

# **Two Essays on Corporate Policy and Corporate Governance**

By Taemin Cha

B.A. in Business Administration, February 1997, Kwandong University  
Master of Business Administration, May 2006, Babson College  
Master of Science in Finance, August 2008, The George Washington University

A dissertation submitted to

The Faculty of  
the School of Business  
of The George Washington University  
in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy

January 31, 2014

Dissertation directed by  
Christo Pirinsky

**The School of Business of The George Washington University certifies that Taemin Cha has passed the Final Examination for the degree of Doctor of Philosophy as January 31, 2014. This is the final and approved form of the dissertation.**

Two Essays on Corporate Policy and Corporate Governance

Dissertation Research Committee:

Christo Pirinsky, Assistant Professor of Finance, Dissertation Director

Min Hwang, Associate Professor of Finance, Committee Member

Robert Savickas, Associate Professor of Finance, Committee Member

George Jabbour, Professor of Finance, Outside Examiner

Mark Klock, Professor of Finance, Outside Examiner

Vanessa Perry, Associate Professor of Marketing, Outside Examiner

## **Acknowledgments**

I am very grateful to my advisor Dr. Christo Pirinsky for his guidance and tremendous support throughout my Ph.D. studies at GWU. I thank Dr. Min Hwang and Dr. Robert Savickas very much for kindly being on my dissertation committee and spending valuable time with me on my dissertation. This dissertation has also greatly benefited from Dr. Mark Klock, Dr. George Jabbour, and Dr. Vanessa Perry's insightful suggestions. I am fortunate to have you all on my committee.

I also benefited from the comments of two participants in my proposal defense - Dr. Bruno Ferman and Dr. Alexander Krasnikov. Furthermore, I am very thankful to Elizabeth Huff for making all of administrative procedures smooth and sincerely supporting me.

Lastly, I would like to thank my parents, my daughter and my wife for providing me with the support needed in order to continually push myself to succeed. Their continuous support always inspired me to accomplish this dissertation.

# **Abstract of Dissertation**

## **Employee Ownership and Corporate Governance**

I find that firms that actively promote employee ownership through profit sharing and equity ownership plans pay their executives less and adopt more provisions favorable to shareholders. Furthermore, my empirical evidence shows that the shareholders in firms with higher employee ownership tend to be more active in corporate governance through the execution of proxy voting. The corporate boards in firms with higher employee ownership are younger, more diverse, and more representative of employees. My findings suggest that in the shareholder-manager conflict, employee ownership tends to shift power in the direction of shareholders and could significantly mitigate existing agency problems in the firm.

## **Leadership and Corporate Culture: Evidence from Executive Migrations across Firms**

This paper examines the importance of leadership for corporate culture by studying changes in firm environmental policy around executive successions. I find that firms improve significantly their environmental performance following the arrival of executives from firms with strong pro-environmental culture and firms tend to decrease their environmental standards following the arrival of executives with poor environmental record. However, the economic impact is much weaker for an executive with poor environmental record. The findings provide insight into the formation of organizational culture and the diffusion of cultural norms in the economy.

# Contents

## *Chapter One: Employee Ownership and Corporate Governance*

Introduction .....	2
Employee ownership and Corporate Governance .....	4
Data .....	10
Empirical Design .....	17
Results .....	22
Conclusions.....	32
References .....	34
Tables .....	37
Appendix .....	52

## *Chapter Two: Leadership and Corporate Culture: Evidence from Executive Migrations across Firms*

Introduction .....	59
Theory and Hypothesis .....	61
Methodology and Hypothesis .....	66
Sample .....	68
Results .....	71
Discussions and Concluding Remarks.....	77
References .....	80
Tables .....	85
Figures .....	91
Appendix.....	93

## List of Tables

1.1. Sample Characteristics .....	37
1.2. Firm Characteristics .....	38
1.3. Pearson Correlation .....	40
1.4. Employee ownership and Executive Compensation .....	41
1.5. Employee ownership and Corporate Governance .....	43
1.6. First Stage Regression of EO on the instrument-MEO.....	44
1.7. Corporate Governance Structure regressed on EO instrumented by MEO.....	45
1.8. Employee ownership and Board Structure.....	47
1.9. Employee ownership and Proxy Voting .....	48
1.10. Employee ownership and Financial Performance .....	49
1.11-1. Robustness Check: Part A .....	50
1.11-2. Robustness Check: Part B .....	51
2.1. Sample Characteristics .....	85
2.2. Summary Statistics .....	86
2.3. Executive Succession and Changes in Toxic Chemical Releases.....	87
2.4. KLD Data Sample Characteristics .....	88
2.5. Executive Succession and Changes in Toxic Chemical Release .....	89
2.6. The Time Effect of Executive Succession on Changes in Environmental Policy ...	90
Figure 1. Total Toxic Chemical Release .....	91
Figure 2. Environmental Friendliness Index .....	92

## **Chapter 1**

### **Employee Ownership and Corporate Governance**

#### **ABSTRACT**

I find that firms that actively promote employee ownership through profit sharing and equity ownership plans pay their executives less and adopt more provisions favorable to shareholders. Furthermore, my empirical evidence shows that the shareholders in firms with higher employee ownership tend to be more active in corporate governance through the execution of proxy voting. The corporate boards in firms with higher employee ownership are younger, more diverse, and more representative of employees. My findings suggest that in the shareholder-manager conflict, employee ownership tends to shift power in the direction of shareholders and could significantly mitigate existing agency problems in the firm.

## 1. INTRODUCTION

Corporate governance research has been studying predominantly the strategic interactions between corporate managers and shareholders. The conflicts associated with other important stakeholder groups such as employees have been relatively overlooked. Employee ownership in US corporations has been increasing steadily over time. The National Center for Employee Ownership (NCEO)<sup>1</sup> reports that as of the end of 2012, roughly 28 million employees, representing 36% of the workforce, own stock in their employers through incentive compensation plans<sup>2</sup>. While economists have been actively debating the implications of employee ownership for employee welfare and firm productivity (e.g. Smoot, and Duncan (1996), Ichniowski, Shaw, and Prennushi (1997), Allen, and Gale (2002)), the importance of employee ownership for corporate governance has received limited attention. The introduction of employees to the corporate governance analysis could deepen our understanding of numerous phenomena that the traditional principal-agent framework cannot explain well.

This essay studies the impact of employee ownership on corporate governance. To evaluate the importance of employees for corporate governance, I collect detailed information on incentive compensation plans from multiple sources and then examine the link between employee ownership and various corporate governance measures. Detailed information on incentive compensation plans allows me to quantify the degree of

---

<sup>1</sup> The National Center for Employee Ownership (NCEO) is a private, nonprofit membership and research organization that serves as the leading source of accurate, unbiased information on employee stock ownership plans (ESOPs), equity compensation plans, and ownership culture.

<sup>2</sup> Incentive Compensation Plan is a scheme used to promote specific actions or behavior by a specific group of people. Most common types of these schemes are Employee Stock Ownership Plan (ESOP), Employee Stock Purchase Program (ESPP), Stock Option Plan and Cash Profit Sharing.



employee ownership in a firm and to achieve a better identification of the employee-factor in corporate governance.

The key finding in this study is that firms with higher employee ownership pay their executives less and adopt more provisions favorable to shareholders than firms with lower employee ownership do. Furthermore, the shareholders in firms with higher employee ownership tend to be more active in corporate governance through the execution of proxy voting. I also find that the corporate boards in firms with higher employee ownership are younger, more diverse, and more representative of employees.

There are two general views on the role of employees in the classical principal-agent conflict – employees could shift the power in the firm either in the direction of shareholders or in the direction of management. In the first case, employee ownership could empower equity holders because (i) employees have an inherent stakeholder interest in the organization and, as a result, they could exhibit a stronger incentive to monitor management directly or (ii) employees could assist other stakeholder groups such as outside investors in the governance process. The human capital that employees have tied up in the company gives them strong incentives to ensure that the company is managed in a way that maximizes the value of their stake in the firm.<sup>3</sup> The fact the employees are often positioned physically close to management also allows them to observe closely the firm management and transmit valuable governance information to other investors.

---

<sup>3</sup> These incentives are also analyzed by Acharya et al. (2011).

Another view is that employee ownership could shift the power within the firm in the direction of managers. This view was also advocated by Pagano and Volpin (2005) who argue that higher employee ownership could be an effective anti-takeover device. Employee ownership plans accumulate substantial voting power within the firm, which entrenched managers could use to block value-enhancing takeovers. Consistent with this idea, Bertrand and Mullainathan (2003), Atanassov and Kim (2009), and Cronqvist et al. (2009) also show that managers who are insulated from takeovers tend to pay their employees higher wages and to be more wasteful of corporate resources.

My results suggest that firms with higher level of employee ownership in the form of incentive compensation plans tend to shift the power structure in the firm in the direction of outside shareholders. I find that firms with higher employee ownership pay their executives less and adopt more provisions favorable to shareholders. I argue that employee ownership could significantly mitigate the existing agency problems in the firm.

This paper proceeds as follows: In Section 2, I provide the detailed literature review on employee ownership and corporate governance. In Section 3, I complete the description of my data set and specify the variables for the regression models. In Section 4, I discuss empirical design and model specification. In Section 5, I report the empirical results from my regression analyses and I finally conclude in Section 6.

## **2. EMPLOYEE OWNERSHIP AND CORPORATE GOVERNANCE**

Corporate governance research has been predominantly focused on the agency problem caused by the separation of ownership and control in the modern corporation.

The basic theoretical framework, first formulated by Jensen and Meckling (1978), is that there is a conflict of interest between a firm's management and its stockholders. The theory postulates that the manager who is supposed to make decision that would best serve the shareholders is naturally motivated by self-interest and the agency problem occurs because her own best interest may differ from outside shareholders' best interest.

The agency theory of the firm assumes that major players in the firm are the managers and shareholders. The conflicts associated with other important stakeholder groups such as employees have been understudied. Employee ownership in US corporations has been increasing steadily over time. As of the end of 2012, roughly 28 million employees, representing 36% of the workforce, own stock in their employer through incentive compensation plans such as ESOP, ESPP and employee stock option. Incentive compensation plans are designed to improve company performance and enhance the productivity in the workplace. At the same time, these plans also provides employee with the influential and controlling power on decision making such as voting power in the board room since it broadens the distribution of ownership in the firm.

Although the effect of employee ownership on financial performance and productivity has been analyzed extensively, the effect of employee ownership on the change of corporate governance has received surprisingly little attention. In this paper, I introduce employees to the conventional principal-agent conflict and then examine the impact of employee ownership on the power structure within the firm.

In the subsequent subsections, I summarize how the introduction of employees could redistribute the power in the firm among the two parties – management and outside

shareholder. Power has been a difficult topic to study since it is devoid of conceptual rigor. Rajan and Zingales (1998, 2000) have resurrected the concept of power under the condition that there is a positive relationship between power and efficiency. According to Rajan and Zingales, in a whole system, power can be defined as the ability of an entity A – individual or group – to structure and constrain the actions of another entity B, from formal as well as informal mechanisms. In this paper, I use this definition of power and then examine the ability of employees to structure or constrain the group of other stakeholder group such as outsider shareholders and the management. I suggest two possibilities that the explicit role of employees in governance can change the power structure in corporation, which I now turn to.

### **2-1. Power shift towards outside equity holders**

The first possibility is that the introduction of employees to the classical principal-agent conflict in the firm could shift the power in the direction of outside equity holders. I suggest two channels through which employee's involvement can empower equity holders: Better information on management performance and stronger incentives for monitoring.

With respect to the information channel, it is obvious that employees are closer to managers than firms' shareholders and outside board members. They can observe the management on a daily basis and easily obtain the information on managers' usage of perquisites such as corporate jets, golf resort memberships, and limousines. Also, employees can better evaluate the ability of the management to manage the firm and they can observe bad management decisions right after these decisions are made. By using this

better information, employees can empower equity-holders either directly, by their votes or indirectly by communicating this information to outside shareholders - for example through board and shareholder meetings. Ultimately, the shareholders who obtained crucial information from the informed employees can constrain incumbent managers more efficiently. These ideas are consistent with the studies conducted by Acharya et.al (2011), suggesting that employees can play in constraining self-serving actions by senior managers, even absent any external governance, since these employees bring detailed company-specific knowledge to the boardroom.

With respect to the incentive for monitoring, employees who hold the company stock of their employer through incentive compensation plans are exposed to great degree of undiversified risk due to the fact that they invest both their human capital and financial capital in the firm while outside investors invest only financial capital in the firm. In other word, these employees bear not only the operational risk associated with poor management but also any loss of share values in equities market. For example, any significant decreases in profit due to poor management not only threaten their job securities but also can lead to significant loss of the funds in incentive compensation plans resulted from the deterioration of company stock value in equities market. As a result, when employees obtain the explicit role in governance, they have stronger incentives to monitor the management more intensely than any other stakeholders.

On the other hand, monitoring managers would be very costly to outside equity holders. Monitoring techniques include proper accounting procedures, establishing budgets and establishing limits on expenditures. Unfortunately, all agency costs cannot be eliminated through these techniques. More importantly, the costs of monitoring, in most

cases, exceed the agency costs and the cost for reducing the agency problem is a significant part of a firm's operating expenses. In this case, outside equity holders have a strong interest in making use of their influential employees as a monitoring device because this is a relatively cost-saving and more effective way to monitor the management. Acharya et al. (2011) also point to the critical monitoring role that the human capital they have tied up in the company gives them strong incentives to ensure that the company is managed in a sustainable manner.

My first hypothesis is formulated by these two conjectures described above that employee ownership brings detailed information and employee incentives into closer alignment to outside equity holders and this would empower outside shareholders.

In particular, I propose:

*Hypothesis 1. Firms with higher level of employee ownership are associated with a decrease in the tendency for the management to be entrenched, and lowering executive compensation and perquisite.*

## **2-2. Power shift towards managers**

The second possibility is that employee ownership can shift the power in the firm in the direction of managers. I consider two mechanisms through which employee ownership could empower managers – favoritism and takeover defense.

If the manager realizes that her employees are explicitly powerful in governance, she could align the interest of her employees with her own to get their support against

shareholders. First, since the manager makes a decision on her subordinates' compensation, she can increase her employees' salary to turn her employees to act in the best interest of managers. In addition, if the manager has a chance to take perks, she can give this chance to her employees. Obviously, this situation would make the agency problem in the firm much worse. Furthermore, the manager can pursue a quiet life to turn her subordinates to act in the manager's interest by giving unnecessary free time or monitoring their employees less intensely. In all these cases, the manager can be empowered through the relationship with her influential employees and can achieve her own goals by ensuring the favorable votes from her employees.

Second, the incumbent manager can also take advantage of her influential employees by using them as an anti-takeover device. There are many circumstances in which management and workers emerge as allies against hostile takeovers since they both do not want their firm to be taken over. In general, the target's managers do not want to endorse the takeover proposal because the bidding firm can replace the target's incumbent managers. In addition, the incumbent manager naturally believes that takeover transactions would deteriorate her controlling power since the raiders who obtain the majority of equity stake would take the full control of the firm. As for target's employees, neither do they want their firms to be taken over because it is typical to lay off workers in any inefficient department and to cut employee salaries after a merger or takeover. In this circumstance, the manager may have a strong incentive to provide her employees with highly attractive compensation packages in order to decrease the probability for a takeover. This situation can induce the agency problem because outside equity holders

who can benefit from any value-creating takeover transactions should bear most of the costs of such a compensation policy.

This idea is developed in greater detail by Pagano and Volpin (2005). According to them, granting employee ownership increases the likelihood that workers will be enlisted as an anti-takeover device to protect entrenched managers from discipline by shareholders, which the hypothesis below is drawn from.

*Hypothesis2. Firms with higher level of employee ownership are associated with more entrenched managers, expropriate more surpluses from shareholders.*

### **3. DATA**

I compiled my data from multiple sources—the KLD SOCRATES database, which provides employee policy ratings for large, publicly traded firms; IRS 5500 research file from the Department of Labor, which contains the data on defined contribution pension plans; the Standard & Poor’s ExecuComp database, which contains a historic record on the identity, employment and compensation of the five highest paid executives of S&P 1500 firms; RiskMetrics, which provides information on corporate governance, proxy voting events and board characteristics; and CRSP and Compustat, which contain firm-level stock price and accounting information.

#### **3-1. Measure of employee ownership**

I obtained information on the degree of employee ownership (EO) from the KLD SOCRATES database covering the years 1995-2010. The dataset provides annual



snapshots of the social performance of companies rated by KLD Research & Analytics, Inc. KLD's social research is distributed in SOCRATES, a proprietary database program that provides access to KLD's ratings and other data pertaining to the social records of over 5,000 publicly traded U.S. companies.

KLD evaluates firms' employee policies with the twelve variables outlined below. The first seven variables (S1 – S7) represent company strengths, while the last five variables (C1 – C5) represent concerns with respect to a particular policy.

S1. Union Relations: Indicates whether the company has taken exceptional steps to treat its unionized workforce fairly. KLD previously called this measurement “Strong Union Relations.”

S2. No-Layoff Policy: Indicates whether the company has maintained a consistent no-layoff policy. KLD has not assigned strengths for this issue since 1994.

S3. Cash Profit Sharing: Indicates whether the company has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce.

S4. Employee Involvement: Indicates whether the company strongly encourages worker involvement and/or ownership through stock options available to a majority of its employees, or alternatively through gain sharing, stock ownership, sharing of financial information or participation in management decision-making.

S5. Retirement Benefits Strength: Indicates whether the company has a notably strong retirement benefits program. KLD formerly called this measurement “Strong Retirement Benefits.”

S6. Health and Safety Strength: Indicates whether the company has strong health and safety programs.

S7. Other Strength: Indicates whether the company has strong employee relations initiatives not covered by other KLD ratings.

C1. Union Relations: Indicates whether the company has a history of notably poor union relations. KLD formerly called this measurement “Poor Union Relations.”

C2. Health and Safety Concern: Indicates whether the company recently has paid substantial fines or civil penalties for willful violations of employee health and safety standards, or has been otherwise involved in major health and safety controversies.

C3. Workforce Reductions: Indicates whether the company has made significant reductions in its workforce in recent years.

C4. Retirement Benefits Concern: Indicates whether the company has either a substantially underfunded defined benefit pension plan, or an inadequate retirement benefits program. Before 2004, KLD called this measurement “Pension/Benefits Concern.”

C5. Other Concern: Indicates whether the company is involved in an employee relations controversy that is not covered by other KLD ratings.

KLD assigns a 0/1 rating for each one of the 12 categories. However, the definition of “Employee Involvement” (S4) is so general that I extract more information to find how these companies encourage employee ownership (through equity or cash profit sharing) from the data on defined contribution pension plans in the IRS 5500 research file<sup>4</sup> which is available at the Department of Labor website.

Finally, I construct the employee ownership (EO) variable as an ordinal variable defined as following: 0 if there is no employee ownership in the company, 1 if a firm encourages employee ownership through equity *or* cash profit sharing and 2 if a firm encourage employee ownership through equity *and* cash profit sharing. This variable is key to determining how strongly the company encourages worker involvement and/or ownership and provides gain sharing, stock ownership, sharing of financial information or participation in management decision-making. Table 1 depicts the numbers for the firms covered by the sample database: the average score of employee ownership (EO), profit sharing (PS) and equity ownership (EQO) over the sample time period.

### **3-2. Executive compensation**

ExecuComp is compiled from annual company proxy statements filed with the SEC and covers 2,500 active and inactive firms in the S&P 1500 index. I derive the three variables from this database: Total salary, performance sensitive compensation (PSC) and

---

<sup>4</sup> See <http://www.dol.gov/ebsa/publications/form5500dataresearch.html>

Perquisites. By using “total salary” variable in the dataset, I create the variable named “total base salary” defined as the logarithm of the annual average of the top five executives’ total base salary. Performance Sensitive Compensation (PSC) is defined as the logarithm of the annual average of performance based compensation, which is calculated as total compensation minus total base salary. The variable named “Others” in the dataset includes perquisites and other personal benefits, termination or change-in-control payments, contributions to defined contribution plans (e.g. 401(k) plans), life insurance premiums, gross-ups and other tax reimbursements, discounted share purchases, etc. By using this variable, I create the variable named “perquisite” defined as the logarithm of the annual average of the top five executives’ other compensation.

Throughout the paper, these three variables represent the degree of management entrenchment in this study. Table 2 reports the mean, standard deviation, and the range of these variables, along with the number of observation examined in this study.

### **3-3. Anti-Takeover Provisions**

The standard source of anti-takeover provision data is the RiskMetrics database of corporate governance characteristics described by Gompers et al. (2003). The IRRC universe comprises over 90% of the aggregate market capitalization of the three major U.S. stock exchanges, and tabulates numerous charter by-law provisions for the years 1995, 1998, 2000, 2002, 2004, 2006, 2007, 2008, 2009 and 2010. The RiskMetrics sample covers only about 40% of the firms in this study. From the database, I use the four indicator variables for this study; G-index, Cumulative Voting, Confidential Voting, and Golden Parachute. G-Index is based on twenty-four anti-takeover provisions across five

broad anti-takeover provision categories – delaying a hostile takeover bid, protection to officers and directors, shareholder voting rights, state laws, and other defenses. G-index characterizes the strength of shareholder rights across firms and high value of this index represents weak shareholder (or strong managerial) power. Confidential voting designates a third-party to count proxy votes and prevents management from observing how specific shareholders vote. This can help eliminate potential conflicts of interest for fiduciaries voting shares on behalf of others, and can reduce pressure by management on shareholder-employees or shareholder-partners. Cumulative voting allows a shareholder to allocate his/her total votes in any manner desired, where the total number of votes is the product of the number of shares owned and the number of directors to be elected. By allowing them to concentrate their votes, this practice helps minority shareholders elect directors. Golden parachute is an indicator variable for a firm that has approved an executive compensation agreement that provides for benefits upon a change in control, in which case the variable is equal to one.

Cumulative voting and confidential voting are the provisions whose presence is counted as an increase in shareholder rights while the presence of golden parachute represent managers' entrenchment tool against takeovers. Table 2 reports the mean, standard deviation, and the range of these variables, along with the number of observation that I derived from the RiskMetrics database for this study.

### **3-4. Proxy Voting**

I gather the data on the proxy voting executions from all votes on proxy proposals that are included in the Investor Responsibility Research Center's (IRRC) database of

proxy voting from 1995-2010. The IRRC tracks the proxy votes of over 1,900 firms, including the Fortune 500 and Standard & Poor's 500 (covering fewer firms, however, in the earliest years). Using the IRRC's four digit coding of proposals' subject, I identify all firms that had a vote on a proposal with the same code number at a meeting before as well as a meeting after the date of the mutual fund vote disclosure rule's effective date (meetings held after June 30, 2003).

I derive three variables from this database: Proxy voting, shareholder proposal and management proposal. Proxy voting is an indicator for the event of proxy voting executed in a given year; shareholder proposal is an indicator for the event of proxy voting proposed by shareholders; management proposal is an indicator of the event of proxy voting proposed by management. These variables represent how active corporate governance is in the firm. Table 2 reports the mean, standard deviation, and the range of these variables, along with the number of observation examined in this study.

### **3-5. Board of Directors Characteristics**

Data on the characteristics of boards of directors was obtained from RiskMetrics. From the database, I used four variables for this study; Employee on the board, Independent board member, Age, Female member. "Employee on the board" is defined as the percentage of corporate employees on the board; Independent board member is defined as the percentage of independent board members; Age of board director is defined as the average age of the directors on the board; Female member is the percentage of female members of the corporate board. Table 2 reports the mean, standard

deviation, and the range of these variables, along with the number of observation examined in this study.

### **3-6. Accounting Variables and Stock Returns**

I extracted each firm's specific characteristics and performance variables from CRSP/Compustat data. Size is the logarithm of the book value of assets. Leverage is defined as total liability relative to total firm assets. ROA is defined as net income divided by the book value of assets at the beginning of the year. CAPX to asset, a proxy for external capital requirements, is defined as the capital expenditure over the book value of assets. Dividend to asset, a proxy for monitoring cost, is defined as the total dividend over the book value of assets. ROE is defined as net income divided by the book value of equity; Tobin's Q is defined as the market value of equity divided by the book value of equity. Annual stock return is defined as annualized cumulative stock returns in a given year. I calculated the cumulative stock returns by using monthly stock return information. Table 2 reports the mean, standard deviation, and the range of these variables, along with the number of observation examined in this study.

## **4. EMPIRICAL DESIGN**

The main objective of this paper is to examine the link between the degree of employee ownership and corporate governance measures. The first hypothesis, which is the primary focus of this paper, is based on the monitoring role postulated by Acharya et

al. (2011). The hypothesis implies that employees can play a role in constraining self-serving actions by entrenched managers even without any external governance.

To investigate the first hypothesis, I use a regression of executive compensation on the degree of employee ownership, while controlling for firm-level stock performance and accounting characteristics. To this end, I have constructed the following regression model:

$$ENTrenchment_{i,t} = a_0 + a_1EO_{i,t} + a_2X_{i,t} + \varepsilon_{i,t} \quad (1)$$

where  $ENTrenchment_{i,t}$ , the dependent variables includes total base salary, performance sensitive compensation (PSC) and perquisite. Total base salary is the logarithm of the annual average of total base salary; PSC is defined as the logarithm of the annual average of performance based compensation, which is calculated as total compensation minus total base salary. Perquisites (perks) reflect the logarithm of the annual average of the top five executives' other compensation.  $EO_{i,t}$  is an ordinal variable defined as following: 0 if there is no employee ownership in the company, 1 if a firm encourages employee ownership through equity or cash profit sharing and 2 if a firm encourage employee ownership through equity and cash profit sharing.  $X_{i,t}$  is a vector of firm characteristics and  $\varepsilon_{i,t}$  is measurement error.  $X_{i,t}$  includes various permutations of the following variables defined earlier: SIZE, ROA, Annual Stock Returns Unionization, CAPX to asset, dividend to asset and Leverage. The assumption embedded in this model is that firms that pay higher compensation or perquisites to executives are operated by entrenched managers.



In contrast to my first hypothesis, the second hypothesis predicts that higher employee ownership in the firm leads managers to be more entrenched and to expropriate more surpluses from shareholders. Pagano and Volpin (2005) explored the tendency for managers to be entrenched when employees are active in corporate governance, suggesting that granting employee ownership increases the likelihood that workers will be enlisted as an anti-takeover device to protect entrenched managers from discipline by shareholders. To explore my second hypothesis, I test whether firms with higher employee ownership tend to adopt anti-takeover provisions associated with shareholders' rights, while controlling for firm-level stock performance and accounting characteristics. To prove this proposition, I have constructed the following regression model:

$$Provision_{i,t} = a_0 + a_1EO_{i,t} + a_2X_{i,t} + \varepsilon_{i,t} \quad (2)$$

where  $Provision_{i,t}$ , the dependent variables, includes G-index, confidential voting, cumulative voting, and golden parachute, and the model specifications are exactly the same as in equation (1). I assume that provisions that include cumulative voting and confidential voting increase shareholder rights, while golden parachute provision decreases shareholder rights.

The third model studies how employee ownership stimulates corporate governance activities by examining the linkage of  $EO_{i,t}$  to the event of proxy voting. I assume that the execution of proxies and voting instructions is the primary means by which shareholders can influence a company's operations and corporate governance. It is, therefore, important for shareholder to exercise their right to participate in the voting process and make their decisions based on a full understanding of publicly available

information. To explore this conjecture, I develop a regression to examine the relationship between the event of proxy voting and the degree of employee ownership, while controlling for firm-level stock performance and accounting characteristics. To this end, I have constructed the following regression model:

$$\text{ProxyVoting}_{i,t} = a_0 + a_1EO_{i,t} + a_2X_{i,t} + \varepsilon_{i,t} \quad (3)$$

where  $\text{ProxyVoting}_{i,t}$ , the dependent variables, includes Proxy voting, an indicator for the execution of proxy voting taken placed in a given year; shareholder proposal, an indicator for the event of proxy voting proposed by shareholder; management proposal, an indicator for the event of proxy voting proposed by management. The model specifications are exactly the same as in equation (1) and (2).

The fourth model in this study examines the characteristics of boards of directors in the firm where employees play an explicit role in governance. Especially, this model examines the information channels which employees can empower equity holders. As mentioned in the previous section, the direct way for employees to empower outside equity holders is to cast their votes in favor of the shareholders while the indirect way is to share this information to the shareholders through board meetings. At this point, the results from examining the characteristics of board members in the firms with high level of employee ownership would provide the more substantive evidence that shows how these channels in the firms are implemented. To this end, I introduce four dependent variables: the proportion of employees on the board, the proportion of independent board members, the age of the board of directors and the proportion of female members of the

board. To investigate the characteristics of boards in the firms where employees play an explicit role in governance, I have constructed the following specification:

$$BoardChar_{i,t} = a_0 + a_1EO_{i,t} + a_2X_{i,t} + \varepsilon_{i,t} \quad (4)$$

where the dependent variables are the proportion of employees on the board, the proportion of independent board members, the age of the board of directors and the proportion of female board members. The model specifications are exactly the same as in the previous equations.

One limitation is that although I successfully quantify the degrees of employee ownership, EO, the primary explanatory variable does not capture the voting right information. For example, typical employee stock option programs do not grant the voting right to their beneficiaries but EO variable itself interprets that all equity ownership programs have the same features. This might be a critical issue because EO could not represent the magnitude of influential power on corporate governance. In particular, in case that the decision on increasing EO is influenced by corporate culture or inherited tradition, employee ownership would not change the employees' willingness to shift the structure of corporate governance. To mitigate this problem, I should have the data that contain such detailed information as voting right and employees' attitudes. This might be a possibility for future research since the researchers can perform more robust analysis if they can create a variable that represents the more explicit influence of corporate governance.

## 5. RESULTS

### 5-1. Employee ownership and managerial entrenchment

Table 4 reports the estimated coefficients from the model in (1). I find that firms with higher level of employee ownership pay their executives less. For example, the first model in the table indicates that the employee ownership (EO) is associated with a 0.072 decrease in total base salary. The second and third models indicate that the effect becomes stronger with equity ownership (EQO) than profit sharing (PS) as we can see that the coefficient (-0.101) associated with EQO in the third column is higher than the coefficient on PO (-0.037). In the fourth column, EO is associated with a 0.028 decrease in performance sensitive compensation (PSC) and the effect is stronger with PS than EQO as opposite to the previous results, indicating that providing employees with cash leads to lowering executives' performance sensitive compensation. In the seventh columns, EO is associated with a 0.157 decrease in perquisites and the effect is stronger with EQO as consistent with the previous results related to base salary.

The control variables show that large and growing firms (higher Return on Assets) are likely to pay higher executive salary and perquisites. The coefficients on CAPX to asset are positive and statistically significant only in the models (in column 4 to 6) that relates to PSC, indicating that higher capital requirement would lead to higher executive performance sensitive compensation. The coefficients on dividend to asset are significantly negatively related only to PSC, meaning that higher monitoring cost may reduce executive performance sensitive compensation. Leverage is also positively related to both forms of executive compensation. However, column 7 to 9 show that stock performance is negatively related to perquisites.

In this section, I find that employee ownership is negatively and significantly related to various types of executive compensation including base salary, PSC and perquisite. The results in this section are consistent with the view that employee ownership can reduce the tendency of managers to be entrenched and support the monitoring role that is postulated by Acharya et al. (2011). One possible concern is that higher executive compensation does not represent management entrenchment. To mitigate this issue, I control the size of firm and financial performance since they can reflect the amount of executive compensation. Since there could be stronger identification for management entrenchment, I perform additional robustness tests with different groups of sample which are divided by the book value of total assets. The details are discussed in the section 5-7.

## **5-2. Employee ownership, shareholder rights and antitakeover provision**

Table 5 reports the estimated coefficients from the model in (2). The results in the first and second columns of table 5 generally suggest that firms with higher level of employee ownership are likely to have more democratic governance structure and to adopt provisions that increase shareholder power. The first model in the table shows that EO is associated with a 0.251 decrease in G-index, indicating that firms with higher employee ownership adopt fewer anti-takeover provisions than the counterparts. The second model indicates that EO is associated with a 0.031 increase in confidential voting. This tendency is quite consistent with cumulative voting, showing that the coefficient of EO is associated with a 0.025 increase in confidential voting in the third model. The results of second and third models suggest that firms with high level of employee

ownership are more likely to adopt provisions that increase shareholder power. In the fourth column of table 5, I condition the impact of employee ownership on the presence or absence of a golden parachute provision. This column shows that EO is associated with a 0.046 decrease in golden parachute provisions, indicating that firms with high level of employee ownership are less likely to adopt a provision that helps managers entrench themselves against takeovers.

Conclusively, the results in this section contradict the management entrenchment hypothesis that was coined by Pagano and Volpin (2005). The statistical results from all models in this section suggest that firms with higher level of employee ownership are more likely to adopt provisions that increase shareholder rights and less likely to adopt provisions that increase managerial powers. Instead, the results are consistent with the view that employee ownership can shift the power in the firm in the direction of outside shareholders.

### **5-3. Identification: IV Regressions**

I have presented multiple evidences that EO, the key explanatory variable in this study, can affect the corporate governance structure of firms. One remaining concern about the analysis is potential causality. It is possible that there is causality between the degree of EO and the power structure of firms. It is always a challenging task to conclusively rule out these concerns but our analyses thus far should have mitigated some of these concerns. I conjecture that the corporate governance structure of firms could be determined by such other factors not considered in this study as the different degree of competition in different regions, which could also affect the decision of promoting

employee ownership. This assumption is consistent with the finding by Kedia and Rajgopal (2009), describing that location matters when firms decide on their option granting practices because of local labor market conditions and social interaction with neighboring firms.

In this section, I construct IV regression by using the different degree of competition in different regions. The base line regression is an IV regression with MEO, the average of EO in each MSA<sup>5</sup> used as an instrument for EO. In addition, to capture the different characteristics of each MSA region, I put three MSA characteristics variables as control variables in the IV regression models along with all control variables we tested in the previous model; High Income, defined as the fraction of household income in excess of \$100,000 in a given region; High education, defined as the fraction of residents who earned a college degree in a given MSA region; Age\_60, the fraction of residents who are older than 60 years old in a given MSA region. In the models, there are two main requirements for using an IV. First, the instrument (MEO) must be correlated with (EO) the endogenous explanatory variables, conditional on the other covariates. Second, the instrument (MEO) cannot be correlated with the error term in the explanatory equation, that is, the instrument (MEO) affects corporate governance exclusively via EO.

### 5-3-1. First-stage regression

---

<sup>5</sup> Metropolitan Statistical Area: See <http://www.census.gov/population/www/estimates/metrodef.html> for current and historical definitions.

Let  $H$  represent EO,  $X_{i,t}$  a set of control variables defined earlier, SIZE, ROA, Annual Stock Returns and Leverage. Finally, let  $MEO_{i,t}$  be the average of EO in each MSA area. The first-stage regressions are as follows:

$$H_{i,t} = a_0 + a_1 MEO_{i,t} + a_2 X_{i,t} + \varepsilon_{i,t} \quad (5)$$

Table 6 presents first-stage regressions of EO on MEO. Since the dataset for managerial entrenchment and anti-takeover provisions have different panels, I run five regressions in this section: In column 1, the estimated coefficient on MEO, which is used for the second stage regression with total base salary as a dependent variable, is positive and significant. For example, the marginal effect of MEO on EO is 0.298 in regression with associated t-statistic of 0.02. The positive relations are consistent in column 2 to 5. The coefficient in column 2 is used for the second stage regression with performance sensitive compensation (PSC) as a dependent variable. The coefficient in column 3 is used for the second stage regression with perquisites as a dependent variable and the ones in column 4 and 5 are the second stage regressions with anti-takeover provisions. (Column 4 for G-index and column 5 for three anti-takeover provisions: cumulative voting, confidential voting and golden parachute)

The two-stage least squares regressions reported later include all of the controls that I tested in the previous sections. Following Staiger and Stock (1997), I report F-statistic for each first-stage regression. In all specifications they are significant, and above 10 (which is the minimum suggested by Staiger and Stock to establish a reliable first stage).



### 5-3-2. Second stage: Corporate governance structure of firms

Second stage regression model tests if the corporate governance structure of firms responds to the EO. To do this, I use dependent variables that we tested in the previous sections. The first is the log of the total salary and, perquisites are used. The second stage regressions are as follows:

$$GovernanceStructure_{i,t} = a_0 + a_1EO_{i,t} + a_2X_{i,t} + \varepsilon_{i,t} \quad (6)$$

The coefficient estimates and regression statistics for the two-stage least squares regressions are presented in Table 7. The two stages are estimated together, and standard errors are corrected for clustering in the second stage. Since this procedure is a two-stage least squares estimation, it reflects that EO has been instrumented. F-tests are reported for the first stage of each regression, and the test statistics are highly significant in all cases and well above the threshold of 10 suggested by Staiger and Stock.

As a result, the second stage coefficients for EO are statistically significant only when dependent variables are total salary, performance sensitive compensation (PSC), perquisites, cumulative voting and golden parachute. The predicted powers of G-index and confidential voting are somewhat reduced, which indicates that these factors are affected not by the adoption of incentive compensation plan but by the different degree of competition in each region. However, given the fact that a majority of models shows the consistent results with the ones in the models that do not include IV variables, I confirm that causality is not likely to be driving the results.

One limitation in this IV regression is that demonstrating that MEO is causally related to Corporate Governance exclusively via EO is an experimental impossibility. Although many scholars assume that employee policy is mainly determined by the different intensity of competition in a region, it is possible that the instrument, MEO can influence many other factors that can directly affect corporate governance. This study does not provide the strong evidence that MEO affect corporate governance only because MEO affects EO. If the researchers can empirically determine whether the instruments are valid, they may be able to find a better instrument that affects corporate governance exclusively via EO.

#### **5-4. Employee ownership and the proxy voting execution**

Column 1 of table 8 presents the results from regressing the execution of proxy voting on EO and various control variables. EO (0.053) is significantly positively related to the event of proxy voting in the first column OLS regression. The results indicate that the execution of proxy voting takes place more often in the firms with stronger employee ownership than the counterparts. The execution of proxies and voting instructions is the primary means by which shareholders can influence a company's operations and corporate governance. It is, therefore, important for shareholders to exercise their right to participate in the voting process and make their decisions based on a full understanding of publicly available information.

This result presents evidence that employee ownership stimulate shareholders' participation in corporate governance in firms. In addition, the second and third column of table 8 results from regressing shareholder proposal and management proposal. The

coefficients on EO on the both columns are positive and statistically significant, suggesting that both parties (shareholders and management) are more active in corporate governance if these firms have higher level of employee ownership.

### **5-5. Employee ownership and board characteristics**

Columns 1–2 of table 9 present the results from regressing the fraction of employees and independent board members. EO (0.821) is significantly positively related to the fraction of firms' employees on the board in the first column OLS regression, while the coefficient (-1.586) is negatively related to the fraction of independent board members in the second model. The results indicate that firms with higher level of employee ownership have a higher proportion of employees and a lower proportion of independent board directors on their boards. This result shows the mechanisms that might potentially explain how the role of employees in governance changes the power structure of firms because it seems to be the evidence that employees in firms with higher level of employees bring detailed company-specific knowledge to the boardroom.

In addition, I explore other characteristics of board members in firm with higher level of employee ownership. The third and fourth column of table 9 results from regressing the age of board directors and the proportion of female board members. This column shows that the coefficient (-0.938) of EO is negative and statistically significant, suggesting that the makeup of boards of directors in firms with higher level of employee ownership tends to be more youthful than in other firms. Female representation on boards of directors is used as a measure of diversity. Robinson and Dechant (1997) point out that

diversity produces more effective problem-solving and enhances the effectiveness of corporate leadership, whereas heterogeneity may initially produce more conflict in the decision-making process. The result of diversity at the top is a better understanding of the complexities of the environment and more astute decisions. Column 4 shows that the coefficient (0.007) of EO is positive and statistically significant, suggesting that boards of directors in firms with higher level of employee ownership are more diverse than their counterparts in other firms.

## **5-6. Employee ownership and financial performance**

My final examination in this study is to explore the link between employee ownership and financial performance. Due to the fact that the large amount of studies was already conducted about the theoretical literature on performance measurement in incentive plans, I do not deeply dig into the literature related to this linkage. In this section, however, I present the results regressing financial performance on EO and various control variables. Following is the model specification to explore the linkage of EO to financial performance.

$$Financial\_Performance_{i,t} = a_0 + a_1EO_{i,t} + a_2X_{i,t} + \varepsilon_{i,t} \quad (7)$$

Table 10 reports the estimated coefficients from the model in (7). The regression results in this section is somewhat mixed and the general finding is that there is no strong relationship between the level of employee ownership and financial performance. For example, the first model in the table indicates that the coefficient (0.002) on employee ownership (EO) is not statistically significant with ROA. In the second model where

ROE is the dependent variable, the coefficient (-0,049) on EO is negative, which is opposite to the one in the first model and the relation is not statistically significant. However, I find that there is a positive relationship between EO and Tobin's Q as the third model indicates that the coefficient on EO (0.514) is significantly positively related to Tobin's Q. The results indicate that stronger employee ownership leads to higher Tobin's Q while EO does not affect to ROA and ROE. Finally, the fourth column in the table indicates that there is no strong relationship between EO and the annual stock returns as consistent with the results in the first model.

Consequently, the results in this section indicate that the relationship between employee ownership and financial performance is mixed. Given that fact that there are few literatures that clearly explain why these results are mixed, I leave this critically important question to a promising field for further research.

### **5-7. Robustness Check**

In this section I perform several tests to determine the robustness of the impact of employee ownership on management entrenchment and corporate governance. I divide the sample by the two groups based on the book value of total asset (top 50% and bottom 50%, respectively) and run the regressions separately to test the robustness. One potential concern is that higher executive compensation does not represent management entrenchment since it could be determined by firm's size or financial performance. The first to third columns in both table 11-1 and 11-2 indicate that EO variables are negatively and significantly related to base salary and PSC. There the results are remarkably consistent with those in Table 4, albeit at lower significance levels.

The column 4 through 7 of table 11-1 report the results related to corporate governance variables derived from the top 50% sample. The results are consistent with those in table 5. However, the results derived from the bottom 50% sample presented in table 11-2 show that the relations are no longer robust. Although the signs of the coefficients on EO variables for the full sample remain the same, they are no longer significant. The results indicate that the economic impact of employee ownership on corporate governance is more robust to bigger firms.

## **6. CONCLUSION**

Employee ownership could be important for corporate governance since employees have an inherent stakeholder interest in the organization and they can assist other stakeholder groups such as outside investors in the governance process. This paper introduces employees to the corporate governance analysis and presents evidence that explains (a) how employee ownership affects the corporate governance and (b) how it shifts power in the conventional shareholder-manager conflict within the firm.

I find that firms that actively promote employee ownership through profit sharing and equity ownership plans pay their executives less and adopt more provisions favorable to shareholders. These empirical results suggest that firms with higher level of employee ownership in the form of incentive compensation plans tends to shift the power in the shareholder-manager conflict and plays a role in mitigating agency problems. In addition, I also examine how employee ownership affects shareholders activities in decision making process and find that the shareholders in firms with higher employee ownership tend to be more active in corporate governance through the execution of proxy voting. I

also examine the link between employee ownership and the characteristics of boards of directors and find that the structure of corporate boards in firms with higher employee ownership is more representative of internal, younger and minority workers. Conclusively, this study can contribute to corporate governance literature by providing new insight into the determinants of corporate governance in US firms.

## REFERENCES

- Acharya, V.V., Myers, S.C., Rajan, R.G., 2011. The internal governance of firms. *Journal of Finance*, 66.
- Allen, F., Carletti, E., Marquez, R., 2007. Stakeholder capitalism, corporate governance and firm value. Working paper. Wharton School.
- Allen, F., Gale, D., 2002. A comparative theory of corporate governance. Unpublished working paper. University of Pennsylvania and New York University.
- Atanassov, J., Kim, E., 2009. Labor and corporate governance: international evidence from restructuring decisions. *Journal of Finance* 64, 341–374.
- Bebchuk, L., Coates, J., Subramanian, G., 2002. The powerful antitakeover force of staggered boards: theory, evidence and policy. *Stanford Law Review* 54, 887–950.
- Bertrand, M., Mullainathan, S., 2003. Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy* 111, 1043–1075.
- Blair, M., 1995. *Ownership and Control: Rethinking Corporate Governance for the Twenty-first Century* (Brookings)
- Blair, M. & Stout, L., 1999. Team Production in Business Organizations: An Introduction, 24 *J. Corp. L.* 743, 749
- Blasi, J., Conte, M., Kruse, D., 1996. Employee Ownership and Corporate Performance Among Public Corporations, *Industrial and Labor Relations Review* 50, No. 1, 60-79.
- Bonin, J., Jones, D., Putterman, L., 1993. Theoretical and empirical studies of producer cooperatives: Will ever the twain meet? *Journal of Economic Literature* 31, 1290-1320.
- Cremers, K. J. M., Vinay B. N., 2005. Governance Mechanisms and Equity Prices, *Journal of Finance* 60, 2859-2894.
- Chaplinsky, S., Niehaus, G., 1990. The tax and distributional effects of leveraged ESOPs. *Financial Management* 19, 29–38.
- Claessens, S., Ueda, K., 2008. Banks and labor as stakeholders: impact on economic performance. Working paper. International Monetary Fund, Washington, DC.
- Cronqvist, H., Heyman, F., Nilsson, M., Svaleryd, H., Vlachos, J., 2009. Do entrenched managers pay their workers more? *Journal of Finance* 64, 309–339.



Freeman, R.B., Lazear, E.P., 1995. An economic analysis of works councils. In: Roger, J., Streeck, W. (Eds.), *Works Councils: Consultation, Representation and Cooperation in Industrial Relations*. University of Chicago Press, Chicago, pp. 27–52.

Gillan, S. L. & Laura T. S., 2000. Corporate governance proposals and shareholder activism: The role of institutional investors, *Journal of Financial Economics* 57, 275-305.

Gompers, P., Ishii, J., Metrick, A., 2003. Corporate governance and equity prices. *Quarterly Journal of Economics* 118, 107–155.

Hermalin, B. E., Michael S. W., 1998. Endogenously chosen boards of directors and their monitoring of the CEO, *American Economic Review* 88, 96-118.

Ichniowski, C., Shaw, K., Prennushi, G. 1997. The effects of human resource management practices on productivity: A study of steel finishing lines. *The American Economic Review*, 87(3), 291-313

IRRC Corporate Social Issues Reporter. 2002. SEC Launches Proxy Voting Rulemaking (October).

Jensen, M. C., Meckling, W. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3, 305–360.

Kedia, S., Rajgopal, S., 2009. Neighborhood matters: The impact of location of broad-based option plans. *Journal of Financial Economics*, 92, 109-127.

Kruse, L. D., 1996. Why Do Firms Adopt Profit-sharing and Employee Ownership Plans? *British Journal of Industrial Relations*

Lee, Y. T., Liu, Y. J., Zhu, N., 2008. The costs of owning employer stocks: lessons from Taiwan. *Journal of Financial and Quantitative Analysis*. 43, 717–740.

Mehran, H. 1995. Executive Compensation, structure, ownership and firm performance, *Journal of Financial Economics* 38, 163-84.

National Center for Employee Ownership (NCEO), Website: <http://www.nceo.org/>

Pagano, M., Volpin, P., 2005. Managers, workers and corporate control. *Journal of Finance* 60, 843–870.

Oyer, P., Schaefer, S., 2005. Why do some firms give stock options to all employees?: an empirical examination of alternative theories. *Journal of Financial Economics* 76, 99–133.

Rajan, R. G., Zingales, L., 1998. Power in a theory of the firm. *The Quarterly Journal of Economics*, MIT Press, 113(2), 387-432.

Rajan, R. G., Zingales, L., 2000. The firm as a dedicated hierarchy: A theory of the origins and growth of firms," *The Quarterly Journal of Economics*, MIT Press, 116(3), 805-851.

Robinson, G., Dechant, K., 1997. Building a business case for diversity. *Academy of Management Executive*. 11, 21–31.

Roberts, J. and Van den Steen, E., 2000. Shareholder Interests, Human Capital Investment and Corporate Governance ', Graduate School of Business, Stanford University, Research Paper Series.

Rothberg, B., Lilien, S., 2006. Mutual funds and proxy voting: New evidence on corporate governance. *Journal of Business & Technology Law* 1, 157-184.

Scholes, M. S., Wolfson, M. A., 1990. The effects of changes in tax laws on corporate reorganization activity. *Journal of Business* 63, S141–S164.

Shleifer, A., Vishny, R.W., 1997. A survey of corporate governance. *Journal of Finance* 52, 737–783.

Smoot, D., Duncan, P., 1997. The search for the optimum individual monetary incentive pay system: A comparison of the effects of flat pay and linear and non-linear incentive pay on worker productivity. *Journal of Organizational Behavior Management*, 17(2), 5-75.

Staiger, D., Stock, J., 1997. Instrumental variables regression with weak instruments. *Econometrica* 65 (3), 557–586.

U.S. Securities and Exchange Commission. 2003. Disclosure of Proxy Voting Policies and Proxy Voting Records by Registered Management Investment Companies, Release No.8188 (January 31).

Van N, K., 1993. Corporate Governance through the Proxy Process: Evidence from the 1989 Honeywell Proxy Solicitation. *Journal of Financial Economics* 34, 101-132.

**Table 1**  
**Sample Characteristics**

For each year over the sample period, the table reports the number of firms covered in the sample data, along with the average scores of the employee ownership (EO), profit sharing (PS) and equity ownership (EQO). EI is the ordinal variable defined as 0 if the firm provides employees with neither cash nor equity; 1 if the firm provides employees with cash *or* equity and 2 if the firm provides employees with cash *and* equity. PS is defined as 1 if the firm provides employees only with cash to encourage employee ownership and 0 otherwise; and EQO is defined as 1 if the firm provides employees only with equity to encourage employee ownership and 0 otherwise.

---

Year	Number of firms in the sample	Employee Ownership (EO)	Profit Sharing (PS)	Equity Ownership (EQO)
1995	648	0.291	0.148	0.101
1996	652	0.286	0.15	0.089
1997	653	0.331	0.177	0.099
1998	658	0.341	0.156	0.107
1999	662	0.388	0.157	0.139
2000	660	0.398	0.141	0.146
2001	1,107	0.253	0.096	0.096
2002	1,108	0.254	0.101	0.101
2003	2,963	0.099	0.041	0.039
2004	3,034	0.109	0.04	0.047
2005	3,015	0.098	0.036	0.044
2006	2,962	0.101	0.038	0.043
2007	2,937	0.093	0.037	0.039
2008	2,923	0.093	0.036	0.041
2009	2,912	0.091	0.034	0.04
2010	2,965	0.179	0.052	0.077

---

**Table 2**  
**Firm Characteristics**

This table reports summary statistics for the variables used for the four sets of regressions. The total base salary is defined as the annual average of the logarithm of the top five executives' total base salary. Performance Sensitive Compensation (PSC) defined as the logarithm of the annual average of performance based compensation, which is calculated as total compensation minus total base salary. Perquisites includes perks and other personal benefits, termination or change-in-control payments, contributions to defined contribution plans (e.g. 401(k) plans), life insurance premiums, gross-ups and other tax reimbursements, discounted share purchases, etc. G-Index is based on twenty four anti-takeover provisions across five broad anti-takeover provision categories – delaying a hostile takeover bid, protection to officers and directors, shareholder voting rights, state laws, and other defenses. Cumulative voting is an indicator for firms that allow for cumulative voting for the election of directors. Confidential voting is an indicator for firms that have adopted a confidential voting policy. Golden parachute is an indicator for firms that have approved an executive compensation agreement that provides for benefits upon a change in control. Employee on the board is defined as the percentage of corporate employees in meetings of the board of directors. Independent board member is defined as the percentage of independent board members in meetings of the board of directors. Age of the board of directors is defined as the average age of the board of directors in a board meeting. Female member is the percentage of female members in meetings of the board of directors. Proxy voting is an indicator for the event of proxy voting executed in a given year. Shareholder proposal is an indicator for the event of proxy voting proposed by shareholders. Management proposal is an indicator of the event of proxy voting proposed by management. Size is the logarithm of the book value of assets. ROA is defined as net income divided by the book value of assets at the beginning of the year. Annual stock returns reflect annualized cumulative stock returns. Unionization is defined as the sum of positive (strength) and negative (concern) score of union relation. CAPX to asset is defined as capital expenditures over the book value of assets; and dividend to asset is defined as the total dividend over the book value of assets. Leverage is defined as total liability relative to total firm assets. High Income reflects the fraction of household income in excess of \$100,000 in a given region. High education reflects the fraction of residents who earned a college degree in a given region. Age\_60 reflects the fraction of residents who are older than 60 years old in a given region.

Variable	Mean	Standard Deviation	Min	Max	Number of observation
Employee ownership (EO)	0.141	0.388	0	2	23,678
Profit Sharing (PS)	0.069	0.253	0	1	23,678
Equity Ownership (EQO)	0.063	0.242	0	1	23,678
Total Base Salary	5.922	0.45	-0.009	8.505	19,640
PSC	6.564	1.59	-13.211	10.879	19,634
Perquisites	3.486	1.268	-3.269	9.479	19,265
G-Index	9.355	2.612	1	18	6,907
Cumulative Voting	0.05	0.218	0	1	11,718
Golden Parachute	0.66	0.474	0	1	11,718
Employees on the board	0.196	0.112	0	1	13,186
Independent board member	0.683	0.177	0	1	13,186
Age of board of directors	59.85	4.33	27.833	77.833	13,186
Female member	0.098	0.093	0	0.667	13,186
Proxy Voting	0.279	0.449	0	1	23,678
Shareholder Proposal	0.072	0.259	0	1	23,678
Management Proposal	0.202	0.401	0	1	23,678
Size	7.272	1.789	0.234	14.614	23,632
ROA	0.028	0.171	-4.023	0.61	23,574
Annual Stock Returns	0.188	0.727	-0.983	26.194	22,306
Tobin's Q	3.182	3.423	0.193	44.627	23,109
Leverage	0.635	0.314	0.01	0.995	24,538
Unionization	-0.005	0.204	-1	1	24,076
CAPX to Asset	0.05	0.204	-1	1	24,678
Dividend to Asset	0.012	0.022	0	0.214	22,522
High Income	0.211	0.085	0.045	0.391	22,537
High education	0.271	0.074	0.09	0.479	24,522
Age_60	0.209	0.033	0.12	0.511	22,537

**Table 3**  
**Pearson Correlation**

This table reports Spearman (Pearson) correlations and the associated P-values for all explanatory variables in this study as the below (above) the diagonal. A correlation coefficient in bold indicates that the correlation is statistically significant at least at the 5% level.

	EO	Size	ROA	Stock Return	Unionization	CAPX to Asset	Dividend to Asset	Leverage
EO	1	<b>0.152</b> [<.0001]	<b>0.047</b> [<.0001]	-0.006 [0.377]	<b>0.017</b> [0.012]	<b>0.023</b> [0.001]	<b>0.014</b> [0.032]	<b>-0.037</b> [<.0001]
Size		1	<b>0.143</b> [<.0001]	<b>-0.070</b> [<.0001]	<b>-0.036</b> [<.0001]	<b>-0.053</b> [<.0001]	0.009 [0.186]	<b>0.284</b> [<.0001]
ROA			1	<b>0.034</b> [<.0001]	-0.005 [0.431]	<b>0.058</b> [<.0001]	<b>0.111</b> [<.0001]	<b>-0.092</b> [<.0001]
Stock Return				1	-0.002 [0.760]	<b>-0.023</b> [0.001]	<b>-0.020</b> [0.003]	<b>0.025</b> [0.000]
Unionization					1	0.005 [0.485]	0.000 [0.994]	0.009 [0.176]
CAPX to Asset						1	0.000 [0.985]	<b>-0.038</b> [<.0001]
Dividend to Asset							1	<b>0.025</b> [0.000]
Leverage								1

**Table 4**

**Employee Ownership and Executive Compensation**

This table reports parameter estimates and standard errors from OLS regressions of executive compensation on Employee ownership (EO) and various control variables for each year from 1995 to 2010. EO is the ordinal variable defined as 0 if the firm provides employees with neither cash nor equity to encourage employee ownership; 1 if the firm provides employees with cash *or* equity and 2 if the firm provides employees with cash *and* equity. The coefficient of EO represents the statistical and economic relationship between EO and managerial entrenchment. Profit Sharing (PS) is the indicator variable defined as 1 if the firm provides employees only with cash and 0 otherwise. Equity Ownership (EQO) is the indicator variable defined as 1 if the firm provides employees only with equity and 0 otherwise. Total base salary reflects the logarithm of the annual average of the top five executives' total base salary. Performance Sensitive Compensation (PSC) is defined as the logarithm of the annual average of performance based compensation, which is calculated as total compensation minus total base salary. Perquisites (perks) reflect the logarithm of the annual average of the top five executives' other compensation. This includes perquisites and other personal benefits, termination or change-in-control payments, contributions to defined contribution plans (e.g. 401(k) plans), life insurance premiums, gross-ups and other tax reimbursements, discounted share purchases, etc. The control variables are Size, the logarithm of the book value of assets; ROA, defined as net income divided by the book value of assets at the end of the year; and Annual stock returns, annualized cumulative stock returns; Unionization, defined as the sum of positive (strength) and negative (concern) score of union relation; CAPX to asset, capital expenditures over the book value of assets; Dividend to asset, the total dividend over the book value of assets; and Leverage defined as the book value of debt over total asset. All independent variables are sampled at year  $t$ . All models include time (year) and industry fixed effects and standard errors are adjusted for clustering at the firm level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (\*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Dependent Variable	Total Salary			PSC			Perquisites		
Employee ownership (EO)	-0.072*** [0.016]			-0.028 [0.041]			-0.157*** [0.053]		
Profit Sharing (PS)		-0.037** [0.016]			-0.125** [0.062]			-0.128* [0.070]	
Equity Ownership (EQO)			-0.101*** [0.039]			0.01 [0.068]			-0.151* [0.084]
SIZE	0.191*** [0.006]	0.188*** [0.006]	0.189*** [0.006]	0.531*** [0.015]	0.532*** [0.015]	0.529*** [0.015]	0.390*** [0.017]	0.383*** [0.017]	0.384*** [0.017]
ROA	0.252*** [0.062]	0.244*** [0.062]	0.242*** [0.061]	3.512*** [0.311]	3.513*** [0.309]	3.507*** [0.309]	0.677*** [0.147]	0.655*** [0.148]	0.653*** [0.148]
Annual Return	0.009* [0.005]	0.009 [0.005]	-0.009* [0.005]	0.236*** [0.053]	0.235*** [0.054]	0.235*** [0.054]	-0.004** [0.020]	-0.005 [0.019]	-0.005 [0.020]
Unionization	-0.008 [0.019]	-0.014 [0.019]	-0.012 [0.019]	0.055 [0.059]	0.055 [0.058]	0.052 [0.059]	0.066 [0.071]	0.055 [0.070]	0.057 [0.070]
CAPX to Asset	-0.011 [0.134]	-0.041 [0.136]	-0.037 [0.136]	1.319** [0.538]	1.331** [0.538]	1.304** [0.539]	-0.335 [0.482]	-0.393 [0.481]	-0.394 [0.483]
Dividend to Asset	-0.038 [0.148]	0.032 [0.154]	0.038 [0.146]	-0.872** [0.399]	-0.857** [0.394]	-0.878** [0.399]	0.61 [0.441]	0.6 [0.452]	0.605 [0.438]
Leverage	0.078*** [0.021]	0.084*** [0.022]	0.082*** [0.021]	0.365* [0.065]	0.368*** [0.065]	0.368*** [0.065]	0.292*** [0.056]	0.305*** [0.057]	0.301*** [0.057]
Intercept	4.676*** [0.152]	4.700*** [0.152]	4.701*** [0.156]	2.231 [0.259]	2.204*** [0.261]	2.242*** [0.261]	0.153 [0.569]	0.199 [0.564]	0.214 [0.572]
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	14055	14055	14055	13503	13503	13503	13742	13742	13742
<i>Adj. R-squared</i>	47.68	47.28	47.54	40.7	40.74	40.69	28.67	28.45	28.06



**Table 5**  
**Employee Ownership and Corporate Governance**

This table reports parameter estimates and standard errors from OLS regressions of corporate governance indicators on Employee ownership (EO) and various control variables for each year from 1995 to 2010. The coefficient of EI represents the statistical and economical relationship between EI and anti-takeover provisions. G-Index is based on twenty-four anti-takeover provisions across five broad anti-takeover provision categories – delaying a hostile takeover bid, protection to officers and directors, shareholder voting rights, state laws, and other defenses. Confidential voting is a dummy variable that equals one if the firm has adopted confidential voting and zero otherwise. Cumulative voting is a dummy variable that equals one if the firm allows cumulative voting and zero otherwise. Golden Parachute is a dummy variable. Poison pill is a dummy variable that equals one if the firm has a poison pill/shareholder rights plan and zero otherwise. The control variables are Size, the logarithm of the book value of assets; ROA, defined as net income divided by the book value of assets at the end of the year; and Annual stock returns, annualized cumulative stock returns; Unionization, defined as the sum of positive (strength) and negative (concern) score of union relation; CAPX to asset, capital expenditures over the book value of assets; Dividend to asset, the total dividend over the book value of assets; and Leverage defined as the book value of debt over total asset. All models include time (year) and industry fixed effects and standard errors are adjusted for clustering at the firm level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	G-Index	Confidential Voting	Cumulative Voting	Golden Parachute
EO	-0.251* [0.150]	0.031* [0.016]	0.025** [0.012]	-0.046** [0.020]
SIZE	0.150*** [0.053]	0.075*** [0.007]	-0.005* [0.003]	-0.001 [0.006]
ROA	-0.519 [0.441]	-0.016 [0.045]	0.018 [0.025]	-0.142** [0.060]
Annual Return	0.118 [0.104]	-0.002 [0.007]	-0.001 [0.004]	0.006 [0.011]
Unionization	-0.122 [0.260]	0.012 [0.034]	-0.025** [0.011]	0.054** [0.027]
CAPX to Asset	0.426 [1.380]	0.042 [0.171]	0.193** [0.092]	-0.213 [0.179]
Dividend to Asset	10.022*** [2.428]	0.46 [0.230]	0.09 [0.094]	-0.153 [0.226]
Leverage	0.645*** [0.194]	0.043** [0.019]	-0.016* [0.010]	0.147*** [0.025]
Intercept	6.013*** [1.142]	-0.374** [0.154]	0.042* [0.032]	0.465** [0.196]
Industry fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	4658	8757	8757	8757
<i>Adj. R-square</i>	7.46	17.66	3.65	16.57

**Table 6**  
**First stage regression of EO on the instrument-MEO**

Presented is the first-stage regression of EO on the instrument -- MEO (the average of EO in each MSA) and firm characteristics (control). Robust standard errors, clustered by firm, are reported under the coefficients. F-test refers to the test that the instrument should not enter the regression. The Staiger and Stock (1997) F-test of the first-stage in IV estimation, testing whether the instrument is strong enough, is reported for each regression. (\*\*), (\*), and (\*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Dependent Variable: EO	(1)	(2)	(3)	(4)	(5)
MEO	0.298*** [0.021]	0.298*** [0.022]	0.295*** [0.021]	0.279*** [0.036]	0.310*** [0.029]
Size	0.055*** [0.003]	0.055** [0.003]	0.055*** [0.003]	0.066*** [0.005]	0.056*** [0.003]
ROA	0.123*** [0.035]	0.122*** [0.035]	0.153*** [0.036]	0.288*** [0.074]	0.169*** [0.048]
Annual Returns	0.001 [0.006]	0.001 [0.006]	0.003 [0.006]	-0.059*** [0.020]	-0.005 [0.011]
Unionization	0.097*** [0.016]	0.099*** [0.016]	0.094*** [0.016]	0.165*** [0.034]	0.069*** [0.019]
CAPX to Asset	0.387*** [0.093]	0.383*** [0.093]	0.349*** [0.094]	0.499*** [0.185]	0.269** [0.122]
Dividend to Asset	0.204** [0.090]	0.190** [0.089]	0.201** [0.090]	-0.001 [0.303]	0.276 [0.185]
Leverage	-0.079*** [0.013]	-0.079*** [0.013]	-0.078*** [0.014]	-0.077*** [0.026]	-0.084*** [0.017]
High Income	0.378*** [0.100]	0.378*** [0.100]	0.423*** [0.102]	0.437** [0.186]	0.256** [0.127]
High Education	-0.138 [0.118]	-0.143 [0.118]	-0.169 [0.119]	-0.269 [0.220]	0.054 [0.148]
Age_60	-0.571*** [0.126]	-0.565*** [0.126]	-0.518*** [0.127]	-0.634*** [0.235]	-0.51 [-158]
Intercept	-0.368** [0.175]	-0.363** [0.175]	-0.388** [0.183]	-0.376** [0.148]	-0.412** [0.134]
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	12606	12587	12333	4225	7801
<i>Adj. R-squared</i>	14.33	13.71	13.75	9.85	13.05
<i>Marginal Adj. R-squared (MEI)</i>	1.46	1.46	1.44	1.46	1.41
<i>First Stage F-test</i>	185.16***	185.50***	179.22***	61.31***	110.32***

**Table 7**  
**Corporate governance structure regressed on EO instrumented by MEO**

Presented is the two-stage least squares estimation of the effect of EO on corporate governance structure. Coefficients are reported for second stage only. Each column head indicates the dependent variable. Each regression is a second stage regression and reports the coefficient on EO, instrumented with MEO (first-stage regressions include all independent variables). Size, ROA, annual stock returns, unionization, capital expenditure relative to asset, dividend relative to asset, leverage are included as controls in all regressions. In addition, three MSA characteristics are also included as control variables; High Income, the fraction of household income in excess of \$100,000 in a given region; High education, the fraction of residents who earned a college degree in a given region; Age\_60, the fraction of residents who are older than 60 years old in a given region. Robust standard errors, clustered by metropolitan statistical area, are reported under the coefficients. First-stage F-test refers to the Staiger and Stock (1997) F-test of the first-stage in IV estimation. Each column reports the number of observations and the second stage r-squared. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Dependent Variable	Total Salary	PSC	Perquisite	G-Index	Confidential Voting	Cumulative Voting	Golden Parachute
EO (Instrumented)	-0.294*** [0.061]	-0.359* [0.215]	-0.926*** [0.209]	-0.774 [0.725]	0.036 [0.075]	0.117** [0.054]	-0.429*** [0.110]
Size	0.197*** [0.004]	0.537*** [0.014]	0.429*** [0.014]	0.181*** [0.057]	0.071*** [0.005]	-0.008** [0.004]	0.019*** [0.007]
ROA	0.312*** [0.030]	3.42*** [0.106]	0.778*** [0.107]	-0.295 [0.472]	-0.011 [0.040]	-0.029 [0.028]	-0.038 [0.059]
Annual Returns	0.008 [0.005]	0.223*** [0.017]	-0.005 [0.017]	0.123 [0.121]	0.001 [0.009]	-0.011* [0.006]	0.011 [0.013]
Unionization	0.005 [0.014]	0.045 [0.051]	0.162*** [0.049]	0.068 [0.224]	0.019 [0.016]	-0.007 [0.011]	0.090*** [0.023]
CAPX to Asset	0.003 [0.082]	1.448*** [0.286]	-0.161 [0.275]	0.413 [1.123]	0.073 [0.099]	0.083 [0.071]	-0.066 [0.145]
Dividend to Asset	0.113 [0.076]	-0.333 [0.266]	0.669*** [0.255]	8.081*** [1.721]	0.583*** [0.147]	0.051 [0.106]	-0.062 [0.216]
Leverage	0.054*** [0.012]	0.359*** [0.043]	0.210*** [0.042]	0.299* [0.158]	0.040*** [0.015]	-0.019* [0.011]	0.092*** [0.022]
High Income	0.261*** [0.090]	0.882*** [0.315]	0.059 [0.309]	-5.372*** [1.151]	0.085 [0.104]	0.262*** [0.075]	-0.059 [0.153]
High Education	-0.108 [0.099]	0.015 [0.348]	-0.682** [0.339]	1.07 [1.283]	0.019 [0.117]	-0.384*** [0.084]	0.175 [0.171]
Age_60	0.334*** [0.114]	0.34 [0.399]	0.541 [0.381]	1.365 [1.456]	0.294** [0.133]	0.011 [0.096]	-0.05 [0.196]
Intercept	4.667*** [0.147]	4.667*** [0.147]	-0.209 [0.524]	7.347 [0.869]	-0.605*** [0.108]	0.083 [0.078]	0.441*** [0.159]
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	12606	12587	12333	4225	7801	7801	7801
<i>Second stage R-squared</i>	41.62	39.22	22.27	10.91	17.77	6.51	7.56
<i>First stage coefficient on MCIS</i>	0.298***	0.298***	0.295***	0.279***	0.310***	0.310***	0.310***
<i>First Stage F-test</i>	185.16***	185.5***	179.22***	61.31***	110.32***	110.32***	110.32***

**Table 8**  
**Employee Ownership and Proxy Voting**

This table reports parameter estimates and standard errors from OLS regressions of the event of proxy voting on Employee ownership (EO) and various control variables for each year from 1995 to 2010. The coefficient of EO represents the statistical and economical relationship between EO and the execution of proxy voting. Proxy voting is an indicator for the event of proxy voting executed in a given year; shareholder proposal is an indicator for the event of proxy voting proposed by shareholders; management proposal is an indicator of the event of proxy voting proposed by management. The control variables are Size, the logarithm of the book value of assets; ROA, defined as net income divided by the book value of assets at the end of the year; and Annual stock returns, annualized cumulative stock returns; Unionization, defined as the sum of positive (strength) and negative (concern) score of union relation; CAPX to asset, capital expenditures over the book value of assets; Dividend to asset, the total dividend over the book value of assets; and Leverage defined as the book value of debt over total asset. All models include time (year) and industry fixed effects and standard errors are adjusted for clustering at the firm level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*\*), (\*\*), and (\*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Voting Proposal	Shareholder Proposal	Management Proposal
EO	0.053** [0.013]	0.027** [0.011]	0.027** [0.013]
Size	0.081*** [0.003]	0.054*** [0.003]	0.027*** [0.003]
ROA	0.061*** [0.021]	-0.048* [0.011]	0.109 [0.020]
Annual Stock Returns	-0.006 [0.005]	-0.002* [0.002]	-0.003 [0.005]
Unionization	-0.051** [0.020]	-0.052** [0.025]	0.001 [0.015]
CAPX to Asset	0.004 [0.083]	-0.031 [0.049]	0.042 [0.073]
Dividend to Asset	-0.024 [0.043]	0.107 [0.035]	-0.132*** [0.038]
Leverage	-0.011*** [0.011]	-0.020*** [0.006]	0.007 [0.010]
Intercept	0.711*** [0.073]	-0.308** [0.126]	-0.402*** [0.153]
Industry fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
<i>Num. Obs.</i>	24173	24173	24173
<i>Adj. R- square</i>	36.95	20.98	21.2

**Table 9**  
**Employee Ownership and Board Structure**

This table reports parameter estimates and standard errors from OLS regressions of the characteristics of boards of directors on Employee ownership (EO) and various control variables for each year from 1995 to 2010. The coefficient of EO represents the statistical and economical relationship between EO and board characteristics. Employees on the board is defined as the percentage of corporate employees in a board meeting; independent board member is defined as the percentage of independent board members in a board meetings; age of board of directors is defined as the average age of board members in a meeting; female member is the percentage of female members in a board meeting. The control variables are Size, the logarithm of the book value of assets; ROA, defined as net income divided by the book value of assets at the end of the year; and Annual stock returns, annualized cumulative stock returns; Unionization, defined as the sum of positive (strength) and negative (concern) score of union relation; CAPX to asset, capital expenditures over the book value of assets; Dividend to asset, the total dividend over the book value of assets; and Leverage defined as the book value of debt over total asset. All models include industry fixed effects and standard errors are adjusted for clustering at the firm level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*\*), (\*\*), and (\*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Employees on the board	Independent board members	Age of board of directors	Female board members
EO	0.821** [0.394]	-1.586** [0.641]	-0.938*** [0.157]	0.007** [0.004]
Size	-1.290*** [0.144]	1.674*** [0.212]	0.371*** [0.054]	0.017*** [0.001]
ROA	4.572*** [1.584]	-4.025* [2.260]	0.803 [0.651]	0.01 [0.013]
Annual Stock Returns	-0.021 [0.125]	-0.488* [0.254]	-0.043 [0.055]	-0.001 [0.001]
Unionization	-0.489 [0.555]	0.934 [0.935]	0.102 [0.224]	0.012** [0.006]
CAPX to Asset	10.228*** [3.721]	-17.758*** [6.277]	-5.333*** [1.796]	-0.086** [0.033]
Dividend to Asset	-3.36 [5.658]	6.965 [8.323]	7.515*** [2.764]	0.174*** [0.060]
Leverage	-2.736*** [0.553]	2.480*** [0.788]	-0.863*** [0.246]	0.017*** [0.005]
Intercept	34.850*** [3.575]	49.107*** [7.771]	59.694*** [1.471]	-0.069*** [0.026]
Industry fixed effects	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	11754	11754	11754	11396
<i>Adj. R-square</i>	13.7	9.73	9.3	20.57

**Table 10**  
**Employee Ownership and Financial Performance**

This table reports parameter estimates and standard errors from OLS regressions of financial performance on Employee ownership (EO) and various control variables for each year from 1995 to 2010. The coefficient of EO represents the statistical and economical relationship between EO and financial performance. ROA is defined as net income divided by the book value of assets at the end of the year; ROE is defined as net income divided by the book value of equity; Tobin's Q is defined as the market value of equity divided by the book value of equity; and Annual stock returns is defined as the annualized cumulative stock returns; The control variables are Size, the logarithm of the book value of assets; Unionization, defined as the sum of positive (strength) and negative (concern) score of union relation; CAPX to asset, capital expenditures over the book value of assets; Dividend to asset, the total dividend over the book value of assets; and Leverage defined as the book value of debt over total asset. All models include industry fixed effects and standard errors are adjusted for clustering at the firm level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (°) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	ROA	ROE	Tobin's Q	Annual Stock Return
EO	0.002 [0.004]	-0.049 [0.084]	0.514*** [0.131]	0.011 [0.010]
Size	0.02*** [0.002]	0.103* [0.058]	-0.243*** [0.034]	-0.026*** [0.003]
Unionization	0.011** [0.005]	0.045 [0.063]	0.135 [0.133]	-0.006 [0.018]
CAPX to Asset	0.203*** [0.041]	1.443 [0.896]	3.815*** [0.895]	-0.360*** [0.095]
Dividend to Asset	0.342*** [0.061]	1.555*** [0.448]	12.801*** [2.084]	-0.183*** [0.054]
Leverage	-0.064*** [0.012]	-1.432 [1.360]	2.389*** [0.187]	0.140*** [0.017]
Intercept	-0.117*** [0.033]	0.075 [0.343]	3.182*** [0.879]	0.463*** [0.057]
Industry fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	21052	20583	20438	20685
<i>Adj. R-square</i>	12.21	1.2	16.54	16.5

**Table 11-1**

**Robustness Check: Part A – Subsample: Top 50% of size**

This table displays partial results for the several tests performed to determine robustness of the results. Part A includes the firms whose book value of total asset exceeds its median in the sample dataset. The dependent variables are various types of executive compensation and corporate governance variables. The model specification and the independent variables are exactly the same as the ones in table 4 and 5. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Dependent Variable	Total Salary	PSC	Perquisite	G-Index	Confidential Voting	Cumulative Voting	Golden Parachute
EO	-0.073*** [0.02]	-0.023 [0.041]	-0.166*** [0.062]	-0.265 [0.178]	0.04* [0.022]	0.023* [0.014]	-0.055** [0.023]
Size	0.183*** [0.009]	0.461*** [0.018]	0.342*** [0.027]	-0.033 [0.083]	0.115*** [0.011]	-0.011* [0.005]	-0.027*** [0.009]
ROA	0.205*** [0.130]	3.002*** [0.338]	0.426*** [0.200]	-1.137 [0.881]	-0.036 [0.088]	-0.006 [0.045]	-0.202** [0.102]
Annual Returns	-0.001 [0.010]	0.255*** [0.065]	0.021 [0.018]	0.057 [0.142]	-0.009 [0.012]	0.002 [0.005]	0.012 [0.015]
Unionization	-0.018 [0.021]	0.02 [0.051]	0.041 [0.080]	-0.112 [0.255]	0.015 [0.035]	-0.02 [0.011]	0.052* [0.029]
CAPX to Asset	-0.027 [0.202]	1.005* [0.556]	0.666 [0.703]	2.349 [2.072]	-0.194 [0.28]	0.135 [0.123]	-0.291 [0.254]
Dividend to Asset	0.507 [0.269]	0.172 [0.774]	1.209 [0.944]	11.270** [4.54]	0.718* [0.428]	0.199 [0.178]	0.081 [0.364]
Leverage	0.072** [0.033]	0.259*** [0.066]	0.182** [0.072]	0.254* [0.93]	0.099*** [0.027]	-0.029** [0.015]	0.091*** [0.032]
Intercept	4.887*** [0.204]	3.316 [0.216]	1.414 [0.391]	8.063*** [1.342]	-0.798*** [0.159]	0.121*** [0.057]	0.735*** [0.197]
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	8260	8255	8175	2899	5465	5465	5465
<i>Adjusted R-squared</i>	37.69	39.25	20.43	6.19	22.58	4.36	16.93



**Table 11-2**

**Robustness Check: Part B - Subsample: Bottom 50% of size**

This table displays partial results for the several tests performed to determine robustness of the results. Part B includes the firms whose book value of total asset does not exceed its median in the sample dataset. The dependent variables are various types of executive compensation and corporate governance variables. The model specification and the independent variables are exactly the same as the ones in table 4 and 5. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Dependent Variable	Total Salary	PSC	Perquisite	G-Index	Confidential Voting	Cumulative Voting	Golden Parachute
EO	-0.053*** [0.018]	0.007 [0.070]	-0.165** [0.080]	-0.146 [0.207]	0.006 [0.015]	0.018 [0.016]	-0.027 [0.028]
Size	0.193*** [0.008]	0.608*** [0.041]	0.439*** [0.038]	0.441*** [0.127]	0.009 [0.009]	-0.005 [0.008]	0.077*** [0.016]
ROA	0.210*** [0.041]	3.727*** [0.316]	0.739*** [0.196]	-0.567 [0.476]	0.012 [0.036]	0.01 [0.027]	-0.115 [0.069]
Annual Returns	0.017 [0.004]	0.227*** [0.056]	-0.026 [0.026]	0.265* [0.155]	0.004 [0.007]	-0.004 [0.005]	-0.004 [0.015]
Unionization	0.064 [0.033]	0.407 [0.261]	0.283*** [0.125]	-0.537 [0.719]	0.026 [0.040]	-0.05 [0.043]	-0.059 [0.071]
CAPX to Asset	0.178 [0.177]	2.109*** [0.791]	-1.07 [0.587]	-2.847 [1.788]	0.193 [0.135]	0.222 [0.125]	-0.265 [0.251]
Dividend to Asset	-0.121 [0.118]	-0.818 [0.396]	0.399*** [0.417]	6.844*** [2.632]	0.179 [0.171]	-0.027 [0.084]	-0.394 [0.28]
Leverage	0.054*** [0.012]	0.465*** [0.104]	0.436*** [0.088]	0.991*** [0.237]	0.025 [0.023]	-0.01 [0.015]	0.201*** [0.039]
Intercept	4.348*** [0.083]	0.071 [1.011]	-1.537*** [0.441]	4.373*** [1.436]	-0.023 [0.091]	0.031 [0.054]	0.011 [0.239]
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	5794	5777	5566	1759	3292	3292	3292
<i>Adjusted R-squared</i>	31.84	23.55	16.33	12.23	6.34	5.04	19.06

## Appendix A: Variables descriptions

Variables	Description and Data Sources
Employee Ownership	EO is the ordinal variable defined as 0 if the firm provides employees with neither cash nor equity; 1 if the firm provides employees with cash <i>or</i> equity and 2 if the firm provides employees with cash <i>and</i> equity. <i>Source:</i> KLD & Department of Labor
Profit Sharing	PS is defined as 1 if the firm provides employees only with cash to encourage employee ownership and 0 otherwise. <i>Source:</i> KLD & Department of Labor
Equity Ownership	EEO is defined as 1 if the firm provides employees only with equity to encourage employee ownership and 0 otherwise. <i>Source:</i> KLD & Department of Labor
Total Base Salary	The dollar value of the base salary earned by the named executive officer during the fiscal year. <i>Source:</i> Execucomp
Perquisite	Annual average of top five executives' other compensation. It includes perquisites and other personal benefits, termination or change-in-control payments, contributions to defined contribution plans (e.g. 401K plans), life insurance premiums, gross-ups and other tax reimbursements, discounted share purchases etc. <i>Source:</i> Execucomp
Unionization	The sum of positive (strength) and negative (concern) score of union relation. <i>Source:</i> KLD
CAPX to asset	Capital expenditure over the book value of asset. <i>Source:</i> Compustat
Dividend to asset	Total dividend to the book value of asset. <i>Source:</i> Compustat
G-Index	An index that counts the presence of 24 antitakeover, voting, compensation-related and state-law-related provisions present in a corporate charter. The index is introduced by Gompers, Ishii, and Metrick (2003). The index includes the following count provisions: all provisions in the delay-, voting-, state laws-, and officer protection- indices (defined below) plus the following provisions: poison pill, pension parachute, and silver parachute. <i>Source:</i> RiskMetrics_Corporate Governance
Cumulative Voting	An indication for a firm that allows for cumulative voting for the election of directors. The variable equals to one if the firm allows for cumulative voting and zero otherwise. <i>Source:</i> RiskMetrics_Corporate Governance

Confidential Voting	An indication for a firm that adopted a confidential voting policy. The variable equals to one if the firm adopted confidential voting and zero otherwise. <i>Source: RiskMetrics_Governance</i>
Golden Parachute	An indication for a firm that approved an executive compensation agreement that provides for benefits upon a change in control. The variable equals to one if the firm approved an executive compensation agreement that provides for benefits upon a change in control. <i>Source: RiskMetrics_Corporate Governance</i>
Employees on the Board	The percentage of corporate employees in a corporate board. <i>Source: RiskMetrics_Director</i>
Independent board member	The percentage of independent board member in a corporate board. <i>Source: RiskMetrics_Director</i>
Female board members	The percentage of female member in a corporate board. <i>Source: RiskMetrics_Director</i>
Age of Board Directors	The average age of board directors in a corporate board. <i>Source: RiskMetrics_Director</i>
Proxy Voting	An indication for the event of proxy voting executed in a given year <i>Source: RiskMetrics_Proxy Voting</i>
Shareholder Proposal	An indication for the event of proxy voting proposed by shareholders. <i>Source: RiskMetrics_Proxy Voting</i>
Management Proposal	An indication for the event of proxy voting proposed by management. <i>Source: RiskMetrics_Proxy Voting</i>
High Income	The fraction of household income in excess of \$100,000 in a given MSA region. <i>Source: US Census Bureau</i>
High Education	The fraction of residents who earned a college degree in a given MSA region. <i>Source: US Census Bureau</i>
Age_60	The fraction of residents who are older than 60 years old in a given MSA region. <i>Source: US Census Bureau</i>

## **Appendix B: Detailed Descriptions of Incentive Compensation Plan in US**

### **Employee Stock Ownership Plan (ESOP)**

Employee stock ownership plan (ESOP) is a defined contribution plan, a form of retirement plan as defined by 4975(e)(7) of IRS codes, which became a qualified retirement plan in 1974. It is one of the methods of employee participation in corporate ownership.

- In the mid-19th century, as the United States transitioned to an industrial economy, national corporations like Proctor & Gamble, Railway Express, Sears & Roebuck, and others recognized that someone could work for the companies for 20 plus years, reach an old age, and then have no income after they could no longer work. The leaders of those 19th-century companies decided to set aside stock in the company that would be given to the employee when she or he retired.
- In the early 20th century, when the United States sanctioned an income tax on all citizens, one of the biggest debates was about how to treat stock set aside for an employee by her employer under the new U.S. income tax laws.
- ESOPs were developed as a way to encourage capital expansion and economic equality. Many of the early proponents of ESOPs believed that capitalism's viability depended upon continued growth, and that there was no better way for economies to grow than by distributing the benefits of that growth to the workforce.
- In 1956, Louis Kelso invented the first ESOP, which allowed the employees of *Peninsula Newspapers* to buy out the company founders. Chairman of the Senate Finance Committee, Senator Russell Long, a Democrat from Louisiana, helped develop tax policy for ESOPs within the Employee Retirement Income Security Act of 1974 (ERISA), calling it one of his most important accomplishments in his career. ESOPs also attracted interest of Republican leaders including Barry Goldwater, Richard Nixon, and Gerald Ford, and ESOPs won praise from Ronald Reagan. In 2001, the United States Congress enacted Internal Revenue Code section 409(p), which effectively requires that S ESOP benefits be shared equitably by investors and workers. This ensures that the ESOP includes everyone from the receptionist to the CFO.

### **Employee Stock Purchase Plan (ESPP)**

In the United States, an employee stock purchase plan (ESPP) is a tax-efficient means by which employees of a corporation can purchase the corporation's stock, often at a discount. For example,

the discount might be 10% off on the stock's fair value market price at a certain date as determined by the plan.

- Employees contribute to the plan through payroll deductions, which build up between the offering date and the purchase date. At the purchase date, the company uses the accumulated funds to purchase shares in the company on behalf of the participating employees. The amount of the discount depends on the specific plan but can be as much as 15% lower than the market price.
- Depending when the employee sells the shares, the disposition will be classified as either qualified or not qualified. If the position is sold two years after the offering date and at least one year after the purchase date, the shares will fall under a qualified disposition. If the shares are sold within two years of the offering date or within one year after the purchase date the disposition will not be qualified. These positions will have different tax implications.

### **Employee Stock Option**

An employee stock option (ESO) is commonly viewed as a complex call option on the common stock of a company, granted by the company to an employee as part of the employee's remuneration package.<sup>[1]</sup> Regulators and economists have since specified that "employee stock options" is a label that refers to compensation contracts between an employer and an employee that carries some characteristics of financial options but are not in and of themselves options (that is they are "compensation contracts").

- As described in the AICPA's Financial Reporting Alert on this topic, for the employer who uses ESO contracts as compensation, the contracts amount to a "short" position in the employer's equity, unless the contract is tied to some other attribute of the employer's balance sheet. To the extent the employer's position can be modeled as a type of option, it is most often modeled as a "short position in a call." From the employee's point of view, the compensation contract provides a conditional right to buy the equity of the employer and when modeled as an option, the employee's perspective is that of a "long position in a call option."
- The US GAAP accounting model for employee stock options and similar share-based compensation contracts changed substantially in 2005 as FAS123(revised) began to take effect. According to US generally accepted accounting principles in effect before June

2005, principally FAS123 and its predecessor APB 25, stock options granted to employees did not need to be recognized as an expense on the income statement when granted if certain conditions were met, although the cost (expressed under FAS123 as a form of the fair value of the stock option contracts) was disclosed in the notes to the financial statements.

### **Profit Sharing**

Profit sharing is a type of compensation paid to employees by companies. Payment of a profit sharing bonus to non-management employees typically takes place at the discretion of the company and does not constitute an entitlement—although if it is paid routinely and year after year, employees may come to count on it as part of their compensation. Profit sharing bonuses are treated as income for tax purposes upon receipt unless made to deferred compensation plans.

- Companies use any number of different formulas to calculate the distribution of profits to their employees and have a variety of rules and regulations regarding eligibility. In general, however, two types of plans prevail. The first takes the form of cash bonuses under which employees receive a profit-sharing distribution at the end of the year. The main drawback to cash distribution plans is that this income is immediately subject to income tax. This also holds if the bonus is paid out in the form of company stock.
- To avoid immediate taxation, companies are permitted by the Internal Revenue Service (IRS) to set up qualified deferred profit-sharing plans. Under a deferred plan, the second type of profit sharing, profit-sharing distributions are held in individual accounts for each employee. Employees are not allowed to withdraw from their profit-sharing accounts except under certain, well-defined conditions. As long as employees do not have easy access to the funds, money in the accounts is not taxed and may earn tax-deferred interest. BLS data reported on this form of profit sharing do not show extent of corporate participation or the number of employees eligible overall.
- Under qualified deferred profit-sharing plans, employees may be given a range of investment choices for their accounts, including stocks or mutual funds. Such choices are common when the accounts are managed by outside investment firms. It is becoming less common for companies to manage their own profit-sharing plans due to the fiduciary duties and liabilities associated with them. A 401(k) account is a common type of deferred profit-sharing plan, with several unique features. For example, employees are allowed to voluntarily contribute a portion of their salary, before taxes, to their 401(k)

account. The company may decide to match a certain percentage of such contributions. In addition, many 401(k) accounts have provisions that enable employees to borrow money under certain conditions.

## **Chapter 2**

### **Leadership and Corporate Culture: Evidence from Executive Migrations across Firms**

#### **ABSTRACT**

This paper examines the importance of leadership for corporate culture by studying changes in firm environmental policy around executive successions. I find that firms improve significantly their environmental performance following the arrival of executives from firms with strong pro-environmental culture and firms tend to decrease their environmental standards following the arrival of executives with poor environmental record. However, the economic impact is much weaker for an executive with poor environmental record. The findings provide insight into the formation of organizational culture and the diffusion of cultural norms in the economy.



## 1. INTRODUCTION

Corporate culture refers to the set of basic attitudes and norms emerging within the organization. What determines these attitudes is an important question because corporate culture is directly linked to firm competitive advantage (Bennis and Nanus, 1985); management practices (Trice and Beyer, 1993); and organizational success more broadly (Denison, 1990). However, understanding the origin of organizational culture has been a challenging task. Indeed, according to Schein (2004: 219), “one of the most mysterious aspects of organizational culture is how two companies with similar external environments, working in similar technologies on similar tasks and with founders of similar origins, come to have entirely different ways of operating over the years?”

A series of studies have suggested that leadership is related to organizational culture, particularly upper echelon leaders (e.g., Davis, 1984; Hambrick and Mason, 1984; Schein, 2004; Trice and Beyer, 1993). Despite the mounting theoretical arguments, the empirical evidence on the link between leadership and organizational dynamics is still scarce (Schneider and Smith, 2004).<sup>6</sup> One reason empirical research tends to lag theoretical developments is the fact that culture is potentially difficult to measure. Another challenge for empirical research is identification. Even if leadership and cultural variables are correlated, this association does not necessarily indicate a causal relationship from leaders towards the organization since managers can choose their work environment; they are also susceptible to its influence.

---

<sup>6</sup> Some authors have studied the implications of CEOs and their incentives for various stakeholders (e.g., Agle, Mitchell, & Sonnenfeld, 1999; Hemingway & Maclagan, 2004; Waldman et al., 2006). We present more detailed literature review in the next section.

In this paper, I present evidence on the importance of corporate executives for the formation of corporate culture by following their migrations across firms. I focus on one increasingly important cultural aspect – environmental policy. Firms differ substantially in their environmental management – some are more environmentally friendly, others less so. To quantify firm environmental policy, I obtain measures of firm environmental management from TRI data, which is available from the United States Environmental Protection Agency (EPA) and contains information reported annually by some industry groups as well as federal facilities for about 4000 firms over the last 15 years. Focusing on the events of top executive succession allows us to achieve a better identification of the leadership-factor in the formation of organizational policy.

I find that firms significantly lower toxic chemical emission after the arrival of an executive from an organization with a higher environmental standing and that firm's toxic chemical emission tends to increase after the arrival of an executive from an organization with a lower environmental performance. However, my statistical results show that the economic impact is much weaker for an executive with poor environmental record.

For robustness check, I also perform additional tests with KLD dataset, which provides measure of firm environmental management for more than 5,000 firms over the last 15 years. I find that firms improve their environmental policy after the arrival of an executive from an organization with a higher environmental standing and vice versa – firm's environmental ratings drop significantly after the arrival of an executive from an organization with a lower environmental rating. Next, I investigate how the executive-effect depends on the type of the environmental policy and characteristics of the

executive. I show that executives could account for changes in both operational aspects as well as more deep technological aspects of their firms, such as industry focus.

## **2. THEORY AND HYPOTHESES**

### **2-1. Organizational Culture and Firm Environmental Policy**

The concept of culture was introduced from anthropology to management in the early 1970s (e.g., Clark, 1972; Turner, 1973) and management scholars today generally agree that the culture concept is important for our understanding of organizational dynamics (e.g., Deal & Kennedy, 1982; Sathe, 1985). Schein (1990) defines organizational culture as “(a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems.”

Voluminous research over the last thirty years has contended that culture exhibits a profound effect on organizations. Some authors have emphasized the importance of corporate culture for organizational effectiveness. For example, Crémer (1993) argues that culture can enhance efficiency by reducing coordination and contracting costs; and Denison and Mishra (1995) show that various cultural attributes are positively related to performance. Others have noted that culture could present an important competitive advantage (e.g., Bennis and Nanus, 1985). Organizational culture has been also often linked to the strategic interactions among firms (Cartwright and Cooper 1996), M&A

performance (Datta 1991; Nahavandi and Malekzadeh 1988); and merger failure (Weber and Camerer, 2003).

In this paper, I consider one aspect of the organizational culture of the firm – its environmental policy. The environmental impact of businesses has been the subject of public debates heated by numerous corporate incidents, such as the Seveso disaster in 1976; the Bhopal incident in 1984; and the BP oil spill in 2010, among others. Employing environmentally-friendly policy has benefits for the firm since it could improve its standing with stakeholders (e.g., Chen and Metcalf, 1980; Mahapatra, 1984; Murphy, 2002; Sharfman and Fernando 2008). However, such policy comes with a cost and many have argued that the market does not adequately reward companies for socially responsible behavior (Mahapatra, 1984 : 29). Not surprisingly, firms commit to different environmental policies – some are more environmentally friendly, other less so.

The decision for a firm to adopt environmentally-friendly behavior is an important decision that influences the organization in significant ways. First of all, such behavior affects the production process – from technological implementations to routine everyday operations. On the technology side, environmentally friendly policy imposes significant constraints on the firm product market; it could even restrict operations in particular industries, such as chemicals and oil. On the operational side, environmentally friendly policy affects firm energy choices, waste management, and emission standards. Environmental policy also matters for the overall management style of the firm and could be detected in firm’s mission statements, language, and organizational routines.

Schein (2004) argues that organizational culture exists simultaneously on three levels – assumptions, values, and artifacts. Assumptions represent taken-for-granted beliefs about reality and human nature. Many of these beliefs guide individual behavior within the organization even if individuals are not consciously aware about their existence. Values are individuals’ principles and standards regarding certain aspects of the organization (e.g. loyalty, customer service). Artifacts comprise the physical components of the organization and include dress code, work hours, corporate lingo, etc. All three aspects of organizational culture are internally consistent; they also mutually influence each other. Given that firm environmental policy affects the firm at all three levels – artifacts, values, and assumptions – it could be regarded as an important dimension of organizational culture.

## **2-2. Organizational Dynamics and Leadership**

Organizational dynamics and upper echelon leadership are generally regarded as highly related aspects of organizational life (Davis 1984; Hambrick & Mason, 1984; Schein 2004; Hanges et al. 2000; Trice and Beyer 1993). Schein’s (2004) theory of culture and leadership and Schneider’s (1987) Attraction-selection-attrition framework have emphasized the importance of people for the structure, processes, and culture of the organization. Both theories also suggest that cultural formation begins with the goals and examples set by organizational leaders.

The importance of leaders for the formation of corporate culture is clear in the case of founders. Organizations are created by entrepreneurs who have a vision about the

objective of the organization and the proper way this objective could be achieved. Founders embed their personal characteristics early on into their organizations by establishing the basic mission of the organization and selecting its original members in accordance with their principles and beliefs (Schein, 2004). Some well-known examples of founders who have significantly embedded their personality in the organization are Anita Roddick of the Body Shop and Paul Newman of Newman's Own products.

When firms grow and attract new members, the impact of founders on the organization becomes weaker. Currently, the typical large firm in U.S. is publicly traded and diffusely owned (Helwege et al. 2007). Most large firms are also characterized with separation of ownership and control in which both owners and managers are constantly changing. Given that the modern firm is positioned in highly liquid capital and labor markets, the evolution of culture and its relationship to leadership are less clear. Are leaders of such organizations actively shaping the organizational culture or are they simply self-selecting to work for organizations that better fit their personal preferences?

There are two general ways in which corporate leaders could relate to organizational culture – they could be a force of preservation or a force of change. Leaders could be a conservative factor within their organization. Lazear (1995) shows how a firm's culture, once formed, can persist over time through selection of employees who share the firm's beliefs, or through employees' internalization of the norms in the firm. Van den Steen (2005) also argues that firms select like-minded managers and workers who share the firm's particular beliefs about the optimal course of action. His model implies that a firm's culture and shared beliefs could remain in the firm even after all founders are gone.

The literature often describes conservative leaders as “transactional leaders”. Transactional leaders usually do not strive for cultural change in the organization but they work in the existing culture. They operate within the existing system or culture by attempting to satisfy the current needs of the organization and by taking action to make corrections of any deviations from the norms (Bass, 1985; Burns, 1978).

Leaders could be also the driving force behind organizational change. Burns (1978) first introduced the concept of transformational leadership within the context of politics. Transformational leaders create significant change in the life of people and organizations (Pawar and Eastman, 1997). Since transformational leadership is related to the leader's personality, some authors have also defined it as charismatic leadership (House, 1977; Katz & Kahn, 1978; Hambrick & Finkelstein, 1987; House & Shamir, 1993; Klein & House, 1995; Bass, 1998).<sup>7</sup>

Understanding the relative importance of leadership for the creation (destruction) of corporate culture is largely an empirical question. Currently, there is evidence in the literature consistent with both the transactional and transformational views on leadership. Miller et al. (1986) document a link between specific leader personality characteristics and their firm's structural characteristics. Likewise, Tsui et al. (2006) find that CEO's vision and visibility tend to strengthen organizational culture. Researchers have also found that CEOs values and leadership style could influence various organizational stakeholders (e.g., Agle, Mitchell, & Sonnenfeld, 1999; Hemingway & Maclagan, 2004; Waldman et al., 2006).

---

<sup>7</sup> We note that charismatic could be misleading – it is normative. Connotation. Good... The impact could go in all directions.

Determining a causal relationship from leaders towards their organizations, however, is a challenging task since culture and leadership could exhibit reciprocal influences on each other (Schein, 2004; Schneider, 1987; Trice and Beyer, 1993). For example, many have argued that attributions of organizational performance to managerial ability are noisy and difficult to make because organizational performance is affected not only by the local decisions of management, but also by systematic risk factors operating at the industry and organizational levels (e.g., Bok, 1993; Holmstrom, 1982; March, 1984). Furthermore, poor company performance is often blamed on uncontrollable external events while good performance is credited to the foresight and quality of management (Bettman & Weitz, 1983; Salancik & Meindl, 1984). Better identification strategies could be particularly informative for our understanding of the link between leadership and organizational culture.

### **3. METHODOLOGY AND HYPOTHESES**

The objective of this paper is to assess the impact of top-level executives on firm environmental policy. My empirical strategy is to evaluate the changes of environmental policy following the succession of a top-level executive as a function of his/her environmental attitude. While the succession event could be identified precisely, the actual attitude of the executive is not directly observable. As a result, I proxy this attitude with the environmental track record of the executive old firm relative to the track record of their new firm. If firm upper echelon leadership is important for organizational culture, the following statement has to be true:



*Hypothesis 1. The arrival of a top-level executive from a firm with higher environmental rating is associated with an increase, while the arrival of an executive from a firm with lower environmental rating is associated with a decrease of the environmental standards of the firm.*

An important assumption for my empirical analysis is that the moving decision of the executive is not related to (is exogenous with respect to) the environmental policies of the two firms. I believe that this is a reasonable assumption since executives are more likely to condition their career choices on factors such as compensation, growth prospects, and geographic location (e.g., Murphy, 1999; Yonker, 2011). In addition, if executives move away from companies with high environmental rating towards companies with low environmental rating in search of a better fit, they would exhibit no significant positive impact on the environmental ratings of the companies they join. Vice versa, executives that abandon environmentally irresponsible firms would be also unlikely to decrease the environmental status of their new firms. Thus, any self-selection of executive employment with respect to firm environmental policy would bias us towards rejecting Hypothesis 1.

I also expect that the executive impact on organizational culture would be stronger for transformational leaders than the counterparts. Thus, I predict:

*Hypothesis 2. Organizational change would be more dramatic following the arrival of executives with higher environmental record within the new organization.*

Burns (1978) first introduced the concept of transformational leadership within the context of politics. Transformational leaders create significant change in the life of people and organizations (Pawar and Eastman, 1997). However, transactional leaders usually do not strive for cultural change in the organization but they work in the existing culture. They operate within the existing system or culture by attempting to satisfy the current needs of the organization and by taking action to make corrections of any deviations from the norms (Bass, 1985; Burns, 1978). In this study, I assume that an executive with higher environmental record represents a transformational leader and that an executive with lower environmental record does a transactional leader. Within my empirical examination, I use the two variables that represent the characteristics of these two types of leaders: Pro-environmental executive and anti-environmental executive.

#### **4. SAMPLE**

I compile my data from four sources - the Standard & Poor's ExecuComp database, containing a historic record on the identity, employment, and compensation of the five highest paid executives of S&P 1500 firms; Compustat, containing firm-level accounting information; the Toxics Release Inventory (TRI), a publicly available database containing information on toxic chemical releases and other waste management activities in the United States; and the KLD SOCRATES database, providing environmental policy ratings of large publicly traded firms and

ExecuComp is compiled from annual company proxy statements filed with the SEC and covers 2,500 active and inactive firms in the S&P 1500 index. Each executive in

the database has a unique identifier that allows us to track the migration of executives across firms in the database.

The primary source of firms' environmental policy is TRI data, which is available from the United States Environmental Protection Agency (EPA) and contains information reported annually by some industry groups as well as federal facilities. Each year, companies across a wide range of industries (including chemical, mining, paper, oil and gas industries) that produce more than 25,000 pounds or handle more than 10,000 pounds of a listed toxic chemical must report it to the TRI. The TRI threshold was initially set at 75,000 pounds annually. If the company treats, recycles, disposes, or releases more than 500 pounds of that chemical into the environment (as opposed to just handling it), then they must provide a detailed inventory of that chemical's inventory. I obtain the three variables: Total toxic chemical release (TCR), on-site release and off-site release; Total toxic chemical release (TCR) is defined as the logarithm of total toxic chemical releases at facilities in a firm; Total on-site release is defined as the logarithm of total releases on-site for a chemical at facilities in a firm; and Total off-site release is defined as the logarithm of total releases off-site for a chemical at facilities in a firm.

After identifying all top-level executives from ExecuComp who switch jobs and linking their old and new firms with the Compustat and the TRI data, I identify 143 distinctive moves. I exclude all changes of employment associated with mergers since these are not moves to a completely new organization. I also exclude all executives who accept a position into a new company, while maintaining a top management position in

the current company.<sup>8</sup> These restrictions result in my basic sample of 129 executive moves.

For robustness check, I also obtain measures of various dimensions of corporate environmental policy from the KLD SOCRATES database over the 1995-2010 periods. The dataset provides annual snapshots of the environmental, social, and governance performance of companies rated by KLD Research & Analytics, Inc. KLD's social research is distributed in SOCRATES, a proprietary database program that provides access to KLD's ratings and other data pertaining to the social records of over 5,000 publicly traded U.S. companies. (See Appendix 1 in details)

In Table 1, I present the number of firms with a leaving executive (who later joins another firm in the sample); and the number of firms with an arriving executive (who exited another firm earlier in the sample); for each year of the sample period. Note that the sum of all leaves is equal to the sum of all arrivals (1234), reflecting the fact that I am interested only in moves within the sample. Not surprisingly, there are more leaves in the early years and more arrivals in the later years of the sample period. The last column reports the average of total toxic chemical release (TCR) in TRI dataset each year. I observe that the average of TCR in the TRI database generally decreases from early 2000s, indicating that the average firm is becoming increasingly more environmentally friendly. (See Figure 1)

Table2 reports summary statistics across firms experiencing a succession of a top-level executive (first column) and all other firms in the sample (second column). I

---

<sup>8</sup> For example, Mr. Harvey R. Blau served as the Chairman and Chief Executive Officer of Aeroflex Inc. since October 1991; he also served as the Chief Executive Officer of Griffon Corporation from 1983 to April 2008.

observe that firms with new executives exhibit relatively lower total toxic chemical release and off-site release than other firms in the Executive database. They, however, exhibit higher on-site release. Finally, firms with new executives tend to be a little smaller and less profitable; they also seem to grow slower than other firms as indicated by their Return on Assets.

## 5. RESULTS

In my baseline model, I regress changes in toxic chemical release from year  $t-1$  to year  $t+1$  following the succession of a top-level executive on a set of executive and firm characteristics.

$$\Delta TCR_{i,t} = a_0 + a_1 \text{ProEnvExec}_{t-1} + a_2 \text{AntiEnvExec}_{t-1} + a_3 TCR_{i,t} + a_4 X_{i,t} + \varepsilon_{i,t} \quad (1)$$

, where the independent variable  $\text{ProEnvExec}_{t-1}$  is an indicator variable for executives moving to a company with more toxic chemical release (difference of higher than 0);  $\text{AntiEnv Executive}$ , an indicator variable for executives moving to a company with less toxic chemical releases (difference of lower than 0);  $\text{TCR}(t)$  in the first column, the total toxic chemical releases in the year of the succession.

Table 3 reports the estimated coefficients from the model in (1). I find that only pro-environmental executives exhibit significant impact on the change in environmental policy of the companies they join. For example, the first model in the table indicates that the arrival of a pro-environmental executive is associated with a 5.753 decrease in the total toxic chemical release of their new firm, while the coefficient on the arrival of an

anti-environment executive is not statistically significant. The table also indicates that the economic impact is consistently robust when it comes to performing the tests with different components. The component in the second model relates to on-site release, defined as the logarithm of the total releases on-site for a chemical at facilities in a firm while the component in the third model relates to off-site release, defined as the logarithm of the off-site releases at facilities in a firm. These two models show that the coefficients on the arrival of a pro-environmental executive are negatively significantly related to the change in toxic chemical release (both on-site and off-site) while the coefficients on the arrival of an anti-environmental executive are not statistically significant. This finding suggests that organizational change would be more dramatic following the arrival of executives with higher environmental record within the new organization as I postulated in Hypothesis 2. The control variables show that large and growing firms (higher Return on Assets) are more likely to adopt environmentally friendly policies, while profitability is not significantly related to changes in firm environmental practices.

There is a limitation which could be examined in future research. First, TCR (Total Chemical Release) is defined as the logarithm of total toxic chemical releases at facilities in a firm. The concern could be raised that the amount of toxic chemical release is determined by the size of firms or the number of facilities regardless of their environmental policy. A way to mitigate this issue is to divide the sample by the size of the firm and then run the regressions separately in testing the same hypothesis. It might be a stronger identification since I can perform more robust tests based on the size of the firm. For example, if I find the consistent results with these separate regressions, I could

confirm that the size is not a critical determinant to change firms' environmental policy and vice versa.

#### 5-1. Robustness Check

To further examine the relation between change in environmental policy and executive characteristics, I perform additional tests by using environmental performance information in KLD dataset and test the same hypothesis I constructed as described in section 3. KLD assigns a 0/1 rating for each one of the 13 categories. (See Appendix 1 in details) Based on this information, I construct an environmental management index as the sum of all strengths minus the sum of all concerns.<sup>9</sup> I also consider the following four alternative indices based on subsets of the variables capturing various dimensions firm environmental policy related to firm operations, technology, litigation security, and innovation. Environmentally friendly operations are defined as the sum of firm pollution prevention, clean energy, and other strengths minus concerns related to ozone depleting chemicals and substantial emissions ( $S2+S4+S5-C3-C4$ ). Environmentally friendly technology is defined as the negative sum of the indicators for involvement in the production/consumption of agricultural chemicals and coal and oil fuel products ( $-C5-C6$ ). These two indicators reflect the industry of the firm and as a result are more difficult to change. The negative sign adjusts for the fact that involvement in these industries indicates a concern. Environmental litigation security is defined as the negative sum of indicators for fines and civil penalties for violations of environmental litigations ( $-C1-C2$ ). Finally, environmentally friendly innovation is an indicator variable for the development

---

<sup>9</sup> Throughout the paper, we also refer to the index as an environmental friendliness index.

of environmentally friendly products and services (S1). Despite its wide and sustained use by scholars, KLD data has limitation. In particular, the variables in the database contain a large number of zeros. Entine (2003) raised this issue specifically about omission of difficult-to-measure confounds. Due to this weakness, the variable on environmental performance could miss much information. Nonetheless, I find that the dataset has been improving and becoming less subjective through the recent years. I believe that KLD data is at least sufficient and subjective enough to perform the robustness check in testing the hypothesis in this study.

After identifying all top-level executives from ExecuComp who switch jobs and linking their old and new firms with the Compustat and the KLD data, I identify 792 distinctive moves. I exclude all changes of employment associated with mergers since these are not moves to a completely new organization. I also exclude all executives who accept a position into a new company, while maintaining a top management position in the current company.<sup>10</sup> These restrictions result in my basic sample of 774 executive moves.

In Table 4, I present the number of firms in the extended sample; the number of firms with a leaving executive (who later joins another firm in the sample); and the number of firms with an arriving executive (who exited another firm earlier in the sample) for each year of the sample period. Note that the sum of all leaves is equal to the sum of all arrivals (774), reflecting the fact that I am interested only in moves within the sample. I observe that the total number of firms in the KLD database increases over time due to

---

<sup>10</sup> For example, Mr. Harvey R. Blau served as the Chairman and Chief Executive Officer of Aeroflex Inc. since October 1991; he also served as the Chief Executive Officer of Griffon Corporation from 1983 to April 2008.



improved coverage. Not surprisingly, there are more leaves in the early years and more arrivals in the later years of the sample period. The last column reports the average environmental friendliness index each year. The index is predominantly negative since the number of environmental concerns generally exceeds the number of environmental strengths. The index, however, is gradually increasing over time, indicating that the average firm is becoming increasingly more environmentally friendly.

In this section, I regress changes in firm environmental policy following the succession of a top-level executive on a set of executive and firm characteristics and the following is the model specification.

$$\Delta ENV_{i,t} = a_0 + a_1 \text{ProEnvExec}_{t-1} + a_2 \text{AntiEnvExec}_{t-1} + a_3 ENV_{i,t} + a_4 X_{i,t} + \varepsilon_{i,t}$$

(2)

, where  $\text{ProEnvExec}_{t-1}$  is an indicator variable equal to 1 if the executive moves to a firm with a lower environmental index (difference of at least 1 unit). The independent variable  $\text{AntiEnvExec}_{t-1}$  is an indicator variable equal to 1 if the executive moves to a firm with a higher environmental index (difference of at least 1 unit). Both variables are constructed based on firm-level environmental information one year before the move. Around 7 percent of the moving executives could be classified as pro-environmental leaders and around 6.6 percent could be classified as anti-environmental leaders. I include as additional control variables on the right-hand-side the environmental friendliness index and a set of accounting characteristics of the new firm measured in the year of the move. The model also has both industry- and year-fixed effects and standard errors are adjusted for clustering at the industry-level.

Table 5 reports the estimated coefficients from the model in (2). I evaluate the changes of various components of firm environmental policy from year  $t-1$  to year  $t+1$ . I find that both pro-environmental executives and anti-environmental executives exhibit significant impact on the change in environmental policy of the companies they join. The economic impact is stronger for pro-environmental executives. For example, the first model in the table indicates that the arrival of a pro-environmental executive is associated with a 0.96 increase in the environmental ranking of their new firm, while the arrival of an anti-environment executive is associated with a 0.64 decrease in the environmental ranking of their new firm.

The second to fourth columns evaluate the changes of various components of firm environmental policy following an executive succession related to firm operations, technology, and litigation security. In particular, the dependent variable in the second model measures firm operations, defined as the sum of firm pollution prevention, clean energy, and other strengths minus concerns related to ozone depleting chemicals and substantial emissions; the dependent variable in the third model relates to the environmental friendliness of firm technology and is defined as the sum of negative indicators for involvement in the production/consumption of agricultural chemicals and coal and oil fuel products; the dependent variable in the fourth model measures firm environmental litigation security, defined as the sum of negative indicators for fines and civil penalties for violations of environmental litigations; and the dependent variable in the fourth model is a measure of environmentally-friendly product innovation.

I find that both environmentally friendly operations and technology respond significantly to executive succession. Both the statistical and economic significance of

the executive-variables tend to be lower for technological changes than for operational changes. This is not surprising since technology reflects the industry focus of the firm which is generally more difficult to change. For example, while a firm producing agricultural chemicals can improve its pollution standards at a relatively low cost; its ability to change industry would be much more limited. I also find that the arrival of a pro-environmental executive reduces significantly the environmental litigation risk for the firm.

I also examine the long term effect of executives' migration on cultural formation. Table 6 reports the estimated coefficients from the model in (1) with different time duration. As consistent with the previous results, the table indicates that both pro-environmental executives and anti-environmental executives exhibit significant impact on the change in environmental policy of the companies they join. The economic impact is long-lived and persists for at least three years following the executive move. However, there is a lack of long-term data that can fully assess the periodical effect of leadership on the formation of culture. As the span of historical databases becomes lengthened, researchers will increasingly be able to conduct more robust tests for the long term effect of leadership on environmental policy.

## **7. DISCUSSION AND CONCLUDING REMARKS**

How important is leadership for the creation of corporate culture? In the case of founders, the answer is clear – founders embed their philosophy in the establishments they create. However, the typical large firm in US is publicly traded, diffusely owned, and largely detached from its founders. Positioned in liquid capital and labor markets, the

modern firm is characterized with high turnover of both shareholders and managers. As a result, what determines the evolution of its organizational culture is a difficult and yet an important question. Large firms account for the majority of the market capitalization and employment in U.S.

The ever-changing managers and owners of the modern firm also make it difficult to establish causal relationships between its leadership and organizational performance. Even if one finds mathematical correlations between the two – are leaders actively shaping their organization or is the organization shaping them? In this paper, I design a stronger identification test for the impact of corporate executives on organizational culture by following their migrations across firms.

I present evidence that executives exhibit an active part in the formation of corporate culture. Not surprisingly, I find that organizational change would be more dramatic following the arrival of executives with higher environmental record within the new organization. This result is consistent with the conjecture that is postulated by Burn (1978). According to him, transformational leaders create significant change in the life of people and organizations (Pawar and Eastman, 1997) while transactional leaders usually do not strive for cultural change in the organization but they work in the existing culture. My statistical results support the validity of his argument.

Following executives across firms allows for better identification of the executive-factor for organizational culture. At a more aggregate level, however, my analysis provides information about the diffusion of culture across organizations. Corporate culture is intricately related to the norms and habits in society more broadly.

North (1990:3) refers to these norms and habits as institutions. According to North, institutions “are the rules of the game in a society”, “the humanly devised constraints that shape human interaction.” North (1990) also emphasized the importance of understanding the forces behind institutional change for further progress in the social sciences. My overall conclusion is that markets promote institutional change in society by facilitating the diffusion of ideas across organizations.

## REFERENCES

- Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. 1999. Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. *Academy of Management Journal*, 42: 507–525.
- Bass, B. M. 1985. *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M. 1998. *Transformational leadership: Industrial, military, and educational impact*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Bennis, W., & Nanus, B. 1985. *Leaders*. New York: Harper & Row.
- Bertrand, M., & Mullainathan, S. 2003. Enjoying the quiet life? Managerial behavior following anti-takeover legislation. *Journal of Political Economy*, 11: 1043-1075.
- Bettman, J.R., & Weitz, B.A. 1983. Attributions in the board room: Causal reasoning in corporate annual reports. *Administrative Science Quarterly*, 28: 165-183.
- Bok, D. 1993. *The cost of talent: How executives and professionals are paid and how it affects America*. New York: Free Press.
- Brown, N. & Deegan, C. 1998. The Public Disclosure of Environmental Performance Information—A Dual Test of Media Agenda Setting Theory and Legitimacy Theory. *Accounting and Business Research*, 29 (Winter): 21–41.
- Burns, J. M. 1978. *Leadership*. New York: Harper & Row.
- Cartwright, S., & Cooper, C. L. 1996. *Managing mergers, acquisitions, and strategic alliances: Integrating people and cultures*, 2nd ed. Butterworth & Heinemann, Oxford, UK.
- Clark, B. R. 1972. The organizational saga in higher education. *Administrative Science Quarterly*, 17: 178-183.
- Coles, J., Daniel, N., & Naveen, L., 2006. Managerial incentives and risk-taking. *Journal of Financial Economics*, 79: 431-468.
- Core, J. E., Holthausen, R. W., and Larcker, D. F. 1999. Corporate governance, CEO compensation, and firm performance. *Journal of Financial Economics*, 51: 371-406.
- Crémer, J. 1993. Corporate culture and shared knowledge. *Industrial and Corporate Change*, 2: 351-386.

- Datta, D. K. 1991. Organizational fit and acquisition performance: Effects of post-acquisition integration. *Strategic Management Journal*, 12: 281–297.
- Davis, S. M. 1984. *Managing corporate culture*. Cambridge, MA: Ballinger.
- Deal, T. E., & Kennedy, A. A. 1982. *Corporate cultures*. Reading, MA: Addison-Wesley.
- Denison, D. R. 1990. *Corporate Culture and Organizational Effectiveness*. New York: Wiley
- Denison, D. R., & Mishra, A. 1995. Toward a theory of organizational culture and effectiveness. *Organization Science*, 6: 204-224.
- Finkelstein, S., & Hambrick, D. C. 1996. *Strategic leadership: Top executives and their effects on organizations*. St. Paul: West.
- Goel, A., & Thakor, A. 2008. Overconfidence, CEO selection, and corporate governance. *Journal of Finance*, 63: 2737-2784.
- Hambrick, D. C, & Finkelstein, S. 1987. Managerial discretion: A bridge between polar views of organizational discretion. In L. L. Cummings & B, M. Staw (Eds.). *Research in Organizational Behavior*, 9: 369-406.
- Hambrick, D. C., & Mason, P. A. 1984. Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9: 193-206.
- Hanges, P. J., Lord, R. G., & Dickson, M. W. 2000. An information processing perspective on leadership and culture: A case for connectionist architecture. *Applied Psychology: An International Review*, 49: 133 – 161.
- Helwege, J., Pirinsky, C., and Stulz, R. 2007. Why do firms become widely held? An analysis of the dynamics of corporate ownership. *Journal of Finance*, 62: 995-1028.
- Hemingway, C. A., & Maclagan, P. W. 2004. Managers' personal values as drivers of corporate social responsibility. *Journal of Business Ethics*, 50: 33–44.
- Holmstrom, B. 1982. Managerial incentive problems- A dynamic perspective. *In Essays in economics and management in honor of Lars Wahlbeck*, 209–230. Helsinki: School of Economics.
- House, R. J. 1977. A 1976 theory of charismatic leadership. In J. G. Hunt & L. Larson (Eds.), *Leadership: The cutting edge*, 189-207. Carbondale: Southern Illinois University Press.

- House, R. J., & Shamir, B. 1993. Toward an integration of transformational, charismatic and visionary theories of leadership. In M. Chemmers & R. Ayman (Eds.), *Leadership: Perspectives and research directions*: 81-107. New York: Academic Press.
- Johnson, D. D. P. 2004. *Overconfidence and war: The havoc and glory of positive illusions*. Harvard University Press, Cambridge, MA.
- Kanter, R. M. 2004. *Confidence: How winning streaks and losing streaks begin and end*. Crown Business.
- Katz, D., & Kahn, R. L. 1978. *The social psychology of organizations (2nd ed.)*. New York: Wiley.
- Khurana, R. 2002. *Searching for a corporate savior: The irrational quest for charismatic CEOs*. Princeton, NJ: Princeton University Press.
- Klein, J. K., & House, R. J. 1995. On fire: Charismatic leadership and levels of analysis. *Leadership Quarterly*, 6: 183-198.
- Lazear, E.P. 1995. *Personnel economics*. Cambridge, MA: MIT Press.
- March, J. G. 1984. Notes on ambiguity and executive compensation. *Scandinavian Journal of Management Studies*, 1: 53-64.
- Miller, D., & Toulouse, J. M. 1986. Chief executive personality and corporate strategy and structure in small firms. *Management Science*, 32:1389-1409.
- Murphy, K.J. 1999b. Executive compensation. In: Orley, A., David, C. (Eds.). *Handbook of Labor Economics*, vol. 3: North-Holland, Amsterdam.
- Murphy, K. J. 2002. Explaining executive compensation: managerial power vs. perceived cost of stock options. *University of Chicago Law Review*, 69: 847-69.
- Nahavandi, A., & Malekzadeh, A. R. 1988. Acculturation in mergers and acquisitions. *Academy of Management Review*. 13: 79-90.
- North, D C. 1990. *Institutions, Institutional Change and Economic Performance*. New York, Cambridge University Press.
- Pirinsky, C. 2012. Confidence and economic attitudes. Working paper, George Washington University.
- Peterson, R. S., Smith, D. B., Martorana, P. V., & Owens, P. D. 2003. The impact of chief executive officer personality on top management team dynamics: One mechanism by which leadership affects organizational performance. *Journal of Applied Psychology*, 88: 795-808.



- Pawar, B. S., & Eastman, K. K. 1997. The nature and implications of contextual influences on transformational leadership: A conceptual examination. *Academy of Management Review*, 22: 80-109.
- Rajan, R.G. and Zingales, L. 1998. Power in a theory of the firm. *Quarterly Journal of Economics*, 113: 387–432
- Salancik, G. R., & Meindl, J. R. 1984. Corporate attributions as strategic illusions of management control. *Administrative Science Quarterly*, 29: 238-254.
- Sathe, V. 1985. *Culture and related corporate realities: Text, cases and readings on organizational entry, establishment, and change*. Irwin, Homewood, IL.
- Schein, E. 1990. Organizational culture. *American Psychologist*, 45: 109–119.
- Schein, E. 2004. *Organizational culture and leadership* (3rd ed.). San Francisco: Jossey-Bass.
- Schneider, B. 1987. The people make the place. *Personnel Psychology*, 40: 437-453.
- Schneider, B., & Smith, D. B. 2004. *Personality and organizations*. Mahwah, NJ: Lawrence Erlbaum
- Sharfman, M. P. & Fernando, C.S. 2008. Environmental risk management and the cost of capital. *Strategic Management Journal*, 29: 569-92
- Thomas, A. S., & Simerly, R. L. 1995. Internal determinant of corporate social performance: The role of top managers. *Academy of Management best papers proceedings*: 411–415.
- Trice, H. M., & Beyer, J. M. 1993. *The cultures of work organizations*. Englewood Cliffs, NJ: Prentice Hall.
- Trimpop, R. M. 1994. *The psychology of risk-taking behavior*. Amsterdam, The Netherlands: Elsevier Science B.V.
- Tsui, A. S., Zhang, Z. X., Wang, H., Xin, K. R., & Wu, J. B. 2006. Unpacking the relationship between CEO leadership behavior and organizational culture. *The Leadership Quarterly*, 17: 113–137.
- Turner, B. A. 1973. *Exploring the industrial subculture*. London: Macmillan.
- Van den Steen, E. 2005. Organizational beliefs and managerial vision. *Journal of Law, Economics, and Organization*, 21: 256-283.

- Waldman, D. A., Siegel, D. S., & Javidan, M. 2006. Components of CEO transformational leadership and corporate social responsibility. *Journal of Management Studies*, 43: 1703–1725.
- Weber, R. A., & Camerer, C. 2003. Cultural conflict and merger failure: An experimental approach. *Management Science*, 49: 400-415.
- Wiersema, M. F. & Bantel, K. A. 1992. Top management team demography and corporate strategic change. *Academy of Management Journal*, 35: 91-121.
- Wong, E. M., Ormiston, M. E., & Tetlock, P. E. 2011. The effects of top management team integrative complexity and decentralized decision making on corporate social performance. *Academy of Management Journal*, 54: 1207–1228.
- Yonker, S. 2011. Geography and the market for CEOs. Working Paper, Indiana University.

**Table 1**  
**Sample Characteristics**

For each year over the sample period, the table reports the number of firms with a leaving executive who later joins another firm in the sample data; the number of firms with an arriving executive who exited another firm in the sample data; and the annual average of total toxic chemical release (TCR) in the TRI dataset, the logarithm of the total toxic chemical release including onsite release and off-site releases.

Sample data			
Year	Executive leaves	Executive arrivals	Total Toxic Chemical Release
1993	4	1	10.582
1994	12	4	10.452
1995	10	7	10.459
1996	9	7	10.474
1997	8	7	10.564
1998	12	10	11.293
1999	13	7	11.349
2000	9	10	11.187
2001	9	14	10.972
2002	7	4	10.837
2003	6	8	10.792
2004	9	11	10.762
2005	8	5	10.796
2006	8	18	10.805
2007	3	10	10.781
2008	2	4	10.74
2009		2	10.667

**Table 2**  
**Summary Statistics**

The table reports average firm- and executive-characteristics across the firms with an executive succession in the sample data. Toxic chemical release (TCR) is defined as the logarithm of total toxic chemical releases at facilities in a firm. Total on-site release is defined as the logarithm of total releases on-site for a chemical at facilities in a firm. Total off-site release is defined as the logarithm of total releases off-site for a chemical at facilities in a firm. Size is the logarithm of the book value of assets; cash flow over asset is defined as cash flow from operations relative to total firm assets; ROA is defined as net income divided by the book value of asset at the beginning of the year; ProEnv Executive is an indicator variable for executives moving to a company with more toxic release (difference of higher than 0); and AntiEnv Executive is an indicator variable for executives moving to a company with less toxic releases (difference of lower than 0); The last column reports the differences of the characteristics in columns two and three. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Variable	Firms with new executives	Other firms in the Execucomp	Difference
Number of Firms	115	3241	-3126
Toxic Chemical Release	12.508	12.815	-0.307***
Onsite Release	11.937	11.844	0.093***
Offsite Release	7.116	7.742	-0.626***
Size (log)	8.024	8.087	-0.063***
Cash flow over assets	0.103	0.117	-0.014***
ROA	0.047	0.056	-0.009***
ProEnv Executive	0.655	-	-
AntiEnv Executive	0.345	-	-

**Table 3**  
**Executive Succession and Changes in Toxic Chemical Releases**

The table reports parameter estimates and standard errors from OLS regressions of changes in toxic chemical release from year  $t-1$  to year  $t+1$  following an executive succession. The component in the first model relates to total toxic chemical release (TCR), defined as the logarithm of the total toxic chemical release in the sample database; the component in the second model relates to on-site release, defined as the logarithm of the total releases on-site for a chemical at facilities in a firm. The component in the third model relates to off-site release, defined as the logarithm of the off-site releases at facilities in a firm. The independent variables are ProEnv Executive, an indicator variable for executives moving to a company with more toxic release (difference of higher than 0); AntiEnv Executive, an indicator variable for executives moving to a company with less toxic releases (difference of lower than 0); TCR(t) in the first column, the total toxic chemical releases in the year of the succession; On-site release(t) in the second column, defined as the logarithm of the total releases on-site for a chemical at facilities in a firm in the year of the succession. Off-site release(t) in the third column, defined as the logarithm of the total release off-site release for a chemical at facilities in a firm in the year of the succession. Gap btw move reflects the year gap when an executive moves from one company to another. Size, the logarithm of the book value of assets; cash flow over asset, defined as cash flow from operations relative to total firm assets; and ROA, defined as net income divided by the book value of asset at the end of the succession year. All models include industry- and year-fixed effects and P-values are adjusted for clustering at the industry-level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	TCR Change	On-site Releases Change	Off-site Releases Change
ProEnv Executive	-5.753** [2.632]	-3.146* [1.813]	-5.267** [2.272]
AntiEnv Executive	-1.410 [3.164]	2.179 [2.276]	1.396 [2.552]
TCR(t)	0.182 [0.179]		
On-site Release(t)		0.158 [0.116]	
Off-site Release(t)			0.387*** [0.125]
Gap btw move	-0.901 [0.779]	-0.634 [0.838]	-1.331 [0.718]
Size (log)	-0.028 [0.352]	-0.101 [0.305]	-0.136 [0.466]
Cash flow over assets	6.669 [9.915]	7.725 [10.568]	4.135 [11.409]
ROA	6.026 [10.789]	-0.029 [11.905]	7.572 [11.315]
Intercept	-0.172 [4.758]	-3.377 [4.297]	2.93 [5.093]
Time fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
<i>Num. Obs.</i>	92	98	98
<i>Adj. R-squared</i>	1.64	6.39	24.12

**Table 4**  
**KLD Data Sample Characteristics**

For each year over the sample period, the table reports the number of firms covered in the KLD database; the number of firms with a leaving executive who later joins another firm in the KLD sample; the number of firms with an arriving executive who exited another firm in the KLD sample earlier; and the average environmental friendliness index, defined as the sum of all environmental strength indicators minus the sum of all environmental weaknesses indicators in the KLD-database.

Year	Number of firms in KLD	Number of firms with executive leaves	Number of firms with executive arrivals	Environmental friendliness index
1995	648	21	0	-0.159
1996	652	37	7	-0.114
1997	653	25	14	-0.115
1998	658	30	12	-0.114
1999	662	43	8	-0.212
2000	660	51	27	-0.188
2001	1107	46	35	-0.186
2002	1108	42	34	-0.145
2003	2963	83	53	-0.074
2004	3034	104	55	-0.108
2005	3015	78	45	-0.095
2006	2962	106	138	-0.089
2007	2937	71	137	-0.082
2008	2923	46	124	-0.063
2009	2912	9	103	-0.061
2010	2965	0	0	0.267

**Table 5**  
**Executive Succession and Changes in Environmental Policy**

The table reports parameter estimates and standard errors from OLS regressions of changes in firm environmental policy from year  $t-1$  to year  $t+1$  following an executive succession. The component in the first model relates to the environmental policy index (ENV), defined as the sum of all indicators for environmental strengths minus the sum of all indicators for environmental concerns in the KLD-database; The component in the second model relates to firm operations, defined as the sum of firm pollution prevention, clean energy, and other strengths minus concerns related to ozone depleting chemicals and substantial emissions; the component in the third model measures the environmental friendliness of firm technology and is defined as the sum of negative indicators for involvement in the production/consumption of agricultural chemicals and coal and oil fuel products; the component in the fourth model relates to the firm environmental litigation security, defined as the sum of negative indicators for fines and civil penalties for violations of environmental litigations. The independent variables are ProEnv Executive, an indicator variable for executives moving to a company with a lower environmental index (difference of -1 or lower); AntiEnv Executive, an indicator variable for executives moving to a company with a higher environmental index (difference of 1 or higher); ENV(t), the environmental policy index in the year of the succession; Size, the logarithm of the book value of assets; cash flow over asset, defined as cash flow from operations relative to total firm assets; and ROA, defined as net income divided by the book value of asset at the end of the succession year. All models include industry- and year-fixed effects and P-values are adjusted for clustering at the industry-level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*), (\*), and (·) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Environmental Policy Index	Operations	Technology	Litigation security
ProEnv Executive	0.963*** [0.162]	0.572*** [0.135]	0.351** [0.145]	0.511*** [0.138]
AntiEnv Executive	-0.646** [0.272]	-0.412*** [0.107]	-0.122* [0.066]	-0.119 [0.074]
ENV(t)	0.327*** [0.071]	0.418*** [0.08]	0.141 [0.098]	0.178 [0.121]
Size (log)	0.134 [0.019]	0.093*** [0.023]	0.002 [0.004]	0.029* [0.017]
Cash flow over assets	-0.144 [0.594]	-0.077 [0.267]	0.113 [0.104]	-0.279 [0.294]
ROA	0.895*** [0.361]	0.590** [0.287]	-0.059* [0.041]	0.176 [0.131]
Intercept	-1.054*** [0.213]	-0.737*** [0.193]	-0.034 [0.021]	-0.179 [0.157]
Time fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
<i>Num. Obs.</i>	698	678	698	698
<i>Adj. R-square</i>	31.71	36.31	15.13	8.09

**Table 6****The Time Effect of Executive Succession on Changes in Environmental Policy**

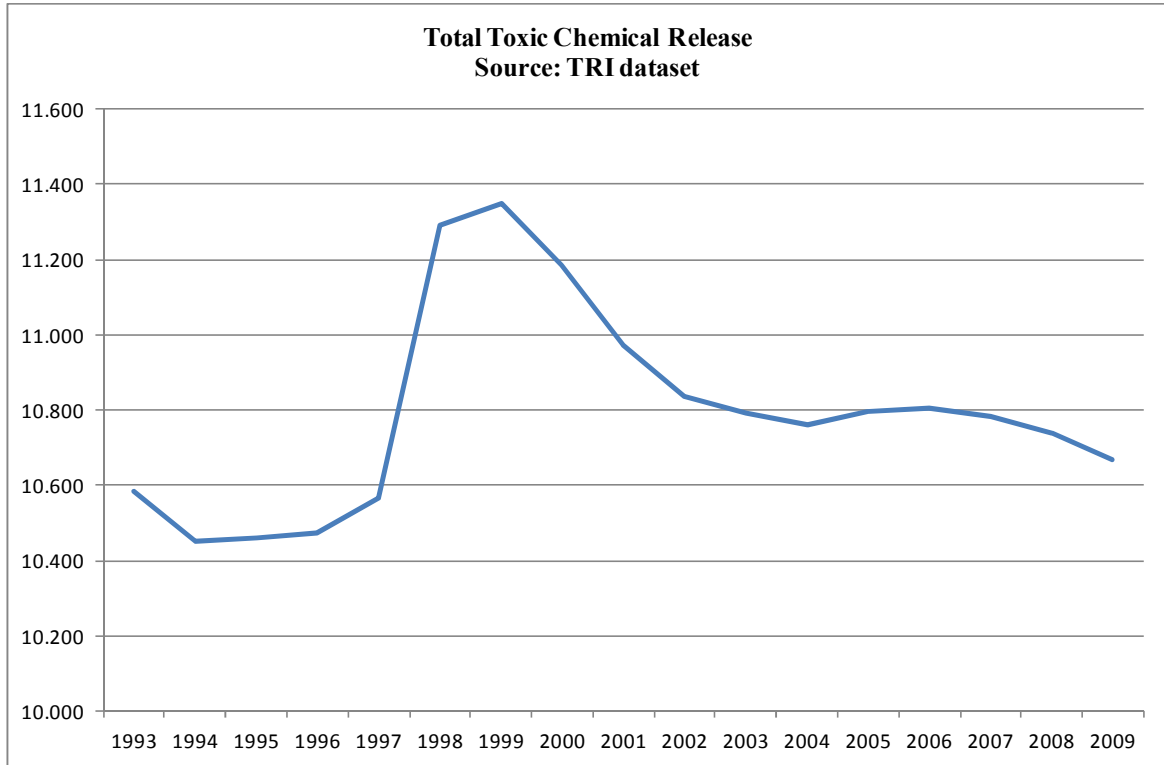
The table reports parameter estimates and standard errors from OLS regressions of changes in firm environmental policy from year  $t-1$  to year  $t+k$  following an executive succession, where  $t$  denotes the year of the succession and  $k$  takes the values of 1, 2, and 3. The environmental policy index (ENV) is defined as the sum of all indicators for environmental strengths minus the sum of all indicators for environmental concerns in the KLD-database. The independent variables are ProEnv Executive, an indicator variable for executives moving to a company with a lower environmental index (difference of -2 or lower); AntiEnv Executive, an indicator variable for executives moving to a company with a higher environmental index (difference of 2 or higher); ENV( $t$ ), the environmental policy index in the year of the succession; Size, the logarithm of the book value of assets; cash flow over asset, defined as cash flow from operations relative to total firm assets; and ROA, defined as net income divided by the book value of asset at the end of the succession year. All models include industry- and year-fixed effects and P-values are adjusted for clustering at the industry-level. The last two rows report the number of observations and adjusted R-squared in each regression. (\*\*\*) (\*\*), and (\*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	ENV(t+1)-ENV(t-1)	ENV(t+2)-ENV(t-1)	ENV(t+3)-ENV(t-1)
ProEnv Executive	0.963*** [0.162]	0.852*** [0.119]	1.025*** [0.278]
AntiEnv Executive	-0.646** [0.272]	-0.637** [0.272]	-0.628** [0.298]
ENV(t)	0.327*** [0.071]	0.219** [0.085]	0.261* [0.154]
Size (log)	0.134 [0.019]	0.189*** [0.029]	0.280*** [0.034]
Cash flow over assets	-0.144 [0.594]	-0.571 [0.554]	0.952 [0.679]
ROA	0.895*** [0.361]	1.143*** [0.306]	0.919* [0.496]
Intercept	-1.054*** [0.213]	-0.769*** [0.236]	-1.913*** [0.256]
Time fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
<i>Num. Obs.</i>	698	584	450
<i>Adj. R-squared</i>	31.71	30.71	30.90



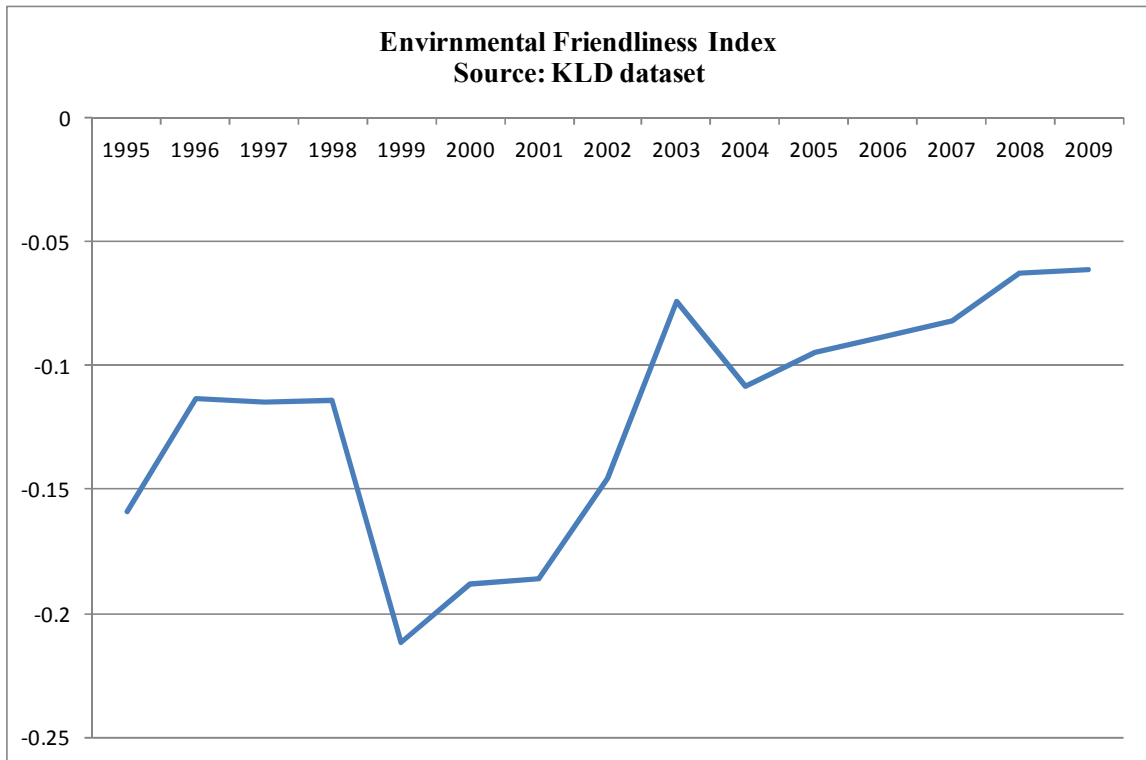
**Figure 1**  
**Total Toxic Chemical Release**

The following figure presents the annual average of logarithm of total toxic chemical release derived from whole sample in TRI dataset over the sample period (1995 – 2010)



**Figure 2**  
**Environmental Friendliness Index**

The following figure presents the annual average of environmental friendliness index derived from whole sample in KLD dataset over the sample period (1995 – 2010)



## APPENDIX A: TRI data

The Toxics Release Inventory (TRI) is a publicly available database containing information on toxic chemical releases and other waste management activities in the United States.

### Chemical Classification

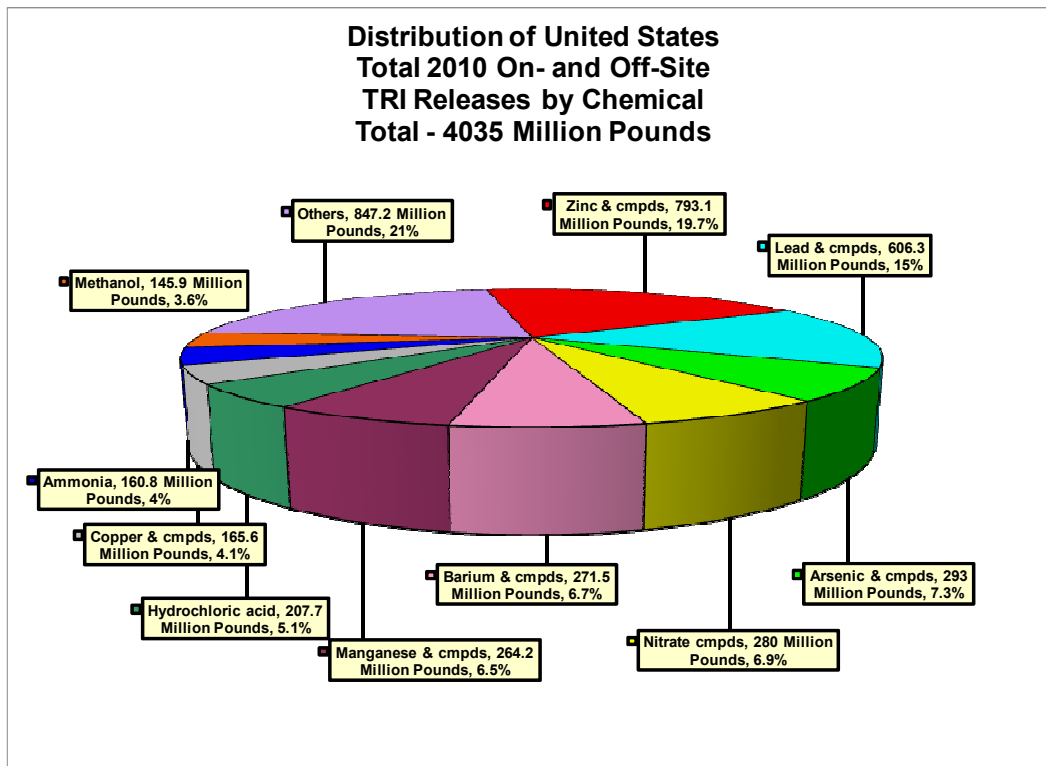
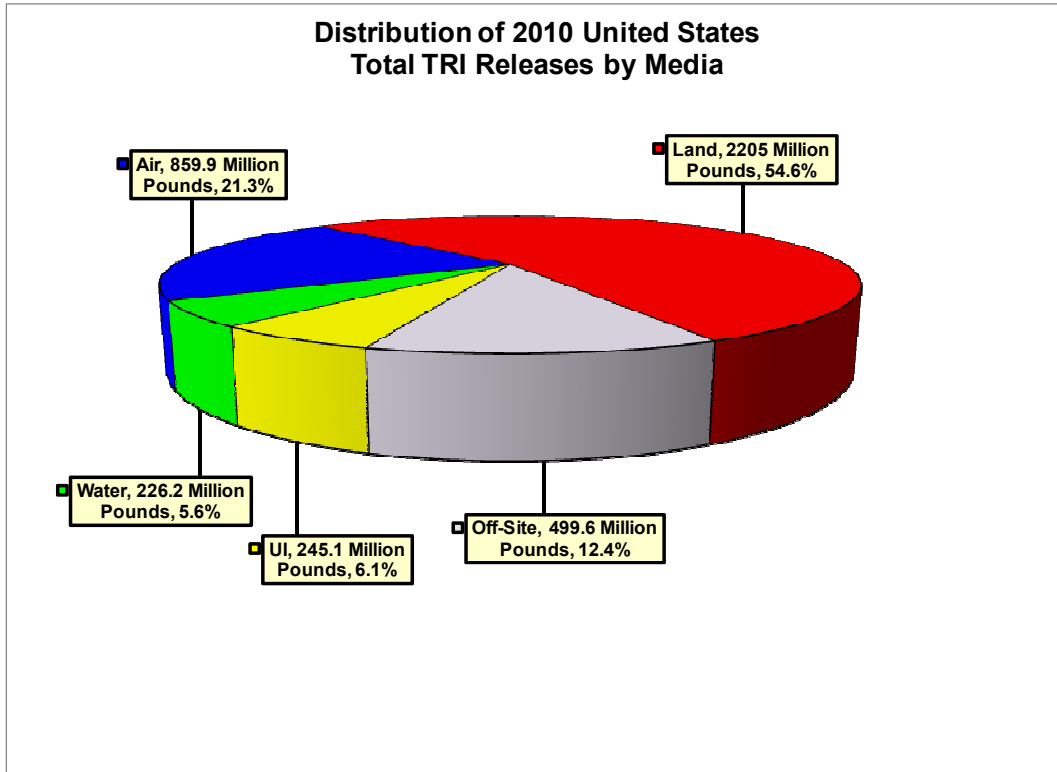
<b>Category 1 Metals</b>
ANTIMONY
ANTIMONY COMPOUNDS
ARSENIC
ARSENIC COMPOUNDS
BERYLLIUM
BERYLLIUM COMPOUNDS
CADMIUM
CADMIUM COMPOUNDS
CHROMIUM
CHROMIUM COMPOUNDS
COBALT
COBALT COMPOUNDS
COPPER
COPPER COMPOUNDS
LEAD
LEAD COMPOUNDS
MANGANESE
MANGANESE COMPOUNDS
MERCURY
MERCURY COMPOUNDS
NICKEL
NICKEL COMPOUNDS
SELENIUM
SELENIUM COMPOUNDS
SILVER
SILVER COMPOUNDS
THALLIUM
THALLIUM COMPOUNDS
VANADIUM COMPOUNDS
ZINC COMPOUNDS

<b>Category 3 Metals</b>
BARIUM
BARIUM COMPOUNDS

<b>Category 2 Metals</b>
ALUMINUM OXIDE
ALUMINUM PHOSPHIDE
ASBESTOS (FRIABLE)
BIS(TRIBUTYLTIN) OXIDE
BORON TRICHLORIDE
BORON TRIFLUORIDE
C.I. DIRECT BLUE 218
C.I. DIRECT BROWN 95
FENBUTATIN OXIDE
FERBAM
IRON PENTACARBONYL
LITHIUM CARBONATE
MANEB
METIRAM
MOLYBDENUM TRIOXIDE
OSMIUM TETROXIDE
POTASSIUM BROMATE
SODIUM NITRITE
THORIUM DIOXIDE
TITANIUM TETRACHLORIDE
TRIBUTYLTIN FLUORIDE
TRIBUTYLTIN METHACRYLATE
TRIPHENYLTIN CHLORIDE
TRIPHENYLTIN HYDROXIDE
ZINEB

<b>Category 4 Metals</b>
ALUMINUM ( FUME OR DUST )
VANADIUM
ZINC ( FUME OR DUST )

**Distribution of TRI release in US**



## **APPENDIX B: Environmental Performance Score in KLD dataset**

KLD evaluates firm environmental policy with thirteen variables outlined below. The first six variables (S1 – S6) represent company strengths, while the last seven variables (C1 – C7) represent concerns with respect to a particular policy.

### **ENVIRONMENT (ENV)**

S1. Beneficial Products and Services – Indicates whether the company derives substantial revenues from innovative remediation products, environmental services, or products that promote the efficient use of energy; or it has developed innovative products with environmental benefits

S2. Pollution Prevention – Indicates whether the company has notably strong pollution prevention programs including both emissions reductions and toxic-use reduction programs.

S3. Recycling – Indicates whether the company either is a substantial user of recycled materials as raw materials in its manufacturing processes, or a major factor in the recycling industry

S4. Clean Energy – Indicates whether the company has taken significant measures to reduce its impact on climate change and air pollution through use of renewable energy and clean fuels or through energy efficiency.

S5. Property, Plant, and Equipment – This variable indicates whether the company maintains its property, plant, and equipment with above average environmental performance for its industry.

S6. Other Strengths – Indicates whether the company has demonstrated a superior commitment to management systems, voluntary programs, or other environmentally proactive activities.

C1. Hazardous Waste – Indicates whether the company's liabilities for hazardous waste sites exceed \$50 million, or the company has recently paid substantial fines or civil penalties for waste management violations.

C2. Regulatory Problems – Indicates whether the company has recently paid substantial fines or civil penalties for violations of air, water, or other environmental regulations; or it has a pattern of regulatory controversies under the Clean Air Act, Clean Water Act or other major environmental regulations.

C3. Ozone Depleting Chemicals – Indicates whether the company is among the top manufacturers of ozone depleting chemicals such as HCFCs, methyl chloroform, methylene chloride, or bromines.

C4. Substantial Emissions – Indicates whether the company's legal emissions of toxic chemicals (as defined by and reported to the EPA) from individual plants into the air and water are among the highest of the companies followed by KLD.

C5. Agricultural Chemicals – Indicates whether the company is a substantial producer of agricultural chemicals, i.e., pesticides or chemical fertilizers.

C6. Climate Change – Indicates whether the company derives substantial revenues from the sale of coal or oil and its derivative fuel products, or the company derives substantial revenues indirectly from the combustion of coal or oil and its derivative fuel products.

C7. Other Concern – Indicates whether the company has been involved in an environmental controversy that is not covered by other KLD ratings.