PERFORMANCE PERSISTENCE OF EQUITY STOCKS: AN EVENT STUDY

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Abstract: This paper examines the performance persistence of stocks during the period of 2014 to 2017 by considering two parts of the study based on stock split as an event. A final sample of 16 stock splits that were split in the year 2015 considered to study the persistence in the performance of stocks. The study results reveal the positive performance immediately after the stock splits. We also tested statistically the persistence in the performance of stocks during the pre-split and post-split period.

Keywords: Stock split, Equity stocks, persistence, t-test

INTRODUCTION

Stock market in India has been reporting incessant growth year on year since two decades as more of investments made by individuals and institutions in post industrialization scenario. Whereas, not all the stocks listed with stock exchanges and trading have been ending optimistically. There exists a liquidity problem for some stocks during the operational activities. Companies, which are listed with stock exchanges, involve stock splits as one of the events to overcome the problem of liquidity in short run and even in long run. Companies initiate the process of stock splits as an event to increase the liquidity by retaining the existing shareholders through realigning the share price and number of shares. Stocks involve with split as an event they end up the trading day positively anticipating favourable situation for the availability of liquidity. Performance of firms involve with stock split reports positive results immediately in the year of split, but they report negative financial performance in near years after split.

Indian stock market evident that the stock price positive movement appeared during the stock split and bonus issues by companies listed with stock exchanges. However, there is no evidence of the continuity in the positive performance in long run. The present study intends to focus on performance persistence of stocks, which are split into small units after the stock split announcement during the year 2015. Further, this section, we reviewed the literature in section II, Methodology of the study in section III, Results and discussion in section IV, and Conclusion and future scope stated in final section.

REVIEW OF LITERATURE

Liping, Xiaoqi, & Philip (2013) conducted a research to study market reaction for the stock split announcements by considering 120 splits in United States over a period from 2000 to 2009. They employed single factor market model and found encouraging Cumulative Average Abnormal Returns even though the liquidity positively moved. They further observed that smaller stocks tend to have more benefits from stock splits. Their research also stated that firm size and abnormal returns were inversely related. Barber & Lyon (1997) analyzed the power of test statistics of various event studies, stock splits as one of the events considering 1,798,509 monthly returns of firms during 1963 to 1994. They calculated continuous compound and simple returns, cumulative abnormal returns and buy-and-hold abnormal returns

using reference portfolio to employ in various test statistics. They used t-statistics and Fama-French Three-Factor model for the study and documented three biases in test statistics namely new listing bias, the rebalancing bias, and the skewness bias. They finally tried to eliminate the bias by matching sample firms to control firms.

The reaction of stock prices to events of stock splits is most influencing activity of stock performance and could find the semi-strong form of market efficiency (Fama, 1970) and these semi-strong form of test are termed as event studies (Fama, 1991). (Chavali & Zahid, 2011) also investigated the stock splits and their impact on performance of stock prices considering 20 stock splits listed in Bombay Stock Exchange during 2006 to 2008 using purposive sampling. They employed market model for the event of stock split and the considered 40 days each prior to and post announcement and the day of split. They found positive abnormal returns and favourable market reaction. Rodney & Bartley (2007) tested long-run performance persistence of stocks during 1950 to 2000 and the reaction of stocks to stock-split announcement. Their results reveal no long-run abnormal returns and if any abnormal returns reported, those continued short run only.

Kumar, K. Page, & G. Spalt (2013) examined the effect of co-movements in returns due to trading activities of institutional and retail investors. They gathered trading data from 1983 to 2000 relating to stock split and headquarters change as two events. Their study results reveal that prior to stock split price range the retail trading correlations decrease and vice versa. This happened to the local stocks and for the firms, which changed their headquarters. Desai & Jain (1997) analysed the performance of common stocks in the event of stock split and reverse split during the year 1976-91. They calculated one and three year buy-and-hold abnormal returns, book-to-market quintiles, split factors, and cross-sectional regressions on 5596 stock splits and 76 reverse splits. They found positive abnormal returns in the post-split event and negative returns during the reverse split event. Their research suggested that the market under-reacts to firm specific news related to splits and reverse splits. They also found that stock split and reverse stock split period and the long run buy-and-hold abnormal

returns were positively correlated with increase in dividends.

Meisami (2013) measured the long-run performance of stocks after stock splits during 1996 to 2003 by collecting daily returns and used market model to calculate monthly holding-period returns, and split dates. The researcher found significant negative abnormal returns during the post stock split period. On the contrary, the semi-strong form of market efficiency has been tested by Ray (2011) in the Indian equity market. Ray treid to understand market reaction to the bonus issues and stock splits in India by collecting stock price data of 521 stocks of bonus issues and 351 stock splits during 1996-2008. The study reveal that there was no reaction to the event of bonus issues but investors made abnormal returns in the event of stock splits.

Stock markets in India reacts quickly to the events of stock splits but never reacts to all other events. Similar studies conducted (Nelson & John, 2012) in Kenya were also reveal that the stock splits does not have direct influence the stock price in the post split scenario. Ray (2011) tested the semi-strong form of efficiency of Indian stock market specifically in equity market along with event study by considering bonus issue of 521 stocks and stock split of 351 stocks. He employed Unit Root Test, Augmented Dicky Fuller approach, and Phillips-Perron test to test the stationarity and used significance test to test the reaction of stock markets to corporate events. His study result reveal that Indian stock market reacts to stock splits and not to bonus issue.

METHODOLOGY

The basic objective of this paper is to study the reaction of stocks and market for stock split as an event. The study also intends to examine the performance persistence of stocks in more than one year due to stock splits. To examine the performance persistence of stocks, we formulated the null hypothesis of no significance difference in persistence of performance of stocks over the sample period.

During the period from 2010 to 2016, 579 companies split their stocks into ten for every one share, five for every one share, and two for every one share. As the present study based on stock split as an event, the stock splits during

the year 2015 considered randomly to examine pre split and post split performance of stocks. There were 90 companies split their shares in the year 2015 in the year in the ratios of 10:1, 5:1, and 2:1. This study considered stock split event in the ratio of 10:1 randomly as a reason to get largest sample among the three proportions (42 of 90 stocks). The data relating to stock splits has been sourced from money control (moneycontrol.com) database and daily stock prices of the sample stocks has been gathered from Bombay Stock Exchange (BSE) data base. The data has refined by eliminating outliers and insufficient data for the study period. Final sample of 16 stock splits in the year 2015 has been taken for data analysis.

Daily close stock prices of 16 stocks during July 2014 to June 2017 have sourced from BSE. Monthly compound return and month-wise risk (Individual risk and Market risk) of the sample stocks has calculated based on daily returns. Individual risk or standalone risk has calculated using daily return of stocks. Market risk (Beta) has calculated using the daily return of stocks and daily market return of BSE S&P 500 index. Stock price movement in relation to market changes has been analysed with the help of beta during the pre and post stock split event.

Performance persistence of stocks has been analysed by testing hypothesis using t-test as the sample is small (<30). The null hypothesis of no significance difference in the performance has tested by considering the monthly compounding stock returns into two parts, one is pre-split and another is after split for each stock individually.

RESULTS AND DISCUSSION

In this section, we report the results in two parts. First part of the section evaluated association among the stocks and second part evaluated the performance persistence of sample stocks in pre-split and post-split period. Table 2 show correlation results of the sample stocks that express relationship between each stock by considering daily and monthly returns. It has observed from the correlation results that there is week association (<0.60) among majority (93%) stocks during the pre and post stock split period. The inter order average correlation for 16 sample stocks has also reported week association (0.20) among all the stocks as whole.

Table 1 presents the hypothesis test results of 16 sample stock splits in the year 2015 in the ratio of ten for one. The t-test results show that no unanimity of the stock performance during the sample period. From the above results of t-test (Table 1) it is clear that MFL India, SMS Pharmaceuticals, Kesar Petro Products, Sarla Performance Fibres, Toyam Industries, and Urja Global Limited have not been reporting consistent performance during the pre-split and post-split period as its calculated t-value is more than t-critical (or P<0.05).

However, from the t-test results of Aegis Logistics Ltd, ITD Cementation Ltd, Signet Industries, Granules India, High Ground Enterprises, Kansai Nerolac Paints Ltd, KSS Limited, Tata Coffee Ltd, Yamini Investments Ltd, and Himachal Fibres Ltd statistically maintaining the consistency in their performance (P>0.05). Hence, there is no significance difference in the pre-split performance and post-split performance of these stocks.

Stock split as an event considered to understand the persistence of performance during a sample period of three years from middle of 2015. Statistical results of the study clearly indicating based on t-test of the 16 sample stocks that there is no consistency in performance of stocks in the pre and post announcement of stock splits as whole. It is further evident that the stock split event does not affect long run stock performance. However, stocks responded positively immediately after the stock split event for a short duration.

CONCLUSION

Stock split has been an interesting area of research for academicians and practitioners as event study. The objective of this paper is to study the performance persistence and effects of stocks in the post-split period. The researchers tested hypothesis of no significance difference in performance of stocks during the sample period. Results of the study reveal that there is no evidence of similar performance of the sample stocks when compared to the performance in pre-split period. However, immediately after stock split every stock responded positively, it has not continued for long run. This study also found that unfavourable performance of sample stocks reported during the period of pre-split and post-split as an event.

Table 1
t-test Results of Sample Stocks

Sl. No.	Stock	Split Month	t statistic	P value	t critical Value
1	MFL India	December 2015	2.757	0.010	2.045
2	SMS Pharma	December 2015	3.661	0.001	2.080
3	Kesar Petro Products	October 2015	2.738	0.010	2.035
4	Sarla Performance Fibers	October 2015	2.625	0.014	2.045
5	Toyam Industries	October 2015	2.199	0.038	2.069
6	Aegis Logistics Ltd	September 2015	1.685	0.107	2.080
7	Urja Global Ltd	September 2015	2.076	0.049	2.064
8	ITD Cementation Ltd	August 2015	1.460	0.157	2.060
9	Signet Industries	August 2015	0.635	0.531	2.052
10	Granules India	March 2015	-0.297	0.769	2.048
11	High Ground Enterprises	July 2015	0.935	0.356	2.035
12	Kansai Nerolac Paints Ltd	March 2015	1.133	0.286	2.262
13	KSS Limited	March 2015	-0.402	0.696	2.228
14	Tata Coffee Ltd	January 2015	-1.645	0.131	2.228
15	Yamini Invetments Ltd	Febraury 2015	-0.309	0.760	2.056
16	Himachal Fibres Ltd.	Febraury 2015	1.245	0.253	2.365

Table 2
Inter Order Correlations of Sample Stocks

Stock	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MFL India (1)	1.00															
SMS Pharma (2)	0.71	1.00														
Kesar Petro Products (3)	0.40	0.41	1.00													
Sarla Performance Fibers (4)	-0.10	0.15	0.24	1.00												
Toyam Industries (5)	-0.14	-0.20	-0.09	0.35	1.00											
Aegis Logistics Ltd (6)	0.30	0.54	-0.02	0.28	-0.21	1.00										
Urja Global Ltd (7)	-0.19	0.04	-0.25	0.15	0.08	0.44	1.00									
Itd Cementation Ltd (8)	0.39	0.67	0.21	0.17	-0.30	0.56	0.16	1.00								
Signet Industries (9)	0.36	0.62	0.29	0.32	0.03	0.35	0.09	0.72	1.00							
Granules India (10)	0.57	0.45	0.74	0.09	-0.17	-0.03	-0.13	0.18	0.44	1.00						
High Ground Enterprises (11)	0.60	0.44	0.63	-0.05	-0.28	0.12	-0.54	0.31	0.28	0.55	1.00					
Kansai Nerolac Paints Ltd (12)	0.15	0.08	0.56	0.05	0.01	-0.25	0.16	-0.09	0.21	0.78	0.16	1.00				
Kss Limited (13)	0.26	0.13	0.31	0.09	0.15	-0.09	0.14	-0.02	0.27	0.52	0.16	0.63	1.00			
Tata Coffee Ltd (14)	0.38	0.07	0.12	0.06	0.11	0.08	-0.18	0.14	0.28	0.26	0.20	-0.01	0.23	1.00		
Yamini Invetments Ltd (15)	0.38	0.22	0.12	0.12	0.17	0.18	-0.14	-0.02	0.29	0.27	0.25	-0.02	0.16	0.28	1.00	
Himachal Fibres Ltd. (16)	0.50	0.38	0.54	0.15	-0.34	0.36	-0.18	0.37	0.22	0.45	0.59	0.11	0.07	0.14	0.41	1.00

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