

## WHEN WE CONFUSE MARKET ECONOMICS AS MARKET ETHICS: EVIDENCE FROM AN EVENT STUDY

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Abstract: While evidence exists suggesting that irresponsible corporate behaviour may lead to decreased shareholder wealth (Frooman 1997), one cannot help but question the generalizability of these results when companies such as Exxon, an organization well known for its environmental problems, remains at the top of the 2006 Fortune 500 list. In this paper we show with regards to news of irresponsible behaviour, the market punishes smaller, less capitalized firms but not necessarily the very large and highly capitalized companies.

Keywords: irresponsible behaviour; negative news; event study

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A large majority of corporations today publicly espouse their commitment to acting in an environmentally responsible manner. This commitment is often communicated to the public via corporate annual reports, news media releases, websites, and so on. Stakeholder theory (Donaldson & Preston, 1995; Freeman 1984) and the concept of enlightened self-interest (see Frooman 1997) suggests that when corporations act unethically and/or irresponsibly, the news media's reporting of this negative behavior will result in punishment for the corporation via decreased shareholder wealth (Frooman 1997). In short, as Frooman states (1997, p. 222), "firms ought to act in a socially responsible and lawful manner to increase shareholder wealth." While evidence exists suggesting that irresponsible behaviour may lead to decreased shareholder wealth (Frooman 1997), one cannot help but question the generalizability of these results when companies such as Exxon, an organization well known for its environmental problems, sits at the top of the 2006 Fortune 500 list of most profitable companies.<sup>1</sup>

## **THEORETICAL FRAMEWORK**

Theoretically, the importance of environmental responsibility to shareholder wealth rests largely on the acceptance of a stakeholder theory of the firm, which posits that a firm is accountable to all of its stakeholders and not just its shareholders (Donaldson & Preston, 1995; Jensen 2002; Harrison and Freeman 1999). Be that as it may, stakeholder theory has recently received significant criticism from scholars who suggest that it is more of a normative theory of how firms ought to behave rather than a theory that explains how firms actually behave under the current legal and political climate (Margolis and Walsh 2003; Jensen 2002; Sternberg 1997). In contrast to stakeholder theory, shareholder primacy theories suggest that an organization's primary (and legal) objective is to maximize shareholder wealth. Jensen (2000) states that organizations vest control rights to shareholders who bear the corporation's residual risk and that "the implicit denial of this basic proposition is the fallacy lying behind the so-called stakeholder theory of the corporation" (Jensen 2000, p. 2). Corporate case law, from both Canada and the United States, appears to support this view (VanDuzer 2003).

The debate makes for an interesting question. Are investors behaving in the best interests of stakeholders or are they behaving in the best interests of shareholders? One would assume it is the shareholders that take priority when it comes to market returns; however, if the market itself responds to negative news, whereby investors are then tasked with anticipating future earnings, it could be argued that the market may be regulated not just by shareholders but also by stakeholders (Donaldson and Preston 1995). McWilliams and Segal (1997) argued that while this subtle distinction has led to an influx of event studies that assume to be testing the impact of socially responsible decisions on stock returns, this method may not be appropriate when we consider the nature and complexity in estimating the impact of CSR related events on future earnings.

Event study analysis essentially assesses how the market reacts (either positively or negatively) to a particular event (either positive such as investing in pollution control technology or negative such as an oil spill) for a particular company (Frooman 1997). It does so by calculating the fluctuation in returns specific to one particular company versus the market. These abnormal returns can then be tested to see if they differ significantly from zero. In other words, one can test if a decrease in the stocks abnormal returns was related to a specific negative event such as an oil spill (MacKinlay 1997; McWilliams and Siegel 1997).

Harrison and Freeman (1999) argued that our ability to pre-empt or understand a given event is relegated by the fact that we are limited in our ability to process information. Consequently, when faced with uncertainty or ambiguity we tend to simplify our evaluation parameters via heuristics. According to Harrison and Freeman (1999), this affords undo complexity in that it becomes difficult to distinguish between short-term and long-term horizons. For instance, the average person can estimate the effects of simple and intuitive circumstances, however, when said circumstances become complicated or ambiguous -- as illicit events typically are -- it becomes difficult to estimate the long-term consequence. Harrison and Freeman (1999, p. 483) concluded, "... investors are no more capable of sorting out these issues than we are."

Similarly, McWilliams and Segal (1997) highlighted several poignant issues with assuming an invariable positive impact of CSR initiatives on stock returns. In fact, when the authors held

several prominent event studies up to scrutiny, many of the empirical results diminished, if not disappeared. Although it may be difficult to confirm the positive effects of CSR on shareholder wealth, theory suggests that when corporations act unethically and/or irresponsibly, the media's coverage of the negative behavior will result in the company being punished by stock markets via decreased shareholder wealth (Frooman, 1997).

There are several studies advocating the overall effects of negative news on stock returns. For instance, through a meta-analysis of 2,161 incidents of socially irresponsible behavior across 27 studies, Frooman (1997) found that the market does react negatively to irresponsible behavior, such that shareholder wealth decreases when investors are confronted with negative information. However, as previously mentioned, this still does not explain why some firms that have acted irresponsibly remain on the list of the most profitable global companies. The answer may rest in Frooman's (1997) suggestion that we still do not understand whether the market's response is ethically driven (punishing socially irresponsible or illegal behavior), or economically driven (guarding against future losses).

Harrison and Freeman (1999) seemed to argue the latter, wherein the ability of investors to interpret and process economic considerations guides their response to social constraints within the investment arena. If the market is indeed driven by economic as opposed to ethical considerations, and if, as Harrison and Freeman (1999) suggested, investors are regulated by their ability to infer gains or losses, then we should find that, investors of larger companies (as measured by market capitalization) are likely to view the negative news as less threatening to the long-term profitability and security of the firm, and ultimately, less threatening to the investor's long-term wealth. Conversely, those invested in smaller (as measured by market capitalization) are likely to view negative news as more threatening to the long-term profitability and security of that firm and its stock.

In sum, we suggest that if economically driven, investors will be more interested in avoiding losses for smaller organizations than larger organizations.<sup>ii</sup> After all, when investors are inhibited in their ability to make accurate predictions, their investment risk is subsequently increased. In such a situation, smaller organizations should suffer because investors may question the availability of resources to combat a given environmentally irresponsible or illicit event. In contrast, a larger organization can divert additional resources to circumvent or combat the costs of environmentally irresponsible or illicit behavior, and thus in doing so, mitigate the long-term risk, at least in the eyes of the investors. On the other hand, if the market is punishing irresponsible and illicit actions under an ethical imperative, then the market should respond with equal opportunity to all members, regardless the market capitalization of the organization. In short, if indeed economically driven, the market is predicted to respond (negatively) based on the size of the organization more so than the irresponsible action, whereas if ethically driven, the market should not discriminate by size, but instead should react (negatively) based on the irresponsible action itself regardless of the ability to mitigate loss.

## **METHOD AND ANALYSIS**

We selected the petroleum industry for this study as it is one of the sectors documented in current literature as a significant contributor to environmental issues (Bansal and Clelland 2004; Bansal 2005; Sharma and Vredenburg 1998). From the 2006 Fortune 500 list, we then selected

the top five and bottom five companies by market capitalization. We used the Fortune 500 list as it is often viewed as the definitive list of top companies and has been used in previous management research (see Crampton and Patton 2008 for a recent example).

Our event study required two data sources. The first being the actual news events and the second being the financial stock data. Following Bansal and Clelland (2004), we extracted all of our news events from the Wall Street Journal. We focused on gathering daily news data reflecting both positive and negative news regarding environmental events for the 15 year time period of September 1, 1991 and August 31, 2006. Using the search terms adopted by Bansal and Clelland (2004) within the ProQuest database we obtained over 500 news articles.<sup>iii</sup> After eliminating articles that were not relevant to our study (e.g. hiring announcements), we were left with 288 articles that discussed both positive and negative news regarding the environmental behaviour of each of the 10 companies.

Following content analysis protocol (Neuendorf, 2001), we then had two individuals (raters) independently read and code each article as either a negative, neutral, or positive event in the environmental context. On average, we achieved a 60% agreement between the raters. As we are interested primarily in the negative events, we recorded, by company, the dates of those events that the raters agreed represented negative environmental news. In total, we obtained 146 negative environmental news events. 79 of those events were related to the top 5 companies and 67 were related to the bottom 5 companies.

For the financial stock data, we used the Thomson's Datastream database to gather daily stock price data ranging from October 1987 to October 2007. We set the estimation window ( $L_1 = T_1 - T_0$ ) at 150 transaction days prior to the event window, the initial date of the event window as  $T_1 = -20$  days, the event date as  $\tau_0$  and the final date of the event window as  $T_2 = +20$  days. Following the methods and formulas outlined by MacKinlay (1997), we estimated the following market model (CAPM) for each announcement:

$$R_{it} = \alpha_i + \beta_i R_{m\tau} + \varepsilon_{it}, E[\varepsilon_{it}] = 0, Var[\varepsilon_{it}] = \sigma_{\varepsilon_i}^2 \quad (0.1)$$

Using the estimated parameters  $\hat{\alpha}_i$  and  $\hat{\beta}_i$ , the abnormal return for the stock firm  $i$  in period  $\tau$  (MacKinlay 1997) was obtained by<sup>iv</sup>:

$$\begin{aligned} AR_{it} &= R_{it} - \hat{\alpha}_i + \hat{\beta}_i R_{m\tau}, \tau = T_1 + 1, \dots, T_2 \\ \sigma^2(AR_{it}) &= \sigma_{\varepsilon_i}^2 + \frac{1}{L_1} \left[ 1 + \frac{(R_{m\tau} - \hat{\mu}_m)^2}{\hat{\sigma}_m^2} \right] \\ AR_{it} &\square N(0, \sigma^2(AR_{it})) \end{aligned} \quad (0.2)$$

The cumulative abnormal return (CAR) was then calculated by summing up abnormal returns over the event window, with the variances of small values of  $L_1$  adjusted for the effects of estimation error. By averaging CAR and its variance across  $N$  firms in the same category, we obtained the cumulative average abnormal returns (CAAR). Finally, as per Campbell, Lo, and

MacKinlay (1996) we test the null hypothesis of zero cumulative average abnormal returns by using the  $J_2$  test statistic which can be interpreted similar to a z-test statistic.

## RESULTS

To begin, our results confirm the overall findings by Frooman (1997) that the market does react negatively to irresponsible behavior, such that shareholder wealth does decrease when the market is confronted with negative information (Frooman 1997). Our results show that when considering all 146 negative environmental events across both the top and bottom performing companies ( $n = 10$ ), abnormal returns were indeed negative and statistically significant at a  $p < .10$  level ( $J_2 = -1.6542$ ).

However, when considering the top 5 companies versus the bottom 5 companies, a different picture emerges. Recall our earlier proposition that if a market acts for economic reasons, we should find that negative news will affect the bottom 5 companies more so than the top 5 companies. When considering the CAAR for the 79 negative events for the top 5 companies, we found that the abnormal returns were not negative ( $J_2 = .2153$ ) and not statistically significant as would be expected if the market acted ethically and punished firms regardless of the profitability or size of the company. In other words, as we expected, the market did not react negatively to the negative events for the top performing group (stronger organizations). When considering the CAAR for the 67 negative events for the bottom 5 companies, abnormal returns were negative and statistically significant at a  $p < .01$  level ( $J_2 = -2.6757$ ). As we expected, the market did react negatively to the negative events for bottom performing group (weaker organizations).

To summarize our results, we found support for Frooman's (1997) findings that news of irresponsible and illegal behaviour does decrease shareholder wealth. However, we questioned the generalizability of these results because the theory behind Frooman's findings did not explain why some companies that have acted irresponsibly remain on the list of the most profitable global companies. In doing so, we have added a caveat to Frooman's (1997 p. 244) beliefs, and the belief of many researchers in this area, that the market will punish those acting in an environmentally irresponsible manner. Our caveat is this...whether negative news regarding irresponsible behaviour matters to shareholder wealth appears to depend on the market value (market capitalization) of company. We have shown that when it comes to news of irresponsible behaviour, the market punishes smaller, less capitalized firms but not necessarily the very large and highly capitalized companies. Our results suggest that the market acts in an economic nature not in an ethical nature.

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## ENDNOTES

<sup>i</sup> <http://money.cnn.com/magazines/fortune/fortune500/>

<sup>ii</sup> We refer to weaker versus stronger companies in terms of their profitability as per their ranking in the Fortune 500.

<sup>iii</sup> The search terms were 'climate or hazardous or waste or health w/3 safety or environment\* or toxic or pollution or superfund or chemical or human w/1 rights or fine or penalty or violat\*'. The \* is a truncation search term within the database.

<sup>iv</sup> We used the S&P500 Composite Index as a market proxy in calculating abnormal returns.