Does it Pay for Companies to Go Green?  
A Work in Progress

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ABSTRACT

Environmental issues have become increasingly important to society over the last few decades. Not only have individuals evaluated and changed their habits in an effort to better protect the environment, but they have also pressured corporations to change their poor environmental habits. The purpose of this research is to discover whether companies that go green see an increase in operating profits and the overall value of the firm. The stock prices of thirty-nine green-certified companies will be compared to stock prices of thirty-one non-green-certified companies. A statistical paired t-test will be used to analyze whether a significant change in stock value occurred between companies that have gone green and those that have not.

LITERATURE REVIEW

• Awareness of global warming and carbon footprints has pushed ideas of sustainability and conservation to the forefront of public opinion. Individuals not only change their own habits to become more environmentally friendly, but they also pressure their government to enact regulations on corporations to do the same.

• There are two general viewpoints on the effect of environmental regulations on businesses. One side argues that the legislation causes profitability to decline because resources are diverted from the marketable output, while the other side argues that modernization that results from the regulations can increase efficiency and profit (Magness, 2007).

• In 2008 alone, it was projected that the U.S. as a whole spent around $190 billion, or nearly 2.6 percent of its GDP, on complying with environmental regulations (Jaffe, Peterson, Portney, & Stavins, 1995).

• Shareholders of major companies tend to have a negative viewpoint of regulations. In several studies looking at shareholder reaction to government regulations across many industries, price decline in stocks, and beta changes occurred (Magness, 2007).

• In contrast to the perceived adverse effects of environmental regulations on corporations, several benefits of these regulations also exist. The Porter hypothesis suggests that environmental regulations can actually stimulate growth and competitiveness through an “early mover” advantage for firms who can produce a product that will comply with regulations and be in demand in the future; furthermore, environmental regulations force firms to reassess their production processes and “think outside-the-box” to find ways to reduce pollution and increase output or decrease costs (Jaffe et al., 1995).

• The product differentiation that results from adherence to environmental regulations can be very beneficial to companies. Willard (2002) cites numerous advantages that occur for products differentiated to be environmentally friendly, including an increased market share from the attraction of green consumers and free endorsement by external agencies like the Coalition for Environmentally Responsible Economics (CERES).

• Consumers are changing their purchasing habits to consider both the initial costs and the lifetime costs of the products they purchase, making the differentiated products with extra environmental consideration all the more important (Willard, 2002).

• Magness (2007) performs a statistical regression analysis to examine the correlation between National Pollutant Release Inventory (NPRI) emissions and profitability of the oil refinery over a ten-year period beginning in 1993. The study’s results found a positive relationship between environmental and financial performance, concluding that for every one metric ton drop of aggregate NPRI emissions (while size of operation and volume of crude input are controlled), the refinery’s income from operations rises by about two thousand dollars (Magness, 2007).

• A review of many studies attempting the same analysis of pollution and profitability have provided mixed results, especially across different industries. Companies that are able to adjust and adhere to environmental regulations could see a general increase in overall profits in the long term; however, the environmental regulations have not been proven to have caused the increase in profits.

METHODOLOGY

• The change in stock prices for the companies that did go green and the change in stock price for the companies that did not go green will be compared.

• A total of 31 companies will be surveyed (n=31) in each category.

• After surveying the 31 companies that did go green, both x bar and the standard deviation of x can be found. Likewise, after surveying the 31 companies that did not go green, y bar and the standard deviation of y can be found. Using these four values the test statistic can then be calculated.

• With alpha equal to 0.1 and degrees of freedom equal to 60 (n+m=2) 31+31= 2*60) the critical t-value found on the critical value of t table is 1.296.

• We will reject Ho if the absolute value of the test statistic is greater than 1.296 and conclude that there is a difference in means indicating that the companies that did go green had a higher stock price than those companies that did not go green.

• If, however, the absolute value of the test statistic is less than 1.296 we will fail to reject Ho and conclude that there is not a significant difference in means indicating that the companies that did go green have the same stock price as those companies that did not go green.

BIBLIOGRAPHY


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