

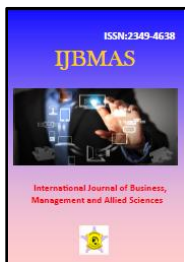
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**PERFORMANCE OF INDIAN NSE STOCK MARKET-A STUDY ON PRE
AND POST IMPLEMENTATION PHASE OF DEMONETISATION FROM
NOVEMBER 1ST 2015 TO NOVEMBER 1st 2017**

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ABSTRACT

The study focused on the impact of demonetisation on the Indian stock market. 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. Study revealed that Public sector banking segment, Pharma, Energy and IT has recorded a rise in returns after the announcement of demonetisation. The study concluded that there is a wide spread negative returns across sectors after demonetisation which reflects the immediate negative sentiments attached with the overall economic activity.

Keywords: Performance, NSE, BSE, Demonetisation, Portfolio, Investment Avenues.

1.0 Introduction

Portfolio refers to combination securities such as shares, debentures...etc. Portfolio Management refers to diversification of investment with a view to minimizing the risk and maximizing the returns. According to Sharpe 1964; Merton 1973, 1980 suggests a positive relationship between Risk and Return. It serves as platform for the investors to diversify their portfolio among various investment avenues. Investment is a financial activity that involves risk. It is the commitment of funds for a return expected to be realized in the future. Cremers and Weinbaum (2010) and Xing, Zhang, and Zhao(2010) find that option implied volatility predicts future stock returns. Investment can be made in financial assets or physical assets. In either case there is possibility that the actual return may vary from the expected return that possibility is risk involved in it. Investment is generally distinguished from speculation in terms of 3 factors namely risk, capital gain and time period. Gambling is the extreme form of speculation. Investors may be individual or institutions; there is large number of investment avenues for savers in India. Corporate securities, deposits in the banks and Non-Banking companies, mutual funds schemes, provident fund schemes, life insurance policies, government securities are some of the important avenues.

1.1 Investment Avenues

There are a large number of investment avenues for savers in India. Some of them are marketable and liquid, while others are non-marketable. Some of them are highly risky while some

others are almost risk less. "Winners" we seek to identify extreme return firms ex ante and remove them from a value weighted market position similar to that held by many passive investors that creates the ability to identify more apt to experience extreme future returns might provide lower risk portfolios

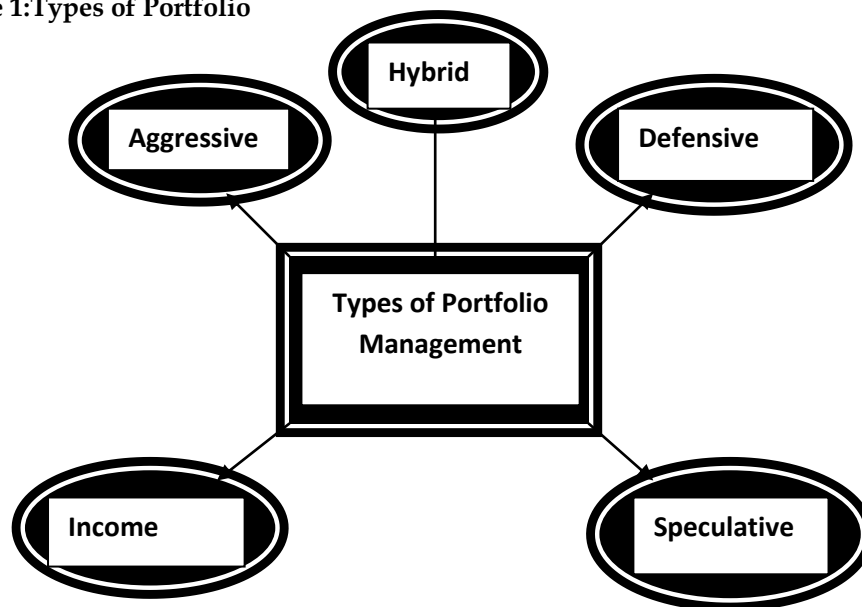
Investment avenues can be broadly categorized under the following head.

1. Corporate securities
2. Equity shares.
3. Preference shares.
4. Debentures/Bonds.
5. Derivatives.
6. Others.

1.2 Portfolio Management

Investing in securities such as share, debentures bonds is profitable as well as exciting. It indeed involves a great deal of risk. Very few investors invest in single security their entire savings. But most of them invest in group of securities such; group of securities is called a Portfolio.

Figure 1:Types of Portfolio



1.3 BSE Sensex

The S&P BSE SENSEX (S&P Bombay Stock Exchange Sensitive Index), also called the BSE 30 or simply the SENSEX, is a free-float market-weighted stock market index of 30 well established and financially sound companies listed on Bombay Stock Exchange. The 30 component companies which are some of the largest and most actively traded stocks are representative of various industrial sectors of the Indian economy. Published since 1 January 1986, the S&P BSE SENSEX is regarded as the pulse of the domestic stock markets in India. As of 25th September 2017, the full market capitalization of S&P BSE SENSEX was about ₹54,637.0878 billion (US\$852 billion) (37% of GDP) while its free-float market capitalization was ₹30,094.2286 billion (US\$469 billion). During 2008-12, Sensex 30 Index share of BSE market capitalization fell from 49% to 25% due to the rise of sectoral indices like BSE PSU, Bankex, BSE Teck, etc.

1.4 NSE Sensex

The National Stock Exchange of India Limited (NSE) is the leading stock exchange of India, located in Mumbai. The NSE was established in 1992 as the first demutualized electronic exchange in the country. NSE was the first exchange in the country to provide a modern, fully automated screen based electronic trading system which offered easy trading facility to the investors spread across the length and breadth of the country. Vikram Limaye is Managing Director & Chief Executive Officer (MD & CEO) of NSE. National Stock Exchange has a total market capitalization of more than US\$1.41

trillion, making it the world's 12th-largest stock exchange as of March 2016. NSE's flagship index, the NIFTY 50, the 50 stock index is used extensively by investors in India and around the world as a barometer of the Indian capital markets. However, only about 4% of the Indian economy / GDP is actually derived from the stock exchanges in India.

2.0 Review of Literature

According to Dr. Sathya Swaroop Debasish and Jakki Samir Khan (2012) did the examination on Optimal Portfolio Construction in Stock Market an Empirical Study on Selected Stocks in Manufacturing Sectors of India. Their examination target is to develop an ideal portfolio in Indian securities exchange with the assistance of the Sharpe single list model. In their study they chose 14 stocks from the different assembling areas like Automobiles, Cements, Paints, Textiles and Oil & Refineries. Niranjana Mandal (2013) in the examination of Sharpe's single list model and its application to build ideal portfolio: an experimental study found that there was a noteworthy contrast between the aggregate danger of the ideal portfolio figured under two distinct instruments viz., Sharpe Index Model and Markowitz's model. Diwani (2010) told that he examined the validity of the CAPM for the Bombay stock exchange. The study has used weekly stock returns from 28 companies listed on the Bombay stock exchange from November 2004 to October 2009. Dividing the data in to 5 subsamples and arrived a better results but still not supportive in favor of the CAPM in the BSE. According to Lazar and Yaseer (2009) they investigated the validity of CAPM in Indian Market. The study used the data of 70 companies of BSE100 and tested the validity of CAPM, test of SML and test of Non-linearity. Abhilash et al (2009) analysed the relevance of factors other than beta that affect asset returns in the Indian stock market. Only non-financial firms included in the BSE100 index were considered for the analysis. BSE 100 index comprises of 100 scrips representing different industries. As compared to BSE Sensex which has only 30 scrips, and NSE Nifty which comprises of only 50 scrips, BSE 100 is a much broader based index. Mohamed and Abirami (2004) investigated the applicability of CAPM in Indian market using 200 stocks from BSE for the period of 12 years between 1991 -2003. The sensex and 91 days Treasury bill were used as market proxy and risk free return respectively. The application of second pass regression statistically proved that the Sharpe-Linter CAPM is not relevant to Indian market. Connor and Sehgal (2001) empirically examined the Fama-French three-factor model using 300 stock listed in the Indian Market for the period between 1999 to 2009. The study found evidence for pervasive market, size, and book-to-market factors in Indian stock returns. The cross-sectional mean returns are explained by exposures to these three factors, and not by the market factor alone. Obaidullah (1994) examined the risk return relationship using CAPM in Indian market. The study used monthly price of 30 stocks ranging from 1976-1991. Vaidyanathan and Gali (1994) analysed Sensex, ET index and Natex to find the variation among the indices. Sehgal (1994) investigated the significance of skewness and kurtosis using logarithmic price changes of 80 individual securities over the period April 1984 to March 1993. The empirical result showed that the Natex skewness is not significant but kurtosis is significant. Ray (1994) conducted a test of CAPM using 170 actively traded scrips on the Bombay Stock Exchange. The monthly data was used over the period 1980-91. And three market indices, the RBI index, ET index and the BSE Sensitive Index, were used. Gupta (1981) tested the applicability of CAPM in Indian capital market. The data was collected from Bombay, Calcutta and Madras Stock Exchanges between the periods of 1960-1976. Each year's high and low price for the sample shares were considered. A total of 606 equity shares for one more holding periods were considered in the study. Gupta (1981) tested the applicability of CAPM in Indian capital market. The data was collected from Bombay, Calcutta and Madras Stock Exchanges between the periods of 1960-1976. Each year's high and low price for the sample shares were considered. A total of 606 equity shares for one more holding periods were considered in the study. Nawazish (2008) evaluated the performance of Fama and French three Factor model in Karachi Stock Exchange (KSE). Multivariate regression was employed after sorting six portfolios on the basis of size and book to market.

Allen and Bujang (2009) examined the conditional beta of 50 companies in Main Board of Bursa Malaysia from January 1994 until December 2001. Applying two asset pricing models based on the CAPM; the two Factor Model developed by Fama and French (F&F) (1998) and Ferson, Sarkissian and Simin's (FSS) (2008) with duration dependence tests, conditional beta model applied to estimate the conditional beta of CAPM as to generate the positive and negative abnormal returns. Filho (2009) attempted to find the reflection upon the conditional model, comparing it with the static one. Using macroeconomics and financial variables from the Brazilian, German and Argentinean markets the test was carried out. The study finds, there is evidence that the conditional CAPM of Jagannathan and Wang (1996) for the North American market are perfectly applicable to the Brazilian, Argentinean and German markets. Huang and Hueng (2008) studied the asymmetric relationship between risk and return in a time varying beta. The study used daily data from S&P 500 during 1987 – 2003.

2.1 Scope of the study

The aim of the study is to analyze the impact of November 2016 Demonetisation policy on the share prices of NSE. The impact of demonetization has resulted in the decline of investment made by the investor in short period based on their interest and preference of investing in this industry. CAPM method is used to compare the returns of selected 30 NSE stocks pre and post demonetisation.

2.2 Research Gap

The announcement of demonetization of Rs 500 & 1000 notes by the Prime Minister of India has led to a short-term pain. This is evidenced by long queues in front of banks, cashless ATMs and reduced small trade markets. A reliable criterion to gauge the immediate economic impact of a sudden policy shock is to observe stock market trends. Traditionally viewed as a predictor of the economy, sharp and persistent plunges in stock market indices could indicate deterioration in economic activity. These demonetization measures have had significant and immediate impact on the state of the Indian economy. These measures are also expected to result in long-term impact on certain industries and sectors.

2.3 Objectives of the study

- 1) To know the market returns of NSE Sensex before and after demonetisation from 1st November 2015-31st October 2017.
- 2) To analyze the investment decision and its related risk return with Capital Asset Pricing Model.
- 3) To give appropriate suggestions for searching the optimal portfolio in order to reduce the risk and increasing the returns.

2.4 Hypothesis of the study

H0: There is no significant difference between return of index before and after the demonetization decision.

H1: There is significant difference between return of index for before and after the demonetization decision.

3.0 Research Methodology

To measure the performance of various Portfolios's by using descriptive statistical tools like risk and return. To analyze and compare the performance of securities in Portfolio by Capital asset pricing model

Population: - 1600 Companies listed & trading in NSE

Sample: 30 selected stocks

Sampling Method: Random sampling method

Data source: secondary data is used for the study.

Model: The model used for the study is CAPM model to predict the under and over priced stocks using MS – Excel.

4.0 Data Analysis

The required data for the analysis is weekly Closing Prices of the Stocks from November 1st 2015 to October 31st 2017 which is secondary data collected from the NSE Sensex site and the estimated return for the year and dividend per share is collected from the Balance sheets of the company. The

analysis is put forward by the calculation of Expected Returns for the period of 2 years of a stock by the formula

Expected Return = Today's Price - Yesterday's Price / Yesterday's Price

For the measurement of return the average return of the stocks for the period of 2 years

Average = Sum of Observed returns for the Period/ Number of Observations during the Period

The calculation of Beta which measures the volatility of the stock is measured by

Beta = Covariance between Stock return and Market return / Variance of Market return

The Alpha value is measured by the formula

Alpha = Individual Stock average - Beta * (Average Market return)

The analysis of the NSE stock Sensex is further done by Capital Asset Pricing Model which measures the Portfolio Return and Risk of the NSE Sensex Stocks for the date of the Period i.e., October 31st 2017. The outcome of this model gives the estimated return measured by

Estimated Return = $P_1 - P_0 + D / P_0$

P_1 = Estimated Price of the Stock during the period of One year

P_0 = Current Market Price of the Stock

Table 1: Table shows the Anticipated Dividend for the year

	Average	Standard deviation	alpha	beta	D=Anticipated Dividend for the year
NSE INDEX	0.13765	2.25974			
RELIANCE INDUSTRIES LTD	0.30813	2.90181	0.32737	0.1398	

Table 2: Table shows the values of market returns, Beta, Alpha, and Standard Deviation of BSE Sensex before the implementation of demonetisation.

ACC LTD	0.21577	3.271006156	0.085498	0.946406
AMBUJACEMENT	0.360185	3.60501405	0.225309	0.979854
ASIAN PAINTS	0.604042	2.707808153	0.545095	0.428239
AUROBINDA	0.091004	4.310224853	-0.05056	1.028467
AXIS BANK	0.206394	4.544203295	0.073587	0.964823
BANK OF BARODA	0.052526	6.291510278	0.192844	-1.01939
BHARAT PETROLEUM LTD	1.02323	3.243796583	0.93353	0.65166
BHARTI AIRTEL	-0.05273	3.451238399	-0.12611	0.53311
CIPLA LTD	-0.20492	3.100540362	-0.27912	0.539013
COAL INDIA LTD	0.131462	3.480691149	0.034751	0.702594
GAIL LTD	0.968975	5.530245973	0.811935	1.140869
HCL LTD	-0.16991	3.384969181	-0.25441	0.613856
HDFC BANK	0.333173	2.184834446	0.218397	0.833824
HEROMOTOR CORP	0.578579	3.912724466	0.411098	1.216724
HINDUSTANUNILEVER LTD	0.146006	2.744198025	0.047297	0.717104
ITC LTD	0.248871	3.146286854	0.10273	1.061685
ICICI BANK	0.278402	5.90804729	-0.00211	2.0379
INDIAN OIL CORP	1.060455	3.886317532	0.944319	0.843712
INFOSYS	-0.16834	2.930596786	-0.24067	0.525457
LUPIN LTD	-0.34544	3.740911888	-0.40983	0.467779
MAHINDRA&MAHINDRA	0.146365	2.75705329	0.053124	0.677381
STATE BANK OF INDIA	0.288634	5.57953653	0.020344	1.949081
SUN PHARMA	-0.08375	3.355079028	-0.07421	-0.06933

TATA CONSULTANCY	-0.00376	3.111176621	0.031079	-0.25309
WIPRO	-0.32866	2.711801876	-0.29521	-0.24304
YES BANK LTD	1.167765	4.328010038	1.212774	-0.32698
ZEE ENTERTAINMENT	0.572693	3.806018526	0.61165	-0.28302
TATA STEEL	1.396532	5.708386271	1.433978	-0.27204

The table 3 shows the values of market returns, Beta, Alpha, and Standard Deviation of BSE Sensex after the implementation of demonetisation. The study is from 1st NOVEMBER 2016 to 31 October 2017

TABLE 3: Table shows the values of market returns, Beta, Alpha, and Standard Deviation of BSE Sensex after the implementation of demonetisation

NSE INDEX	0.4475799	1.391317413		
RELIANCE INDUSTRIES LTD	1.3292923	3.360070242	0.867005	1.03286
ACC LTD	0.5687332	3.349954318	-0.13608	1.574712
AMBUJACEMENT	0.5538338	3.222338388	-0.10221	1.465757
ASIAN PAINTS	0.4672662	2.889241831	-0.08541	1.234801
AUROBINDA	0.2084716	4.067000002	0.296531	-0.19675
AXIS BANK	0.1328033	3.719047321	0.144183	-0.02542
BANK OF BARODA	0.1444339	5.874247609	0.208019	-0.14206
BHARAT PETROLEUM LTD	0.6272504	4.218976176	0.783511	-0.34912
BHARTI AIRTEL	1.0445653	3.73619914	0.827688	0.484556
CIPLA LTD	0.3138686	3.175660184	0.276013	0.084578
COAL INDIA LTD	0.0612003	3.464401969	0.067166	-0.01333
GAIL LTD	0.9127158	3.415209161	1.182798	-0.60343
HCL LTD	0.244271	2.446973177	0.312709	-0.15291
HDFC BANK	0.8420313	1.863297025	0.874497	-0.07254
HEROMOTOR CORP	0.626303	2.950349503	0.67903	-0.11781
HINDUSTANUNILEVER LTD	0.9080158	2.316982383	0.999857	-0.20519
ITC LTD	0.3985799	3.594605426	0.662217	-0.58903
ICICI BANK	0.5368827	3.508366847	0.604824	-0.1518
INDIAN OIL CORP	0.813289	3.617524507	1.003739	-0.42551
INFOSYS	0.1119205	2.459827271	0.184546	-0.16226
LUPIN LTD	-0.554431	3.898579953	-0.52072	-0.07532
MAHINDRA&MAHINDRA	0.2570525	2.532397001	0.228438	0.063931
STATE BANK OF INDIA	0.3791139	5.060803219	0.373546	0.01244
SUN PHARMA	-0.328152	4.376769897	-0.09167	-0.52835
TATA CONSULTANCY	0.4951523	2.850734647	0.602827	-0.24057
WIPRO	0.6417532	2.672364397	0.557169	0.188982
YES BANK LTD	0.7574025	4.480695819	0.687477	0.156229
ZEE ENTERTAINMENT	0.4749414	3.255651915	0.664216	-0.42288
TATA STEEL	1.3598331	3.803660611	1.538658	-0.39954

Calculation of CAPM model: The table 4 shows the calculated values of Estimated Returns of the Stocks using the Capital Asset Pricing Model.

Table 4: Table shows the calculated values of Estimated Returns of the Stocks using the Capital Asset Pricing Model.

	Closing Price of 31-10-2016	52WEEK Expected PRICE	Dividend	CAPM Calculation of estimated Return
RELIANCE INDUSTRIES ltd	525.5	522.6	10.5	3.33488264
ACC LTD	1517.75	1589.9	17	7.694587956
AMBUJACEMENT	240.2	262.55	2.8	8.89972278
ASIAN PAINTS	1075.75	1099.85	7.5	4.061349693
AUROBINDA	818.05	844.9	2.5	10.41896916
AXIS BANK	487.7	544.15	5	6.280965319
BANK OF BARODA	155.65	177	0	22.92648856
BHARAT PETROLEUM LTD	446.19	501.45	31	38.39763099
BHARTI AIRTEL	318.7	350.8	1.36	6.74436993
CIPLA LTD	578.75	611.95	2	4.375829279
COAL INDIA LTD	325.4	311.95	27.4	12.27711617
GAIL LTD	323.93	367.3	5.5	7.652504346
HCL LTD	767.75	820.4	16	11.6186031
HDFC BANK	1253.3	1171.15	9.5	16.17750773
HEROMOTOR CORP	3352.1	3445.7	72	34.51709884
HINDUSTANUNILEVER ltd	839.15	869.5	16	8.823385877
ITC LTD	241.65	288.81	8.5	6.095362936
ICICI BANK	251.86	255.14	5	53.75444061
INDIAN OIL CORP	323.65	296.8	14	9.479553903
INFOSYS	1002.1	1218.3	24.25	3.809176098
LUPIN LTD	1518.2	1479.25	7.5	6.775623269
MAHINDRA&MAHINDRA	1317	1310.7	12	14.1025641
STATE BANK OF INDIA	257.6	204.25	2.6	6.886016451
SUN PHARMA	748.1	815.1	1	3.018707483
TATA CONSULTANCY	2391.05	2520.3	43.5	15.79463702
WIPRO	232.2	282.13	6	32.67979761
YES BANK LTD	253.27	273.01	10	7.824026297
ZEE ENTERTAINMENT	518.45	586.75	2.25	29.03978532
TATA STEEL	404.7	419.7	8	5.862289491

Table 5: Table shows whether the Price is under or Over Priced

	CAPM Calculation of expected return	CAPM Calculation of Estimated Return	Risk Free Rate(182 Treasury Bill Interest rate in India from November 2016-October 2017) in percent 6.19
NSE INDEX	54.82940605	3.33488264	Over Price
RELIANCE INDUSTRIES LTD	39.11424746	7.694587956	Over Price
ACC LTD	15.07514518	8.89972278	Over Price
AMBUJACEMENT	25.93823159	4.061349693	Over Price

ASIAN PAINTS	45.78313479	10.41896916	Over Price
AUROBINDA	23.02168937	6.280965319	Over Price
AXIS BANK	18.94122169	22.92648856	Under Price
BANK OF BARODA	36.00027116	38.39763099	Under Price
BHARAT PETROLEUM LTD	18.22443938	6.74436993	Over Price
BHARTI AIRTEL	19.68992754	4.375829279	Over Price
CIPLA LTD	18.71180262	12.27711617	Over Price
COAL INDIA LTD	39.73536376	7.652504346	Over Price
GAIL LTD	35.51769719	11.6186031	Over Price
HCL LTD	20.43083121	16.17750773	Over Price
HDFC BANK	31.98829725	34.51709884	Under Price
HEROMOTOR CORP	14.46724127	8.823385877	Over Price
HINDUSTANUNILEVER LTD	39.23898048	6.095362936	Over Price
ITC LTD	29.71349947	53.75444061	Under Price
ICICI BANK	39.40328681	9.479553903	Over Price
INDIAN OIL CORP	27.72887333	3.809176098	Over Price
INFOSYS	29.36001758	6.775623269	Over Price
LUPIN LTD	23.25819631	14.1025641	Over Price
MAHINDRA&MAHINDRA	14.21094923	6.886016451	Over Price
STATE BANK OF INDIA	55.82802555	3.018707483	Over Price
SUN PHARMA	71.97298688	15.79463702	Over Price
TATA CONSULTANCY	62.82518247	32.67979761	Over Price
WIPRO	21.23176008	7.824026297	Over Price
YES BANK LTD	64.90862581	29.03978532	Over Price
ZEE ENTERTAINMENT	16.59722317	5.862289491	Over Price
TATA STEEL	14.12669472	76.53061224	Under Price

From the table 5 it can be observed that 5 stocks out of 30 i.e., Coal India, Dr. Reddy, ITC, Lupin and Wipro are underpriced remaining is overpriced

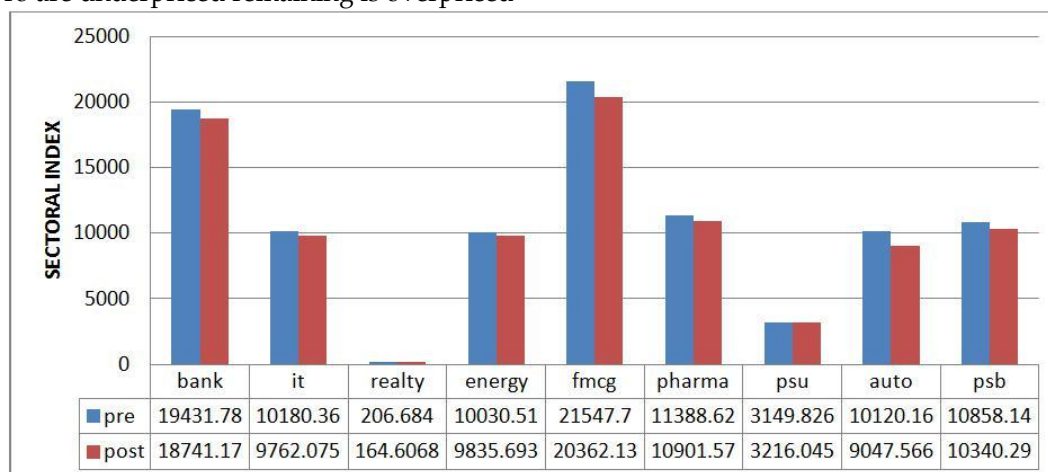


FIGURE-2: Figure shows the average indices in NSE before and after the announcement of Government

Chart explains the average indices in NSE before and after the announcement of Government of India's decision to cancel the legal tender character of ₹500 and ₹1,000 banknotes with effect from 9 November 2016. From the Figure 1 it can be inferred that among the sectoral indices, realty, auto, private bank and fast moving consumer goods (FMCG) were the worst hit on the National Stock Exchange (NSE), On the other hand PSU bank gained during the period.

5.0 Findings & Suggestions

Findings

- 1) From the figure 1 it can be inferred that among the sectoral indices, realty, auto, private bank and fast moving consumer goods (FMCG) were the worst hit on the National Stock Exchange (NSE), On the other hand PSU bank gained during the period.
- 2) From the table 5 it can be observed that 5 stocks out of 30 i.e., Coal India, Dr. Reddy, ITC, Lupin and Wipro are underpriced remaining is overpriced.

Suggestions

1. Investing in Equity funds at the early stage of Human Life cycle suits the best Returns
2. Debt Funds suits for the investors who need the investment as a Regular Income.
3. Encourage online transactions

6.0 Conclusion

The purpose of the study was to determine the impact of Demonetisation on Stock Market of India. Result from the Ordinary Least Square support that demonetisation 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. 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 demonetisation reflect the immediate negative sentiments attached with the overall economic activity.

References

- [1]. Dr.G.Brindha (2013) Article on Portfolio Management International Journal of Innovative Research in Science, Engineering and Technology Vol. 2, Issue 6, June 2013
- [2]. Michael Lubatkin and Sayan Chatterjee (2014) Extending Modern Portfolio Theory into the Domain of Corporate Diversification: Does It Apply? The Academy of Management Journal, Vol. 37, No. 1 Published by URL: <http://www.jstor.org/stable/256772>.
- [3]. Kenneth R. FRENCH, G. William SCHWERT, Robert F. STAMBAUGH Expected stock returns and volatility Journal of Financial Economics 19 (1987) 3-29.
- [4]. Edwin J. Elton and Martin J, Gruber (September 2004) Optimum Centralized Portfolio Construction with Decentralized Portfolio Management Journal of financial and quantitative analysis vol. 39.
- [5]. Andy Fodor, Kevin Krieger, Nathan Mauck and Greg Stevenson (2013) Predicting extreme returns and portfolio management implications The Journal of Financial Research_ Vol. 36, No. 4.
- [6]. Frank K.Reilly , Keith C Brown (2012) Investment Analysis And Portfolio Management; South Western College Publication . 7 th Edition.
- [7]. K. Nagarajan, G. Jayabal (2011) Security Analysis And Portfolio Management New Age International (p) Limited , Publishers. Edition
- [8]. Punithavathy Pandian (2011)Security Analysis And Portfolio Management; Vikas Publishing house Pvt Ltd. 11 th edition.
- [9]. Elton, E. J., Gruber, M. J. and Padberg, M. W. 1976, Simple criteria for optimal portfolio selection, Journal of Finance, vol. 31, no. 5, pp 1341-1357.
- [10]. Markowitz, Harry M. (1952)"Portfolio Selection". Journal of Finance. ISI Journal Citation Reports © Ranking: 2012: 1/86 (Business Finance); 3/332 (Economics) Online ISSN: 1540-6261.
- [11]. Black, A. J. Buckland, R. and Fraser, P. 2002, 'Efficient Portfolio Diversification: Changing UK Stock Market Sector and Sub-Sector Volatilities, 1968-2000, Managerial Finance, 28(9), pp26 - 43.
- [12]. Degutis, A., & Novickyte, L. (2014). The efficient market hypothesis: A critical review of literature and methodology. *Ekonomika*, 93(2).
- [13]. Borges, M. R. (2010). Efficient market hypothesis in European stock markets. *The European Journal of Finance*, 16(7), 711-726.