STOCK MARKET REACTION TO ANNOUNCEMENT OF PRADHAN MANTRI JHAN DHAN YOJNA: A TEST OF INFORMATION EFFICIENCY

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ABSTRACT

The NDA led Government has initiated various reforms in the financial sector since the formation of the Government. The various schemes have been launched on the name of Pradhan Mantri in the financial sector. The current study has been conducted to explore the market reactions of banking sector stocks towards the most prominent and renowned scheme announced by the Indian Government on 15th August 2014. This initiative of financial inclusion by the Government has led to the opening of 15 million accounts in different banks with in a period of just one month of its launch and got the achievement of registration in Guinness World Records. The aforesaid study has been conducted by taking a sample of 20 prominent banks from both public and private sector. For examining the reactions of banking sector stocks, an event window of 11 days has been taken and non-parametric Kolari and Pynnönen (GRANK) test is applied upon to see the reactions. The study revealed the absence of any abnormal market reaction of financial sector stocks at this announcement.

Keywords: *Banking, Event study, Financial Sector, PMJDY.*

INTRODUCTION

The NDA led Government has initiated various reforms in the financial sector since the formation of the Government. The various schemes have been launched on the name of Pradhan Mantri in the financial sector. The various programmes launched in the financial sector are; Pradhan Mantri Jan Dhan Yojana, Atal Pension Yojana, Pradhan Mantri Jeevan Jyoti Bima Yojana, Pradhan Mantri Suraksha Bima Yojana, MUDRA Bank Yojana, Sukanya Samriddhi Yojana, Digi Locker Scheme. The success of these schemes will be visualized from the outcomes, because the impact could be a long-term call. The stock market of the nation captures the true essence of the event prior to its implementation. The reaction of the market at the announcement of the event depicts the behaviour of the relevant sector or market towards the same. The major financial reforms have been announced in the year 2014 and 2015. The existent study is an attempt to study the behaviour of the banking sector towards the mega announcement in the direction of financial inclusion. The particular event becomes important because this financial inclusion initiative of the Government has led to opening of 15 million accounts at different banks in just one month of its launch and got the achievement registered in Guinness World Records. The various studies have been conducted at national and international level to evaluate the announcement effect. Majority of the studies are applying the parametric model of the event study. But the present work analyses the impact of PMJDY through non-parametric test. Various studies have evaluated the reactions of stock market at the announcement of financial numbers, news, reforms etc. The prominent studies are summarised in the section of literature review.

REVIEW OF LITERATURE

The literature review focuses upon the reactions of Indian stock market at the announcement of financial events during different periods. A very few studies have been conducted to analyse the stock market reaction on financial sector reforms.

(Rao, 1997) studied the impact of announcement of union budget and credit policy on the stock market during 1991-1995. The study revealed that union budget announcement has significantly impacted the volatility of stock market whereas credit policy announcement has been found to be neutral in context of market reaction. (**Thomas & Shah, 2002)** found the efficiency of Indian stock market at the union budget announcements. (**Khanna, 2002)** analysed the impact of liberalization of capital account on Indian capital market from 1989-2002. The findings concluded that the entry of international capital flows in the Indian economy has benefitted the domestic capital market thereby resulting in the reduced systematic risk in the market. (**Mohanty, 2004)** analysed the reaction of stock market at the pronouncement of various policy decisions by the Indian Government. The study has reported the short-term and quick market reactions at the public announcements. (**Joshi, 2011)** studied the stock market behaviour at the various reforms initiated by SEBI and NSE. The study was divided into two phases one starting from 1996-2001 and the other beginning from the 2002-2007. The study revealed that the market has impounded the information prior to its announcement. It means that major stock market reactions have been observed during the pre-announcement period**. (Reddy & Prasad, 2011)** studied the impact of policy measures taken by the RBI on the stock prices of banking sector stocks. The study revealed significant negative impact on the stock prices of private as well as public sector banks. (**Vardaharajan & Vikkraman, 2011)** did a comprehensive study on the post-budget market scenario. They covered a long period of 2002 to 2011. The study observed that the market has reacted negatively by showing the negative return during post-budget announcements barring

the years 2005 and 2007. (**Deepak & Shollapur, 2015)** studied the effect of financial reforms in the year 2012 on the behaviour of stock market. Their research reflected that the announcement information has not been factored in by the market in the short-term period. **(Shettar, 2016)** studied the overall progress of PMJDY and highlighted various challenges coming in the way. They also suggested various measures to be undertaken on the part of government and RBI so that banking sector will not get adversely affected. (**Jones et al., 2017)** looked into the implications of PMJDY on the growth of Indian economy. They observed that although many people have opened zero balance accounts in banks but there is a need to check dormancy of these accounts for the benefit of banking sector and economy. (**Lodha et al., 2018)** studied the reaction of various sectoral indices of NSE on the announcement of demonetization and found that both public and private sector banks yielded positive abnormal returns. (**Divya & Jahan, 2020)** found that PMJDY scheme has contributed towards financial inclusion and turned out to be more favourable for the banks in public sector and not so much for the regional rural banks and banks in private sector. (**Singh et al., 2021)** examined the impact of PMJDY for twenty five Indian states and found that the scheme marginally improved the state of economy across these country. (**Lodha & Kumawat, 2022)** inquired into the impact of lockdown announcement during various phases due to covid-19 pandemic on banking index by taking the sample of twelve banks including both public and private. The study revealed abnormal negative returns in the beginning phase due to uncertainty, however in later phases, the returns were found to be positive. (**Agarwala et al., 2023)** measured the efficiency of twenty five banks working under PMJDY by taking the time period of seven years beginning from 2014 to 2021.Their research revealed that the performance of banks in public sector was better vis a vis private sector banks.

NEED OF THE STUDY

1. The study has been done to see the volatility of stock market at the announcement of some major economic events like PMJDY which can have a major impact on the financial sector.
2. As the stock market is very sensitive and volatile, the aforesaid study can help the investors to plan their strategies for investing in the sectors involved.

OBJECTIVE AND HYPOTHESES OF THE STUDY

The present study is analysing the probable changes occurred due to the announcement of PMJDY on the stock prices of banking sector companies. Here, study is considering both public as well as private sector banking stocks and also entails a comparison in between.

$H_{0(1):}$ *PMJDY announcement has not impacted the stock prices of banking stocks.*

$H_{0(2):}$ *Public and Private sector banking stock behaviour is similar at the announcement of PMJDY.*

RESEARCH METHODOLOGY

The present empirical study is examining the announcement effect in the short span of time of aforesaid initiative taken by Government of India. The study is based upon a sample of total twenty prominent banks from public as well as private sector (Annexure-1). The data source of study is secondary in nature and collected from Bombay Stock Exchange (BSE) data base. Stock prices data and benchmark index return is further analysed with the help of non-parametric Kolari and Pynnonen (GRANK) test. The event study methodology by parametric model is questioned by few studies due to the non-normality in the share price data. One of the issues in application of OLS method is that the return over a period of time is not normally distributed. Hence, Kolari and Pynnonen (GRANK) test is the best to justify the

results. Time period to observe the fluctuations in the stock prices of banking sector companies is fixed as (-5, 0, +5) days, that is the period of eleven days. The estimation window is measured for 249 days. Expected return for the event window period of eleven days has been calculated by applying OLS single factor regression model. This calculation has been made by establishing relationship between daily natural log returns of sample banks and return from benchmark index (SENSEX). Further the abnormal returns have been calculated by comparing actual return during this period with calculated estimated returns.

$$\mathbf{E}\ (R_t R_t) = \alpha + \beta * R_{mt} + \varepsilon_t \ \alpha + \beta * R_{mt} + \varepsilon_t$$

Where;

E $(R_t R_t)$ = Expected return of sample company at a given period of time.

α α = Market model regression intercept.

$\beta\beta$ = Estimate of the coefficient that measures the sensitivity of sample company stock to the benchmark index.

R_{mt} R_{mt} = Benchmark index return at time *t*.

Ranks have been allocated to the abnormal returns of event window period of eleven days. Highest rank is allotted to lowest negative return and vice-versa. Average ranks are computed for sample bank and compared with the mean rank of 130.5, which is calculated from the total time period of 1-260 days. This time period is the sum of estimation window period of 249 days and event window period of eleven days. Abnormal returns calculated from the above mentioned model for estimation window of 249 days and event window of eleven days. The following formula has been used to calculate the value of GRANK statistics, which is further tested at five percent level of significance.

$$GRANK = \frac{\sqrt{d}\ X\ (KD - Mean\ Rank)}{\sum_{t=1}^{n}(K_t - Mean\ Rank)^2/n}$$

Where, ***'KD'*** stands for average rank of event window.

'd' depicts the length of estimation window and ***'n'*** stands for the length both estimation and event window.

Here, ***d*** = 249 days

and ***n*** = 260 days

RESULTS AND ANALYSIS

Table-1 comprises the results of the study. The hypotheses are tested at 5% level of significance. The average rank is slightly more than the mean rank value of 130.5 in case of whole sample analysis. The GRANK value has been found 0.039, where the p-value is 0.960. The results in that context lead to the acceptance of null hypothesis $H_{0(1)}$, that is, *PMJDY* announcement has not impacted the stock prices of banking stocks. Further this hypothesis is separately tested for public sector banks [$H_{0(1a)}$] as well as private sector banks [$H_{0(1b)}$]. In both the sub-hypotheses, the results have been found insignificant. It shows that there is no announcement impact of PMJDY on the stocks of public and private sector banks.

Table 1: GRANK-test Results of Banking Sector Companies

Sample	Average Rank	Mean Rank	GRANK Value	p-Value	Hypothesis Testing
Whole Banking	130.61	130.5	0.039	0.960	Accept $H_{0(1)}$

Sector					
Public Sector Banks	129.24	130.5	-0.320	0.750	Accept $H_{0(1a)}$
Private Sector Banks	131.99	130.5	0.560	0.580	Accept $H_{0(1b)}$
Public v/s Private Banks			0.039/0.560	0.750/0.580	Accept $H_{0(2)}$

Source: Results compiled from GRANK test statistics. *Values significant at 5% level.

Results in the Table 1 reveal no significant reaction by both i.e. public as well as private sector banking stocks. The results in this regard also lead to the acceptance of null hypothesis $H_{0(2)}$, that is, public and private sector banking stock behaviour is similar at this announcement. This initiative was taken by the GoI for financial inclusion, where bank accounts were opened for unbanked persons. The societal element was predominately the character of this Yojana. In this regard, bank accounts were opened under no minimum balance requirement. Further, term and accidental cover was also granted for account holders. In this way, Indian banking sector was not in a position to reap financial benefits for them. Thus, stock market took it as non-lucrative for wealth creation for shareholders.

SUMMARY AND CONCLUSION

The GRANK test results have revealed insignificant or neutral reaction by banking industry at the announcement of this mega event. Neither the public nor the private banks have shown a significant reaction at the announcement of mega campaign in the direction of financial inclusion. In nutshell, banking sector reaction has been found neutral to the first financial sector reform announced by NDA Govt. It may be presumed that the kind of campaign by newly appointed Government is perceived as purely marketing activity by the stock market. Here, the benefit was given to those, who don't have any relation with banking sector. This

exercise was the initiative taken by GoI under its financial inclusion programme. Stock market found nothing for its investor to encash here during the short span of time.

LIMITATIONS OF THE STUDY

1. The present study is confined to short-term period only.
2. The study is confined to examine the impact of this event on the stock market but it is unable to predict the future market trend afterwards.

SCOPE FOR FURTHER RESEARCH

1. The study can further be extended for doing long term analysis of major economic events on the banking and other sectors to guide the investors for making long term decisions.
2. The study is only examining the impact of this event on banking stocks, but it is not predicting the future trend of such stocks.

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Annexure-I: Sample Description

S. No.	Public Sector Banks	Private Sector Banks
1	Allahabad Bank	Axis Bank
2	Andhra Bank	Dena Bank
3	Bank of Baroda	Federal Bank
4	Bank of India	HDFC Bank
5	Indian Overseas Bank	ICICI Bank
6	Oriental Bank of Commerce	Indusind Bank
7	Punjab National Bank	Kotak Mahindra Bank
8	State Bank of India	Karur Vysya Bank
9	UCO Bank	South Indian Bank
10	Union Bank of India	Yes Bank