Event Study on Appointment and Removal of Chairman: Case of Tata Group

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Impulsive nature of stock movements is researched a lot. Fundamental analysis captures all the events in the long run. Technical analysis studies the past prices and volumes to forecast future price trends. Both, charts and fundamentals adjust itself to new information hitting the market.

This study is proposed to map the impact of entry and exit of key person in the organization on the stock returns. Cyrus Mistry took charge as Chairman of Tata Sons in 2012 and he was removed in 2016. Investors reacted to both in an impulsive manner. Shares of all the listed companies of Tata group traded with high volume and volatility following thisnews. This study will be studying the event of appointment and removal of Chairman (Cyrus Mistry) on the stock returns of listed shares of Tata Group.

The eleven listed stocks of Tata group will be taken as samples and stock movements will be analyzed for the 8 trading sessions. Phenomenon of Excess returns will be used to study the impact of the event. Paired T-test has been employed to analyze the impact on excess return before and after the announcement of appointment and removal of the Chairman.

Keywords: *Cyrus Mistry,Event Study, Excess Returns, Tata Group,*

INTRODUCTION

Financial market, one of the most volatile markets, which quickly absorbs any sensitive market information, may be about a firm or economy as a whole, by transmitting it in by changes in the stock price. Most importantly this market is so sensitive that it starts showing the impact of information not only after the announcement but quite before the announcement. But reaction of each information is not same since they differ in timing, magnitude and even in direction than expected. Financial economist interprets such change by one of the statistical study called event study to have an insight on pattern and returns on stock prices due to some important announcement which may be an abnormal gain to some and an abnormal loss to many. But for such studies, one must identify events which impact either the economy or industry or group of firms which has taken place once and that too all of a sudden. If event is already known before, then the financial market adjusts itself with the event as it happens. For this study, the researchers have taken the announcement of removal of Cyrus Mistry from the chairmanship of Tata Group of Industries on November 25, 2016 after a span of 4 years. Being one of the largest Industrial groups of India with almost 30 public listed companies and more than 650000 employees, the impact of the sudden news is obvious in stock prices. In this study, an effort has been made to find if market was able to access the impact of such an event in short term.

LITERATURE REVIEW

Financial Market reaction to a new event: According to Fama (1969) any financial market is efficient when current prices immediately reflect the new information may be in weak from, semi-weak form or strong form. But the market efficiency hypothesis is challenged by behavioral finance researcher on the ground that special inputs are needed from other social science perspective, such as psychology and sociology which affects the buying behavior of investors. Brown (2011) argues that still there is no mechanism that drives stock market prices to "fully reflect or react" to new information. Malkiel (2013) claims that market makes some mistakes due to may irrationalities of market participants and due to that pricing are not always perfect. Shiller (2003) and De Bondt and Taler (1985) concluded that people tend to overreact due to new information or events that are dramatic and unanticipated. Davy Ghanem and David Rosvall (2014) have used exploratory approach to find that for certain categories of Major World events (MWE) stock market react differently.

Financial Market reaction to special events: Different studies related to major word events and stock market has been conducted it may be any political event, financial change, leader change or natural disaster. Niederhoffer (1971) was the first to study the impact of political event may be assassination of political leader or outbreak of war and conclude that stock market overreacts initially i.e. 1-2 days and then returns to normal after 2-5 days. Guidolin and Feerea (2008) has conducted that a study of 30 years i.e. (1974-2004) in 4 major countries i.e. in USA, Great Britain, France and Japan with a sample of their 101 internal and inter-state conflicts and found that a significant impact on stock market returns due to conflicts. Brooks et al. (2005) studied the 1989-90 unification of Germany in 31 countries with strong political and economic relations with Germany and these countries were studied during the most crucial dates around the unification. Apart from political events major financial and economic events are also given due importance. Neiame (2012) examined how the financial crisis of US in 2007/08 has affected the Middle East and north African region and conclude that countries with any type of close collaboration with USA affected badly. Dimpfl (2011) has beautifully examined the relation of any information regarding US economy on DAX stock price (German Stock Market) which opens one hour prior to NYSE (New York Stock Exchange) and before opening to NYSE, the DAX Index has already reacted. Chen et al. (1986) presented a well explained linkage between systematic macroeconomic factors like inflation and Industrial Production on NYSE returns and pricing and conclude that stock markets are systematically exposed to economics news. Naryan and Naryan (2012) had conducted a study to know the impact of major macroeconomics events in US between 2000 and 2010 and showed that through the range of impact was different in all 7 countries under study but every country stock market did have negative impact. Impact of natural disaster is still not very much explored. But in his classic paper Ramial (2013) analyzed the effects of 2004 Boxing Day Tsunami on world stock markets and studied almost 12 countries that experienced natural disaster and pointed out that there was no direct link between returns on equity portfolios and tsunami.

Leadership or management change and reaction of stocks: Merrill (1984) study is based on how American stock market reacts negatively on the announcement of presidential illness or death of key political person and the result showed that after a day is passed the stock market recovers and reaches to pre-information level. In their research, Warner et al. (1988) showed a significant association between poor stock performance and frequency of management turnover but find no significant excess returns to shareholders at the announcement of management change. They also found that an abnormal return at announcement is a result of sum of information effect and a real effect. It depends upon how markets perceive the information. If management change suggests that firm's performance was worse than the market had realized, the information effect would be negative and it the change in interest of shareholders the real effect would be positive. Bonnier, Karl-Adam, and Robert F. Bruner (1989) had used cross sectional tests of effects on a sample of 70 firms making 84 management decision between 1986 to 1983 to analyze excess returns of shareholders at the announcement of a change of a senior management.

RESEARCH METHODOLOGY

The principal aim of this study is to test the impact of appointment and removal of chairman on the stock returns. The recent episode of removal of Cyrus Mistry as a Chairman of Tata group is taken as sample. Tata group has fourteen companies listed on Bombay Stock Exchange (BSE) out of which eleven companies are actively traded. These eleven companies are taken as sample.

Cyrus Mistry was announced as a Chairman of Tata group on 24th November, 2011 and on 25th November, 2016 announcement of his removal was made. Both the decisions were surprising for market participants and analysts. Lots of trading activities were generated after these announcements. The researchers found it interesting to take the opportunity to analyze whether this news enabled market participants to generate excess returns. Excess returns were termed as actual returns having more than the expected returns. Expected returns for this purpose were benchmarked to market returns (i.e. Sensex returns). The data was analyzed for eight trading sessions before and after the announcement was made. The date of announcement was considered as event day (Day 0).The daily closing stock prices before and after ten days of the event were considered and taken for analysis. The excess returns before and after the announcements were tested with Paired T Test as the objective was to test if there exists significant difference between excess returns before and after the announcement. The data were sourced from BSE's website, www.bseindia.com.

ANALYSIS AND INTERPRETATION OF DATA

The following section presents the results and the discussion. As the question addressing this study is to analyze if market could generate excess returns following the news of appointment and removal of Chairman, the analysis and interpretation is divided into two parts. A) Analysis of Excess Returns on Announcement of Appointment of Chairman, B) Analysis of Excess Returns on Announcement of Removal of Chairman.

A) Analysis of Excess Returns on Announcement of Appointment of Chairman

Figure - 1 Descriptive Statistics (Excess Returns)

	Tata Che	Tata Cof	Tata Comm	Tata Elxsi	Tata Global Bev	Tata Metal	Tata Motors	Tata Power	Tata Spo	Tata Steel	TCS
Before Appointment of Chairman											
Mean	0.301	0.110	0.162	-0.070	0.061	0.015	-0.048	0.160	0.137	0.095	0.089
S.D.	0.942	1.484	1.199	0.364	0.752	0.877	0.620	0.798	1.086	0.303	0.356
After Appointment of Chairman											
Mean	-0.391	-0.324	-0.125	-0.142	-0.771	-0.627	-0.258	-0.373	-0.361	-0.005	0.003
S.D.	0.716	0.793	0.841	0.963	0.904	1.530	0.804	0.384	0.769	0.901	0.433

Figure 1 depicts excess returns of the sample companies before and after the date of appointment of Cyrus Mistry as Chairman of Tata Group. It was an interesting trend to observe. Only two excess returns were negative (Tata Elxsi and Tata Motors) before the appointment of the new chairman. After the announcement only one excess returns could remain positive (TCS) rest of all were negative. The reason may be the psychological trauma that people might have assumed on the decision of Ratan Tata stepping down.

Before taking the series of excess returns to check the paired differences by using paired t test, the series were checked for normality. As per Kolmogorov-Smirnov test statistic all series were normal as they had significance value of more than 0.05. As per Shapiro-Wilk test statistic the series of excess returns for Tata Communications was not normal, other all series were normal. This confirmed that the data was fit for paired t test.

The figure 3 depicts the correlation statistics for both the series of excess returns before and after the appointment of Chairman. All correlations were insignificant.

Paired t test was employed to check the null hypothesis of no significant difference between excess returns before and after the announcement of appointment of Chairman. It was found that all test values were insignificant at 5 percent level of confidence. This means that there was no significant difference between excess returns before and after the announcement of appointment of Chairman.

It would be interesting to analyze this further. Market in short-term always oscillates between optimism and pessimism. The number of long and short positions coincide. This becomes the reason for test statistics to turn insignificant and inference that there is not much difference in reaction of market on the appointment of new Chairman.

Figure - 2 Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Tata Chemicals	0.178	17	0.157	0.937	17	0.288
Tata Coffee	.0138	17	0.200*	0.946	17	0.395
Tata Communications	0.177	17	0.164	0.879	17	0.030
Tata Elxsi	0.152	17	0.200*	0.924	17	0.172
Tata Global Beverages	0.128	17	0.200*	0.983	17	0.981
Tata Metaliks	0.088	17	0.200*	0.966	17	0.752
Tata Motors	0.191	17	0.101	0.941	17	0.326
Tata Power	0.172	17	0.193	0.896	17	0.057
Tata Sponge	0.097	17	0.200*	0.977	17	0.921
Tata Steel	0.152	17	0.200*	0.954	17	0.525
TCS	0.118	17	0.200*	0.961	17	0.643

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure - 3 Paired Samples Correlations		
	Correlation	Sig.
Tata Chemicals	-0.007	0.987
Tata Coffee	0.127	0.765
Tata Communications	-0.466	0.244
Tata Elxsi	0.037	0.932
Tata Global Beverages	-0.587	0.126
Tata Metaliks	0.590	0.124
Tata Motors	0.218	0.605
Tata Power	0.581	0.131
Tata Sponge	0.289	0.487
Tata Steel	-0.017	0.969
TCS	0.160	0.705

Figure - 4 Paired Samples Test						
	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Tata Chemicals	0.692	1.187	0.420	1.650	7	0.143
Tata Coffee	0.434	1.591	0.563	0.771	7	0.466
Tata Communications	0.288	1.756	0.621	0.463	7	0.657
Tata Elxsi	0.073	1.017	0.360	0.202	7	0.846
Tata Global Beverages	0.832	1.476	0.522	1.594	7	0.155
Tata Metaliks	0.642	1.235	0.437	1.471	7	0.185
Tata Motors	0.210	.902	0.319	0.659	7	0.531
Tata Power	0.532	.654	0.231	2.301	7	0.055
Tata Sponge	0.498	1.135	0.401	1.242	7	0.254
Tata Steel	0.099	0.956	0.338	0.295	7	0.777
TCS	0.086	0.514	0.182	0.475	7	0.650

B) Analysis of Excess Returns on Announcement of Removal of Chairman

It would be interesting to analyze how market reacted hearing the removal of Cyrus Mistry. There were a few confusions, rumors and gossips. Market, probably discounted all these.

The trend of stock returns was mixed after the removal of Cyrus Mistry from Chairman. Excess returns of six companies were negative before the announcement was made. But, after the announcement excess returns of only four companies were negative. The news of removal of

Cyrus Mistry as Chairman was taken by market with mixed emotions. It seemed like that market was not able to decide the impact of the decision and hence considerable short and long positions were taken.

While checking normality for the series of excess returns after the removal of Cyrus Mistry as Chairman, it was found that as per Kolmogorov-Smirnov test statistic three series were not normal (Tata Elxsi, Tata Metaliks and Tata Power), rest of all them were normal. As per Shapiro-Wilk test statistic, Tata Elxsi, Tata Metaliks and Tata Sponge were found to be not normal. Researchers accepted the phenomenon of not normal series as limitation of the study. Researchers are of opinion that instead of playing with the data to make the series normal, it is better to keep the original data and take phenomenon of non normality as limitation.

The figure 7 depicts the correlation statistics for both the series of excess returns before and after the removal of Chairman. All correlations were insignificant.

Figure - 5 Descriptive Statistics (Excess Returns)

Day	Tata Che	Tata Cof	Tata Comm	Tata Elxsi	Tata Global Bev	Tata Metal	Tata Motors	Tata Power	Tata Spo	Tata Steel	TCS
Before the Removal of Chairman											
Mean	0.451	-0.048	0.060	-0.353	0.027	-0.524	0.020	-0.090	-0.003	-0.142	0.154
S.D.	0.528	0.724	0.699	1.109	0.427	0.480	0.939	0.745	0.571	0.800	0.438
After the Removal of Chairman											
Mean	0.061	-0.087	0.043	0.045	0.164	-0.001	0.404	-0.026	-0.174	0.090	0.092
S.D.	1.130	0.566	0.748	0.726	0.591	1.550	1.148	0.589	0.825	0.678	0.446

Figure - 6Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Tata Chemicals	0.131	17	0.200*	0.950	17	0.451
Tata Coffee	0.138	17	0.200*	0.949	17	0.435
Tata Communications	0.191	17	0.102	0.913	17	0.115
Tata Elxsi	0.224	17	0.024	0.860	17	0.015
Tata Global Beverages	0.110	17	0.200*	0.968	17	0.780
Tata Metaliks	0.219	17	0.029	0.827	17	0.005
Tata Motors	0.134	17	0.200*	0.958	17	0.590
Tata Power	0.233	17	0.015	0.907	17	0.088
Tata Sponge	0.178	17	0.155	0.874	17	0.025
Tata Steel	0.123	17	0.200*	0.957	17	0.571
TCS	0.176	17	0.170	0.928	17	0.204
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Figure– 7 Paired Samples Correlations

	Correlation	Sig.
Tata Chemicals	0.209	0.620
Tata Coffee	-0.403	0.322
Tata Communications	0.010	0.982
Tata Elxsi	0.408	0.316
Tata Global Beverages	0.107	0.801
Tata Metaliks	0.232	0.581
Tata Motors	-0.394	0.334
Tata Power	0.099	0.816
Tata Sponge	-0.454	0.258
Tata Steel	0.060	0.887
TCS	0.355	0.388

Figure - 8 Paired Samples Test

	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Tata Chemicals	0.390	1.143	0.404	0.965	7	0.367
Tata Coffee	0.039	1.084	0.383	0.101	7	0.923
Tata Communications	0.017	1.019	0.360	0.047	7	0.964
Tata Elxsi	-0.398	1.049	0.371	-1.073	7	0.319
Tata Global Beverages	-0.137	0.691	0.244	-0.560	7	0.593
Tata Metaliks	-0.521	1.513	0.535	-0.978	7	0.361
Tata Motors	-0.384	1.746	0.617	-0.622	7	0.554
Tata Power	-0.064	0.903	0.319	-0.200	7	0.847
Tata Sponge	0.172	1.197	0.423	0.405	7	0.697
Tata Steel	-0.233	1.017	0.360	-0.647	7	0.538
TCS	0.062	0.502	0.178	0.350	7	0.737

Announcement of appointment of Chairman did not significantly impact the stock returns. Similarly the paired t test was employed to check whether announcement of removal of Chairman significantly impacts the stock returns. It was found that all t-statistics were insignificant at 5 percent confidence level. This means that announcement of removal of Chairman did not create an opportunity to generate excess returns.

These results further affirm the apprehension that markets take such information in indecisive manner.

Many market participants take this as positive while others have taken it equally negative. This resulted into both, long and short positions. This also creates equilibrium, so markets are unable to generate excess returns.

CONCLUSION

Appointment and removal of Chairman for any company is always considered to be an important event. The case of Tata group is taken for study which has appointed Cyrus Mistry as Chairman and after four years of his term he is removed. It was observed from the data of eleven companies of Tata group that the event was able to generate impulse around stocks of Tata group, but event does not result in generating excess returns for the market participants.

The results supported the semi-strong form of market efficiency (Fama, 1969) as impulses were observed around the time of the news announcement. It was worth inferring markets did not generate excess returns during both the events of appointment and removal of Chairman of Tata group. The reason that researchers put forward is markets fail to assess the impact of such event in short-term.

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She is expert in conducting market feasibility studies and in quantitative and qualitative researches. She is recipient of "Education Excellence Award" and honored by Hon. PenisimaniEpenisaFiftia, Minister of Education and Training, the Kingdom of Tonga on 20 April 2017. Her name was included in prestigious Coffee table book-50 influential females of India, which has already been launched in Delhi-London and in September it is going to be launched in Dubai.