Monetary Policy Announcement And Stock Price Behaviour: An Event Study With Respect To India

Sruthi Vinod, Rosmin Scaria, Dr. Girish S

Abstract: Monetary policy in a developing country plays a significant role in achieving the objectives of macroeconomic policies. The Central Bank formulates and implements the monetary policy in a country which in turn facilitates the increase in growth rate, manages interest rates, and money supply in the economy. The primary objective of this paper is to test the semi-strong form of Efficient Market Hypothesis in the Indian Stock Market with respect to financial services industry by conducting an event study. The monetary policy announcements made from 11th March 2016 to 30th August 2019 are taken as the events. The event study methodology is conducted on 13 financial service companies listed in NSE Financial Services Index. The Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR) are estimated using the daily closing price of the sample companies and Nifty. Two sample T-statistics are used to find the significance of the returns generated. The t-values of a majority of AARs and CAARs are significant suggesting that there is a scope for generating abnormal return by the investors on the event of the monetary policy announcement. It is found that the investors are able to earn abnormal profits which indicate that the Indian stock market is not efficient in the semi-strong form due to the slow absorption of information.

Index Terms: Monetary Policy, Efficient Market Hypothesis, Nifty, Reserve Bank of India, Average Abnormal Return, Cumulative Average Abnormal Return

1. INTRODUCTION
The economic development of a country is widely built upon how effectively its stock market is able to provide free flow of relevant information to all market participants. The information is also bound to be quick and should demonstrate the accurate reflection of all available information in the stock prices (Tinic et al., 1979). Due to the ever-increasing inclination of both domestic and foreign investors to be a participant in Indian stock market, there is a scope to improve its level of efficiency in pricing and thereby vitalize the economic growth of the country (Chakraborty, 2011). In order to examine the price efficiency of the stock market, the present study aims to examine whether the stock market of India is price efficient at semi-strong level with regard to the impact of monetary policy announcements on the behaviour of the related stocks enlisted in Nifty Financial Services. Monetary policy in a developing country plays a significant role in achieving the objectives of macroeconomic policies. The Central Bank formulates and implements the monetary policy in a country which in turn facilitates the increase in growth rate, manages interest rates, and money supply in the economy (Kishan & Opiela, 2012). Even though the ultimate objectives of Monetary Policy are expressed in terms of macroeconomic variables such as output, employment and inflation, the immediate impact of monetary policy announcements are delineated in the returns of the companies since the stock market activities largely tend to be influenced by the announcements. However, the economic conditions get affected by monetary policy only after a long lag (Friedman, 1961).

Therefore, the link between monetary policy and stock prices can be explained by means of transmission mechanism (Tobin, 1978). The new theories of monetary policy transmission mechanism focus on how many financial services depend on their deposit financing and how much borrowers are dependent on the financial institutions (Janjua et al., 2014). In order to measure the impact of monetary policy announcement on the stock prices of companies listed in Nifty Financial Services, an event study has been conducted. An event study tests the Efficient Market Hypothesis (EMH) wherein the efficiency of a significant catalyst occurrence or an event is examined as well as the response of market either before the event or very shortly after the event (Bomfim, 2000). There are basically three separate forms of Market efficiency: weak, semi-strong and strong form. There have been a number of empirical studies carried out to examine the weak form of pricing efficiency of the market whereas relatively, only a few studies have investigated the pricing efficiency of the Indian stock market in its semi-strong form.

2. LITERATURE REVIEW
The impact of the monetary policy on the economy has been a long-debated matter. There are a wide number of studies conducted in India to examine the applicability of semi-strong form of the efficient market hypothesis (EMH) in different areas like corporate events, macro-economic news and so on. We had come across a few studies which are made in the context of the Indian stock market to examine the potential link between the policy decisions and market volatility. Fama (1969), who conducted the pioneer event study in this field examined the reaction of stock prices when the date of stock splits was announced. Their study found that semi-strong efficient market hypothesis lays down that the stock prices would reflect all the relevant and available information completely which makes it impossible to earn profits. Therefore, the efficiency of stock prices would depend on the speed of adjustment to the information (Kutcu, 2012). Monetary policy is a major force through which short-term
macro fine-tuning is made possible wherein it influences the stock market in three ways. Firstly, it directly affects trading in securities by affecting liquidity available for speculative activities. Secondly, it influences the expectations in the market through policy signalling. Thirdly, it affects the present value of the future flow of earnings and the earnings flow itself and hence there is an influence on equity prices (Sasidharan, 2009). According to Tobin (1978), the links between Monetary Policy and stock prices can be explained through the transmission mechanism. Monetary Policy changes are transmitted through the stock market via changes in the cost of capital to the companies. He argues that financial markets believe that news of inflation will generate a monetary tightening, which in turn will reduce the present value of the future earnings and current stock returns. Agarwal (2007) examined 6 announcements affecting CRR between April 2006 and July 2007. He classified them as ‘good news’ and ‘bad news. A hike in CRR is considered as bad news and the good news is when RBI leaves CRR unchanged. The study takes an event window of 31 days which included 15 days before the event and 15 days after it. He explains that Cumulative Average Abnormal Returns (CAAR), does not normalize after the event which depicts that the market is slow in incorporating the content of monetary policy announcements. The nonparametric tests rejected any consistent behaviour across the periods of policy and type of policy. (Nyangute et al., 2016) conducted a study to establish the effect of monetary policy on the financial performance of commercial banks listed in the Nairobi Securities Exchange in Kenya. The findings from the study confirmed that monetary policy tools such as CBR, CRR and OMO had varying degrees of relationship with the financial performance of the commercial banks listed on the NSE. Emefiele (2017) investigated the effect of bank lending on the performance of the Nigerian economy. It established that lending rates and performance of the economy have a positive relationship. If lending rates are reduced by banks then it will facilitate the growth of the economy. If the reserve requirements are brought down the banks will have more cash to lend and this will lead to economic development (Girish S, 2018). These findings delineate that various monetary policy measures have affected the performance of banking sector directly and indirectly since commercial banks are vital for mobilization of financial resources as it facilitates economic growth and is driven by the principles which govern the operations of commercial banks such as profitability, liquidity and solvency (Olokoyo , July 2011). Similarly, a study conducted in Pakistan which examined the impact of monetary policy on the supply of loans established that there was a negative relationship between monetary policy and the bank loan supply (Janjua et al., 2014). A significant positive correlation was found between the performance of banks in Nigeria and the announcement of the monetary policy. (Olokoyo , July 2011), (Victor C. et al., 2017) whereas it was established that the Dhaka Stock exchange and the monetary policy instruments were independent of each other (Rifat, 2015). May (1971) and Kennelly & Brown (1972) investigated the behaviour of security prices to earnings information and it was found that the investors cannot earn abnormal profits on publicly available information. Rao (1994) examined the stock price response to corporate financial policy announcement. He supported EMH by stating that stock prices immediately absorb the new information and therefore, no abnormal return would be available to the investors. Another study examined the interest rate sensitivity of 35 NBFCs stock returns from 1996 to 2014. The relationship was evaluated using panel regression and GARCH (1,1) model. There was a negative impact of interest rate changes on the stock returns of NBFCs. It was found that the large firms had more interest rate sensitivity than other NBFCs under study. The unanticipated interest rate changes had more impact on the stock returns of NBFCs. (Ghosh et al., 2018). However, a study recently conducted by (Nguyen et al., 2017) examined the impact of monetary policy on commercial banks’ profitability in India and the study recommended that banks should put more emphasis on the internal factors of financial performance which would include capital adequacy, asset quality, management efficiency, earnings ability and liquidity management. The review of existing literature indicates that considerable research has been undertaken to check the semi-strong form of the financial markets, but mostly through company based micro indicators like earnings, price-earnings ratio, dividend, bonus shares etc. Very few studies have been conducted to measure the impact of macro indicators on the stock market using event study, especially in India. Therefore this paper focuses on how financial markets react to the monetary policy announcements. The primary objective of this paper is to test the semi-strong form of Efficient Market Hypothesis in the Indian Stock Market with respect to financial services industry.

3. METHODOLOGY

3.1 Sample Selection and Data Sources

The sample for the study comprises of 13 companies from the financial service sector. The 13 companies which constitute the sample for the study are the companies which are listed in the Nifty Financial Service Index as on 1 July 2019. Prior to the establishment of Monetary Policy Committee (MPC) in 2016, the Governor of Reserve Bank of India used to take decisions pertaining to monetary policy. The rationale behind the study being conducted from 11th March 2016 to 30th August 2019 is to examine the impact of monetary policy announcements over since the establishment of Monetary Policy Committee. The remaining companies are not included in the study due to the non-availability of data for these companies for the selected time period. The Nifty index is considered as the representative of the market for the study and used for calculations of abnormal return as it comprises of large and well diversified stocks from 13 different sectors of Indian economy as on 31st October 2019. The closing prices of the companies and the Nifty index (market) during the said period have been collected from the NSE website (www.nse-india.com) and the details of the event day are collected from the website of RBI (www.rbi.org.in).

3.2 Variable selection and description

The event study methodology is used in this study. The variables for the study are Average Abnormal returns (AAR) and Cumulative Average Abnormal Returns (CAAR) of the 13 companies during the period of the study around the monetary policy announcements.
3.3 Data methodology
The study uses event study methodology for the computation of Average returns (ARs), Average Abnormal Returns (AARs), Cumulative Average Abnormal Returns (CAARs) around the monetary policy announcement dates. An event window of 31 days is used i.e., 15 days before the event day and 15 days after the event day. The event day is the date on which the monetary policy announcement is made by the Monetary Policy Committee. The daily closing prices of the companies and the nifty index are used for calculating the daily abnormal returns. The prices are taken on a daily basis to analyse the immediate impact of monetary policy announcements on the stock prices of the selected companies. The daily returns of the companies are calculated using the following formula for the event day: The logarithmic returns used as the results are more accurate, (Strong, June 1992) (Fama, 1969)

\[ R_t = \log(P_t / P_{t-1}) \]

where, \( P_t \) and \( P_{t-1} \) are the daily closing prices for company at time \( t \) and \( t-1 \) respectively. The actual returns for the market are computed by using the following:

\[ R_m = \log(P_m / P_{m-1}) \]

where, \( P_m \) and \( P_{m-1} \) are the daily closing index values at time \( m \) and \( m-1 \) respectively. Sharpe model (1964) has been used to estimate the expected returns on a stock. The formula is applied to compute the expected returns:

\[ R_{it} = \alpha_i + \beta_i R_m \]

where, \( R_{it} \) is the return on security \( i \) at the time \( t \). \( R_m \) indicates the return on the market index at time \( t \). \( \alpha_i \) signifies the intercept for the share of a company \( i \). \( \beta_i \) is the estimate for beta for the share of a company. After the computation of expected returns, we compute the abnormal return which is defined as the difference between actual return and expected return. The Market Model (MM) method is used to find the abnormal returns. The MM method is a popularly used method for event studies since it would generate accurate results as compared to other models of abnormal return computation. (Fama, 1969) (Davies, 1978) (T Dyckman et al., 1984)

The abnormal return for company \( i \) on day \( t \) is computed using the formula:

\[ AR_{it} = R_{it} - (\alpha_i + \beta_i R_m) \]

Average Abnormal Return (AAR) is computed by The next step is to average all the abnormal returns over the number of companies. For this purpose the ARs of each company are averaged for each day surrounding the event day which is -15 days to +15 days. The computation of Cumulative Average Abnormal Returns (CAAR) is pertinent as they are majorly used to augment the explanatory power of the results. CAAR is computed by finding the average of cumulative abnormal return.

3.4 Events and T- test
The RBI uses the monetary policy to stabilise growth, maintain stability and to control inflation with the help of instruments like repo rate, reverse repo rate, CRR, SLR etc. When RBI increases the repo rate, the flow of credit in the economy decreases. Such a monetary policy announcement is considered as a “bad news” in this study. When the repo rate is unchanged or decreased in the monetary policy announcement, the event is considered as a “good news” in the study as it will increase the flow of credit in the economy. Monetary Policy Committee announces monetary policy on a bi-monthly basis. Hence in a year, there would be 6 announcements. For the study 18 events, + 3 events (in the year 2019) have been identified out of which 19 are good news and 2 are bad news. The AARs and CAARs are analysed based on their t values during the event window, before the event day and after the event day. The level of significance is taken at 5% with 28 degrees of freedom. The critical value of t is 2.17883 and is two-tailed.

3.5 Hypothesis
\( H_0 \) - There is no average abnormal return and Cumulative average abnormal return generated by the monetary policy announcement during the pre-event period and post-event period.
\( H_1 \) - There is an average abnormal return and Cumulative average abnormal return generated by the monetary policy announcement during the pre-event period and post-event period.

4. RESULTS AND DISCUSSION
In order to investigate the reaction of stock prices to the monetary policy announcement, the event study methodology has been applied in this study. For this purpose, we assess the abnormal returns during the period to ascertain the impact of monetary policy on the stock price. This was done using daily share prices. The dates of announcement of monetary policy have been taken as the event day.

Table 1 depicts the Average Abnormal Return (AAR) of the event window for the financial year 2016-17. All the events for 2016-17 are good news. It is evident from the table that the AARs of almost all of the event windows are closer to 0. During the first pre-event period, the lowest value of AAR is -619.925 on 4th April 2016 and the highest value of AAR is 244.9247 on 30th March 2016. In the first post-event period, the lowest AAR value is -156.665 on 20th April 2016 and the highest AAR value is 225.7408 on 13th April 2016. During the second pre-event period, the lowest value of AAR is -506.122 on 17th May 2016 and the highest value of AAR is 250.042 on 18th May 2016. In the second post-event period, the lowest AAR value is -275.143 on 13th June 2016 and the highest AAR

value is 172.7721 on 27th June 2016. During the third pre-event period, the lowest value of AAR is -63.7596 on 2nd August 2016 and the highest value of AAR is 141.0479 on 25th July 2016. In the third post-event period, the lowest AAR value is -258.114 on 30th August 2016 and the highest AAR value is 127.3775 on 25th August 2016. During the fourth pre-event period, the lowest value of AAR is -139.003 on 12th September 2016 and the highest value of AAR is 340.687 on 26th September 2016. In the fourth post-event period, the lowest AAR value is -226.261 on 10th October 2016 and the highest AAR value is 300.3106 on 13th October 2016. During the fifth pre-event period, the lowest value of AAR is -212.104 on 21st November 2016 and the highest value of AAR is 214.9583 on 22nd November 2016. In the fifth post-event period, the lowest AAR value is -232.626 on 13th December 2016 and the highest AAR value is 142.0343 on 28th December 2016. During the sixth pre-event period, the lowest value of AAR is -123.926 on 24th January 2017 and the highest value of AAR is 155.5073 on 17th January 2017. In the sixth post-event period, the lowest AAR value is -21.213 on 13rd February 2017 and the highest AAR value is 109.9459 on 28th February 2017.

Table 2 depicts the Average Abnormal Return (AAR) of the event window for the financial year 2017-18. All the events for 2017-18 are good news. During the first pre-event period, the lowest value of AAR is -160.917 on 23rd March 2017 and the highest value of AAR is 106.5673 on 5th April 2017. In the first post-event period, the lowest AAR value is -291.321 on 27th April 2017 and the highest AAR value is 138.6456 on 10th April 2017. During the second pre-event period, the lowest value of AAR is -122.583 on 25th May 2017 and the highest value of AAR is 67.5932 on 30th May 2017. In the second post-event period, the lowest AAR value is -126.463 on 23rd June 2017 and the highest AAR value is 256.681 on 28th June 2017. During the third pre-event period, the lowest value of AAR is -473.653 on 24th July 2017 and the highest value of AAR is 97.86101 on 31st July 2017. In the third post-event period, the lowest AAR value is -232.707 on 22nd August 2017 and the highest AAR value is 139.9588 on 7th August 2017. During the fourth pre-event period, the lowest value of AAR is -215.866 on 12th September 2017 and the highest value of AAR is 144.3826 on 28th September 2017. In the fourth post-event period, the lowest AAR value is -178.808 on 13th October 2017 and the highest AAR value is 113.3094 on 5th October 2017. During the fifth pre-event period, the lowest value of AAR is -176.939 on 4th December 2017 and the highest value of AAR is 167.3076 on 28th November 2017. In the fifth post-event period, the lowest AAR value is -558.337 on 27th December 2017 and the highest AAR value is 130.0084 on 18th December 2017. During the sixth pre-event period, the lowest value of AAR is -455.482 on 29th January 2018 and the highest value of AAR is 180.7804 on 6th February 2018. In the sixth post-event period, the lowest AAR value is -150.836 on 28th February 2018 and the highest AAR value is 149.4444 on 26th February 2018.

Table 3 depicts the Average Abnormal Return (AAR) of the event window for the financial year 2017-18. The events on 6th June 2018 and 1st August 2018 are termed as bad news since when RBI increases the repo rate, the flow of credit in the economy decreases. During the first pre-event period, the lowest value of AAR is -345.87 on 16th March 2018 and the highest value of AAR is 287.2261 on 26th March 2018. In the first post-event period, the lowest AAR value is -430.856 on 20th April 2018 and the highest AAR value is 219.9553 on 6th April 2018. During the second pre-event period, the lowest value of AAR is -121.991 on 5th June 2018 and the highest AAR value is 113.6178 on 22nd May 2018. In the second post-event period, the lowest AAR value is -273.661 on 26th June 2018 and the highest AAR value is 140.5678 on 11th June 2018. During the third pre-event period, the lowest value of AAR is -119.787 on 11th July 2018 and the highest value of AAR is 104.6395 on 26th July 2018. In the third post-event period, the lowest AAR value is -313.954 on 23rd August 2018 and the highest AAR value is on 21st August 2018. During the fourth pre-event period, the lowest value of AAR is -169.355 on 27th September 2018 and the highest value of AAR is 171.165 on 25th September 2018. In the fourth post-event period, the lowest AAR value is -197.794 on 6th December 2018 and the highest AAR value is 170.1036 on 25th October 2018. During the fifth pre-event period, the lowest value of AAR is -147.376 on 19th November 2018 and the highest value of AAR is 137.8434 on 21st November 2018. In the fifth post-event period, the lowest AAR value is -197.794 on 6th December 2018 and the highest AAR value is 118.778 on 24th December 2018. During the sixth pre-event period, the lowest value of AAR is -269.35 on 28th January 2019 and the highest value of AAR is 180.8548 on 23rd January 2019. In the sixth post-event period, the lowest AAR value is -100.569 on 25th February 2019 and the highest AAR value is 169.6661 on 28th February 2019.
Table 4 depicts the Average Abnormal Return (AAR) of the event window for the financial year 2019. All the events for 2019 are good news. During the first pre-event period, the lowest value of AAR is -88.3241 on 20th March 2019 and the highest value of AAR is 64.57823 on 18th March 2019. In the first post-event period, the lowest AAR value is -134.335 on 26th April 2019 and the highest AAR value is 127.0519 on 10th April 2019. During the second pre-event period, the lowest value of AAR is -372.933 on 3rd June 2019 and the highest value of AAR is 106.6552 on 24th May 2019. In the second post-event period, the lowest AAR value is -73.5019 on 10th June 2019 and the highest AAR value is 103.1025 on 11th June 2019. During the third pre-event period, the lowest value of AAR is -102.73 on 24th July 2019 and the highest value of AAR is 320.1029 on 6th August 2019. In the third post-event period, the lowest AAR value is -303.213 on 8th August 2019 and the highest AAR value is -105.8506 on 14th August 2019. However, CAARs are better indicators to find the presence of abnormal returns. The reason being the standard deviation of CAARs is lower than that of AARs. All the events for 2016-17 are good news.

Table 5 depicts the Cumulative Average Abnormal Return (CAAR) of the event window for the financial year 2016-17. It is evident from the table that the CAARs of almost all of the event windows are closer to 0. During the first pre-event period, the lowest value of CAAR is -233.669 on 11th March 2016 and the highest value of CAAR is -16.44 on 17th March 2016. In the first post-event period, the lowest CAAR value is -65.8104 on 6th April 2016 and the highest CAAR value is 160.9941 on 7th April 2016. During the second pre-event period, the lowest value of CAAR is -506.122 on 17th May 2016 and the highest value of CAAR is 2.9121 on 18th May 2016. In the second post-event period, the lowest CAAR value is -56.4731 on 13th June 2016 and the highest CAAR value is 51.391 on 8th June 2016. During the third pre-event period, the lowest value of CAAR is -3.9346 on 19th July 2016 and the highest value of CAAR is 37.4022 on 21st July 2016. In the third post-event period, the lowest CAAR value is -8.70437 on 26th August 2016 and the highest CAAR value is 43.1679 on 10th August 2016. During the fourth pre-event period, the lowest value of CAAR is -237.038 on 15th September 2016 and the highest value of CAAR is 16.2786 on 26th September 2016. In the fourth post-event period, the lowest AAR value is -88.0615 on 10th October 2016 and the highest CAAR value is 81.23 on 17th October 2016. During the fifth pre-event period, the lowest value of CAAR is -195.5073 on 21st November 2016 and the highest value of CAAR is 48.0946 on 24th November 2016. In the fifth post-event period, the lowest value of CAAR is -40.065 on 24th January 2017 and the highest value of CAAR is 155.5073 on 17th January 2017. In the sixth post-event period, the lowest CAAR value is -103.316 on 10th February 2017 and the highest AAR value is -9.002 on 28th February 2017.
September 2017. In the fourth post-event period, the lowest CAAR value is -19.8525 on 26th October 2017 and the highest CAAR value is 113.309 on 5th October 2017. During the fifth pre-event period, the lowest value of CAAR is -90.479 on 15th November 2017 and the highest value of CAAR is 103.7604 on 5th December 2017. In the fifth post-event period, the lowest CAAR value is -316.683 on 7th December 2017 and the highest CAAR value is 14.41049 on 22nd December 2017. During the sixth pre-event period, the lowest value of CAAR is -64.701 on 1st February 2018 and the highest value of CAAR is -10.07 on 6th February 2018. In the sixth post-event period, the lowest CAAR value is -90.9369 on 21st February 2018 and the highest CAAR value is 115.4404 on 9th February 2018.

Table 7 depicts the Cumulative Average Abnormal Return (CAAR) of the event window for the financial year 2018-19. The events on 6th June 2018 and 1st August 2018 are termed as bad news since when RBI increases the repo rate, the flow of credit in the economy decreases. During the first pre-event period, the lowest value of CAAR is -134.233 on 13th March 2018 and the highest value of CAAR is 23.3273 on 15th March 2018. In the first post-event period, the lowest CAAR value is -22.7622 on 20th April 2018 and the highest CAAR value is 219.9553 on 6th April 2018. During the second pre-event period, the lowest value of CAAR is 6.59 on 16th June 2018 and the highest value of CAAR is 115.04488 on 5th May 2018. In the second post-event period, the lowest CAAR value is -58.2628 on 27th June 2018 and the highest CAAR value is 107.1147 on 7th June 2018. During the third pre-event period, the lowest value of CAAR is -129.769 on 11th July 2018 and the highest value of CAAR is 39.4159 on 30th July 2018. In the third post-event period, the lowest CAAR value is -17.4438 on 24th August 2018 and the highest CAAR value is 51.24799 on 3rd August 2018. During the fourth pre-event period, the lowest value of CAAR is -109.899 on 3rd October 2018 and the highest value of CAAR is -12.8006 on 17th September 2018. In the fourth post-event period, the lowest CAAR value is -55.3327 on 8th October 2018 and the highest CAAR value is 134.4276 on 29th October 2018. During the fifth pre-event period, the lowest value of CAAR is -46.6549 on 28th November 2018 and the highest value of CAAR is 34.56623 on 15th November 2018. In the fifth post-event period, the lowest CAAR value is -214.277 on 6th December 2018 and the highest CAAR value is 65.7516 on 21st December 2018. During the sixth pre-event period, the lowest value of CAAR is -139.132 on 28th January 2019 and the highest value of CAAR is -47.7167 on 31st January 2019. In the sixth post-event period, the lowest CAAR value is -200.845 on 12th February 2019 and the highest CAAR value is 26.00525 on 28th February 2019.

Table 8 depicts the Cumulative Average Abnormal Return (AAR) of the event window for the financial year 2019. All the events for 2019 are good news. During the first pre-event period, the lowest value of CAAR is 18.59053 on 20th March 2019 and the highest value of CAAR is 89.02055 on 27th March 2019. In the first post-event period, the lowest CAAR value is -58.8564 on 30th April 2019 and the highest CAAR value is 126.4759 on 5th April 2019. During the second pre-event period, the lowest value of CAAR is 7.36873 on 4th June 2019 and the highest value of CAAR is 79.91779 on 15th May 2019. In the second post-event period, the lowest CAAR value is -5.35843 on 27th June 2019 and the highest CAAR value is 63.07017 on 7th June 2019. During the third pre-event period, the lowest value of CAAR is -58.9663 on 18th July 2019 and the highest value of CAAR is 46.34682 on 8th August 2019. In the third post-event period, the lowest CAAR value is -303.213 on 8th August 2019 and the highest CAAR value is -5.74486 on 16th August 2019.

Significance
Table 11: Table showing the number of significant CAAR and AAR values for the year 2018-19

<table>
<thead>
<tr>
<th>Particulars</th>
<th>05-Jul-18</th>
<th>06-Jun-18</th>
<th>07-Jul-18</th>
<th>05-Oct-18</th>
<th>05-Dec-18</th>
<th>07-Feb-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>AARs significant during the Event Window</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>AARs significant during the Event Window</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>AARs significant before the Event Window</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>11</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>CAARs significant before the Event Window</td>
<td>31</td>
<td>30</td>
<td>29</td>
<td>31</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>CAARs significant after the Event Window</td>
<td>1</td>
<td>15</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>CAARs significant after the Event Window</td>
<td>10</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

The above findings show that the null hypothesis is rejected as out of 651 days, AARs and CAARs are significant for 642 days and 636 days respectively. (H₀: There is no Average Abnormal Return and Cumulative Average Abnormal Return generated by the monetary policy announcement during the pre-event period and post-event period).

5. CONCLUSION
The study aims to find whether monetary policy announcement holds any informational content to the investors and to test the efficiency of semi-stock market hypothesis. In an efficient market, AAR should be 0 and CAAR should rise and later, decline suggesting that abnormal losses or returns are not possible after the announcements. There is a difference between the returns in the pre-event and post-event. The daily stock returns of 13 NBFC companies are analysed. The event study method is applied to examine the reaction of stock price to the monetary policy announcement. With the employment of t-statistics, the results show that AAR values are positive for the majority of the days during the event window which signifies monetary policy announcements has a positive impact on the stock market. However, CAAR values are positive for the majority of the days during the event window which signifies monetary policy announcements has a positive impact on the stock market. The t-results depict that CAAR values are significant for most of the days during the event window. The significant CAAR values indicate that the investors can gain abnormal return by employing a buy and hold strategy. Moreover, out of 651 days, AARs and CAARs are significant for 642 days and 636 days respectively. The t-values of a majority of AARs are higher than the critical value, 2.179. Hence, the null hypothesis is rejected (H₀: There is no Average Abnormal Return and Cumulative Average Abnormal Return generated by the monetary policy announcement during the pre-event period and post-event period). From the above findings, it can be concluded that the investors are able to earn abnormal profits which indicate that the Indian stock market is not efficient in the semi-strong form due to the slow absorption of information. The limitation of the study is that only 13 companies could be used due to non-availability of data in the sample period. The further researches in the similar line could include all the companies listed in NSE Financial Services Index and can extend the scope of the study by measuring the impact of the event on the stock prices.

6. REFERENCES