Journal of Environmental Economics and Management 62 (2011) 430–445

Contents lists available at ScienceDirect

Journal of Environmental Economics and Management

journal homepage: www.elsevier.com/locate/jeem

Voluntary corporate environmental initiatives and shareholder wealth ☆

Karen Fisher-Vanden [a,*], Karin S. Thorburn [b]

[a] Department of Agricultural Economics and Rural Sociology, Pennsylvania State University, 112-E Armsby Building, University Park, PA 16870, USA
[b] Norwegian School of Economics and Business Administration (NHH), Norway

ARTICLE INFO

Article history:
Received 25 February 2009
Available online 30 April 2011

Keywords:
Corporate social responsibility
Environmentally responsible investing
Climate change
Greenhouse gas emissions
Capital expenditures
Shareholder wealth

ABSTRACT

Researchers debate whether environmental investments reduce firm value or actually improve financial performance. We provide some compelling evidence on shareholder wealth effects of membership in voluntary environmental programs (VEPs). Companies announcing membership in EPA's Climate Leaders, a program targeting reductions in greenhouse gas emissions, experience significantly negative abnormal stock returns. The price decline is larger in firms with poor corporate governance structures, and for high market-to-book (i.e., high growth) firms. However, firms joining Ceres, a program involving more general environmental commitments, have insignificant announcement returns, as do portfolios of industry rivals. Overall, corporate commitments to reduce greenhouse gas emissions appear to conflict with firm value maximization. This has important implications for policies that rely on voluntary initiatives to address climate change. Further, we find that firms facing climate-related shareholder resolutions or firms with weak corporate governance standards – giving managers the discretion to make such voluntary environmentally responsible investment decisions – are more likely to join Climate Leaders; decisions that may result in lower firm value.

1. Introduction

A rapidly growing corporate trend in recent years is the number of companies engaged in voluntary environmentally responsible (VER) activities. These activities span a wide range, including membership in public voluntary programs that encourage pollution reductions, unilateral efforts by companies to improve their environmental performance, and the voluntary public disclosure of environmental performance measures [23]. With this trend, a natural question is whether better environmental performance translates into better financial performance. Corporate investments in environmental technologies have traditionally been considered a drain on a firm's resources, creating an inherent conflict between environmental and financial performance (e.g., [33,42]). However, others have argued that corporate environmental responsibility can actually improve financial performance. Potential gains from improved environmental performance can result from a differentiation of product (increasing customer demand and hence sales and/or margins) by signaling that

☆ We are grateful for helpful comments and suggestions from three anonymous referees, Dan Phaneuf, Tom Berglund, and Espen Eckbo, as well as seminar participants at BI, Harvard's Kennedy School, HKUST, IMD, NHH, the Rockefeller Center and the Tuck School at Dartmouth, Texas A&M, the universities of Amsterdam and Stavanger, and the SNEE 2009 annual conference. We thank Jonathan Choi, Hanna Breetz, Abe Holland, and Chetan Mehta for research assistance. This research was supported by the Rockefeller Center and the Lindenauer Center for Corporate Governance at the Tuck School of Business, both at Dartmouth College.

* Corresponding author. Fax: +1 814 865 3746.
E-mail address: fishervanden@psu.edu (K. Fisher-Vanden).

0095-0696/$ - see front matter
doi:10.1016/j.jeem.2011.04.003

the company is "green", a reduction in the risk of future environmental liabilities and lawsuits, and a cut in production costs as a result of pollution-reducing measures [35,37]. Moreover, improving environmental performance could spur governmental regulatory actions, giving the first-mover firms a competitive advantage once their industry rivals are forced to comply [37].

Using an event study approach, we estimate the cumulative abnormal stock returns (CAR) for a sample of firms announcing their participation in one of two voluntary environmental programs (VEPs): the EPA's Climate Leaders (CL) program and Ceres. We find that firms announcing membership in Climate Leaders experience a significant drop in stock price (on average −1.0%). Moreover, when firms as part of the CL program subsequently announce a specific goal for the reduction of their GHG gas emissions, their stock price declines further (−1.1% on average). Thus, it seems that investors are interpreting membership in Climate Leaders and subsequent pledges to reduce greenhouse gas emissions as imposing significant costs on the firm, leading to a decline in shareholder wealth. The firms joining Ceres, however, have insignificant estimated announcement CARs, likely due to the program's emphasis on general principles (rather than specific standards) in all environmental areas (not just climate change), making it difficult for investors to assess what membership implies for the firm's cost structure. The announcement returns are more negative for firms with governance structures that imply fewer shareholder rights. That is, the marginal effect on firm value is more dramatic when shareholders have less influence on the firm's activities. Moreover, the stock price drop is greater for firms with high market-to-book ratios, suggesting that climate investments are interpreted by investors to be more costly for high growth firms.

We also analyze the valuation effect on the industry competitors of the sample firms. Industry rivals of firms joining Climate Leaders or Ceres could be negatively affected by these firms announcing their membership in these programs for a number of reasons. First, the sample firms could gain competitive advantage as first-movers in complying with expected future regulation. Second, as discussed in Reinhardt [37], these firms may be attempting to "manage their competitors" by engaging in environmentally responsible activities that would encourage regulation that could benefit these firms in particular. Thus, if the announcement spurs federal regulation of greenhouse gas emissions that will ultimately change the cost structure of the industry, we expect a negative rival stock price reaction. Alternatively, rival firms could benefit positively from the sample firms' decision to join CL or Ceres. For example, investors could decide to sell shares of the CL firms and invest in non-CL firms, which would result in a positive return for rival firms if these purchases are anticipated (or executed) at the time of announcement and span across a sufficient number of rivals. We find, however, insignificant announcement returns for portfolios of industry rival stocks. This is consistent with the notion that the average membership in Climate Leaders or Ceres does not materially affect the cost structure of the industry. It is possible that the sample firms' environmental capital expenditures are limited by industry competitive pressures, thus reducing the competitive advantage of the firm should regulation eventually force rivals to make comparable investments.

To understand why firms join the Climate Leaders program, we extend our analysis to include a cross-sectional probit model that attempts to identify factors that could explain why firms join CL, limiting our analysis to the industries represented by the sample firms. We find that the likelihood that a firm will join the Climate Leaders program increases the more hostile the firm's corporate governance structure is to shareholders and the better the firm's past environmental record. Importantly, controlling for corporate governance structure, we find that firms with a greater number of climate-related shareholder resolutions are much more likely to join Climate Leaders, similar to the findings of Reid and Toffel [36]. The negative announcement returns coupled with the significantly positive effect of climate-related shareholder resolutions on the probability of joining Climate Leaders suggest that firms are not joining because membership adds value to the firm; rather, these firms are joining CL because of pressures from shareholder activists. As described by Darnall et al. [12] and Cañon-de-Francia and Garcés-Ayerbe [4], environmental decisions made based on institutional pressures are not likely to lead to higher financial returns.

The paper is organized as follows. Section 2 reviews past empirical studies on the relationship between environmental performance and financial performance. Section 3 provides a brief description of the CL and Ceres programs, the sampling procedure and characteristics of the sample firms. Section 4 describes our event study and reports the results from cross-sectional regressions of the announcements returns. The rival firm abnormal returns are analyzed in Section 5, while Section 6 examines the decision to join Climate Leaders. Finally, Section 7 offers some concluding remarks.

2. Previous studies

The empirical evidence on the relationship between environmental performance and financial performance has been mixed. Three approaches have been used to study this relationship: (1) regression analysis; (2) portfolio analysis; and (3) event studies. Regression studies have primarily focused on the relationship between environmental performance and accounting profitability measures (with some using stock performance measures), with several of these studies documenting a positive relationship.[1] However, other regression studies—e.g., Jaggi and Freedman [21], Molloy et al. [32],

[1] Cormier et al. [9], Hart and Ahuja [19], Russo and Fouts [38], King and Lenox [25], Konar and Cohen [27], Guenster et al. [16], and Ziegler et al. [44]. Although Telle [40] finds a positive effect with a pooled regression controlling for industry and size, the author finds that this effect goes away when firm fixed effects are included.