

RISK AND RETURN ANALYSIS OF SELECTED STOCK BEFORE AND AFTER SPLIT

Dr. Alpesh Gajera, Miss. Priya Mansata, Miss. Shreya Virani

¹Assistant Professor , (MBA, UGC NET, Ph. D.) Sunshine Group of Institutions (MBA), Rajkot, India

^{2 & 3}Student – MBA, Sunshine Group of Institutions (MBA), Rajkot, India

Email: gajera_alpeshkumar@gtu.edu.in pmansata1379@gmail.com viranishreya21@gmail.com

Abstract: Stock split encompasses the technique of psychological pricing where new prices are more attractive to the incoming retail investors as well as fulfilling to the existing shareholder. The objective of this study is to investigate the effect of stock split on risk & return for firms listed at the Bombay Stock Exchange. In this research work we have selected shares which are split during 1 January 2016 to 30 June 2016. The result of this study established that stock split positively impacts on the share prices as well as increases the liquidity of the company which will lead to higher return for short period of time. Because of stock split share price goes down so small investor may also encourage to invest into stock market to earn higher return.

Key Words: Stock Split, Reverse Split, Risk & Return, Corporate Event, Stock Market.

1. INTRODUCTION:

A stock split is a corporate action where the company divides the existing outstanding shares in order to boost the liquidity of shares. The prices of the shares adjust automatically in the stock market when the company implements the action. The equity capital of the company and its net assets remain the same. The most common split ratios are 2-for-1 or 3-for-1, which means that the stockholder will have two or three shares for every share held earlier. It is also known as a "forward stock split."

2. OBJECTIVE: This research week is undertaken to achieve below mentioned objectives

- To examine the impact of stock split on return of stock.
- To examine the impact of stock split on risk of stock.
- To examine the impact of stock split on risk & return of market compare to selected stock.

3. RESEARCH HYPOTHESIS:

Research hypothesis of this project is "There is significance difference in the risk and return of stock before and after split."

4. RESEARCH METHODOLOGY:

4.1 Research Design

Research Design constitutes the blueprint for the collection, measurement, & analysis of data. Exploratory and Analytical research are used in this study to examine the impact of stock split on return and risk.

4.2 Sampling Design

- Population : Companies listed with BSE
- Sampling Frame : Stock Split between 1 January 2016 to 30 June 2016
- Sampling method : Convenience Sampling Method
- Sample size : 12 companies listed with BSE split between selected time period

Table – 1 Sample Unit

Sr. No.	Name of the Company	Date of Split	Old FV	New FV
1	NBCC (India) ltd	20-06-2016	10	2
2	Amba Enterprise Ltd	09-05-2016	10	5
3	ABM Knowledgeware Ltd	07-04-2016	10	5
4	Vivimed Labs Ltd	06-04-2016	10	2
5	Precision Wires India Ltd	21-03-2016	10	5
6	Welspun India Ltd	21-03-2016	10	1
7	Prakash Steelage Ltd	03-03-2016	10	1
8	Bhandari Hosiery Export Ltd	25-02-2016	10	1
9	Sequent Scientific Ltd	25-02-2016	10	2
10	Mold Tek Technologies Ltd	17-02-2016	10	2
11	Mold-Tek Packaging Limited	17-02-2016	10	5
12	Greenply Industries Ltd	06-01-2016	5	1

5. DATA ANALYSIS & INTERPRETATION:

Company	Market	Before Split	After Split	Market
NBCC (India) Ltd	0.172379	2.793503	0.957332	0.48368
Amba Enterprise Ltd	-0.13344	9.920635	6.859206	1.824762
ABM Knowledgeware Ltd	0.068479	3.101551	-0.7278	-0.86428
Vivimed Labs Ltd	-2.03176	-1.22961	3.662916	0.068479
Precision Wires India Ltd	1.115881	0.473293	3.095559	1.33304
Welspun India Ltd	1.115881	0.085397	3.988908	1.33304
Prakash Steelage Ltd	1.949717	-0.25284	19.13815	1.501507
Bhandari Hosiery Export Ltd	-1.37227	-1.92593	13.29305	-0.48911
Sequent Scientific Ltd	-1.37227	-3.80749	4.654845	-0.48911
Mold Tek Technologies Ltd	-1.53752	-0.15544	-3.21744	0.818818
Mold-Tek Packaging Limited	-1.53752	-5.34781	2.463891	0.818818
Greenply Industries Ltd	-0.16785	0.318665	1.245399	-0.68025

T-TEST: PAIRED TWO SAMPLE TESTBefore split v/s After split

H₀: There is no significant difference in the before & after split return of first day. (D = 0)

H_a: There is significant difference in the before & after split return of first day. (D ≠ 0)

Table – 3 T-Pair Test Before split v/s After split

Particulars	Mean	Variance	Observation	Df	T Calculated	T Table
Before	0.33116	14.84222	12	11	-2.00488	1.795885
After	4.617835	37.64802	12			

Marker v/s Before split

H₀: There is no significant difference in the market & before split return of first day. (D = 0)

H_a: There is significant difference in market & before split the return of first day. (D ≠ 0)

Table – 4 T-Pair Test Market v/s Before split

Particulars	Mean	Variance	Observation	Df	T Calculated	T Table
Market	-0.31086	1.621345	12	11	-0.61883	1.795885
Before	0.33116	14.84222	12			

Marker v/s After split

H₀: There is no significant difference in the market & after split return of first day. (D = 0)

H_a: There is significant difference in the market & after split return of first day. (D ≠ 0)

Table – 5 T-Pair Test Market v/s After split

Particulars	Mean	Variance	Observation	Df	T Calculated	T Table
After	4.617835	37.64802	12	11	2.404346	1.795885
Market	0.471617	0.885175	12			

Interpretation

- T calculated value is greater than T table value which indicates that null hypothesis is rejected. So, there is significance difference in the before & after split return of first day.
- T calculated value is less than T table value which indicates that null hypothesis is accepted. So, there is no significance difference in the before & market split return of first day.
- T calculated value is greater than T table value which indicates that null hypothesis is rejected. So, there is significance difference in the market & after split return of first day.

T-TEST: TWO-SAMPLE FOR MEANBefore split v/s After split

H₀: There is no significant difference in the mean return of before & after split of first day. ($\mu_1 = \mu_2$)

H_a: There is significant difference in the mean return of before & after split of first day. ($\mu_1 \neq \mu_2$)

Table – 6 T-Test Before split v/s After split

Particulars	Mean	Variance	Observation	Df	T Calculated	T Table
Before	0.33116	14.84222	12	22	-2.04961	1.717144
After	4.617835	37.64802	12			

Marker v/s Before split

H₀: There is no significant difference in the mean return of market & before split of first day. ($\mu_1 = \mu_2$)

H_a: There is significant difference in the mean return of market & before split of first day. ($\mu_1 \neq \mu_2$)

Table – 7 T- Test Market v/s Before split

Particulars	Mean	Variance	Observation	Df	T Calculated	T Table
Market	-0.31086	1.621345	12	22	-0.54812	1.717144
Before	0.33116	14.84222	12			

Marker v/s After split

H₀: There is no significant difference in the mean return of market & after split of first day. ($\mu_1 = \mu_2$)

H_a: There is significant difference in the mean return of market & after split of first day. ($\mu_1 \neq \mu_2$)

Table – 8 T-Test Market v/s After split

Particulars	Mean	Variance	Observation	Df	T Calculated	T Table
After	4.617835	37.64802	12	22	2.313797	1.717144
Market	0.471617	0.885175	12			

Interpretation

- T calculated value is greater than T table value which indicates that null hypothesis is rejected. So, there is significance difference in the mean return of before & after split of first day.
- T calculated value is less than T table value which indicates that null hypothesis is accepted. So, there is no significance difference in the mean return of before & market split of first day.
- T calculated value is greater than T table value which indicates that null hypothesis is rejected. So, there is significance difference in the mean return of market & after split of first day.

F-TEST TWO-SAMPLE FOR VARIANCESBefore split v/s After split

H₀: There is no significant difference in the variance of return of before & after split of first day. ($\sigma_1^2 = \sigma_2^2$)

H_a: There is significant difference in the variance of return before & after split of first day. ($\sigma_1^2 \neq \sigma_2^2$)

Table – 9 F - Test Before split v/s After split

Particulars	Mean	Variance	Observation	Df	F Calculated	F Table
After	4.617835	37.64802	12	11	2.536549	2.22693
Before	0.33116	14.84222	12	11		

Marker v/s Before split

H₀: There is no significant difference in the variance of return of market & before split of first day. ($\sigma_1^2 = \sigma_2^2$)

H_a: There is significant difference in the variance of return of market & before split of first day. ($\sigma_1^2 \neq \sigma_2^2$)

Table – 10 F - Test Market v/s Before split

Particulars	Mean	Variance	Observation	Df	F Calculated	F Table
Before	0.33116	14.84222	12	11	9.154259	2.22693
Market	-0.31086	1.621345	12	11		

Marker v/s After split

H₀: There is no significant difference in the variance of return of market & after split of first day. ($\sigma_1^2 = \sigma_2^2$)

H_a: There is significant difference in the variance of return of market & after split of first day. ($\sigma_1^2 \neq \sigma_2^2$)

Table – 11 F - Test Market v/s After split

Particulars	Mean	Variance	Observation	Df	F Calculated	F Table
After	4.617835	37.64802	12	11	42.53171	2.22693
Market	0.471617	0.885175	12	11		

Interpretation

- F calculated value is greater than F table value which indicates that null hypothesis is rejected. So, there is significant difference in the variance of return before & after split of first day.
- F calculated value is greater than F table value which indicates that null hypothesis is rejected. So, there is significant difference in the variance of return before & market split of first day.

- F calculated value is greater than F table value which indicates that null hypothesis is rejected. So, there is significant difference in the variance of return market & after split of first day.

Table – 12 Summary Sheet

Day	Between	T Pair Test	T Test for difference in mean	F Test for difference in variance
1	Before – After	Difference	Difference	Difference
	Before – Market	No Difference	No Difference	Difference
	After – Market	Difference	Difference	Difference
2	Before – After	No Difference	No Difference	Difference
	Before – Market	No Difference	No Difference	Difference
	After – Market	No Difference	No Difference	Difference
3	Before – After	No Difference	No Difference	Difference
	Before – Market	No Difference	No Difference	Difference
	After – Market	No Difference	No Difference	Difference

Tables:

Table – 1: Sample Unit

Table – 2: First Day Return

Table – 3: T – Pair Test Before split v/s After split

Table – 4: T – Pair Test Market v/s Before split

Table – 5: T – Pair Test Market v/s After split

Table – 6: T – Test Before split v/s After split

Table – 7: T – Test Market v/s Before split

Table – 8: T – Test Market v/s After split

Table – 9: F – Test Before split v/s After split

Table – 10: F – Test Market v/s Before split

Table – 11: F – Test Market v/s After split

Table – 12: Summary Sheet

6. FINDINGS:

- There is significant difference in the return of first day before and after split, from second day onwards the effect of split on return is not significant.
- After split return is higher compare to before split on first day, from second day onwards return before and after split is almost same.
- There is significance difference in the variance of return before and after split till first three days of study.
- After split variance is higher compare to before split and market till first three days of study.

7. CONCLUSION:

Split is the corporate event that helps the company to increase the liquidity of their shares. It is assumed that with liquidity volume and return will also increase as more number of investor will trade in that particular share. This research work is undertaken with research hypothesis that there is significance difference in the return and risk of before and after split data of share. During data analysis we came to know that effect of split on return is last for one day while effect of split on risk (variance) is last for almost week.

REFERENCES:

1. Anshuman, V.R., Kalay, A. (2002), "“Can split create market liquidity? Theory and evidence”", Journal of Financial Markets, Vol. 5 pp.83-125.
2. Arbel, A. and G. Swanson, (1993), The role of information in stock split announcement effects, Quarterly Journal of Business and Economics 32, No. 2, 14-25.
3. Angel, J. (1997): \Tick Size, Share Prices, and Stock Splits," The Journal of Finance, 52(2):655-681.
4. Baker, H.K. and Powell, G.E., (1993), Further evidence on managerial motives for stock splits, Quarterly Journal of Business and Economics 32, No. 3, 20-31.
5. Ikenberry, Rankine, and Stice (1996), What do stock splits really signal?, Journal of Financial and Quantitative analysis, 31, 357-375
6. Lamoureux, C.G. and P. Poon, (1987), The market reaction to stock splits, Journal of Finance 42, 1347-1370.
7. Ohlson, J.A. and S.H. Penman, (1985), Volatility increases subsequent to stock splits, Journal of Financial Economics 14, 251 - 266.