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BOARD GENDER DIVERSITY, CORPORATE REPUTATION AND MARKET PERFORMANCE

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Abstract

This study examines the association between corporate transparency, ethical orientation of *Fortune* 500 companies, the number of females represented on the board of directors as reported in the 2010 annual report data and respective stock performance. Our basis for this judgment was whether the firm was listed on either (both) *Ethisphere Magazine's* 2010 'World's Most Ethical Companies' or (and) *Corporate Responsibility Magazine's* 2010 '100 Best Corporate Citizens List'. Our results indicate that, as the number of women directors increased, the probability of a corporation appearing on these lists increases. Finally, while being on one of these lists did not increase corporate return data in a statistically significant sense, it did dramatically reduce the degree of negative returns.

Key Words: Ethical orientations, Corporate reputation, Market performance, Gender diversity

JEL Classification: G39, M14

1. Introduction

Bernardi and several coauthors (2002 to 2010) examined various issues associated with female board members. Bernardi *et al.* (2002, 2005) found that corporations were more likely to include pictures of the board in their annual reports when the membership of their board included women (2002) and/or minorities (2005). Bernardi *et al.* also found that corporations with higher percentages of women on their boards were more likely to be on '100 best companies to work for' (2006) and 'most ethical companies' (2009) lists; have a higher percentage of female executives (2004); and, engage in activities demonstrating corporate social responsibility (2010). However, the 'so what' question remains concerning the increase in female representation on

corporate boards and corporate reputation, which equates to the public's overall perception of a corporation (Fombrun and Shanley, 1990).

While the number of women on corporate boards has increased by approximately 28 women per year between 1977 and 2001 (Bernardi *et al.*, 2006), it is still relatively low at 832 female directors of 5,613 directors on *Fortune* 500 boards (Bernardi et al, 2009). Stakeholders with legitimate interests (Donaldson and Preston, 1995) have lost billions of dollars due to recent corporate scandals. Following the corporate scandals in 2002 and new regulatory actions, it is surprising to find that the percent of women on boards has not increased substantially. While women directors made up 11.9 percent of *Fortune* 500 boards in 2002, they now make up 14.4 percent (Bernardi *et al.*, 2009). The 2.5 percent increase represents an additional 156 female directors of approximately 5,600 directors (Bernardi et al, 2002 and 2009).[1] Gender diversity on corporate boards associates with financial performance (Carter *et al.*, 2008), reduction in the inherent risk (Ittonen *et al.*, 2007), positive market reactions (Defond *et al*., 2005), and positive cumulative abnormal returns (Huang *et al.*, 2011).

The need for organizations to become better corporate citizens and improve their levels of corporate social responsibility has become increasingly evident. Our sample includes the 2010 *Fortune* 500 corporations of which 92 (408) corporations appear (do not appear) on *Corporate Responsibility Magazine's* (hereafter *CRM*) '100 Best Corporate Citizens List'. Our sample also includes the 46 (454) corporations that appear (do not appear) on *Ethisphere Magazine*'s (hereafter *EM*) 2010 'World's Most Ethical Companies' list.

Our research indicates that stakeholder advocate organizations (i.e., *CRM* and *EM*) tend to recognize corporations that have higher proportions of women on their boards. The interaction of this recognition and multiple female board members for the corporations in this sample associated with higher overall returns and lower negative returns for stockholders' wealth as measured by the market prices of the corporations' common stock.

[1] Of the 5,514 directors on *Fortune* 500 boards included in this research, there are 863 female directors (15.1 percent).

2. Literature Review and Hypotheses

2.1 Board Duties

An organization's board of directors is responsible for ensuring that a corporation is meeting the objectives of stakeholders as well as developing business strategies to prosper in the future (Arfken *et al.*, 2004; Peterson and Philpot, 2007). When the corporation fails to meet these objectives, many question the ability of the board members. Campbell and Minguez-Vera (2008) indicate that the effectiveness of a board depends heavily on each board member's qualifications and experience. Historically, older white males dominated; consequently, as corporate scandals continue, stakeholders push for changes in the corporate structure (McDaniel et al, 2001; Farrell and Hersch, 2005). Recent scandals indicate that corporations are not meeting these objectives; this suggests that the current homogenous boardroom is unable to perform its duties (Campbell and Minguez-Vera, 2008; Burke, 1997; Arfken *et al.*, 2004). Companies now face an investing public that demands scrutiny of all corporate decisions and expects board members to be accountable for their actions (Arfken *et al.* 2004).

Consumers and shareholders question the ability of a homogenous boardroom (Arfken *et al.*, 2004); consequently, there has been a call for a higher representation of women on corporate boards (Burke, 1997). Many feel that the presence of women on corporate boards adds a sense of moral obligation to a corporation's decision-making process (Arfken *et al.*, 2004) which can in turn improve boardroom transparency and limit the likelihood of corporate scandal. The under-representation of women on boards became public in 1977 (Special Report, 1977); research continues to depict this trend (Burgess and Tharenou, 2002). Boards should not overlook their female board members and should take initiatives to ensure the consideration of female board members' viewpoints. Burke (1997) indicates that the benefits to both internal and external stakeholders of considering female board members' viewpoints include a more comprehensive decision making-process that is both creative and innovative. Women are able to bring a new perspective to the homogenous boardroom including raising issues that affect a wider range of stakeholders and using interpersonal skills to promote discussion (Kramer *et al.*, 2007).

2.2 Board Diversity

Research has shown that lack of diversity within a boardroom results in a manila mindset to solving corporate problems (Burgess and Tharenou, 2002) that can lead to group think issues as well as lack of achievement within the company. Over the past decade, homogenous boards have been a contributing factor to spectacular failures and overall poor governance (Brown *et al.,* 2002). A more diverse board results in an increased representation of moral and ethical viewpoints in the discussions prior to making decisions (Arfken *et al.*, 2004). Diversity limits the possibility of a myopic decision-making process that can result in "*unhealthy and possibly unethical decisions"* (Arfken *et al.*, 2004 p. 185) when the board has similar demographics. Many studies have cited that diversity not only limits the likelihood of myopic decision-making process but also increases the likelihood of positive occurrences such as fresh ideas, better problem solving, improved strategic planning, and additional accountability (Arfken *et al.*, 2004). Diversity in the boardroom allows members to make better decisions as a more complete picture of the issues at hand are typically discussed (Adams and Flynn, 2005). Adams and Ferreira's (2009) research indicates that diverse boards are more likely to hold CEOs responsible for poor stock price performance and that board compensation is typically equity-based, implying that the board is more aligned with shareholder interests. These findings further the idea that having women on boards can add value to a company.

Overall, gender-diverse boards have increased levels of boardroom involvement and corporate oversight (Adams and Ferreira, 2009); boards with a greater female presence have higher levels of meeting attendance. The primary way in which boards operate and conduct business is through meetings and thus, attendance is a crucial factor of a successful board (Adams and Ferreira, 2009). These authors note that women were less likely to have attendance problems and that having females on boards results in better attendance by male directors. Clearly, the female influence in this area is quite important; increasing attendance should result in better boardroom discussion and higher levels of effectiveness.

An increased membership of female directors positively associated enhanced corporate reputation (Bear *et al*., 2010). Bernardi *et al.* also found that corporations with higher percentages of women on their boards were more likely to be named as one of the '100 best

companies to work for' (2006), one of the 'most ethical companies' (2009), and a higher number of female executive-level managers (2004).

2.3 Ethical Orientation

The individuals an organization attracts, hires, and retains influence the organization's ethical climate (Schneider, 1987). Harrison (1992) indicates that factors essential to economic success include a sense of community (i.e. a trusting and caring environment - Reynolds, 2003) and a robust ethical system. Employees are more likely to support a corporation's values when the corporation demonstrates a commitment to the welfare of its community (Barnett and Schubert, 2002). Young people are attracted to a company's social record (Goodpaster, 1991); for example, Bernardi and Guptill (2008) found that women from eight countries who were approaching graduation were more concerned about a corporation's reputation within its community than were their male counterparts. Consequently, as Arnold *et al.* (1997) suggest, the foundation of an ethical organization culminates in an environment that nurtures ethical behavior.

Bernardi and Arnold (1997) and Akaah (1989) indicate a difference between males' and females' moral reasoning and development implying that the way men and women handle ethical decision-making differs. Williams (2003) makes clear the correlation between increased levels of female directors and a company's involvement in corporate social responsibility activities. The more concerned the firm is with issues of corporate responsibility, the less likely the firm will take actions that are considered unethical or do not promote the overall wellbeing of the firm and the surrounding environment. In a corporate landscape where corruption is rampant, it is essential that corporations work to ensure their culture is ethical and women are able to enhance this important aspect (McDaniel *et al.*, 2001). Bernardi *et al.* found that corporations with higher percentages of women on their boards were more likely to be on *EM*'s 'most ethical companies' list (2009) and engage in activities demonstrating corporate social responsibility (2010).

2.4 Transparency

While ethical orientation is concerned with the internal decisions that an organization makes, transparency focuses on whether stakeholders have access to this information. An organization's reputation rests on its stakeholders trust (Larkin, 2003), which directly relates to

the information that is available about the organization (i.e., the transparency of the company). Public disclosure of information has increased in an effort to increase trust in organizations because trust at all levels is essential to a corporation's legitimacy (*The Economist*, 2000). Following instances such as Enron, the Big-Four firms have all indicated a commitment to ethics and transparent reporting (Lehman, 1992). Deloitte and Touche initiated a challenge to restore the profession's public trust (Parrett, 2004) and both KPMG (2003) and PricewaterhouseCoopers (2003) call for increased transparency and integrity in corporate reporting.

Organizations that are not forthcoming with information tend to be hiding essential facts from stakeholders; this process leads to the possibility of corporate scandal. The lack of transparency and audit failure contributed to the Enron debacle - one of the most discussed financial scandals. Reinstein and McMillan (2004) show that Enron's collapse was not a perfect storm (i.e., a happenstance of rare events that had devastating effects). Rather, the audit team from Andersen ignored or missed red flags that would have indicated problems with Enron's financial heath (Reinstein and McMillan, 2004). In this case, understanding the organization's operations would have lead stakeholders to question Enron's profits and financial statements.

2.5 Women and Economic Performance

Businesses operate with the objective to earn a profit and in turn increase shareholder value. Corporate managers, and those who are interested in positive governance, believe that there is a correlation between board diversity and shareholder value (Carter *et al.*, 2003). Furthermore, investors are willing to pay more for firms with effective corporate governance (Smalhout, 2003). Jackson (2004) found that most individuals consider reputation in their investment decisions; research also suggests that stock performance associates with corporate reputation (Miles and Covin, 2000; Vergin and Qoronfleh, 1998; Sparks, 1998; Sims, 1994).

Many corporations recognize that increasing shareholder value should occur in an ethical manner, but the implementation of this process can be difficult. Corporations are under increasing pressure to act in a socially responsible manner while still attaining high profit levels. Corporate social responsibility is the implementation of policies that recognize the relationship among business ethics, community investment, governance and many other aspects of business (Tsoutsoura, 2004; Bernardi *et al.*, 2006).

Prior research demonstrated the benefits that having women on boards can bring to an organization, but many question the ability of organizations to be socially responsible while still meeting shareholder expectations. Some feel that social responsibility results in increased cost pressures on organizations, which can affect the bottom line. However, corporations that engage in socially responsible practices can more easily obtain capital as their reputation of being less risky (Tsoursoura, 2004). Together, these aspects help improve the public's view of the firm thus increasing profitability. Tsoursoura also found that financial performance and corporate social responsibility were positively associated. Most importantly, Tsoursoura found that the industries with the lowest ratings for social responsibility include mining and construction, the same sectors with the lowest number of women on boards (GovernanceMetrics International, 2010). These findings show that having women on boards does in fact positively affect the social responsibility behaviors of an organization. Bear *et al.* (2010) found that the number of female directors positively associated with measures of corporate reputation. Bernardi *et al.* (2006) also found that an increased proportion of female representation on boards associated with the corporation's inclusion on the '100 Best Companies to Work For' list.

Additionally, corporations that value diversity have proven to be more competitive in the overall business setting (McDaniel et al, 2001). Farrell and Hersch (2005) conducted research on the effect that women board members have on a corporation's common stock performance. They found that, while adding women to the board positively associated with return on assets, the market failed to react to adding women to a board. This information supports the idea that having women on boards has a direct impact on the bottom-line profits of an organization, but at this point fails to influence investor opinion.

2.6 Hypothesis Development

While overconfidence in decision-making occurs in both men and women, men are typically more overconfident than women are especially in areas considered masculine (i.e., financial decisions) (Lundeberg et al., 1994). Barber and Odean (2000) found that men tended to turn over their portfolios more often and have lower returns than women; they suggest that overconfidence leads to high levels of counterproductive trading. Huang and Kisgen (2008) found that female CFO's tended to be more risk adverse, used debt less frequently to finance corporate capital demands, made fewer acquisitions, and outperformed corporations with male

CFOs. Consequently, women can also bring different viewpoints/attitudes to an organization through board membership.

Carter *et al.* (2003) indicate that gender diversity enhances understanding of the intricacies of a corporation's market. Women are able to bring their insights to the boardroom and match the diversity of the organization's consumer base. In general, boards that closely match the makeup of the general population provide improved corporate social performance (Bernardi *et al.*, 2006). Diversity also allows an organization to view problems in a different manner and reevaluate the way in which they do business. Prior research shows that improved performance associates with boards that are diverse with respect to gender (Brady, 2007; Cohen and Kornfeld, 2006).

Adding female board members has proven to increase an organization's sense of responsibility. Carter *et al.* (2008) noted that the effect of gender diversity on a board's audit function associated with financial performance. Ittonen *et al.* (2007) found that, when female board members are on the board's audit committee, there was a reduction in the inherent risk of financial misstatements. These authors also noted that gender diversity associates with lower audit fees. Audit committees that include women tend to be more conservative; Thiruvadi and Huang (2011) report that, when female directors were members of audit committees, corporations tended to report increased negative accruals, which decrease income. When new audit committee members had accounting expertise, the market reacted positively (Defond *et al*., 2005). Huang *et al.* (2011) found that, when compared to the addition of male board members, the addition of female board members to the audit committee resulted in positive cumulative abnormal returns. [2] Gender diversity can be beneficial in situations involving complex tasks, which require creative decision-making (Kravitz, 2003). Consequently, expanding a board's viewpoint can facilitate increased discussion, better problem solving tactics, and a better understanding of the marketplace as a whole.

Gul *et al.* (2011) found that board-gender diversity encouraged corporations to increase their disclosure of corporate data. Bernardi *et al.* found that corporations with higher percentages

[2] While Nguyen and Faff (2006) found that gender diversity associated with higher firm values, Wang and Clift (2009) found that gender and racial diversity did not influence firm performance – both studies used listed Australian corporations.

of women on their boards were more likely to be on '100 best companies to work for' (2006) and 'most ethical companies' (2009) lists. However, this research fails to associate female directors and listings with financial performance, which leads to our research hypotheses (stated in their alternate form):

H_1: The corporations on *CRM*'s (2010) list will have a higher (lower) proportion of multiple female directors (zero or only one director) than for corporations not on this list.

H_2: The corporations on *EM*'s (2010) list will have a higher (lower) proportion of multiple female directors (zero or only one director) than for corporations not on this list.

H_3: Membership on *CRM*'s (2010) list will associate with higher (lower) increases (decreases) in common stock prices in 2010.

H_4: Membership on *EM*'s (2010) list will associate with higher (lower) increases (decreases) in common stock prices in 2010.

3. Data and Methodology

3.1 Sample

The current sample includes the 2010 *Fortune* 500 corporations of which 92 (408) corporations appear (do not appear) on *CRM's* list (Table 1). The sample also includes the 46 (454) corporations that appear (do not appear) on *EM*'s 2010 list (Table 2). Appendix A provides the methodology for *CRM's* list. Appendix B provides the methodology for *EM*'s list. We determined the size and gender composition of the corporate boards of directors by referring to the companies' actual 2010 annual reports or from data included in the *Mergent Online* database.

3.2 Selection Processes and Corporate Return Data

CRM's list (Appendix A) took into consideration both the transparency and the level of social responsibility of an organization. It is important to note that our basis for considering an organization as transparent lies with the fact that the magazine penalized corporations for not disclosing information relating to social responsibility. *EM's* list (Appendix B) acknowledges corporations for being ethical and following compliance measures through positive leadership.

We tested the research question relating to the organization's financial return using a rate of return for the period between January 1, 2010 and December 31, 2010. We used historic stock

prices to determine the price per share of each organization at the earliest available stock price in 2010 in relation to the latest available stock price in 2010 at the close of the trading day. In order to determine the percentage change of the stock price for the given year, we subtracted the beginning (January 1) stock price from the ending (December 31) stock price, which we divided by the beginning stock price.

Table 1: Most Transparent Companies

3M	Ford Motor	Northeast Utilities
Abbott Laboratories	FPL Group	Occidental Petroleum
Advanced Micro Devices	Freeport-McMoRan Copper & Gold	Oracle
Air Products & Chemical	Gap	Owens Corning
Alcoa	General Mills	Pepsi Bottling
Allergan	H.J. Heinz	PepsiCo
Applied Materials	Hess	PG&E Corp.
Avon Products	Hewlett-Packard	Procter & Gamble
Ball	Hormel Foods	Quest Diagnostics
Baxter International	Intel	Raytheon
Boeing	International Business Machines	Sara Lee
Bristol-Myers Squibb	International Paper	Sempra Energy
Campbell Soup	ITT	Sherwin-Williams
Chevron	J.C. Penney	Southern
Cisco Systems	J.P. Morgan Chase & Co.	Staples
Citigroup	Johnson & Johnson	Starbucks
Coca-Cola	Johnson Controls	State Street Corp.
Coca-Cola Enterprises	Kellogg	Stryker
Colgate-Palmolive	Kimberly-Clark	Texas Instruments
ConAgra Foods	Lubrizol	TJX
Consolidated Edison	Mattel	Union Pacific
Cummins	McDonald's	United Parcel Service
CVS Caremark	McGraw-Hill	Verizon
Deere	McKesson	Wal-Mart Stores
Dell	Medtronic	Walt Disney
Dominion Resources	Merck	Weyerhaeuser
Duke Energy	Microsoft	Wisconsin Energy
Eaton	Monsanto	Xcel Energy
EMC	Mosaic	Xerox
Exelon	Newmont Mining	Yum Brands
Exxon Mobil	Nike	

3.3 Board Gender Data

While our initial analysis included all *Fortune* 500 corporations, 51 of these corporations are not publicly listed; of the 51 corporations that were not publicly traded, three of them were on *CRM*'s list. For the 89 publicly traded corporations that appear on *CRM's* list, there were 195 female directors and 1057 total directors (18.4 percent). The 89 corporations on *CRM's* list make up 19.8 percent of the 449 publicly traded companies in the *Fortune* 500. Our data indicate that of the 89 corporations on *CRM*'s list: 1.1 percent had no female directors; 21.3 percent had one female director; and, 77.5 percent had multiple female directors. We compared these percentages to those for the remaining 406 corporations that have 586 female directors and 3,904 total directors (15.0 percent). The data for these corporations indicate that: 14.4 percent had no female directors; 32.2 percent had one female director; and, 55.3 percent had multiple female directors.

Table 2: Most Ethical Companies

Aflac	Flour	Pitney Bowes
American Express	Ford Motor	Principal Financial
Aramark	FPL Group	Rockwell Automation
Ashland	Gap	Rockwell Collins
Becton Dickinson	General Electric	Sempra Energy
Best Buy	General Mills	Starbucks
Campbell Soup	Google	Symantec
Caterpillar	Harris	Target
CH2M Hill	Hartford Financial Services	Texas Instruments
Cisco Systems	Hewlett-Packard	Time Warner
Cummins	International Paper	United Parcel Service
Deere	Johnson Controls	Waste Management
Duke Energy	Mattel	Weyerhaeuser
Eaton	Nike	Whole Foods Market
Ecolab	PepsiCo	Wisconsin Energy
		Xerox

Three of the 46 corporations that appear on *EM*'s list are not publicly traded. For the 43 publicly traded corporations that appear on *EM's* list, there are 93 female directors and 491 total directors (18.9 percent). Our data indicate that of those: 2.3 percent had no female directors; 23.3 percent had one female director; and, 74.4 percent had multiple female directors. We compared

these percentages to those for the remaining 406 corporations that have 688 female directors and 4,470 total directors (15.4 percent). The data for these corporations indicate that: 12.8 percent had no female directors; 30.8 percent had one female director; and, 56.4 percent had multiple female directors.

4. Analyses and Findings

4.1 Overview

For this part of the analysis, we used the data from 449 of the *Fortune* 500 companies that had publicly listed performance data - the other 51 companies were not publicly listed. In our analysis, we group corporations by whether or not they appear on a specific list and by the number of female board members: no female board members, one female board member, and multiple female board members. In our examination of the data, we use contingency analysis, as we believe it visually demonstrates our findings with respect to listing by either *CRM* or *EM*, board gender diversity and common stock performance.

4.2 Corporate Reputation and Female Board Members (H1 and H2)

This part of the analysis tests for an association between listing by either *CRM* or *EM* and gender. For the 89 corporations included on *CRM's* list, there was one corporation (1.1 percent) with no female directors, 19 corporations (21.4 percent) with one female director and 69 corporations (77.5 percent) with multiple female directors. For the 360 corporations that were not included on *CRM's* list, there were 52 corporations (14.5 percent) with no female directors, 126 corporations (32.2 percent) with one female director and 192 corporations (53.3 percent) with multiple female directors. While the corporations not listed by *CRM* had a higher proportion of corporations with no female directors or only one female director (14.5 and 32.2 percent respectively) than the corporations listed by *CRM* (1.1 and 21.4 percent respectively), the reverse is true for corporations with multiple female directors (53.3 versus 77.5 percent respectively). Panel A of Table 3 shows the actual and expected number of female directors for each of group

or corporations.[3] Our analysis indicates that all treatments are not proportionally represented (χ^2 statistic = 20.72, $p < 0.000$). The most significant contributors to this difference were the corporations listed by *CRM*. Corporations on *CRM*'s list had higher proportion of corporations with multiple female directors, which supports our first research hypothesis.

For the 43 corporations included on *EM's* list, there was one corporation (2.3 percent) with no female directors, 10 corporations (23.3 percent) with one female director and 32 corporations (74.4 percent) with multiple female directors. For the 406 corporations that were not included on *EM's* list, there were 52 corporations (12.8 percent) with no female directors, 125 corporations (30.8 percent) with one female director and 229 corporations (56.4 percent) with multiple female directors. While the corporations not listed by *EM* had a higher proportion of corporations with no female directors or only one female director (12.8 and 30.8 percent respectively) than the corporations listed by *EM* (2.3 and 23.3 percent respectively), the reverse is true for corporations with multiple female directors (56.4 versus 74.4 percent respectively).

Panel B of Table 3 shows the actual and expected number of female directors for each of group or corporations. Our analysis indicates that all treatments are not proportionally represented
(χ^2 statistic = 6.52, $p = 0.045$). The most significant contributors to this difference were the corporations listed by *EM*. Corporations on *EM*'s list had higher proportion of corporations with multiple female directors, which supports our second research hypothesis.

4.3 Corporate Reputation and Performance (H3 and H4)

This part of the analysis tests for an association among listing by either *CRM* or *EM* and corporate performance. On an overall basis, the data indicate that the 89 (360) corporations (not) included on *CRM's* list had an increase of 11.9 (6.7) percent - average return of 7.7 percent. The 43 (406) corporations (not) included on *EM's* list had an increase of 16.2 (6.8) percent

[3] In our contingency analysis, we computed the expected number of companies for each group by multiplying the total number of corporations in each column (i.e., the number of female directors on the board) by proportion of the sample (i.e., either the number of transparent or remaining companies divided by the total sample). For example, for the 16 transparent companies that have one female director, we would expect to have 26.8 companies ([19+116] X [89/449]) rather than our actual count of 19 companies. Similarly, for the remaining companies with one female director, we would expect to have 108.2 companies ([19+116] X [360/449]) rather than our actual count of 116 companies.

TABLE 3: LISTING BY *CRM* OR *EM* AND BOARD GENDER COMPOSITION

Panel A: *CRM*'S listing

		Number of Female Directors			
		None	One	Multiple	Total
Transparent corporations	Actual	1	19	69	89
	Expected	10.5	26.8	51.7	89
	$\chi 2$ stat	8.60	2.25	5.76	16.61
Remaining corporations	Actual	52	116	192	360
	Expected	42.5	108.2	209.3	360
	$\chi 2$ stat	2.13	0.56	1.43	4.11

Panel B: *EM*'S listing

		Number of Female Directors			
		None	One	Multiple	Total
Ethical corporations	Actual	1	10	32	43
	Expected	5.1	12.9	25.0	43
	$\chi 2$ stat	3.27	0.66	1.96	5.90
Remaining corporations	Actual	52	125	229	406
	Expected	47.9	122.1	236.0	406
	$\chi 2$ stat	0.35	0.07	0.21	0.63

- average return of 7.7 percent. Consequently, on an overall basis, our first two hypotheses about being on a listed by either *CRM* or *EM* and higher common stock prices were supported by the data. Panel A of Table 4 provides the average returns for the six groups of companies. Our analysis indicates that all treatments did not have a 7.7 percent increase in common stock value (χ^2 statistic = 8.06, p = 0.02). [4] The most significant contributors to this difference were the corporations listed by *CRM* with one female director and multiple female directors. It is the higher percent of increase for corporations listed by *CRM* that are driving the difference in treatments. We further divided the data in Panel A by whether their common stock price increased (Panel B) or decreased (Panel C) for additional analysis.

For the corporations in Panel B, the average increase in their stock price was 19.9 percent. The data in Panel B indicate no difference in treatments (χ^2 statistic = 1.23, not significant) for the corporations whose common stock prices increased. For the corporations in Panel C, the average decrease in their stock price was 38.0 percent. The data in Panel C indicate that not all treatments had a 38.0 percent decrease in common stock value (χ^2 statistic = 54.91, $p < 0.000$). Again, our data indicates that the most significant contributors to this difference were the corporations listed by *CRM* with one female director and multiple female directors. The common stock prices for the 19 corporations listed by *CRM* (average = -9.1 percent) did not decrease as much as the 76 corporations that were not listed (average = -45.2 percent). Consequently, the data support our third hypothesis.

Panel A of Table 5 provides the average returns for the six groups of companies. Our analysis indicates that not all treatments had a 7.7 percent increase in common stock value (χ^2 statistic = 20.62, $p < 0.000$). The most significant contributors to this difference were the corporations listed by *EM* with one female director and multiple female directors. It is the higher percent of increase for corporations listed by *EM* that are driving the difference in treatments. We further divided the data in Panel A by whether their common stock price increased (Panel B) or decreased (Panel C) for additional analysis.

[4] We did not include the data for the first group (i.e., being listed by either *CRM* or *EM* and no female directors) as there was only one firm in this group (i.e., return of 31.5 percent was not an average).

TABLE 4: AVERAGE PERCENT CHANGE IN SHARE PRICE AND *CRM*'S LISTINGS

Panel A: Average Percent Change for all Corporations (average = 7.7 percent)

		Number of Female Directors			
		None	One	Multiple	Total
Transparent corporations	(%)	31.3	13.9	10.8	11.9
	(n)	(1)	(19)	(69)	(89)
	$\chi 2$ stat	NA	5.04	1.27	6.31
Remaining corporations	(%)	10.5	5.8	6.3	6.7
	(n)	(52)	(116)	(192)	(360)
	$\chi 2$ stat	1.04	0.46	0.25	1.71

Panel B: Average Percent Change for Corporations with Positive Returns (average = 19.9 percent)

		Number of Female Directors			
		None	One	Multiple	Total
Transparent corporations	(%)	31.3	17.8	16.9	17.3
	(n)	(1)	(16)	(53)	(70)
	$\chi 2$ stat	NA	0.22	0.46	0.68
Remaining corporations	(%)	23.2	20.3	20.0	20.6
	(n)	(43)	(92)	(149)	(284)
	$\chi 2$ stat	0.54	0.01	0.00	0.55

Panel C: Average Percent Change for Corporations with Negative Returns (average = -38.0 percent)

		Number of Female Directors			
		None	One	Multiple	Total
Transparent corporations	(%)	NA	-6.9	-9.5	-9.1
	(n)	(0)	(3)	(16)	(19)
	$\chi 2$ stat	NA	25.47	21.39	46.86
Remaining corporations	(%)	-50.4	-49.8	-41.5	-45.2
	(n)	(9)	(24)	(43)	(76)
	$\chi 2$ stat	4.05	3.67	0.33	8.05

For the corporations in Panel B, the average increase in their stock price was 19.9 percent. The data in Panel B indicate no difference in treatments (χ^2 statistic = 0.90, not significant) for the corporations whose common stock prices increased. For the corporations in Panel C, the average decrease in their stock price was 38.0 percent. The data in Panel C indicate that not all treatments had a 38.0 percent decrease in common stock value (χ^2 statistic = 50.93, $p < 0.000$). Again, the most significant contributors to this difference were the corporations listed by *CRM* with one female director and multiple female directors. The common stock prices for the six corporations listed by *EM* (average = -10.1 percent) did not decrease as much as the 89 corporations that were not listed (average = -39.8 percent). Consequently, the data support our third hypothesis.

This section of our analysis found that corporations on both *CRM* and *EM*'s lists had higher average increases in their common stock prices (Panel A of Tables 4 and 5). When we separated the companies according to whether they had increasing or decreasing stock prices, there were no significant differences in the two groups with increasing stock prices (Panel B of Tables 4 and 5).

However, we found that the decrease in common stock prices for corporations on both *CRM* and *EM*'s lists was not as large as the decrease for corporations not on these lists (Panel C of ables 4 and 5). Consequently, our data indicate an association between a corporation's reputation (i.e., being on either *CRM* or *EM*'s list) and common stock performance.

5. Conclusions

The major contribution of this paper is that board gender diversity can provide an incremental benefit for corporations that already have a good reputation in ethical behavior, social responsibility and transparency. Our data indicate that companies on *CRM* or *EM*'s lists have superior returns and that companies on *CRM* or *EM*'s lists are more likely to have multiple female directors on their boards. Consequently, our data suggest an interactive effect between corporate reputation and the number of female directors.

TABLE 5: AVERAGE PERCENT CHANGE IN SHARE PRICE AND *EM*'S LISTINGS

Panel A: Average Percent Change for all Corporations (average = 7.7 percent)

		Number of Female Directors			
		None	One	Multiple	Total
Ethical corporations	(%)	10.7	15.9	16.4	16.2
	(n)	(1)	(10)	(32)	(43)
	$\chi 2$ stat	NA	8.80	9.90	18.70
Remaining corporations	(%)	10.9	6.2	6.2	6.8
	(n)	(52)	(125)	(229)	(406)
	$\chi 2$ stat	1.35	0.29	0.29	1.93

Panel B: Average Percent Change for Corporations with Positive Returns (average = 19.9 percent)

		Number of Female Directors			
		None	One	Multiple	Total
Ethical corporations	(%)	10.7	21.5	20.5	20.4
	(n)	(1)	(8)	(28)	(37)
	$\chi 2$ stat	NA	0.13	0.02	0.15
Remaining corporations	(%)	23.7	19.8	19.0	19.9
	(n)	(43)	(100)	(174)	(317)
	$\chi 2$ stat	0.72	0.00	0.04	0.75

Panel C: Average Percent Change for Corporations with Negative Returns (average = -38.0 percent)

		Number of Female Directors			
		None	One	Multiple	Total
Ethical corporations	(%)	na	-6.6	-11.9	-10.1
	(n)	(0)	(2)	(4)	(6)
	$\chi 2$ stat	NA	25.92	17.90	43.82
Remaining corporations	(%)	-50.4	-48.1	-34.4	-39.8
	(n)	(9)	(25)	(55)	(89)
	$\chi 2$ stat	4.07	2.70	0.34	7.11

When considering the effect that women on the board have on the financial returns, it was interesting to find that stock prices varied by the direction of the return. While the corporations on either *CRM*'s or *EM*'s list had significantly greater increases in their stock prices compared to corporations not on these lists, this was not the case when we divided the sample into groups with gains versus losses. When analyzing the gains separately, our results indicated that being on *CRM*'s list had the opposite of what we anticipated. The corporations not listed by *CRM* had a slightly higher (3.3 percent) gain; however, the difference was not significant. There was not a difference with respect to the corporations on (not on) *EM*'s list. The data did not support our research hypothesis dealing with corporate reputation and stock prices for corporations with positive returns.

When analyzing the losses separately, our results indicated that being on *CRM*'s or *EM*'s list was significantly associated with a reduction in price declines The corporations listed by *CRM* had a significantly lower loss in value than the corporations not on this list (-9.1 and -45.2 percent respectively). The corporations listed by *EM* also had a significantly lower loss in value than the corporations not on this list (-10.1 and -39.9 percent respectively). Consequently, there appears to be an economic benefit to being on either of these lists.

When we tested our data for the proportion for female directors, we used the same groupings as we did to test for changes in stock prices (i.e., overall change and increasing-and-decreasing stock prices. The corporations listed by *CRM* consistently had a lower number of corporations with no female directors or only one female director and a higher than expected number of corporations with multiple female directors. The opposite was true for corporations that were not listed by *CRM*; a higher number of these corporations had no female directors or only one female director and a lower than expected number with multiple female directors. The corporations listed by *EM* had a lower number of corporations with no female directors or only one female director and a higher than expected number of corporations with multiple female directors. The opposite was true for corporations that were not listed by *EM*; these corporations consistently had a higher number with no female directors or only one female director and a lower than expected number of corporations with multiple female directors.

The combined findings indicate that corporations on either CRM's or EM's list have a higher than expected number of boards that include multiple female directors. Additionally, the

corporations on these lists are more likely to have higher overall changes in stock prices and lower decreases in their stock prices. The stock performance figures imply that higher numbers of women on boards may be able to alter the internal elements of an organization, thus decreasing the likelihood of a loss in value to shareholders.

There are four inherent limitations to our study. First, we included only corporations listed in the 2010 *Fortune* 500. Our second limitation is that we used only *CRM's* '100 Best Corporate Citizens List' and *EM*'s 2010 'World's Most Ethical Companies' lists. Third, we examined only the effect of having female directors on boards of directors. Fourth, we used only changes in common stock prices. These limitations provide opportunities for future research in this area that include examining: a more diverse corporate sample; using other measures of corporate social responsibility; including minorities as board members; and, using other measures of financial performance.

Future research could take the form of a longitudinal study that determines whether the organizations with a lower female boardroom presence experienced larger stock losses for a longer time period. Future studies might also consider using return on assets and return on equity as internal corporate performance measures to test whether the number of women on a board has an impact on these figures. Finally, future research could also survey investors to determine whether the number of women on the board associates with their valuation of the organization.

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Appendix A

Panel A: Corporate Responsibility Magazine's Criteria for Identifying "100 Best Corporate Citizens"

"100 Best Corporate Citizens" methodology uses publicly available information to determine the world's top corporate responsibility ranking. CR Magazine contracts with a third party research organization to collect data and develop initial rankings. Once all *the necessary information was collected,* the companies were scored relative to their industry peers *324 data elements in 7 categories.*

Data Category	# Data Elements	2010 Weighting Percent
Environment	133	19.5%
Climate Change	60	16.5%
Human Rights	40	16.0%
Employee Relations	65	19.5%
Philanthropy	9	9.0%
Financial	8	12.5%
Governance	9	7.0%

The companies included in the analysis were defined as the 2010 Russell 1000. The rankings are determined from the ordinal list of companies that results from applying the Corporate Citizenship Criteria detailed above.

Panel B: Explanation of Corporate Responsibility Magazine's Process

CR Magazine's researchers and editors employed a detailed process. The separate and sequential analyses conducted were:

STEP 1	Selection of and Contracting with a Research Firm
STEP 2	Determination of Evaluation Criteria
STEP 3	Data Collection
STEP 4	Data Sources
STEP 5	Undisclosed Data
STEP 6	Data Validation
STEP 7	Review and Publication

Where:

Steps 1-2 determined that way that analysis would be completed and includes getting input and opinions from NGOs, academics, investment analysts, etc.

Step 3-6 focus on data collection using only publicly available information (company websites, 10-Ks, government datasets, etc.). Undisclosed information negatively influences the company's ranking. Data validation is done by the research team reviewing their work and by providing the opportunity for companies to correct factual inaccuracies.

Step 7 allows companies two opportunities to review the datasets determined by the research team (not their rankings), after this period, the information and rankings are provided to CR.

From Corporate Responsibility Magazine (2011)*

*The 2011 methodology details were used as 2010 details were unavailable

APPENDIX B

Ethisphere's Criteria for Identifying "The World's Most Ethical Companies"

World's Most Ethical Companies™ (WME) methodology analyzes companies that go beyond making statements about doing business 'ethically', to translate those words into action. WME winners demonstrate real and sustained ethical leadership within their industries, putting the Council's credo of "Good, Smart, Business, Profit" into real business practice. The Ethics Quotient (EQ) framework is consists of a series of multiple-choice questions in five core categories. These are used to capture and rate a company's performance in an objective, consistent, and standard manner. The categories and associated weighting are:

1. Ethics and Compliance Program 30%
2. Reputation, Leadership and Innovation 30%
3. Governance 15%
4. Corporate Citizenship and Responsibility 25%

The EQ score is derived given the relationship to answers provided and formulas based on demographic qualifiers. The top percentile of performers in each of the 35 industries are then independently researched and analyzed to verify ethics performance.

From Ethisphere (2010)

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