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## DO ETHICAL FIRMS BRIDGE THE GENDER GAP IN CEO COMPENSATION?

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### **Abstract**

Concern about the gender gap in employee compensation is an important social and business issue. Effective corporate social responsibility requires fair treatment of all employees, regardless of gender. Using a sample of firms that have been noted for their ethical behavior, this study examines whether ethical firms compensate female CEOs comparably to male CEOs. Our sample of ethical firms includes companies listed as one of the “100 Best Corporate Citizens” by *Corporate Responsibility* (formerly *Business Ethics*) magazine and with data available in Compustat, CRSP, and ExecuComp for fiscal years 1998-2009. We hypothesize that ethical firms, relative to non-list firms, close (or at least narrow) the gender gap in CEO compensation. Our findings indicate that female CEOs of ethical companies are not penalized

for their gender (that is, they do not earn less than their male counterparts).

## INTRODUCTION

Ethical corporate citizenship, CEO compensation, gender, and pairwise associations between these variables have been empirically explored by academics from many fields of study. Yet, there is a dearth of research that examines all three variables simultaneously. This study seeks to merge these three streams of literature, fill this void in prior research, and answer our research question: Does the gender gap in CEO compensation observed in the broad population of firms narrow or close among a subset of ethical companies? We operationally define “ethical” as inclusion on *Corporate Responsibility* (formerly entitled *Business Ethics*) magazine’s “100 Best Corporate Citizens” list.<sup>1</sup>

Ignoring CEO gender, two rationales (the risk argument and agency theory) exist to explain an association between ethical corporate citizenship and CEO compensation; however, their directional predictions differ. The risk argument predicts a negative relation between ethics and CEO pay, both short- and long-term. Consistent with the risk argument, agency theory (Jensen and Meckling 1976; Muñoz-Bullón 2010) expects a negative relation between ethics and CEO short-term pay; however, in contrast with the risk argument, agency theory predicts a positive relation between ethics and CEO long-term compensation.

The risk argument suggests ethical firms should pay their executives less than comparable non-list firms. We derive this expectation by merging two literature streams: ethics research, which finds ethical firms are less risky than non-list firms (Blazovich and Smith 2011), and executive compensation research,

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<sup>1</sup> We use the term “non-list” to identify firm-year observations that do not appear on the list.

which finds less risky companies pay their executives less (e.g., Core et al. 1999; Huang et al. 2011; Smith and Watts 1992). The risk argument is consistent with the conflict-resolution hypothesis of Cai et al. (2011); one motivation for this hypothesis is that ethical companies experience fewer conflicts of interest between top managers and stakeholders (such as stockholders and employees), resulting in less firm risk than other companies and, accordingly, lower executive compensation.

While the risk argument predicts a negative relation between ethical status and CEO compensation, agency theory refines the risk argument and offers unique predictions for various compensation elements. To minimize the principal-agent conflict, agency theory proposes compensation should be performance-based (Jensen and Meckling 1976; Muñoz-Bullón 2010). Companies reward short-term performance (e.g., achieving a sales or earnings target) with annual bonuses and long-term performance (e.g., steadily increasing stock price) with long-term incentive plan payments, stock grants, and option grants. Accordingly, agency theory holds that annual bonuses encourage the attainment of short-run goals while long-term incentive plan payments and stock-based compensation align executives' decisions with the long-run business strategy and preservation/growth of long-run firm value. Prior research demonstrates ethical corporate citizenship is associated with better performance (e.g., Roman et al. 1999; Waddock and Graves 1997), and creating an ethical corporate culture is a long-term process and commitment (Mahoney and Thorne 2006); therefore, agency theory suggests that long-term compensation should be positively associated with ethical corporate citizenship. Our predictions, which we base on agency theory, are consistent with the predictions and findings of Mahoney and Thorne (2006). In our study, we explore the relation between ethical corporate citizenship and CEO compensation to provide evidence on which rationale, agency theory or the risk argument, best explains this relation.

In addition to providing a possible explanation for the relation between ethics and compensation, agency theory implies gender should not influence pay. Despite this implication, numerous studies find a gender pay gap exists, even at the executive level (Bertrand and Hallock 2001; Elkinawy and Stater 2011; and Muñoz-Bullón 2010). Prior studies suggest that the gender pay gap may not be attributable to gender but rather to human capital differences (Bertrand and Hallock 2001; Blau and Kahn 1997), which are often correlated with gender but are typically not incorporated into empirical studies. Examples of human capital measures include education, experience, leadership ability, and reputation (Gray and Benson 2003; Muñoz-Bullón 2010). Any pay gap not explained by differences in human capital is considered the gender difference, and this residual pay gap has been explained in prior studies by Becker's "taste for discrimination" theory (Becker 1971; Bertrand and Hallock 2001; Elkinawy and Stater 2011). This theory suggests employers who have a distaste for female workers pay them less than comparable male workers. In our study, we explore the relation between gender and CEO compensation, after controlling for differences in human capital, to confirm a gender pay gap exists in our sample as in prior studies.

In addition to academic interest in the gender pay gap, several non-profit groups (e.g., the American Association of University Women, the Institute for Women's Policy Research, and the National Committee on Pay Equity) focus their efforts on increasing awareness of and reducing the gender compensation difference. Ensuring fair treatment of employees, regardless of gender, is a laudable social and business goal, and consistent with stakeholder theory (Freeman 1984; Maxfield 2007), which contends that firms should be concerned with multiple stakeholders – including employees. At the April 2012 White House Forum on Women and the Economy, President Obama had this to say about the gender compensation gap:

*When any of our citizens can't fulfill the potential that they have because of factors that have nothing to do with talent, or character, or work ethic, that diminishes us all. It holds all of us back... Closing this pay gap -- ending pay discrimination -- is about far more than simple fairness.*

Academic research can address the extent to which the goal of equitable employee treatment is met (or progress toward this goal is made). A number of studies (e.g., Bernardi et al. 2009; Bowlin and Renner 2008; Grosser 2009; Muñoz-Bullón 2010; Ngo et al. 2003) suggest that one aspect of corporate social responsibility is fair treatment of minorities, including women, and equitable compensation (i.e., equal pay for equal work) is one aspect of treating female employees fairly. Accordingly, for firms that have been identified as ethical, an expectation exists that these firms, relative to other non-list firms, are more proactive at reducing the gender pay gap. This study addresses whether the gender gap in CEO compensation closes or at least narrows for ethical companies, relative to other companies.

Gender differences matter to women of all generations. Sandra Fluke, a 2012 law school graduate who will soon enter the legal profession, had this to say about today's female graduates and their expectations on gender pay equality:<sup>2</sup>

*As a graduating student surrounded by classmates about to assume their first jobs, I assure....[you] that none of my female classmates is thinking, 'Salary isn't that important to me. I don't plan to work hard and don't need to be paid fairly, because*

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<sup>2</sup> Ms. Fluke made headlines recently in U.S. political news as an advocate for female healthcare options. We obtained Sandra Fluke's quote from <http://www.cnn.com/2012/04/17/opinion/fluke-equal-pay-for-women/index.html>. Fluke's comment was in response to a statement by Wisconsin state Senator Glenn Grothman, who asserted that "money is more important for men. I think a guy in their first job, maybe because they expect to be a breadwinner someday, may be a little more money conscious."

*I won't be a breadwinner. A man will come along to take care of that for me.'*

Equal pay activist Lilly Ledbetter, for whom the Lilly Ledbetter Fair Pay Act of 2009 is named,<sup>3</sup> summarizes the effects the gender pay gap has had on her life:

*The consequences of unequal pay reach far beyond the paychecks women take home every week. My pension and Social Security were based on an unfair salary, so over the course of my career, I was cheated out of hundreds of thousands of dollars that could have gone to my kids' education or my family's medical bills or to support the shops and small businesses in my community. I also worked countless hours of overtime, but the extra pay I earned was based on the same uneven scale.*

Gender differences in CEO compensation between ethical and other companies may influence a woman's decision of where to begin or continue her employment; stated differently, a woman may be more inclined to seek employment in an ethical firm, where a commitment to gender parity includes "equal pay for equal work."

To test our hypotheses, we use OLS regression, with clustering on individual CEO, to examine the associations between CEO compensation (in total, and components: salary, bonus, option grants, stock grants, and long-term incentive plan payments) and (a) an ethical company indicator variable, (b) a female CEO indicator variable, and (c) the interaction of these two variables. Consistent with agency theory and prior research (e.g., Mahoney and Thorne 2005, 2006), our regression results indicate CEO salary (one of our two short-term compensation measures) is lower for ethical companies, while stock grants and long-term incentive plan

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<sup>3</sup> We obtained Lilly Ledbetter's quote from [http://www.cnn.com/2012/04/24/opinion/ledbetter-equal-pay/index.html?hpt=hp\\_c2](http://www.cnn.com/2012/04/24/opinion/ledbetter-equal-pay/index.html?hpt=hp_c2).

payments (two of our three long-term compensation measures) are higher for ethical companies. Consistent with the “taste for discrimination” argument (Becker 1971) and prior empirical studies (Bertrand and Hallock 2001; Elkinawy and Stater 2011; and Muñoz-Bullón 2010), our regression results indicate that female CEOs are paid less total compensation, short-term compensation, stock grants, and long-term incentive plan payments than male CEOs, controlling for human capital differences. We find no gender difference associated with the value of option grants to CEOs.

To test whether the gender disparity for CEO compensation narrows for ethical companies, we sum our estimated regression coefficients. For five of six compensation variables, our results show that the coefficient on the female main effect is negative and significant, indicating that female CEOs earn less than their male counterparts. However, for all of these five compensation variables, the sum of the coefficients on the female main effect and the interaction of female and ethical does not differ significantly from zero, indicating that female CEOs of ethical companies are not penalized for their gender (that is, they do not earn less than their male counterparts). In answer to our research question – yes, among the CEOs in our sample, when a gender gap does exist (i.e., for total compensation, salary, bonus, stock grants, and long-term incentive plan payments), ethical firms do narrow the gender pay gap.

The paper proceeds as follows. The next section summarizes prior literature and develops our hypotheses. Then we describe our sample selection, present our empirical methods, and discuss our results. The final section concludes.

## **PRIOR RESEARCH AND DEVELOPMENT OF HYPOTHESES**

In the broadest sense, this is an ethics study, examining whether businesses identified as ethical provide equitable CEO compensation regardless of gender. While this study falls under



the overarching canopy of ethics, it also falls under two other academic umbrellas, being both a study of CEO compensation and a gender study. Recently, two streams of research have emerged and evolved. One focuses on the relation between ethical corporate citizenship and executive compensation, while the other examines the association between gender and executive compensation. Accordingly, we provide a brief review of the representative ethics and CEO compensation research as well as the gender and CEO compensation research. In conjunction with our review of prior literature, we present our hypotheses.

### **Ethics and CEO Compensation**

Recent studies have examined the association between CEO compensation and ethical corporate citizenship and found mixed results (Cai et al. 2011; Callan and Thomas 2011; Mahoney and Thorne 2005, 2006). Using a large sample of U.S. firms from 1996 to 2010, Cai et al. (2011) find CEOs at ethical firms earn less compensation than CEOs at similar non-list firms. They argue this result is consistent with their conflict-resolution hypothesis, which they derive from stakeholder theory. This explanation contends that managers at ethical firms proactively consider the interests of all stakeholders, not just shareholders; as a result, fewer conflicts arise between managers and various stakeholder groups. Fewer conflicts result in lower firm risk and thus lower manager compensation.<sup>4</sup> Cai et al.'s (2011) conflict-resolution hypothesis is consistent with our risk argument. The risk argument holds that ethical firms are less risky than non-list firms (Blazovich and

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<sup>4</sup> One criticism of stakeholder theory is that it does not prescribe an algorithm for trading off the competing stakeholders' interests. However, proactively considering multiple stakeholders' interests (e.g., giving charitably, offering employee benefits, protecting the environment, etc.) rather than focusing exclusively on the wishes of shareholders (i.e., increasing stock price) should reduce the number of conflicts arising between managers and non-owner stakeholders.

Smith, 2011), and less risky companies pay their executives less (e.g., Core et al. 1999; Huang et al. 2011; Smith and Watts 1992).

Callan and Thomas (2011) simultaneously examine executive compensation, corporate social responsibility, and firm financial performance and find differing results from Cai et al. (2011); using a sample of large U.S. firms from years 2003 to 2005, Callan and Thomas (2011) find that CEO compensation is positively related to corporate social responsibility. Using a small sample of publicly traded Canadian companies, Mahoney and Thorne (2005, 2006) find both a positive and a negative association between compensation and ethics; they find a positive relation between long-term compensation and ethical corporate citizenship, consistent with their hypothesis that long-term compensation focuses executives' attention on long-run initiatives, of which corporate social responsibility is one. However, they find a negative relation between short-term compensation and ethical corporate citizenship. Mahoney and Thorne (2006) explain this result by arguing that short-term compensation may focus top managers' attention on sales or earnings targets and result in less attention paid to other stakeholders' interests (the focus of ethical corporate responsibility). For example, a CEO who receives a bonus if the firm's earnings per share reach or exceed the consensus analyst forecast may dedicate time to managing earnings rather than improving relations with community organizations, unions, and regulators.

Mahoney and Thorne's (2006) hypothesis regarding long-term compensation is consistent with agency theory, which encourages companies to use performance-based compensation as a means to promote a desired behavior (Jensen and Meckling 1976; Minnick and Noga 2010; Muñoz-Bullón 2010). Long-term compensation, such as long-term incentive plan payments, stock grants, and option grants, links CEO incentives with the long-run strategy and long-run performance of the company. Also, creating an ethical corporate culture takes time and requires a long-term commitment. Accordingly, agency theory holds that long-term

compensation should be positively associated with ethical corporate citizenship.

To distinguish between the risk and agency theories, we examine both short- and long-term measures of compensation, consistent with Mahoney and Thorne (2006). Because building an ethical corporate environment requires a long-term commitment, we predict a positive relation between ethical corporate citizenship and long-term CEO compensation. Short-term compensation is less likely to motivate long-term initiatives, such as developing an ethical corporate culture, so we predict a negative relation between ethical corporate citizenship and short-term CEO compensation. Total CEO compensation has both short- and long-term components; therefore, we make no directional prediction on the association between ethical corporate citizenship and total CEO compensation.

Several executive compensation studies (e.g., Bertrand and Hallock 2001; Muñoz-Bullón 2010; Smith et al. 2011) find the title of the executive is associated with the amount of compensation. ExecuComp, our compensation data source, contains compensation data for the five highest paid executives at each firm. The positions occupied by these executives vary across firms, so compensation may vary with the duties and responsibilities of these positions. Accordingly, we exclusively examine CEOs, the most homogenous executive position and the one that is consistently included in ExecuComp for all firms covered by the database (Bugeja et al. 2011). Limiting our study to CEOs is consistent with Mahoney and Thorne (2006). We state our first set of hypotheses as follows:

*H1a: A negative association exists between ethical corporate citizenship and short-term CEO compensation.*

*H1b: A positive association exists between ethical corporate citizenship and long-term CEO compensation.*

### **Gender and CEO Compensation**

Regarding gender and CEO pay, a recent book (Zweigenhaft et al. 2011) examined underrepresented groups (women, African Americans, Latinos, and Asian Americans) at Fortune 500 Companies. By January 2011, there had been 74 Fortune 500 CEOs from underrepresented groups, specifically 24 white women, 15 African Americans, 15 Latino men, and 20 Asian Americans. Almost all of these CEOs were appointed during 1999 to 2010. These appointments were a major change from prior decades when virtually all CEOs were white males (Zweigenhaft et al. 2011). Paul and Sahni (2009) find that, after matching male and female executives based on size and industry, the gender pay gap decreases with increases in job risk.

According to Bell (2005), cash compensation to female top managers was 8 percent less than that to male top managers, while total compensation was 25 percent less than that to male top managers, after controlling for company size, occupational title, and industry. Using ExecuComp data for years 1992 to 1997, Bertrand and Hallock (2001) find that an unexplained gender gap in executive compensation still exists. Muñoz-Bullón (2010) complements prior research by examining a longer time period and a measure of variable pay (i.e., differences in the value of exercised stock options), finding that 90 percent of the gender compensation gap relates to differences in variable pay. Elkinawy and Stater (2011) confirm a gender pay gap and propose that it can be explained by the “taste for discrimination” model (Becker 1971). This model suggests that, if employers have a distaste for workers from a particular group (e.g., women), they will pay them less than comparable workers from the preferred group (e.g., men).

There is still some debate regarding whether and to what extent there is a gender pay gap. Using ExecuComp data from 1992 to 2004, Adams et al. (2007) find no difference between female and male CEO compensation; however, these authors fail to control for known determinants of CEO compensation, including size and profitability. Bowlin and Renner (2007) find no

difference in compensation due to gender for top executives, excluding the CEO, at mid- and small-cap firms.

Agency theory suggests that compensation should be performance-based and thus unrelated to gender (Jensen and Meckling 1976; Muñoz-Bullón 2010). Fair treatment of employees (i.e., equal pay for equal work) is also consistent with stakeholder theory (Freeman 1984; Maxfield 2007), which argues that firms should be concerned with many stakeholders – including employees. It is possible the pay gap attributed to gender may actually be due to an omitted correlated variable such as human capital. Education, experience, leadership ability, and reputation are human capital characteristics which are typically correlated with gender (Gray and Benson 2003; Muñoz-Bullón 2010). We control for differences in human capital by including CEO tenure, a proxy used in the literature (Muñoz-Bullón 2010), in our model.

Concern regarding gender discrimination in executive compensation is not limited to the United States. Chen and Wang (2010), using data from 4,485 large firms in Taiwan, empirically evaluate glass ceiling effects, analyze whether females face discrimination during the promotion process, and find that board chairpersons tend to select CEOs of the same gender. A study of top corporate jobs in Denmark estimates a gender compensation gap, after controlling for various characteristics (including marital status and existence of a young child), of 30 percent (Smith et al. 2011). Foster et al. (2011) employ surveys of Canadian Certified Management Accountants (CMAs) in 2007 and 2009 to examine career-related issues regarding male and female accounting professionals working in industry (rather than public accounting); results suggest that compensation gaps due to gender seem to be diminishing at the top management level.

To summarize, extant research generally finds female executives earn less than male executives (e.g., Bell 2005; Bertrand and Hallock 2001; Muñoz-Bullón 2010; Smith et al. 2011); however, some research identifies no difference in executive compensation due to gender (Adams et al. 2007; Bowlin and

Renner 2008). It appears the influence of gender on CEO compensation has not been definitively addressed in the literature. We contribute to the literature by testing for gender differences in CEO compensation using a large sample of publicly traded U.S. companies and including a thorough set of control variables in our regression models to capture alternative explanations of CEO pay (e.g., firm size, firm risk, CEO human capital, etc.). Consistent with the preponderance of evidence from prior studies, we state our second hypothesis as follows:

*H2: A negative association exists between gender (i.e., female) and CEO compensation.*

### **Ethics, Gender, and CEO Compensation**

As the preceding paragraphs demonstrate, academicians from many fields have examined ethical corporate citizenship, gender, CEO compensation, and pairwise associations between these variables. Yet, we are aware of no prior study that examines all three variables simultaneously. Theory, practice, and academic research suggest there should be a positive relation between ethical corporate citizenship and fair compensation of women. Stakeholder theory provides one explanation for the link between company ethics and gender pay equality (Freeman 1984; Maxfield 2007). Stakeholder theory contends that firms are concerned about many stakeholders – including employees and the community. The community has a general expectation that companies should treat their employees fairly (GlobeSun 2006, as reported in Maxfield 2007). In practice, the fair treatment of women is considered by ethical mutual fund managers and other responsible institutional investors (Brooks 1997). Academic researchers have asserted that gender inequity is unethical and violates the principle of equal treatment (Ngo et al. 2003) and as such, companies have a moral obligation to strive for gender equality (Thompson 2008). Several studies state that gender equity is an important component of a company's corporate social responsibility (Bowlin and Renner 2008; Grosser 2009; Grosser and Moon 2005a, 2005b). We extend

prior research and empirically test whether companies noted for their high ethical standing treat employees fairly, regardless of gender. Our third hypothesis is as follows:

*H3: Ethical corporate citizenship reduces the effect of gender on CEO compensation.*

## SAMPLE SELECTION AND EMPIRICAL METHOD

### Data

Our data sources are ExecuComp, Compustat, CRSP, and *Corporate Responsibility* (formerly entitled *Business Ethics*) magazine's "100 Best Corporate Citizens." We obtain our dependent variable, CEO compensation, and two of our control variables from ExecuComp. Compustat provides financial-statement data and CRSP provides stock return data, which we use to construct additional control variables. Being identified as one of *Corporate Responsibility* magazine's "100 Best Corporate Citizens" serves as our proxy for ethical behavior. While the precise methodology used to create this list is proprietary, the magazine does disclose relevant details that support the construct validity of this measure. For example, in 2012, the magazine evaluated all firms in the Russell 1000 Index (indicating broad eligibility for inclusion on the list) and considered 318 "data elements" in seven categories (climate change abatement, corporate governance, employee relations, environmental impact, financial performance, human rights, and philanthropy).<sup>5</sup> The magazine collects its data from publicly available sources (e.g., company websites, CSR reports, audited financial statements, etc.) and allows companies to review the accuracy of their data and correct factual errors before finalizing the list. Several studies (e.g., Blazovich and Smith 2011; Brammer et al. 2009; Fafatas and

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<sup>5</sup> Of the 318 data elements, seven (2 percent) include the word "female" or "gender." Thus, we contend that our *Ethical* variable captures the broad construct of ethical corporate citizenship, not simply the narrow construct of gender equity.

Hoover 2012; Filbeck et al. 2009; Laksmana and Yang 2009) provide precedence for using inclusion on this list as a proxy for ethical corporate citizenship.

The final sample we use for analysis includes all firms with data available in ExecuComp, Compustat, and CRSP for fiscal years 1998-2009. Our full sample contains 13,477 CEO-year observations consisting of 2,471 unique CEOs. Of the 13,477 CEO-year observations, 739 are associated with 278 unique ethical firms. Our initial sample included 12 years of the “100 Best Corporate Citizens.” Some attrition occurred due to mergers, acquisitions, and delistings; however, most attrition occurred because data was not available in ExecuComp. Lack of ExecuComp data was common for our early list years (e.g., for year 2009, our final sample includes 96 ethical firms, whereas for year 1999, our final sample includes only 36 ethical firms).

### **Dependent Variables**

Consistent with Mahoney and Thorne (2006), we examine total, short-term, and long-term measures of CEO compensation. For CEO total compensation, we use ExecuComp data item TDC1.<sup>6</sup> Our short-term compensation measures are SALARY and BONUS. Our long-term compensation measures are the value of options granted, the value of stock granted, and the amount paid under a long-term incentive plan. Due to an accounting standard change in the reporting of stock compensation, ExecuComp data changed during our sample period; as a result, the data items we use for long-term compensation vary by year. For *Option Grants*, pre-2006, we use the ExecuComp data item OPTION\_AWARDS\_BLK\_VALUE; post-2005, we use

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<sup>6</sup> Pre-2006 TDC1 includes salary, bonus, other annual, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total. Post-2005, TDC1 includes salary, bonus, non-equity incentive plan compensation, grant-date fair value of option awards, grant-date fair value of stock awards, deferred compensation earnings reported as compensation, and other compensation.



OPTION\_AWARDS\_FV. For *Stock Grants*, pre-2006, we use RSTKGRNT; post-2005, we use STOCK\_AWARDS\_FV. For *Long-term Incentives*, pre-2006, we use LTIP; post-2005, we use NONEQ\_INCENT.

Following prior research, we use the natural logarithm of our compensation variables (Adams et al. 2007; Elkinawy and Stater 2011; Huang et al. 2011; Muñoz-Bullón, 2010) to minimize the influence of outliers and create a dataset which approximates a normal distribution. Empirical specification tests and economic theory suggest that the natural logarithm of compensation is more appropriate for regression analysis than compensation in actual dollars (Heckman and Polachek 1974). For each compensation component (e.g., total compensation, salary, bonus, etc.), we examine the level of compensation only for firms that utilize that particular component. Because most sample firms do not utilize all components of compensation, our sample size varies across compensation component.<sup>7</sup> The dependent variable definitions are summarized in Table 1, Panel A.

### **Independent Variables of Interest**

Our variables of interest are *Ethical*, *Female\_CEO*, and the interaction of the two. *Ethical* is coded 1 if the company is identified as ethical, 0 otherwise. Following Blazovich and Smith (2011), a firm in our sample is identified as ethical in year  $t-2$  if it is listed as one of the “100 Best Corporate Citizens” by *Corporate Responsibility* (formerly *Business Ethics*) magazine in year  $t$ . Because *Corporate Responsibility* publishes its list early in the year, the data used to compile the list is taken from the financial statements available during the prior year. For example, the 2010 list is compiled during 2009 using the most current data available at that time, typically from fiscal year 2008.

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<sup>7</sup> If we retain only firms that utilize all compensation components, our sample contains just 703 CEO-year observations, only 59 of which are Ethical=1. The inferences drawn from such a small sample are unreliable and lack generalizability.

ExecuComp provides CEO gender. *Female\_CEO* is coded 1 if the CEO is a woman, 0 if the CEO is a man. Additionally, we incorporate the interaction of *Ethical* and *Female\_CEO* in our model. The interaction of the two indicator variables is coded 1 if the CEO is a woman (*Female\_CEO*=1) and the company is

## TABLE 1 Variable Definitions

We winsorize all continuous variables at the 1st and 99th percentiles.

### Panel A - Dependent Variables - Compensation

<i>Total Compensation</i>	=	Log (TDC1 from Execucomp)
<i>Salary</i>	=	Log (SALARY from Execucomp)
<i>Bonus</i>	=	Log (BONUS from Execucomp)
<i>Stock Options</i>	=	fiscal years 1998 - 2005, Log (OPTION_AWARD_BLK_VALUE from Execucomp) fiscal years 2006 - 2009, Log (FAIR_VALUE from Execucomp)

### Panel B - Independent Variables

<i>Ethical</i>	=	For fiscal years 1998-2005, indicator variable = 1 if firm is on the <i>Business Ethics</i> magazine 100 Best Corporate Citizens list for the year $t + 2$ , 0 otherwise For fiscal years 2006-2009, indicator variable = 1 if firm is on the <i>Corporate Responsibility</i> magazine 100 Best Corporate Citizens list for the year $t + 2$ , 0 otherwise <i>Corporate Responsibility</i> is the new name for <i>Business Ethics</i> magazine List year - 2 years = data year (e.g. inclusion on list in year 2005 is matched to 2003 financial data)
<i>Female_CEO</i>	=	indicator variable = 1 if CEO is female for that year, 0 otherwise; data available from Execucomp

**TABLE 1 (continued)**  
**Variable Definitions**

Panel C - Control Variables

<i>ROA</i>	= $NI / ((AT + \text{Lag}(AT))/2)$ , all three variables from Compustat
<i>Market_return</i>	= Total monthly returns - total value weighted returns, accumulated by year; both variables from CRSP
<i>Leverage</i>	= $(LT - LCT) / AT$ , all three variables from Compustat
<i>Market-to-book</i>	= $(PRCC\_F \times CSHO) / (AT - LT)$ , all four variables from Compustat
<i>Firm_age</i>	= number of years firm has been listed in Compustat
<i>Firm_size</i>	= $\text{Log}(AT \text{ from Compustat})$
<i>CEO_tenure</i>	= number of years executive has been a CEO, computed using Execucomp data
<i>Year</i>	= indicator variable = 1 if observation is from that year, and 0 otherwise
<i>Industry</i>	= indicator variable = 1 if firm is in two-digit SIC code, and 0 otherwise

recognized as ethical for that year (*Ethical*=1), 0 otherwise. See Table 1, Panel B for a summary of independent variable definitions.

#### *Control Variables*

Prior studies show that CEO compensation is positively associated with firm size and firm performance (e.g., Bertrand and Hallock 2001; Huang et al. 2011; Muñoz-Bullón 2010). The argument is that larger companies are more complex and therefore require higher quality, and thus higher paid, managers. We include the natural logarithm of total assets (*Firm\_size*) in our model to control for firm size. To control for firm performance, we include both return on assets (*ROA*) and market-adjusted returns (*Return*) in our model. We compute *ROA* using accounting data, specifically net income divided by average total assets. We measure *Return* by annually accumulating monthly raw returns less value-weighted market returns.

Consistent with prior research (Huang et al. 2011; Nichols and Subramaniam 2001), we control for company growth opportunities by including both market-to-book ratio (*MTB*) and firm age (*Firm\_age*). We calculate *MTB* as fiscal-year-end common stock price multiplied by number of common shares outstanding, divided by book value of stockholders' equity at yearend. *Firm\_age* is the number of years a firm has been listed in Compustat.

Prior research has found an association between CEO compensation and firm risk (Core et al. 1999; Huang et al. 2011; Smith and Watts 1992); therefore, we include leverage as a control variable in our model. We compute *Leverage* as long-term liabilities divided by total assets.<sup>8</sup>

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<sup>8</sup> We also conduct all analyses using cash-flow volatility as an alternative proxy for risk, and our results are robust to this change. Consistent with prior research (Albrecht and Richardson 1990; Michelson et al. 1995; Minton and Schrand 1999), we define cash-flow volatility as the coefficient of variation in a firm's operating cash flows over the six-year period preceding the sample year,

Prior studies have found a relation between CEOs' human capital (e.g., their expertise, experience, education, and leadership ability) and their compensation.<sup>9</sup> Since data on an individual CEO's experience, education, expertise, etc. are not available in ExecuComp, we proxy for a CEO's human capital using CEO tenure, consistent with Muñoz-Bullón (2010). *CEO\_tenure* captures the experience and expertise aspects of a CEO's human capital.<sup>10</sup>

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computed as the standard deviation scaled by the absolute value of the mean. A firm is included in the sample if it has at least four non-missing years.

<sup>9</sup> Farrell (2005) contends that the gender pay gap exists, not because women face compensation discrimination, but because men and women make different "lifestyle choices," such as the number of hours worked, willingness to accept risky jobs/hazardous assignments, willingness to change job locations, etc. While these "lifestyle choices" clearly do influence the gender pay gap in general, we do not believe that these "lifestyle choices" affect the specific gender pay gap that we examine (i.e., between men and women who have reached the upper echelon in corporate employment: CEOs). Moreover, in our multivariate models, we control for firm risk and CEO human capital, variables that likely capture the effects of "lifestyle choices" on the gender gap in CEO compensation.

<sup>10</sup> Numerous studies provide evidence that mothers earn less than childless women (e.g., Waldfogel 1998, Kalist 2008, Glass 2004, Correll et al. 2007, and Lundberg and Rose 2000). This finding is referred to as the "motherhood wage penalty." Gough and Noonan (2013) provide an excellent review of the literature examining the "motherhood wage penalty" in the U.S. To our knowledge, no studies in this literature examine whether a "motherhood wage penalty" exists for female CEOs, but two papers are particularly relevant to our setting. First, Anderson et al. (2002) suggest that highly educated women (which female CEOs unquestionably are) are likely to hold jobs with autonomy, and this autonomy allows them to integrate work and family while maintaining a high level of work commitment and productivity. In addition, highly educated women typically have higher incomes such that they can afford childcare and thus mitigate work-family conflicts. Second, Budig and Hodges (2010) actually find a motherhood *bonus* for women in the top 10 percent of the earnings distribution (where female CEOs unquestionably reside). Thus, while we are unable to control for motherhood in our empirical models due to a lack of data availability, we feel

Finally, to control for differences in CEO compensation that may arise due to macroeconomic factors and industry variation, we incorporate year and industry fixed effects. We use 2-digit SIC codes for industry. Table 1, Panel C provides a summary of the control variable definitions.

### Empirical Model

For each of our six compensation measures (total compensation, salary, bonus, option grants, stock grants, and long-term incentive plan payments) we estimate the following equation:

$$\begin{aligned} \text{CEO Compensation Measure}_{i,t} = & \alpha + \beta_1 \text{Ethical}_{i,t} + \\ & \beta_2 \text{Female\_CEO}_{i,t} + \beta_3 \text{Ethical}_{i,t} \times \text{Female\_CEO}_{i,t} + \beta_4 \text{ROA}_{i,t} + \\ & \beta_5 \text{Return}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{Leverage}_{i,t} + \beta_8 \text{Firm\_age}_{i,t} + \\ & \beta_9 \text{Firm\_size}_{i,t} + \beta_{10} \text{CEO\_tenure}_{i,t} + \text{Year}_t + \text{Industry}_i + \varepsilon_{i,t} \end{aligned} \quad (1)$$

In model (1),  $i$  denotes firm, and  $t$  denotes year. Because we include the same CEO multiple times (i.e., multiple years) in our dataset, the error term is not independent across time. We correct for this effect and heteroskedasticity by clustering on CEO.<sup>11</sup> To eliminate the influence of outliers, we winsorize all continuous variables at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

## RESULTS

### Descriptive Statistics

Tables 2 through 5 present descriptive statistics. Table 2 groups firms according to the number of sample years they were recognized as ethical. Table 3 shows mean and median comparisons of all dependent and independent variables by ethical

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confident that motherhood does not influence the results of our empirical analyses.

<sup>11</sup> Clustering does not affect coefficient estimates; rather, it adjusts standard errors to reflect the presence of multiple observations on the same CEO and reduces the likelihood of Type I error.

status. Table 4 reports the same descriptive statistics by CEO gender. Table 5 presents mean and median comparisons of all variables by gender within ethical status.

Our full sample consists of 739 ethical firm-years related to 278 unique ethical firms, and 12,738 non-list firm-years related to 2,455 unique non-list firms. Table 2 partitions our sample according to the number of years firms are recognized as ethical during our sample period. Ninety-four firms are recognized only once during our sample period. The majority of the firms, 93.2%, are identified as ethical in five or fewer years. Just three firms have been recognized as ethical in every sample period year.

**TABLE 2**  
**Number of sample years firms recognized as ethical**

<b>Number of sample years recognized as ethical</b>	<b>Number of unique firms</b>	<b>Percentage of unique firms</b>
1	94	33.8%
2	73	26.3%
3	48	17.3%
4	29	10.4%
5	15	5.4%
6	5	1.8%
7	3	1.1%
8	2	0.7%
9	1	0.4%
10	3	1.1%
11	2	0.7%
12	3	1.1%
	<b>278</b>	<b>100.0%</b>



Descriptive statistics by ethical status are presented in Table 3. Two-tailed t-test (Wilcoxon-Rank-Sum test) results find that mean (median) CEO compensation at ethical firms is statistically greater than that at non-list firms, indicating that CEOs at ethical firms are paid more than CEOs at non-list firms. This result is consistent across all forms of compensation measured – total compensation, salary, bonus, option grants, stock grants, and long-term incentive plan payments. Further, the data suggest that this pay difference is not due to differences in CEO human capital because tenure, our proxy for human capital, is higher for CEOs at non-list firms. Although the majority of CEOs are men, ethical firms are significantly more likely to be female-led; 6 percent of ethical firm-year observations report female CEOs relative to 3 percent of non-list firm-years. Univariate analysis of our control variables (specifically, *ROA*, *Return*, and *Firm\_size*), indicates that ethical firms are larger and more profitable than non-list firms. These differences in size and profitability could explain why CEOs at ethical firms receive higher compensation, underscoring the need to control for these variables in multivariate, regression analyses. The results indicate no significant risk difference between ethical and non-list firms. The results are mixed with respect to growth opportunities. The data demonstrate that, on average, ethical firms have higher market-to-book ratios, which suggests that ethical firms have more growth opportunities than non-list firms. However, the data also indicate that ethical firms are significantly older than non-list firms, which suggests that ethical firms have fewer growth opportunities.

Our full sample consists of 399 female CEO observations related to 77 unique female CEOs, and 13,078 male CEO observations related to 2,394 unique male CEOs. Table 4 presents univariate analyses by CEO gender. Two-tailed t-test (Wilcoxon-Rank-Sum test) results demonstrate that for five of the six (all six) compensation categories, the mean (median) compensation of female CEOs is statistically lower than that of male CEOs,

**TABLE 3**  
**Means and medians for ethical firms and all non-list firms in the dataset, 1998-2009**

	Ethical firms			All non-list firms in dataset		
	N	Mean	Median	N	Mean	Median
<u>Compensation Variables</u>						
<i>Total Compensation</i>	739	8530.63 *	6394.00 *	12,738	3945.69	2281.00
<i>Salary</i>	739	859.98 *	859.09 *	12,738	625.33	575.00
<i>Bonus</i>	414	1235.10 *	673.70 *	7,542	791.02	435.00
<i>Option Grants</i>	572	4190.86 *	2440.00 *	8,355	2145.87	1055.00
<i>Stock Grants</i>	376	4471.60 *	3464.00 *	5,332	2025.58	1044.00
<i>Long-term Incentives</i>	375	2386.08 *	1926.00 *	4,518	1164.93	699.75
<u>Variables of Interest</u>						
<i>Female_CEO</i>	739	0.06 *	0.00 *	12,738	0.03	0.00
<u>Control Variables</u>						
<i>ROA</i>	739	0.07 *	0.07 *	12,738	0.04	0.04
<i>Return</i>	739	0.14 *	0.09 *	12,738	0.10	0.07
<i>MTB</i>	739	4.10 *	3.02 *	12,738	2.73	2.02
<i>Leverage</i>	739	0.18	0.16	12,738	0.19	0.16
<i>Firm_age</i>	739	36.46 *	39.00 *	12,738	24.35	19.00
<i>Firm_size</i>	739	9.26 *	9.34 *	12,738	7.51	7.37
<i>CEO_tenure</i>	739	4.79 *	3.00 *	12,738	6.27	4.00

\*Mean (median) for list firms is significantly different from mean (median) for non-list firms at  $p = 0.05$  or better using a two-tailed t-test (Wilcoxon-Rank-Sum test).

Compensation amounts are listed in thousands. For descriptive statistics, we report compensation amounts in actual dollars, not the natural logarithm.

indicating that females are paid less than males, even at the highest executive level. It is possible this gender pay difference is due to human capital differences; on average female CEOs have shorter tenure, our proxy for human capital, than their male counterparts. Our findings demonstrate that female-led companies are smaller than male-led companies. There is no statistical difference in *ROA* between female- and male-led companies, indicating that CEO gender does not influence accounting profitability. The results do however show that the median *Return* for female-led companies is statistically lower than that of male-led companies, indicating that CEO gender does influence shareholders' expectations of future profitability. Our analysis indicates *Leverage* is lower for female-

led companies, suggesting that female-led companies are less risky than male-led companies. This result could indicate a selection bias (i.e., female CEOs choose to manage less risky firms) or that female CEOs take fewer risks than their male counterparts, reducing their companies' relative appetites for risk. Either way, this difference underscores the importance of including *Leverage* (as a proxy for risk) in our multivariate regression models to control for this correlated variable. We find no statistical differences between male- and female-led companies with respect to growth opportunities.

**TABLE 4**  
**Means and medians for firms with female and firms with male CEOs, 1998-2009**

	Female CEO			Male CEO		
	N	Mean	Median	N	Mean	Median
<u>Compensation Variables</u>						
<i>Total Compensation</i>	399	3115.30 *	1776.00 *	13,078	4230.11	2403.00
<i>Salary</i>	399	578.51 *	517.00 *	13,078	640.02	590.00
<i>Bonus</i>	211	464.99 *	258.80 *	7,745	823.64	450.00
<i>Option Grants</i>	239	1701.25 *	965.76 *	8,688	2292.74	1118.00
<i>Stock Grants</i>	195	1852.59	750.30 *	5,513	2198.52	1138.00
<i>Long-term Incentives</i>	152	1020.14 *	563.96 *	4,741	1266.16	753.42
<u>Variables of Interest</u>						
<i>Ethical</i>	399	0.10 *	0.00 *	13,078	0.05	0.00
<u>Control Variables</u>						
<i>ROA</i>	399	0.04	0.05	13,078	0.04	0.04
<i>Return</i>	399	0.07	0.03 *	13,078	0.11	0.07
<i>MTB</i>	399	3.06	2.08	13,078	2.80	2.07
<i>Leverage</i>	399	0.15 *	0.11 *	13,078	0.19	0.16
<i>Firm_age</i>	399	24.48	18.00	13,078	25.03	19.00
<i>Firm_size</i>	399	7.13 *	7.07 *	13,078	7.62	7.47
<i>CEO_tenure</i>	399	4.56 *	3.00 *	13,078	6.23	4.00

\*Mean (median) for list firms is significantly different from mean (median) for non-list firms at  $p = 0.05$  or better using a two-tailed t-test (Wilcoxon-Rank-Sum test).

Compensation amounts are listed in thousands. For descriptive statistics, we report compensation amounts in actual dollars, not the natural logarithm.

As shown in Table 5, 41 (5.5 percent) of the 739 ethical firm-years are female-led, whereas only 358 (2.8 percent) of the 12,738 non-list firm-years are female-led. At non-list companies, female CEOs are paid less than male CEOs; this result is consistent for all compensation categories examined. However, at ethical companies, gender pay differences are much less pervasive. Only the means of total compensation, bonuses, and option grants differ by gender; there are no median compensation differences by gender for any of the six compensation variables. These descriptive statistics provide univariate support for our third hypothesis that ethical corporate citizenship moderates the effect of gender on CEO compensation.

Univariate analysis of our control variables indicates few differences between female- and male-led ethical companies; they are comparable in profitability, risk, and size. Only average firm age differs between these two sub-samples. In comparison, there are many differences between female- and male-led non-list companies. Non-list female-led companies are smaller and less risky than non-list male-led companies. Profitability data are mixed. Accounting profitability does not differ between male- and female-led non-list firms; however, median market returns for non-list female-led companies are less than those of male-led companies. Data on growth opportunities are also mixed. Non-list female-led companies are younger than non-list male-led companies, implying female-led companies have more growth opportunities. However, market-to-book ratios do not differ by gender, suggesting growth opportunities for non-list companies are not influenced by CEO gender. Regarding CEO human capital, we do find gender differences within non-list companies: on average, female CEOs have less human capital (as measured by tenure) than their male counterparts, underscoring the need to include this variable as a control in multivariate models.

**TABLE 5**  
**Means and medians for firms with female and male CEOs, by ethical status, 1998-2009**

	Ethical firms						All non-list firms in dataset					
	Female CEO			Male CEO			Female CEO			Male CEO		
	N	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median
<u>Compensation Variables</u>												
<i>Total Compensation</i>	41	6590.79 *	6760.70	698	8644.57	6369.90	358	2717.27 *	1615.00 *	12,380	3981.22	2305.00
<i>Salary</i>	41	864.91	837.07	698	859.69	859.55	358	545.70 *	500.00 *	12,380	627.63	575.00
<i>Bonus</i>	22	858.64 *	571.08	392	1256.22	693.16	189	419.16 *	248.27 *	7,353	800.58	442.00
<i>Option Grants</i>	33	2708.46 *	1733.30	539	4281.62	2479.90	206	1539.90 *	828.30 *	8,149	2161.19	1061.00
<i>Stock Grants</i>	23	4566.95	4796.30	353	4465.39	3414.40	172	1489.62 *	685.84 *	5,160	2043.44	1056.00
<i>Long-term Incentives</i>	21	2029.42	1884.30	354	2407.24	1932.00	131	858.35 *	477.76 *	4,387	1174.08	704.70
<u>Control Variables</u>												
<i>ROA</i>	41	0.08	0.08	698	0.07	0.07	358	0.04	0.05	12,380	0.04	0.04
<i>Return</i>	41	0.13	0.10	698	0.14	0.09	358	0.06	0.03 *	12,380	0.11	0.07
<i>MTB</i>	41	5.27	3.98	698	4.03	3.00	358	2.80	1.96	12,380	2.73	2.02
<i>Leverage</i>	41	0.20	0.19	698	0.18	0.16	358	0.14 *	0.09 *	12,380	0.19	0.16
<i>Firm_age</i>	41	43.00 *	51.00 *	698	36.07	37.50	358	22.35 *	17.00 *	12,380	24.41	19.00
<i>Firm_size</i>	41	8.87	8.65	698	9.29	9.35	358	6.93 *	6.84 *	12,380	7.53	7.39
<i>CEO_tenure</i>	41	3.71	2.00	698	4.85	3.00	358	4.66 *	3.00 *	12,380	6.31	4.00

\*Mean (median) for list firms is significantly different from mean (median) for non-list firms at p = 0.05 or better using a two-tailed t-test (Wilcoxon-Rank-Sum test).

Compensation amounts are listed in thousands. For descriptive statistics, we report compensation amounts in actual dollars, not the natural logarithm.

## Multivariate Regression Analysis

We use regression analysis to examine the difference in CEO compensation due to ethical corporate citizenship and CEO gender after controlling for other factors that affect CEO compensation, specifically firm size, performance, risk, growth opportunities, CEO tenure, year, and industry. Table 6 presents regression results for the natural logarithm of CEO compensation. We calculate p-values using standard errors that cluster by CEO to correct for heteroskedasticity and the correlation among observations for the same CEO. Consistent with Mahoney and Thorne (2006), we estimate our model using both short- and long-term measures of compensation as the response variable; however, unlike Mahoney and Thorne (2006), we examine three long-term compensation measures – option grants, stock grants, and long-term incentive plan payments. We examine both short- and long-term compensation measures because prior research has found, and thus we predict, the relation between compensation and our variables of interest depends on compensation type. We report p-values based on 2-tailed t-tests because we do not place directional predictions on all explanatory variables.

Our first set of hypotheses (H1a and H1b) predicts a relation between CEO compensation and ethical corporate citizenship. Specifically, hypothesis 1a predicts a negative relation between short-term compensation (*Salary* and *Bonus*) and ethical corporate citizenship, and hypothesis 1b predicts a positive relation between long-term compensation (*Option Grants*, *Stock Grants*, and *Long-term Incentives*) and ethical corporate citizenship. Total CEO compensation consists of both short- and long-term compensation; therefore, we make no directional prediction on its association with ethical corporate citizenship. Overall, our results provide some support for our predictions.

After controlling for other factors known to affect CEO compensation, we find salary, one of our two short-term CEO compensation measures, is negatively associated with ethical corporate citizenship. The relation between *Salary* and *Ethical* is

**TABLE 6 - CEO Compensation, 1998-2009**

$$\text{CEO Compensation Measure}_{i,t} = \alpha + \beta_1 \text{Ethical}_{i,t} + \beta_2 \text{Female\_CEO}_{i,t} + \beta_3 \text{Ethical}_{i,t} \times \text{Female\_CEO}_{i,t} + \beta_4 \text{ROA}_{i,t} + \beta_5 \text{Return}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{Leverage}_{i,t} + \beta_8 \text{Firm\_age}_{i,t} + \beta_9 \text{Firm\_size}_{i,t} + \beta_{10} \text{CEO\_tenure}_{i,t} + \text{Year}_t + \text{Industry}_i + \varepsilon_{i,t}$$

**Panel A - Total Compensation and Short-term Compensation**

Independent variables:	Dependent variable:											
	Total Compensation			Salary			Bonus					
	<i>N</i> (observations) = 13,477 <i>N</i> (CEO clusters) = 2,471			<i>N</i> (observations) = 13,477 <i>N</i> (CEO clusters) = 2,471			<i>N</i> (observations) = 7,952 <i>N</i> (CEO clusters) = 1,938					
	Parameter			Parameter			Parameter					
	Prediction	Estimate	p-value	Prediction	Estimate	p-value	Prediction	Estimate	p-value			
<i>Intercept</i>	+/-	4.507	<0.0001	+/-	4.706	<0.0001	+/-	3.591	<0.0001			
<i>Ethical</i>	+/-	0.005	0.9126	-	-0.053	0.0940	-	-0.075	0.2929			
<i>Female_CEO</i>	-	-0.195	0.0132	-	-0.135	0.0013	-	-0.252	0.0378			
<i>Ethical × Female_CEO</i>	+	0.142	0.4681	+	0.144	0.2051	+	0.264	0.2666			
<i>ROA</i>	+	0.445	0.0004	+/-	-0.017	0.7791	+/-	1.087	<0.0001			
<i>Return</i>	+	0.095	<0.0001	+/-	-0.014	0.0686	+/-	0.296	<0.0001			
<i>MTB</i>	+	0.044	<0.0001	+/-	0.003	0.1957	+/-	0.016	0.0076			
<i>Leverage</i>	-	-0.094	0.2765	+/-	0.107	0.0422	+/-	0.078	0.5480			
<i>Firm_age</i>	+/-	-0.002	0.0364	+/-	0.003	<0.0001	+/-	0.002	0.3185			
<i>Firm_size</i>	+	0.436	<0.0001	+	0.171	<0.0001	+	0.408	<0.0001			
<i>CEO_tenure</i>	+	0.011	0.0002	+	0.012	<0.0001	+	0.024	<0.0001			
<i>Year</i>	+/-	<i>omitted</i>		+/-	<i>omitted</i>		+/-	<i>omitted</i>				
<i>Industry</i>	+/-	<i>omitted</i>		+/-	<i>omitted</i>		+/-	<i>omitted</i>				
R <sup>2</sup>		45.73%				47.98%				37.38%		
<i>Female_CEO + Ethical × Female_CEO</i>	n.s.	-0.053	0.6681		0.009	0.8879		0.012	0.9578			

We cluster by CEO to generate robust standard errors. We omit year and industry indicator variables for concision. P-values are based on two-tailed significance tests.

**TABLE 6 (continued) - CEO Compensation, 1998-2009**

**Panel B - Long-term Compensation**

Independent variables:	Dependent variable:									
	<i>Option Grants</i>			<i>Stock Grants</i>			<i>Long-term Incentives</i>			
	<i>N (observations) = 8,927</i> <i>N (CEO clusters) = 2,042</i>			<i>N (observations) = 5,707</i> <i>N (CEO clusters) = 1,701</i>			<i>N (observations) = 4,892</i> <i>N (CEO clusters) = 1,577</i>			
	Parameter			Parameter			Parameter			
	<u>Prediction</u>	<u>Estimate</u>	<u>p-value</u>	<u>Prediction</u>	<u>Estimate</u>	<u>p-value</u>	<u>Prediction</u>	<u>Estimate</u>	<u>p-value</u>	
<i>Intercept</i>	+/-	3.440	<0.0001	+/-	2.469	<0.0001	+/-	2.615	<0.0001	
<i>Ethical</i>	+	-0.065	0.3660	+	0.182	0.0108	+	0.126	0.0372	
<i>Female_CEO</i>	-	-0.186	0.1354	-	-0.223	0.0436	-	-0.187	0.0607	
<i>Ethical × Female_CEO</i>	+	-0.032	0.9004	+	0.423	0.0787	+	-0.149	0.6563	
<i>ROA</i>	+/-	0.184	0.3416	+/-	0.257	0.2566	+/-	2.016	<0.0001	
<i>Return</i>	+/-	-0.024	0.3673	+/-	-0.044	0.2736	+/-	0.352	<0.0001	
<i>MTB</i>	+/-	0.091	<0.0001	+/-	0.029	0.0010	+/-	0.021	0.0024	
<i>Leverage</i>	+/-	-0.273	0.0417	+/-	-0.270	0.0770	+/-	0.106	0.4391	
<i>Firm_age</i>	+/-	-0.009	<0.0001	+/-	-0.005	0.0035	+/-	0.001	0.5402	
<i>Firm_size</i>	+	0.500	<0.0001	+	0.496	<0.0001	+	0.409	<0.0001	
<i>CEO_tenure</i>	+	0.021	<0.0001	+	0.012	0.0107	+	0.029	<0.0001	
<i>Year</i>	+/-	<i>omitted</i>		+/-	<i>omitted</i>		+/-	<i>omitted</i>		
<i>Industry</i>	+/-	<i>omitted</i>		+/-	<i>omitted</i>		+/-	<i>omitted</i>		
R <sup>2</sup>		40.36%			38.87%			41.62%		
<i>Female_CEO + Ethical × Female_CEO</i>	n.s.	-0.218	0.2263		0.200	0.4058		-0.336	0.1059	

We cluster by CEO to generate robust standard errors. We omit year and industry indicator variables for concision. P-values are based on two-tailed significance tests.



negative and marginally significant ( $p = 0.0940$ ). The estimated regression coefficient on the ethical indicator variable is  $-0.053$ . Since our dependent variable is measured as the natural logarithm of compensation, we cannot use this coefficient to directly interpret the percentage difference in compensation between ethical and non-list firms. Rather, we must first translate the coefficient as follows:  $e^{\beta}$ . This translation yields the percentage difference in compensation associated with the indicator variable, in this case ethics (Mendenhall and Sincich, 2003: 379-386; Muñoz-Bullón, 2010). This result implies that CEOs at ethical companies earn 5.2 percent lower salaries than CEOs at non-list companies. This result is consistent with both agency theory and the research results of Mahoney and Thorne (2006). The relation between *Bonus* and *Ethical* is in the correct direction (parameter estimate =  $-0.075$ ); however, this coefficient is not statistically significant ( $p = 0.2929$ ).

Consistent with agency theory and Mahoney and Thorne (2006), we find a positive association between two of our three long-term compensation measures and ethical corporate citizenship. The relation between *Stock Grants* and *Ethical* is positive and significant ( $p = 0.0108$ ). This result implies that CEOs at ethical companies receive 20.0 percent more stock-grant compensation than do CEOs at non-list companies. The relation between *Long-term Incentives* and *Ethical* is also positive and significant ( $p = 0.0372$ ), suggesting that CEOs at ethical companies receive 13.4 percent larger long-term incentive plan payments than do CEOs at other companies.

Consistent with extant research (e.g., Bertrand and Hallock 2001; Elkinawy and Stater, 2011; Muñoz-Bullón 2010), hypothesis 2 predicts a negative association between female CEO and compensation (i.e., women are paid less than men). To test this hypothesis, we examine the coefficient on *Female\_CEO*. This variable is coded 1 for female CEOs; therefore, a negative coefficient indicates females are paid less than males. After controlling for other factors known to influence CEO

compensation, our results document a negative relation between *Female\_CEO* and total compensation, both of our short-term measures of compensation, and two of our three long-term measures of compensation. Because we include *CEO\_tenure* in our model, we consider the observed compensation difference captured by the *Female\_CEO* indicator variable to be attributable to gender rather than differences in human capital. The relation between *Total Compensation* and *Female\_CEO* is negative and significant ( $p = 0.0132$ ). This coefficient suggests that the pay disparity between male and female CEOs is 17.7 percent. Similarly, the relations between our short-term compensation measures (*Salary* and *Bonus*) and *Female\_CEO* are negative and significant. These results suggest that female CEOs receive salaries that are 12.6 percent lower and bonuses that are 22.3 percent lower than their male counterparts. We also find a negative relation between two of our three measures of long-term compensation (*Stock Grants* and *Long-term Incentives*) and *Female\_CEO*. The data suggest that the value of stock granted to female CEOs is 20.0 percent less than that granted to male CEOs. The results also suggest that female CEOs are paid 17.1 percent lower long-term incentive plan payments than comparable male CEOs. We find no association between *Option Grants* and *Female\_CEO*, suggesting that female CEOs and male CEOs are compensated comparably with stock options. Our findings provide evidence of a gender pay gap even at the highest executive level for total compensation as well as most of its components. Our results are consistent with prior research (Bertrand and Hallock 2001; Elkinawy and Stater 2011) and Becker's "taste for discrimination" argument. Overall, our results provide support for hypothesis 2.

Hypothesis 3 predicts that ethical corporate citizenship moderates the effect of CEO gender on CEO compensation. We sum the estimated regression coefficients to test whether the gender disparity in CEO compensation narrows or closes for ethical companies. Specifically, using t-tests, we compare the sum

of the coefficients on *Female\_CEO* and *Ethical*×*Female\_CEO* to zero. With a t-test, the null (alternative) hypothesis states that the sum of the coefficients is equal (not equal) to zero. Failure to reject the null hypothesis would support our prediction for hypothesis 3.

For the five compensation measures where a gender pay gap was identified (total compensation, salary, bonus, stock grants, and long-term incentive plan payments), we fail to reject the null hypotheses that the sums of the coefficients on *Female\_CEO* and *Ethical*×*Female\_CEO* are significantly different from zero. Accordingly, these results provide evidence that, when a gender gap in CEO compensation exists, that gap closes for ethical companies. It appears ethical firms are gender blind with respect to CEO compensation. The data support our third hypothesis.

## CONCLUSION

We empirically investigate whether ethical firms minimize the gender gap in CEO compensation. Using a sample of companies that have been noted for their high ethical standing, this study examines whether ethical firms compensate female CEOs and male CEOs comparably. We explore the relations between various measures of CEO compensation and ethical corporate citizenship, CEO gender, and the interaction of the two. We select our sample of ethical companies from firms identified among the “100 Best Corporate Citizens” by *Corporate Responsibility* (formerly *Business Ethics*) magazine and for which data is available in Compustat, CRSP, and ExecuComp for fiscal years 1998-2009.

Our study is not without limitations. We use a sample of large, publically traded U.S. firms. Accordingly, our results may not generalize to smaller, privately held companies or non-U.S. firms. As with most empirical research, we rely on proxies to estimate some constructs of interest. Our proxy for ethical corporate citizenship is inclusion on *Corporate Responsibility* (formerly *Business Ethics*) magazine’s “100 Best Corporate

Citizens.” Future research may consider replicating our analysis using an alternative proxy for ethical corporate citizenship. Another limitation is our human capital proxy. Consistent with prior research (Muñoz-Bullón 2010), we suggest CEO tenure is a reasonable proxy for some aspects of human capital (e.g., experience and expertise). However, we recognize that CEO tenure is not rich enough to encapsulate many other aspects of human capital, such as education, leadership ability, and reputation. In addition, future research may explore whether women pursue top management positions at ethical firms because these firms have reduced the gender gap in executive compensation.

Our results suggest the relation between compensation and ethical corporate citizenship depends on compensation structure. Although we use a different and larger dataset, our results are generally consistent with Mahoney and Thorne (2006); however, we extend this study by using a larger sample of US (rather than Canadian) firms and examining additional compensation measures (i.e., stock grants and long-term incentive plan payments). Building an ethical corporate environment is a long-term commitment; therefore, CEOs who receive long-term compensation are more likely to make that commitment. Consistent with agency theory, our regression results indicate that ethical corporate citizenship is associated with higher CEO stock grants and larger long-term incentive plan payments, two of our three proxies for long-term compensation; however, we find no difference in CEO option grants, our third long-term compensation proxy, between ethical and other companies. Conversely, salaries and bonuses are short-term compensation measures and therefore do not motivate long-term initiatives, such as fostering ethical business practices. As expected, we find that CEO salaries are lower for ethical companies; however, we find no difference in CEO bonuses between ethical and other companies.

Regarding gender, our regression results are consistent with extant prior research. We find that even the highest executives,

CEOs, are not immune to pay disparity due to gender. Even after controlling for other factors associated with CEO compensation, we find that female CEOs earn less total compensation, less short-term compensation, less stock-grant compensation, and lower long-term incentive plan payments than their male counterparts, unless they work for an ethical company. Our regression results indicate that female CEOs of ethical companies do not earn less than their male counterparts in any compensation category we examined. In answer to our research question, it appears that ethical firms do bridge the gender gap in CEO compensation.

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