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Demonetization: A Study Of Impact Of On Future Market In India

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Abstract
The demonetization happens in India in Sep, 2016 & its impact on various sectors. The common man also much more affected due to demonetization. There are some impacts of demonetization stock market as well as on derivative market. The objective of paper is to study the impact of demonetization on future market with respect to three sectors namely banking, FMCG & automobile. For this study authors construct the one hypothesis & this hypothesis test by ANOVA test with help of excel. The basis intention of Government behind demonetization is to restrict the black money in India. The demonetization majorly affected on micro & small businesses in India temporary affected on stock market as well on derivative market.

Keywords: Demonetization, Impact, Derivative & Futures

JEL Classification code: C10, E44

Introduction

The Demonetization is one of the bold decisions taken by Government of India on 9 November, 2016. After the demonetization every sector is affected much more. Basic intention of Government of India is to remove the black money in economy. The demonetization majorly affected on these sectors those are running on cash basic especially small & medium scale business. The benefit of demonetization is maximum peoples are using banking system for business & financial transitions rather than cash. The Government of India one motive is successful under financial inclusion.

As per the definition of investopedia, Demonetization is the act of stripping a currency unit of its status as legal tender. It happened whenever there is alter of national currency. The current form of money is pulled from flow and retired, often to be replaced with new notes. Sometimes, a country completely replaces the old currency with new currency. (Demonetization). Demonetization affected derivatives future market as well, where market indices dropped to six months low in the week following the announcement of demonetization. BSE crashed around 1689 points and NIFTY over 541 points. Hence there is a need to understand how much the demonetization has affected the derivatives prices and to analyze the derivatives price movement pre and post demonetization.

The meaning of derivative is that something which is derived & value derived from underlying assets. In derivative underlying asset will be commodities, stock, gold, currency, livestock & anything else. The derivative is a contract which derives its value from the prices, or index of prices of underlying securities. We don't have clear history of establishment of derivative market but it is believed that the forward trading was in existence during 12th century in England and France. In Chicago Produce Exchange joined hands in 1898 to form the Chicago Mercantile Exchange for futures trading started by the butter and eggs dealers. In 1982, it introduced a futures contract on the S&P 500 Stock Index. In India derivative is introduced in June, 2000. The market turn-over has grown from Rs.2365 crore in 2000-2001 to Rs.9655008.56 crore in 2017-18 on NSE.

This study focuses on impact of demonetization on stock prices of selected sectors. 3 sectors and top 5 companies in each sector are considered for this study for which the data is collected from National Stock Exchange (NSE). The closing prices of stocks for last six months (three months before demonetization and three months after demonetization) were used to find the returns.

Review of Literature

(Mr. Sunil T, 2017)Authors study about impact demonetization of selected stock from five sectors. They conclude that impact demonetization on stock market is temporary. Demonetization has not affected the stocks of the selected sectors, investors need not worry about their investment and it was a better opportunity for investors and speculators to purchase stocks at lower prices when they were trading at lower prices in the week of announcement of demonetization.

(Swati Chauhan, 2014)The study examined the impact of demonetization declaration on market reaction of S&P BSE100 index. Data analysis shows that no significant impact of demonetization is found stock market prices. The effect of demonetization was only for a shorter duration, but it recovered soon. So, this study did not find any significant impact of demonetization announcement on stock market prices.

(Sandhya Darshan Dash, 2017)The authors study about impact of demonetization of banking stock. They conclude that stock prices of banking are not showing the significant effect of Demonetization with help of run test.

(Niraj Dhar Dubey, 2017) It is found that the demonetization has affected the return in Indian stock market in both equity and debt segment. The total investment has decreased significantly post demonetization. After testing hypothesis they are found that demonetization has significant effect on return of the stock market.

(Swetha Ragi, 2018)Authors concluded that all the stocks affected by demonetization. The returns of some stocks are decreased and very few showed constant returns. When it comes to the standard deviation all the stocks faced higher risk but market index showed constant risk. Hence, they concluded that there is an impact of demonetization on the stock market.

(Dr.P.Chellasamy, 2017)Authors stated that result from the Ordinary Least Square support that demonetization or withdrawal of higher denomination currency has a significant impact on the Stock market for the Indian economy. The result reveals that average returns on most sectors have exhibited negative values. Public sector banking segment, Pharma, Energy and IT has recorded a rise in returns.

Research Methodology & Tools Used

This study is based on secondary data of derivatives future prices of selected companies from different sectors. The selected sectors are Automobiles, Banking & FMCG. The derivatives future prices data taken from NSE. The total six month prices of derivative future are taken from NSE(Nifty 50), three months pre demonetization (8 August, 2016 to 7 November, 2016) & three months post demonetization (9 January, 2017 to 8 April, 2017). Event study has been done to analyze the impact of demonetization on derivatives market which includes three windows: - Estimation window, Event window and post event window. The researchers design one hypothesis for study & the testing of hypothesis researchers used ANOVA test with help of excel.

Hypothesis of the Study

H1- There is changes in the future derivatives values after demonetization.

H0 -There is no changes in the future derivatives values after demonetization

Tools for Analysis

ANOVA Analysis

ANOVA is used to analyze the impact of demonetization. ANOVA is used to test if there is significant difference among the mean returns in the 2 event windows.

Data Analysis

Table No. 1 Calculation of Mean Return of Banking Sector

Stock Futures	**Estimation Window**	**Event Window**
	Mean Return	**Mean Return**
Bank Of Baroda	-0.07294	0.364386315
SBI	0.149951	0.091344984
PNB	0.257215	-0.266845981
HDFC	-0.00408	-0.304840413
KOTAK	0.071185	-0.494867152

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In the Estimation window, 3 out of 5 selected companies in banking sector have shown Positive mean return. In the Event Window, 2 out of 5 selected companies in banking sector have shown Positive mean return. Banking sector is the affected sector by this demonetization because the liquidity of banks has increased as people deposited money into bank and also huge amount of black/unaccounted money is also deposited into banks. Due to this factor deposit of bank is increased as compare to loans.

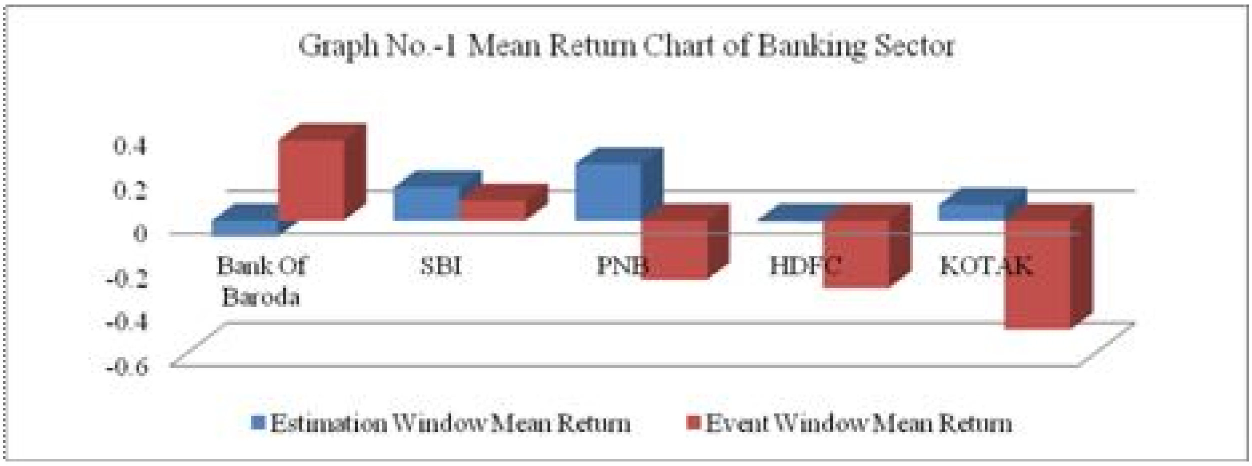

Table No. 2 Calculation of Mean Return of FMCG Sector

Stock Futures	**Estimation Window**	**Event Window**
	Mean Return	**Mean Return**
DABUR	0.021669	-0.27660184
HUL	-0.17198	-0.038025929
MCDOWELL	-0.15928	-0.258095735
TATA Global	-0.1611	-0.181704691
MARICO	-0.24584	-0.054133987

In the Estimation window, 1 out of 5 selected companies in FMCG sector have shown Positive mean return. In the Event Window, 0 out of 5 selected companies in FMCG sector have shown Positive mean return. The Indian economy has been dependent on cash transactions. As of 2015, card and electronic transactions only accounted for a 2% of overall consumer payments transactions in the country. Due to cash crunch FMCG sector is most affected sector in demonetization.

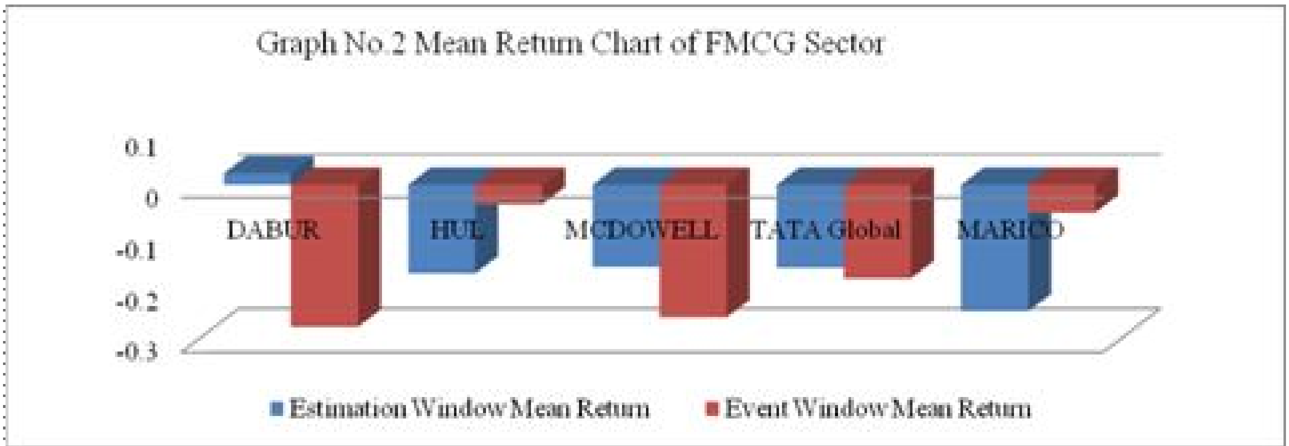

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Table No. 3 Calculation of Mean Return of Auto Sector

Stock Futures	Estimation Window	Event Window
	Mean Return	Mean Return
BAJAJ Auto	-0.01978	-0.267797233
Hero Motocorp	-0.04389	-0.212894699
MARUTI	0.23345	-0.471354068
M & M	-0.13795	-0.763564882
TATA Motors	-0.01232	-0.914014771

In the Estimation window, 1 out of 5 selected companies in Auto sector have shown Positive mean return. In the Event Window, 0 out of 5 selected companies in Automobile sector have shown Positive mean return. Demonetization impact on the Indian automobile markets was a severe and sudden hit on the head. Automobiles sectors performance was under stress on account of the ban on high-value banknotes that crippled sales for almost half the quarter after demonetization.

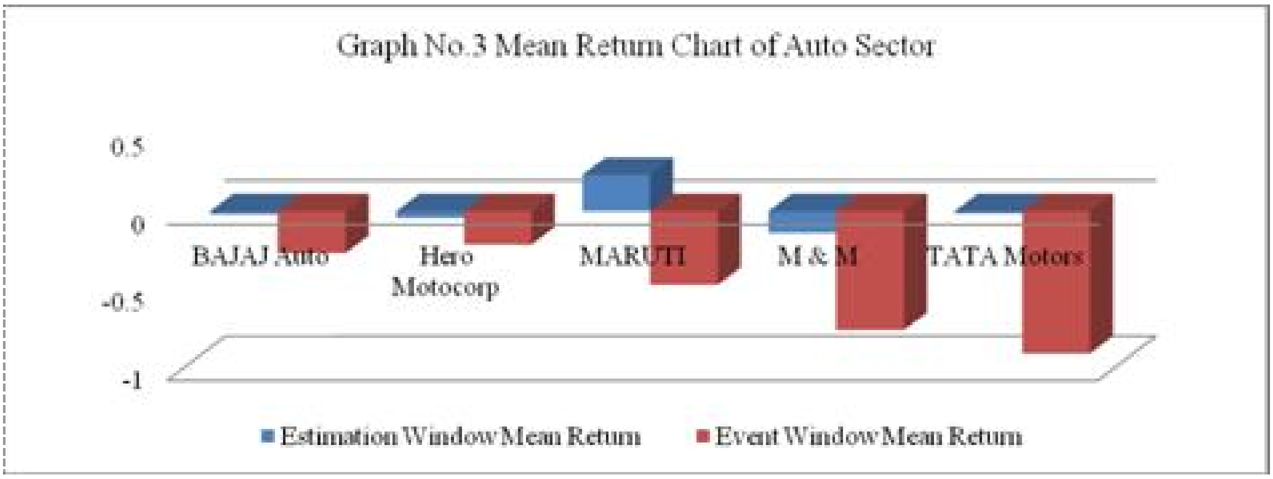

Table No. 4 ANOVA on Mean Returns

Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	0.315139532	1	0.315139532	16.06579586	0.00041105	4.195971819
Within Groups	0.549235592	28	0.019615557			
		29				

Inference: Given P- Value< 0.05 reject null hypothesis and accept alternate hypothesis that theoretical returns of the futures in the two windows are not equal. Therefore, we can conclude that demonetization has impact on futures returns.

Conclusion

The demonetization affected on various sectors in India. The objective behind demonetization is reducing black money in India. In Pre demonetization period (before 3 months) futures market is positive and gradually (after 3 months) there is negative effect. Results from mean returns support that demonetization or withdrawal of higher denomination currency has a significant impact on the futures market of Indian economy. The result reveals that mean returns on most sectors have exhibited negative values. Public sector banking segment, Auto and FMCG has recorded a negative mean returns after demonetization. The role of cash transactions in an informal economy is critical. With 86 percent of the monetary base being washed off, economic activity in the short run is likely to be adversely impacted. The wide spread negative returns across sectors after demonetization reflect the immediate negative sentiments attached with the overall economic activity.

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Future Scope of Study

The study will be extended to all sectors and up to a period of six months to one year post demonetization. Also macro-economic factors during the period, which could have an impact on the stock prices, could be considered.

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Annexure

Mean Return Calculations of Maruti Suzuki Pre Demonetization

DATE	EXPIRY	CLOSE RATE	RETURNS
9/8/2016	25/8/2016	4987.7	(4987.7-5012.95)/ 5012.95*100=-0.5036954
10/8/2016	25/8/2016	4885.9	(4885.9-4987.7)/ 4987.7*100 =-2.0410209
11/8/2016	25/8/2016	4899.45	(4899.45-4885.9)/ 4885.9*100=0.27732864
12/8/2016	25/8/2016	4916.55	(4916.55-4899.45)/ 4899.45*100 =0.34901877
16/8/2016	25/8/2016	4879.85	(4879.85-4916.55)/4916.55*100= -0.7464584
17/8/2016	25/8/2016	4901	(4901-4879.85)/4879.85*100= 0.43341496
18/8/2016	25/8/2016	4929.15	(4929.15-4901)/4901*100= 0.57437258
19/8/2016	25/8/2016	4913.25	(4913.25-4929.15)/4929.15*100= -0.3225708
22/8/2016	25/8/2016	4847.15	(4847.15-4913.25)/4913.25*100= -1.3453417
23/8/2016	25/8/2016	4842.15	(4842.15-4847.15)/4847.15*100 = -0.1031534
24/8/2016	25/8/2016	4954	(4954-4842.15)/4842.15*100= 2.30992431
25/8/2016	25/8/2016	4934.5	(4934.5-4954)/4954*100= -0.3936213
26/8/2016	29/9/2016	4923.35	(4923.35-4934.5)/4934.5*100 = -0.2259601
29/8/2016	29/9/2016	4930.55	(4930.55-4923.35)/4923.35*100=0.14624189
30/8/2016	29/9/2016	5071.05	(5071.05-4930.55)/4930.55*100 = 2.84958068
31/8/2016	29/9/2016	5079.3	(5079.3-5071.05)/5071.05*100= 0.1626882
1/9/2016	29/9/2016	5082.55	(5082.55-5079.3)/5079.3*100= 0.0639852
2/9/2016	29/9/2016	5181.75	(5181.75-5082.55)/5082.55*100= 1.95177618
6/9/2016	29/9/2016	5329.5	(5329.5-5181.75)/5181.75*100= 2.85135331
7/9/2016	29/9/2016	5345.9	(5345.9-5329.5)/5329.5*100=0.30772118
8/9/2016	29/9/2016	5495.95	(5495.95-5345.9)/5345.9*100= 2.80682392
9/9/2016	29/9/2016	5418.6	(5418.6-5495.95)/5495.95*100= -1.4074
12/9/2016	29/9/2016	5334.05	(5334.05-5418.6)/5418.6*100= -1.5603661
14/9/2016	29/9/2016	5393.15	(5393.15-5334.05)/5334.05*100= 1.10797612
15/9/2016	29/9/2016	5459	(5459-5393.15)/5393.15*100 = 1.2209933
16/9/2016	29/9/2016	5574.55	(5574.55-5459)/5459*100 = 2.11668804
19/9/2016	29/9/2016	5502.35	(5502.35-5574.55)/5574.55*100 = -1.2951718
20/9/2016	29/9/2016	5534.35	(5534.35-5502.35)/5502.35*100 = 0.58156969
21/9/2016	29/9/2016	5524.85	(5524.85-5534.35)/5534.35*100 = -0.1716552
22/9/2016	29/9/2016	5603.6	(5603.6-5524.85)/5524.85*100 =1.42537807
23/9/2016	29/9/2016	5606.75	(5606.75-5603.6)/5603.6*100 = 0.05621386
26/9/2016	29/9/2016	5577.85	(5577.85-5606.75)/5606.75*100 = -0.5154501
27/9/2016	29/9/2016	5522.95	(5522.95-5577.85)/5577.85*100 = -0.9842502
28/9/2016	29/9/2016	5533.6	(5533.6-5522.95)/5522.95*100 =0.19283173

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29/9/2016	29/9/2016	5446.05	(5446.05-5533.6)/5533.6*100 = -1.5821527
30/9/2016	27/10/2016	5512.45	(5512.45-5446.05)/5446.05*100 =1.21923229
3/10/2016	27/10/2016	5714.5	(5714.5-5512.45)/5512.45*100= 3.66533937
4/10/2016	27/10/2016	5707.3	(5707.3-5714.5)/5714.5*100 = -0.1259953
5/10/2016	27/10/2016	5722.15	(5722.15-5707.3)/5707.3*100 = 0.26019309
6/10/2016	27/10/2016	5726.6	(5726.6-5722.15)/5722.15*100 =0.07776797
7/10/2016	27/10/2016	5713.5	(5713.5-5726.6)/5726.6*100 = -0.228757
10/10/2016	27/10/2016	5739.35	(5739.35-5713.5)/5713.5*100 =0.45243721
13/10/2016	27/10/2016	5735.1	5735.1-5739.35/5739.35*100 = -0.0740502
14/10/2016	27/10/2016	5699.55	(5699.55-5735.1)/5735.1*100 = -0.6198671
17/10/2016	27/10/2016	5602.9	(5602.9-5699.55)/5699.55*100 = -1.6957479
18/10/2016	27/10/2016	5643.7	(5643.7-5602.9)/5602.9*100 =0.72819433
19/10/2016	27/10/2016	5623.25	(5623.25-5643.7)/5643.7*100 = -0.3623509
20/10/2016	27/10/2016	5658.05	(5658.05-5623.25)/5623.25*100 = 0.6188592
21/10/2016	27/10/2016	5666.25	(5666.25-5658.05)/5658.05*100 =0.14492626
24/10/2016	27/10/2016	5730.35	(5730.35-5666.25)/5666.25*100 =1.13125965
25/10/2016	27/10/2016	5797.9	(5797.9-5730.35)/5730.35*100 =1.17881107
26/10/2016	27/10/2016	5877.1	(5877.1-5797.9)/5797.9*100 =1.36601183
27/10/2016	27/10/2016	5849.65	(5849.65-5877.1)/5877.1*100 = -0.4670671
28/10/2016	24/11/2016	5901.15	(5901.15-5849.65)/5849.65*100 = 0.88039455
30/10/2016	24/11/2016	5910.8	(5910.8-5901.15)/5901.15*100 = 0.16352745
1/11/2016	24/11/2016	5888.2	(5888.2-5910.8)/5910.8*100 = -0.382351
2/11/2016	24/11/2016	5819.4	(5819.4-5888.2)/5888.2*100 = -1.1684386
3/11/2016	24/11/2016	5812.7	(5812.7-5819.4)/5819.4*100 = -0.1151321
4/11/2016	24/11/2016	5731.95	(5731.95-5812.7)/5812.7*100 = -1.3891995
7/11/2016	24/11/2016	5741.2	(5741.2-5731.95)/5731.95*100 = 0.16137615
MARUTI SUZUKI MEAN RETURN= 0.23344977			

Note- According to above mean return calculations, authors were calculated remaining stocks mean return calculations. All values of future contact taken from investing.com website.