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Ethical Corporate Citizenship: Does it Pay?

Abstract

Ethical corporate citizenship and good corporate governance have received increased attention since the financial scandals prevalent at the beginning of the new millennium. This study first explores the relationship of ethical corporate citizenship to financial performance (i.e., greater profitability and efficiency, and lower cost of capital). Second, the study examines whether ethical corporate behavior is associated with a market-value premium. Results of prior studies are mixed. The results of our study contribute directly to the recent accounting literature in which specific aspects of ethical corporate behavior have been explored (Fukami et al. 1997; Ittner and Larker, 1998; Ballou et al., 2003; Clarkson et al., 2004). We use firms listed by *Business Ethics* as "The 100 Best Corporate Citizens" as our sample of ethical firms. The univariate results of our study indicate a significant relationship between ethical corporate behavior and financial performance (i.e., greater profitability and efficiency, and lower cost of capital). The results of multivariate tests, controlling for prior year market value of equity, yield results which indicate a marginally significant association between being recognized as ethical in that year and market value of equity, but no association between being recognized as ethical at least one time and market value of equity. Nevertheless, given our study's findings of better financial performance and lower risk, we conclude that ethical corporate citizenship does indeed benefit a firm.

Key words: Accounting ethics, corporate citizenship, corporate social responsibility.

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Ethical Corporate Citizenship: Does it Pay?

The importance of ethics and corporate governance in business are widely acknowledged, particularly following the corporate scandals that precipitated passage of the Sarbanes-Oxley Act in 2002. While there have been numerous empirical research studies examining the economic consequences of ethical corporate behavior, the results are mixed (e.g. Griffin and Mahon (1997), Roman *et al*. (1999), Trebucq and D'Arcimoles (2002), Rushton (2002), Brammer et al. (2005), and Goukasian and Whitney (2007)). Therefore, it is not immediately obvious that we should find a positive association between ethical corporate behavior and corporate financial performance (e.g. profitability). Firms may behave ethically because doing so is inherently the right thing to do, regardless of the financial consequences. Alternately, ethical behavior may increase market value but the association may be delayed by several years. Or firms may behave ethically but be unable to credibly signal their behavior to capital market participants.

This study has two research objectives concerning the relationship of ethical corporate behavior to financial performance and stock market value. First, we assess whether ethical firms have superior financial performance (i.e., greater profitability and efficiency, and lower cost of capital). Second, we investigate whether firms that behave ethically receive a market value premium.

The idea that ethical and socially responsible business practices lead not only to a better world but also to profitability is expressed on the Canadian Business for Social Responsibility (2009) website:

> *The benefits of CSR (corporate social responsibility) can be quantified and measured....*
> *socially responsible companies experience positive effects on the financial bottom line*

[including] reduced operating costs, increased sales and customer loyalty, increased

ability to attract and retain employees, and… increased public image from good works.

A recent book, *Cause for Success: 10 Companies that Put Profit Second and Came in First* (Arena 2004), gives examples of businesses that demonstrate the compatibility of good corporate citizenship and strong financial performance. The critical role of ethics as fundamental to business and accounting is widely acknowledged (cf., Jensen 2009, Keller et al. 2007, Smith 2003).

As a proxy for ethical behavior, we use a publicly available measure, namely, inclusion on the list of "The 100 Best Corporate Citizens" published annually by *Business Ethics* magazine. Firms on this list are judged superior on a number of internal and external dimensions that collectively indicate ethical corporate behavior. The seven key stakeholders considered by *Business Ethics* include: customers, employees, local community, minorities (including women), environment, non-U.S. operations, and shareholders. Prior accounting studies have explored the economic consequences of individual firm attributes associated with ethical corporate behavior, such as firm reputation and corporate governance characteristics (Fukami *et al.* 1997), customer satisfaction ratings (Ittner and Larcker 1998), workplace quality (Ballou et al. 2003), and firm environmental reputation (Clarkson *et al.* 2004). In contrast, we use a measure that encompasses many dimensions of ethical corporate behavior to investigate whether ethical corporate behavior is associated first with corporate financial performance and second with stock market value.

To address the first research objective, we use univariate tests to evaluate whether ethical behavior is associated with above-average financial performance (i.e., greater profitability and efficiency, and lower cost of capital). To address the second research objective, we use a modified Ohlson (1995) model, adjusted for a scale effect (Lo and Lys 2000), to perform cross-

sectional tests and thereby determine if firms on the *Business Ethics* list enjoy a market-value premium.

To evaluate corporate financial performance, we consider profitability, growth, and operational efficiency. We compare list firms to industry benchmarks for a number of accounting performance measures and find that list firms significantly outperform others in their industry. This supports the idea that ethical firms are associated with better profitability, growth, and operational efficiency than the average firm in their industry.

Next, we test the idea that ethical firms are less risky. Rather than rely on a unique risk measure, we use a set of imbricate measures that collectively indicate that ethical firms' future anticipated earnings are less heavily discounted than other firms. In particular, we include balance-sheet measures of liquidity, leverage and composite bankruptcy prediction scores (Altman, 2000); and income statement measures that capture the variability of sales, income and cash flows (Rajgopal and Shevlin, 2002). We find that list firms are less risky than the average firm in their industry.

In addressing the second research objective, we posit that ethical corporate behavior creates a value-relevant intangible asset – in particular, a "structural asset" as described by Lev (2001). This intangible asset derives from the firm's ethical relations with parties both internal and external to the firm. That is, ethical behavior serves to reduce firms' transactions costs. Results of tests using the modified Ohlson (1995) model, adjusted for a scale effect (Lo and Lys 2000), indicate a marginally significant market value premium associated with being recognized on the *Business Ethics* list that year. Our results indicate no meaningful direct market value premium associated with ethical corporate citizenship in general (i.e., being recognized on the

list at least one time). Based on our results, ethical corporate citizenship does not appear to create a structural asset.

Taken together, our results indicate that ethical corporate behavior is associated with superior financial performance, but is not associated with a meaningful market value premium *per se*. That is, ethical behavior appears to allow the ethical firm to realize higher revenues and to incur lower upstream and downstream costs. Our evidence also suggests that ethical firms enjoy a lower cost of debt and equity capital. Yet, a meaningful stock market premium is only associated with being identified as a superior ethical firm that year. However, this in no way takes away from the stock market benefit associated with above-average financial performance and lower risk.

Firms on the *Business Ethics* list match up to firms on other 'best' and 'worst' lists as follows. Nine of 10 of America's 'most admired companies' also appeared among the list firms (Fortune Magazine 2005). Five of 10 of 'best employers by minority groups' were found among the list firms (Fortune Magazine 2005b). Three of the 9 companies with 'best benefits' also appeared among the list firms (Fortune Magazine 2005c). Only 7 of the list firms appeared among the 919 financial statement restatements listed by the U.S. General Accounting Office (GAO 2003).

While companies are not obligated to be good corporate citizens, the results of this paper indicate that companies can do the right thing and be financially superior to their industry counterparts. The results of this study should be of interest to both corporate managers and academicians researching ethical corporate citizenship.

The paper proceeds as follows. The next section summarizes two streams of related prior research. Then we develop our hypotheses, describe our data and methodology, and discuss our results. We conclude in the last section and discuss some potential extensions to our work.

Prior Research

Two streams of research pertain to our study. The first specifically addresses 'ethical' behavior. The second stream explores individual firm attributes that are associated with ethical corporate behavior. We discuss each of these in turn.

Research that directly addresses the link between ethical behavior and financial performance is mixed. Griffin and Mahon (1997) and Roman *et al*. (1999) summarize 25 years of prior research on the association between "social performance" and financial performance. Both of these reviews report that prior results are mixed; some studies demonstrate positive associations, others negative associations, and several studies fail to document any association between social and financial performance. Both studies concede that prior results vary because proxies for both social and financial performance differ among the 25 studies.

Research subsequent to these two reviews (i.e., from 1999 onward) also reports mixed results. Goukasian and Whitney (2007) find no significant financial or operational performance benefit associated with ethical and socially responsible corporations. Brammer et al. (2005) find a positive stock performance associated with being identified as an ethical firm. However, Brammer et al. (2005) did not test for the scale effect (or omitted correlated variables), which we do, following an approach recommended by Lo and Lys (2000). Chung *et al*. (2003) report that "highly ranked firms in reputation" have greater total equity than "lowly ranked firms in reputation." However Chung *et al*. (2003) do not control for other factors that influence equity values, such as research and development costs and abnormal earnings. Rushton (2002) finds

that socially responsible firms (defined using the Dow Jones sustainability group index) outperform other Dow Jones index firms by 36 percent over a three-year period. In contrast, Trebucq and D'Arcimoles (2002) study French firms and conclude that corporate social performance is not related to financial performance. Whereas this prior research has been ad hoc in its empirical methods, we use a theoretical valuation model (Ohlson 1995, 1999) to assess the relationship between ethical corporate behavior and firm value. Moreover, our model controls for other factors that contribute to firm value, including product innovation and brand name.

Waddock and Graves (1997) extend the 'association' research described above, by examining the causal direction of the association between financial and social performance. Using a composite measure of corporate social performance (created by the investment firm Kinder, Lydenber, and Domini, or KLD), they regress firms' social performance ratings separately on return on assets, return on equity, and return on sales. They also regress these three metrics on social performance. With the exception of return on equity regressed on corporate social performance, they find all relations are significant at conventional levels. We extend Waddock and Graves (1997) by empirically examining the association between market value of equity and social performance in addition to accounting-based performance metrics.

McWilliams and Siegel (2000) also extend Waddock and Graves (1997), but do so by incorporating research and development into the analysis. When they include research and development in the model they find no relationship between corporate social responsibility and firm performance. Consistent with McWilliams and Siegel (2000) our model controls for research and development costs.

Makni et al. (2008) examine the relationship between corporate social and financial performance in Canadian firms. Similar to our study they use a measure that encompasses

multiple dimensions of corporate social responsibility. While they find no relationship between their aggregate measure of corporate social responsibility and financial performance, they do identify a negative relationship between the environment dimension and financial performance.

With respect to the second stream of related research, a number of studies consider specific firm attributes or practices associated with ethical conduct and examine whether that specific attribute or practice creates positive economic consequences. Fukami *et al*. (1997) report that firms with reputations for strong corporate governance and executive compensation policies and practices, generate sustained competitive advantage. Ittner and Larcker (1998) find that customer satisfaction ratings (a measure of firms' posture with respect to an important external constituent) are positively associated with market-value premiums. Ballou *et al.* (2003) demonstrate a link between workplace quality and firm value. Finally, Clarkson *et al*. (2004) document a stock-market premium associated with environmental capital expenditure investment by low-polluting firms. In contrast, 'high polluters' do not experience these market premiums. Each of these studies focuses on an individual dimension of ethical behavior. It is possible that firms trade off certain behaviors such that one dimension does not accurately reflect the firms' overall ethical stance. Consequently, we use a broader measure that captures these and other dimensions of ethical conduct and thus, we are able to test whether firms that consistently conduct ethical business with a variety of internal and external firm constituents, enjoy positive economic consequences.

Hypotheses Development

The link from ethical behavior to financial performance and stock-market value involves corporate reputation and public trust. "One of the most important lessons we can learn from an examination of economic life is that a nation's well being as well as its ability to compete, is

conditioned by a single, pervasive cultural characteristic: the level of trust inherent in the society" (Fukuyama 1995). Companies that adhere to ethical values engender trust in myriad ways. Customers give repeat business to companies they trust. Supply-chain benefits (including, for example, lower prices and reliable shipping arrangements) result from good relations with vendors and other entities in the supply chain. Banks and other lenders offer lower cost of debt to trustworthy, less risky, firms.

Lyon and Maher (2004) report that auditors assess greater business risk and increase fees for clients that engage in questionable business practices (i.e., bribing top government officials). This provides some empirical support for the converse argument that external auditors may assess a lower risk to clients that engage in ethical business practices, thus requiring fewer tests, which lowers audit fees. Employees who trust their employers are more secure in their job and thus more motivated and likely more productive. Moreover, trusting employees potentially trade off extrinsic compensation and perquisites for the intrinsic benefits that accrue from working for an ethical employer whom they trust.

Green Mountain Coffee Company, a firm on the *Business Ethics* list, illustrates how positive ethical behavior creates an intangible (structural) asset and improved financial performance. Green Mountain consistently pays coffee producers a premium for quality products and dependable supply arrangements (Asmus 2003). One effect of this over-payment may be increased cost of sales and decreased profit; however, in the long term, this could lead to supplier loyalty, optimum delivery arrangements, and better pricing arrangements. Our research question is whether Green Mountain has better financial performance because of its ethical behavior.

All assets reflect future economic benefits. In assessing future economic benefits, investors assess firms' past performance and gauge future prospects. Firms that engage in ethical

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behavior may experience superior financial performance. Compared to other firms, ethical firms may be able to reduce production and administrative costs (e.g. because of positive external relations with suppliers), or grow revenue and profits more quickly (e.g. because of customer satisfaction and loyalty), or use assets more efficiently (e.g. because of satisfied employees' higher productivity). Collectively, these firm attributes increase profitability, growth, and efficiency. Given the expected positive relationships between ethical behavior and financial performance, the first hypothesis is as follows:

Hypothesis 1: Ethical firms have superior financial performance.

Another possible benefit to firms that operate ethically is that these firms will experience lower risk than other firms. If so, the market will reward reduced risk by discounting future earnings at a lower (less risky) rate, thereby creating a market-value premium. We argue that ethical firms are less risky because they are more trustworthy. Compared to other firms, ethical firms are less likely to face SEC actions for GAAP violations, less likely to announce costly earnings restatements, and less likely to face shareholder, customer, and environmental lawsuits. Moreover, ethical firms have created dependable factors of production such that sales, cash flows and profits are less volatile than for other firms. Froot et al. (1992) show that investors prefer less volatile financial outcomes. Collectively, these factors lower overall firm risk, thereby decreasing the cost of capital. Given the expected relationship between ethical behavior and risk, the second hypothesis is as follows:

Hypothesis 2: Ethical firms are less risky.

While hypothesis 1 and 2 explore the actual financial performance, hypothesis 3 tests the existence of a market value premium. A stock-market premium for an ethical firm may derive from the firm having engendered trust among its constituents and having thereby experienced

superior financial performance, which market participants anticipate will continue. Ethical

behavior may create a value-relevant intangible asset, but GAAP standards do not permit

balance-sheet recognition for self-generated intangibles. For example, repeat sales from satisfied

customers will be realized (and hence recognized under GAAP) in the future as the sales occur.

However, an ethical firm's stock price may reflect the anticipated benefits that accrue from

ethical behavior. Amir *et al*. (2003) conclude that at least some analysts are able to isolate value-

relevant information (about intangible assets) not available in financial reports. This suggests

that ethical firm behavior creates an intangible asset (or structural asset) that is potentially not

captured by current accounting rules but that is valued by the firm's owners. Thus, our third

hypothesis is as follows:

> *Hypothesis 3: Ethical firms have higher market value of equity.*

Data and Methodology

To test our hypotheses, we use an external measure to identify ethical firms, namely the

list of the top 100 ethical firms, published annually by *Business Ethics* magazine. We

acknowledge that this list is not unique, and that other lists are compiled and published annually.

Thus, ours are joint tests of the construct validity of the list itself and of the value relevance of

ethical corporate behavior.

Each year, the March issue of *Business Ethics Magazine* identifies "100 Best Corporate

Citizens." These are touted as firms that have outperformed their peers in serving the firms'

stakeholders (Asmus 2003). The magazine staff, along with KLD Research and Analytics (a firm

specializing in socially responsible investing), considers seven key stakeholders: customers,

employees, the community where the firm operates, minorities (including women), the

environment, non-U.S. operations, and shareholders via corporate governance measures. An

ethical score is calculated for each firm and the firms are ranked according to their score. Each

year firms are selected for inclusion on the list based on firm practices and data available during

the preceding two years. Little of the information used to derive the list is directly available from

firms' annual reports – the selection process considers publicly available information (e.g. EPA

filings) as well privately collected (survey) data.[1]

Our sample begins with firms on the *Business Ethics* list for 2000 through 2007. Figure 1

shows list firms and the year(s) they are on the list. We gathered Compustat data for the list firms

and all other firms in Compustat for years 1993 to 2008.

FIGURE 1 ABOUT HERE

To address hypothesis 1, that ethical firms have superior financial performance, we

calculate a number of accounting-based performance measures, including measures of

profitability, growth, and efficiency. In particular, our profitability measures are sales divided by

total assets, cost of sales margin (cost of sales divided by sales), return on total assets (net

income divided by total assets), and return on equity (net income divided by total equity). Our

growth measures are year-over-year changes in sales, cost of sales margin and net income. Our

efficiency variables include inventory turnover (cost of sales divided by ending inventory),

accounts receivable turnover (sales divided by ending accounting receivable), and accounts

payable turnover (cost of sales divided by ending accounts payable). We then compare the List

firms to their industry benchmark. Using four-digit SIC industry groups to identify industry

membership, we define the industry benchmark as the median of each performance measure

calculated using all firms in the industry for which Compustat data are available that year. Then,

we subtract the industry benchmark from the firm's performance measure. Thus, our median-

industry-adjusted variables measure how much the list firm's performance differs from the

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median value of all other firms within their industry. If the list firms have superior performance, their median-industry-adjusted variables will be significantly different from zero and in the hypothesized direction. For example, we expect ROA (cost of sales margin) will be significantly positive (negative) for list firms. This design is more rigorous than a t-test of means, because it accounts for industry specific changes in performance that controls for performance being a leading indicator of ethics (as Damodaran 2003 suggests).

To address hypothesis 2, that ethical firms are less risky, we evaluate several common accounting-based and market-based risk measures. While it is difficult to accurately measure a firm's riskiness or cost of capital with any one metric (Easton 2003), collectively our risk measures provide a composite picture of firms' overall riskiness. We evaluate balance-sheet measures of liquidity, current ratio and leverage (long-term debt to assets), as well as a credit score measured as follows (Altman 2000):

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + X_5 \tag{1}$$

where X_1 is working capital to total assets, X_2 is retained earnings to total assets, X_3 is earnings before interest and taxes to total assets, X_4 is total equity to total debt, and X_5 is sales to total assets. This Altman Z-score is commonly used to predict bankruptcy and cost of debt issuances (Grice and Ingram 2001) and decreases with the overall risk of the firm.

We also estimate risk metrics that consider the volatility of firms' operations (Froot *et al* 1992). In particular, we measure the riskiness of income statement and cash flow measures as the standard deviation of the prior eight quarters' sales, operating income, and cash from operations. Because standard deviation is not scale-free, we first scale each performance measure by assets and then calculate the standard deviation of the resulting scaled variables.

Consistent with our performance measures, we calculate median-industry-adjusted risk measures. These variables measure how the list firm's riskiness differs from the riskiness of the

average firm in their industry. If the list firms are less risky than their industry counterparts, then their median-industry-adjusted measures will be significantly different from zero and in the hypothesized direction. For example, we expect Altman Z-score (standard deviation of net income) will be significantly positive (negative).

Amir et al. (2003) argue that readers cannot always gauge the value of intangible assets solely from the financial statements. As well, signaling ethical behavior is often problematic for business firms. For example, critics complain that corporate codes of conduct are boilerplate and firms touting their corporate codes of conduct are self-serving, while others view such behavior as productive and beneficial to promoting positive ethical behavior. Thus, while investors may value ethical behavior, financial statements and annual reports may not be able to reliably convey a firm's ethical position. This suggests that an external signal of firm ethics, such as inclusion on the *Business Ethics* list, could provide value-relevant information to the market.

In testing the third hypothesis, we are interested in whether ethical firms have a higher market value of equity. We include in our sample the list firms and all other firms in Compustat for the fifteen-year period, 1994-2008. We use the following modified Ohlson (1995) model as our initial test of hypothesis 3:

$$MVE_{i,t} = BVE_{i,t} + ETHICAL\_EVER_i + ETHICAL\_IN\_YR_{i,t} + AB\_EARN_{i,t} + R\&D_{i,t} +$$
$$MKT\_SHARE_{i,t} + Year_t + Industry_j + \varepsilon_{i,t}, \qquad (3)$$

where $MVE_{i,t}$ is the market value of company i's equity at the end of year t; $BVE_{i,t}$ *is* total assets less total liabilities.[2] *ETHICAL_EVER*$_i$ is an indicator variable set equal to '1' if the firm is on the *Business Ethics* list in any year from 2000 to 2007 and zero otherwise. *ETHICAL_IN_YEAR*$_{i,t}$ is an indicator variable set equal it '1' if the firm is on the list in that year, zero otherwise. A positive coefficient on *ETHICAL_EVER*$_i$ will provide evidence that the market assigns a market premium to ethical firms in general. A positive coefficient on *ETHICAL_IN_YEAR*$_{i,t}$ will provide

evidence that the market assigns a market premium to ethical firms in the year recognized as

ethical. $AB\_EARN_{i,t}$ is abnormal earnings measured as actual earnings for year t less a 10 percent

charge for the cost of equity capital.[3] We also control for other types of intangible assets (apart

from the intangible created by ethical behavior) that may increase firm value (Kallapur and

Kwan 2004, Hand 2002, Lev 2001, Ghosh 2002). In particular, we include the following

variables: $R\&D_{i,t}$, a measure of product innovation (calculated as annual research and

development expense scaled by total sales), $MKT\_SHARE_{i,t}$, a proxy for market dominance and

brand name (calculated as annual sales scaled by cumulative sales in the firm's four-digit SIC

industry group), and $Industry_j$, a proxy for other industry-specific structural assets (a vector of

binary indicator variables based on the firm's two-digit SIC code). To control for macro-

economic conditions that affect the market value of equity, we also include $Year_t$, year indicator

variables (where the latest year in the time-series is omitted).

Since firm size may be impacting our results, we use a scaling approach recommended by

Lo and Lys (2000). Consistent with Lo and Lys (2000) we scale all size related variables by

lagged MVE and include lagged MVE in the model. The resultant model is as follows:

$$
\begin{aligned}
MVE_{i,t} = {} & BVE\_LagMVE_{i,t} + ETHICAL\_EVER\_Lag\ MVE_i + \\
& ETHICAL\_IN\_YR\_LagMVE_{i,t} + AB\_EARN\_LagMVE_{i,t} + \\
& R\&D\_LagMVE_{i,t} + MKT\_SHARE\_LagMVE_{i,t} + LagMVE_{i,t} + \\
& Year_t + Industry_j + \varepsilon_{i,t} \qquad\qquad\qquad\qquad\qquad\qquad (4)
\end{aligned}
$$

Analysis and results

Sample description

Table 1, Panel A shows the industry membership of our sample firms. Sample firms

represent a broad cross-section of firms with the largest proportion in the industrial machinery

and financial services industries.

TABLE 1 ABOUT HERE

Table 1, Panel B reports descriptive statistics and compares the list and non-list firms over the eight years covered by the *Business Ethics* list. Recall that to create the list published in March of any given year, KLD compiles information about the firm from the annual report two years prior. Thus, the time lag between KLD analysis and list-publication is between 15 and 21 months. For parity with the KLD methodology, panel B includes data from the annual report from two years prior to the firm's inclusion on the list. List firms are bigger than non-list firms; both mean and median values of list firms' total assets, total sales, and market value of equity are statistically higher than those of non-list firms. On average, significantly fewer list firms have accounting losses: only 7.68% of list firms report losses compared with 37.01% of non-list firms. Mean and median market share are higher for list firms compared to non-list firms. Research and development spending as a percentage of sales is higher for non-list firms than list firms.

Tests of Hypothesis 1

To test Hypothesis 1 that the list firms outperform other firms, we compare the means and medians of the industry-adjusted variables to zero for three important dimensions of performance: profitability, growth, and operational efficiency. Table 2 reports the mean and median of the industry-adjusted performance measures for list firms for 1994 through 2008. We use t-tests (Wilcoxon signed-rank tests) to compare the mean (median) performance measures to zero.

Table 2 shows that list firms are more profitable than the median firm in their industry – list firms have higher return on sales, return on assets, and return on equity. The median industry-adjusted measures are all significantly higher than zero (two of the three also have mean industry-adjusted variables higher than zero). Consistent with our speculation that ethical firms

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may enjoy internally generated cost savings, we find that list firms' cost of sales is significantly lower than the median firm in their industry (median industry-adjusted cost of sales margin equals -0.045 and is statistically less than zero). We find that list firms exhibit stronger growth in operating income (the mean industry-adjusted measure does not differ from zero, but the median industry-adjusted measure is greater than zero). However, we find that list firms experience similar sales and cost of sales margin growth to firms in their industry (median industry-adjusted measures for sales and cost of sales margin growth are not statistically different than zero). Lastly, list firms exhibit more operational efficiency; inventory turnover, accounts receivable turnover, and accounts payable turnover are better than their industry benchmarks. Taken together, the results presented in Table 2 provide strong evidence in support of Hypothesis 1; ethical firms are financially superior to the average firm in their industry.

TABLE 2 ABOUT HERE

Tests of Hypothesis 2

To test Hypothesis 2 that the list firms are less risky, we compare mean and median risk measures of the list firms to the industry benchmarks. These measures are shown in Table 3. First, we consider the balance sheet risk metrics. Compared to their industry benchmarks, list firms have a lower current ratio (median industry-adjusted value is statistically lower than zero). From this we conclude that list firms are less liquid than others in their industry. One potential explanation is that they maintain lower levels of current assets because of their operational efficiencies (documented in Table 2). Additionally, list firms have a higher debt to assets ratio (both mean and median industry-adjusted values are statistically higher than zero). This means list firms are more leveraged on average. These two results are inconsistent with our prediction for Hypothesis 2. Industry benchmark Altman Z-scores, which represent a composite risk

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measure, are significantly greater than zero. Firms with higher Altman Z-scores are predicted to have less likelihood of bankruptcy. This result is consistent with our prediction for Hypothesis 2. Taken together, our balance-sheet risk measures are inconclusive as the evidence is mixed.

TABLE 3 ABOUT HERE

Second, we compare the volatility of sales, earnings, and cash flows and find that list firms experience less volatility in all three. Comparing list firms to the other firms in their industry, median results are statistically less than zero indicating that list firms have less performance variability than the average firm in their industry. We interpret these results as list firms being less risky, consistent with Froot *et al* (1992).[4] Thus, we conclude that list firms exhibit more stable operating results as measured by income statement and cash flow numbers. These results are consistent with our prediction for Hypothesis 2.

While each of the risk measures reported in Table 3 alone would be insufficient to unequivocally conclude that the list firms are less risky, collectively they present evidence that list firms are less risky than the average firm in their respective industries. Taken together our results support our second hypothesis.

Additional tests

Waddock and Graves (1997) present evidence consistent with social and financial performance being jointly determined. In addition, Damodaran (2003) suggests that financial performance may be a leading indicator of a firm's being perceived as ethical. That is, it could be that firms that perform better financially are perceived as more trustworthy and ethical ex ante, but do not perform better ex post. To shed some light on this issue, we examine financial performance and risk measures after a firm's inclusion on the *Business Ethics* list.

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Table 4 reports the sample's median-industry-adjusted measures for our financial performance variables (Panel A) and our risk variables (Panel B) calculated for one and two years after inclusion on the *Business Ethics* list. Similar to Tables 2 and 3, each variable reported in Table 4 represents the firm-specific difference between the list firm and its industry benchmark, as measured by annual industry median. If the list firms maintain superior performance and reduced risk compared to their industry counterparts, then their median-industry-adjusted measures will be significantly different from zero in the hypothesized direction. The table confirms that list firms continue to outperform their industry peers in the two years following the match. Taken together, our evidence suggests that ethical firms are less risky and have superior performance in both the short and longer run.

TABLE 4 ABOUT HERE

Tests of Hypothesis 3

Table 5 presents regression results for the MVE model. We estimate this model for two periods. First, we include all firms in Compustat for 1994 through 2008. Second, we estimate the model on a sample that includes the list years only, 1998 through 2005. We use these two samples to assess whether the ethical firms consistently have higher market values or whether market values are only higher in the year(s) the firm is on the list.

TABLE 5 ABOUT HERE

Results are qualitatively the same for both samples so we will discuss just the list years only sample here. Consistent with prior research that uses the Ohlson (1995) model, the coefficient on *BVE* is strongly positive. As predicted in Hypothesis 3, the coefficients on *ETHICAL_EVER* and *ETHICAL_IN_YEAR* are strongly positive, 1,983.770 (p < 0.05) and 2,480.809 (p<0.05) respectively.

Next, to test for the scale effect (control for omitted correlated variables) we use an approach recommended by Lo and Lys (2000); we scale by lagged MVE. The results will indicate whether being on the ethics list at least one time (in that year) is associated with a change in MVE, as measured by *ETHICAL_EVER_LagMVE* (*ETHICAL_IN_YR_LagMVE*). Results of the scaling analysis shown in Table 6 indicate that MVE is not significantly different between firms on the list at least one time and non-list firms (the coefficient on *ETHICAL_EVER_Lag_MVE* is not statistically different from zero for both the complete time-series and the list years only analysis). However, the coefficient on *ETHICAL_IN_YR_LagMVE* is marginally different from zero (p <0.10) in the predicted direction. This result suggests that firms' ethical behavior in the *Business Ethics* data compilation year, two years prior to actual recognition on the list, is associated with an increase in firm market value (recall that we evaluate list firms based on historical data; 2005 list year firms are evaluated using 2003 financial data). This result suggests the market recognizes in real-time what the *Business Ethics* list recognizes in lag. For list years, the market value premium averages about $15.2 million.

TABLE 6 ABOUT HERE

The fact that there is no meaningful market premium associated with being on the ethical in general (*ETHICAL_EVER_LagMVE*) suggests that ethical corporate citizenship does not appear to create an intangible, or structural, asset. However, this should not be taken to mean that there is no economic benefit associated with being ethical. As previously shown, firms on the ethics list do enjoy significantly better financial performance (profitability, growth, and efficiency) and lower risk. The market valuation of the ethical firms incorporates the normal market response associated with better financial performance (profitability, growth, and efficiency) and lower risk. The better financial performance and lower risk associated with

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ethical firms has already benefited them from a stock market valuation standpoint (Nichols and Wahlen 2004). While there have been prior studies that show a market premium (e.g. Brammer et al. 2005, Chung et al. 2003, Ittner and Larcker 1998), this may have been the result of a misspecified model that did not incorporate a scaling analysis (Lo and Lys 2000).

Discussion and Conclusions

We find that ethical firms have superior financial performance that derives from both internal and external sources: ethical firms have higher profit margins and use their operating assets more efficiently. Together, these allow ethical firms to have higher overall profitability metrics (ROA and ROE). Additionally, we find that firms deemed ethical are perceived as less risky and thus, we conclude that these firms enjoy a lower cost of capital. Our study documents differences in financial and risk metrics for ethical firms both in the year on the list and also one and two years after appearing on the *Business Ethics* list.

In addition to evaluating financial performance (i.e., profitability, growth, and operating efficiency) and level of risk, this study evaluated whether ethical firms enjoy a stock market premium. We compare firms considered ethical to firms not considered ethical and find, after controlling for prior year's equity, a marginally significant market premium directly associated with ethical behavior, as measured by being on the list of ethical firms that year. We find no market premium associated between being on the list at least once, suggesting that ethical corporate behavior does not create an intangible, or structural, asset. However, this does not mean that firms do not receive any benefit for ethical behavior. These ethical firms have received a better market valuation associated with better financial performance and lower risk.

The results of this study are subject to limitations. First, our proxy for ethical corporate behavior is recognition on a list. While the selection process for the list considers many key

stakeholders, there could be disagreement about some firms' inclusion on the list. Second, our sample of ethical firms is small, just 742 United States based firms (some firms on the list are not included in the sample due to missing data).

One direct implication of our research is that firms would receive financial performance benefits (i.e., profitability, growth, and operating efficiency) and lower cost of capital by adhering to ethical corporate behavior. Our findings suggest several productive avenues for future research. A study involving long-window excess returns could be productive. If investors over-rely on a firm's inclusion on a list of ethical firms, stock prices of list firms could be bid up too high and subsequently earn negative abnormal returns (see Antunovich and Laster 1999 and Chung *et al*. 2003 for related evidence). Future research could also explore the specific components of "ethical behavior" such as being environmentally friendly or having superior employee safety programs.

Endnotes

[1] Prior to 2003, the selection began with all firms on the Domini Index (a list of socially responsible firms developed by KLD) plus an additional 150 firms that KLD "selected for industry balance and social performance" (Graves et al. 2003). In 2003, the selection began with a broader base of firms: the Russell 1000 and the additional KLD-selected 150 firms.

[2] We use book value of equity because using total assets and total liabilities results in high variance inflation factors.

[3] Abarbanell and Bernard (2000) report consistent results for abnormal earnings calculated with discount rates ranging from nine to 15 percent. Their calculations hold rates constant across time and firms.

[4] Although Froot *et al* (1992) examines an earlier time period, we make the assumption that during our time period, higher volatility still means higher risk.

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FIGURE 1
Companies on *Business Ethics* list of most ethical companies[a]

Name	2000	2001	2002	2003	2004	2005	2006	2007
3COM CORP	■	■	■					
3M CO		■	■	■	■		■	■
ADAPTEC INC.				■				
ADOBE SYSTEMS INC			■				■	■
ADVANCED MICRO DEVICES							■	■
ADVENT SOFTWARE INC						■		■
AETNA INC		■		■	■			
AFLAC INC					■			
AGILENT TECHNOLOGIES INC					■		■	■
AGL RESOURCES INC					■			
AIR PRODUCTS & CHEM			■	■	■		■	
ALASKA AIR GROUP	■	■						
AMBAC FINANCIAL GP							■	
AMERICAN EXPRESS	■	■	■				■	■
AMERICAN TOWER CORP						■	■	
AMGEN INC		■	■	■				
ANALOG DEVICES		■	■					
APACHE CORP			■		■			
APOGEE ENTERPRISES				■		■	■	■
APPLE COMPUTER		■					■	
APPLIED MATERIALS		■	■			■	■	■
ARROW ELECTRONIC			■	■		■		
AT&T CORP	■	■	■	■	■			
AUTODESK INC			■	■	■	■	■	■
AVERY DENNISON	■	■						■
AVON PRODUCTS	■					■		■
BALDOR ELECTRIC CO							■	■
BANK OF AMERICA			■	■				
BANK OF HAWAII CORP							■	
BANK OF NEW YORK	■							
BAXTER INTERNATIONAL	■	■	■		■	■		■
BB&T CORP							■	■
BEA SYSTEMS INC						■		
BECTON DICKINSON				■			■	
BELLSOUTH CORP		■						

[a] The list names 100 companies per year however, due to missing data not all companies are used in this paper's analysis. Only list firms used in subsequent analysis are included in this figure.

Name	2000	2001	2002	2003	2004	2005	2006	2007
BEST BUY CO INC								■
BIOMET INC	■	■					■	
BRADY CORP	■	■	■	■	■	■	■	■
BRIGHT HORIZONS FAMILY					■	■	■	■
BRISTON-MYERS SQUIBB								■
CA INC		■		■				
CAMPBELL SOUP CO	■							
CASCADE NATURAL GAS					■			
CATHAY GENERAL BANCORP							■	■
CELERA CORP								■
CHAMPION ENTERPRISES				■		■		
CHURCH & DWIGHT	■				■			
CIGNA CORP		■	■					
CIMAREX ENERGY					■			
CINCINNATI FINANCIAL						■		■
CISCO SYSTEMS	■	■	■	■	■	■	■	■
CITIGROUP INC							■	
CLOROX	■	■	■	■	■			
CME GROUP INC							■	■
COCA-COLA CO	■							
COGNIZANT TECH SOLUTIONS								■
COHERENT INC						■	■	■
COLDWATER CREEK INC								■
COLGATE-PALMOLIVE								■
COMERICA INC					■			
CONSTELLATION ENERGY	■							
CORNING INC		■	■					
CROWN CASTLE INTL						■		
CROWN HOLDINGS	■	■						
CUMMINS INC	■	■	■	■	■	■	■	■
CVS CORP	■							
CYPRESS SEMICONDUCTOR						■		
D R HORTON						■		
DARDEN RESTAURANTS							■	
DEERE & CO	■	■	■	■	■	■		■
DELL INC	■	■		■	■	■	■	■
DELPHI CORP			■	■	■			
DELUXE CORP				■	■			

Name	2000	2001	2002	2003	2004	2005	2006	2007
DEVRY INC	■	■	■					
DIME BANCORP	■	■						
DIONEX CORP	■				■			
DISNEY (WALT)	■	■						
DORAL FINANCIAL					■	■		
DOW JONES		■		■	■			
EAST WEST BANCORP							■	
EASTMAN CHEMICAL				■				
EASTMAN KODAK CO		■	■	■	■		■	■
ECOLAB INC	■	■	■	■	■	■	■	■
EDWARDS (A G)	■							
ELECTRONIC ARTS INC					■	■		
EMC CORP	■	■						
EMERSON ELECTRIC			■		■			
ENDO PHARMACEUTICALS						■		
ENERGEN CORP	■		■		■			
ENERGY CONVERSION								■
EXPEDIA INC				■				
FANNIE MAE	■	■	■	■	■			
FEDRL HOME LOAN MTGE		■	■				■	■
FEDEX			■	■	■	■		
FIFTH THIRD BANK	■	■						
FIRST HORIZON NATIONAL				■	■	■	■	■
FIRSTFED FINANCIAL	■		■	■	■	■		
FLEETBOSTON FINANCIAL				■				
FOUNDRY NETWORKS						■		
FULLER (H. B.)		■	■	■				
GAIAM INC						■	■	■
GAP INC	■	■					■	■
GEN-PROBE INC								■
GENENTECH						■	■	
GENERAL MILLS	■		■	■		■	■	■
GOLDEN WEST FINANCIAL	■	■	■	■	■			
GOOGLE INC								■
GRACO INC	■	■	■	■	■	■	■	
GRAINER (W W) INC							■	■
GRANITE CONSTRUCTION	■							
GREAT ATL & PAC TEA				■				
GREEN MOUNTAIN COFFEE				■	■	■	■	■

Name	2000	2001	2002	2003	2004	2005	2006	2007
GUIDANT CORP	■	■	■	■		■		
HANSEN NATURAL CORP								■
HARMAN INTERNATIONAL		■	■	■	■	■		
HARTFORD FINANCIAL				■	■		■	
HASBRO INC				■				
HEARTLAND FINANCIAL							■	■
HEINZ (H J) CO								■
HEWLETT-PACKARD	■	■	■	■	■	■	■	
HNI CORP					■			
HOME DEPOT INC	■	■	■					
HONEYWELL INTL		■						
IDEXX LABS INC							■	
IKON OFFICE SOLUTIONS				■				
IMATION CORP				■	■			
INTEL CORP	■	■	■	■	■	■	■	■
INTERFACE INC						■	■	■
IBM	■	■	■	■	■		■	■
ITRON INC								■
ITT CORP				■				
JOHNSON & JOHNSON							■	■
JOHNSON CONTROLS INC							■	
JONES LANG LASALLE								■
J P MORGAN CHASE	■	■	■					
JUNIPER NETWORKS						■		
KELLOGG					■		■	■
KEYCORP							■	■
KIMBERLY-CLARK GROUP								■
KINDER MORGAN				■				
KNIGHT-RIDDER	■							
KROGER CO		■	■					
LAM RESEARCH						■	■	■
LENNAR CORP						■		
LEXMARK INTL			■	■	■			■
LILLIAN VERNON		■						
LILLY (ELI) & CO	■	■	■					
LINCOLN NATIONAL	■	■						
LSI CORP		■						
LUCENT TECHNOLOGIES	■		■					
MARRIOTT INTL			■			■		

Name	2000	2001	2002	2003	2004	2005	2006	2007
MATTEL INC								■
MBIA INC			■	■				
MBNA CORP	■	■	■					
MCDONALDS CORP		■	■					
MCGRAW-HILL COMPANIES							■	■
MEDTRONIC INC	■	■	■	■	■			
MENS WEARHOUSE INC						■		
MERCK & CO	■	■	■	■	■			
MERCURY GENERAL CORP						■		
MERIX CORP			■			■		
MGE ENERGY INC				■	■	■		
MICRON TECHNOLOGY							■	
MICROSOFT CORP	■		■	■				■
MILLER (HERMAN)	■	■	■	■	■	■	■	■
MILLIPORE CORP						■		
MINERALS TECHNOLOGIES				■	■			
MODINE MFG CO	■	■	■	■	■	■	■	
MOLINA HEALTHCARE							■	
MOLSON COORS BREWING	■	■	■	■	■			
MOTOROLA INC	■	■	■	■	■		■	■
NATIONAL CITY				■				
NATIONWIDE FINL SVCS							■	
NATURES SUNSHINE PROD				■	■	■	■	
NETAPP INC			■					■
NEW YORK TIMES CO	■	■	■	■	■	■		
NIKE						■	■	■
NORDSON CORP		■	■	■	■	■		
NORDSTROM INC	■	■					■	■
NORTHERN TRUST		■	■	■		■	■	
NORTHWEST NATURAL GAS		■	■	■	■	■	■	■
NOVELL INC		■				■		
NUCOR CORP		■	■					■
NUTRISYSTEM INC								■
NUVEEN INVESTMENTS				■	■	■		
NVIDIA CORP				■				
OFFICE DEPOT INC							■	■
ONEOK INC	■	■	■					
ORACLE CORP		■	■					
ORMAT TECHNOLOGY								■

Name	2000	2001	2002	2003	2004	2005	2006	2007
OXFORD HEALTH PLANS			■					
PEP BOYS				■				
PEPSI BOTTLING GROUP					■			
PEPSICO INC							■	■
PITNEY BOWES INC	■	■	■	■	■	■	■	■
PIXAR					■	■		
PLANTRONICS INC						■		
PNC FINANCIAL	■		■					
PPG INDUSTRIES			■					
PRINCIPAL FINANCIAL GRP							■	■
PROCTER & GAMBLE	■	■	■	■	■	■	■	
PROGRESSIVE CORP	■							
PRUDENTIAL FINANCIAL						■		
QRS CORP		■						
QUALCOMM INC			■					
RAMBUS INC						■		
RESOLUTE ENERGY				■	■	■		
ROCKWELL COLLINS							■	■
ROHM AND HAAS					■	■		
SALESFORCE.COM INC							■	■
SAPIENT CORP						■		
SARA LEE CORP		■			■			
SCHOLASTIC CORP		■	■	■	■	■		
SCHWAB (CHARLES)	■	■	■					
SIERRA HEALTH SERVICES								■
SIRIUS XM RADIO						■		
SLM CORP	■	■			■	■	■	■
SMUCKER (JM) CO				■	■	■		
SOLECTRON CORP	■	■	■					
SONOCO PRODUCTS	■	■	■					
SOUTHWEST AIRLINES	■	■	■	■	■	■	■	■
SPARTAN MOTORS				■	■			
SPX CORP	■							
STAPLES INC				■	■	■		
STARBUCKS CORP	■	■	■	■	■	■	■	■
STATE STREET CORP	■	■	■	■			■	■
STEELCASE INC								■
STUDENT LOAN CORP							■	
SUN MICROSYSTEMS	■	■	■	■			■	■

FIGURE 1 (continued)
Companies on *Business Ethics* list of most ethical companies

Name	2000	2001	2002	2003	2004	2005	2006	2007
SUPERVALU INC				■				
SYMANTEC CORP			■	■	■	■	■	
SYNOVIS LIFE TECH						■		
SYNOVUS FINANCIAL							■	
TARGET CORP	■	■						
TD BANKNORTH						■		
TECHNE CORP								■
TELLABS INC	■	■	■			■		
TENNANT C	■	■	■				■	
TEXAS INSTRUMENTS	■	■	■		■	■	■	■
THERMO FISHER SCIENTIFIC				■	■			
TIMBERLAND	■	■	■	■	■	■	■	■
TIME WARNER INC	■	■						
TIMKEN CO					■		■	
TJX COMPANIES	■							
TOOTSIE ROLL	■					■		
TOTAL SYSTEM SERVICES						■	■	
TRADESTATION GROUP								■
TRAVELERS COS INC	■	■	■		■	■	■	■
TREX CO INC					■			■
TRIBUNE CO		■	■		■			
UNIONBANCAL CORP					■	■	■	
UNITED NATURAL FOODS INC							■	
UNITED PARCEL SERVICE							■	■
UNUM GROUP	■		■					
VALASSIS COMMUNICATIONS						■		
VIASYS HEALTHCARE				■				
WACHOVIA	■				■			
WAINWRIGHT BANK & TRUST							■	■
WAL-MART STORES	■							
WASHINGTON POST	■						■	
WASTE MANAGEMENT					■	■		
WEIGHT WATCHERS					■			
WELLS FARGO			■			■	■	■
WENDY'S			■		■			
WGL HOLDINGS INC				■	■	■	■	■

FIGURE 1 (continued)
Companies on *Business Ethics* list of most ethical companies

Name	2000	2001	2002	2003	2004	2005	2006	2007
WHIRLPOOL	■	■	■	■	■	■	■	
WHOLE FOODS MARKETS	■	■		■	■		■	■
WILD OATS MARKETS				■	■		■	■
WORTHINGTON INDUSTRIES				■	■			
WRIGLEY (WM) JR CO								■
XEROX	■					■		■
XILINX		■	■			■	■	■
XM SATELLITE RADIO						■		
XTO ENERGY INC					■			
ZIMMER HOLDINGS					■	■	■	

TABLE 1

**Demographics and descriptive statistics of financial variables
for firms on the *Business Ethics* list each year from 2000 to 2007**

Panel A: Industry representation for firms on the list in years 2000 and 2007[a]

Industry Description	Two-digit SIC	Percentage of sample in year 2000	Percentage of sample in year 2007
Food and kindred products	20	5.81%	7.29%
Furniture and fixtures	25	1.16%	2.08%
Paper and allied products	26	2.33%	3.13%
Printing, publishing, and allied industries	27	3.49%	1.04%
Chemicals and allied products	28	8.14%	7.29%
Industrial and commercial machinery	35	13.95%	11.46%
Electronic equipment and components	36	8.14%	8.33%
Instruments and related products	38	4.65%	4.17%
Miscellaneous manufacturing industries	39	1.16%	2.08%
Transportation by air	45	2.33%	1.04%
Electric, gas and sanitary services	49	3.49%	3.13%
Food stores	54	1.16%	2.08%
Apparel and miscellaneous retail	56 & 59	4.65%	6.26%
Depository institutions	60	11.63%	8.33%
Other non-depository financial services	61-63	10.47%	9.38%
Business services	73	3.49%	8.33%
Other	various	13.95%	14.58%

[a] The list names 100 companies per year however, due to missing data not all companies are used in this paper's analysis. Only list firms used in subsequent analysis are used to tabulate this table.

TABLE 1 (continued)

Panel B: Means and medians for the list firm-years, 1998-2005 and all non-list firms in Compustat, 1998-2005[a]

	List firm years (1998 to 2005)[b]			All other firms in Compustat (1998 to 2005)[c]		
	N	**Mean**	**Median**	**N**	**Mean**	**Median**
Total assets	742	3,494.77*	5,353.49*	59,502	971.47	180.71
Return on assets	742	6.99%*	6.15%*	59,502	-10.39%	1.26%
Percent of firms with loss	742	7.68%*	N.A.	59,502	37.01%	N.A.
Total sales	742	10,42.49*	3,991.54*	59,502	560.55	91.08
Book value of equity	742	5,445.54*	1,929.53*	59,502	333.12	69.70
Market value of equity	742	27,108.03*	7,987.69*	59,502	678.29	121.23
R&D spending to sales	411	9.06%*	5.41%*	22,146	42.71%	10.28%
Market share	742	18.64%*	9.22%*	59,502	3.90%	0.26%

Notes to Table 1:

[a] Since the list year corresponds to financial data two years prior, data provided for the list years 2000-2007 are 1998-2005.

[b] The table reports the means, and medians separately for 742 list firm-years (100 firms on list for each of eight years with some firm-year observations leaving the sample due to missing data) and all other firms in Compustat. For consistency, firms not included in regression models, due to missing data, are not included on this table.

[c] Firms appearing on the list are not included in the "All other firms" columns for list or non-list years. All continuous variables for firms not on the list have been winsorized at the 5th and 95th percentile. List firm years have not been winsorized.

All data are retrieved from Compustat to compute the following variables:

Total assets = DATA6 (AT) in millions of dollars.

Return on assets = Net income (DATA172, NI) / Total assets (DATA6, AT), in percent.

Percent of firms with loss = 1 if Net income (DATA172, NI) is negative; zero otherwise.

Total sales = DATA12 (SALE), in millions of dollars.

Book value of equity = Total assets (DATA6, AT) – Total liabilities (DATA181, LT), in millions of dollars.

Market value of equity = Price per share (DATA199, PRCC_F) × Shares outstanding (DATA25, CSHO), in millions of dollars.

R&D spending to sales = R&D expense (DATA46, XRD) / Total sales (DATA12, SALE), in percent.

Market share = Total sales (DATA12, SALE) / $\sum$ Total sales (DATA12, SALE) for all firms in four-digit SIC code, in millions of dollars.

* Mean (or median) for list firms is significantly different than mean for non-list firms at $p = 0.05$ or better using a one-tailed student t-test (Wilcoxon-Mann-Whitney test).

TABLE 2
List firms compared to industry benchmarks
for financial performance measures, 1994-2008

	List firms unadjusted variables			**List firms median industry-adjusted variables**		
	N	Mean	Median	N	Mean	Median
Profitability variables						
Sales to total assets	2,362	1.165	1.026	2,362	0.114*	0.041*
Cost of sales margin	3,004	0.645	0.550	3,004	0.013	-0.045*
Return on assets	3,004	0.053	0.054	3,004	0.088*	0.025*
Return on equity	3,001	0.580	0.175	3,001	0.504	0.068*
Growth variables						
Sales growth	2,816	0.203	0.095	2,816	0.092*	0.000
Cost of sales margin growth	2,816	0.005	-0.003	2,816	0.008*	0.000
Net income growth	2,875	-9.283	0.121	2,875	-9.173	0.050*
Efficiency variables						
Inventory turnover	2,539	33.488	5.782	2,539	23.470*	0.216*
Acc. receivable turnover	2,956	12.451	6.153	2,956	2.373*	0.047*
Acc. payable turnover	2,906	9.707	7.210	2,906	2.312*	0.005*

Notes to Table 2:
The table reports means and medians for the period 1994-2008 for the 742 list firms (100 firms on the Business Ethics list for each of eight years with some list firms leaving the sample due to missing data).

All data are retrieved from Compustat to compute the following variables:

Sales to total assets = Sales (DATA12, SALE) / Total assets (DATA6, TA), not calculated for banks.
Cost of sales margin = Cost of sales (DATA41, COGS) / Sales (DATA12, SALE), not calculated for banks.
Return on assets = Net income (DATA172, NI) / Total assets (DATA6, TA).
Return on equity = Net income (172, NI) / Common equity (DATA11, CEQT).
Sales growth = (Sales $_t$ – Sales $_{t-1}$) / Sales $_{t-1}$.
Cost of sales margin growth = (Cost of sales margin $_t$ – Cost of sales margin $_{t-1}$) / Cost of sales margin $_{t-1}$.
Net income growth = (Net income $_t$ – Net income $_{t-1}$) / Net income $_{t-1}$, where Net income = DATA172 (NI) in millions of dollars.
Inventory turnover = Cost of sales (DATA41, COGS) / Inventory (DATA3, INVT), not calculated for firms without inventory.
Accounts receivable turnover = Sales (DATA12, SALE) / Accounts receivable (DATA2, RECT).
Accounts payable turnover = Cost of sales (DATA41, COGS) / Accounts payable (DATA70, AP).

Median Industry-adjusted variables = the unadjusted variable (defined above) less the median calculated by year, across all firms in the Compustat database in the list firm's four-digit SIC code.

[*] Mean (or median) is significantly different than zero in the predicted direction at p = 0.05 or better using a one-tailed student t-test (Wilcoxon signed-rank test).

TABLE 3
List firms compared to industry benchmarks
for risk measures, 1994-2008

	List firms unadjusted variables			List firms median industry-adjusted variables		
	N	Mean	Median	N	Mean	Median
Balance sheet measures						
Current ratio	2,972	2.101	1.573	2,972	0.059	-0.132*
Debt to assets	3,746	0.154	0.123	3,746	0.044*	.009*
Altman Z-score	2,789	6.457	4.094	2,789	3.065*	0.719*
Variability of performance						
Std. dev. of sales	3,748	0.032	0.017	3,748	-0.003	-0.006*
Std. dev. of net income	3,425	0.026	0.019	3,425	-0.005*	-0.007*
Std. dev. of cash from operations	3,748	0.014	0.006	3,748	-0.004*	-0.004*

Notes to Table 3:
This table reports means and medians for the period 1994-2008 for the 742 list firms (100 firms on the *Business Ethics* list for each of eight years with some firm-year observations leaving the sample due to missing data).

All data are retrieved from Compustat to compute the following variables:

Current ratio = Total current assets (DATA4, ACT) / Total current liabilities (DATA5, LCT).
Debt to assets = Total long-term debt (DATA9, DLTT) / Total assets (DATA6, AT).
Altman Z-score = $(1.2 \times X1) + (1.4 \times X2) + (3.3 \times X3) + (0.6 \times X4) + (0.999 \times X5)$.
        $X1$ = [Total current assets (DATA4, ACT) – Total current liabilities (DATA5, LCT)] / Total assets (DATA6, AT).
        $X2$ = Retained earnings (DATA36, RE)/ Total assets (DATA6, AT).
        $X3$ = EarningsB4inttax / Total assets (DATA6), with EarningsB4inttax = Net Income (DATA172) + Interest expense (DATA15, XINT) + Tax Expense (DATA16, TXT).
        $X4$ = [Price per share (DATA199, PRCC_F) $\times$ Shares outstanding (DATA25, CSHO)] / Total liabilities (DATA181, LT).
        $X5$ = Sales (DATA12, SALE) / Total assets (DATA6, AT).
Std. dev. of sales = Standard deviation of the prior eight quarters' [Sales (Quarterly_DATA2, SALEQ) / Total assets (Quarterly_DATA44, ATQ)].
Std. dev. of net income = Standard deviation of the prior eight quarters' [Income before ext. (Quarterly_DATA8, IBQ) / Total assets (Quarterly_DATA44, ATQ)].
Std. dev. of cash from operations = Standard deviation of the prior eight quarters' Net operating cash flow (Quarterly_DATA108, OANCFY, adjusted to reflect quarterly data) / Total assets (Quarterly_DATA44, ATQ).

Median Industry-adjusted variables = the unadjusted variable (defined above) less the median calculated by year, across all firms in the Compustat database in the list firm's four-digit SIC code.

* Mean (or median) is significantly different than zero in the predicted direction at $p = 0.05$ or better using a one-tailed student t-test (median test).

TABLE 4
TABLE 4
List firms compared to industry benchmarks
one and two years after inclusion on *Business Ethics* list

Panel A: Financial performance measures

| | One year after appearing on *Business Ethics* list | | | Two years after appearing on *Business Ethics* list | | |
| | Median industry-adjusted variables | | | Median industry-adjusted variables | | |
	N	Mean	Median	N	Mean	Median
Profitability variables						
Sales to total assets	601	0.146*	0.093*	606	0.171*	0.063*
Cost of sales margin	737	-0.114*	-0.067*	731	-0.038	-0.056*
Return on assets	737	0.173*	0.056*	731	0.155*	0.039*
Return on equity	737	-0.240	0.085*	731	-0.439	0.060*
Growth variables						
Sales growth	737	0.036*	0.001*	663	0.069*	0.000
Cost of sales margin growth	737	0.011	0.000	663	0.014*	0.001*
Net income growth	737	-0.910	0.060*	685	1.579	0.046*
Efficiency variables						
Inventory turnover	632	47.562*	0.619*	630	57.055*	0.449*
Acc. receivable turnover	715	2.249*	0.072*	714	2.314*	0.118*
Acc. payable turnover	731	1.576*	0.007*	722	2.959*	0.013*

Notes to Table 4:
This table reports median industry-adjusted variables for the 742 list firms (100 firms on the *Business Ethics* list for each of eight years with some firm-year observations leaving the sample due to missing data) one year and two years after appearing on the list.

Median industry-adjusted variables are the unadjusted variable (defined below) less the median calculated by year, across all firms in the Compustat database in the list firm's four-digit SIC code.

All data are retrieved from Compustat to compute the following variables:

Sales to total assets = Sales (DATA12, SALE) / Total assets (DATA6, TA), not calculated for banks.
Cost of sales margin = Cost of sales (DATA41, COGS) / Sales (DATA12, SALE), not calculated for banks.
Return on assets = Net income (DATA172, NI) / Total assets (DATA6, TA).
Return on equity = Net income (172, NI) / Common equity (DATA11, CEQT).
Sales growth = (Sales $_t$ – Sales $_{t-1}$) / Sales $_{t-1}$
Cost of sales margin growth = (Cost of sales margin $_t$ – Cost of sales margin $_{t-1}$) / Cost of sales margin $_{t-1.}$
Net income growth = (Net income $_t$ – Net income $_{t-1}$) / Net income $_{t-1}$, where Net income = DATA172 (NI) in millions of dollars.
Inventory turnover = Cost of sales (DATA41, COGS) / Inventory (DATA3, INVT), not calculated for firms without inventory.
Accounts receivable turnover = Sales (DATA12, SALE) / Accounts receivable (DATA2, RECT).
Accounts payable turnover = Cost of sales (DATA41, COGS) / Accounts payable (DATA70, AP).

* Mean (or median) is significantly different than zero in the predicted direction at p = 0.05 or better using a one-tailed student t-test (median test).

TABLE 4 (continued)
List firms compared to industry benchmarks
one and two years after inclusion on *Business Ethics* list

Panel B: Risk measures

| | One year after appearing on *Business Ethics* list | | | Two years after appearing on *Business Ethics* list | | |
| | Median industry-adjusted variables | | | Median industry-adjusted variables | | |
	N	Mean	Median	N	Mean	Median
Balance sheet measures						
Current ratio	599	0.007	-0.104*	600	0.163*	-0.071
Debt to assets	737	0.027*	0.008*	731	0.034*	0.010*
Altman Z-score	562	3.447*	1.448*	571	2.623*	1.122*
Variability of performance						
Std. dev. of sales	737	-0.006*	-0.007*	727	0.002	-0.006*
Std. dev. of net income	737	-0.011*	-0.008*	727	-0.004	-0.005*
Std. dev. of cash from operation	690	-0.010*	-0.006*	675	-0.007*	-0.007*

Notes to Table 4:

This table reports median industry-adjusted variables for the 742 list firms (100 firms on the *Business Ethics* list for each of eight years with some firm-year observations leaving the sample due to missing data) one year and two years after appearing on the list.

Median industry-adjusted variables are the unadjusted variable (defined below) less the median calculated by year, across all firms in the Compustat database in the list firm's four-digit SIC code.

All data are retrieved from Compustat to compute the following variables:

Current ratio = Total current assets (DATA4, ACT) / Total current liabilities (DATA5, LCT).
Debt to assets = Total long-term debt (DATA9, DLTT) / Total assets (DATA6, AT).
Altman Z-score = $(1.2 \times X1) + (1.4 \times X2) + (3.3 \times X3) + (0.6 \times X4) + (0.999 \times X5)$.
      $X1$ = [Total current assets (DATA4, ACT) – Total current liabilities (DATA5, LCT)] / Total assets (DATA6, AT).
      $X2$ = Retained earnings (DATA36, RE)/ Total assets (DATA6, AT).
      $X3$ = EarningsB4inttax / Total assets (DATA6), with EarningsB4inttax = Net Income (DATA172) + Interest expense (DATA15, XINT) + Tax Expense (DATA16, TXT).
      $X4$ = [Price per share (DATA199, PRCC_F) $\times$ Shares outstanding (DATA25, CSHO)] / Total liabilities (DATA181, LT).
      $X5$ = Sales (DATA12, SALE) / Total assets (DATA6, AT).
Std. dev. of sales = Standard deviation of the prior eight quarters' [Sales (Quarterly_DATA2, SALEQ) / Total assets (Quarterly_DATA44, ATQ)].
Std. dev. of net income = Standard deviation of the prior eight quarters' [Income before ext. (Quarterly_DATA8, IBQ) / Total assets (Quarterly_DATA44, ATQ)].
Std. dev. of cash from operations = Standard deviation of the prior eight quarters' Net operating cash flow (Quarterly_DATA108, OANCFY, adjusted to reflect quarterly data) / Total assets (Quarterly_DATA44, ATQ).

[*] Mean (or median) is significantly different than zero in the predicted direction at $p = 0.05$ or better using a one-tailed student t-test (median test).

TABLE 5
Ordinary least-squares regressions of market value of equity models

MVE Model: $MVE_{i,t} = BVE_{i,t} + ETHICAL\_EVER_i + ETHICAL\_IN\_YR_{i,t} + AB\_EARN_{i,t} + R\&D_{i,t} + MKT\_SHARE_{i,t} + Year_t + Industry_j + \varepsilon_{i,t}$,

	Pred Sign	Complete time-series 1994 to 2008 N=101,995 [a]		List years only 1998 to 2005 N=55,459 [b]	
		Parameter estimate	student t-statistic	Parameter estimate	student t-statistic
Intercept		-412.676	-20.88*	-54.045	-2.25*
BVE	+	1.856	514.27*	2.108	340.51*
ETHICAL_EVER	+	2,134.324	80.87*	1,983.770	45.71*
ETHICAL_IN_YR	+	3,152.818	51.19*	2,480.809	35.41*
AB_EARN	+	2.060	113.03*	1.957	68.40*
R&D	+	20.216	2.42*	37.198	3.27*
MKT_SHARE	+	497.541	14.13*	109.015	2.01*
Year	+/-	Suppressed		Suppressed	
Industry	+/-	Suppressed		Suppressed	
Adj-R^2		84.88%		80.24%	

Notes to Table 5:
[a] This regression includes time-series observations from 1994 through 2008 for all firms in Compustat. Data have been adjusted for outliers; observations with studentized residuals greater than or equal to the absolute value of three have been given a weight of zero in the regression.
[b] This regression includes time-series observations for all firms in Compustat for the list years only, 1998 – 2005 (list firms are evaluated on historical data; this time-series corresponds to list years 2000-2007). Data have been adjusted for outliers; observations with studentized residuals greater than or equal to the absolute value of three have been given a weight of zero in the regression.

All data are retrieved from Compustat to compute the following variables (measured at fiscal year end):
MVE = market value of equity = Price per share (DATA199, PRCC_F) × Shares outstanding (DATA25, CSHO), in millions of dollars.
BVE = book value of equity = total assets (DATA6, AT) less total liabilities (DATA181, LT), in millions of dollars. We chose to use book value of equity because using total assets and total liabilities resulted in high variance inflation factors.
ETHICAL_EVER = indicator variable = 1 if firm is on the *Business Ethics* List in any year from 2000 to 2007, 0 otherwise.
ETHICAL_IN_YR = indicator variable = 1 if firm is on the *Business Ethics* List for that year, 0 otherwise.
AB_EARN = abnormal earnings = Net income (DATA172, NI) – [0.10 × prior year's equity (DATA11, CEQT), in millions of dollars.
R&D = R&D expense (DATA46, XRD) / Total sales (DATA12, SALE), in millions of dollars.
MKT_SHARE = market share = Total sales (DATA12, SALE) / ∑ Total sales (DATA12, SALE) for all firms in four-digit SIC code, in percent.
Year = year indicator variable = 1 if observation is from that year, and 0 otherwise.
Industry = industry indicator variable = 1 if firm is in two-digit SIC code, and 0 otherwise.

* Co-efficient is significantly different than zero at $p = 0.05$ or better using a two-tailed student t-test.

TABLE 6
Ordinary least-squares regressions of market value of equity models
scaled by lagged market value of equity

MVE Model: $\quad MVE_{i,t} = BVE\_LagMVE_{i,t} + ETHICAL\_Lag\ MVE_i + ETHICAL\_IN\_YR\_LagMVE_{i,t}$
$\qquad\qquad\qquad + AB\_EARN\_LagMVE_{i,t} + R\&D\_LagMVE_{i,t} + MKT\_SHARE\_LagMVE_{i,t}$
$\qquad\qquad\qquad + LagMVE_{i,t} + Year_t + Industry_j + \varepsilon_{i,t},$

	Pred Sign	Complete time-series 1994 to 2008 N=102,097 [a]		List years only 1998 to 2005 N=55,493 [b]	
		Parameter estimate	student t-statistic	Parameter estimate	student t-statistic
Intercept		-571.860	-53.83*	114.720	9.65*
BVE_LagMVE	+	0.121	1.01	0.166	1.02*
ETHICAL_EVER_LagMVE	+	1751.935	.840	2,150.794	0.65
ETHICAL_IN_YR_LagMVE	+	15,087.000	1.87†	15,244.000	1.78†
AB_EARN_LagMVE	+	-0.229	-2.49*	-0.529	-3.71*
R&D_LagMVE	+	0.533	0.12	-0.173	-0.04
MKT_SHARE_LagMVE	+	-257.176	-0.83	-336.744	-0.79
LagMVE	+	0.967	1691.38*	0.980	1504.76*
Year	+/-	Suppressed		Suppressed	
Industry	+/-	Suppressed		Suppressed	
Adj-R^2		96.66%		97.66%	

Notes to Table 6:
[a] This regression includes time-series observations from 1994 through 2008 for all firms in Compustat. Data have been adjusted for outliers; observations with studentized residuals greater than or equal to the absolute value of three have been given a weight of zero in the regression.

[b] This regression includes time-series observations for all firms in Compustat for the list years only, 1998 – 2005 (list firms are evaluated on historical data; this time-series corresponds to list years 2000-2007). Data have been adjusted for outliers; observations with studentized residuals greater than or equal to the absolute value of three have been given a weight of zero in the regression.

All data are retrieved from Compustat to compute the following variables (measured at fiscal year end):
MVE = market value of equity = Price per share (DATA199, PRCC_F) × Shares outstanding (DATA25, CSHO), in millions of dollars.
BVE_LagMVE = Book value of equity, as defined in prior table, scaled by prior year's market value of equity. We chose to use book value of equity because using total assets and total liabilities resulted in high variance inflation factors.
ETHICAL_EVER_LagMVE = indicator variable for firm being on the *Business Ethics* List in any year from 2000 to 2007, scaled by prior year's market value of equity.
ETHICAL_IN_YR_LagMVE = indicator variable for firm being on the *Business Ethics* List for that year, scaled by prior year's market value of equity.
AB_EARN_LagMVE = abnormal earnings, as defined in prior table, scaled by prior year's market value of equity.
R&D_LagMVE = R&D expense (DATA46, XRD), scaled by prior year's market value of equity
MKT_SHARE_LagMVE = market share, as defined in prior table, scaled by prior year's market value of equity.
LagMVE = prior year's market value of equity.
Year = year indicator variable = 1 if observation is from that year, and 0 otherwise.
Industry = industry indicator variable = 1 if firm is in two-digit SIC code, and 0 otherwise.
* Co-efficient is significantly different than zero at p = 0.05 or better using a two-tailed student t-test.
†Co-efficient is significantly different from zero at p=0.10 or better using a two-tailed student t-test.