

Lebanese American University

CEO Gender and Managerial Entrenchment

By

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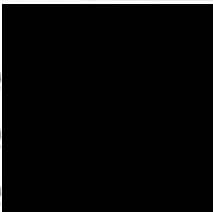
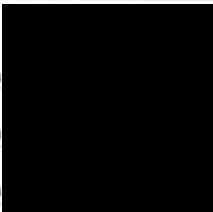
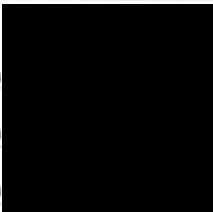
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CEO Gender and Managerial Entrenchment

Reem Walid Kebbe

ABSTRACT

This paper investigates the effect of gender on managerial authority and control over firms. Though the percentage of female CEOs is very low, it has been steadily increasing throughout the 1996-2014. Our findings suggest that accounting performance, CEO age, and board size reduce the likelihood of appointing female managers. On the other hand, the appointment of female CEOs is directly associated with the percentage of female directors and board independence. In addition, this paper proposes that female managers are more entrenched as compared to male managers. We show that the presence of women managers decreases the turnover-performance sensitivity, increases the E-index, and inflates CEO compensation. While women face more obstacles to be at the top of corporations than men, those achieving such positions seem to possess specific characteristics enabling them to gain authority and control over firms.

Keywords: CEO Gender, Compensation, Turnover, Managerial Entrenchment, Duality, E-index.

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¹BHMR as Performance variable

²Avg Ret as Performance variable

Chapter One

Introduction

CEOs have always been more males than females; there are many factors that have made it hard for females to occupy the top positions. Female CEOs comprise less than 5% of CEOs in S&P 1500 firms. According to Soares, R., Combopiano, J., Regis, A., Shur, Y., & Wong, R. (2012) women constitute only 2 percent of chief executive officers (CEOs). Although the number of women in top management is very low, the extant literature suggests a significant effect of women executives on firm monitoring and performance (Adams, 2009; Araysi et al., 2016; Campbell et al., 2008; Dezsö et al., 2012; Dwyer et al. 2003; Haslam, 2010; Khan et al. 2013; Miller, 2009; Ragins, 1998; Smith et al., 2006; Wolfers, 2006; Vieito, 2012)

This research studies the factors affecting the presence of women at the top of U.S. corporations. In addition, we investigate the entrenchment of female CEOs relative to their male counterparts. CEOs are becoming more entrenched and this may shift managerial objectives towards the maximization of their own self-centered private benefits.

Gender diversity enhances the monitoring process (Molero, 2011) and the performance of firms seeking growth (Dwyera, Richard, & Chadwick, 2003; Krishnan & Parsons, 2008). Smith et al. (2006) propose that gender diversity on corporate boards

leads to enhanced problem-solving skills. They suggest that the diversity and variety of perspectives lead to greater numbers of evaluated alternatives. According to Adams and Ferreira (2009) female directors have a negative effect on firm performance negative.

This paper investigates the effect of CEO gender on his/her authority and control over the firm. Are female managers more or less entrenched than male managers? Managers are said to be entrenched when they possess substantial power and control such that they are able to pursue their own interests rather than the interests of shareholders (Weisbach, 1988). An increase in managerial entrenchment implies a rise in CEOs' authority and power within the firm. Authority and entrenchment can be beneficial in some areas; yet have a negative effect in other areas were, CEOs might risk the stockholders interest to feed their own interest. On the one hand, managerial entrenchment provides managers with job security and, thus, may better enable them to employ long-term value adding strategies and invest in risky positive NPV projects (Rosenstein, 1997; Faleye, 2007). On the other hand, entrenched managers are in a better position to pursue their own interests and consume private benefits without being held accountable. Thus, managerial entrenchment could amplify agency costs and lower the possibility of dismissing incompetent CEOs (Claessens et al., 2002; Bebchuk and Cohen, 2005; Short and Keasey, 1999; Yeh & Woidtke 2005). Faleye (2007) argues that, an important measure of the degree of managerial entrenchment is the extent to which executive turnover is involuntary.

We first examine the percentage of female CEOs during the period between 1996 and 2014 and whether this percentage is increasing through time. We observe a steady increase in the appointment of female CEOs throughout the 1996-2014 period. While

female CEOs comprised less than 1% of all CEOs in 1996-1997, the percentage has approached 4.5% in 2014.

Second, we investigate the determinants of appointing female CEOs; in other words, what factors - firm, governance and CEO characteristics - affect the likelihood of appointing a female CEO? Our findings suggest that an increase in accounting performance reduces the probability of appointing a women at the top of corporations. Furthermore, the likelihood of employing a women manager is adversely affected by CEO age, director tenure, and board size. Accordingly, younger women are more likely to be selected as the firm's CEOs than older women. Moreover, the presence of larger boards seem to diminish the possibility of hiring a female manager. On the other hand, our results propose that the percentage of independent directors, the percentage of female directors, and director age have a direct effect on the appointment of women CEOs. Both independent directors and female directors seem to favor the presence of a female manager. Adams et al. (2007) show that female top executives, excluding CEOs, earn 16 to 17 percent less than male top executives.

Finally, we investigate whether female CEOs are as entrenched as their male counterparts. In order to do so, we study the effects of CEO gender on managerial entrenchment through investigating the following: the effect of CEO gender on Turnover-performance sensitivity (for both forced and non-forced dismissals), the effect of CEO gender on E-index, and the effects of CEO gender on managerial compensation – we study total compensation as well as cash and equity compensations. The results demonstrate that the presence of a female manager, as compared to the presence of a male manager, decreases the likelihood of CEO dismissal following poor performance.

This finding holds when examining both forced and all CEO turnover. Moreover, in this paper, we highlight a positive association between female managers and the E-index devised by Bebchuk et al. (2009). In addition, our findings suggest that female managers generate higher compensation levels than their male counterparts. While there is no significant difference between the cash compensation of male and female CEOs, females accumulate higher equity and, consequently, total compensation than males.

Accordingly, this research suggests that female CEOs are more entrenched as compared to male CEOs. The appointment of women managers is associated with a decrease in the turnover-performance sensitivity, increase in anti-takeover provisions, and increase in managerial compensation. While females' path to managerial positions seems to be substantially more challenging than that of males, women accomplishing such heights in their career possess special personality traits and characteristics that allow them to gain more power and control over corporations than their male counterparts.

This research is organized as follows: Chapter 2 reviews the literature. Chapter 3 presents the data and research methodology. Chapter 4 discusses the regression findings. Chapter 5 concludes.

Chapter Two

Literature Review

2.1. Gender and Performance

Gender discrimination could be seen everywhere; between family members, between co-workers and even when selecting new employees. The greatest attention would generally go to males rather than females. Yet, having a gender diverse work environment has many great effects on a company's performance. Gender diversity enhances the monitoring process (Molero, 2011) and the performance of firms seeking growth (Dwyera, Richard, & Chadwick, 2003; Krishnan & Parsons, 2008). Proportions of equity based compensation such as options are used by board of directors to encourage female CEOs into taking risks leading to extravagant performance (Khan and Vieito, 2011).

Khan and Vieito (2011) also believe that firms managed by female CEOs tend to perform better, take more risks when incentives are provided, and achieve target goals faster. Different characteristics of people are not distributed equally between men and women and being creative and innovative isn't only linked to one type of gender. Those characteristics are spread widely among the population and tend to vary systematically with demographic variables such as gender. Thus, if a company is willing to have a variety of different employees in terms of innovation, performance, and creativity, they

need to take into consideration having both males and females in the working environment. Smith et al. (2006) proposes that having diversity in a company, especially in terms of gender, enhances problem-solving skills as the variety of perspectives found in a diverse board of directors leads to a great numbers of evaluated alternatives. Due to the huge number of alternatives, the board will be able to have a broader view of business environment complexities and will make better decisions.

According to Arayssi et al. (2016), female directors are more risk-averse in comparison to their male counterparts. That is, as the percentage of women increased on boards, the volatility and symmetric risk were reduced. Achieving a competitive advantage over other businesses has become the number one concern for any business as it helps the firm gain market share and upgrades its position and reputation within its own industry and the market as a whole. In order to achieve competitive advantage, companies should recognize their core competencies. Having a gender diverse environment is a core competency on its own- as the more gender diverse the environment is the better the image of the firm is. Thus, this will have a positive effect on customers' behavior and eventually leads to better performance (Smith et al., 2006). In addition, Arayssi et al. (2016), conclude that the participation of women on boards is advantageous in terms of its effect on the efficiency of societal disclosures.

2.2. Gender and Compensation

For the past decade, it has been well known that females are paid less than their male counterparts in most domains; including business, acting, medicine, and many more. The gap between the compensation of female employees to male employees is huge. According to Adams et al.(2007), female top executives excluding CEOs earn 16 to 17 percent less than male top executives. Chen et al. (2011) found that for Chinese-listed companies' over the year 1999-2009 period, the top-three executives' compensation is significantly positively related to gender, with female executives receiving approximately 6.7% less compensation than their male counterparts. The main reason behind this gap is not entirely known, yet firms provide several different explanations such as; females have maternity leaves, get sick more often, take days off to take care of their children, etc...however, these reasons do not entirely justify the huge gap in compensation between male and female executives.

2.3. Managerial Entrenchment and CEO Turnover

CEOs and top managers who gain power and authority and utilize it to benefit their own interests at the expense of shareholders' interest are said to be managerially entrenched. Thus, they are more powerful and hard to replace. Moreover, duality has boosted managerial entrenchment in firms as the CEO also serves as the chair of board of directors and, thus, gains additional authority and power. Goyal and Park (2002) combine chief executive and chairman duties to measure managerial entrenchment; they claim that both positions if vested in one individual the probability of forced turnover

will be reduced. Faleye (2005) argues that an important measure of the degree of managerial entrenchment is the extent to which executive turnover is involuntary. By definition, non-entrenched managers are exposed to board and/or market-imposed discipline; thus, they are more susceptible to forced departure. Entrenched managers, in contrast, are less likely to leave involuntarily, since they are less vulnerable to internal and external pressures. Yermack (2004) also shows that turnover is affected by director age and gender. Thus, the more entrenched a manager is the less likely he/she will be replaced. CEOs are trying to gain as much power and authority as possible in order to keep their job and decrease the turnover possibility. Yet this may be at the expense of firm performance. Hence, CEOs are becoming more entrenched and this is shifting managerial objectives towards the maximization of their own self-centered private benefits.

2.4. Gender and CSR

Customers now a day expect companies to be responsible socially and environmentally and, thus, companies are increasingly engaging in activities and projects related to Corporate Social Responsibility (CSR). Almost 90% of consumers no longer care only about products and services but rather on how much a company can be effective socially and environmentally. Recognizing how much customers care about CSR and how much stakeholders are willing to invest in a company, companies' directors are now focusing on improving their environmental efforts, philanthropy, ethical labor practices, and- volunteering. Some scientists argue that gender has impact

on CSR effectively in organizations; especially if the CEO is a female. Others imply that previous research stating that having a female CEO will improve the quality of CSR is outdated and that male CEO's have better effects on CSR due to their character traits (Hoffman et al., 1999). Yet according to Löhndorf et al. (2014), women are more engaged in environment related issues and charity work; thus, they display higher levels of concern when it comes to environmental and charity matters. Research by Gilligan (1982) finds that men tend to use justice orientation to maintain an ethical environment whereas women tend to use a care orientation when approaching ethical issues. Therefore, we need to look at this issue from an expectation versus perception side. Women when faced with environmental issues tend to have higher expectations about CSR and show greater concern than men do. In addition, they tend to take actions when faced with such dilemmas (Pearson, 2007)

Chapter Three

Methodology, Data, Descriptive Statistics

3.1 Variable Definition

Data is based on S&P 1500 firms index and is constructed using Compustat, CRSP ExecuComp and RiskMetrics, through the period 1996 to 2014.. Accounting data is obtained from Compustat, stock returns data is obtained from CRSP, the executive's compensation and turnover data are obtained from Execucomp, and the board's related variables are obtained from RiskMetrics (such as board size, number of board meetings, etc ...). Table 1 briefly defines the variables used in the statistical analysis.

We study both total and forced CEO turnover. A CEO turnover is said to be forced if the departure is not due to death and the retirement occurs before the age of 60 (Denis et al., (1997); Coles et al., (2014); and Dah and Frye (2017)). We classify a CEO dismissal to be “voluntary” if (i) CEO turnover is due to death; or (ii) the CEO retires and his/her age is greater than 60. Otherwise, the CEO dismissal is assumed to be “voluntary”. The salary, options granted, bonus, the value of restricted stock granted, long-term incentive payouts and other compensations comprise the total CEO compensation. Moreover, we utilize the E-Index constructed by Bebchuk et al. (2009) to investigate shareholder rights under both male and female CEOs. The e-index (entrenchment index) formulated by Bebchuk et al. (2009) includes six provisions that

protect the existing management: staggered boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills, and golden parachutes.

We use two measures of market performance in this research. Industry adjusted BHMR is the industry adjusted buy-and-hold monthly return. Industry adjusted returns is the past three year mean industry adjusted market return. The variables were winsorized to avoid results misguidance due to extreme observations forms (at the 1% level). The control variables set is used in accordance with the related literature (Araÿssi et al, 2016; Coles et al. 2014; Dah et al., 2014 and Linck et al. 2009)

Similar to previous literature, and following the industry categorization by Fama and French (1997), we include 48 industry dummy variables in our regression models to control for the unobserved industry specific effects.

3.2 Descriptive Statistics

The mean, number of observation and standard deviation of all the variables used throughout this research are the descriptive statistics presented in table 2. Between 1996 and 2014, on average, women comprise 2.4% of CEOs. The average ROA is approximately 13%. On average boards consist of 9.22 members. The average CEO age is 55.6 years, average director age is 60.63 years, and average director tenure is 9.3 years. Boards are generally dominated by independent directors. The percentage of independent board members is 69.1%. Averages of 4.5% of board members are females. It is less likely for females to achieve board membership or managerial positions in U.S. corporations. Thus, gender diversity isn't encouraged in corporations as only 2% of the CEOs are females and 4.5 % of the directors are females.

Figure 1 highlights the evolution of female CEOs between 1996 and 2014. The lowest percentage of female CEOs is 0.5% and is observed during 1996. We observe a steady increase in the proportion of female managers through time and, eventually, it reaches 4.5% in 2014. This is in conformance with Soares et al. (2012) Catalyst's report which claims that women constitute only 2 percent of chief executive officers (CEOs).

Chapter Four

Results & Analysis

4.1 Determinants

Given the low percentage of female managers, we start by investigating the factors affecting the appointment of women CEOs. To examine the determinants of employing female CEOs we will use the following model:

$$\begin{aligned} \text{CEO Gender} = & \alpha_0 + \alpha_1 \log(\text{Total Assets}) + \alpha_2 (\text{Capex}/\text{Total Assets}) + \alpha_3 \text{Volatility} + \alpha_4 \\ & \text{Leverage} + \alpha_5 \text{Liquidity} + \alpha_6 (\text{PPE}/\text{Total Assets}) + \alpha_7 \text{ROA} + \alpha_8 \text{Board Independence} + \\ & \alpha_9 \text{Board Size} + \alpha_{10} \text{Director's Tenure} + \alpha_{11} \text{Director's Age} + \alpha_{12} \% \text{ of Female Directors} \\ & + \end{aligned}$$

CEO Gender is a dummy variable that takes the value of 1 if the CEO is a female and 0 otherwise. Table 3 presents a regression of CEO Gender on firm, governance, and CEO characteristics. Our results demonstrate a negative relation between ROA and CEO Gender. This suggests that the probability of employing a female CEO increases following poor accounting performance. An increase in CEO age reduces the possibility of employing women at the top of U.S. corporations. Hence, young females have a better chance of attaining a CEO position than older ones. Yermack (1996) suggests that larger boards are not efficient and, thus, board size has a negative effect on firm performance. We document an adverse relationship between board size and CEO Gender. Moreover, an increase in director tenure diminishes the

likelihood of appointing female CEOs. On the contrary, board independence has a positive effect on CEO Gender. The presence of independent board members is said to enhance internal monitoring. However, asymmetric information and free-rider problems are disadvantage associated with independent directors. As expected, female directors amplify the likelihood of appointing female CEOs. Also, an increase in director age seems to help women to -advance to top management positions.

To study the managerial entrenchment of female versus males CEOs, we next investigate the effect of female managers on the turnover-performance sensitivity, E-index, and managerial compensation.

4.2 Turnover Performance Sensitivity

The turnover-performance sensitivity is the sensitivity of CEO replacement to firm performance. In general, the relationship between firm performance and CEO turnover is negative. This suggests that the probability of CEO turnover increases when the firm is performing poorly. It is often used in the literature as a measure of the efficiency of the firm's internal monitoring (Huson, et al (2001); Dah et al., (2014); and Dah and Frye (2017)). Accordingly, we examine the impact of CEO gender on the turnover-performance sensitivity by running the following regression model:

$$Turnover\ Dummy_{i,t} = \beta_0 + \beta_1 Gender\ Dummy_{i,t} + \beta_2 Performance_{i,t-1} + \beta_3 (Gender\ Dummy_{i,t} \times Performance_{i,t-1}) + Control\ Variables + \epsilon$$

Where $i=1$ to N represents a given firm; $t=1$ to T denotes a specific year

Turnover is a dummy variable taking a value of 1 if the CEO is replaced in a certain year and 0 otherwise. We study both forced CEO turnover and all CEO turnover (forced and voluntary). A CEO turnover is said to be forced if the departure is not due to death and the retirement occurs before the age of 60 (Denis et al., (1997); Coles et al., (2014); and Dah and Frye (2017)). Otherwise, the CEO dismissal is assumed to be voluntary. Moreover, as measures of the firm's market performance, we employ both the monthly industry adjusted buy and hold return (BHMR) and the past three year industry adjusted return (Avg Ret).

The results are reported in tables 4,5 ,6, and 7. Tables 4 and 5 report the results of a probit regression model using all CEO turnover as the dependent variable. Tables 6 and 7 present the same regressions while employing forced CEO turnover as the dependent variable. Whereas tables 4 and 6 utilize the one period lagged value of BHMR as our measure of firm performance, tables 5 and 7 use the one period lagged value of Avg Ret to measure performance. The control variables employed in all regression equations are: ROA_{t-1} , $firm\ size_{t-1}$, ratio of capital expenditures to total assets_{t-1}, leverage_{t-1}, PPE_{t-1}, percentage of CEO shares, percentage of independent directors, board size, duality, CEO age, and 48 industry dummy variables to control for industry specific effects.

Tables 4 to 7 generally report identical findings. Column (1) shows that turnover and CEO gender are significantly positively related implying that the probability of CEO turnover is higher if the CEO is a female. Moreover, the results demonstrate that our market performance measures, along with ROA (accounting performance measure), are significantly negatively related to turnover. This implies

that a reduction in performance, whether market or accounting performance, increases the probability of managerial turnover. In column (2), an interaction variable between CEO gender and firm performance is added to the regression models. We notice that, in tables 4 through 7, the interaction is positively significantly related to turnover. Thus, female CEOs, as compared to male CEOs, are less likely to be replaced when the firm is performing poorly.

Our findings also depict that firm size and board size are positively related to managerial turnover. Larger firms and boards are more likely to dismiss CEOs. The CEO turnover's relation with duality is negative and significant. This means that it is much harder to replace a CEO if he/she is both a CEO and Chair. We also notice that turnover is negatively related to CEO ownership, board independence, and CEO age.

4.3 E-Index

Our research now examines the effect of CEO gender on the E-index. Thus, we utilize the following regression model in which the E-index, introduced by Bebchuk et al. (2009) as a measure of shareholder rights, is regressed on CEO gender and our list of control variables:

$$\mathbf{E-Index}_{i,t} = \alpha + \beta_1 \text{Gender Dummy}_{i,t} + \text{Control Variables} + \epsilon$$

Where $i=1$ to N represents a given firm; $t=1$ to T denotes a specific year

The results are reported in table 8. We observe that CEO gender and E-Index are significantly and positive related. The presence of female CEOs inflates the entrenchment index and, thus, women managers seem to be more entrenched than their male counterparts. In other words, the appointment of female managers has a negative effect on shareholder rights.

Furthermore, our findings demonstrate that the E-index is negatively related to ROA, capital expenditures, CEO ownership, board size, and duality. CEO ownership and duality imply that managers may possess more power and control within firms and, consequently, these CEOs may not be in need for additional job protection. Thus, the e-index and other forms of managerial power may act as substitutes. On the other hand, firm size, percentage of independent directors, and CEO age are positively related to the entrenchment index. Larger firms provide their shareholders with lower rights. Moreover, anti-takeover provisions increase with the age of the firm's manager.

4.4 CEO Compensation

Finally, we explore the impact of CEO gender on managerial compensation. We study CEO total compensation, equity compensation, and cash compensation. The cash and equity parts of compensation may be affected by the presence of women managers. While cash based compensation is considered the non-risky part of managerial compensation, equity based compensation, such as stock and option grants, is the risky component of CEO pay. Hence, the below regression model is utilized:

$$\text{CEO Compensation}_{i,t} = \beta_0 + \beta_1 \text{Gender Dummy}_{i,t} + \text{Control Variables} + \epsilon_{i,t}$$

Where $i=1$ to N represents a given firm; $t=1$ to T denotes a specific year

We use total, equity, and cash compensation.

Our findings are presented in tables 9 and 10. Table 9 shows the effect of CEO gender and several control variables on total compensation. There is a positive and significant relation at the 1% between gender and CEO total compensation. This proposes that a women manager receives higher total pay as compared to men.

We also find a significant and positive relation at the 1% between CEO compensation, on the one hand, and ROA, firm size, CAPEX/TA, percentage independent, and duality, on the other hand. On the other hand, PPE, percentage of CEO shares and board size are significantly negatively related to the total CEO compensation.

We also split CEO total compensation into cash and equity compensation. Table 10 shows the effect of gender on cash compensation (column 1) and equity compensation (column 2). While CEO gender doesn't have a significant relation with cash compensation, it has a positive significant relation with equity compensation. This means that although women are not paid more than men in terms of basic salary and bonus, they are paid more in terms of equity compensation. Accordingly, the positive effect of CEO gender on total compensation is mainly driven by the direct association between gender and equity compensation. Women are generally more risk-averse than men and the increased equity compensation may serve as to induce female CEOs to take on more risk. Moreover, female managers may extract higher compensation levels due to their increased entrenchment as compared to their male counterparts.

Chapter Five

Conclusion

This paper analyzes the association between female managers and managerial entrenchment. Accordingly, we analyze the effect of CEO gender on turnover performance sensitivity, E-Index and managerial compensation (both cash and equity compensation). It has been well known, and as documented in our paper, that the percentage of female managers is significantly lower than that of males. However, the presence of women at the top of U.S. corporations has been steadily, though slowly, appreciating overtime.

We demonstrate that female CEOs are more entrenched than their male counterparts. Our findings suggest that women are less likely to be dismissed following poor performance than men. Moreover, we observe a direct relationship between female managers and the E-index. Therefore, females enjoy higher levels of job security and immunity when present at the top of U.S. corporations. In addition, we highlight a direct association between female CEOs and managerial compensation. Thus, female managers are paid more than males, specifically in terms of equity based compensation.

In conclusion, this research suggests that women CEOs extract additional benefits and may be more empowered than their male counterparts. Though women face more difficulties than men to succeed in the market place and are subject to additional obstacles in their career paths, those who are able to overcome the challenges and attain

positions at the top of corporations seem to realize more authority and control over firms.

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Figures

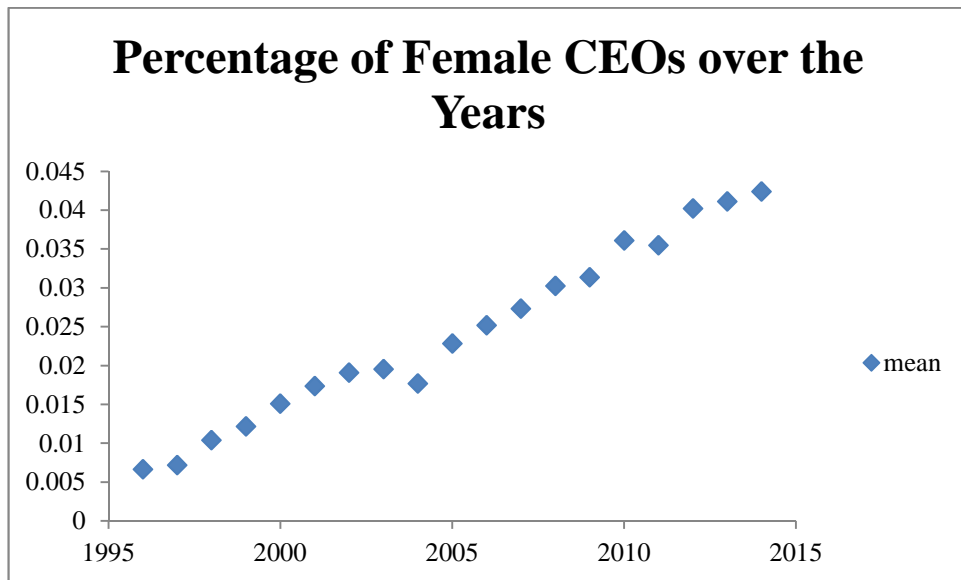


Figure 1: The increase in percentage of female CEOs from 1996-2014

Tables

Table 1: Variables definition

| Variables | Variables Definitions |
|----------------------------|--|
| Gender Dummy | CEO Gender verifies if the CEO gender is male or female denoted as 0s and 1s (1 being Females and 0 being males); |
| ROA _{t-1} | The one period lagged ratio of return on Assets; indicates how profitable a company is in comparison to its assets. |
| Firm Size _{t-1} | The one period lagged ratio of how many employees work for the firm |
| CAPEX/TA _{t-1} | The one period lagged ratio of capital expenditure average; the average of the funds used by the company to acquire or upgrade physical assets like land and buildings |
| Liquidity _{t-1} | The one period lagged ratio of current assets minus current liabilities to total assets |
| Leverage _{t-1} | The one period lagged ratio of long term debt and total assets |
| PPE _{t-1} | The one period lagged ratio of property, plant and equipment a company owns |
| CEO Age | The ages of the CEO assigned at each firm |
| CEO Tenure | The duration of employment of an employee as a CEO this usually reduces turnover |
| Percentage of Independence | How much percent of the people on the board have no direct or indirect relation with the company |
| Average Director Age | The mean of all directors' ages |
| Average Director Tenure | The mean of the duration of employment of a director |
| CEO Duality | Dummy variable equal to 1 if the CEO serves as the board's chair and 0 otherwise. |
| CEO Compensation | The natural logarithms of the total CEO's annual pay (bonus, incentive payouts, etc...) |
| Turnover Dummy | Dummy variable equal to 1 if CEO turnover occurs. |
| E-index | It's the entrenchment index presented by Bebchuk et al. (2009) |
| EBIT | Earnings before interest and taxes. |
| BHMR | Industry adjusted buy and hold monthly return |
| Avg Ret | The past three year mean industry adjusted market return |
| Forced CEO Turnover | A dummy variable that takes the value of 1 if CEO turnover occurs for reasons other than death or CEO retirement when his/her age is less than 60 |

Table 1 presents a definition of firm, CEO, board of directors and gender related variables.

Table 2: Descriptive Statistics

| Variables | Observations | Mean | Standard Deviation |
|-------------------------|--------------|--------|--------------------|
| Gender Dummy | 34873 | 0.025 | 0.1550 |
| ROA | 32814 | 0.127 | 0.0801 |
| Firm Size | 34592 | 7.580 | 1.6097 |
| Capx_at | 32841 | 0.047 | 0.0421 |
| Leverage | 34467 | 0.188 | 0.1652 |
| Liquidity | 29235 | 0.442 | 0.2161 |
| PPE | 33514 | 0.257 | 0.2338 |
| AGE | 33801 | 55.585 | 7.2587 |
| Percentage Independent | 25087 | 69.135 | 20.0782 |
| Percentage Female | 25087 | 4.487 | 7.4231 |
| Average Director Age | 24348 | 60.636 | 4.1341 |
| Average Director Tenure | 22120 | 9.287 | 3.8088 |
| Board Size | 25087 | 9.222 | 2.9385 |

Table 2 presents the number of observations, mean, and standard deviation of firm, CEO, board of directors and gender related variables for the years 1996 to 2014 of the companies listed in the S&P 1500 index

Table 3: Determinants

| Variables | Gender |
|--------------------------|-----------|
| | 1996-2014 |
| ROA _{t-1} | -1.000** |
| Firm Size _{t-1} | 0.015 |
| CAPEX/TA _{t-1} | 0.02 |
| Leverage _{t-1} | -0.344* |
| Liquidity _{t-1} | 0.119 |
| PPE _{t-1} | -0.256 |
| Percentage Independent | 0.012*** |
| Percentage Female | 0.014*** |
| Age | -0.030*** |
| Average Director Age | 0.032*** |
| Average Director Tenure | -0.039*** |
| Board Size | -0.056*** |
| Number of Observations | 16243 |
| AIC | 3614.78 |
| BIC | 3976.464 |

Table 3 presents the relation between our determinant variables at t-1 and the gender dummy. The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 4: Effect of CEO Gender on Turnover-Performance Sensitivity¹

| | Turnover Dummy | |
|--------------------------|----------------|------------|
| | (1) | (2) |
| Gender Dummy | 0.1702** | 0.1605** |
| BHMR _{t-1} | -0.3952*** | -0.4093*** |
| Gender Dummy* BHMR | | 0.4215* |
| ROA _{t-1} | -0.8911*** | -0.8858*** |
| Firm Size _{t-1} | 0.0226** | 0.0228** |
| Leverage _{t-1} | -0.0976 | -0.096 |
| PPE _{t-1} | 0.1758* | 0.1773* |
| CAPEX/TA _{t-1} | 0.9003* | 0.8916* |
| Percentage CEO shares | -0.0382*** | -0.0382*** |
| Percentage Independent | -0.0051*** | -0.0051*** |
| Board Size | 0.0312*** | 0.0311*** |
| Duality | -0.3004*** | -0.3001*** |
| AGE | -0.0346*** | -0.0346*** |
| Constant | 0.8896*** | 0.8893*** |
| Industry Dummies | YES | YES |
| Number of Observations | 20965 | 20965 |

Table 4 employs a probit model to investigate the impact of Gender Dummy, BHMR_{t-1}, the interaction variable (Gender Dummy × BHMR) on turnover performance sensitivity (forced and voluntary turnover). The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 5: Effect of CEO Gender on Turnover-Performance Sensitivity²

| | Turnover Dummy | |
|--------------------------|----------------|------------|
| | (1) | (2) |
| Gender Dummy | 0.1598** | 0.1857** |
| Avg Ret | -0.5753*** | -0.5960*** |
| Gender Dummy* Avg Ret | | 0.6851** |
| ROA _{t-1} | -0.6187*** | -0.6230*** |
| Firm Size _{t-1} | 0.0230** | 0.0231** |
| Leverage _{t-1} | -0.1079 | -0.1113 |
| PPE _{t-1} | 0.1990* | 0.2039* |
| CAPEX/TA _{t-1} | 0.7994* | 0.7808* |
| Percentage CEO Shares | -0.0365*** | -0.0365*** |
| Percentage Independent | -0.0049*** | -0.0049*** |
| Board Size | 0.0314*** | 0.0312*** |
| Duality | -0.3109*** | -0.3102*** |
| AGE | -0.0344*** | -0.0344*** |
| Constant | 0.7352*** | 0.7336*** |
| Industry Dummy | Yes | Yes |
| Number of Observations | 20810 | 20810 |

Table 5 employs a probit model to investigate the impact of Gender Dummy, Avg Ret, the interaction variable (Gender Dummy \times Avg Ret) on turnover performance sensitivity (forced and voluntary turnover). The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.”

Table 6: Effect of CEO Gender on Forced Turnover- Performance Sensitivity¹

| | Turnover Dummy | |
|--------------------------|----------------|------------|
| | (1) | (2) |
| Gender Dummy | 0.1958*** | 0.1849** |
| BHMR _{t-1} | -0.4172*** | -0.4336*** |
| Gender Dummy* BHMR | | 0.4659** |
| ROA _{t-1} | -1.0463*** | -1.0396*** |
| Firm Size _{t-1} | 0.0238** | 0.0240** |
| Leverage _{t-1} | -0.1011 | -0.0991 |
| PPE _{t-1} | 0.0495 | 0.0516 |
| CAPEX/TA _{t-1} | 1.1487** | 1.1372** |
| Percentage CEO shares | -0.0347*** | -0.0346*** |
| Percentage Independent | -0.0039*** | -0.0039*** |
| Board Size | 0.0246*** | 0.0244*** |
| Duality | -0.3151*** | -0.3147*** |
| AGE | -0.0320*** | -0.0320*** |
| Constant | 0.6967*** | 0.6963*** |
| Industry Dummy | Yes | Yes |
| Number of Observations | 20965 | 20965 |

Table 6 employs a probit model to investigate the impact of Gender Dummy, BHMR_{t-1}, the interaction variable (Gender Dummy × BHMR) on turnover performance sensitivity (forced turnover). The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 7: Effect of CEO Gender on Forced Turnover- Performance Sensitivity²

| | Turnover Dummy | |
|--------------------------|----------------|------------|
| | (1) | (2) |
| Gender Dummy | 0.1860** | 0.2144*** |
| Avg Ret _{t-1} | -0.5948*** | -0.6186*** |
| Gender Dummy*Avg Ret | | 0.7707** |
| ROA _{t-1} | -0.7740*** | -0.7785*** |
| Firm Size _{t-1} | 0.0238** | 0.0239** |
| Leverage _{t-1} | -0.1194 | -0.1233 |
| PPE _{t-1} | 0.0931 | 0.0997 |
| CAPEX/TA _{t-1} | 1.0094** | 0.9857** |
| Percentage CEO Shares | -0.0329*** | -0.0329*** |
| Percentage Independent | -0.0037*** | -0.0037*** |
| Board Size | 0.0251*** | 0.0249*** |
| Duality | -0.3232*** | -0.3223*** |
| Age | -0.0316*** | -0.0316*** |
| Constant | 0.5234** | 0.5213** |
| Industry Dummy | Yes | Yes |
| Number of Observations | 20810 | 20810 |

Table 7 employs a probit model to investigate the impact of Gender Dummy, Avg Ret, the interaction variable (Gender Dummy \times Avg Ret) on turnover performance sensitivity (forced turnover). The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 8: Effect of CEO Gender on E-Index

| | E-Index |
|---------------------------|------------|
| Gender Dummy | 0.1901*** |
| ROA _{t-1} | -0.4545*** |
| Firm Size _{t-1} | 0.0211** |
| Leverage _{t-1} | 0.0363 |
| PPE _{t-1} | 0.0072 |
| CAPEX/TA _{t-1} | -2.5675*** |
| Percentage CEO Shares | -0.0264*** |
| Percentage Independent | 0.0236*** |
| Board Size | -0.0485*** |
| Duality | -0.1438*** |
| Age | 0.0044*** |
| Constant | 1.5323*** |
| Industry Dummy | Yes |
| Pseudo R-squared | 0.1613 |
| Adjusted Pseudo R-squared | 0.1588 |
| Number of Observations | 20045 |

Table 8 employs a regression of the dependent variable E-Index on gender dummy and control variables from years 1996 to 2014. The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 9: Effect of CEO Gender on Total CEO Compensation

| | CEO Total Compensation |
|---------------------------|------------------------|
| Gender Dummy | 0.1097*** |
| ROA _{t-1} | 1.7129*** |
| Firm Size _{t-1} | 0.4624*** |
| Leverage _{t-1} | -0.0369 |
| PPE _{t-1} | -0.7892*** |
| CAPEX/TA _{t-1} | 0.8625*** |
| Percentage CEO Shares | -0.0272*** |
| Percentage Independent | 0.0048*** |
| Board Size | -0.0183*** |
| Duality | 0.1012*** |
| Age | -0.0002 |
| Constant | 11.1688*** |
| Industry Dummy | Yes |
| Pseudo R-squared | 0.4997 |
| Adjusted Pseudo R-squared | 0.4983 |
| Number of Observations | 21343 |

Table 9 employs a regression of the dependent variable CEO compensation on gender dummy and control variables from years 1996 to 2014. The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

Table 10: Effect of CEO Gender on Cash + Equity CEO Compensation

| | CEO Cash Compensation | CEO Equity Compensation |
|---------------------------|-----------------------|-------------------------|
| | (1) | (2) |
| Gender Dummy | 0.0373 | 0.2589*** |
| ROA _{t-1} | 1.0813*** | 2.1125*** |
| Firm Size _{t-1} | 0.1946*** | 0.6540*** |
| Leverage _{t-1} | 0.1030** | 0.0634 |
| PPE _{t-1} | 0 | -1.3358*** |
| CAPEX/TA _{t-1} | -0.7537*** | 1.6441*** |
| Percentage CEO Shares | -0.0234*** | -0.0605*** |
| Percentage Independent | -0.0032*** | 0.0157*** |
| Board Size | 0.0254*** | -0.0494*** |
| Duality | 0.1477*** | 0.0846*** |
| Age | 0.0083*** | -0.0081*** |
| Constant | 4.8161*** | 2.1863*** |
| Industry Dummy | Yes | Yes |
| Pseudo R-squared | 0.1629 | 0.2649 |
| Adjusted Pseudo R-squared | 0.1605 | 0.2629 |
| Number of Observations | 21314 | 21111 |

Table 10 employs a regression of the dependent variable CEO compensation on gender dummy and control variables from years 1996 to 2014. While splitting CEO Compensation into two subsets; Cash and Equity Compensation. The asterisks ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.