

# An Empirical Event Study On Possibilities To Earn Superior Risk Adjusted Returns Of Selected Stocks By Trading On Earning Announcements

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## INTRODUCTION

The efficient performance of a particular stock in the market could be measured in several ways and means. The capital gain of a stock will be the major determinant of the performance of a stock. If any stock generates more quantum of capital gain, that stock is considered to be an efficient stock. If any market possesses efficient stocks, that market is considered to be an efficient market. In other words, **an efficient market is one in which the market price of a security is an unbiased estimate of its intrinsic value.** Market efficiency is defined in relation to information that is reflected in security prices. Market efficiency can be segregated into three levels - they are weak-form efficiency, semi-strong-form efficiency and strong-form efficiency. In the weak-form efficiency, the prices of a stock reflect all information found in the record of past prices and volumes. Whereas, in the semi-strong-form efficiency, the prices of a particular stock reflect not only all information found in the record of past prices and volumes, but also all other publicly available information. In the strong-form efficiency, the stock prices reflect all available information, public as well as private. In this paper, an attempt has been made to empirically find the semi-strong-form efficiency of market by considering two banking stocks : SBI and HDFC Bank. In the semi-strong-form efficiency, the prices of stocks reflect all other publicly available information such as announcement of dividend, stock split, rights issue and bonus shares. In this paper, the semi-strong-form efficiency is assessed on the two stocks named SBI and HDFC Bank by taking one of the publicly available information called announcements of dividend. This paper focuses on whether the prices and rate of return of SBI and HDFC Bank scripts reflect or not reflect one of the major publicly available information called announcement of dividend.

## OBJECTIVES

- ✿ To identify the effect of announcements of dividend on the prices of the SBI and HDFC Bank stocks.
- ✿ To find the effect of dividend declaration over the movement of the rate of return of SBI and HDFC Bank stocks.
- ✿ To find how practically, the semi-strong-form efficiency is viable by examining the prices of SBI and HDFC Bank stocks.

## REVIEW OF LITERATURE

Two existing studies support the semi-strong-form efficient market hypothesis

**(a) Fama, Fisher, Jensen and Roll** examine the effect of stock splits on return for 940 stock splits on the New York stock exchange for the period 1927-1959. They found that prior to the split, the stocks earned higher returns than predicted by the market model. After the split, however, the stocks earned returns which were more or less in conformity with the market model.

**(b) Ball and Brown** studied the effect of annual earnings announcements. They divided the firms into two groups. The

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first group consisted of firms whose earnings increased in relation to the average corporate earnings and the second group consisted of firms whose earnings decreased in relation to the average corporate earnings. They found that before the announcement of earnings, stocks in the first group earned positive abnormal returns, whereas stocks in the second group earned negative abnormal returns. After the announcement of earnings, however, stocks in both groups earned normal returns.

## METHODOLOGY

In this paper, so as to find the impact of dividend declaration over prices and rate of return of the selected stocks, run test was applied. Run test: given a series of stock price changes, each price change is designated as a plus (+) if it represents an increase or a minus (-) if it represents a decrease. A run occurs when there is no difference between the sign of two changes. When the sign of change differs, the run ends and a new run begin. The rate of return of SBI and HDFC Bank stocks were taken for 15 days from the date of declaration of dividend for applying the non parametric test.

$$\text{Rate of Return} = \frac{\text{Dividend Per Share} + \text{Ending Price} - \text{Beginning Price}}{\text{Beginning Price}}$$

## DETAILS ABOUT THE EARNING ANNOUNCEMENT OF SBI STOCK

- ✱ Date of announcement of Dividend was 18/05/2009.
- ✱ Rate of Dividend announced for the year '09 was 290%.
- ✱ Total number of equity shares holding by SBI during 2009 was 634880222 EQ. Shares.
- ✱ Equity dividend paid to shareholders by SBI during 2009 was ₹ 18141500000.
- ✱ Dividend per share during the year 2009 was ₹ 28.57 (approx) rounded off to ₹ 29.
- ✱ The following table shows the Rate of Return (ROR) of SBI stock for 15 days from the date of announcement of dividend.

**Table 1 : Table Showing The ROR of SBI Stock From 18.05.2009 to 05.06.2009**

Sl.No	Date	BSE (Index)		No. of Eq.Shares	Eq.Div paid ₹	Dividend per share ₹ 28.57 Rounded off to ₹ 29	ROR (%)
		Opening share price ₹	Closing Share price ₹				
1	18/05/2009	1490.00	1577.95	634880222	18141500000	29	0.0785
2	19/05/2009	1675.00	1754.45	634880222	18141500000	29	0.0647
3	20/05/2009	1753.03	1780.20	634880222	18141500000	29	0.0320
4	21/05/2009	1779.00	1714.30	634880222	18141500000	29	-0.0201
5	22/05/2009	1705.00	1731.70	634880222	18141500000	29	0.0327
6	25/05/2009	1744.00	1719.85	634880222	18141500000	29	0.0028
7	26/05/2009	1724.00	1687.25	634880222	18141500000	29	-0.0045
8	27/05/2009	1725.00	1790.50	634880222	18141500000	29	0.0548
9	28/05/2009	1790.00	1828.90	634880222	18141500000	29	0.0379
10	29/05/2009	1850.00	1869.10	634880222	18141500000	29	0.0260
11	01/06/2009	1875.00	1879.50	634880222	18141500000	29	0.0179
12	02/06/2009	1890.00	1909.50	634880222	18141500000	29	0.0257
13	03/06/2009	1935.00	1873.20	634880222	18141500000	29	-0.0170
14	04/06/2009	1860.00	1875.90	634880222	18141500000	29	0.0241
15	05/06/2009	1899.00	1817.90	634880222	18141500000	29	-0.0274

Table 1 shows the rate of return of SBI Stock for fifteen days from 18.05.2009 to 05.06.2009. For deriving the ROR, the opening share price, closing share price and dividend per share were taken.

Table 2 shows the Run Test for the Rate of Return of State Bank of India stock from 18.05.2009 to 05.06.2009. The Z value of Run test is -1.29 which falls within the level of significance (LOS is @ 5 % which is  $\pm 1.96$ ).

**Table 2 : Table Showing The Run Test For The Rate Of Return Of State Bank Of India Stock From 18.05.2009 To 05.06.2009**

Run Test			
Sl.No	Date	X=ROR	Z
1	18/05/2009	0.0785	
2	19/05/2009	0.0647	-
3	20/05/2009	0.0320	-
4	21/05/2009	-0.0201	-
5	22/05/2009	0.0327	+
6	25/05/2009	0.0028	-
7	26/05/2009	-0.0045	-
8	27/05/2009	0.0548	+
9	28/05/2009	0.0379	-
10	29/05/2009	0.0260	-
11	01/06/2009	0.0179	-
12	02/06/2009	0.0257	+
13	03/06/2009	-0.0170	-
14	04/06/2009	0.0241	+
15	05/06/2009	-0.0274	+

$X=5$                        $z=X-Np/\sqrt{Npq}$   
 $N=15$                      $Z = 5-15*.5/\sqrt{15*.5*.5}$   
 $p+q=1$                    $Z = -1.291322314$

## DETAILS ABOUT THE EARNING ANNOUNCEMENT OF HDFC BANK STOCK

⌘ Date of announcement of Dividend was 29/04/2009.

**Table 3: Table Showing The ROR Of HDFC Bank Stock From 29.04.2009 To 19.05.2009**

Sl.No	Date	BSE (Index)		No. of Eq.Shares	Eq.Div paid ₹	Dividend per share ₹ 10	ROR (%)
		Opening share price ₹	Closing Share price ₹				
1	29/04/2009	1082.00	1100.70	425384109	4253800000	10	0.0265
2	30/04/2009	997.35	945.00	425384109	4253800000	10	-0.0425
3	01/05/2009	1082.00	1100.70	425384109	4253800000	10	0.0265
4	04/05/2009	1119.00	1194.70	425384109	4253800000	10	0.0766
5	05/05/2009	1200.00	1189.10	425384109	4253800000	10	-0.0008
6	06/05/2009	1182.00	1172.10	425384109	4253800000	10	0.0001
7	07/05/2009	1180.00	1176.75	425384109	4253800000	10	0.0057
8	08/05/2009	1156.05	1143.50	425384109	4253800000	10	-0.0022
9	11/05/2009	1165.00	1144.80	425384109	4253800000	10	-0.0088
10	12/05/2009	1139.00	1189.70	425384109	4253800000	10	0.0533
11	13/05/2009	1165.00	1163.30	425384109	4253800000	10	0.0071
12	14/05/2009	1142.00	1164.85	425384109	4253800000	10	0.0288
13	15/05/2009	1181.00	1184.75	425384109	4253800000	10	0.0116
14	18/05/2009	1300.00	1378.95	425384109	4253800000	10	0.0684
15	19/05/2009	1430.00	1407.60	425384109	4253800000	10	-0.0087

- ✿ Rate of Dividend announced for the year '09 was 100%.
- ✿ Total number of equity shares holding by HDFC Bank during 2009 was 425384109 EQ.Shares.
- ✿ Equity dividend paid to shareholders by HDFC Bank during 2009 was ₹ 4253800000.
- ✿ Dividend per share during the year 2009 was ₹ 10.
- ✿ The Table 3 shows the Rate of Return (ROR) of HDFC Bank stock for 15 days from the date of announcement of dividend. Table 3 shows the rate of return of HDFC Bank Stock for fifteen days from 29.04.2009 to 19.05.2009. For deriving the ROR, the opening share price, closing share price and dividend per share were taken.

**Table 4 : Showing The Run Test For The Rate Of Return Of HDFC Bank Stock From 29.04.2009 to 19.05.2009**

Run Test			
Sl.No	Date	X=ROR	Z
1	29/04/2009	0.0265	
2	30/04/2009	-0.0425	-
3	01/05/2009	0.0265	+
4	04/05/2009	0.0766	+
5	05/05/2009	-0.0008	-
6	06/05/2009	0.0001	+
7	07/05/2009	0.0057	+
8	08/05/2009	-0.0022	-
9	11/05/2009	-0.0088	-
10	12/05/2009	0.0533	+
11	13/05/2009	0.0071	-
12	14/05/2009	0.0288	+
13	15/05/2009	0.0116	-
14	18/05/2009	0.0684	+
15	19/05/2009	-0.0087	-

**X=7**  
**N=15**  
**p+q=1**  
 $z = X - Np / \sqrt{Npq}$   
 $z = 7 - 15 * .5 / \sqrt{15 * .5 * .5}$   
 $z = -0.25826446$

**Table 5: Showing The Combined Run-test For The Rate Of Return Of State Bank Of India And HDFC Bank Stocks After The Announcement Of Dividend For The Year 2009**

Sl.No	ROR X=SBI	ROR Y=HDFC	Z=X-Y	Z
1	0.0785	0.0265	0.0520	+
2	0.0647	-0.0425	0.1072	+
3	0.0320	0.0265	0.0055	+
4	-0.0201	0.0766	-0.0967	-
5	0.0327	-0.0008	0.0334	+
6	0.0028	0.0001	0.0027	+
7	-0.0045	0.0057	-0.0102	-
8	0.0548	-0.0022	0.0570	+
9	0.0379	-0.0088	0.0467	+
10	0.0260	0.0533	-0.0273	-
11	0.0179	0.0071	0.0107	+
12	0.0257	0.0288	-0.0031	-
13	-0.0170	0.0116	-0.0286	-
14	0.0241	0.0684	-0.0443	-
15	-0.0274	-0.0087	-0.0188	-

**No. Of '+' = 8, or X=8,**  
**N = 15,**  
**p+q=1, p=q=0.5,**  
 $z = X - Np / \sqrt{Npq}$   
 $Z = 8 - (15 * .5) / \sqrt{(15 * .5 * .5)},$   
 $Z = 1.5 / \sqrt{3.75},$   
 $Z = 1.5 / 1.9364,$   
 $Z = 0.775$

Table 4 shows the Run Test for the Rate of Return of HDFC Bank stock from 29.04.2009 to 19.05.2009. The Z value of Run test is -0.258, which falls within the level of significance (LOS is @ 5 % which is  $\pm 1.96$ ).

Table 5 shows the combined run test for the rate of return of SBI Stock and HDFC Bank stock. The z value of run test is 0.775, which falls within the level of significance (LOS is @ 5 % which is  $\pm 1.96$ ).

**Since, Calculated Value is < the Table Value, H<sub>0</sub> is accepted.**

## **HYPOTHESIS**

✿ H<sub>0</sub> = There is no impact of declaration of dividend over the rate of return of State Bank Of India and HDFC Bank stocks from the date of declaration of dividend.

✿ H<sub>1</sub> = There is an impact of declaration of dividend over the rate of return of State Bank Of India and HDFC Bank stocks from the date of declaration of dividend.

## **CONCLUSION**

In semi strong form efficiency market, the information about the company will play a partial role in its price and return at the semi efficient stock market. The basic notion of this paper is to prove that the announcement of dividend will not alone be the determinant factor in deciding the performance of the share price of a company. The above hypothesis is tested with selected bank stocks viz., HDFC Bank and SBI and it has been proved that the announcement of dividend does not play a major role in the above stock performance and thereby, it is concluded that apart from announcement of dividend, the other factors of the selected companies may act as the determinant of deciding the efficient movement of the stock price and the return of the selected companies.

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