

# **EFFECT ON FII AND DII FUNDS DURING COVID-19**

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# **ABSTRACT**

India is a developing economy and is involved in bringing up more FII and DII's in the country. Foreign direct investments help the economy to develop and Domestic institutional investors help in trading in various securities and assets of the country. FII's and DII's play a dominant role in capital formation. The majority of capital sources in India are from foreign countries. This would affect the growth of the economy as well as the financial system. During the covid -19 pandemic, the economy has undergone severe changes and it also affected the DII and FDI funds. The current research paper mainly focuses on the changes in the FII and DII funds during the pandemic and how did increase in these covid cases had affected the DII and FII funds.

Keywords: FII, DII, Economy, Growth, Covid 19, Pandemic, and Investors.

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# CHAPTER 1 INTRODUCTION

## **1.1 Introduction to Stock Markets**

The financial exchange alludes to public business sectors that exist for giving, purchasing, and selling stocks that exchange on a stock trade or over-the-counter. Stocks, otherwise called values, speak to fragmentary proprietorship in an organization, and the financial exchange is where speculators can purchase and sell responsibility for investible resources. An effectively working securities exchange is viewed as basic to financial turn of events, as it enables organizations to rapidly get to capital from general society.

The greater part of the exchanging the Indian financial exchange happens on its two stock trades: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). The BSE has been in presence since 1875. The NSE, then again, was established in 1992 and began exchanging 1994. Be that as it may, the two trades follow a similar exchanging component, exchanging hours, and settlement measure.

As of February 2020, the BSE had 5,518 listed firms, whereas the rival NSE had about 1,799 as of Dec. 31, 2019. Out of all the listed firms on the BSE, only about 500 firms constitute more than 90% of its market capitalization the rest of the crowd consists of highly illiquid shares.

Practically all the critical firms of India are recorded on both the trades. The BSE is the more seasoned financial exchange yet the NSE is the biggest financial exchange, as far as volume. Accordingly, the NSE is a more fluid market. As far as market cap, they're both similar at about \$2.3 trillion. The two trades go after the request stream that prompts decreased costs, market effectiveness, and development. The presence of arbitrageurs keeps the costs on the two stock trades inside a tight reach.

#### **Market Indexes**

The two noticeable Indian market lists are Sensex and Nifty. Sensex is the most established market file for values; it incorporates portions of 30 firms recorded on the BSE, which speak to about 47% of the list's free-glide market capitalization. It was made in 1986 and gives time arrangement information from April 1979, forward.

#### **Market Regulation**

The general duty of improvement, guideline, and management of the financial exchange rests with the Securities and Exchange Board of India (SEBI), which was framed in 1992 as a free power. From that point forward, SEBI has reliably attempted to set down market administers in accordance with the best market rehearses. It appreciates immense forces of forcing punishments on market members, in the event of a penetrate.

### **1.3 Types of Stock Charts**

Charts plot historical data based on a combination of price, volume and or time intervals. These are the three most commonly used charts for day trading. They are:

- 1. Line Chart:Line diagrams are made out of a solitary line from left to right that associates the end costs (or any predefined value information point) at each predetermined time span. The outline resembles a fundamental chart. It gives an elevated perspective on the chronicled value activity in a solitary line. This is a famous kind of diagram utilized in introductions and reports to give an overall perspective on the chronicled and current direction.
- 2. Candle Stick Charts:Candle graphs were created by Japanese rice vendors to follow the value activity of rice fates during the 1700s. Japanese candles were first acquainted with the United States through a book named "Japanese Candlestick Charting Techniques" by Steve Nissan in 1991. The candle diagram has gotten standard on practically all stages and is the most mainstream style of outline utilized by merchants.

3.**Bar Charts:**Bar diagrams are otherwise called open-high-low-close (OHLC) outlines. They are the Western adaptation of Japanese candles. Bar graphs basically utilize vertical lines that reach out to the most elevated and least costs for the predefined period and a short level line broadening left at the initial cost and short flat line stretching out option to demonstrate the end cost. The shade of the bar, like the candle, depends on the net addition (green) or shortfall (red) on the end cost. The shading is discretionary. The nonappearance of a shading filled in body between the open and close is the fundamental qualification that between a bar diagram and a line graph. Numerous dealers feel line diagrams are simpler to follow because of their effortlessness. Bar graphs will in general imagine the value range simpler than candle outlines, which will in general delineate feelings.

## **1.4 Introduction to Foreign Institutional Investors**

There are numerous ways for an unfamiliar financial specialist to put resources into a nation. The most immediate strategy, obviously, is Foreign Direct Investment. Nonetheless, there are alternate approaches to enter an economy, as Foreign Institutional Investors.

#### Who are FII's?

Foreign Institutional Investors (FII) are a speculation store or a social occasion of speculators. Such an asset is enlisted in an outside nation, for example not in the nation it is putting resources into. Such institutional speculators generally include multifaceted investments, shared assets, annuity reserves, protection bonds, high-esteem debentures, venture banks and so on So when such FII's purchase offers and protections the market is bullish and drifts upwards. The inverse may likewise happen when they pull out their assets from the business sectors. So, they have significant influence over the market.

Advantages of Foreign Institutional Investors: FII's play a big role in the development of our economy. The advantages of FII's are:

- FII's will improve the progression of capital into the nation
  - They positively affect the opposition in the monetary business sectors
  - FII help with the monetary development of capital business sectors

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• These organizations are expertly overseen by resource administrators and investigators. They for the most part improve the capital business sectors of the nation.

Disadvantages: FII's also have few disadvantages. They are:

- The demand for the local currency (rupee) increases. This can cause severe inflation in the economy.
- These FII's drive the fortune of big companies in which they invest. But their buying and selling of securities have a huge impact on the stock market. The smaller companies are taken along for the ride.

#### Why are FII's important for Indian Markets?

FIIs are among the significant wellsprings of liquidity for the Indian business sectors. In the event that FIIs are putting enormous sums in the Indian stock trades, at that point it mirrors their high certainty and a solid financial specialist conclusion for our business sectors. However, with the current worldwide monetary disturbance and a liquidity and credit freeze in the global business sectors, FIIs have become net merchants (on an everyday premise

#### FII Influence on Stock Market

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The degree to which FPIs/FIIs impact securities exchange development is far from being obviously true, however their imposing monetary muscle power certainly chooses bearing of the securities exchange. Since FPIs/FIIs purchase and sell stocks in mass and follow group mindset, supported purchasing/selling on their part brings about a sharp ascent/fall in costs..

## **1.6 Introduction to Domestic Institutional Investors (DII)**

DII means 'Domestic institutional Investors.' DIIs are a specific class of speculators that attempt to put resources into monetary resources and protections of the nation they are presently dwelling in. These venture choices of DIIs are affected by both political and monetary patterns. Like unfamiliar institutional financial specialists (FIIs), homegrown institutional speculators (DIIs) can likewise affect the economy's net venture streams.



In India, homegrown institutional speculators have a significant definitive job with regards to the presentation of the Indian securities exchange, particularly when unfamiliar institutional financial specialists are the district's net dealers. As of March 2020, DIIs put a combined ₹55,595 crores in the Indian value market. This was a record speculation for the nation inside a solitary month.

Types of DII's: In India there are total four sets of domestic institutional investors.

They are:

- 1. Indian Mutual Funds:Mutual Funds put the pooled ventures of investors in a scope of protections which change with the objective of the shared asset. There are an expansive scope of asset types that are accessible for buy which relies upon both the danger resilience and requirements of the financial specialist. As of the March quarter in 2020, Indian common finances held a sum of ₹11,722 crores in value property.
- 2. **Indian Insurance Companies:**Another sort of Domestic Institutional Investor in India is all India-based and Indian-claimed insurance agencies. Insurance agencies offer their customers a scope of protection alternatives from life coverage, term protection, health care coverage, retirement choices, and then some. Contingent on the extent of what the organization offers, one can as a rule likewise secure credits
- 3. Local Pension Funds: The purpose of these pension schemes is for individuals to lead a hasslefree retirement by creating a retirement corpus through their pension plan. India's governmentrun pension schemes such as the National Pension Scheme,

Provident Public Fund, and Employees' Provident Fund Organization are also a contributor to the country's DIIs. As of the March 2020 quarter, local pension schemes were the biggest domestic institutional investors totaling at ₹33,706 crores in equity holdings.

4. Banking & Financial institutions: A final contributor to domestic institutional investing is India's banks and financial institutions themselves. Although they were not a key driver of India's stock market performance in the March 2020 sector, since the beginning of 2020, the AUM or 'Assets under management' of banks grew by

20%. As a domestic institutional investor, this is a record growth.

#### FII vs DII Competitive Analysis for 2020

#### 1. Asset under Management (AUM)

As of April 2020, DIIs had a total of ₹20.4 lakh crores in their assets under management whereas foreign institutional investors had about ₹24.4 lakh crores. Since January of 2020, domestic institutional investors experienced a fall of about 10% in their AUM while FIIs saw a fall of double that at about 21.3%.

#### 2. Inflows/Outflows YTD

Since January of 2020, DIIs have invested about ₹72,000 crores year to date. Foreign institutional investors have removed about ₹39,000 crores from Indian equity markets at the year to date.

**Need & Significance:** Indian Stock markets are highly volatile and FII and DII funds have great impact on the trends of stock market. In the year 2020 stock markets have been more volatile compared to last few years because of the Covid – 19 pandemics. Due to this pandemic FII and DII funds also have seen a drastic change. The need of this research is to understand the importance of FII and DII funds in developing the economy and to correlate the movement of these funds to the changes in Covid 19 cases in India.

**Scope:** Scope of this study is to analyse the changes in FII and DII funds during Covid 19 pandemic.

This study is only confined to Covid 19 cases in India.

This study includes the data from January 2020 to December 2020.

The period of study is 12 months.

## **Objectives:**



- 1. To Study the FII and DII funds during Covid 19 pandemic
- 2. To Study the cash and F&O segments in FII and DII
- 3. To correlate the FII and DII futures Index an stock Segments.

# **REASEARCH METHODOLOGY**

## **Research Methodology**

This study includes quantitative data.

It includes secondary data from reliable websites and journal.

Statistical tool used to analyze the data to derive at the conclusions and form interpretations is Correlation and Regression.

The variables considered for the study are:

Dependent Variable: Covid-19 cases in India from January to December

Independent Variables: FII and DII cash

• FII Index Future, FII Index Option, FII Stock Future, FII Stock Options

**Statistical Tools and Techniques Used :** The Covid -19 active cases data in India is taken monthly wise from January 2020 to December 2020 . FII and DII data is also collected in both cash and Futures and Options segment for last 12 months. Covid cases data is used for correlating with FII and DII. Correlation has been applied for few variables and then Regression analysis along with One Way ANOVA is conducted.

**Correlation:**Correlation analysis is a statistical method used to evaluate the strength of relationship between two quantitative variables.

**ANOVA:**Analysis of variance, or ANOVA, is a statistical method that separates observed variance data into different components to use for additional tests.



# CHAPTER 2

# LITERATURE REVIEW

**K.Vimaladevi** (2014) : Conducted a research on Study On The Impact Of Foreign Institutional Investors Fiis In Indian Stock Market and found out thatFII is a vital component which helps in the development of financial market and the overall financial development thereby allowing the capital flows available in a country to pursue its trajectory of economic growth. The study conducted observed that investments by FIIs and the movements of Sensex are quite closely correlated in India and FIIs make significant influence on the movement of Sensex. FIIs have positive impact on BSE Sensex and Nifty. This signifies that market rise when increase in FIIs and collapse when FIIs are withdrawn from the market. This explains that favorable Sensex movements would attract FIIs investments and the vice versa.

**Siddiqui and Azad** (2013) : analyzed the relationship between market indices and FIIs in the Indian context for the period 2000 to 2010. The results revealed a significant impact of FIIs on stock returns with respect to the Auto Index, Metal Index and IT Index. A mild significant impact was noticed in the case of SENSEX, BSE 500, BSE 100, BSE Capital Index, BSE Consumer Durables Index and PSU Index. However, the study evidenced an insignificant impact in the case of BANKEX, Realty Index, FMCG Index, Oil and Gas Index and Power Index.

**Lakshman et al.** (2007) conducted a study to identify the market-wide herding presence in the Indian stock market and the impact of FIIs on such herding. The researcher indicated that herding exists in the Indian stock market, but its impact is not very severe. Further, results revealed that FII flows do not significantly influence the herding behavior. An interesting finding from the study also suggested that mutual funds significantly increase the tendency of herding.

**Gordon and Gupta**, (2003) found causation running from FII inflows to return in BSE. They observed that FIIs act as market makers and book profits by investing when prices are low and selling whe n they are high, hence there are contradictory findings by various researchers regarding the causal relationship between FII net inflows and stock market capitalization and returns of BSE/ NSE. Therefore, there is a need to investigate whether FIIs are the cause or effect of stock market fluctuations in India.

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**Kotishwar.** A (2015): Conducted a research on FII and DII fund flow impact of mutual funds inflows and outflows – A study and found out that Mutual fund inflows were having negative corelation with secondary market bench mark. It has been observed that nifty had field infuses the mutual fund inflow and outflow in India during study period.DII flow was having the stronger infuses mutual fund out flow.

**Narayan Parab& Y.V Reddy(2020) :** Conducted a study on FII and DII fundy pre and post demonitisation and found out that the results indicated a negative relationship of FIIs and DIIs with Nifty 50 Index Returns prior to demonetization; however, such a relationship was noticed to be positive post-demonetization. The study found the Nifty Realty sector to be severely affected because of demonetization. e study found the impact of demonetization on stock market returns, but did not evidence any such impact on FIIs and DIIs. This may be due to the presence of serial correlation in the data pertaining to FIIs and DIIs.

**Jalota** (2017) studied the behavioral aspect of FIIs and DIIs to find the relationship between the two through correlation and one-way ANOVA test. It has been seen that FII took the money out under the conditions of volatility in the Indian stock market whereas, on the other hand, it impacts the behavior of the DII in India.

**Singh, Singh, and Kaur (2016)** examined the trend of FII flow in India from 2001 and 2015 and also examines the relationship between FII and the two important barometers of the Indian stock market, i.e., S&P BSE Sensex and CNX Nifty. They used regression analysis and revealed that Net FII had a significant impact on the proxies of the Indian stock market, i.e., Sensex and Nifty.

**Ghosh and Srinivasan (2014)** analyzed the dependence of BSE on FII and DII activity. The study is conducted by collecting data on prices and FII and DII activity from September 2007 to October 2013. They found that BSE 100 does depend upon DII activity.

# CHAPTER – 3

# **INDUSTRY PROFILE & COMPANY PROFILE**

#### **INDUSTRY PROFILE**

#### Introduction

India has a diversified financial sector undergoing rapid expansion, both in terms of strong growth of existing financial services firms and new entities entering the market. The sector comprises commercial banks, insurance companies, non-banking financial companies, co-operatives, pension funds, mutual funds and other smaller financial entities. The banking regulator has allowed new entities such as payment banks to be created recently, thereby adding to the type of entities operating in the sector

#### **Market Size**

As of November 2020, Assets under Management (AUM) managed by the mutual fund industry stood at Rs. 30 lakh crore (US\$ 407.39 billion). Inflow in India's mutual fund schemes via the Systematic Investment Plan (SIP) route reached Rs. 82,453 crore (US\$ 11.70 billion) in 2019. Equity mutual funds registered a net inflow of Rs. 8.04 trillion (US\$ 114.06 billion) by end of December 2019.

#### **Investments/Developments**

- In November 2020, LIC took initiatives to facilitate quicker proposal completion by launching a digital application ANANDA.
- In November 2020, Paytm reported 2x growth in digital gold transactions in the last six months. New customers have increased 50% since the beginning of this financial year and the average order value has increased by 60%.
- In November 2020, the Reserve Bank of India (RBI) announced establishment of its Innovation Hub. In order to encourage access to financial services and goods and foster financial inclusion, this initiative would create an ecosystem

#### • Government Initiatives

- In November 2020, the Union Cabinet approved the government's equity infusion plan for Rs.
  6,000 crores (US\$ 814.54 million) in the NIIF Debt Platform funded by the National Investment and Infrastructure Fund (NIIF) consisting of Aseem Infrastructure Finance Limited (AIFL) and NIIF Infrastructure Finance Limited (NIIF) (NIIF-IFL).
- In November 2020, two MoUs were signed—one between India International Exchange (India INX) and Luxembourg Stock Exchange and another between State Bank of India and Luxembourg Stock Exchange for cooperation in financial services, ESG (environmental, social and governance) and green finance in the local market.

#### **COMPANY PROFILE**

#### Monarch Net worth Capital

Is a strategic amalgamation of two leading financial service providers Monarch Group of Companies and Networth Stock Broking Ltd.? With more than 2 decades of devising and executing smart financial products and strategies, we have emerged as one of the leading and reliable financial services providers. We have added more verticals to pure stock broking services, including the entire gamut of financial services such as primary market operations, mutual funds, insurance and comprehensive financial planning.

Our constant focus is on scaling and upgrading technology and infrastructure with the aim of providing best services to investors. Monarch Networth Capital is an ISO certified company which has been scaling new heights, only because of the trust placed on us by our clients

#### VISION

To be recognized as a pioneer in providing financial services anchored with values of Innovation, Trust and Diversity.

#### MISSION

As a leading investment company, we provide quality investment solutions and help our clients build their financial security. Our goal is to strive towards delivering a superior investment



performance to meet the needs of our stakeholders by portraying the spirit of teamwork, efficiency and integrity.

# CHAPTER 4

# DATA ANALYSIS

# **4.DATA ANALYSIS**

#### 4.1 Correlation between FII cash and Covid – Cases

| Date   | Net Purchase / Sales of FII | Covid cases    |
|--------|-----------------------------|----------------|
| Jan-20 | -5,359.51                   | 1.00           |
| Feb-20 | -12,684.30                  | 3.00           |
| Mar-20 | -65,816.70                  | 8,889.00       |
| Apr-20 | -5,208.50                   | 413652         |
| May-20 | 13,914.49                   | 620,516.00     |
| Jun-20 | 5,492.95                    | 10,558,374.00  |
| Jul-20 | 2,490.19                    | 31,726,501.00  |
| Aug-20 | 15,749.86                   | 80,749,620.00  |
| Sep-20 | -11,410.69                  | 149113758      |
| Oct-20 | 14,537.40                   | 226,770,312.00 |
| Nov-20 | 65,317.13                   | 264,556,412.00 |
| Dec-20 | 47,088.35                   | 38,068,745.00  |

|             | Correlations        |          |          |
|-------------|---------------------|----------|----------|
|             |                     | FII Cash | Covid Ca |
| FII Cash    | Pearson Correlation |          | 0.6      |
|             | Sig.(2-tailed)      |          | 0.0      |
|             | N                   |          |          |
| Covid Cases | Pearson Correlation | 0.6      |          |
|             | Sig.(2-tailed)      | 0.0      |          |
|             | N                   |          |          |



**Interpretation:** With the above obtained results, it is observed that the significant value is .041 which is below the p value of 0.05 which means there is a significant relation between FII funds and Covid cases in India. From the above table it is understood that FII funds were in negative state when there was complete lockdown i.e in the month of April.

#### 4.2 Correlation between DII Cash and Covid Cases

| Date   | Net Purchase / Sales of FII | Covid cases    |
|--------|-----------------------------|----------------|
| Jan-20 | 1,073.49                    | 1.00           |
| Feb-20 | 16,933.03                   | 3.00           |
| Mar-20 | 55,595.18                   | 8,889.00       |
| Apr-20 | -117                        | 413652         |
| May-20 | 12,293.19                   | 620,516.00     |
| Jun-20 | 2,434.40                    | 10,558,374.00  |
| Jul-20 | -10,007.88                  | 31,726,501.00  |
| Aug-20 | -11,046.78                  | 80,749,620.00  |
| Sep-20 | 110.3                       | 149113758      |
| Oct-20 | -17,318.44                  | 226,770,312.00 |
| Nov-20 | -48,319.17                  | 264,556,412.00 |
| Dec-20 | -37,035.89                  | 38,068,745.00  |

|             | Correlations        |          |        |
|-------------|---------------------|----------|--------|
|             |                     | Covid Ca | DII Ca |
| Covid Cases | Pearson Correlation |          | -0.7   |
|             | Sig.(2-tailed)      |          | 0.0    |
|             | Ν                   |          |        |
| DII cash    | Pearson Correlation | -0.7     |        |
|             | Sig.(2-tailed)      | 0.0      |        |
|             | Ν                   |          |        |

**Interpretation:** After conducting correlation using SPSS, the result shows that there is a significant relation between domestic Institutional Investors and Covid Cases. The P value is less than 0.05 i.e it is only 0.13. When the Covid cases decreased in India DII's showed interest in investing and thus DII fund became positive in the month of September.



| Date   | Net Purchase / Sales of FII | Net Purchase / Sales of |
|--------|-----------------------------|-------------------------|
|        |                             | DII                     |
| Jan-20 | -5,359.51                   | 1,073.49                |
| Feb-20 | -12,684.30                  | 16,933.03               |
| Mar-20 | -65,816.70                  | 55,595.18               |
| Apr-20 | -5,208.50                   | -117                    |
| May-20 | 13,914.49                   | 12,293.19               |
| Jun-20 | 5,492.95                    | 2,434.40                |
| Jul-20 | 2,490.19                    | -10,007.88              |
| Aug-20 | 15,749.86                   | -11,046.78              |
| Sep-20 | -11,410.69                  | 110.3                   |
| Oct-20 | 14,537.40                   | -17,318.44              |
| Nov-20 | 65,317.13                   | -48,319.17              |
| Dec-20 | 47,088.35                   | -37,035.89              |

#### 4.3 Regression analysis between FII and DII

|       | Model Summary |          |                   |                               |
|-------|---------------|----------|-------------------|-------------------------------|
| Model | R             | R Square | Adjusted R Square | Std. Error of<br>the Estimate |
| 1     | 0.73          | 0.5      | 0.4               | 75753731                      |

|    |            | ANOVA          |           |     |       |
|----|------------|----------------|-----------|-----|-------|
| Mo |            | Sum of Squares | Mean Squa |     | Sig   |
|    | Regression | 5.224E+16      | 2.612E+   | 4.5 | 0.048 |
|    | Residual   | 4.591E+16      | 5.739E+   |     |       |
|    | Total      | 9.815E+16      |           |     |       |

**Interpretation:** From the above output it is inferred that the significance value is 0.48 which is less than 0.05, it means there is a significant relation between DII cash and FII cash. The R value is .730 which shows that FII and DII funds are 73% dependent on Covid 19 Cases.

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#### 4.4 Regression Analysis between FII Index Option and FII Index Future

| FII Index Future     | FII Index Option     |  |
|----------------------|----------------------|--|
| Net Purchase / Sales | Net Purchase / Sales |  |
| -10,122.77           | 24,050.19            |  |
| -4,400.86            | 26,444.09            |  |
| 10,768.31            | 10,408.17            |  |
| 4,109.26             | -94,173.73           |  |
| -2,806.24            | 11,402.88            |  |
| -4,379.21            | 5,520.33             |  |
| 2,778.47             | 14,508.17            |  |
| -2,765.63            | 12,711.65            |  |
| -1,479.35            | 19,029.15            |  |
| -4,945.29            | 12,148.43            |  |
| 6,815.90             | 14,496.08            |  |

|       | Model Summary |        |                |                         |
|-------|---------------|--------|----------------|-------------------------|
| Model | R             | R Squa | Adjusted R Squ | Std.<br>Error of<br>the |
|       |               |        |                | Estimate                |
| 1     | 0.3           | 0.1    |                | 6052.04                 |

|    |            | ANO         |           |     |     |
|----|------------|-------------|-----------|-----|-----|
| Mo |            | Sum of Squa | Mean Squ  |     | ¢ z |
|    | Regression | 36762485.   | 36762485. | 1.0 | 0.3 |
|    | Residual   | 329684404   | 329684404 |     |     |
|    | Total      | 366446889   |           |     |     |

**Interpretation:** From the regression analysis it is clearly understood that FII index futures are not depended on movement of FII index options because the significant P value is more than 0.05 and also the Adjusted R square value shows 0% significance between both variables. From the table above also it is clear that when FII index futures is positive, FII Index options is negative and vice versa.



| Date   | FII Stock Futures | FII Stock Options |
|--------|-------------------|-------------------|
| Jan-20 | -4671.08          | 251.02            |
| Feb-20 | 3077.93           | 479.26            |
| Mar-20 | 12895.47          | 260.87            |
| Apr-20 | 1886              | -51.59            |
| May-20 | -2889.98          | -557.94           |
| Jun-20 | 3331.26           | -148.45           |
| Jul-20 | -6898.39          | 857.09            |
| Aug-20 | -12171.85         | 481.21            |
| Sep-20 | -510.28           | 237.5             |
| Oct-20 | 1441.02           | 226.1             |
| Nov-20 | -4535.04          | 136.93            |

#### 4.5 Correlation between FII Stock Futures and FII Stock Options

|               | Correlations        |             |                |
|---------------|---------------------|-------------|----------------|
|               |                     | FII Stock F | FII Stock Opti |
| FII Stock Fut | Pearson Correlation |             | -0.2           |
|               | Sig.(2-tailed)      |             | 0.4            |
|               | N                   |             |                |
| FII Stock Opt | Pearson Correlation | -0.2        |                |
|               | Sig.(2-tailed)      | 0.4         |                |
|               | Ν                   |             |                |

**Interpretation :** From the above output it can be inferred that there is no correlation between FII stock futures and FII stock options. The P value is also .485 which is more than 0.05, from this it is understood that both the variables does not have any relation with each other's purchase and sale of FII's.



| Date   | Net Purchase / Sales | FII Index opt | FII Stock opt |
|--------|----------------------|---------------|---------------|
| Jan-20 | -5,359.51            | 24,050.19     | 251.02        |
| Feb-20 | -12,684.30           | 26,444.09     | 479.26        |
| Mar-20 | -65,816.70           | 10,408.17     | 260.87        |
| Apr-20 | -5,208.50            | -94,173.73    | -51.59        |
| May-20 | 13,914.49            | 11,402.88     | -557.94       |
| Jun-20 | 5,492.95             | 5,520.33      | -148.45       |
| Jul-20 | 2,490.19             | 14,508.17     | 857.09        |
| Aug-20 | 15,749.86            | 12,711.65     | 481.21        |
| Sep-20 | -11,410.69           | 19,029.15     | 237.5         |
| Oct-20 | 14,537.40            | 12,148.43     | 226.1         |
| Nov-20 | 65,317.13            | 14,496.08     | 136.93        |
| Dec-20 | 47,088.35            | 21,105.88     | -716.94       |

#### 4.6 Correlation between FII Cash, FII Index Options and FII Stock Options

|               | Correlations        |        |             |             |
|---------------|---------------------|--------|-------------|-------------|
|               |                     | FII Ca | FII Index C | FII Stock O |
| FII Cash      | Pearson Correlation |        | 0.0         | -0.1        |
|               | Sig.(2-tailed)      |        | 0.8         | 0.6         |
|               | N                   |        |             |             |
| FII Index Opt | Pearson Correlation | 0.0    |             | 0.2         |
|               | Sig.(2-tailed)      | 0.8    |             | 0.3         |
|               | N                   |        |             |             |
| FII Stock Opt | Pearson Correlation | -0.1   | 0.2         |             |
| •             | Sig.(2-tailed)      | 0.6    | 0.3         |             |
|               | N                   |        |             |             |
|               |                     |        |             |             |

**Interpretation:** From the above output it is inferred that FII cash is only correlated with FII stock option as the significance value is less than 0.05 and it is also negative. FII cash is not related with FII index option because the significance value is .056 which is more than 0.05.



| Date   | FII Cash   | Index Future | Stock Future |
|--------|------------|--------------|--------------|
| Jan-20 | -5,359.51  | -10,122.77   | -4671.08     |
| Feb-20 | -12,684.30 | -4,400.86    | 3077.93      |
| Mar-20 | -65,816.70 | 10,768.31    | 12895.47     |
| Apr-20 | -5,208.50  | 4,109.26     | 1886         |
| May-20 | 13,914.49  | -2,806.24    | -2889.98     |
| Jun-20 | 5,492.95   | -4,379.21    | 3331.26      |
| Jul-20 | 2,490.19   | 2,778.47     | -6898.39     |
| Aug-20 | 15,749.86  | -2,765.63    | -12171.85    |
| Sep-20 | -11,410.69 | -1,479.35    | -510.28      |
| Oct-20 | 14,537.40  | -4,945.29    | 1441.02      |
| Nov-20 | 65,317.13  | 6,815.90     | -4535.04     |
| Dec-20 | 47,088.35  | -3,567.29    | -1653.91     |

|               | Correlations        |        |             |             |
|---------------|---------------------|--------|-------------|-------------|
|               |                     | FII Ca | FII Index F | FII Stock F |
| FII Cash      | Pearson Correlation |        | -0.         | -0.6        |
|               | Sig.(2-tailed)      |        | 0.6         | 0.0         |
|               | Ν                   |        |             |             |
| FII Index Fut | Pearson Correlation | -0.    |             | 0.3         |
|               | Sig.(2-tailed)      | 0.6    |             | 0.2         |
|               | Ν                   |        |             |             |
| FII Stock Fut | Pearson Correlation | -0.6   | 0.3         |             |
|               | Sig.(2-tailed)      | 0.0    | 0.2         |             |
|               | N                   |        |             |             |
|               |                     |        |             |             |

**Interpretation:** From the above output, it is understood that FII cash is correlated to FII stock futures as the significant P value is ,025 which is less than 0.05. FII index futures is not correlated with FII cash as its significance level is beyond 0.05



| Date   | Net Purchase / Sales | FII Index Opt | FII Stock Opt |
|--------|----------------------|---------------|---------------|
| Jan-20 | 1,073.49             | 24,050.19     | 251.02        |
| Feb-20 | 16,933.03            | 26,444.09     | 479.26        |
| Mar-20 | 55,595.18            | 10,408.17     | 260.87        |
| Apr-20 | -117                 | -94,173.73    | -51.59        |
| May-20 | 12,293.19            | 11,402.88     | -557.94       |
| Jun-20 | 2,434.40             | 5,520.33      | -148.45       |
| Jul-20 | -10,007.88           | 14,508.17     | 857.09        |
| Aug-20 | -11,046.78           | 12,711.65     | 481.21        |
| Sep-20 | 110.3                | 19,029.15     | 237.5         |
| Oct-20 | -17,318.44           | 12,148.43     | 226.1         |
| Nov-20 | -48,319.17           | 14,496.08     | 136.93        |
| Dec-20 | -37035.89            | 21,105.88     | -716.94       |

## 4.8 Correlation between DII cash, Index Option and Stock Option

|               |                     | Correlatio |             |             |
|---------------|---------------------|------------|-------------|-------------|
|               |                     | DII Ca     | FII Index C | FII Stock C |
| DII Cash      | Pearson Correlation |            | -0.0        | 0.0         |
|               | Sig.(2-tailed)      |            | 0.7         | 0.9         |
|               | Ν                   |            |             |             |
| FII Stock Opt | Pearson Correlation | -0.0       |             | 0.2         |
|               | Sig.(2-tailed)      | 0.7        |             | 0.3         |
|               | Ν                   |            |             |             |
| FII Index Opt | Pearson Correlation | 0.0        | 0.2         |             |
|               | Sig.(2-tailed)      | 0.9        | 0.3         |             |
|               | Ν                   |            |             |             |
|               |                     |            |             |             |

**Interpretation:**From the result obtained it is clearly observed that DII cash is not correlated with FII stock option segment and FII index option segment. FII stock option is negative against DII cash



# CHAPTER 5

# FINDINGS AND CONCLUSION

## **5.1 Findings**

- Foreign Institutional Investors have been affected by changes in Covid 19-cases from January 2020 to December 2020.
- Domestic Institutional Investors also have significant relationship with the Covid cases from last 12 months.
- FII's were negative in the month of April when the entire nation was under lockdown.
- FII and DII funds both had a inverse relationship between them.
- Both FII and DII funds had 73% of significant relationship with Covid- 19 cases in India.
- Foreign Institutional Investors started selling their investments in the months of April and May,
- There is 0% significance between FII index future and FII index Option.
- FII stock futures and FII stock options have .480 P value between them , which clearly states that there is no correlation between both variables.
- FII funds cash segment does not have any relation between FII stock options and FII Index option.
- FII cash segment has significant relationship between FII stock future with the p value = .025.
- FII cash segment doesn't have any relationship between FII stock option because the p value is more than 0.05.
- Domestic Institutional Investors have high insignificant relation between FII index option and FII stock option.
- DII have significant relationship with a P value of .020 with FII stock futures.
- Domestic Institutional Investors are not having a correlation with FII index futures.
- FII Index futures, FII stock Futures, FII Index Options and FII Index Options are not related to each other.
- All the four variables are not dependent on each other but their movements are reflected according to changes in Covid 19 cases.

- In the initial months from January to April FII funds were negative.
- From May 2020 till November 2020, it showed a positive sign except in the month of September 202

## **5.2** Conclusion

India is an Emerging Economy and is looking towards bringing more foreign investments into economy. On the other hand, India is moving towards AtmaNirbhar – "Vocal to Local" and hence Domestic Institutional Investors are showing a positive sign and investing in the economy. With increase in FII there are many global opportunities and with increase in DII's there are domestic opportunities.

FII investments have been strong and are improving very rapidly compared to the past. But from January 2020 to December 2020 FII and DII movements have seen a drastic change because of the Covid - 19 pandemic which shook the entire world.

DII's had a heavy selling activity in the year 2020 and the same thing was noticed in the year 2016.

FIIs influence the Sensex to a great extent. The sensex increases in the case there are positive FIIs' inflows and it decreases when there are negative inflows of the FIIs. However, according to the Pearson correlation, the sensex movements are affected by FII inflows and there exists a positive correlation between the movement of Sensex and the particular FII entity.

Thus,India has the capability of drawing in more assets into the economy however the inner and outer disturbance's influence it and along these lines prompts significant consequences for the development of FII and DII. Since it has been demonstrated that the FII development influences securities exchange files consequently influencing the DII development moreover.

## **Text Books**

- Misra & Puri, "Indian Economy",
- Preethi Singh, "Investment Management"
- Statistical Analysis by Dr. Jyothi Rao

### Journals

- SAGE Journals
- International Journal of Research in Finance and Marketing (IJRFM)
- ICFAI Journals

## Websites

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