Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 7, Issue, 02, pp.13048-13052, February, 2015

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

RESPOND OF CEMENT INDUSTRY DURING LONG (AZADI) MARCH AN EVENT STUDY IN PAKISTAN SCENARIO

***Adnan Sikandar and Hina Affandi**

Pakistan

ARTICLE INFO

Article History:
Received 21st November, 2014
Received in revised form
09th December, 2014
Accepted 09th January, 2015
Published online 28th February, 2015

Key words:

Event study,
Abnormal returns,
Cumulative abnormal returns,
t-test, CAPM.

ABSTRACT

Employee The ultimately purpose of the research is to investigate the respond of Pakistani cement industry during the long March headed by Mr. Imran Khan Chairman PTI against the existing regime of Pakistan. The data of daily share prices of the top 14 companies of the cement industries have been gathered by developing the event windows from 4th August, 2014 to 30th December, 2014. The data of daily KSE index has also been collected for the same period and abnormal returns (AR) and cumulative abnormal returns (CAR) have been calculated. The data has been collected from Yahoo Finance and business recorder. The significance of daily change of AR and CAR has been tested by using t-statistic, which depicted that both the AR and CAR has shown significantly change in pre-event, Post event and during the event windows. Furthermore, the results also depicted that average (Mean) of both the actual returns (ACR) and expected returns (ER) are significantly different to each other. The CAPM has been applied to determine the expected returns (ER). The study is helpful for the investors that they should beware and conscious during the political instability in Pakistan as the cement industry responds significantly during the said situation. Furthermore, the study is also helpful for the management of cement industry to be conscious during the scenario of political instability as the systematic risk will be high during this situation.

INTRODUCTION

The target of the study is to pinpoint the response of Pakistani Cement industry during the long March headed by Mr. Imran Khan during the month of August, 2014. This is an event study and previous a similar study has been made in India to investigate the Indian market response because of dividend announcement (**Debasish and Kushankur, 2012**). However, in this study the paradigm has been transferred to the response of Pakistan cement industry due to political instability. Many researchers discussed the importance of the political stability and laws enforcement for the safety of shareholders to develop the financial markets (**La Porta *et al*., 1998; Clague *et al*., 1996**). In corporate finance, event study has its own significance for research as the event study elaborates that how the investors act because of publishing of new information in the market and effect of their response on the behavior of the market (**Debasish and Kushankur, 2012**).**Titman and Wessel (1988)** explained that due to new information in the market the share prices change and s reflect the returns. The remaining portion of the study is concerned to the literature review and development of hypotheses. The next section is about the methodology of the study and 3rd phase is about the results of the study.

***Corresponding author:** Adnan Sikandar,*
Pakistan

The final phase is about the conclusion, recommendations and future dimensions of the research.

Literature Review

An extensive literature is present pertaining to event study and **Dolley (1933)** firstly presented his statistical study regarding stock prices changes. **Myers and Bakay (1948) and Ashley (1962)** researched for event study and its applicability **Ball and Brown (1968)** shifted the paradigm of event study to earnings and **Fama *et al*. (1969)** applied the same study by investigating the stock changes after eliminating the dividend increases. At the later stage methodological changes were occurred by incorporating the daily data and monthly for event study (**Brown and Warner, 1980**) and with the passage of time the contribution of different researchers on event study increased gradually. In past many researchers elaborated the significance of political stability for financial development and legal origins to protect the creditors and shareholder (**La Porta *et al*., 1998; Clague *et al*., 1996**). Political risk is a warning element for the investors to invest in the stock markets (**Clark and Tuanru, 2003**). Uncertainty for business due to political instability has its influence on the portfolio of the investment as investors are not able to estimate the future clearly (**Robbock and Simmonds, 1973**). Law and orders situation, social disturbance, strikes and all types of the political instabilities have their

inspiration on investment (**Nabamita, 2012**). A lot of literature stressed the essential of the institutions that helps in boosting the confidence of the investors by protecting their rights. (**Acemoglu *et al*., 2001, Beck *et al*., 2000; La Porta *et al*., 1998; Rajan and Zingales, 2003**). Betterment and efficiency of the political institutions provide the free and friendly atmosphere for the investors by securing their property rights, better development of capital markets and reducing the political risk (**Nabamita, 2012**). Financial markets responds positively due to political stability as efficiency of political institutions inspires directly the financial development (**Rajan and Zingales, 2003**).Investors are more conscious for political scenario before investing their investment in stock markets (**Nabamita, 2012**).

Capital asset pricing model (CAPM) has been applied to determine the values of expected returns. This model is useful and has evidence to use in large scale (**Chandy and Wallacen, 1986**) in spite of CAPM having many controversies in academic literatures (**Myers, 1977**).**Graham and Harvey (2001)** reported in their study that 73.5% respondents (Financial officers) proposed to use Capital asset pricing model (CAPM) for calculating the expected returns.

$$ER = r_f + B_i(r_m - r_f)$$

Hypothesis

H_1: Mean (Average) of Actual returns and Expected returns of Cement industry are significantly different during the long March and Dharna.
H_2: Abnormal returns of Cement industry responded significantly during the Long March and Dharna
H_3: Cumulative returns of Cement industry responded significantly during the long March and Dharna.

MATERIALS AND METHODS

The research is pertaining to event study and event window has been created by taking into account the political instability time period in Pakistan. The duration of long march and Dharna headed by Mr. Imran khan was from 13th August, 2014 to 18th December, 2014. Therefore, the window from 4th August, 2014 to 12thAugust, 2014 is for pre-event and window from 19th December, 2014 to 30thDecember, 2014 is for post-event. Top 14 firms have been selected on market capitalization basis from Cement industry and the average of their share prices have been taken into account. The aim is to check the change of Abnormal return (AR) and cumulative abnormal return (CAR). Daily data pertaining to KSE index and share prices of companies has been used. The data pertaining to Karachi Stock Exchange Index (KSE) has been collected from Yahoo Finance and the data regarding the companies of cement industry has been gathered from Business recorder. Furthermore, the Capital Asset Pricing Model (CAPM) has been used to determine the expected return (ER).

$$ER_t = R_f + B_i(R_m - R_f)$$

B_i= Systematic risk for the specific industry (Cement industry)

$$B_i = \frac{Covariance\ between\ market\ and\ cement\ Industry\ daily\ return}{Variance\ in\ Market\ daily\ returns}$$

R_f = Risk free rate for 365 days as daily data has been used.
R_m= Average market return

The Abnormal returns (AR) have been determined by taking the difference between actual and expected returns.

$$AR = Actual\ returns - Expected\ returns$$

$$AR_t = ACR_t - ER_t$$

AR=Abnormal returns for time t, ACR=Actual return for time t, ER=expected returns for time t

$$CAR_t = \sum AR_t$$

CAR=Cumulative abnormal returns for time t.

For investigation purpose of Hypothesis (H_1) the T-test for difference of paired of means and for Hypotheses (H_2& H_3) the T-test has been applied in both Abnormal and cumulative abnormal returns.

$$t_{cal} = \frac{AACR - AER}{S.E\ of\ Differenc\ of\ ACR\ \&\ ER}$$

AACR= Average (Mean) of actual returns, AER=Average (Mean) of expected returns and S.E=Standard error

$$t_{cal} = \frac{Abnormal\ returns\ (AR)}{Standard\ error}$$

$$t_{cal} = \frac{Cumulative\ Abnormal\ returns\ (CAR)}{Standard\ error}$$

Both have been tested at the significant level 5%, which t-table value is 1.98. If t-calculated value is greater than t-table value (1.98), the hypothesis of the study is accepted that the abnormal returns and Cumulative abnormal returns are significantly different from previous period (Day).

RESULTS

Table 1 is depicting the outcome pertaining to descriptive statistics of actual returns (ACR), expected returns (ER) and abnormal returns (AR) of the cement industry of Pakistan. These outcomes are demonstrating that average value of actual return is 0.002, this series negative skewed, curve is mesokurtic and 1.5% variation is existed in this series. As concerned with expected returns (ER), the average value is -0.0457, the series of ER is negatively skewed, curve is leptokurtic and 45% dispersion is existed in the series of ER. Furthermore, average abnormal return is 0.048, the series of AR is positively skewed, 45% variation is existed in the series of AR with curve leptokurtic.

Table 2 is depicting the outcomes regarding the hypothesis (H_1) that the average (Mean) of actual returns (AR) and Expected returns (ER) are significantly different. Both the values of t-stat (Calculated values) of one tail and two tail (0.151 & 0.303 respectively) are not falling in the rejection area as values are less than the table values (1.66 & 1.98 respectively) at

significance level 5%. Therefore, the hypothesis (H_1) is true that average values (Mean) of both actual returns and expected returns varying significantly. It is further added that the strength of relationship between both series is positive and very weak i.e 0.065.

Table 1. (Descriptive Statistics)

Description	ACR	ER	AR
Mean	0.0018882	-0.0457	0.04754
Median	0.0027172	0.00071	0.00122
Standard Deviation	0.0158071	0.45516	0.4544
Kurtosis	1.0138404	97.879	97.9033
Skewness	-0.1633159	-9.8904	9.89224
Range	0.0878971	4.53647	4.51949
Minimum	-0.0467677	-4.5042	-0.0206
Maximum	0.0411295	0.03228	4.49893
Observations	98	98	98

Table 2. (Results for Hypothesis H_1)

t-Test: Paired Two Sample for Means		
Mean	Actual Returns	Expected Returns
	0.001888153	-0.045656198
Variance	0.000249864	0.207170043
Observations	98	98
Pearson Correlation	0.065239497	
Hypothesized Mean Difference	0	
Df	97	
t Stat	1.035790103	
P(T<=t) one-tail	0.151437706	
t Critical one-tail	1.66071461	
P(T<=t) two-tail	0.302875411	
t Critical two-tail	1.984723186	

The Table 3 is demonstrating the results regarding the Hypotheses (H_2 & H_3).

Table 3. AR & CAR under the CAPM Model Abnormal returns and cumulative abnormal returns having calculating by using CAPM and Tested their significance by T Test at significance level 5%

Dates	Event Windows	Results for Abnormal returns			Results for Cumulative Abnormal Returns		
		AR	T Test (AR)	Status	CAR	T Test (CAR)	Status
4-Aug	Pre-event Window	-0.01095	-9.1734	Sig	-0.03772	-31.6001	Sig
5-Aug		-0.01571	-13.162	Sig	-0.05343	-44.7621	Sig
6-Aug		0.001005	0.841641	Insig	-0.05242	-43.9205	Sig
7-Aug		0.010382	8.698381	Sig	-0.04204	-35.2221	Sig
8-Aug		-0.00072	-0.60204	Insig	-0.04276	-35.8241	Sig
11-Aug		0.006359	5.327858	Sig	-0.0364	-30.4963	Sig
12-Aug		-0.01756	-14.714	Sig	-0.05396	-45.2103	Sig
13-Aug		-0.0034	-2.84688	Sig	-0.05736	-48.0572	Sig
15-Aug		-0.00187	-1.56349	Insig	-0.05923	-49.6207	Sig
18-Aug		0.008536	7.151194	Sig	-0.05069	-42.4695	Sig
19-Aug		-0.00775	-6.49435	Sig	-0.05844	-48.9638	Sig
20-Aug		0.008864	7.42637	Sig	-0.04958	-41.5375	Sig
21-Aug		0.00284	2.379442	Sig	-0.04674	-39.158	Sig
22-Aug		-0.00253	-2.12065	Sig	-0.04927	-41.2787	Sig
25-Aug		-0.00517	-4.33072	Sig	-0.05444	-45.6094	Sig
26-Aug		-0.01438	-12.0445	Sig	-0.06881	-57.6539	Sig
27-Aug		-0.0093	-7.78917	Sig	-0.07811	-65.443	Sig
28-Aug		-0.00392	-3.28781	Sig	-0.08204	-68.7308	Sig
29-Aug		0.00755	6.325273	Sig	-0.07449	-62.4056	Sig
1-Sep		0.000523	0.438223	Insig	-0.07396	-61.9673	Sig
2-Sep		0.010372	8.689548	Sig	-0.06359	-53.2778	Sig
3-Sep		0.023238	19.46953	Sig	-0.04035	-33.8083	Sig
4-Sep		0.011396	9.547792	Sig	-0.02896	-24.2605	Sig
5-Sep		-0.01026	-8.59741	Sig	-0.03922	-32.8579	Sig
8-Sep		-0.0077	-6.44799	Sig	-0.04691	-39.3059	Sig
9-Sep		-0.0021	-1.7605	Insig	-0.04902	-41.0664	Sig
10-Sep		-0.00334	-2.8008	Sig	-0.05236	-43.8672	Sig
11-Sep		0.009968	8.351156	Sig	-0.04239	-35.516	Sig
12-Sep		-0.0085	-7.1199	Sig	-0.05089	-42.6359	Sig
15-Sep		-0.0052	-4.35752	Sig	-0.05609	-46.9934	Sig
16-Sep		0.012623	10.57559	Sig	-0.04347	-36.4179	Sig
17-Sep		0.005278	4.422204	Sig	-0.03819	-31.9957	Sig
18-Sep		-0.00936	-7.8444	Sig	-0.04755	-39.8401	Sig
19-Sep		0.001555	1.303014	Insig	-0.046	-38.537	Sig
22-Sep		-0.01496	-12.5367	Sig	-0.06096	-51.0738	Sig
23-Sep		0.003351	2.807191	Sig	-0.05761	-48.2666	Sig
24-Sep		-0.00318	-2.66685	Sig	-0.06079	-50.9334	Sig
25-Sep		0.004972	4.165737	Sig	-0.05582	-46.7677	Sig
26-Sep		-0.00667	-5.58548	Sig	-0.06249	-52.3532	Sig
29-Sep		0.000136	0.114352	Insig	-0.06235	-52.2388	Sig
30-Sep	Event Window	0.003846	3.222066	Sig	-0.05851	-49.0167	Sig
1-Oct		0.001971	1.651023	Insig	-0.05653	-47.3657	Sig
2-Oct		-0.02057	-17.2305	Sig	-0.0771	-64.5962	Sig
3-Oct		0.002848	2.386002	Sig	-0.07425	-62.2102	Sig
9-Oct		0.002568	2.151319	Sig	-0.07168	-60.0589	Sig

Continue……..

10-Oct		0.000533	0.446875	Insig	-0.07115	-59.612	Sig
13-Oct		0.003735	3.129166	Sig	-0.06742	-56.4829	Sig
14-Oct		0.011298	9.465413	Sig	-0.05612	-47.0174	Sig
15-Oct		0.007034	5.893196	Sig	-0.04908	-41.1242	Sig
16-Oct		0.002819	2.361564	Sig	-0.04627	-38.7627	Sig
17-Oct		-0.00243	-2.03385	Sig	-0.04869	-40.7965	Sig
20-Oct		-0.0052	-4.35446	Sig	-0.05389	-45.151	Sig
21-Oct		0.010468	8.770571	Sig	-0.04342	-36.3804	Sig
22-Oct		0.000685	0.574273	Insig	-0.04274	-35.8061	Sig
23-Oct		0.005457	4.572106	Sig	-0.03728	-31.234	Sig
24-Oct		-0.00694	-5.81091	Sig	-0.04422	-37.045	Sig
27-Oct		0.013238	11.0908	Sig	-0.03098	-25.9542	Sig
28-Oct		-0.00099	-0.83035	Insig	-0.03197	-26.7845	Sig
29-Oct		-0.00349	-2.92777	Sig	-0.03546	-29.7123	Sig
30-Oct		0.001468	1.229628	Insig	-0.034	-28.4827	Sig
31-Oct		-0.0012	-1.00572	Insig	-0.0352	-29.4884	Sig
5-Nov		0.033232	27.8422	Sig	-0.00196	-1.64618	Insig
6-Nov		0.024652	20.65373	Sig	0.022687	19.00756	Sig
7-Nov		-0.00578	-4.84018	Sig	0.01691	14.16737	Sig
10-Nov		-0.00333	-2.78948	Sig	0.01358	11.37789	Sig
11-Nov		-0.0119	-9.97419	Sig	0.001675	1.403703	Insig
12-Nov		-0.00577	-4.83696	Sig	-0.0041	-3.43326	Sig
13-Nov		-0.01027	-8.60543	Sig	-0.01437	-12.0387	Sig
14-Nov		0.019163	16.05479	Sig	0.004794	4.016104	Sig
17-Nov		-0.00036	-0.30052	Insig	0.004435	3.715588	Sig
18-Nov		0.019478	16.31859	Sig	0.023912	20.03418	Sig
19-Nov		0.004468	3.743279	Sig	0.02838	23.77746	Sig
20-Nov		-0.00941	-7.88382	Sig	0.01897	15.89364	Sig
21-Nov		-0.00179	-1.49951	Insig	0.017181	14.39413	Sig
24-Nov		0.003826	3.205633	Sig	0.021007	17.59976	Sig
25-Nov		0.001782	1.492692	Insig	0.022788	19.09246	Sig
26-Nov		0.002412	2.021066	Sig	0.025201	21.11352	Sig
27-Nov		0.005514	4.619959	Sig	0.030715	25.73348	Sig
28-Nov		0.024549	20.56729	Sig	0.055264	46.30077	Sig
1-Dec		0.003991	3.343635	Sig	0.059254	49.6444	Sig
2-Dec		-0.00306	-2.56188	Sig	0.056197	47.08253	Sig
3-Dec		0.010775	9.027603	Sig	0.066972	56.11013	Sig
4-Dec		-0.00564	-4.7223	Sig	0.061335	51.38783	Sig
5-Dec		0.008206	6.875499	Sig	0.069542	58.26333	Sig
8-Dec		0.007614	6.379047	Sig	0.077156	64.64238	Sig
9-Dec		0.019254	16.13137	Sig	0.09641	80.77375	Sig
10-Dec		0.011801	9.88721	Sig	0.108211	90.66096	Sig
11-Dec		0.018723	15.68677	Sig	0.126934	106.3477	Sig
12-Dec		0.019271	16.14595	Sig	0.146206	122.4937	Sig
15-Dec		-0.00446	-3.73617	Sig	0.141746	118.7575	Sig
16-Dec		-0.00506	-4.23619	Sig	0.13669	114.5213	Sig
17-Dec		0.001432	1.199556	Insig	0.138122	115.7209	Sig
18-Dec		0.012744	10.67747	Sig	0.150866	126.3983	Sig
19-Dec	even	0.004982	4.174068	Sig	0.155848	130.5724	Sig
22-Dec		-0.01334	-11.1786	Sig	0.142506	119.3938	Sig
23-Dec		0.000282	0.236303	Insig	0.142788	119.6301	Sig
24-Dec	Post Window	-0.00914	-7.65461	Sig	0.133651	111.9755	Sig
30-Dec		4.498927	3769.278	Sig	4.632578	3881.253	Sig

The results are showing that the abnormal returns are changed significantly on daily basis during the Pre-event, during the event and post event windows. Its means returns of today are significantly changed from the returns of previous day. Furthermore, the cumulative abnormal returns are also changes significantly from the cumulative abnormal returns up to previous day. These results are showing the acceptance of the both hypotheses (H_2& H_3) of the study.

Conclusion

The ultimately purpose of the research is to investigate the respond of Pakistani cement industry during the long March headed by Mr. Imran Khan Chairman PTI against the existing regime of Pakistan. By reviewing the literature, the following hypotheses have been constructed.

H_1: Mean (Average) of Actual returns and Expected returns of Cement industry are significantly different during the long March and Dharna.

H_2: Abnormal returns of Cement industry responded significantly during the Long March and Dharna

H_3: Cumulative returns of Cement industry responded significantly during the long March and Dharna.

The data of daily share prices of the top 14 companies of the cement industries have been gathered by developing the event windows from 4th August, 2014 to 30th December, 2014. The data of daily KSE index has also been collected for the same period and abnormal returns (AR) and cumulative abnormal returns (CAR) have been calculated. The significance of daily change of AR and CAR has been tested by using t-statistic, which depicted that both the AR and CAR has shown

significantly change in pre-event, Post event and during the event widows. Furthermore, the results also depicted that average (Mean) of both the actual returns (ACR) and expected returns (ER) are significantly different to each other. Therefore, the results of the study are demonstrating that all the hypotheses developed in the study are true and accepted on the basis of the outcomes of the statistical applications.

The study is also helpful for the management of cement industry to be conscious during the scenario of political instability as the systematic risk will be high during this situation, which leads to change in the performance of the firms. Furthermore, the study is helpful for the investors that they should beware and conscious during the political instability in Pakistan as the cement industry responds significantly during the said situation. The study has been conducted only on the industry of Cement. Other events have not been incorporating in the study during the time period of Pre-event, post event and during the event window e.g Inqalib March was also there along with Azadi (long) March. The same study may be conducted by taking into account the other industries and their comparison may be viewed during these event windows and the stock volatility (Market volatility) may also be checked by using ARCH/GARCH family.

REFERENCES

Acemoglu, D., Johnson, S. and Robinson, J. 2001. Colonial origins of comparative development: An empirical investigation. *American Economic Review,* 91(5), 1369–1401.

Ashley, J. 1962. Stock prices and changes in earnings and dividends: Some empirical results. *Journal of Political Economy,* 70(1), 82–85.

Ball, R.P. and Brown, P. 1968. An empirical evaluation of accounting income numbers, *Journal of Accounting Research,* 6(2), 159–178.

Beck, T., Demirguc-Kunt, A. and Levine, R. 2000. A new database on financial development and structure, *World Bank Economic Review,* 14(3), 597–605.

Brown, S. and Warner, J. 1980. Measuring security price performance, *Journal of Financial Economics*, 8(3), 205–258.

Chandry, P.R., Wallace N. Davidson III, 1986. "Determinants of Electric Utility Betas", *Managerial Finance,* Vol. 12 Iss: 4, pp.1 – 3.

Clague, C., Keefer, C.P., Knack, S. and Olson, M. 1996. Property and contract rights under democracy and dictatorship. MPRA Paper 25720, University Library of Munich, Germany.

Clark, Ephraim and Tunaru, Radu. 2003. Emerging markets: Stock market investing with political risk. EFMA 2001 Lugano Meetings: Middlesex University Business School Discussion Paper No. 6, Cass Business School Research Paper.

Debasish, M. and Kushankur, D. 2012. "Dividend Announcement and Market Response in Indian Stock Market: An Event-Study Analysis", *Global Business Review,* 13(2) 269–283.

Fama, E.J., Fisher, L., Jensen, M. and Roll, M. 1969. The adjustment of stock prices to new information. *International Economic Review,* 10(1), 1–21. Finance, Vol. 43, pp. 1-19.

Graham, J.R. and Harvey, C. 2001. The theory and practice of corporate finance: evidence from the field. *Journal of Financial Economics* 60, 187–243.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. 1998. Law and finance, *Journal of Political Economy,* 106(6), 1113–1155.

Myers, J. and Bakay, A. 1948. Influence of stock split-ups on market price. *Harvard Business Review,* 26(2), 251–265.

Myers, S.C. 1977. Determinants of corporate borrowing, *Journal of Financial Economics, 5(2), 147-75.*

Nabamita, D. 2012. "Effect of the Political Regime on Asset Returns in Emerging Markets: An Empirical Investigation", *South Asian Journal of Macroeconomics and Public Finance*, 1(1) 135-156

Rajan, R.G. and Zingales, L. 2003. The great reversals: The politics of financial development in the twentieth century. *Journal of Financial Economies*, 69(1), 5–50.

Robbock, Stefan H. and Simonds, K. 1973. International business and multinational enterprise. Homewood: R. Irwin.

Titman, S. and Wessels, R. 1988. ''The determinants of capital structure choice''.

****