

## **Analyzing the Impact of Bonus Issues on Stock Returns: An Empirical Study of Selected Equities in the Indian Capital Market**

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Impact of Bonus Issues on Stock Returns on Selected Indian Equities is the study's title. Five different industries and five different firms' stocks were picked for the study. Several businesses were included, including Sudharshan, Mind Tree, Kothari Industries, and Infosys. Ten days prior to and ten days following bonus announcements are the research periods for each organization. Stock volatility, standard deviation, and mean return were examined for the study. Since Ttest was suitable for comparing returns before and after bonus announcements, it was utilized to test the hypothesis. The null hypothesis states that following bonus announcements, there is no change in return. After bonus announcements, Infosys' results were shown to be highly volatile, while Mind Tree and Kothari Mind tree and Kothari had less or little change in returns after bonus announcements. In all cases except Sudharshan Chemicals the null hypothesis was accepted. i.e there was no change in returns after bonus announcements in case of Sudharshan chemicals.

**Keywords:** Bonus, volatility, standard deviation, and mean return.

### **Introduction**

Bonus issues, also known as scrip issues, are stock splits in which a business issues new shares at no cost to align its employed capital—the additional capital available to the business once retained earnings are taken into account—with its issued capital, or outstanding stock. This typically occurs after a business has increased its utilized capital by keeping its profits. As a result, a bonus issuance could be considered a dividend substitute. With a bonus issue, no fresh money is raised. An offer to give current owners more shares is known as a bonus issue. The "Capitalization Issue" is the term for the situation where a business chooses to boost the dividend payout by issuing additional shares. The stockholders receive new shares in proportion to their.

### **Review of the Literature**

#### **Budhraj et al. (2004), Market Reaction**

Around the Stock Splits and Bonus issues: Some Indian Evidence in their study on BSE suggested that abnormal returns in stock prices around the bonus issue announcement data, over three day trading period starting one day before the announcement is significant at 95 per cent confidence level. It also says that much of the information in the bonus announcement gets impounded into stocks by the time of the announcement of the bonus issue.

#### **Madhuri Malhotra (2007)**

Evidence from India on the Impact of Bonus Issue Announcements on Stock Market Reaction and Liquidity Changes This study looks at how a sample of Indian companies' share prices

responded when the bonus issue was announced. The Bonus issue announcement reaction has been studied using standard event study methodology. Around the announcement date, bonus issue announcements result in abnormally negative returns. Following the announcement of the bonus issue, there is a negative reaction, indicating that the market underreacts. Additionally, it is noted that no information was leaked before the announcement. There was a little but noticeable drop in the liquidity ratio following the news. The increased trade liquidity appears to be incompatible with all three liquidity metrics expectation.

### **Satyajit Dhar and Sweta Chhaochharia (2009)**

Some Indian Evidence of Market Reaction to Stock Splits and Bonus Issues Bonus issues and stock splits are sometimes viewed as mainly cosmetic occurrences. Nonetheless, a number of studies have discovered a number of stock market impacts linked to stock splits and bonus problems. The impact of these two kinds of events on the Indian stock market is examined in this research. We employ the methodology of event studies. The Capital Asset Pricing Model is used to calculate the abnormal returns, and t-tests are used to determine their significance. The two occurrences are linked to a noticeably good announcement effect, which is in line with existing literature.

### **Objectives of the Study**

1. To research and analyze how bonus concerns affect the price of equity.
2. To investigate how bonus concerns affect the volatility of stock returns.
3. To determine the reasons behind bonus problems and stock return volatility.

### **Research Methodology**

1. Sample size: five businesses were selected from five distinct industries.
2. Information: Secondary information was gathered from pertinent websites. For example, [www.moneycontrol.com](http://www.moneycontrol.com) and [www.nseindia.com](http://www.nseindia.com)
3. Hypothesis H0: The stock returns remain same after the bonus issue H1: The stock returns after the bonus issue have changed.
4. Statistical Data Used: The hypothesis was tested using the T test since it is crucial to ascertain how returns changed before to and following the announcement of bonus shares..

### **Scope of the Study**

The study will reveal returns volatility over the period and it shall also bring an on sight awareness to investors who are interested to invest in bonus shares.

### **Data Analysis and interpretation**

#### **7.1 Infosys- Bonus issue announcement on 10.10.2014**

Returns before bonus			Returns after bonus		
Date	Close Price	Returns	Date	Close Price	Returns
25-Sep-14	3691				
26-Sep-14	3680.15	-0.293958277	13-Oct-14	3942.55	1.386085145
29-Sep-14	3749.05	1.872206296	14-Oct-14	3918.3	-0.615084146
30-Sep-14	3747.75	-0.034675451	16-Oct-14	3865.3	-1.352627415
1-Oct-14	3847.3	2.656260423	17-Oct-14	3851.65	-0.353142059
7-Oct-14	3831.3	-0.415876069	20-Oct-14	3812.35	-1.020341931
8-Oct-14	3650.15	-4.728160155	21-Oct-14	3772.95	-1.033483285
9-Oct-14	3646.8	-0.09177705	22-Oct-14	3796.05	0.612233012
10-Oct-14	3888.65	6.631841615	23-Oct-14	3805.05	0.237088553

Mean of Return	0.699482666	-0.267406516
Standard deviation of return	3.234909565	0.942797577
Assume there are 252 trading days in a year (sqrt of 252)	15.87450787	15.87450787
Volatility of stock per annum	51.35259734	14.96644756
sqrt of 2n standard error of estimate	16	16
	3.209537334	0.935402973

It is clear from the foregoing that Infosys shares have returned less following the announcement of the bonus issue. This demonstrates that speculators are crucial in purchasing corporate stock following announcements. In the post-announcement phase, the standard deviation of risk and volatility is quite low. This suggests that the speculators did not keep the stocks for an extended amount of time.

t-Test: Paired Two Sample for Means

	Before	after
Mean	0.699482666	-0.267406516
Variance	10.4646399	0.888867272
Observations	8	8
Pearson Correlation	0.27510226	
Hypothesized Mean Difference	0	
df	7	
t Stat	0.879196469	
P(T<=t) one-tail	0.204229972	
t Critical one-tail	1.894578604	
P(T<=t) two-tail	0.408459944	
t Critical two-tail	2.364624251	

H0: There is no change in the stock returns following the bonus issue

H1: There is a change in the stock returns following the bonus issue

**Statistical test:** Because of the samples' independence, normal distribution, and presumption of equal population variances, the t-test was selected. Level of Significance: 5% is the significance level (two-tailed test). Value calculated: 0.879

**Interpretation:** Since the calculated value is lesser than critical value i.e. 0.879

Mind tree-made on

Bonus issue announcement  
16.04.1974

Returns before bonus			Returns after Bonus		
Date	Close Price	Returns	Date	Close Price	Returns
1-Apr-14	1359.7				
2-Apr-14	1387.35	2.03353681	17-Apr-14	1405.45	2.329899159
3-Apr-14	1429.8	3.059790248	21-Apr-14	1414.95	0.67594009
4-Apr-14	1418.9	-0.762344384	22-Apr-14	1420.45	0.388706315
7-Apr-14	1401.05	-1.258016774	23-Apr-14	1431.9	0.806082579
9-Apr-14	1380.2	-1.488169587	25-Apr-14	1430.15	-0.122215238
10-Apr-14	1368.95	-0.815099261	28-Apr-14	1429.85	-0.020976821
11-Apr-14	1378.45	0.693962526	29-Apr-14	1433.35	0.244780921
15-Apr-14	1399.4	1.51982299	30-Apr-14	1418.95	-1.004639481
16-Apr-14	1373.45	-1.854366157			
Mean of Return			0.372935321		0.412197191
Standard deviation of return			1.699546111		0.957043767
Assume there are 252 trading days in a year (sqrt of 252)			15.87450787		15.87450787
Volatility of stock per annum			26.97945811		15.19259881
sqrt of 2n standard error of estimate			16		16
			1.686216132		0.949537426

It is clear from the above table that Mind Tree shares had a marginally higher return following the announcement of the bonus issuance. This indicates that the involvement of speculators in purchasing corporate stock following announcements is mediocre. In the post-announcement phase, the standard deviation of the risk and volatility factors is lower. The price fluctuations show that the speculators held the stocks for a considerable amount of time.

t-Test: Paired Two Sample for Means		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.372935321	0.412197191
Variance	2.888456983	0.915932772
Observations	8	8
Pearson Correlation	0.272968893	
Hypothesized Mean Difference	0	
df	7	
t Stat	-0.065026805	
P(T<=t) one-tail	0.474985381	
t Critical one-tail	1.894578604	
P(T<=t) two-tail	0.949970763	
t Critical two-tail	2.364624251	

**Interpretation:** Since the calculated value is lesser than critical value i.e. 0.06

**Kothari products limited- bonus issue announcement on 11.02.2014**

Returns before bonus			Returns after Bonus		
Date	Close Price	Returns	Date	Close Price	Returns
28-Jan-14	319.75				
29-Jan-14	327.45	2.408131	12-Feb-14	464.6	19.98966942
30-Jan-14	328	0.167965	13-Feb-14	499.1	7.425742574
31-Jan-14	325.2	-0.85366	14-Feb-14	488.2	-2.183931076
3-Feb-14	329.6	1.353014	17-Feb-14	478.15	-2.058582548
4-Feb-14	325.4	-1.27427	18-Feb-14	470.7	-1.558088466
5-Feb-14	329.95	1.398279	19-Feb-14	458.8	-2.528149564
6-Feb-14	332.6	0.803152	20-Feb-14	492.3	7.301656495
7-Feb-14	326.55	-1.819	21-Feb-14	485.75	-1.330489539
10-Feb-14	333.75	2.204869	24-Feb-14	534.3	9.99485332
11-Feb-14	387.2	16.01498			

  

Mean of Return	0.487609	3.894742291
Standard deviation of return	1.526477	7.834342335
Assume there are 252 trading days in a year(sqrt of 252)	15.87451	15.87450787
Volatility of stock per annum	24.23207	124.366329
sqrt of 2n	18	18
standard error of estimate	1.346226	6.909240501

It is clear from the above table that Kothari shares saw a substantial return following the announcement of the bonus issuance. This demonstrates that speculators are crucial in the purchase of corporate stock following announcements. In the post-announcement phase, the standard deviation of the risk and volatility factor is extremely high. This suggests that the investors held the stocks for a considerable amount of time.

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	0.487608599	3.894742291
Variance	2.330131161	61.37691982
Observations	9	9
Pearson Correlation	0.628653899	
Hypothesized Mean Difference	0	
df	8	
t Stat	-1.465127364	
P(T<=t) one-tail	0.090525127	
t Critical one-tail	1.859548033	
P(T<=t) two-tail	0.181050255	
t Critical two-tail	2.306004133	

**Interpretation:** The null hypothesis, which states that there is no change in stock returns after the announcement of the bonus issue, must be accepted because the computed value is smaller than the critical value, or  $1.46 < 2.30$ . When compared to the volatility in returns prior to the bonus problem in India, the empirical data indicates that the volatility in returns did vary following the bonus issue.

**7.4 Raj Television limited- bonus issues announcement on 28.01.2014**

Returns before Bonus issue			Returns after bonus issue		
Date	Close Price	Returns	Date	Close Price	Returns
9-Jan-14	502.15				
10-Jan-14	503	0.16927213	29-Jan-14	525.5	0.506837525
13-Jan-14	509.75	1.34194831	30-Jan-14	526.4	0.171265461
14-Jan-14	514.2	0.87297695	31-Jan-14	527.05	0.123480243
15-Jan-14	517.1	0.56398289	3-Feb-14	529.25	0.417417702
16-Jan-14	518.2	0.21272481	4-Feb-14	527.35	-0.35899858
17-Jan-14	517.3	-0.1736781	5-Feb-14	527.55	0.037925476
20-Jan-14	523.25	1.15020298	6-Feb-14	528.8	0.236944365
21-Jan-14	525.6	0.4491161	7-Feb-14	528.6	-0.03782148
22-Jan-14	526.3	0.13318113	10-Feb-14	530	0.264850549
23-Jan-14	528.2	0.36101083	11-Feb-14	529.05	-0.17924528
24-Jan-14	527.8	-0.0757289	12-Feb-14	529.8	0.141763538
27-Jan-14	525.9	-0.3599848	13-Feb-14	529.65	-0.02831257
28-Jan-14	522.85	-0.5799582	14-Feb-14	530.9	0.236004909
Mean of Return		0.312697393			0.117854758
Standard deviation of return		0.567034519			0.234857634
Assume there are 252 trading days in a year(sqrt of 252)		15.87450787			15.87450787
Volatility of stock per annum		9.001393937			3.728249356
sqrt of 2n		26			26
standard error of estimate		0.346207459			0.143394206

It is clear from the above table that Raj Television Limited's shares saw a little greater return following the announcement of the bonus issuance. This indicates that the involvement of speculators in purchasing corporate stock following announcements is mediocre. In the post-announcement phase, the standard deviation of the risk and volatility factors is lower. The price fluctuations show that the speculators held the stocks for a considerable amount of time.

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	0.312697393	0.117854758
Variance	0.321528146	0.055158108
Observations	13	13
Pearson Correlation	0.116069864	
Hypothesized Mean Difference	0	
df	12	
t Stat	1.194705814	
P(T<=t) one-tail	0.127640683	
t Critical one-tail	1.782287548	
P(T<=t) two-tail	0.255281366	
t Critical two-tail	2.178812827	

**Interpretation:** The null hypothesis, which states that there is no change in stock returns after the announcement of the bonus issue, must be accepted because the computed value is smaller than the critical value, or  $1.194 < 2.17$ . When compared to the volatility in returns prior to the bonus problem in India, the empirical data indicates that the volatility in returns did vary following the bonus issue.

**Sudarshan chemicals- Bonus issue announced on 08.08.2014**

Returns before bonus issue			Returns after bonus issue		
Date	Close Price	Returns	Date	Close Price	Returns
23-Jul-14	725				
24-Jul-14	777	7.172413793	11-Aug-14	1136.9	-0.013192032
25-Jul-14	787.95	1.409266409	12-Aug-14	1077	-5.268713167
28-Jul-14	781.95	-0.761469636	13-Aug-14	1103.35	2.446610956
30-Jul-14	780	-0.249376559	14-Aug-14	1089.9	-1.219014819
31-Jul-14	841.7	7.91025641	18-Aug-14	1078.8	-1.018442059
1-Aug-14	840	-0.201972199	19-Aug-14	1086.25	0.690582128
4-Aug-14	1008	20	20-Aug-14	1087.45	0.110471807
5-Aug-14	1160.1	15.08928571	21-Aug-14	1085.45	-0.183916502
6-Aug-14	1194.15	2.935091802	22-Aug-14	1086.15	0.064489382
7-Aug-14	1184.2	-0.833228656	25-Aug-14	1083.2	-0.271601528
8-Aug-14	1137.05	-3.981590947			
Mean of Return		4.408061466			-0.466272583
Standard deviation of return		7.455146573			1.963426625
Assume there are 252 trading days in a year(sqrt of 252)		15.87450787		15.87450787	
Volatility of stock per annum		118.3467829		31.16843141	
sqrt of 2n		20		20	
standard error of estimate		5.917339146		1.558421571	

It is clear from the above table that shares of Sudharshan Chemicals Television Limited saw a negative performance following the announcement of the bonus issuance. This demonstrates that speculators had little influence over the purchase of business stock following announcements. In the post-announcement phase, the standard deviation of the risk and volatility factors is lower. It appears that speculators are not actively investing in this stock during the post-announcement phase.

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	5.247026708	-0.466272583
Variance	53.15191221	3.855044114
Observations	10	10
Pearson Correlation	0.054653631	
Hypothesized Mean Difference	0	
df	9	
t Stat	2.426422447	
P(T<=t) one-tail	0.019103039	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.038206078	
t Critical two-tail	2.262157158	

**Interpretation:** The null hypothesis, which states that there is a significant change in the stock returns after the bonus issue announcement, must be rejected because the computed value is less than the critical value, i.e.,  $2.42 > 2.26$ . When compared to the volatility in returns prior to the bonus problem in India, the empirical data indicates that the volatility in returns did vary following the bonus issue.

**Findings and Conclusions**

There is a lower return on Infosys shares following the announcement of the bonus issue, a slightly higher return on Mind Tree and Raj Televisions shares following the announcement of the bonus issue, and an average role for speculators in purchasing company shares following announcements. On the other hand, Kothari shares have a high return following the announcement of the bonus issue, indicating that speculators are important in purchasing

company shares following announcements. Sudharshan Chemicals Television Limited shares have a negative return following the announcement of the bonus issue. This demonstrates that speculators had little influence over the purchase of business stock following announcements.

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