Stock Price Reactions to Corporate Tax Rate Reduction Announcement in India

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Stock market efficiency has been of considerable importance in modern finance. The stock prices are responsive to internal announcements of results and external major policy changes for structural reforms. Securities prices adjust instantaneously to new information which has gained lot of attention from worldwide researchers. The study is based on Nifty stocks. This paper examines to test the semi-strong form of efficient market hypothesis to corporate tax rate reduction announcement event. The abnormal returns, average abnormal returns (AAR) and cumulative average abnormal returns (CAAR) are worked out for 29 days prior to and 30 days after the event date.

Keywords: EMH, Event Study, Returns, Abnormal Returns, CAARs.

1. Introduction

In a country like India the stock market plays a fundamental role in the growth of the industry and various sectors that, eventually affects the economy to a great extent. The stock market of is very sensitive to events happening in the macro economy. Since, the stock price is very responsive to announcements of results, reduction in corporate tax, major policy changes for structural reforms and from internal and external factors. Finance minister Nirmala Sitharaman's announcement on 20th September 2019 to slash the basic corporate-tax rates to 22% for all domestic companies without tax exemptions or incentives and 15% for new manufacturing companies is a bold move. The stock price reactions to corporate tax reduction announcement have gained lot of attention from worldwide researchers. In modern finance such events plays a significant role in understanding the reactions of share price. Reduction in corporate tax rate provides a yardstick that can be utilized by the market to assess the wealth and profitability of a firm. If the market is efficient, then any new information released is instantaneously reflected in the share price. Therefore, as corporate tax reduction, the share price should immediately reflect this announcement and therefore deny investors any above-average risk-adjusted profits. Hence it is felt that it will be important to assess the information of corporate tax reduction announcements on stock prices. The aim of this study was to investigate the stock price reactions on corporate tax reduction announcement and to test the semi strong form of market efficiency in Indian capital market. It is observed by the Researchers that the majority of the tests on semi-strong form of EMH have been conducted on major announcement events like stock split announcement, bonus issue announcement, reduction in corporate tax, dividend announcement etc. These are expected to provide positive vibes to the market as they have a predictable impact on stock prices. Reduction in corporate tax rate provides a yardstick that can be utilized by the market to assess the wealth and profitability of a firm. If the market is efficient, then any new information released is instantaneously reflected in the share price. Event studies, pioneered by Fama et al. (1969), generally found this pattern of price adjustment following major events such as mergers, stock splits or changes in firms' dividend policies. Ali and Mustafa (2001) found little empirical regularity that was contrary to the efficient market hypothesis. Ormos et al. (2002) empirically tested the efficiency of Hungarian Capital Market in its semi-strong and strong form. The study focused to examine whether the Hungarian Capital Market was efficient in the semi-strong form during reduction in the corporate tax reduction. Dhar and Chhaochharia (2008) analyzed the impact of the information relating to the announcement of stock split and corporate tax reduction on stocks listed on National Stock Exchange (NSE) by employing event study. Both the events reflect significantly positive announcement effect. Thereby the study supports the view that Indian Stock Market is efficient in semi-strong form. Mallikarjunappa (2007, 2008) report that market offers opportunity to earn abnormal returns on cumulative basis after the quarterly earnings announcement and therefore concluded that Indian market is not efficient in the semi-strong form. Cready and Gurun (2010) found that lower earnings results exhibit positive cumulative average abnormal returns (CAAR) and move market values higher. Ball and Shivakumar (2008) report that earnings announcements provide a modest but not overwhelming amount of information in relation to the market, while Hussin et al. (2010) found that lower earnings lead to negative market reaction.

2. Objectives

1. To examine the stock price reactions to corporate tax rate reduction announcement in India.
2. To test the semi strong form of market efficiency in Indian capital market.

3. Methodology

The present study is based on stock price returns and market index value. The daily closing prices from 6th August 2019 to 6th November 2019 inclusive for 60 days observations for both the period i.e., before and after the event have been taken from National Stock Exchange India (NSE) Nifty 50 stocks. The event day is identified as 20th September 2019. In this present

study we have collected the data from NSE Nifty 50 stocks. From daily closing prices of selected companies stock we have computed daily average return (AR), average abnormal return (AAR) and cumulative average abnormal return (CAAR) have been computed. Further we also computed the T test using table value for significance at 95%.
Event Window: -29.........0........30,

Where 0 is considered as event day, 29 days prior to event day and 30 days after the event day a total of 60 days surrounding.
Market model is used to compute the following:
AR: $r_{it} = \alpha_i + \beta_i r_{mt} + e_{it}$
$AR_{it} = r_{it} - \alpha_i - \beta_i r_{mt}$

Where CAARt is the cumulative average abnormal return during the post announcement period.

The purpose of the study was to examine whether there are any significant abnormal returns (whether positive or negative) related to the public announcement of reduction in the corporate tax rate and to establish whether the semi-strong market hypothesis applies to the selected stocks. To prove semi-strong form of market efficiency the researcher had identified an event of announcement of tax rate reduction by selecting prominent companies of Nifty. Average abnormal returns over the event window would then be significantly different from zero.

Using T test we tested the Semi-Strong Form of Market Efficiency Analysis for this event study. The question of whether the excess returns around the announcement date are different from zero is answered by estimating the t statistic for the event. T statistics is used to compare the returns of the stocks 29 days before and 30 days after the event. In this paper the researcher has taken 5% level of significance.

4. Data Specification Results and Discussions

This section deals with various results and findings obtained out of the estimation process. The t value calculated after computing the AR, AAR and CAAR is to be compared with the critical value of ±1.96. In Table 1, average returns are analyzed and the effect of announcement of corporate tax reduction on the stock prices taken into observations was not significant of selected companies from NIFTY 50. All the stock prices are insignificant with the event ending i.e. stock returns do not have the impact of September 20th 2019. With the announcement of corporate tax reduction, all the companies were having insignificant stock returns. With this it can be analyzed that most of the companies do not react much in their stock returns with the happening of macro-economic events, which proves the null hypothesis of the study that security prices does not fully reflect all publicly available information.

As per semi-strong form of market efficiency the publicly available information do affect the stock returns but only in very shorter span the market absorbs all the available information and does not allow the investor to earn abnormal returns. The results are similar to the results of Fama (1969). Only the few companies stocks can earn a profit on a short run price changes rather than the investors who adopt the naive buy and hold policy.

Table 1 *Average Returns (AR) of Different Stocks- 29 Days Prior and 30 Days After*

Days	AR-1	AR-2	AR-3	AR-4	AR-5	AR-6	AR-7	AR-8
-29	0.00072	0.01490	-0.00301	0.00510	0.01130	0.01387	0.02311	-0.02312
-28	-0.00062	0.00424	0.00400	0.00268	0.00428	0.02377	0.02713	-0.01066
-27	0.02040	-0.01431	0.01990	0.00184	-0.00791	-0.00205	-0.03778	-0.02900
-26	-0.00509	-0.00230	-0.00762	-0.00950	-0.00687	0.01264	-0.01093	0.01410
-25	-0.02087	0.01595	-0.00013	0.01849	-0.01126	0.00270	0.00855	-0.01561
-24	0.00242	-0.01347	0.00481	0.00148	-0.02717	-0.00288	0.00450	-0.02123
-23	-0.01772	0.01508	0.00972	0.01212	0.00393	-0.00964	0.02754	-0.02583
-22	-0.00087	-0.00827	-0.01211	-0.00249	-0.01140	-0.00726	0.00484	0.03438
-21	0.01105	0.00836	0.00728	0.00000	-0.03242	0.01269	-0.01581	-0.00084
-20	-0.00023	0.00522	0.01420	0.00949	0.00500	0.00873	-0.00529	-0.01461
-19	0.01360	0.00506	0.00583	0.00098	0.04141	0.02341	0.01313	-0.00176
-18	0.01447	-0.00324	-0.00840	0.00693	-0.00183	-0.01607	-0.03170	0.03090
-17	0.01299	-0.01301	-0.02707	-0.02588	-0.00119	-0.01183	-0.00980	-0.00935
-16	-0.01735	-0.00429	0.00440	0.01616	0.05239	-0.01432	0.02284	0.00858
-15	0.00128	0.00737	0.00288	0.00225	0.01072	-0.01583	-0.00031	-0.00687
-14	-0.00256	0.01645	0.00294	0.00577	-0.00104	0.00774	0.01017	0.02181
-13	0.01186	-0.00768	0.00216	0.01492	-0.00151	0.01826	0.02330	-0.02196
-12	-0.00361	-0.00283	0.00865	0.01571	0.02532	-0.00620	0.00753	0.01227

| -11	-0.00262	-0.03190	-0.01679	-0.00466	-0.03440	-0.00370	-0.02472	0.00901
-10	-0.01330	-0.01114	0.00598	-0.01461	0.01372	-0.01193	-0.00423	-0.00015
-9	-0.00786	-0.00237	0.01803	0.00206	-0.01750	-0.01615	0.00297	-0.01154
-8	-0.00653	-0.00111	-0.01490	0.00504	-0.00322	0.00117	-0.00392	-0.00596
-7	-0.01309	0.00951	0.02698	0.00310	-0.01205	-0.01042	0.02545	0.03266
-6	-0.00941	-0.00908	-0.01705	-0.01022	0.00762	-0.00877	0.02640	-0.01847
-5	0.00408	-0.00492	-0.00135	-0.00110	-0.01369	-0.00977	-0.00743	0.00335
-4	0.00380	-0.01100	0.00264	0.00695	0.02092	0.00905	0.00052	0.02130
-3	-0.01276	0.02401	-0.02135	0.00823	0.01031	0.02023	0.00601	0.00243
-2	0.00761	0.00790	-0.00297	-0.01362	-0.03413	-0.00547	-0.00234	-0.01185
-1	-0.01712	0.01690	-0.00406	0.00037	0.01627	-0.00073	-0.00744	0.01214
0	-0.01684	0.01640	0.01615	0.01099	0.02534	0.03821	0.00387	0.04069
1	-0.02371	0.04644	-0.00758	0.03366	0.02699	0.00807	0.01028	0.00814
2	0.01443	-0.02009	-0.01369	-0.00728	0.00768	0.00360	0.00881	0.00379
3	0.02139	0.00521	0.00413	0.00159	-0.00083	0.00898	0.02106	0.01000
4	-0.00022	-0.00237	-0.00335	-0.00448	0.00223	-0.02075	0.00991	-0.05104
5	-0.01501	0.00780	-0.00176	0.02246	-0.02112	-0.00971	-0.02962	-0.01912
6	0.02106	-0.00514	-0.00447	-0.01697	-0.02174	-0.01410	-0.05547	-0.00632
7	-0.01873	0.01238	-0.00356	0.01622	0.00171	0.01028	-0.03816	-0.00877
8	0.00021	-0.00607	-0.00261	-0.02625	-0.00298	-0.01325	-0.02108	-0.00696
9	0.00927	-0.00135	-0.00237	0.00101	-0.00696	-0.00103	0.03611	-0.01359
10	-0.01516	0.00439	0.01187	0.00744	0.04109	-0.00095	-0.00689	0.02625
11	-0.01325	0.00884	-0.01860	0.00669	0.01250	-0.01293	0.02432	-0.03293
12	-0.00771	0.00974	0.00242	-0.00793	-0.00046	0.01411	-0.04368	0.01968
13	-0.00863	-0.00109	-0.00400	-0.00342	0.00448	0.01028	-0.01333	-0.01247
14	0.01731	0.00045	0.01505	0.00749	0.00274	-0.00051	0.01957	-0.00839
15	0.00823	-0.00674	0.00852	-0.01730	0.01116	0.01573	0.00546	-0.01609
16	0.00459	-0.02494	-0.00142	-0.01463	-0.00753	-0.00204	-0.00092	-0.02041
17	-0.00737	0.01394	0.01647	0.01502	0.00686	0.00412	0.03362	0.01688
18	0.01315	-0.00545	-0.01644	0.00450	-0.00898	-0.00673	-0.00760	0.00098
19	-0.00284	-0.01400	0.01514	0.00340	0.00419	0.01262	0.01502	0.05576
20	0.00922	-0.00946	0.00929	-0.00038	0.01038	-0.00094	-0.00541	0.07750
21	0.00583	0.01432	0.00110	0.00927	-0.00331	-0.00090	-0.02991	-0.00495
22	0.02073	0.00234	-0.01449	-0.01671	-0.00752	0.00287	-0.00517	-0.01418
23	-0.00422	-0.00692	-0.00153	-0.00337	-0.00937	-0.00826	-0.00030	0.00030
24	0.03762	-0.00373	-0.00361	-0.00709	0.00935	-0.00483	0.00627	0.00865
25	0.02654	-0.00221	0.00626	-0.00745	-0.02693	-0.00247	-0.01993	-0.01906
26	0.00760	-0.01028	0.00256	0.01033	-0.01293	-0.00223	0.01026	0.01700
27	-0.03018	-0.02589	-0.00792	-0.03936	-0.00307	-0.00166	0.05212	-0.02032
28	-0.00303	0.00563	-0.01279	-0.01186	-0.01636	-0.01595	-0.02494	-0.01596
29	0.00368	0.00588	0.01027	-0.01529	-0.00230	0.00568	-0.01617	0.01241
30	-0.00593	-0.00317	-0.00564	-0.00277	-0.00858	-0.00272	0.01270	-0.02468
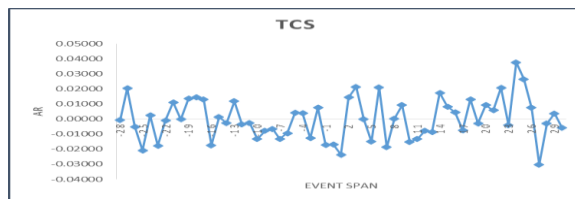
Figure 1 *TCS Average Returns*
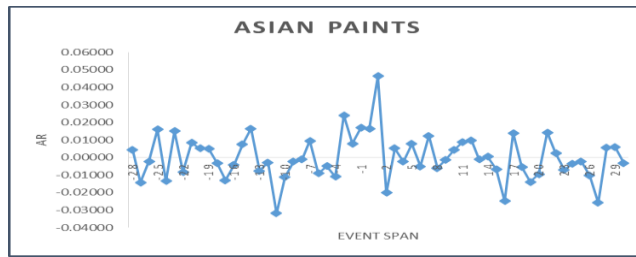
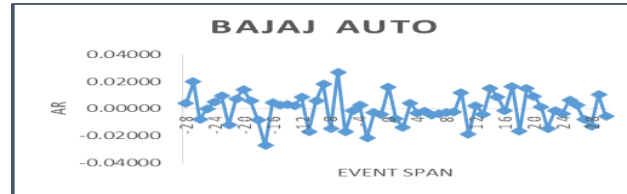**Figure 2** *Asian Paints Average Returns*

Figure 3 *Bajaj Auto Average Returns*
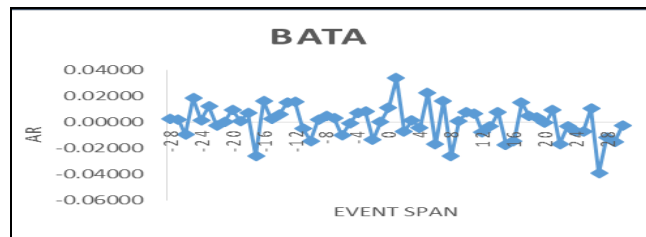

Figure 4 *Bata Average Returns*

Figure 5 *Britannia Average Returns*
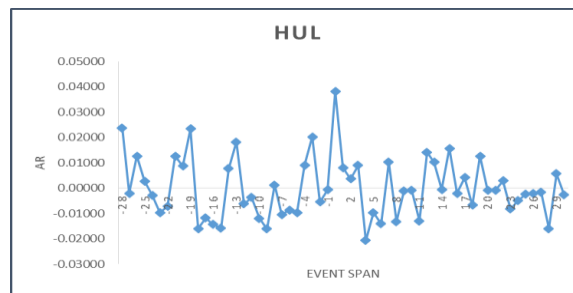

Figure 6 *HUL Average Returns*
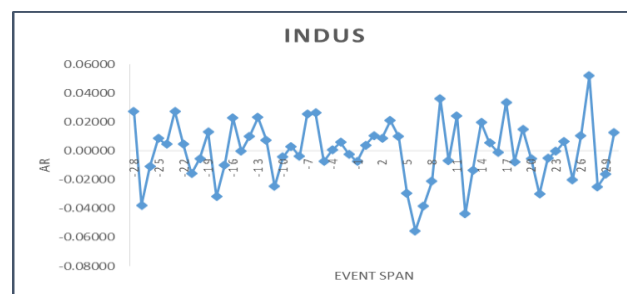

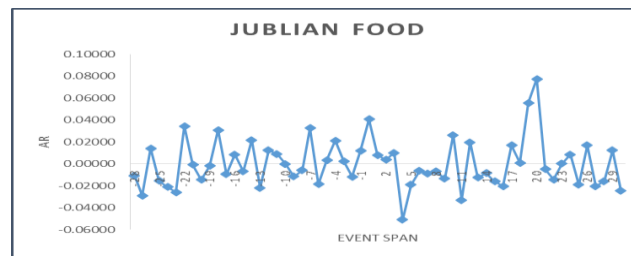
Figure 7 *INDUS Average Returns*

Figure 8 *JUBLIAN FOODS Average Returns*

Table 2 *AAR, CAAR and T-statistics of CAAR of Different Stocks*

Days	AAR	CAAR	T statistics of CAAR
-29	0.00411	0.00411	0.14828
-28	0.00274	0.00685	0.17907
-27	-0.00611	0.00074	0.01965
-26	-0.00195	-0.00121	-0.03281
-25	-0.00027	-0.00148	-0.04099
-24	-0.00644	-0.00792	-0.22372
-23	0.00190	-0.00602	-0.17374
-22	-0.00040	-0.00642	-0.18935
-21	-0.00121	-0.00763	-0.23035
-20	0.00281	-0.00482	-0.14904
-19	0.01271	0.00789	0.25033
-18	-0.00112	0.00677	0.22073
-17	-0.01064	-0.00387	-0.12991
-16	0.00855	0.00468	0.16179
-15	0.00019	0.00487	0.17380
-14	0.00766	0.01253	0.46307
-13	0.00492	0.01745	0.66926
-12	0.00711	0.02455	0.98037
-11	-0.01372	0.01083	0.45170
-10	-0.00446	0.00637	0.27882
-9	-0.00405	0.00233	0.10738
-8	-0.00368	-0.00135	-0.06595
-7	0.00777	0.00642	0.33560
-6	-0.00487	0.00155	0.08735
-5	-0.00385	-0.00231	-0.14275
-4	0.00677	0.00447	0.30889
-3	0.00464	0.00910	0.72706
-2	-0.00686	0.00224	0.21950
-1	0.00204	0.00429	0.59292
0	0.01685	0.02114	--
1	0.01279	0.03392	4.69211
2	-0.00034	0.03358	3.28409
3	0.00894	0.04252	3.39559
4	-0.00876	0.03376	2.33487
5	-0.00826	0.02550	1.57742
6	-0.01289	0.01261	0.71188

| 7	-0.00358	0.00903	0.50981
8	-0.00987	-0.00085	-0.04419
9	0.00264	0.00179	0.08255
10	0.00851	0.01030	0.45036
11	-0.00317	0.00713	0.29723
12	-0.00173	0.00540	0.21555
13	-0.00352	0.00188	0.07194
14	0.00671	0.00859	0.31750
15	0.00112	0.00971	0.34676
16	-0.00841	0.00130	0.04480
17	0.01244	0.01374	0.46090
18	-0.00332	0.01042	0.33964
19	0.01116	0.02158	0.68472
20	0.01128	0.03285	1.01615
21	-0.00107	0.03178	0.95938
22	-0.00402	0.02777	0.81884
23	-0.00421	0.02356	0.67944
24	0.00533	0.02889	0.81562
25	-0.00565	0.02323	0.64271
26	0.00279	0.02602	0.70589
27	-0.00954	0.01649	0.43887
28	-0.01191	0.00458	0.11967
29	0.00052	0.00510	0.13097
30	-0.00510	0.00000	0.00000
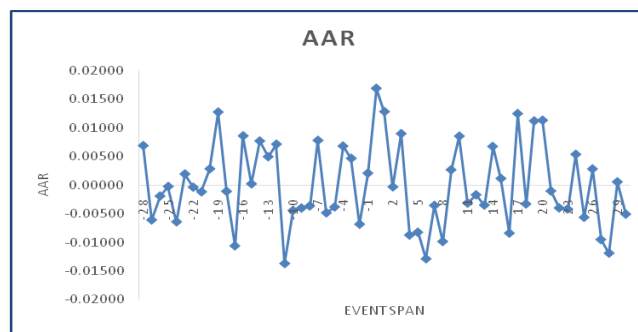
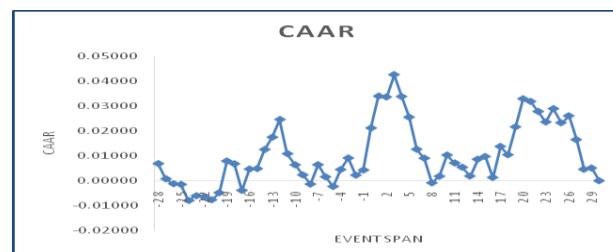
Figure 9 *Average Abnormal Returns*

Figure 9 *Cumulative Average Abnormal Returns*

Implications of the Study

Hope and greed are the two main forces that drive the sentiments of humans and hence are the key forces for the working of market forces. With the Indian stock markets booming, investors are rushing to the bourses. But the small investor needs to exercise caution so as not to lose out in this rally. The Securities and Exchange Board of India, along with the National Securities Depository Limited, is thus trying to aggressively promote amongst the investors the need to be cautious. The study is an attempt to guide the investors for making profit in the long run. The following are few implications of the study. 1. No

investor can earn abnormal returns using a common investment strategy. 2. No investor can beat the market in the long term as laws of probability would suggest that fairly large number are going to beat the market not because of their investment strategy but because they are lucky. 3. In an efficient market the expected returns from any investment will be consistent with the risk of that investment over the long term though there may be deviations arising from announcements or publicly available information from these expected returns in short term. 4. If the market is efficient the shares are already correctly priced and it is just as likely that the next move in prices will be down as up. The past price movements have nothing to say about future movements.

5. Conclusions

In reality, markets are neither perfectly efficient nor perfectly inefficient. The present study is based on stock price reactions on recent announcement of reduction in the corporate tax rate. The semi strong hypothesis says that stock prices accurately reflect all publicly available information in an economy. In this regard an attempt was made to study and test the effect of corporate tax reduction announcement as one major event. New information in the economy arrives in a random fashion; therefore, changes in stock market prices also take on a random pattern. It then follows that since the resulting changes in price occur randomly, investors cannot use the information to earn above average returns.

The study also revealed that the Indian stock market (Nifty 50) does not have semi strong form of market efficiency and the effect of event is for a very short period, as the value of t-test for the event window had not been close to the critical value. The results of the present study are only suggestive on this front and no special generalization could be drawn. Further, the exclusive and extensive research can also be made for all the major events from the Indian Capital Market. The study concludes that announcement of reduction in corporate tax rate does not result in positive share price reaction where share prices have not reflected any abnormal gain and after about 30 days stabilized back to the normal fluctuations.

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