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THE EFFECT OF ANNOUNCEMENT OF BRIBERY, SCANDAL, WHITE COLLAR CRIME, AND ILLEGAL PAYMENT ON RETURNS TO SHAREHOLDERS

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Abstract

This study adds to the empirical evidence supporting a significant connection between ethics and profitability by examining the connection between published reports of unethical behavior–in terms of bribery, scandal, white collar crime, and illegal payment–by publicly traded U.S. and multinational firms and the performance of their stock. Using reports of this unethical behavior–published in the *Wall Street Journal* from 1989 to 1993, and the standard event-study methodology, the analysis shows that the actual stock performance for those companies was lower than the expected market adjusted returns. Unethical conduct by firms which is discovered and publicized does impact on the shareholders by lowering the value of their stock for an appreciable period of time. Whatever their views on whether ethical behavior is profitable, managers should be able to see a definite connection between unethical behavior and the worth of their firm's stock. Stockholders, the press and regulators should find this information important in pressing for greater corporate and managerial accountability.

INTRODUCTION

An opinion survey of business leaders, business school deans, and members of Congress showed that 94 percent of the over 1,000 respondents felt that the business community is troubled by ethical problems.[1] In addition, only 32 percent of the respondents felt that this issue had been overblown by the media and political leaders. Most striking was the survey's finding that 63 percent of respondents felt that a business enterprise actually strengthens its competitive position by maintaining high ethical standards.

The question of whether there is any causal link between a company's ethical or unethical behavior and its bottom line is an important one. There is always the cynic's view that ethics has no place in business and that businesses only need to appear ethical to succeed (Carr, 1968). The current political adage that those who play by the rules should not be penalized refers to the nagging doubt that those who are ethical are at a disadvantage and are increasingly liable to get edged out by those who bend the rules (Garvin, 1986). Some may argue the virtue is its own reward no matter the level of social misfortune and societal derision which accompanies it, but most business practitioners would prefer to believe that ethical actions make good economic sense and that virtue will have good consequences (Goodpaster & Matthews, 1982). A poll of self-selected readers of *Nation's Business* (1993) showed 86% believed that ethical behavior and integrity in a company are very important to its financial success, with 11% rating it somewhat important and only 3% rating ethics of little or no importance to financial success. The popular and business press, after heralding the closing of the 1980's as the end of the era of greed, has continued to report on the connection between company profits and their efforts at "green Marketing" and other socially responsible activities. The Council on Economic Priorities and other consumer watchdog groups are rewarding good activities and putting the heat on bad actors through annual awards and press conferences (*Newsweek*, 1991).

The answer to whether ethical behavior affects a firm's financial standing cannot be a simple one because the effects of ethical or unethical behavior can occur both internally and externally (Wood, 1994). Internally, workers and managers can be affected by ethical or unethical behavior and can act on the corporation in various ways. The efficiency of

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production, distribution and exchange functions can all be influenced by the firm's ethical posture (Sen, 1993; Hamilton & Strutton, 1994).

Internally, the law and government regulations can reward ethical behavior and punish unethical behavior. Other stakeholders external to the firm can also affect its financial posture. Suppliers, customers and stockholders can react directly through buying and selling activities and their activities can be influenced by the press, local communities and the society. A complete answer to the connection between ethics and financial standing would require the measurement of the effects of ethical or unethical activities on all of these groups.

To provide one part of that answer, this study focuses on the effects of the external controls of ethical behavior exercised by the financial markets and more specifically by the stock market. The question being asked is whether stockholders will punish unethical behavior when they become aware of it by driving down the value of the firm's stock.

LITERATURE SURVEY

There is a great deal of literature on the relationship between the ethical behavior of firms and their financial success (Reidenbach & Robin 1989, Smith 1991). The question has been discussed extensively in the debate over corporate social performance (see Wood, 1991 for an extensive review of this area). Approaches to the topic can be generally divided between the conceptual and empirical, with some researchers drawing evidence for their view from both sources. An example of the primarily conceptual approach can be found in the discussions of the Adam Smith revisionists who focus on the supposed conflict between self-interest and ethics in economic behavior (Sen 1987, Werhane 1991, Rothschild 1992, Solomon 1993). Sen (1993) suggests that self-interest and ethics are not mutually exclusive in that self-interest provides the motivation for economic activity but ethics is needed to govern the activities of production and distribution in order that self-interest can be served. Other primarily conceptual approaches attempt to demonstrate a link between profitability in business and particular ethical strategies designed to win the loyalty of various stakeholder groups (Miles, 1993; Garfield, 1992; Bartkowiak, 1993; Dillon, 1991).

Though there is a question as to whether the research is conclusive (Dillon 1991), there have been a number of empirical studies seeking to demonstrate a correlation between ethical or unethical behavior and company profitability. A variety of definitions of what constitutes ethical/unethical behavior or socially responsible behavior are used and research methodologies vary. Zetlin (1991), for example, finds that profits in 15 Fortune 500 companies that adhered to written ethical principles over 20 years or more grew twice as fast as the rest of the Fortune 500 over a 30-year period. Stoffman (1991) reports on a study of 60 Canadian companies which showed that, within industry groups, those firms that rate the highest on ethics and social responsibility, on a scale based on factors such as labor and customer relations, environmental protection and product safety, show profitability over the long run. Donaldson and Davis (1990) studied companies in the United Kingdom to show a range of benefits for companies beginning a program for the systematic handling of values. Smith's (1992) study of Salomon Brothers concludes that the value of reputational capital is reflected in current stock prices. Anecdotal accounts range from reports on individuals who acted ethically in difficult situations and were successful (Berney, 1987) to those of companies who acted unethically and were not (Lohr, 1992). Rao, Kochunny and Rogers (1993) examined the ethical perceptions of accounting and finance students using head/heart traits developed by Maccoby. Results indicate that finance students are no less ethically inclined than are the accountants. In general head traits dominated over heart traits, an indication that business schools continue to do a good job emphasizing and developing analytical skills but a poor job of developing the qualities of the heart that are generally associated with ethical behavior.

The efficient Market Hypothesis maintains that the markets are very efficient in interpreting data and arriving at equilibrium security prices. Most empirical studies have found that stock prices reflect publicly available information. If managers are true agents for owners (shareholders), increasing shareholder wealth is an appropriate way to judge managerial behavior. Negative stock market returns, then, should discourage managers from engaging in unethical behavior. Are there abnormal reductions in stock market returns following such situations as accusations of bribery, fraud, and illegal political contributions and automobile recalls? If managers acted as true agents to the shareholders, they would not allow their firms to fall into predicaments of ethical compromise.

It is hypothesized that, as a result of unethical behavior, the expected market adjusted stock returns are negative for the firms and will persist this way for an appreciable period of time. The data needed for calculating the rates of return for the publicly traded firms will be taken from the Compustat database. This study will examine the effect of unethical behavior on shareholder wealth by examining the investor returns on and around the reported date of unethical behavior. This study tests the timing and adjustment of stock prices to 'unethical conduct' announcements. The null hypothesis to be tested is that the stock market acts quickly and in an efficient manner to public announcements of unethical conduct. If investors

could consistently obtain above normal returns by trading after an announcement of unethical conduct, the null hypothesis would be rejected. The research hypotheses examined in this study are tested by applying an event-type methodology similar to that described in Dodd and Warner (Dodd and Warner, 1983).

DATA AND METHODOLOGY

Numerous event studies provide insights concerning the degree of market efficiency. Previously studied events include stock splits, earnings announcements, acquisitions and divestitures, and financial distress. This study identified a specific development or event that is expected to influence stock prices, and a sample of companies is identified where the "event" has occurred. The event is announcement of unethical conduct in terms of bribery, scandal, white collar crime, and illegal payment as reported in the *Wall Street Journal* during 1989 through 1993.

Data analyzed in this study consist of a sample of public announcements of unethical conduct of firms. To be included in the sample, this unethical conduct must be reported in the *Wall Street Journal* during the 1989-1993 period. Unethical conduct not reported in the *Wall Street Journal* are excluded from the sample. The sample was obtained from the *Wall Street Journal Index*. The announcement date of unethical conduct is the date when a report was first published in the *Wall Street Journal*. To determine event dates accurately and to insulate announcements from other major corporate events around the same period, the corporate history, contained in the *Wall Street Journal Index*, was reviewed for all firms included in the sample for the period around the announcement of the unethical conduct. Firms with concurrent major corporate events (e.g., takeover bids, leveraged buyouts, or other sell-off and divesting activities) for -1 to +1 month relative to the announcement date (t=0) are not included in the final sample. Finally, firms selected for this study have monthly returns in Compustat database. The final sample contains 16 firms which were involved with bribery, scandal, white collar crime, and illegal payment. Table 1 furnishes the names of companies, ticker symbols, announcement date of the event and the event category.

TABLE 1
Category: Bribery; Scandals; White Collar Crime; Illegal Payment

Company	Ticker Symbol	Announcement Date
1. Data General Corp	DGN	10/08/92
2. Fidelity Investment	FNF	06/11/92
3. Salomon Brother Inc.	SBC	08/15/91
4. Consolidated Edison Co.	ED	08/14/90
5. Nynex Corp	NYN	07/12/90
6. Ashland Oil	ASH	05/04/90
7. General Electric Co	GE	06/02/89
8. Northrop Corp	NOC	05/03/89
9. Rite Aid	RAD	04/28/89
10. Merrill Lynch & Co	MER	04/11/89
11. Teledyne Inc	TDY	03/23/89
12. Emerson Electric Co	EMR	03/20/89
13. Unisys Corp	UIS	03/09/89
14. Whittaker Corp	WKR	01/31/89
15. General Dynamics Corp	GD	01/18/89
16. Sundstrand	SNS	01/06/89

Once the event and sample of firms is identified, holding period returns (*HPRs*) are calculated on a monthly basis, for periods both before and after the event. Forty-nine months of *HPRs* are calculated for each stock in the sample involved in the event study. The 30 earliest observations before the event were used to estimate the regression parameters of the characteristic line for the stock.

Equation 1

$$r_{j,t} = \hat{\alpha}_j + \hat{\beta}_j r_{m,t} + e_t$$

where:

$r_{j,t}$ estimate of r sub j
$\hat{\alpha}_j$ estimate of alpha
$\hat{\beta}_j$ estimate of beta for stock j
$r_{m,t}$ *HPR* for market index for period t
e_t residual error in period t

The event under study is defined to occur in month 0 (*t=0*), then $\hat{\alpha}_j$, $\hat{\beta}_j$ calculated using the above equation, could be used to estimate *HPRs* for 12 months immediately prior to the event (*t = -12* to *-1*) and the seven months (*t = 0* to *6*) after the event, including the month the event occurred. The *HPR* for each of these 19 months is estimated as:

Equation 2

$$\hat{r}_{j,t} = \hat{\alpha}_j + \hat{\beta}_j r_{m,t}$$

where:

$\hat{r}_{j,t}$ estimate of *HPR* for stock *j* in period *t*
$\hat{\alpha}_j$ estimate of stock *j*'s alpha
$\hat{\beta}_j$ estimate of stock *j*'s beta
$r_{m,t}$ actual *HPR* for market index for period *t*

The error or residual term can be calculated for each period as:

Equation 3

$$e_{j,t} = r_{j,t} - \hat{r}_{j,t}$$

The residual is a measure of the *abnormal* performance of stock. Hence this is also known as abnormal return ($AR_{j,t}$). If $e_{j,t}$ or $AR_{j,t} < 0$, then the actual *HPR* is less than the estimated return. This implies that after removing the influence of the market, stock *j*'s price decreased more than expected. An average residual for each month is calculated using all of the stocks in the sample. The average residual is the average deviation of returns from their normal relationships with the market. For example, assume that n stocks are included in the event study so that the average residual for month *t = -12* can be calculated as:

Equation 4

$$\bar{e}_{t=-12} = \frac{\left[\sum_{j=1}^{n} e_{j,t=-12}\right]}{n}$$

The above equation is then used to calculate an average residual for each of the 19 months (*t = -12* to *6*). This average residual is also known as Average Abnormal Return (AAR_t). A t-test is used to determine the level of significance of abnormal returns for a given sample. The test uses the estimated standard error of the returns computed for the estimation period.

Equation 5

$$t = \frac{AAR_t}{\hat{s}(AAR_t)}$$

where $\hat{s}(AAR_t)$ is the estimated standard error of abnormal returns during the estimation period.[2] This test statistic follows a Student at *T-1* degrees of freedom. In order to test for the persistence of the impact of the announcement during the period t to *t+n*, the abnormal returns must be cumulated. The cumulated abnormal return in a period from *t* to *t+n* is given by:

Equation 6

$$CAAR_t^{t+n} = \sum_{i=t}^{t+n} ARR_i$$

The t-test is then defined by:

Equation 7

$$t = CAAR_t^{t+n} / \hat{s}(CAAR_t^{t+n})$$

Equation 8

$$\hat{s}(CAAR_t^{t+n}) = n^{1/2} \times \hat{s}(AAR_t)$$

An analysis of the cumulated average abnormal returns for the months prior to and after the event is used to analyze the pattern and speed of the price adjustments to the event. The expected values of *AAR* and *CAAR* are zero in the absence of abnormal performance.

RESULTS

Table 2 presents results for the behavior of monthly average abnormal returns for the firms, *ARs* for time intervals prior to and after the Announcement Date (*t=0*). The first column presents event time in terms of trading months. The second column contains monthly Average Abnormal Returns (*AARs*) for each month for the 16 firms involved in unethical behavior in terms of bribery, scandals, white collar crime, and illegal payment. The third column shows t-statistics for monthly average abnormal returns. These statistics, based on average standardized abnormal returns, indicate whether the null hypothesis of zero-average standardized abnormal returns on a given month can be rejected. Finally, the fourth column has *CAARs* (Cumulative Average Abnormal Returns). The dramatic decrease in *CAARs* that we see on announcement date indicates that a good deal of these announcements are indeed news to the market and that stock prices did not already reflect complete knowledge about the event. The abnormal return earned for the sample for the announcement date is -5.72% and it is significant at the five percent level. *AARs* represent abnormal returns to stockholders for the holding period. *CAARs* for interval seven months before the announcement date to six months after are all negative.

Table 2 indicates that announcements of bribery, scandals, white collar crime, and illegal payment are not followed by any significant abnormal returns after the announcement date, though *CAARs* for most months before and after announcement are all negative. That shareholders do not react to the announcement of these incidents may indicate that they do not expect the regulator to launch any procedure (including legal action) so as to bring the firm into compliance with the regulation. Furthermore, that shareholders do not significantly react to the announcement of these incidents may indicate little or no worry as to the outcome of the legal procedure. Whether or not a loss of equity value on the day of

announcement of unethical conduct is large enough to have some deterrence effects on firms is debatable. A decline in the equity value of a firm for a few months does not necessarily have a strong wealth effect on shareholders except those who need cashflows in that particular period and have to sell their shares. In fact, there is a transfer of wealth between impatient shareholders and those who are more opportunist, and it is unlikely that this transfer has a strong deterrence effect on firms. Therefore, given the results showing abnormal returns only on month zero, it cannot be concluded that the market has the power to discipline firms not complying with ethical conduct. If the market is efficient with respect to these announcements and the market model gives the correct pricing relationship for risk and return, it would be impossible to react to these announcements in a way that gave significant negative abnormal return in month zero the announcement month. Consequently, the conclusion would be that the market is not reacting very efficiently to this type of information and the null hypothesis is rejected.

TABLE 2
Category: Bribery; Scandals; White Collar Crime; Illegal Payment
Monthly Average Abnormal Returns (*AAR*), Cumulative Average Abnormal Returns (*CAAR*)
For the Sample of 16 Firms For 12 Months Before and Six Months
After the Announcement Date (Month 0)

Month Relative to Announcement Date	AAR %	t	CAAR %
-12	-0.08189	-0.0407	-0.08189
-11	0.71692	0.3105	0.63503
-10	1.62930	1.2872	2.26433
-9	-1.42939	-0.6006	0.83494
-8	0.57855	0.4672	1.41349
-7	-4.63419	-1.8291	-3.22070
-6	1.75594	0.6904	-1.46476
-5	-1.68484	-0.7317	-3.14960
-4	-2.35392	-1.4508	-5.50352
-3	3.03865	1.4752	-2.46487
-2	-0.44755	-0.2858	-2.91242
-1	1.67874	0.5243	-1.23368
0	-5.72434	-2.5826**	-6.95802
1	1.97929	0.7531	-4.97873
2	0.59767	0.3576	-4.38106
3	1.11182	0.6136	-3.26926
4	-0.85174	-0.6733	-4.12100
5	0.49012	0.1566	-3.63088
6	-2.10992	-1.1164	-5.74080

*Significant at 0.10 level
**Significant at 0.05 level
***Significant at 0.01 level

CONCLUSION

This paper has examined the impact of the announcement of unethical behavior–in terms of bribery, scandal, white collar crime, and illegal payment on firms' equity value. Data analyzed in this study consist of a sample of public announcements of unethical conduct of firms. To be included in the sample, this unethical conduct must be reported in the *Wall Street Journal* during the 1989-1993 period. Using the standard event-study methodology, the analysis shows that the actual stock performance for those companies was lower than the expected market adjusted returns. The results showed that the stock value of the firms declined on the day of the announcement of bribery, scandals, whitecollar crime, and illegal payment about -5.72 percent.

ENDNOTES

1. Ethics in American Business (New York: Touche Ross, 1987).

2. Specifically,

$$\hat{s}(AAR_t) = [(\sum_{t=1}^{T}(ARR_t - AAR_t^*)^2) / (T - 1)]^{(1/2)}$$

$$ARR_t^* = (1 / T)(\sum_{t=1}^{T} AAR)$$

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