DO INVESTORS PUNISH MORAL LAPSES? - AN EMPIRICAL TESTING ON THE LINKAGES BETWEEN MORAL LAPSES AND SHARE PRICE RETURNS OF SELECTED COMPANIES.

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ABSTRACT

This study examines whether investors punish moral lapses of the company management that violated various established code of conduct and regulations. I further examine whether the moral lapses of the corporate leaders have had any impact on the share price behavior and consequently the returns from the market. Testing for randomness and normality of share price behavior in response to the event announcements are the focal points of the study. The sample comprises fifteen companies. Two non-parametric tests, Kolmogorov Smirnov Test and Runs Test for Randomness and one parametric test, Auto-correlation test have been applied to analyze the data. The analytical results of Kolmogorov–Smirnov test indicate that except for two companies, the returns are normally distributed. The implication of this outcome is that the shareholders do not immediately offload their holdings even after coming to know of the moral lapses of corporate executives. The Runs test for Randomness accepted the null hypothesis that the successive or lagged price changes of the sample companies follow a random walk. The Auto-correlation computed for the market return series shows no significant auto-correlation at different lags for the sample companies except for two companies. This again confirms that investors do wait and watch even after the announcement or happening of unpleasant events/developments in their companies. The findings are quite relevant to the investing community as a whole who invest their hard-earned money on corporate undertakings expecting reasonable returns.

Key Words: Moral lapses, Market efficiency, Event-study, Runs test, Share price returns, Auto-correlation,
JEL Classification: G14, G15

I. INTRODUCTION

Research studies indicate that there is a linkage between moral principles and corporate successes. Making use of the original data for their research, different authors exhibit how highly successful companies have as their leaders persons who possess and promote high moral values throughout the organization, top to bottom.

Contrary to this, bad businesses are also many a time rewarded by the shareholders but this phenomenon appears to be true only in the short-run and never in the long-run. Corporate history is smeared with many examples to testify the above phenomenon. For instance, when the CEO, Bernard Ebbers made an attempt to turn his company WorldCom into a telecommunication giant, investors bee-lined to acquire the common equity of the company. Unfortunately, the momentum did not last long. Scott Sullivan, the Chief Financial Officer (CFO) of WorldCom, who once regarded as the Chief Architect of Worldcom's success, was fired out of the company as he was found to be the kingpin behind the World's largest accounting fraud and bankruptcy filing in US corporate history. (David R. Lease, 2006).
In the same way, during the last two decades investors have been treated with many shocks and surprises thanks to the moral lapses on the part of the corporate leaders that resulted in scams and scandals siphoning off millions of hard-earned money of the gullible investors. A few other much hyped-up moral lapses that led to scandals and frauds are indicated below:

- Mitsubishi Motors's former president and ten other senior executives were behind the bars on charges related to systematic suppression of widespread vehicle defects.
- Former Adelphia, communications Chief Executive officer, John Rigons and his son Timothy were convicted of hiding more than $ 2 billion in debt while embezzling cash for various extravaganzas.
- Lucent Technologies was charged with improperly recognizing more than $ 1 billion in revenues and $ 470 million in pre-tax income during Fiscal 2000.
- The collapse of Enron in 2001-2002 stunned every investor, outraged the public, and baffled the investment analysts and bankers who regarded Enron as the best of corporate America. Interestingly, in April 2001, just eight months before the company declared bankruptcy, Enron was ranked number seven in terms of Market Capitalization (MCAP) on the list of Fortune 500 companies of the largest corporations in USA.

- The case of Tyco is not less severe. In September 2002, the former Tyco Chief Dennis Kozlowski and Former Tyco CFO Mark Swartz were indicted on 24 criminal charges which include larceny, securities fraud and enterprise corruption charges etc. (David R. Lease, 2006)

All the above scandals and corporate failures indicate only the tip of the iceberg. Again, an interesting aspect is that almost all the above companies were once considered to be the darlings of the investing public including investment analysts, fund managers and bankers.

II. IMPORTANCE OF THE STUDY

Against this backdrop, it is indeed a matter of utmost necessity to sift the sound and good corporates among thousands of corporate undertakings that woo the investors. This research study, it is fervently hoped, would help investors to identify whether dubious companies that are growing up to the limelight are always punished by the investors. If yes, it would hopefully help them to identify the best time at which they should sell their shares. Again, if the timing is identified, the shareholders would be able to save at least a portion of their hard-earned money, if not fully. Also, not many research studies have been carried out in this regard hence the present study.

III. LITERATURE REVIEW

The previous studies on informational efficiency are organized into two sections. In Section I, results of the previous research studies on the weak-form efficiency have been reviewed from both the developed and emerging markets. In section II, research studies on semi-strong form (public announcements/event-study study) have been reviewed.

Section I: Previous studies on weak-form efficiency

A succinct review of the previous research works evidences that the markets of developed economies are generally weak form efficient. It means that successive returns are independent and follow a random walk (Fama 1965, 1970). These results of weak-form efficiency are confirmed considering a low degree of serial correlation and transaction cost [(Kendall, 1943, 1953), (Cootner, 1962), (Osborne, 1962), (Fama 1965)]. All these research works support the proposition that price changes are random and past changes are

not useful in forecasting future price changes particularly after taking into consideration the transactions costs involved. A few other authors have made an attempt to predict the behavior of share price movements in developed markets [(Fama and French, 1988), (Poterba and Summers, 1988)] but they could not guide the investors with any clear-cut trading rules to make abnormal profits. Fama and French (1988) in their findings conclude that auto-correlations of returns might reflect market inefficiency or time-varying equilibrium expected returns generated by rational investor behavior but neither view suggested that the patterns of auto-correlation should be stable for a long sample period. Another attempt by Hudson, Dempsey and Keasey (1994) found that the technical trading rules have predictive power but not sufficient to earn excessive returns in UK market. A study conducted by Nicolaas (1997) also concluded that the past returns had some predictive power of future share price behavior but the degree of predictability of return is not so high.

However, the research findings of weak-form efficiency on the developing and less-developed markets have produced mixed results and are controversial too. There are a few limitations associated with less developed and emerging markets. They generally suffer from the problem of 'thin trading[a]'. Also, they give wider room for market manipulations. In general, developing and developed markets are believed to be less efficient. However, empirical evidence does not always support the same. The study conducted by Blasco and Santamar (1997) in the Spanish stock market provided evidence against the random walk hypothesis. In the same way, a study carried out by Smith, Jefferis and Ryoo (2001) tested whether five medium-sized markets, Egypt, Morocco, Kenya, Nigeria and Zimbabwe and two smaller markets, Botswanna and Mauritius had followed a Random Walk. The research indicated that the RWH does hold good in all the seven stock markets.

But, some of the studies support with the RWH. Olowe (1999) conducted a study in the context of Nigerian stock market which supported the Random Walk Hypothesis. Dahel and Laabas (1999) carried out a test of RWH on the capital markets of Bahrain, Kuwait, Oman and Saudi Arabia. They applied three tests of Random Walk Hypothesis, i.e., Unit Root, Variance Ratio, and Auto Correlation of Returns. While the results of Kuwait market supported the concept of RWH, other markets analyzed have rejected the same. Sharma (2005) in his study, tested whether daily returns series of Gulf Co-operation Council (GCC), stock markets are an approximation of normal distribution or not. Saudi, Qatar, Kuwait, and Oman stock market indices were examined by him in his study. Chi-square, Kolmogorov-

Smirnov test, Autocorrleation function and Partial Autocorrelation Functions were applied by him to test for randomness. The results revealed that the distribution of daily returns on these markets significantly deviated from the normal distribution during the study period.

Thus, the review of the past studies shows the evidences for and against the proposition of RWH. On the whole, studies carried out in the growing capital markets show that the proposition does not hold true in developing capital markets and studies in the developed capital markets evidence that it holds true.

Section II: Previous studies on 'event announcements':

The first empirical issue that the researchers have analyzed in this area is how dividend changes affect stock returns. Although Watts (1973) found no significant positive returns associated with dividend increases, later studies using, 'event methodology' conclude that dividend increases result in increased stock returns. Again, the second empirical issue dealt with dividend levels (or dividend yields) and how they affect stock returns. Tests by Watts (1973) and Black and Scholes (1974) concluded that dividend yields were irrelevant because they found that there was no relationship between dividend yields and stock returns. Conversely, later studies by Stone and Barter (1979) and Litzenberger and Ramaswamy (1979) concluded that dividend yields were relevant because there was a significant positive relationship between stock returns and dividend yields.

In the same way, earnings announcements and the market reaction to the information contained within them have been the subjects of a substantial body of empirical capital markets research. Research has shown evidence of relationship between periodic accounting results and event - window market returns though the significance is small. Some accounting researchers have attributed the small magnitude of this relationship to irrelevance of accounting information (Lev, 1989) while others have proposed that the small magnitude of this relationship is to be expected because accounting information reflects historical performance, and market price movements reflect changed expectations about future profitability. In the aftermath of the September 11 attack, a number of important studies have been published documenting the damage and giving detailed accounts of the whereabouts of displaced tenants. These studies present a revaluation of the impact of 9/11 on the market four years after the recovery process began.

Although many exceptions are found, the event-study tests generally support the view that the market is semi-strong form efficient and therefore also weak-form efficient.

The present study is basically an 'event-study'. Ross et al (2002) define an 'event-study study' as a statistical study that examines how the release of information affects share price behavior (informational efficiency) at a particular time. To make it more clear, an event-study uses transactions data from financial markets to predict the financial gains and losses associated with newly disseminated information. For example, the announcement of a merger between two firms could be analyzed to make predictions about the potential merger-related changes/impact to the supply and also the price of the product(s) subject to the merger (http://wikipedia.org/wiki/Event-study). Instead, in the current study, the immediate reaction/inaction of investors to the announcement of some moral lapses is examined.

IV. RESEARCH QUESTIONS, OBJECTIVES AND HYPOTHESES

i. Research Questions

Given the above background and importance of the study, the following research questions were framed for the current study.

i. Do investors punish moral lapses on the part of the companies that violated established code of conduct, standards and procedures?
ii. Do moral lapses and their revelations have any immediate impact on the share price behavior and returns of the said sample companies?

ii. Objectives of the Study

Based on the above research questions, the proposed research study has the following objectives.

i. to analyze whether investors offload the shares and securities of companies that report moral lapses as a form of punishment,
ii. to examine whether the share price behavior follow a random-walk, specifically with reference to 'event announcements', and
iii. To recommend the best timing by which the investors could sell out their shares in order to minimize their losses.

iii. Hypotheses of the Study:

In addition to the above mentioned objectives, the study tested the following hypotheses as well.

As stated in the theoretical framework, the proposition of Random Walk Hypothesis, which states that the successive price changes are independent, is tested with the following hypotheses.

Null and Alternate Hypotheses

Ho 1: The successive or lagged price changes of the sample companies do not follow a random walk.

Ha 1: The successive or lagged price changes of the sample companies follow a random walk.

Ho 2: The event announcement and price changes are independent.

Ha 2: The event announcement and price changes are dependent.

V. DATA AND METHODOLOGY

i. Data: I use daily closing prices of the sample companies. Fifteen sample companies have been covered in the study. The necessary data were collected from Yahoo Finance website, which has a record of past share prices in its 'Historical prices' weblink.

ii. Selection of Sample companies: The companies were chosen based on the happening of an 'event'. For instance, Health South, a Fortune 500 company, was chosen for the study as its Founder Chief Richard Scrushy was charged of bribery (19.03.2003, USA Today). The amount involved was a shocking $2.7 billion. This event took place on March 18, 2003 and this could be considered as day '0'. So, -10 days prior to the event and + 10 days after the event were included for analysis.

iii. Sampling Design: As stated earlier, a sample of fifteen corporate enterprises with tainted and dubious records was included in the study. The two conditions for a company to be included for analysis are that i) the sample company should have been charged/indicted/accused of dubious means to cover up their lapses pertaining to financial or accounting or other relevant scandals/lapses etc., ii) Secondly, their share price movements both for previous 10 days and post-10 days after getting crucial news should be available. The crucial date, as explained earlier, is the day on which the issue/fraud comes to the public knowledge. A few crucial events were purposefully excluded from the purview of analysis if some other positive announcement had simultaneously been made by the company. For instance, if a company had announced dividend or merger or bonus around

the event, it would be excluded as positive news might boost up the share prices thus affecting our analysis.

iv. Period covered: Any scandal that took place during the period between 1.1.1991 and 31.3.2007 for which the above data are available have been included in the study.

v. Variables Used*:* The daily market returns percents are used as an individual time-series variable. The variables used are as follows:

$$R_{jt} = \left[\frac{P_t - P_{t-1}}{P_{t-1}} \right]$$

Where,

R_{jt} = *Daily Market Return of security j and time period t,*
P_{jt} = *Market Price of security j at time period, day t,*
P_{t-1} = *Market Price of security j at time period, day t-1*

vi. Analytical tools used: Apart from measures of central tendency and dispersion, tools that are generally applied to measure the informational efficiency and randomness have also been used in the study. The analytical tools used are as follows:

The study uses both parametric and non-parametric tests for analysis. Daily market returns percent, descriptive statistics and correlation co-efficient were computed with MSExcel. SPSS (Statistical Package for Social Sciences, Version 12) was used to compute Runs test, Kolmogorov-Smirnov test and Auto Correlation test.

Non- Parametric Tests:

(a). The Runs test for randomness:

The study uses two different non-parametric tests; the first one is the Runs Test for Randomness and it is used to determine whether the daily return series follow random walk model. The second test Kolmogorov-Smirnov Goodness of Fit test is used again to examine if the distribution is normal.

As stated, in order to test for weak-form efficiency, the 'runs *test*' is used as it does not require returns to be normally distributed. This provides a solid alternative to parametric serial-correlation tests in which distributions are assumed to be normally distributed. The null hypothesis of the test is that the observed series is a random series. A run is defined by Siegel (1997), as "a succession of identical symbols which are followed or preceded by different symbols or no symbol at all" (p. 52). The number of runs is

computed as a sequence of the price changes of the same sign (such as; ++, --, 00). When the expected number of 'runs' is significantly different from the observed number of runs, the test reject the null hypothesis that the daily returns are random. As defined by Poshokwale, (1996); "a lower than expected number of runs indicates market's over-reaction to information, subsequently reversed, while higher number of runs reflect a lagged response to information. Either situation would suggest an opportunity to make excess returns." To perform a runs test, both the expected runs and the actual runs are computed for the sample returns. The expected number of runs is represented by:

$$E(r) = \frac{n + 2n_a n_b}{n}$$

Where n represents the number of observations, n_a and n_b respectively represent observations above and below the sample mean (or median), and r represents the 'observed number of runs'. The standard error can therefore be written as:

$$\sigma(r) = \left[\frac{2n_a n_b(2n_a n_b - n)}{n^2(n-1)}\right]^{1/2}$$

The asymptotic (and approximately normal) Z-statistic can be written as follows:

$$Z(r) = \frac{r - E(r)}{\sigma(r)}$$

The null hypothesis for this test is for temporal independence in the series (or weak-form efficiency). Because returns are not normally distributed, the presence of structural-breaks or outliers in the series can bias the test results. To control for such issues, I complete the runs test using a mean and a median as a base. The latter can yield more reliable results when 'outliers' exist.

(b) Kolmogorov Smirnov Goodness of Fit test:

Kolmogorov Smirnov Goodness of Fit test (K-S test) is a non-parametric test and is used to determine how well a random sample of data fits a particular distribution (Uniform, Normal and Poisson). The one sample K-S test compares the cumulative distribution function for a variable with a

uniform or normal distribution and test whether the distribution is homogeneous. Both normal and uniform parameters are used to test the distribution.

Parametric Test:

Auto-Correlation Test

Auto-correlation test is a reliable measure for testing of either dependence or independence of random variables in a series. Kendall (1948, p. 412) compute the price changes at different lagged 1,2,3,4, time periods. This test is used very popularly (e.g., Glen, 1995; Poshokwale, S. 1996; Nicolaas, 1997; Nourredine Khaba, 1998). This test expects the returns to be normally distributed. So, before applying the test, 'outliers' in the distribution were removed. In this test, the serial correlation coefficient measures the relationship between the values of a random variable at time *t* and its value during the previous period. The Auto correlation tests evidence whether the correlation coefficients are significantly different from zero. For a large sample, the Ljung—Box statistic follows the chi-square distribution with *m* degrees of freedom:

$$LB = n(n+2)\sum^{m}_{k-1} (P\hat{}^2_k/n-k) \sim \chi^2$$

Where, $P\hat{}_k$ = Auto-correlation coefficients at lag k:

n = Sample size.

The auto-correlation coefficients have been computed for the market return series. So, 'event-study' is carried out with the help of this test. The logic behind the event-study methodology is explained by Warren–Boulton and Dalkir (2001): Investors in financial markets bet their dollars on whether a merger will raise or lower prices. A merger that raises market prices will benefit both the merging parties and their rivals and thus raise the prices for all their shares. Conversely, the financial community may expect the efficiencies from the merger to get sufficiently large to drive down prices. In this case, the share values of the merging firms' rivals fall as the probability of merger goes up. Thus, evidence from financial markets can be used to predict market price-effects when significant events take place. This study is based on their approach. Campbell, John Y, Andrew W. Lo, and A. Craig Mackinlay (1997) provide the methodology for an 'event-study'.

i. An event: The initial step consists of defining the event of interest and the event window, the period over which the security prices will be examined. In this study, an event indicates the day on which a specific event

has taken place. For instance, indictment by the court on moral lapses, charge-sheeting of officials, fines levied by court etc., are considered as 'events' in the study. This could also be termed as '*announcement day*'.

ii. Abnormal Returns or losses: Based on the announcement, the impact of the same would be examined in terms of either normal or abnormal returns or losses.

iii. Event window: To investigate whether the announcement had any impact on the share price returns, a period of 21 days was chosen. The periods covered are t = -10 days to t = + 10 days before and after the announcement of the 'event'. The day of announcement is taken as day 0.

VI. LIMITATIONS OF THE STUDY

This study suffers from the following limitations.

i. The sample companies include those companies for which complete data are available. Other companies have been excluded from the purview of this study.

ii. The fluctuations in share prices, 'pre and post' news period could have been caused by a few other factors/causes as well. But, these variations are assumed to be due to the 'informational efficiency' caused by investor's decision to offload the scrip.

iii. Recent approaches to the study of the predictability of stock market returns in developed markets include variance ratio test (Lo and Mackinly, 1988). Research in emerging markets such as, Claessens, Dasgupta and Glen (1995) and Urrutia, (1995) also used single-variance ratio technique, as one of the statistical tools, which has been found to have an important flaw (e.g., Chow and Denning, 1993, Eckbo and Liu, 1993), an issue addressed extensively in the methodology section cited by Ojah and Karemera, (1999). This study does not use the variance ratio test.

iv. A total period of 21 (one day, being the base day for computing percentage return) days is covered in the study. In other words, the immediate impact of an event or the impact in the short run on the market returns has been computed although weekly returns or monthly returns could also be used.

v. The researcher faced many difficulties in data collection as rigorous conditions were used to define an 'event' for the purpose of data collection.

vi. It is further assumed that investors keep track of the developments that take place in their respective companies.

VII. EMPIRICAL RESULTS AND DISCUSSION

The empirical results are presented in accordance with the different statistical techniques used. The findings of individual statistical techniques are discussed in each sub-section below:

i. Results of Kolmogorov-Smirnov Test

The analytical results of Kolmogorov –Smirnov test are presented in Table 1. The results indicate that except for two companies, the returns are normally distributed. In the case of Company 1- Health South, the distribution is non-normal which means that the announcement of the event has had an influence on the share price behavior and consequently its returns as well.

Again, in the case of Company 5, Qwest, the distribution is not normal. During the study period, high variations in the share price behavior and returns have been noticed. In the case of the remaining companies, the incident/announcement/moral lapses have not affected the share price returns from the market. So, it could be stated that the empirical returns of the market return series for the above sample companies are quite inconsistent with the results of similar studies in other markets such as Australia and New Zealand (Nicolaas, 1997) India (Poshokwale, S, 1996), Japan, and the U.S (Ko, Lee, 1991) and Kuala Lumpur and Singapore (Laurence, 1986) stock markets.

Table 1

Analytical Results of Kolmogorov –Smirnov test

Sl.No	Company	Absolute	Positive	Negative	K-S Z – Value	P - Value
1	Health South	0.365	0.219	-0.365	1.671	0.008**
2	JP Morgan Chase	0.222	0.222	-0.184	1.017	0.252
3	Hewlett Packard	0.209	0.204	-0.209	0.956	0.320
4	Mcafee	0.222	0.222	-.0179	1.019	0.250
5	Qwest	0.321	0.309	-0.321	1.471	0.026*
6	Microsoft	0.129	0.129	-.122	0.591	0.876
7	AIG	0.121	0.112	-0.121	0.554	0.919
8	Bank One	0.158	0.158	-0.096	0.726	0.667
9	Merck	0.105	0105	-0.067	0.481	0.975
10	Duke Energy	0.133	0.133	-0.085	0.609	0.853
11	Computer Associates	0.278	0146	-0.278	1.274	0.078
12	Berkshire Hathway	0.164	0.164	-0.102	0.750	0.628
13	Time Warner	0.140	0.140	-0.089	0.642	0.805
14	Google	0.119	0.119	-0.080	0.547	0.926
15	Credit Suisse	0.107	0.107	-0.103	0.489	0.970

**Significant at 1 % level of significance
*Significant at 5% level of significance

ii. Results of Runs Test for Randomness

The results of runs test are presented in Table 2 and 3. The results of runs test to individual company's daily % return computed keeping the Mean as the base show that among the fifteen sample companies chosen, only in the case of one company, Z value is negative and greater than $\pm$1.96, which means that the return series are following a random walk model. The significant two-tailed p value with negative Z value greater than $\pm$1.96 suggest non-randomness because of too few observed number of runs than expected. So, the null hypothesis that the successive or lagged price changes of the sample companies follow a random walk is accepted. The implication is that the negative news about the company does not affect the share price behavior and the shareholders do not rush to offload the shares the moment they come to know of the news. This also means that shareholders do not jump to sudden conclusion about their company when they come to know of moral lapses or any adverse pronouncements. This also means that shareholders prefer to wait for some more time before selling their shares though they are unhappy with the sudden adverse developments in the company. Runs test based on Median also presents the same results. Out of the fifteen sample companies, the Z value greater than $\pm$1.96 has not been observed in the case of any of the companies included in the sample.

Table 2

Runs Test with the Mean as the Base

S.No	Company	n	n_a	n_b	No.of runs	Test-value	Z	P - Value
1	Health South	21	18	3	3	-0.0323	-2.561	0.010**
2	JP Morgan Chase	21	10	11	8	-0.012443	-1.336	0.182
3	Hewlett Packard	21	11	10	10	0.000762	-0.438	0.661
4	Mcafee	21	9	12	9	-0.003348	-0.817	0.414
5	Qwest	21	11	10	8	0.17338	-1.336	0.182
6	Microsoft	21	12	9	12	0.003266	0.098	0.922
7	AIG	21	9	12	15	0.00076	1.471	0.141
8	Bank One	21	9	12	11	0.00018	0.000	1.000
9	Merck	21	10	11	10	0.00126	-0.438	0.661
10	Duke Energy	21	11	10	12	0.0026	0.011	0.991
11	ComputerAssociate	21	12	9	12	-0.00344	0.098	0.922
12	Berkshire Hathway	21	9	12	10	0.00167	-0.360	0.719
13	Time Warner	21	9	12	12	0.0041	0.098	0.922

14	Google	21	9	12	13	0.00257	0.556	0.578
15	Credit Suisse	21	11	10	16	-0.001400	1.806	0.071

**Significant at 1 % level of significance *Significant at 5% level of significance

Table 3

Runs Test with the Median as the Base

S.No	Company	n	n_a	n_b	No.of runs	Test-value	Z	P - Value
1	Health South	21	12	9	11	0.000	0.000	1.000
2	JP Morgan Chase	21	11	10	10	-0.01260	-0.438	0.661
3	Hewlett Packard	21	11	10	10	-0.0014	-0.438	0.661
4	Mcafee	21	11	10	7	-0.0061	-1.785	0.074
5	Qwest	21	11	10	10	-0.0275	-0.438	0.661
6	Microsoft	21	11	10	14	0.0056	0.908	0.364
7	AIG	21	11	10	15	-0.0026	1.357	0.175
8	Bank One	21	11	10	13	0.0000	0.460	0.646
9	Merck	21	11	10	8	0.001	-1.336	0.182
10	Duke Energy	21	11	10	12	0.0029	0.011	0.991
11	Computer Assoc	21	11	10	12	-0.0024	0.011	0.991
12	Berk. Hathway	21	11	10	10	-0.0013	-0.438	0.661
13	Time Warner	21	12	9	11	0.0011	0.000	1.000
14	Google	21	11	10	15	0.0002	1.357	0.175
15	Credit Suisse	21	11	10	16	0.0066	1.806	0.071

**Significant at 1 % level of significance
*Significant at 5% level of significance

iii. Results of the Auto-Correlation of the Market Returns

As stated earlier, Auto-correlation test serves as a very useful tool for testing of either dependence or independence of random variables in a series. The results of the Auto-correlation co-efficient are presented in Table 4. The Auto-correlation computed for the market return series shows no significant auto-correlation at different lags for the sample companies except for two companies. In the case of AIG, returns are correlated at Lag 4. L Jung Box Q statistics also gives evidence that the returns are auto-correlated. In the same way, the time series data are significantly auto-correlated in the case of Credit Suisse Inc. It means that there is a serial dependence between values from lag 1 to lag 4. Only in the case of these two companies the returns are auto-correlated and thus do not follow a random walk. But in all other cases, the returns follow a random walk meaning that successive series are not dependent upon each other. So, the implication is that irrespective of the announcement or negative news or any event, the shareholders do not rush up to off load the shares. Perhaps they follow a policy of 'wait and watch' in the short- run. Their opinions might possibly change in the long run. So, the

second null hypothesis that the event announcement and price changes are independent is accepted in respect of the remaining thirteen sample companies.

Table 4

Results of Auto-Correlation of the Market Returns

S. No	Company Name	Lag 1		Lag 2		Lag 3		Lag 4	
		Auto Corr.Func	Ljung Box	Auto Corr.Fun	Ljung Box	Auto Corr.Func	Ljung Box	Auto Corr.Func	Ljung Box
1	Health South	0.218	0.456	-0.564	4.267	-0.430	7.221	0.110	7.512
2	JP Morgan	-0.348	1.163	-0.404	3.121	0.286	4.434	0.003	4.434
3	HP	0.382	1.398	-0.093	1.501	-0.359	3.561	-0.224	4.985
4	Mcafee	-0.220	0.467	-0.453	2.933	0.163	3.359	0.193	4.257
5	Qwest	0.236	0.535	-0.508	3.634	-0.370	5.820	0.010	5.823
6	Microsoft	-0.407	1.591	0.073	1.654	-0.058	1.708	-0.238	3.072
7	AIG	-0.505	2.448	0.003	2.448	0.263	3.554	-0.483*	9.145*
8	Bank One	0.298	0.855	-0.233	1.506	-0.387	3.896	-0.120	4.240
9	Merck	0.245	0.574	0.048	0.601	-0.289	1.935	-0.184	2.743
10	Duke Energy	-0.358	1.228	-0.123	1.409	-0.247	2.385	0.305	4.618
11	Comp.Asste	-0.474	2.153	0.110	2.298	-0.073	2.383	0.118	2.718
12	Berk.Hathway	-0.026	0.006	-0.084	0.092	-0.123	0.333	-0.250	1.832
13	Time Warner	-0.118	0.134	-0.148	0.397	-0.433	3.402	0.211	4.475
14	Google	0.302	0.877	-0.483	3.675	-0.362	5.773	0.018	5.781
15	Credit Suisse	-0.672*	4.340*	0.460	6.879*	-0.480*	10.563*	0.207	11.592*

**Significant at 1 % level of significance *Significant at 5% level of significance

VIII. Summary of Findings, Suggestions for the Investors and Conclusion

The present study started with a research question if the investors punished moral lapses on the part of the companies that violated established code of conduct and whether moral lapses of the corporate leaders had had any impact on the share price behavior and returns from the market. Testing for randomness and the normality of share price behavior in response to the event announcements were the focal points of the study. Fifteen sample companies were included for analysis. Two non-parametric tests, Kolmogorov Smirnov Test and Runs Test for Randomness and one parametric test, Auto-correlation test were applied to analyze the data.

The analytical results of Kolmogorov–Smirnov test indicate that except for two companies, the returns are normally distributed. In the case of the remaining companies, the incident/announcement/moral lapses have not affected the share price returns from the market. So, based on the results, it could be confidently stated that the empirical results of the market return series for the above sample companies are randomly distributed. It means

that shareholders do not offload the shares even after coming to know of the moral lapses of corporate executives in the short-run.

The Runs test for Randomness accepted the null hypothesis that the successive or lagged price changes of the sample companies follow a random walk. The implication is that the negative news about the company does not affect the share price behavior and the shareholders do not rush to offload the shares the moment they come to know of the negative or unpleasant news.

The Auto-correlation computed for the market return series shows no significant auto-correlation at different lags except for two companies. This means that investors do wait even after the announcement or happening of unpleasant event/developments in their company. Based on the above findings, two null hypotheses have been accepted.

Based on the above results, the primary suggestions and conclusions of the study are as follows:

i. Investors do not offload the shares immediately after knowing the unsavory developments in their company. So, by and large, investors do not punish moral lapses in the short-run although the results cannot be generalized. However, some of the abnormal lower returns noticed have been depicted in the sample figures. (see Appendix 2)
ii. It has been noticed that the share price behavior follows a random walk, specifically with reference to event announcements.
iii. Since moral lapses are unacceptable, the shareholders could offload their shares within a short period of time, say, fifteen to twenty days as any further delay might result in loss for the shareholders afterwards.
iv. The investors should keep track of the developments that take place in their company and try to avoid such companies in order to minimize their losses. This gains further significance in the light of the major losses suffered by the investors at the hands of Enron, Worldcom, Tyco, and a host of other infamous companies.

If investors keep track of the developments that take place in their company, abnormal losses could be avoided and making money from the market would be a profitable venture, in the long run.

a 'Thin-trading' is a condition in which there is little trading activity in a market because of a lack of buy or sell orders to drive up the volume. 'Thin-trading' usually occurs around holidays

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Appendix 1

List of Events and Announcement Dates

S.No	Company	Ticker Symbol	Event Announcement Day	Moral Lapses/Events that damaged the company reputation
1	Health South	HRC	Mar 18, 2003	Founder Chief Richard Scrushy was charged of bribery/fraud. Later, jail sentence handed in.
2	JP Morgan Chase	JPT-CL	Jul 23, 2002	Investigations ordered for helping Enron and others to set up sham transactions to alter their finances. It allowed Enron to hide $4 b debt.
3	Hewlett Packard	HPQ	Sep 12, 2006	Board Room Leakage Case, Chairperson Patricia Dunn accused
4	Mcafee	MFE	Aug 10, 2006	According to a report, several products from antivirus vendor McAfee Inc. are vulnerable to a remote code execution flaw. Mcafee could enable an attacker to execute arbitrary commands on vulnerable systems.
5	Qwest	Q	Jun 17, 2002	News about Fraud, insider trading, CEO Joseph P.Nacchio charged of 42 counts of Securities Fraud
6	Microsoft	MSFT	Jul 12, 2006	Anti-trust litigation, fined with $ 357 mn in EU anti-trust case.
7	AIG	AIG	Apr 29, 2005	Illegal tax shelters unearthed
8	Bank One	ONE-PW	Nov 26, 2003	Fraudulent Trading unearthed
9	Merck	MRK	Jul 19, 2002	Recorded $12.4B in revenue from the company's pharmacy-benefits unit over the past three years that the subsidiary, Medco, never actually collected.
10	Duke Energy	DUK	Apr 2, 2007	Investigations ordered into round trip energy trades with energy traders to inflate volumes and revenues.
11	ComputerAssociate	CA	Nov 2, 2006	Securities Fraud, Agreed to pay penalty to SEC for violating pre-merger rules
12	Berkshire Hathway	BRK.A	May 10, 2005	Accounting Fraud and other fraudulent transactions unearthed.
13	Time Warner	TWX	Nov 22, 2004	Accused of inflating advertisement revenue to keep stock prices inflated. Also, ,Accounting Fraud

14	Google	GOOG	Sep 5, 2006	Google was accused it of violating copyright rules by displaying parts of articles, photos, and graphics from their media Web sites on its own site without permission or compensation.
15	Credit Suisse	CS	Mar 6, 2003	Spinning IPO issues

Appendix 2

EVENT ANNOUNCEMENT AND MARKET RETURNS

Figure 1
Health South

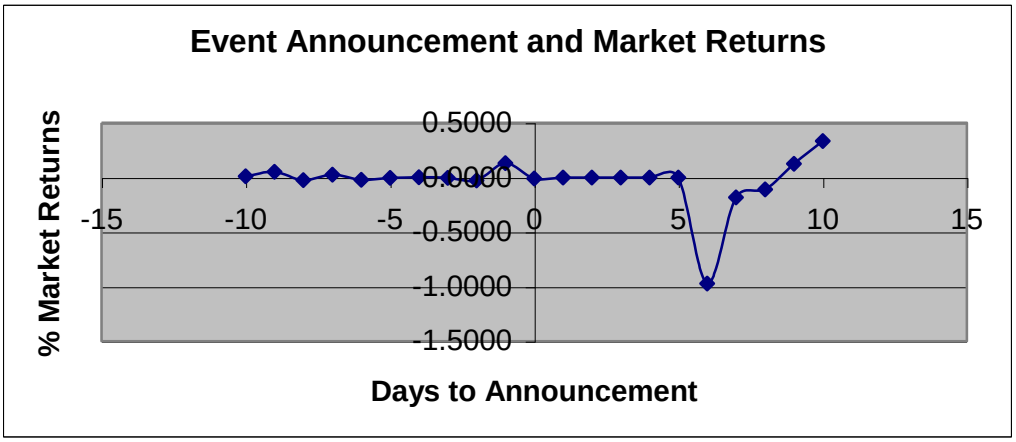

Figure 2
Credit Suisse

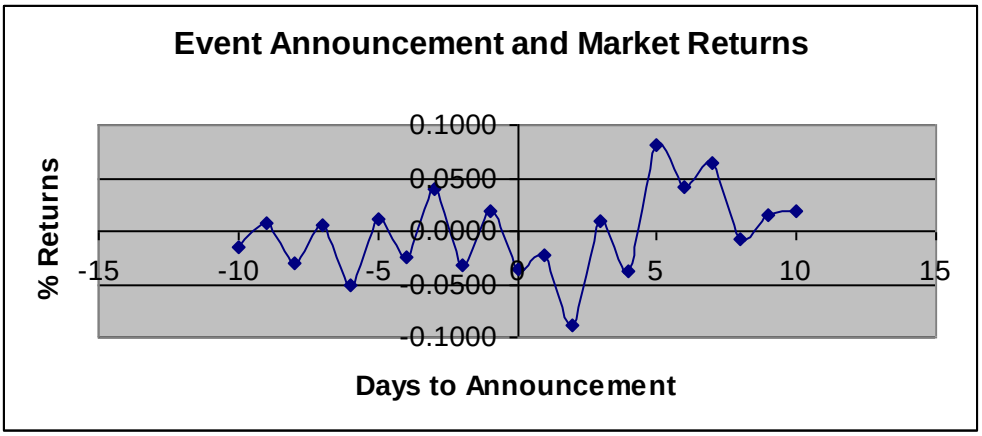

Figure 3
Qwest