

Greening of Corporate Governance: Wealth Effects of Sustainability Officer Hiring

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Abstract

This study reports on the impact that firms' hiring of sustainability officers has on their shareholders' wealth. Our stock market tests show a significantly positive effect on the wealth of shareholders of firms around the time of sustainability officer hiring announcements. It appears that hiring these officers by publicly traded firms is a signal to the market that the firm is serious about its sustainability plans and actions. These results also suggest that shareholders view a firm's commitment to sustainability as a sound strategic choice that will accrue financial benefits for the long term.

I. Introduction

According to the United Nations World Commission on Environment and Development report *Our Common Future* (1987), the concept of sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." An expanded view of economic activity proposes that businesses should develop their long-term strategic values on the notion of a *triple bottom line*. Recent research has identified a framework which suggests that beyond a concern for value-adding financial performance, firms should consider how their activities impact the social and ecological dimensions (see, for example, Savitz and Weber, 2006 and Elkington, 1998). Epstein and Roy (2003) outline nine principles of sustainability performance of businesses. These principles can form the basis of firms' dealings in the areas of ethics (setting ethical standards), governance (accepting fiduciary responsibility), transparency (providing relevant disclosures), business relationships (adopting fair trading practices), financial returns (earning competitive returns), community involvement/community development (developing mutually beneficial relationships), value of product and services (delivering highest value to customers), employment practices (striving for empowerment), and protection of the environment (incorporating sustainable development measures).

Extant research provides quite mixed evidence regarding the relationship between sustainable development efforts and firm financial performance (see, for example, Orlitzky, 2008; Vogel, 2005; Orlitzky *et al.*, 2003; Margolis and Walsh, 2003). It appears that firms have begun to give serious attention to the frequently cited three-dimensional perspective: people, planet, and profit—the *triple bottom line*.

The purpose of this study is to provide direct evidence that these corporate initiatives toward sustainable development are valued by firm owners who are stock market participants. The motivation for this research stems from a recent increase in number of firms hiring sustainability officers. Most of these hirings also are associated with the creation of a new corporate management/governance position itself. Since these officers have varied roles in the firm, their influence is difficult to quantify. A direct way to test the impact of initial hiring is to determine whether this event is valued by investors. If a firm considers the appointment of a

sustainability officer to be important enough to be mentioned in the public press, then it may be relevant for shareholders as well.

Prior research shows that the act of executive officer hiring/firing is valued by the stock market (Friedman and Singh, 1989; Mian, 2001; Shen and Canella, 2003). Thus, hiring of a sustainability officers can be seen as a signal to financial market participants that the firm is serious about sustainability issues. Some examples of public disclosures are as follows:

“Flowserve Corporation (NYSE: FLS), a leading provider of flow control products and services for the global infrastructure markets, today announced that Lars E. Rosene has been named chief sustainability officer in addition to his current role leading global communications and public affairs. In his new role as chief sustainability officer and vice president public affairs, Rosene is responsible for driving the implementation and management of the company's sustainability and social responsibility efforts, while continuing to maintain oversight of the company's internal communications, global reputation, government affairs and corporate brand management initiatives. He will continue to report to Lewis Kling, Flowserve President and Chief Executive Officer.”

“SAP AG (NYSE: SAP) today announced a long-term strategic focus on sustainability, covering both its own operations and customer solutions for more sustainable business practices. First, to help its customers with their sustainability efforts, SAP, together with TechniData AG, unveiled expanded solutions for environment, health and safety (EHS) management. In addition, to demonstrate its commitment to sustainable operations internally, SAP announced it will reduce its greenhouse gas emissions down to its year-2000 levels by the year 2020. And, moving forward, SAP announced that its sustainability efforts will be led by a newly formed cross-functional sustainability organization headed by SAP's first chief sustainability officer.”

We apply the most commonly employed event-study methodology to examine stock price reactions for firms when they initially hire/appoint these officers. Our tests demonstrate a significantly positive effect on the wealth of shareholders of the firms examined around the time of public disclosure of sustainability officer hiring. This outcome suggests that shareholders view a firm's commitment to sustainability as a sound strategic choice that could accrue benefits for the long term.

The rest of this paper is organized as follows: The testable hypotheses are developed the next section. Company selection criteria and event study methodology are presented in section three. Section four provides the outcome of the empirical testing of events and a discussion of results. The final section gives the conclusions derived from the analysis.

II. Hypothesis Development

There are but a handful of studies that investigate the association between corporate sustainability practices and changes in shareholder wealth. The results of these studies are mixed with respect to the direction of wealth changes or insignificant in their statistical outcomes. Tsai (2007) analyzed the effect of price reaction of U.S. securities based on firms' inclusion or exclusion from the Dow Jones Sustainability World Index (DJSWI) for the 2002 to 2006 period. He documents no measureable price reaction for firms at the time of their inclusion in the index,

but reports a significantly negative price impact for removal from the DJSWI. Karlsson and Chakarova (2008) find no significant price effect for either index addition or deletion of firms. Cheung (2011) examined the price reaction of stocks traded on the U.S. stock exchanges based on their inclusion and exclusion from the DJSWI over the 2002 to 2008 period, failing to find evidence that inclusion/exclusion had any significant impact on stock returns.

Our research differs from the three studies described above in that we investigate the stock market reaction of a firm-specific event that directly captures an overall change in the strategic focus of the firm—the hiring of a chief sustainability officer.

According to Epstein (2008), there are four main reasons why firms choose sustainability as a core value driver. First, regulations concerning the environment and corporate social responsibility in North America and across Europe have significantly heightened noncompliance costs. Second, a firm's high sustainability profile builds a positive reputation among stakeholders that enhances growth opportunities. Third, an embellished corporate social responsibility reputation impacts both revenues and costs in a very favorable way. Fourth, a sustainability focus transforms the whole corporate culture and makes management more sensitive to the moral and societal obligations of the firm.

For the purposes of our study, we posit the belief that hiring of a sustainability officer will affect the value of the firm by impacting the cost of capital and future cash flows. Like Epstein, we postulate that an emphasis on sustainability may help the firm use its resources efficiently, reduce its noncompliance costs, and improve the firm's reputation among customers, investors, and other stakeholders, thereby increasing sales and/or reducing the cost of capital.

These benefits will occur over an extended period of time. It would be difficult to attribute any actual change in sales or cost of capital to the hiring of sustainability officer. Still, an expected increase in sales and an expected reduction in capital costs will enhance the value of the firm. Stock prices are present value indicators of expected future cash flows. Any increase in future cash in-flows and/or reductions in the cost of capital will positively impact this present value measure. The outcome should be an increase in share price. If hiring of a sustainability officer is financially beneficial for the firm, then the stock price reaction to this event will be positive. This expectation leads us to derive the following testable hypothesis:

H1a: *Announcements of hiring of sustainability officers have a positive effect on the average security returns (AR) of the hiring firms.*

Value relevant information regarding hiring of sustainability officers should be rapidly and fully impounded in stock prices. It is likely that such price impact will occur some days before the actual news release. In fact, prior evidence in the financial literature supports this *information-leakage* phenomenon (Li and Heidle, 2004; Mac, 2002). We incorporate the cumulative abnormal returns (CAR) metric in our research design because it captures exceptional return changes over various trading intervals. We interpret CAR to be firms' mean deviation of returns from their normal market association. We hypothesize that, on average, CAR will be zero. The existence of a positive or negative CAR over various event-related intervals would demonstrate that market participants had a significant wealth gain or loss. This expectation is captured in our second testable hypothesis:

H1b: *Announcements of hiring of sustainability officers have a positive effect on the average cumulative security returns of the hiring firms.*

III. Company Selection and Method of Study

We searched Lexis/Nexus for all news releases using search words that include “green officer” and “sustainability officers” to identify announcements that were related to the hiring of green or sustainability officers. A few examples of such news items were provided earlier in the introductory section of this paper. The first hiring announcement by a publically traded firm surfaced in the year 2004. Our search continued until the first two months of 2010. We deleted hiring by governments and nonprofits, as these events were irrelevant to the shareholder wealth impacts that are the focus of this research effort. Also excluded from our study group were those firms whose return data was not available in the CRSP database. Our screening resulted in the final collection of 13 firms, shown below, that disclosed hiring of sustainability officers.

Table 1

Date	Firm	Position	Industry Classification	SIC Code
6/30/2004	Du Pont E I De Nemours & Co	Chief Sustainability Officer	Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers	2821
5/16/2007	Dow Chemical Co	Sustainability Officer	Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers	2821
5/20/2007	Genesys S A	Green Officer	Communications Services, Not Elsewhere Classified	4899
6/3/2007	Owens Corning New	Chief R & D And Sustainability Officer	Asphalt Paving Mixtures and Blocks	2951
11/1/2007	Regency Centers Corp	Sustainability Officer	Real Estate Investment Trusts	6798
12/13/2007	Norfolk Southern Corp	Sustainability Officer	Railroads, Line-Haul Operating	4011
4/7/2008	Covanta Holding Corp	Chief Sustainability Officer	Refuse Systems	4953
8/13/2008	Albemarle Corp	Chief Sustainability Officer	Chemicals and Chemical Preparations	2899
9/4/2008	Y R C Worldwide Inc.	Chief Sustainability Officer	Trucking, Except Local	4213
11/13/2008	Siemens A G	Chief Sustainability Officer	Electric Services	4911
2/17/2009	Flowserve	Chief Sustainability Officer	Pumps and Pumping Equipment	3561
3/2/2009	SAP	Chief Sustainability Officer	Prepackaged Software	7372
5/14/2009	AT&T	Chief Sustainability Officer	Telephone Communications, Except Radiotelephone	4813

Table 1 shows the study firms, date of initial public hiring announcement, and the industry affiliation based on 4-digit SIC. About 30 percent of the firms belong to the materials and chemical industry group, approximately 45 percent are in the communications and transportation sectors, while the remaining three firms represent diverse industries (software, real estate investment, and pumping equipment).

Consistent with prior capital market research, we utilize the standard event-study methodology espoused by Dodd and Warner (1983) and Travlos (1987). According to these authors, the market model describes a linear relationship between the daily stock return of firm *i* and returns on a market portfolio using ordinary least square regression. By applying the market portfolio (equally weighted or value-weighted index) in the regression equation, we control for the overall stock market changes in returns of all stocks that occur concurrently but may not be related to the primary test event of the study (see Schwert, 1981). This methodology is further elaborated by MacKinlay (1997). It is concordant with the work of numerous others who have investigated the stock market reaction of specified value-relevant events without employing a control sample. A few of the many examples of such research include Fraser *et al.* (1997) on the wealth impact of interstate bank branching regulation; Ghani and Childs (1999) on the wealth effects of enactment of the Nutrition Labeling and Education Act of 1990 for a sample of large U.S. multinational food companies, and Madura, *et al.* (1993) on market response to the thrift industry bailout.

We use CRSP data from the Wharton Research Data Services system to test our hypotheses. Raw data retrieval and data analysis were conducted with Eventus® software using the standards and procedures provided by the software developer (Cowan, 2007).

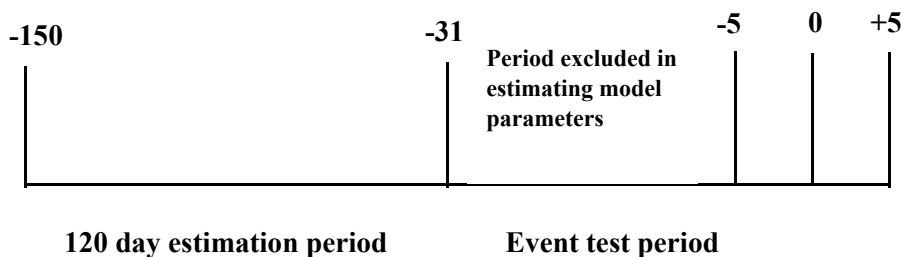
For the market model, stock returns are modeled as a single index:

$$R_{it} = \alpha_i + b_i R_{mt} + \varepsilon_{it} \tag{1}$$

Where, R_{it} is the return of security *i* on day *t*, R_{mt} is the return on the index for day *t*, and b_i is the sensitivity of the stock to the index.

First, we estimate model coefficients over the estimation period that contains the past *ex post* stock returns using ordinary least square regression model. As displayed in Figure 1, the estimation period chosen for our study begins 150 trading days before the event date (day 0) and ends 31 trading days before the event date ($t = -150$ to $t = -31$). As a next step, we employ the estimated model to calculate the unexpected, or abnormal, returns during the prediction period (event period) for the trading days -5, 0, and +5, where day 0 is the test, or event, day. For the purposes of this study, the test date is the day of the public disclosure of a sustainability officer hiring.

Figure 1
Event and Estimation Period Around Sustainability Officer Hiring



To control for information leakage before the event date, we truncate the estimation period 31 trading days prior to the event date. To calculate abnormal stock returns, we take the

difference between the actual and expected returns from the market model for a sample of N firms as follows:

$$AR_t = \frac{1}{N} \sum_{i=1}^n [R_{it} - \hat{\alpha}_i - \hat{b}_i R_{mt}], t = -1, \dots, +1 \quad (2)$$

Where:

AR_t = abnormal return for period t;

R_{it} = return on security i for period t;

R_{mt} = return on the value-weighted market portfolio for period t; and

$\hat{\alpha}_i, \hat{b}_i$ = ordinary least-squares estimates of the market-model parameters.

We calculate the average cumulative abnormal returns ($CAR_{T1,T2}$) by adding the AR_t 's over different intervals that range between day -5 and day +5 or we move to a larger interval if it is necessary. We expect AR_t and $CAR_{T1,T2}$ values to be equal to zero on average.

IV. Empirical Results

Data for a total of 13 firms that reported hiring a sustainability officer were used to examine the price reaction around the disclosure date. We analyze the average daily abnormal returns and the percentage of negative returns for announcement periods -5 to +5 relative to a particular event day ($t = 0$). We also report the cumulative average abnormal returns and percentage of negative cumulative average abnormal returns over various trading intervals (-5 through +5). The Generalized Sign Z statistic is employed to test whether the proportion of positive abnormal returns and cumulative abnormal returns clustered around the event date are different from zero and are significant.

Abnormal Returns Test Results

We identified hiring of sustainability officer by firms to be the event of interest for our study. Table 2, in the two panels shown below, reports the results for this event.

Table 2

Daily Average Abnormal Returns (AR), Proportions of Positive Returns, Cumulative Average Abnormal Returns (CAR), and Proportions of Positive Returns of Firms for hiring of Green/Sustainability Officers

Panel A: Daily Average Abnormal Returns and Proportions of Positive Returns

Event Day	AR%	Gen Sign Z	%Positive
-5	-1.28%**	-0.549	38.46%
-4	0.87%	1.12	61.54%
-3	-0.18%	0.564	53.85%
-2	0.23%	0.01	46.15%
-1	0.24%	0.56	53.85%
0	1.48%**	2.79***	84.62%***
1	0.21%	-0.55	38.46%
2	-0.87%	-0.55	38.46%
3	0.30%	0.01	46.15%
4	-0.59%	-1.11	30.77%
5	0.65%	0.56	53.85%

Panel B: Cumulative Average Abnormal Returns and Proportions of Positive Returns

Trading Interval	CAR%	Gen Sign Z	%Positive
(-5,0)	1.36%	1.12	61.54%
(-4,0)	2.64%**	1.676	69.23%**
(-3,0)	1.77%	2.79***	84.62%***
(-2,0)	1.95%*	2.79***	84.62%***
(-1,0)	1.72%**	1.68**	69.23%**
(-1,+1)	1.94%	1.12	61.54%
(0,+5)	1.19%	1.12	61.54%

**Significant at $p \leq .05$.

***Significant at $p \leq .01$.

The expectation is a positive reaction in share prices of hiring firms around the event. Average abnormal returns of the firms on day 0 (the event day) are positive at 1.48 percent and are highly significant at the .01 level or better with Z-values of 2.789. The abnormal returns on

day 0 are significantly different from zero at the 0.01 level. Also, on this same day, 85 percent of the stocks in the group posted a positive return with a p-value of .01 or better. The results indicate that investors reacted positively to the hiring of sustainability officers' news. These outcomes support our first hypothesis that announcements of sustainability officer appointment have a positive effect on the average security returns of the hiring firms.

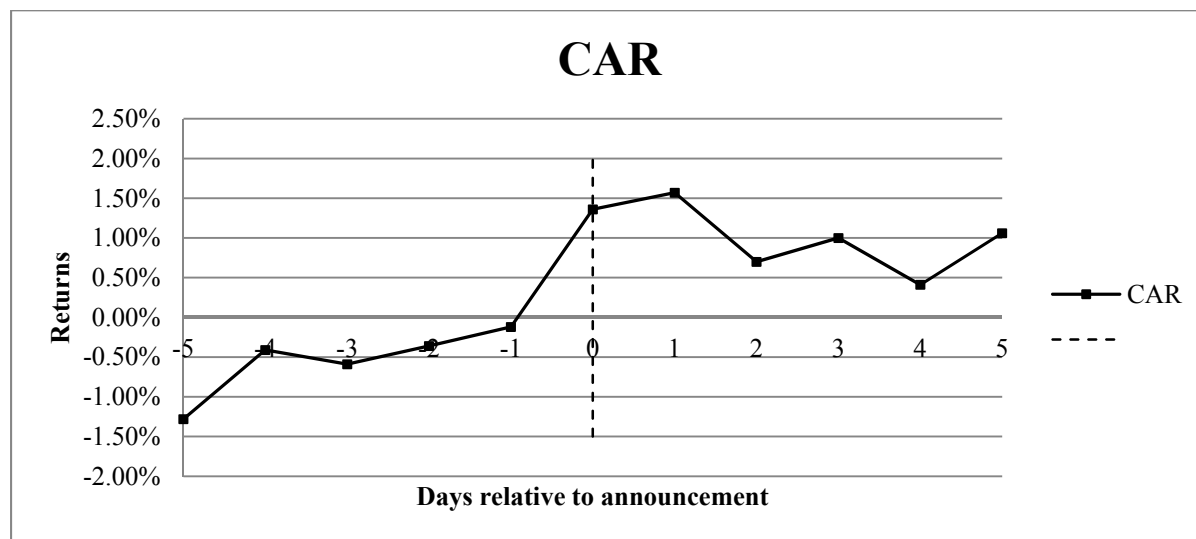
Cumulative Abnormal Returns (CAR) Test Results

We also examine the hiring event using CAR over different trading intervals. As shown in Table 2, Panel B, the firms experience significant positive CARs around various trading intervals. For example, the CARs for trading intervals (-3, 0) and (-1, 0) are positive at 1.77 and 1.72 percent with a Z-value of 2.289 and 1.676, respectively. Both of these CARs also are highly significant at the .01 and .05 levels or better, respectively. In addition, for these same days, 85 percent and 69 percent of the stocks in the sample show a positive return with a p-value of .01 and .05 or better, respectively. The results suggest, not unexpectedly, that news about hiring decisions by sample firms had leaked prior to the announcement and generated an positive wealth impact for shareholders of these firms. Overall, our second hypothesis is supported by these statistical results.

The CAR analysis in Figure 2 shows returns movement over interval day -5 to day +5. CAR experienced a significant upward shift on day -1 and day 0 and maintained its climb upward until day 1. CAR dropped later, but stayed at a new level—and above zero—affirming the results posited in hypotheses H1a and H1b.

Figure 2

Cumulative Average Abnormal Returns: Wealth effects around event date (day 0)—the day sustainability officer hiring news became public—for trading interval -5 to +5.



V. Conclusion

The purpose of this study was to test, in a direct way, the impact on the wealth of shareholders of firms' decisions to hire of sustainability officers. We find evidence, based on a standard event-study methodology, that the stock market responded significantly positively for the firms studied around the announcement time of hiring of sustainability officers. These results indicate that shareholders perceive a firm's commitment to sustainability as a sound strategic choice that could result in financial benefits for the long-term.

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