

Wealth Impacts Arising from Hiring a Sustainability Officer

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In recent decades practitioners and academics alike have been very attentive to corporate social responsibility (CSR). The recent expansion from “social” to “environmental” responsibility is reflected in intensified focus on “sustainability,” which now plays an important role in business and institutions (Flammer, 2011). This is supported by the research done by Accenture and United Nations Global Compact (UNGC). Our study investigates holding period return performance surrounding the hiring of a Sustainability Officer (SO), detecting significant subsequent increases in shareholder wealth.

INTRODUCTION

Sustainability projects have been associated with long-term performance (James, 2013). However, research in this area has not flourished for several reasons. Very few organizations have spent the funds necessary to create a sustainability division let alone hire a SO. Furthermore, given its recent development there has not been much time to identify the goals, measure benefits, and assess any lasting relationships. In many countries, such as United States, sustainability reporting is voluntary, which further diminishes our understanding of sustainability.

Ernst and Young (2012) proposed a list of leading corporate sustainability issues. The main issues are related to investor interest in corporate growth and risk management. However, this interest has been enticed by regulatory changes, media coverage, greater demand for accountability and disclosure. In a related survey, Ernst and Young (2012) found that the main reasons for sustainability efforts are: energy cost reductions, customer demands, brand risks, increased stakeholders expectations and competitive threats. This demonstrates that corporation strategists are interested in the triple bottom line, giving consideration to profit, people, and planet.

In “The value of sustainability reporting,” Ernst and Young (2011) list five benefits: better reputation through transparency, meeting the expectations of employees, improved access to capital, increased efficiency and waste reduction. It may be difficult to measure the positive financial outcomes of sustainability due to the complications of determining the timeframe of the return on investment. However, there is a great interest in reporting both financial and sustainable results in a comprehensive report because they are closely associated with the other.

The purpose of this paper was to find support for the financial benefit of hiring a sustainable officer. We were able to find 13 public companies that have filled this position. We analyzed the financial

performance for these companies and looked at their annualized returns for the four, two and one years prior to hiring the officer as well as the one, two and four subsequent years.

In their article titled “Greening of Corporate Governance: Wealth Effects of Sustainability Officers,” Ghani, Sharma, and Stagliano (2011) use a market model to estimate the reaction of companies to the hiring of a SO over a ten-day window, five before and five after the hiring. We make a significant contribution to the sustainability research by extending this analysis out to eight years. Given that sustainability efforts are expected to have a long-run impact, it is not surprising that we would see abnormal performance existing out beyond a week.

LITERATURE REVIEW

We shall begin by defining sustainability development. The definition given by the Brundtland Report, *Our Common Future* (1987) is “development that meets the needs of the present without compromising the ability of future generation to meet their own needs” (p. 8). Sustainability is the most recent and popular component of corporate social responsibility (CSR) which has been in debate for decades. One stream of researchers, mainly economists, argues that CSR distracts the management team from their main purpose of increasing the value of wealth for the stockholders (Orlitzky, 2011). On the other hand, researchers in social issues in management claim that CSR benefits “socially responsible and responsive organizations can more effectively navigate complex webs of stakeholder relations” (p. 415). According to Orlitzky’s (2011) moderator meta-analysis, in regards to the relationship between corporate social performance (CSP) and corporate financial performance (CFP), he found that the published studies indicate a positive relationship between CSP and CFP.

Flammer’s (2011) conceptual framework is based on the assumption that environmental CSR creates new and competitive resources for firms. This is supported by Porter’s work (1991), Jones’ Instrumental stakeholder theory (1995), Hart’s Natural resource-based view (1995), and fresher studies in business sustainability (e.g., Clelland, Dean, & Douglas, 2000; Rusinko, 2007; Russo & Harrison, 2005). The findings of this research reveal that the “stock market reacts positively to the announcement of eco-friendly initiatives, and negatively to the announcement of eco-harmful behavior.” (p. 759). Moreover, Flammer also found the due to the recent pressure for sustainability the positive reaction decreases over time while the negative increases.

Financial Markets

According to orthodox finance theory, stock prices fully reflect all available information (Fama, 1970, 1991), which supporting the concept of market efficiency. In other words, the price of the stock matches its value (i.e. discounted sum of expected future cash flows) assuming that the participants are making a rational decision based on business fundamentals. Nonetheless, what we actually see is that beyond business fundamentals there are many social dynamics that influence the equity markets (Cassidy, 2009; Fox, 2009).

This phenomenon is called behavioral finance. This new cross disciplinary perspective considers views from economics, finance, sociology, and psychology (Thaler, 1993, 2005). What this means is that investors rely on beliefs beyond economic facts or “investor sentiments” to trade. (Orlitzky, 2013).

RESEARCH METHOD

Research Sample

The initial focus of this study is the thirteen public companies that hired a Sustainability Officer prior to May 2013 as listed in Table 1. We collected price data for these firms, three benchmark firms from the same industry for each, and the S&P 500. Specifically, the information gathered was price data four years prior to the hiring, two years prior, one year prior, one year after, two years after, and four years after. We could not go further, because the last window runs up to May 13 of 2013, immediately preceding the start of this investigation. In addition, we obtained a measure of systematic risk for all firms. One firm,

Owens Corning, went through a merger and hence does not have complete pricing data for an 8-year window (4 before to 4 years after). It was dropped from the study, leaving us with twelve firms to use in our examination of the impact on share price arising from the presence of a SO.

The sample comes from a listing of companies hiring a SO completed by Ghani, Sharma, and Stabliano (2011). DuPont is the first firm that they identify as hiring a SO, which occurred in 2004. It took approximately three years for another firm to hire a SO. Ironically, the hiring occurred at one of DuPont's primary competitors, Dow Chemical. Thereafter, we see a wide array of industries represented among SO hiring firms. The third company hiring a SO, Genesys is in the medical technology industry. The four other technology companies (i.e., Siemens, Flowserve, SAP, and AT&T), provide electrical equipment. Two SO-hiring companies are in the ground transportation industry, with Norfolk Southern having a railroad presence while YRC Worldwide is best known for the orange-trailer, "Yellow" and "Roadway" semis seen on roadways. Two companies from different sectors of the housing market are included, with Owens Illinois tied to housing construction and Regency Centers to the housing of tourist. Finally, Albemarle and Covanta Holdings are tied to manufacturing of large industrial products. In summary, although the sample is small, a variety of firms have been included in the sample.

Four pieces of information will be provided for each holding period. Listed in order that they will appear in subsequent tables, they are the average annualized return, median annualized return, standard deviation, and Student's t-statistic. The first two provide an indication of the economic gains possible from investing in firms hiring SOs, the third detects the related risk, while the fourth identifies the extent to which abnormal, market-based performance arises.

Two sets of research results are provided. The first set of results, a presentation of research findings based on the twelve companies in the sample, can be found in Table 2. Our second set of research results excludes two outliers. Specifically, results presented in Table 3 exclude Genesys, a firm that went from \$5.12 to \$207.37 within four years. One could reasonably question whether adding a SO could have that sort of impact. At the other extreme, YRCW is a trucking firm that essentially went bankrupt. A \$309,976 investment in YRCW dropped to \$5.59 in eight years. Again, we questioned whether a SO could help this company survive given its overwhelming challenges. The key impact on our findings arising from this adjustment is a large reduction the standard deviation measure. Given the difference in holding period intervals, Table 2 and Table 3 present annualized rates of return.

EMPIRICAL FINDINGS

Findings based on Entire Sample

As we can see in Table 2 in the first row of Panel A, average holding period returns dropped dramatically leading up to the SO hiring. With 8.9 percent annually over the prior four years, but only 0.6 percent over the last two years, we know that over the third and fourth year prior to the hiring, the average return was 17.2 percent (i.e., $((8.9\% \times 4) - (0.6\% \times 2)) / 2$). Average annual performance declined by 16.6 percent, from 17.2 percent year three and year four before SO hiring to 0.6 percent the two years immediately preceding the hiring. This decline increased over the prior two years, as we can observe from the presented data that the return over the year that is two years prior to the SO hiring was 4.2 percent (i.e., $(0.6\% \times 2) - (-3.0\%)$).

Before going on it is worthwhile to look back at the research by Ghani, Sharma, and Stagliano (2013), who find a leakage effect prior to the date of SO hiring. Over half of the announcement effect they observe happens prior to the hiring date. This gain would be included in the "prior year" column, meaning that without the decision to hire a SO, the losses reported in the immediately prior year would have been even worse.

Median returns prior to SO hiring are given in the second line of Table 2's Panel A. Although they are in sync with the average returns, they do not turn negative. Afterwards, we can see that the median returns fall by 1.0 percent, but then begin to advance. In fact, by the third and fourth year median returns were registering a 22.8 percent gain $((12.3\% \times 4) - (1.8\% \times 2)) / 2$.

The wide range of returns in the third and fourth year following SO hiring (i.e., 52.1% in the “Subsequent 4 Years” row) keep this strong return performance from being statistically significant. In fact, the only holding period return which is significantly different from zero is that of the four year holding period prior to SO hiring. (For ease of identification this value and all other t-test statistics having a value of 0.10 or less are shown in bold typeface.) Consequently, any statements regarding insights from our study related to the impact of SO hiring on holding period returns have to be made with extreme caution.

One of the strongest claims that the hiring of a SO has a positive impact on the performance of a company’s stock is found in Table 2’s Return in Excess of Industry Benchmark segment, which is shown in Panel B. The information provided can again allow one to deduce the excess returns three and four years before SO hiring, which was a positive 2.4 percent (i.e., $(-3.4\% \times 4) - (-9.2\% \times 2)/2$). Relative to the industry benchmark, returns are a negative 9.2 percent and negative 20.8 percent during the two years and single year prior to SO hiring. The negative return relative to the portfolio consisting of the three closest competitors is significant during the two years prior to SO hiring, and approaches significance over the prior year by itself.

The reason that the large -20.8 percent loss is not significant during the final year is the large 51.7 percent standard deviation. However, as pointed out above, Ghani, Sharma, and Stagliano (2013) who find a leakage effect equal to 1.4 percent. Without that last-minute gain, the relative loss during the year leading up to the SO hiring would be even worse.

Though not significant, the industry-excess returns after SO hiring speak well of the decision. In fact, over the first year following SO hiring, the firms rebound by over twenty-three percent, from falling behind the industry by 20.8 percent to outperforming the industry by 3.0 percent. Going out to the four-year horizon, we can see that SO hiring firms have averaged an additional 6.8 percent, or about 27 percent in total (i.e., $6.8\% \times 4$). The negative median, however suggests that a majority of the firms are not beating the industry benchmark. Nonetheless, the average 6.8 percent gain over the four years after hiring the SO is sufficient to offset the 3.4 percent annual loss over the prior four years.

The remaining panels presented in Table 2, exhibit hiring firm returns adjusted for some aspect of the market performance. In the first of these, Panel C, the return of the hiring firm is reduced by the return of the Standard & Poor’s 500 over the same period. As seen in the first column, returns over the entire four year period prior to SO hiring are a positive 2.3 percent. If we look at only the two years before SO hiring, the returns are a negative 2.4 percent, and during the final year preceding hiring firm returns are 14.5 percent below the market.

After SO hiring, stock price performance in excess of the market is consistently positive, whether we are looking at the first year (i.e., 2.5%), first two years (i.e., 1.8%), or entire four-year post SO hiring timeframe (i.e., 15.6%). In fact, though not statistically significant, with a Student t-statistic of 0.10, it appears as though abnormal performance is approaching significance.

Median market-excess returns tell a similar story, falling from 7.8 percent to a negative 1.2 percent before hiring. Then, they rebound to a positive 6.5 percent annually over the first four years following SO hiring. Given that a wide range of corporate events can occur during four years, it is probably not surprising that the standard deviation rises as we look out from a one-year (i.e., 15.6%), to two-year (i.e., 18.0%), to a four-year (i.e., 42.5%) holding period. However, the large variation in returns keep us from claiming that the 15.6 percent market-excess return over the first four years is significant at the 0.05 level.

Information on return in excess of the market portfolio adjusted for systematic risk (i.e., the market model) is presented in Panel D of Table 2. The -0.2 percent market model excess return, actually hides a positive 2.9 percent (i.e., $(-0.2\% \times 4) - (-3.3\% \times 2)/2$) over the third and fourth year prior to so hiring. Given the small sample size, the median row is likely to hold important insights. Here again one can plainly see the excess return decline being reversed when an SO is hired. Although not significant at the 0.05 level, the significance levels of all post-hiring return distributions are below 0.15.

An interesting phenomenon and contributor to the lack of significance despite the high mean and median, is the large standard deviation. In this comparison, the largest variance in holding period return exists during the single year prior to SO hiring. Of course, after SO hiring, some firms may do extremely

well. This raises the average above the median, as seen here where their respective values are 15.2 and 7.8 percent. Over the two years subsequent to SO hiring, the return in excess of industry benchmark was significantly different from zero at the ten percent confidence level.

Alpha measures, shown in the Panel E of Table 2, present return after adjusting for inflation, market performance, and systematic risk. Theoretically, all of these values would be zero if the hiring of a SO had no impact on returns. Instead, there is a decline in the performance of hiring companies, reaching a marginal loss of 12.9 percent during the year preceding SO hiring. Afterward, returns rapidly rise. The average alpha over the third and fourth year post hiring is a positive 25.6 percent (i.e., $(15.6\% \times 4) - (5.6\% \times 2)/2$).

Median returns follow suit, with the center values dropping to negative 1.4 percent just prior to SO hiring. Thereafter, returns are always positive. The rapid reduction in standard deviation from the year before to the first and second years after hiring may attest to the stabilizing force of a SO. Returns over the two-year and four-year post SO-hiring are significant at the 0.10 level. Consequently, it appears to be safe to believe that there is something meaningful to be said about hiring of a SO. The advantages appear to be lost in the variation in holding period returns, which may be due to outliers. We evaluate this potential, by removing the two outliers in our sample in the following panel. This analysis is reflected in Table 3.

Findings after Exclusion of Outliers

Table 3 provides information on SO hiring after excluding the outlier with an abnormally good return (Genesys S.A.) and poor return (YRC Worldwide). As shown in Table 3, the exclusion greatly reduces the return variance, while leaving returns themselves virtually intact. For instance, across the eight-year sample period—four before and four after SO hiring—the mean annual return of the entire sample is 10.75 percent (i.e., $(8.9\% + 12.6\%)/2$). The ten-stock portfolio has a similar mean annual eight-year return of 11.40 percent (i.e., $(13.4\% + 9.4\%)/2$). However, the standard deviation falls from an average of 34.2 percent (i.e., $(16.2\% + 52.1\%)/2$) to 13.6 percent (i.e., $(13.1\% + 14.2\%)/2$). The sample revision provides a clearer indication of investor perception regarding the benefit of SO hiring.

The same typical behavior discussed in Table 2 is evident in Table 3. Returns are significantly different from zero over the four-year holding period prior to SO hiring. They decline rapidly to a loss of 2.7 percent and then begin to rebound, first to -0.1 percent and eventually to an average annual return of 9.4 percent. Medians follow the same pattern. Due to the lower standard deviation, the t-statistics have a greater likelihood of being significant. In fact, the four-year returns before and after are statistically significant at the 0.01 and 0.05 levels, respectively.

The truncated sample's performance is perhaps the most unique when industry performance is considered. Specifically, as shown in Panel B of Table 3, there is an immediate recovery from an almost significant, at the 0.05 level, loss of 5.9 percent to a positive 1.5 percent. In other words, industry-excess returns rise 7.4 percent. However, the revised sample does not outperform the industry in the post-hiring period. One reason may be the employment of sustainability principles at competitors to offset the competitive advantage of the sample firm's hiring of a SO.

Over the four post-hiring years, industry-excess returns average -4.1 percent. However, the median industry-excess return is virtually zero (i.e., -0.7%), implying that the typical SO hiring company did almost as well as its competitors. Doing as well as competitors is not necessarily poor performance, because such performance implies that investors believe that the SO's incremental impact is sufficient to cover its marginal costs. In fact, the only marginally significant value is the abnormally poor performance during the year immediately preceding the SO hiring. Once the outliers are excluded, it appears as though the hiring companies recover from abnormally poor industry-excess return behavior, and provide returns that are not expending resources on an SO and their staff. In other words, it is worth investing in creating this position.

Market-excess returns, shown in the middle section, Panel C, of Table 3, have greatest number of significant values. Over the four-year and two-year periods prior to SO hiring, the return in excess of the S&P 500 is significant at the 0.05 level. However, the rapid tapering off of excess returns is plainly

evident, especially when it comes to the median values presented in the second row. These go from 11.6 percent over four years to 0.2 percent over the year preceding SO hiring.

Average post-hiring returns build from 1.0 percent in the first year to 2.6 (i.e., $((1.8\% \times 2) - 1.0)/2$) percent in the second year. Average returns over the third and fourth year reach 10.6 percent (i.e., $(6.2\% \times 4) - (1.8\% \times 2)/2$). This value is significant at the 0.05 level, probably due to the relatively low return variance. Elimination of the outliers reduced the standard deviation from 42.5 percent in Table 2 to 9.5 percent in Table 3.

Exclusion of Genesys S.A. removed the highest beta company from consideration. Nonetheless, betas of the remaining companies continue to cover quite a range, with Dow Chemical (Beta= 1.96) at one end of the spectrum and AT&T (Beta = 0.30) at the other end. Consequently, the return necessary to offset the market-related risk varies across the firms and the market model should be used to measure excess return. This information is exhibited in the Panel D of Table 3. As observed above, returns in excess of the market model fall leading up to the date of SO hire, and increase thereafter. Median returns fall from 10 percent over the entire four year period prior to hiring the SO--which equates to 19.4 percent (i.e., $(10.0\% \times 4) - (0.6\% \times 2)/2$) on average during the period covering the fourth and third year prior to hiring—to a loss of 1.8 percent during the year immediately preceding bringing the SO onboard.

After the SO gets hired, median returns in excess of the S&P 500 adjusted for systematic risk build from 1.2 percent over the first year, to 5.1 over the first two years, to 7.8 percent over the first four years following the SO hiring. Interestingly, the return in excess of the market model is very similar during the four years prior to the SO hiring and four years after the hiring, being 5.7 percent and 5.6 percent, respectively. However, the abnormal performance is more tightly distributed after hiring a SO. Consequently, the performance of the firm hiring a SO is significant at the 0.05 level of significance, and with a value of 0.02 approaches the highly-significant 0.01 level. Using the same model employed by Ghani, Sharma, and Stagliano (2013), we observe a significant benefit occurring to investors over a four-year timeframe. [PAT: Please be sure to mention that Ghani us a market model!]

With inflation, as measured using annual Treasury rates, ranging from 0.10 percent to 5.12 percent, adjusting returns for inflation and market returns in excess of the inflation rate is appropriate. We did this using Jensen's alpha measure, with findings recorded in the Panel E of Table 3. As before, we see the tendency of firms to hire a SO as investor confidence in the firm waned. Median alpha values drop from 21.4 percent (i.e., $(11.3\% \times 4) - (1.2\% \times 2)/2$) on average during the third and four year prior to hiring a SO, to 3.8 percent (i.e., $(1.2\% \times 2) - (-1.4)$) during the second year prior to the hiring of a SO, to a loss of 1.4 percent during the year before the hiring.

After the hiring, there is a progressive expansion of alphas from 1.0 percent in the first year, to 3.2 percent over the first two years, to 6.1 percent over the first four years. Median alpha values present an even more dramatic rise. Given the relatively low 4-year holding period alpha value variation, this alpha value is significant at the 0.01 level. Investors continue to believe in firms hiring SOs, bidding up their prices over the next four years. As a consequence on a risk-adjusted, inflation-adjusted, market-adjusted (i.e., alpha) basis, we are able to conclude that the hiring of a SO precedes the earning of positive, abnormal rates of return.

CONCLUSION

As demonstrated in the literature review, there is a growing interest in corporate sustainability. The interest may have started as a social concern, being somewhat a cultural fad. However, the research has gone from focusing on environmental concerns to Corporate Social Responsibility (CSR) of corporations to the financial costs and benefits of embarking in such an endeavor. A critical recent contribution to the sustainability body of literature is the recent report by research by Ghani, Sharma, and Stagliano (2013), which indicates that abnormal share price performance occurs over the week that a sustainability officer (SO) is hired.

The results of this study show that hiring a SO does payoff with positive and abnormal returns in the long term as well. As we can see in the analysis, the full available sample of companies that hired a SO

prior to May 2009, SO- hiring companies overall were doing significantly worse than their competitors the prior two and one years of the hiring. Although the benefits of hiring were not always immediately identifiable, we do see the significant improvement in the two and four subsequent years. This supports the expectation that investors have become more interested in corporations that include sustainability in their strategy. The reason for this interest may not be purely the interest for the planet, but a combination of expectations that customers will favor their products, employees will be happier and hence more productive, and saving resources will ultimately reduce waste.

The latter factors are much harder to pin point with the reduced sample, limited number of years companies have had this position in place, and the lack of integrated reporting. Hopefully, the interest and practice of sustainability will continue to develop and provide more data to extend this research to look at other benefits of sustainability.

This research should interest academics in the areas of economics, finance, marketing and management as the financial benefits may sparkle the interest in management to include sustainability in their strategies which will revamp the benefits even more with proper marketing tailored to the demand of the customers which ultimately will benefit the global economy.

The findings of this paper are also of interest to practitioners, as it creates awareness of the benefits of sustainability. Our findings support making sustainability an integral part of organizational decisions and focus beyond profit. After all, without happy people and a resourceful planet there will be no profit.

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TABLE 1.
RESEARCH SAMPLE HIRING COMPANIES, DATE OF HIRE
AND COMPANIES IN BENCHMARK PORTFOLIO

Firm	Date	Benchmark Portfolio Components
I.E. DuPont de Nemours	6/30/2004	Air Products & Chemicals, BASF, Carlco
Dow Chemical	5/16/2007	Air Products & Chemicals, BASF, Carlco
Genesys S.A.	5/20/2007	Aveva Group, Tristate Capital, Wipro Limited
Owens Corning	6/3/2007	Pittsburg Paint & Glass, Travis Perkins, Ultratech
Regency Centers	11/1/2007	DDR, Simon Properties, Weingarten Realty
Norfolk Southern Corp.	12/13/2007	Canadian National, CSX, Union Pacific
Covanta Holding Corp	4/7/2008	Ecology & Environments, Shanks, Waste Management
Albemarle Corporation	8/13/2008	Chemtura, W.R.Grace, Johnson Matthey
YRC Worldwide Inc.	9/4/2008	Arkansas Best, Con-Way, Stagecoach Group
Siemens AG	11/13/2008	ITT, Metso, General Electric Company
Flowserve	2/17/2009	General Electric Company, Honeywell, Smiths Group
SAP AG	3/2/2009	International Business Machines, Microsoft, Oracle
AT&T	5/14/2009	CenturyLink, Sprint, Verizon

Note: Listing of companies hiring Sustainability Officer was obtained from Ghani, Sharma, and Stagliano. “Greening of Corporate Governance: Wealth Effects of Sustainability Officer Hiring.” 2011 Annual Meeting of the 3rd SAICON International Conference on Management, Business Ethics & Economics, held in Lahore, Pakistan and organized by COMSATS Institute of Information Technology, Lahore, Pakistan. The article is forthcoming in the *Journal of Finance Issues*.

TABLE 2
AVERAGE ANNUALIZED RETURNS AROUND THE HIRING OF A SUSTAINABILITY
EXPERT: ALL DATA

	Prior 4 Years	Prior 2 Years	Prior Year	Subsequent Year	Subsequent 2 Years	Subsequent 4 Years
Panel A						
Holding Period Return	8.9	0.6	-3.0	0.2	-1.5	12.6
	7.2	1.6	0.7	-1.0	1.8	12.3
	16.2	9.3	8.9	20.2	26.5	52.1
	0.04*	0.41	0.13	0.49	0.42	0.19
Panel B						
Return in Excess of Industry Benchmark	-3.4	-9.2	-20.8	3.0	1.1	6.8
	-3.7	-4.2	-2.4	1.1	0.6	-0.7
	19.5	17.6	51.7	15.1	15.5	47.1
	0.27	0.04*	0.09	0.24	0.40	0.31
Panel C						
Return In Excess of Market as measured using the S&P 500 Index	2.3	-2.4	-14.5	2.5	1.8	15.6
	7.8	0.9	-1.2	-0.3	-2.7	6.5
	23.8	17.5	52.4	15.6	18.0	42.5
	0.37	0.31	0.17	0.28	0.36	0.10
Panel D						
Return in Excess of Market Adjusted for Systematic Risk	-0.2	-3.3	-13.5	4.5	5.0	15.2
	8.6	-0.0	-1.8	1.5	5.1	7.8
	27.9	18.4	52.9	13.6	13.4	42.3
	0.49	0.27	0.19	0.13	0.10	0.11
Panel E						
Jensen's Alpha Measure	1.6	-1.7	-12.9	4.9	5.6	15.6
	8.9	1.1	-1.4	2.6	6.2	9.5
	25.7	18.3	53.0	13.7	13.2	42.2
	0.41	0.37	19.8	0.11	0.08	0.10
Data in each Cell: Average Annualize Return Median Annualized Return Standard Deviation of Return Student-t test of Statistical Significance All values are in percentage terms, except for significance values with are presented in traditional ratio format.						

TABLE 3
AVERAGE ANNUALIZED RETURNS AROUND THE HIRING OF A
SUSTAINABILITY EXPERT: EXCLUDING OUTLIERS

	Prior 4 Years	Prior 2 Years	Prior Year	Subsequent Year	Subsequent 2 Years	Subsequent 4 Years
Panel A						
Raw Return	13.4	2.1	-2.7	-0.1	0.8	9.4
	13.3	2.2	0.1	-1.0	1.8	12.3
	13.1	8.6	9.2	10.5	16.6	14.2
	0.00**	0.22	0.17	0.48	0.44	0.03*
Panel B						
Return in Excess of Industry	1.8	-4.4	-5.9	1.5	-0.5	-4.1
	3.2	-0.1	-2.3	1.1	0.6	-0.7
Benchmark	14.7	11.5	12.1	5.3	9.1	20.4
	0.34	0.11	0.07	0.18	0.42	0.26
Panel C						
Return In Excess of Market as measured using the S&P 500 Index	9.3	3.5	0.6	1.0	1.8	6.2
	11.6	2.3	0.2	-0.3	-2.8	6.5
	17.2	6.1	3.8	5.7	8.6	9.5
	0.05*	0.04*	0.30	0.28	0.25	0.03*
Panel D						
Return in Excess of Market Adjusted for Systematic Risk	5.7	2.0	0.6	0.7	2.8	5.6
	10.0	0.6	-1.8	1.2	5.1	7.8
	25.3	10.2	5.3	5.7	6.8	7.5
	0.23	0.26	0.37	0.35	0.10	0.02*
Panel E						
Jensen's alpha Measure	7.9	2.9	1.0	1.0	3.2	6.1
	11.3	1.2	-1.4	1.4	6.2	9.5
	21.7	9.7	5.2	5.9	7.1	7.9
	0.13	0.17	0.28	0.30	0.08	0.01*
Data in each Cell: Average Annualize Return Median Annualized Return Standard Deviation of Return Student-t test of Statistical Significance All values are in percentage terms, except for significance values with are presented in traditional ratio format.						