Impact of Demonetization on the Return of Selected Indian Banking Stocks

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Abstract

Demonetization was the act of discontinuing a currency unit of its status as legal tender and replacing it with a new currency. It is an instrument used not only to tackle various economic problems such as corruption, inflation, tax evasion, etc., but also helps in converting a cash-dependent economy into cashless economy. To achieve these objectives, a move was taken by the Indian government on November 8, 2016 to demonetize high denomination currencies that affected various sectors of the Indian economy. Therefore, an attempt was made to examine the impact of demonetization on the Indian banking sector by applying the event study methodology on the stock prices of selected Indian banks in the year 2016. The study found that in the pre-announcement period, some of the banking stocks had significant positive abnormal returns. On the actual date of announcement, among 16 selected banks, 15 banks reacted positively to news. Thus, the demonetization announcement in India had a significant impact on the share prices of selected banking companies.

Keywords : **banking stocks, demonetization, event study, S & P BSE 200**

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Demonetization is the act of discontinuing a currency unit of its status as legal tender and replacing it with a new currency. It is an instrument used not only to tackle various economic problems such as corruption, inflation, tax evasion, etc. but also helps in converting a cash-intensive economy into a cashless economy. To achieve these objectives a bold and unexpected step was taken by the Indian government on November 8, 2016 to demonetize high denomination currencies such as ₹ 500 and ₹ 1,000. It was not the first time an Indian currency was demonetized unexpectedly because there were two such instances in Indian history. First, on January 12, 1946, ₹ 1,000 and ₹ 10,000 notes were demonetized because these currency notes were hardly used by common people at that time, and second, on January 6, 1978, ₹ 1,000, ₹ 5,000, and ₹ 10,000 notes were demonetized with the sole aim of taking black money out of circulation from the economy.

This unexpected announcement by the Indian government directly or indirectly affected various industries of the economy which in turn affected the share prices of various firms within those industries. Such studies of stock market reaction to publicly announced information are usually included in the semi-strong form of EMH (efficient market hypothesis), which states that the stock market reflects all the publicly available information quickly and accurately. Thus, there is no chance of earning abnormal returns by investing in stock market. Therefore, an attempt is made in this paper to examine the impact of demonetization announcement on the Indian

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banking sector by applying the event study methodology on the stock prices of selected Indian banks in the year 2016.

Literature Review

Bharadwaj, Mohith, Pavithra, and Ananth (2017) used efficient market hypothesis to analyze the impact of demonetization of the Indian stock market. They used Sharpe index model to construct optimum portfolio and calculated the risk and return values for evaluating stock values of 16 companies (belonging to four sectors namely, energy, media, realty, and private banking) listed on NSE over a span of 5 years (2012 to 2016) before demonetization and 5 months (November 2016 to March 2017) after demonetization. The results pointed out that there was a significant impact of demonetization on the Indian stock market along with some fluctuations.

Chauhan and Kaushik (2017) relied on event methodology to examine the impact of demonetization on stock of S&P BSE 100 companies after considering event window of 15 days (-7, 0 ,+7). They calculated average abnormal returns (AAR) and cumulative average abnormal returns (CAAR) with the help of three models: OLS market model, market - adjusted return model, and mean-adjusted return model and checked the significance level of calculated AAR and CAAR under each model with the help of t - statistics. The empirical results revealed that stock prices were not significantly affected by demonetization. However, there was short period of downfall in stock prices but it recovered soon and this might have happened due to some other factors.

Narayanaswamy and Muthulakshmi (2017) threw light on positive and negative implications of demonetization and cashless economy with reference to India. The study found that the results of demonetization were shortage of cash for shorter period, increase in the usage of digital payment modes, increase in tax payments, income tax raids on tax evaders, frauds in banks etc. They also discussed the factors to be considered in developing a cashless economy such as language of e-mode of transactions, awareness, and usage of e-modes by all sections of the society etc. They also discussed the ideology of Bokil Anil of Arthakranthi Foundation on cashless economy and the benefits the economy can derive if a cash dependent economy was converted into cashless economy.

Veerakumar (2017) made an attempt to study the impact of demonetization on public's perception, especially with reference to the people of Coimbatore District. He applied chi-square test on the responses of 100 respondents and found that all the four variables, that is, gender, age, annual income, and occupation had significant association with demonetization. Furthermore, he concluded that as per the respondents, demonetization helped in destroying black money, reducing corruption, and terrorism.

Objectives of the Study

(i) To measure the return of stocks in terms of change in market value around the demonetization announcement day for BSE listed banking companies.

(ii) To examine the impact of demonetization announcement on share prices of selected banks.

Hypotheses of the Study

- **H_0:** Demonetization announcement does not have any statistically significant impact on share prices of selected banks, that is, AAR_t and $CAAR_{t1, t2} = 0$.

- **H_a:** Demonetization announcement has a statistically significant impact on share prices of selected banks, that is, AAR_t and $CAAR_{t1,t2} \neq 0$.

Data and Research Methodology

(1) Data Description : The present study is secondary data based. The data sets used for analysis consist of daily closing share price of 16 selected banks that constitute BSE200 and the market index (BSE 200 for the period from January 8, 2016 to November 17, 2016). The names of sample banks are give in the Appendix. A total of 211 observations were taken from official website of Bombay Stock Exchange (BSE). Though in total, there are 17 banks, but RBL Bank is not covered under the scope of the study because share price of this bank is available only up to August 31, 2016.

(2) Research Methodology : The standard event study methodology is applied in MS Excel to study the stock market reaction to demonetization. It is a vital research tool in the field of finance and economics to analyze the impact of an economic event on firms' value by examining the prices of securities surrounding the event. This methodology has already been used in various studies to see the impact of various events such as mergers & acquisitions, dividend issue, bonus issue, etc. on the stock market. Therefore, an attempt is made in this paper to analyze the announcement effect of demonetization on selected banks' stock prices with the help of this methodology. The following steps have been used for the research :

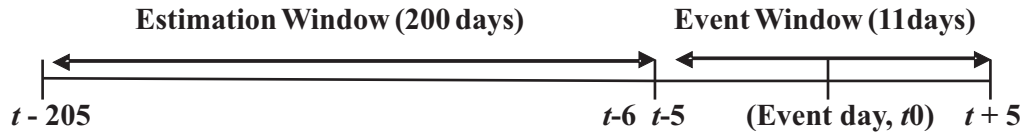
The first step is to decide the event date, event window, and estimation window:

(i) The event date is usually the announcement date, but if announcement was made after trading hours, the event date will be the next trading day. Since the announcement of demonetization by GOI was on November 8, 2016 evening, that is, after trading hours, therefore, November 9, 2016 is considered as event day $t = 0$.

(ii) The span of event window is 11 days ranging from November 1, 2016 to November 16, 2016 based on $t = -5$ to $t = +5$. The main reason for keeping the event window relatively short is to see the immediate reaction of banking stocks towards the GOI announcement.

(iii) The span of estimation window is 200 days ranging from January 7, 2016 to October 30, 2016 based on $t = -205$ to $t = -5$. Peterson (1989) noted that the standard time period for estimation window can range from 100 to 300 days.

On the time line, the above windows can be shown as following :



(i) Convert the price series of all the selected stocks as well as index into return series with the help of the following formula. This conversion will help in preventing non-stationarity of all stocks and index price series :

$$\text{Return of a security / index } (R_{i,t}) = \ln (Pt/Pt\text{-}1) \quad \text{----------} (1)$$

where, Ln (Pt / Pt -1) is difference between logged closing price at day t (Pt) and day t -1 (Pt - 1).

(ii) α, β standard error and coefficient of determination R^2 are calculated with the help of security and market return of estimation window.

(iii) Now, calculate the expected return, using Market Model (MM) and then abnormal return (AR) and cumulative abnormal return (CAR) for each security for each trading day of event window only by using parameters of estimation window, using the formula :

Expected Return of Each Security $(E(R_{i,t}))$ = [α + β * BSE200 actual return]--(2)

Abnormal Return $(AR_{i,t})$ = Actual Return $(R_{i,t})$ - Expected Return $(E(R_{i,t}))$ ---- (3)

Cumulative Abnormal Return $(CAR(t_1,t_2)) = \Sigma^{t2}_{t=t_1,} AR_{i,t}$ ---- (4)

Note: The main reason of selecting MM is that it utilizes OLS based α and β estimators and includes not only firm specific but market based factors.

(iv) Computing the average abnormal returns (AARs) and then the cumulative average abnormal returns (CAARs) for each trading day of the event window with the help of the following formulae :

$$AAR_{it} = \frac{1}{N}\Sigma^{N}_{i=1} AR_{i,t} \quad \text{---------- (5)}$$

$$CAAR_t = \Sigma^{t2}_{t=t_1} AAR_t \quad \text{---------- (6)}$$

where, N is the number of securities (16 banking securities in the study),
t is the number of days surrounding the event day (t = - 5,…0, …+ 5),
t_1 is a day when event window starts,
t_2 is a day when event window ends.

(v) At the end, in order to draw inferences about the impact of particular event on the share price, check whether AAR and CAAR are statistically significant or not with the help of parametric significance t - test.

$$t \text{ value} = \frac{\text{AAR (of each day of event window)}}{\text{Standard error } (S.E.) \text{ of estimation window}} \quad \text{---------- (7)}$$

where,

$$S.E. \text{ of estimation window} = \frac{\text{Standard Deviation } (S.D.) \text{ of estimation window}}{\sqrt{N} \text{ (no. of securities i.e. 16)}}$$

$$S.D. \text{ of estimation window} = \sqrt{\frac{1}{n\text{-}1}\Sigma(\text{AAR for each day of estimation window} - \text{Average AAR of estimation windows})^2}$$

where, n is number of days in the estimation window.

$$\sqrt{1/199\left(\sum_{t=-205}^{t=-6}(\text{AAR for each day of estimation window} - \text{Average AAR of estimation window})^2\right)}$$

If computed t value of AAR or CAAR is greater than the critical t - value at 5 % level of significance, it means rejection of the null hypothesis (H_0) and consequently, acceptance of the alternative hypothesis (H_a), indicating that demonetization has a significant impact on the selected security prices.

Data Analysis and Results

(1) Statistical Measures : Table 1 shows the value of α, β, standard error, and coefficient of determination

Table 1. Impact of Demonetization on Share Prices for 2016

Bank Name	Alpha (α)	Beta (β)	Standard Error	Coefficient of Determination (R^2)
Axis	-0.00028	1.36244	0.01624	0.37340
BOB	-0.00079	1.77766	0.02324	0.33121
BOI	-0.00118	1.85382	0.01851	0.45911
Canara	**0.00045**	1.80362	0.02056	0.39449
Federal	**0.00132**	1.25485	0.01901	0.26948
HDFC	**0.00032**	**0.74386**	**0.00698**	**0.49023**
ICICI	-0.00065	1.72469	0.01741	0.45372
IDBI	-0.00144	1.57274	0.02060	0.33140
IndusInd	**0.00054**	0.95461	0.01055	0.40952
Karnataka	-0.00051	1.19510	0.02402	0.17319
Kotak	**0.00013**	0.85994	0.01052	0.36112
PNB	**0.00029**	1.77321	0.02222	0.35014
SBI	-0.00023	1.79947	0.01728	0.47871
South	**0.00019**	1.10042	0.01530	0.30448
Union	-0.00118	1.99561	0.02220	0.40610
Yes	**0.00199**	1.34033	0.01543	0.38986

calculated for each sample security through very simple OLS (ordinary least square) regression model. α is a measure of abnormal return of a security relative to the return of a benchmark index such as BSE 200. A security with positive α indicates the security is outperforming the market, while a stock with a negative α is underperforming which means such security is unable to produce returns at the same rate as the benchmark index. Table 1 reveals that Canara, Federal, HDFC, IndusInd, Kotak, PNB, Yes, and South Bank stocks are outperforming. Yes Bank has the highest value of α, followed by Federal and IndusInd Bank amongst the selected banks. However, IDBI has least α.

Beta is used to measure stocks' volatility or stock's systematic risk relative to the whole market risk. A stock with highest β is considered riskier than a stock having least β. It is evident from Table 1 that most of the stocks, except three, have β greater than one. This means that all these bank stocks are more volatile than the market. Union Bank of India is the most aggressive stock with the highest β of 1.99 followed by Bank of India (1.85) and Canara Bank (1.80), respectively. However, HDFC Bank is the most defensive stock with β of 0.74 during the study period.

Standard error is used to measure the accuracy with which a sample represents the population. It is a deviation of sample mean from the actual mean of the population. There is an indirect relation between standard error and sample size. It is clear from Table 2 that HDFC stock has suitable representation of the sample trade as it has minimum standard error (0.00697). However, Karnataka Bank has the highest value of standard error indicating that this stock did not have appropriate sample trade representation.

The coefficient of determination (R^2) is a statistical measure, which indicates a fraction of stock's movements (dependent variable) that is explained by movements in the benchmark index (independent variable). All the stocks having R^2 in the range of 40% to 70% such as BOI, HDFC, ICICI, IndusInd, SBI, and Union indicate average correlation between stock returns and BSE 200 returns. However, rest of the banks have low correlation as their R^2 ranges from 1% to 40%.

(2) Abnormal Return (AR) Analysis : In this section, we analyze the abnormal returns of each security for each

Table 2. Abnormal Returns Analysis for Event Window

Time (*t*)	Axis	BOB	BOI	Canara	Federal	HDFC	ICICI	IDBI
-5	2.05%	-0.67%	-1.29%	-3.20%	-1.30%	-0.06%	1.28%	-1.36%
	(1.26)	(-0.29)	(-0.70)	(-1.56)	(-0.68)	(-0.08)	(0.73)	(-0.66)
-4	0.78%	-1.09%	1.00%	1.59%	-2.54%	1.24%	0.30%	0.19%
	(0.48)	(0.47)	(0.54)	(0.77)	(-1.34)	(1.78)	(0.17)	(0.09)
-3	1.73%	-1.31%	-0.62%	-0.48%	0.49%	-0.43%	1.50%	0.11%
	(1.06)	(-0.56)	(-0.33)	(-0.23)	(0.26)	(-0.61)	(0.86)	(0.06)
-2	0.30%	2.58%	0.66%	1.64%	-0.30%	-0.10%	2.06%	1.32%
	(0.19)	(1.11)	(0.35)	(0.80)	(-0.16)	(-0.14)	(1.18)	(0.64)
-1	0.71%	-0.10%	-0.33%	-1.72%	-0.71%	0.00%	0.85%	-1.30%
	(0.44)	(-0.05)	(-0.18)	(-0.84)	(-0.37)	(-0.01)	(0.49)	(-0.63)
0 (Event Day)	1.43%	4.15%	3.69%*	3.87%	0.43%	0.86%	2.04%	1.62%
	(0.88)	(1.79)	**(1.99)**	(1.88)	(0.22)	(1.22)	(1.17)	(0.78)
1	2.07%	**6.45%***	**9.94%***	**4.18%***	3.63%	0.94%	1.69%	2.72%
	(1.27)	**(2.78)**	**(5.37)**	**(2.03)**	(1.91)	(1.35)	(0.97)	(1.32)
2	2.44%	2.82%	**3.89%***	2.44%	-0.22%	**2.13%***	-0.30%	3.55%
	(1.50)	(1.21)	**(2.10)**	(1.19)	(-0.12)	**(3.05)**	(-0.17)	(1.72)
3	-0.04%	**13.29%***	**6.37%***	**6.47%***	-1.26%	0.47%	2.15%	3.21%
	(-0.02)	**(5.71)**	**(3.44)**	**(3.15)**	(-0.66)	(0.67)	(1.24)	(1.56)
4	-1.61%	-0.75%	-1.76%	0.97%	-2.32%	-1.02%	-1.26%	0.40%
	(-0.99)	(0.32)	(-0.95)	(0.47)	(-1.22)	(-1.46)	(-0.73)	(0.19)
5	0.83%	1.31%	-0.58%	1.59%	1.25%	-1.01%	1.00%	-0.42%
	(0.51)	(0.57)	(-0.31)	(0.77)	(0.66)	(-1.45)	(0.57)	(-0.21)
Time (*t*)	**IndusInd**	**Karnataka**	**Kotak**	**PNB**	**SBI**	**South**	**Union**	**Yes**
-5	**2.64%**	-1.47%	0.93%	-2.28%	-0.16%	-1.21%	-0.67%	-1.41%
	(2.51)	(-0.61)	(0.89)	(-1.03)	(-0.09)	(-0.79)	(-0.30)	(-0.92)
-4	0.86%	-0.80%	0.73%	-1.67%	-1.21%	-0.04%	-0.22%	0.29%
	(0.82)	(-0.33)	(0.69)	(-0.75)	(-0.70)	(-0.02)	(-0.09)	(0.19)
-3	-0.19%	-1.14%	-0.03%	0.32%	0.42%	-0.62%	-0.17%	0.04%
	(-0.18)	(-0.48)	(-0.03)	(0.14)	(0.24)	(-0.40)	(-0.07)	(0.02)
-2	-1.19%	1.49%	-0.40%	4.99%	2.63%	1.12%	-2.26%	-0.42%
	(-1.13)	(0.62)	(-0.38)	(2.25)	(1.52)	(0.73)	(-1.02)	(-0.27)
-1	-0.59%	-0.20%	0.76%	-0.60%	-0.85%	-0.96%	-3.58%	0.66%
	(-0.56)	(-0.08)	(0.71)	(-0.27)	(-0.49)	(-0.63)	(-1.61)	(0.43)
0 (Event Day)	0.24%	**6.47%***	**2.84%***	3.91%	**5.49%***	-0.15%	2.34%	1.40%
	(0.23)	**(2.69)**	**(2.70)**	(1.76)	**(3.18)**	(-0.09)	(1.06)	(0.91)
1	-0.02%	2.14%	-1.58%	**8.92%***	**5.80%***	**4.61%***	**8.15%***	**3.79%***
	(-0.01)	(0.88)	(-1.50)	**(4.01)**	**(3.36)**	**(3.014)**	**(3.67)**	**(2.45)**
2	0.97%	-0.85%	1.85%	2.87%	2.21%	0.91%	**6.72%***	-2.24%
	(0.92)	(-0.35)	(1.76)	(1.29)	(1.28)	(0.59)	**(3.03)**	(-1.45)
3	**-6.02%**	-1.79%	-0.82%	4.31%	**7.03%***	-0.15%	**8.47%***	-1.16%
	(5.70)	(-0.75)	(-0.78)	(1.94)	**(4.07)**	(-0.10)	**(3.81)**	(-0.75)
4	-0.02%	-3.39%	**-2.60%***	-4.02%	-0.52%	-1.48%	-0.47%	1.41%
	(-0.02)	(-1.41)	**(-2.47)**	(-1.80)	(-0.29)	(-0.96)	(-0.21)	(0.91)
5	0.59%	1.79%	1.05%	-0.40%	0.61%	0.68%	2.05%	-0.31%
	(0.56)	(0.75)	(0.99)	(-0.18)	(0.35)	(0.44)	(0.92)	(-0.19)

Note: Values in parentheses indicate *t*-statistics and * sign denotes significance at 5% level.

Table 3. Cumulative Abnormal Returns Analysis for Event Window

Time (*t*)	Axis	BOB	BOI	Canara	Federal	HDFC	ICICI	IDBI
-5	2.05%	-0.67%	-1.29%	-3.20%	-1.30%	-0.06%	1.28%	-1.36%
-4	2.83%	-1.75%	-0.28%	-1.61%	-3.84%	1.18%	1.58%	-1.16%
-3	4.56%	-3.06%	-0.90%	-2.09%	-3.35%	0.76%	3.08%	-1.05%
-2	4.86%	-0.48%	-0.24%	-0.45%	-3.66%	0.66%	5.14%	0.27%
-1	5.57%	-0.58%	-0.57%	-2.17%	-4.37%	0.66%	5.99%	-1.02%
0	**7.00%**	**3.57%**	**3.13%**	**1.70%**	**-3.94%**	**1.51%**	**8.03%**	**0.59%**
1	9.07%	10.02%	13.07%	5.87%	-0.31%	2.45%	9.73%	3.32%
2	11.51%	12.84%	16.96%	8.32%	-0.54%	4.58%	9.43%	6.86%
3	11.47%	26.13%	23.33%	14.79%	-1.79%	5.05%	11.58%	10.07%
4	9.86%	25.38%	21.57%	15.76%	-4.11%	4.02%	10.32%	10.47%
5	10.69%	26.69%	20.98%	17.35%	-2.86%	3.01%	11.32%	10.04%
Time (*t*)	**IndusInd**	**Karnataka**	**Kotak**	**PNB**	**SBI**	**South**	**Union**	**Yes**
-5	2.64%	-1.47%	0.93%	-2.28%	-0.16%	-1.21%	-0.67%	-1.41%
-4	3.51%	-2.27%	1.66%	-3.96%	-1.38%	-1.25%	-0.88%	-1.12%
-3	3.32%	-3.41%	1.63%	-3.64%	-0.96%	-1.86%	-1.05%	-1.09%
-2	2.13%	-1.92%	1.23%	1.35%	1.67%	-0.74%	-3.31%	-1.51%
-1	1.54%	-2.12%	1.98%	0.75%	0.82%	-1.71%	-6.89%	-0.85%
0	**1.78%**	**4.34%**	**4.83%**	**4.66%**	**6.31%**	**-1.85%**	**-4.55%**	**0.55%**
1	1.77%	6.48%	3.25%	13.58%	12.11%	2.76%	3.60%	4.34%
2	2.74%	5.63%	5.10%	16.44%	14.31%	3.66%	10.32%	2.10%
3	-3.28%	3.84%	4.27%	20.75%	21.34%	3.51%	18.78%	0.94%
4	-3.30%	0.45%	1.67%	16.73%	20.82%	2.03%	18.31%	2.35%
5	-2.72%	2.24%	2.72%	16.33%	21.43%	2.71%	20.36%	2.04%

day over the period of 11 days, that is, within event window to elucidate whether a particular stock has reacted positively or negatively to the demonetization announcement. The Table 2 presents the AR and *t*- statistics of each bank for two periods : pre-event period (-5 to -1) which indicates investors' perception to imminent news and post-event period (1 to 5), which indicates investors' reaction once the event has occurred.

Almost all the banks except South Bank reacted positively to the demonetization announcement made by GOI unexpectedly because almost all banks that have negative return as on *t*-1 (one day prior to event date) show positive returns on event date (*t*0).

The Table 2 reveals that in the run-up days to the actual announcement day, most of the banks' shares show negative returns. Furthermore, none of the selected banks have statistically significant positive abnormal returns in the pre-event period, which confirms that investors were not aware of this impending news. Hence, it was a completely shocking news for stock market investors.

However, as on the event day, four banks such as BOI, SBI, Kotak, and Karnataka have statistically significant positive AR. In the five days following the announcement, banks show statistically significant AR up to the 4th day ($t+4$). Half of the selected banks show positive statistically significant AR as on $t+1$, three banks as on $t+2$, six banks as on $t+3$ (except IndusInd Bank, which has statistically significant negative abnormal returns), and one bank as on the 4th day.

Table 4. Average Abnormal Returns, Cumulative Average Abnormal Return Analysis, and *t*- values of AAR for Event Window

Time (*t*)	AAR	CAAR	*t*-value	Significant
-5	-0.00511	-0.00511	-2.24899	yes
-4	-0.00036	0.106575	-0.15723	no
-3	-0.00024	0.106932	-0.10402	no
-2	0.008831	0.107169	3.887787	yes
-1	-0.00498	0.098338	-2.19429	yes
0	0.025393	0.103322	11.1794	yes
1	0.039638	0.077929	17.45117	yes
2	0.018238	0.038291	8.029386	yes
3	0.02532	0.020053	11.1474	yes
4	-0.01154	-0.00527	-5.0793	yes
5	0.00627	0.00627	2.760554	yes

(3) Cumulative Abnormal Return (CAR) Analysis : In this section, we analyze the cumulative abnormal returns of each security over the period of 11 days, that is, within event window to get an idea about average behaviour of a particular stock over time. It is evident from the Table 3 that in the pre-event window, CAR of most banks, except five banks such as Axis, HDFC, ICICI, IndusInd, and Kotak is negative. On the day of demonetization announcement, the returns show an increase for investors of all banks except South Bank. In the post-event window, the investors of almost all the banks, except Federal and IndusInd, gained on all the days. Federal is the only bank among all selected banks that has a negative CAR throughout the event window.

(4) Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR) Analysis : To see the impact of the selected event on selected securities collectively for each day in the event window, we need to calculate AAR and then compute *t* - values of each AAR. Since studying the behaviour of AAR for one specific day is not sufficient to capture the security's overall reaction to the demonetization announcement, it is necessary to calculate CAAR for event window by accumulating AAR of event window. It helps in ascertaining the overall magnitude of abnormal returns over the entire event window. Usually, when stock market is efficient, then CAAR = 0.

The Table 4 depicts some interesting readings about the behaviour of AAR and CAAR. There is only one incidence of positive AAR in the pre-announcement period, but as on event day and in post announcement period, there is evidence of positive AAR which reveals the confidence of investors in the banking stock performance.

Furthermore, in the pre event period, the *t* - value for *t* - 1 and *t* - 2 is found to be significant but we were unable to figure out the reason for the same. A look at Table 4 shows that on the event day, there is positive AAR of 0.025%, which is significant at 5%. Hence, we reject the null hypothesis H_0 and accept alternative hypothesis which indicates that demonetization announcement in India had a significant impact on the share prices of selected banking companies.

Discussion and Conclusion

In this study, the financial impact of demonetization announcement made by the Indian government on sample banking companies listed on BSE is analyzed. To conduct this research, a standard event study methodology by

Fama, Fisher, Jensen, and Roll (1969) was applied on the logged prices of banking companies and market index (BSE200) collected for a period from January 7, 2016 to October 30, 2016. To study the impact of each sample security individually, AR and CAR is analyzed. However, to see the impact of demonetization announcement on all sample securities collectively, AAR and CAAR are analyzed. The study concludes that there are no significant positive abnormal returns prior to demonetization announcement which confirms that there is no evidence regarding the leakage of this information. On the event day, only four banks out of 16 banks under study have significant positive abnormal returns. Furthermore, AAR is not only positively significant on event day, but on all the days following the event day. Hence, the results reveal that demonetization has significant impact on the share prices of sample companies which represent the banking industry and the Indian stock market is not efficient for demonetization announcement in terms of information because average abnormal returns on event day is not equal to zero and it is statistically proved.

Research Implications

An endeavor has been made in the present study to measure the return of stocks in terms of changes in market value around the demonetization announcement day for BSE listed banking companies. A further attempt is also made to see the impact of demonetization announcement on share prices of selected banks. The present study will greatly help investors, analysts, and researchers to understand how stock market, especially banking stocks, reacted to the demonetization announcement. So, in future, if such an event takes place, then investors can get an idea from this research about how share prices of banking stocks behave, that is, they will be able to make judgement whether such announcements will significantly impact the banking stock returns or not.

Limitations of the Study and Scope for Further Research

The present study examines the impact of demonetization on returns of 16 selected Indian banking stocks only. So, the study can be further extended either by increasing the number of banks or by adding stocks from other industries too.

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Appendix. List of Abbreviations of Bank Names

Abbreviation	Bank Names	Abbreviation	Bank Names
Axis	Axis Bank Ltd.	IndusInd	IndusInd Bank Ltd.
BOB	Bank of Baroda	Karnataka	Karnataka Bank Ltd.
BOI	Bank of India	Kotak	Kotak Mohindra Bank
Canara	Canara Bank	PNB	Punjab National Bank
Federal	Federal Bank Ltd.	SBI	State Bank of India
HDFC	HDFC Bank Ltd.	South	South Indian Bank Ltd.
ICICI	ICICI Bank Ltd.	Union	Union Bank of India
IDBI	Industrial Development Bank of India	Yes	Yes Bank Ltd.

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