns of foreign institutional investors (FIIs) and domestic institutional investors (DIIs) in a developing market economy like India. Kumar (2005) investigated the impact of foreign institutional investors and Indian mutual fund investors on the Indian stock market. Both of these entities have a substantial impact on the functioning of the Indian stock market. Natchimuthu et al (2018) discovered that the FII responds positively to an impulse from Nifty returns, whereas the DII responds negatively to an impulse from the Nifty returns. According to Bose (2012), the influence of stock market returns can be dominated by the effect of foreign institutional investors (FIIs) investments as compared to
mutual fund investments. The author discovered that there is no causal association between domestic mutual fund flows and the return on the stock market.

In accordance with the findings of the evaluation of the literature, a significant number of studies have been done in relation to the role and influence of foreign institutional investment on the Indian stock market. It has been found in various studies that foreign institutional investment is the most important factor to consider. Few studies have taken into account other types of institutional investment, such as domestic institutional investment, and the impact they have on the stock market. As a result, the primary focus of this research article is on the causal relationship between domestic institutional investment and the movement of the Sensex index.

3. RESEARCH GAP

The relationship between foreign institutional investment and Indian equity markets has been extensively researched, but comparatively few research has been conducted to analyse the impact of domestic institutional investors on the Indian stock markets, despite the fact that domestic institutional investors are the second largest investors in the Indian equity markets.

Objective of the Study

- To study the overall concept of Domestic Institutional Investors in Indian Stock Market.
- To know the causal relationship between Domestic Institutional Investment and Indian capital market.
- To analyse the impact of Domestic Institutional Investment on Indian capital Market.

Hypothesis of the Study

There is significant impact of Domestic Institutional Investment on Indian capital market.

Significance of the Study

There is a strong likelihood of the Indian Stock Market development, and the DII plays a vital part in both the upward and downward movement of the market. The purpose of this study is to determine whether or not domestic institutional investors (DIIs) are significant role in the Indian stock market. In order to better understand the investment pattern of domestic institutional
investment (DII) towards India. This study may be of assistance to researchers, corporations, investors, portfolio managers, research institutions, and other entities that are involved either directly or indirectly with the operations of the capital market activities.

**Scope of the Study**

The study is focused on India, and the reason for this is that the Indian economy is one of the fastest expanding in the world, and as a result, the Indian stock market has received the greatest amount of institutional investment from both foreign and local investors. The Bombay Stock Exchange is one of India's oldest stock exchanges, having been established in 1895. A significant amount of money is being invested by institutional investors from within the country in these markets. The stock market of India is represented by BSE (Sensex) in this research study. In order to determine the impact of domestic institutional investors on the performance of the Sensex, this index has been selected for investigation. Domestic Institutional Investors, in addition to Foreign Institutional Investors, are the largest investors in the industry, and it is critical to grasp the general tactics of the domestic players operating in the market. Domestic Institutional Investors are discussed extensively in this study, including which companies they invest in, whether their investments are dependent on the direction of the Sensex, and whether or not their investments have an impact on the performance of the Indian Stock Market. The study also includes a discussion of the impact of foreign institutional investors on the performance of the Indian Stock Market.

**4. Research Methodology**

**Sources of Data**

The research is primarily based on secondary data collected between 2007 and 2021. The capital flows pertaining to domestic institutional investors (DIIs) monthly investment in India have been compiled from the Reserve Bank of India's (RBI) database. BSE market data (Sensex data) can be obtained via the BSE's official website, which is www.bse.com.

**Data Analysis**

Correlation analysis can be used to determine the relationship between DIIs' investments in the Sensex performance. When using the Auto Regressive Distributed Lag (ARDL) model to study the short run and long run equilibrium, it is possible to determine the precise impact of DIIs investment on capital market
return. A model in which the dependent variable is a component of its own past lagged values as well as current and previous values of other explanatory variables is known as an ARDL model. The Granger Causality Test has also been utilised to strengthen the conclusions reached in this study.

**Domestic Institutional Investment in India**

The term "domestic institutional investors" refers to institutional investors based in India who make investments in the country's capital market. DIIs have been pouring in a considerable amount of money into the Indian market, which is a positive development because they are doing a balancing act that is counter to the outflows of FII money from the country. The DII money has really been able to keep the market afloat, which has supplied the market with much-needed stability. Figure 1 demonstrates that DIIs have withdrawn the largest amount of money, Rs. 48319 Crores, and made the largest investment, Rs. 55591 Crores, respectively. It is estimated that DIIs received Rs.1564 crore on an average monthly basis throughout the time. The investment of DIIs and the performance of the Sensex have a negative correlation coefficient. The outcome was unexpected, and it was certainly startling. It is possible to determine the precise influence of DIIs on the movement of the stock market with the use of advanced econometric tools and techniques.

![Figure 1: Investment Behaviour of DIIs and Sensex performance](image-url)

Unit Root Test
The unit root test is primarily used to determine the data's stationarity properties. The majority of economic data has a unit root (non-stationary), which causes erroneous regression. To circumvent this issue, the study uses the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) test statistics to check for stationarity in time series data. Domestic Institutional Investors (DIIs) investment is integrated at level 0, while market index is integrated at level one, as shown in Table 1.

Table 1: ADF Unit Root Tests Results

<table>
<thead>
<tr>
<th>Series</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIIs</td>
<td>I(0)</td>
</tr>
<tr>
<td>Sensex</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Source: Author’s Calculation

The Econometric Model

\[ \text{Sensex} = \alpha + \beta_1 \text{DIIs} + \epsilon \]  \hspace{1cm} (1)

Sensex = Indian Stock Market Index  
DIIs = Domestic Institutional investment  
\(\epsilon\) = Error Term

Impact of DIIs on Indian Capital Market

The Autoregressive Distributed Lag (ARDL) model is a technique for estimating the impact of domestic institutional investment short- and long-run coefficients of the Sensex (BSE) in Indian capital market simultaneously. In this model, the number of explanatory factors affects the dependent variable in both the present and previous periods. That is, the cumulative effect of all explanatory variables on the dependent variable. The model's dependent variable is the Sensex, whereas the model's independent variable is Domestic Institution Investment. The independent variable should be I (0), whereas the dependent variable should be I (1), or a mixed order of integration. The R-square value is 98 percent, as shown in Table 2. This means that DIIs (independent variables) account for 98 percent of the volatility in the Sensex index (dependent variable).

Table 2: ARDL Model for Sensex Index and DIIs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SENSEX(-1)</td>
<td>1.018207</td>
<td>0.008615</td>
<td>118.1847</td>
<td>0.0000</td>
</tr>
<tr>
<td>DIIS</td>
<td>-0.125312</td>
<td>0.008752</td>
<td>-14.31787</td>
<td>0.0000</td>
</tr>
<tr>
<td>DIIS(-1)</td>
<td>0.054022</td>
<td>0.009658</td>
<td>5.593222</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
An Econometric Study of Herding Behaviour of Domestic Institutional Investors in Indian Capital Market...

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIIS(-2)</td>
<td>0.012787</td>
<td>0.008834</td>
<td>1.447473</td>
<td>0.1497</td>
</tr>
<tr>
<td>C</td>
<td>-150.1899</td>
<td>227.5246</td>
<td>-0.660104</td>
<td>0.5101</td>
</tr>
</tbody>
</table>

R-squared                  0.988626  Mean dependent var  25017.11
Adjusted R-squared         0.988344  S.D. dependent var   9239.149
S.E. of regression         997.5006  Akaike info criterion  16.67804

Accordingly a linear equation model is developed in the following way:

\[ \text{Sensex} = \alpha + \beta_1 \text{Sensex}_{t-1} + \beta_2 \text{DII} + \beta_3 \text{DIIs } t-1 + \beta_4 \text{DIIs } t-2 + \epsilon \]  \tag{2}

Where \( t - 1 \) is variables’ lagged value by one period, \( t - 2 \) is variables’ lagged value by two period and \( \epsilon \) is an error term. The lag length is determined automatically by Akaike Information Criterion (AIC).

**Optimum lag length criteria**

The Akaike Information Criterion (AIC) is used to determine the model's optimal lag length, or how many lags are utilised in the model. The lower the AIC score, the better the model, according to this test. As shown in Figure 2, the top 20 models are those with the lowest AIC values.

![Akaike Information Criteria](image)

**Figure 2: Optimum Lag Length Criteria**

*Source: Author’s Calculation*
The best lag length is ARDL, as indicated by the lowest AIC value (1, 2). The dependent variable received lag value 1 and the independent variable received lag value 2, with a 16.67 AIC value.

*Table 3: Breusch-Godfrey Serial Correlation LM Test for DII and its Stock Market in India*

<table>
<thead>
<tr>
<th>Breusch-Godfrey Serial Correlation LM Test:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>0.690975</td>
<td>Prob. F(2,159)</td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>1.430359</td>
<td>Prob. Chi-Square(2)</td>
</tr>
</tbody>
</table>

*Source: Author’s Calculation*

Table 3 shows the results of the Breusch-Godfrey(1978) LM Assess, which is used to test or check serial correlation. The P value is greater than 0.05, indicating that there is no auto correlation and thus no concern with Serial Correlation.

**Co-integration using the ARDL Bound Test Approach**

The next stage is to analyse the co-integration or long run relationship among the variables of the model after selecting the order of integration of all variables and lag length selection. If the estimated F-statistics are higher than the upper-bound critical value at the 5% level, then indicates that the variables in the model have a co-integrating connection. The null hypothesis of the ARDL Bound Test assumes that the variables have no long-term association. The F-statistic value is less than the critical value of the upper boundaries at the 5% level of significance, it indicates that the null hypothesis is accepted, which meets the ARDL Test's required condition (no co-integration or long-run link between the variables).

*Table 4: ARDL Bound Test*

| Null Hypothesis: No long-run relationships exist |
|-------------------------------------------------|--------|--------|
| Test Statistic | Value          | k     |
| F-statistic    | 20.89882       | 1     |

Critical Value Bounds
Significance & I(0) Bound & I(1) Bound \\
-- & -- & -- \\
10% & 4.04 & 4.78 \\
5% & 4.94 & 5.73 \\
2.5% & 5.77 & 6.68 \\
1% & 6.84 & 7.84 \\

*Source*: Author’s Calculation

The resolutions of the bound test are described in Table 4. The computed F-statistic is 20.89 which is more than the upper bound at 5 percent level. It indicate that there is a long term relationship between variables of this model. Therefore our study conclude that there exist there is a long run relationship or co-integration between domestic institutional investment and the stock market performance in India.

**Table 5: ARDL Cointegrating and Long run form of DIIs and Sensex**

**ARDL Cointegrating And Long Run Form**
Dependent Variable: SENSEX

<table>
<thead>
<tr>
<th>Cointegrating Form</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(DIIS)</td>
<td>-0.125312</td>
<td>0.008752</td>
<td>-14.317875</td>
<td>0.0000</td>
</tr>
<tr>
<td>D(DIIS(-1))</td>
<td>-0.012787</td>
<td>0.008834</td>
<td>-1.447473</td>
<td>0.1497</td>
</tr>
<tr>
<td>CointEq(-1)</td>
<td>0.018207</td>
<td>0.008615</td>
<td>2.113336</td>
<td>0.0361</td>
</tr>
</tbody>
</table>

Cointeq = SENSEX - (3.2132*DIIS + 8248.9225 )

<table>
<thead>
<tr>
<th>Long Run Coefficients</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIIS</td>
<td>3.213168</td>
<td>1.597687</td>
<td>2.011137</td>
<td>0.0460</td>
</tr>
<tr>
<td>C</td>
<td>8248.922517</td>
<td>8938.339484</td>
<td>0.922870</td>
<td>0.3575</td>
</tr>
</tbody>
</table>

*Source*: Author’s Calculation

ARDL model estimate the impact of domestic institutional investment on stock market performance and analyses the short run and the long run effect of domestic institutional investment on capital market performance in India. The results illustrated in Table 5 indicates that there is a long run positive relationship between DIIs and Sensex but the Error Correction Term (ECT) is significant but
not negatively signed (refer Table 5). The ECT coefficient shows how quickly variables return to equilibrium and it should have a statistically significant coefficient with a negative sign. In this case disequilibrium exist.

**Causality Tests using Granger**

Granger causality is a strategy that requires the stationarity condition to be met first. This econometric technique aids in determining if the values of one time series can be used to forecast the values of another stationary time series. It essentially establishes the causality relationship between the various time series. The first step in running the Granger Causality is to ensure that the variables of interest are stationary, followed by determining the ideal lag duration. Different criteria, such as Akaike Information Criteria or Schwarz Information Criteria, can be used to pick the best lags. The Akaike Information Criterion was used to select the number of delays for the causality test in this investigation. The following hypothesis underpins Granger causality:

- **Null hypothesis (H0):** X variable does not granger cause variable Y.
- **Alternate Hypothesis (H1):** X variable does granger cause variable Y.

If the P value is less than 0.05 percent, the level of significance is considered low. As a result, the null hypothesis is rejected. If the p value is greater than the significance level, the null hypothesis is accepted and the alternate hypothesis is rejected. We look into the causal linkages between net DIIs flows and the Sensex index's performance. We use causality analysis to see if DIIs flows drive Sensex performance or if Sensex performance drives DIIs performance.

*Table 6: Pairwise Granger Causality Test between DIIs and Market Index*

<table>
<thead>
<tr>
<th>Pairwise Granger Causality Tests</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SENSEX does not Granger Cause DIIS</td>
<td>166</td>
<td>1.76044</td>
<td>0.1753</td>
</tr>
<tr>
<td>DIIS does not Granger Cause SENSEX</td>
<td>0.33925</td>
<td>0.7128</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Author’s Calculation

To investigate the causal relationship between DIIs and market movements, the Granger-causality test is used. For the entire sample period, Table-6 shows pairwise Granger causality test results with delays as two is an adequate lag order selects in terms of the Akaike Information Criteria (AIC). Because Sensex has been accepted, null hypotheses of DIIs do not granger. The second null hypothesis was
accepted, indicating that there is no causation between the Sensex and DIIs investment. During the study period, the results demonstrated that there was no causation between the factors.

The Study's Practical Implications

The study's main conclusion is that capital market regulators should maintain a careful eye on the activities of domestic institutional investors herding behaviour, as their trading patterns influence stock market performance in long run. As a result, a thorough investigation of the causal relationship between domestic institutional investment and stock market performance is required, as it will aid policymakers in the formulation of stock market performance and investment limit laws. As the Indian capital market's watchdog, the SEBI should play a key role in instilling trust in domestic private investors, encouraging them to actively participate in the stock market. This will help to mitigate the impact of foreign institutional investors' herding behaviour on the Indian stock market. This study will help regulatory authorities to improvise on policy making on investment in stock market for domestic insurance companies, financial institution, venture capital fund and mutual fund. The surge in domestic institutional equity inflows, will help to insulate the Indian equity market from the high velocity traders of foreign investors.

Future Research Prospects

The study focused solely on the causal relationship between domestic institutional investment and stock market performance, disregarding other macroeconomic factors that influence stock market performance. For the purposes of this analysis, only a single BSE index was used. In the future, other NSE indices may be included in the research. This could result in a more reliable result as well as a better understanding of the causality between these variables.
5. CONCLUSION

It was established that DII s influenced the stock market, but not in a significant way, because other players, primarily foreign institutional players or investors, also play a significant role in the performance of the Indian capital market. DII s play a critical role in channelling individual Indian investors' funds and then investing in the Indian stock market. Domestic institutional investors have no positive impact on the performance of the Sensex, during the study period. The empirical findings imply that domestic institutional investors and stock market performance in India have a negative association. The purchasing and selling of DII s has little impact on the Sensex's movement or returns. In the future years, we expect DII s to become a counterbalance to FIIs, as investment flows from consumers, pension funds, mutual funds, and SIPs are expected to expand as savings and tax planning increases. While it will take a few years DII s to become the market's driving force, they will undoubtedly have a strong grip on Indian capital market.
REFERENCES


