Does being Ethical Pay? Evidence from the Implementation of SOX Section 406*

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This version: May 23, 2024

Abstract

Firms that adopt a 'code of ethics' targeted towards senior financial officers (CEFO firms) in response to SOX Act Section 406 have higher valuations (Tobin's q) than a matched sample of firms of similar size, operating in the same industry that have not yet adopted such a code of ethics (non-CEFO firms). Tracing the mechanism, higher valuations for CEFO firms result from both low risk-adjusted rates and higher cash flows. In turn, higher cash flows for CEFO firms result from increased profitability and lower compliance costs. CEFO firms also benefit from a lower probability of shareholder disputes and shareholder concerns. These results are consistent with models of integrity that predict that firms' commitment to ethical behavior is associated with better performance.
JEL Codes: D78, G12, G14, G18, G30, G38, K22, M41, M42, M48.

Keywords: Code of ethics for financial officers, Financial reporting, Sarbanes-Oxley market reaction, Market value, Securities legislation, Stock returns, Tobin's q.

*Corresponding author: Saurabh Ahluwalia (sahluwalia@unm.edu). We acknowledge the assistance of Harper Baird and Jennifer Sawayda in collecting the data and Kelsey Reddick for editing the manuscript. We are grateful for the Earnest and Mary Rich Summer Research Grant for funding this research project. We thank Terri Rittenburg who assisted in gathering data for an earlier project on this topic. All errors are our responsibility.

1 Introduction

It is well-known that principal-agent problems can lead firms' managers to focus more heavily on short-term profit maximization, thereby tempting them to engage in conduct that can be considered unethical or even illegal (Stein (1988) and Graham et al. (2005)). Adopting ethics codes helps align management and shareholder interests by reducing agency costs. This occurs through interwoven effects on risk, transparency, efficiency, reputation, and compliance. Specifically, ethics codes promote reliable financial reporting, mitigating information asymmetry between managers and investors. With greater transparency, investors perceive less risk, lowering a firm's cost of capital (Lambert et al. (2007); Easley and O'hara (2004)). Furthermore, integrity in operations enables more efficient practices and higher revenue, margins, and cash flows (Krüger (2015)). Additionally, adherence to ethical standards limits manipulation, lowering litigation risks and auditing fees required to validate financials externally (Kothari et al. (2005)). Finally, public commitment to ethics boosts corporate reputation and brand value (Lins et al. (2017)). In short, agency theory elucidates how ethics codes heighten trust in management and improve performance. Reduced agency and compliance costs coupled with efficiency gains and reputation benefits manifest in superior valuation. A virtuous cycle emerges as ethical codes beget transparency, efficiency, and stakeholder trust.

Currently, there is an increase in public interest regarding the issue of managerial ethical corporate behavior. This renewed interest is driven not only by well-publicized ethical failures in the early 2000s (e.g., Enron and WorldCom), but also by more recent events (such as the conduct of financial firms before and during the subprime crisis, data breaches reported by several leading online and retail entities, Wells Fargo opening unauthorized accounts and forcing its services on two million unwitting customers, and many other alleged episodes of misconduct).[1] The recent failure of Silicon Valley Bank (SVB) has also been attributed to poor governance and the failure to focus on core risks through compliance and ethics initiatives. Officers in the bank sold stock weeks before the collapse of the bank. The board of directors had limited financial knowledge and experience which resulted in a lack of confidence and massive withdrawals from the bank.

The increased interest in ethical corporate behavior has been accompanied by rapid growth in the academic literature on the topic. The extant literature already examines whether corporations actively and publicly commit to ethical corporate behavior (Loughran et al. (2009)), whether such commitments

[1] See, for instance, Glazer and Rexrode (2016).

vary over time (Cressey and Moore (1983) and Loughran et al. (2022)), and whether such commitments actually impact employee conduct (Ferrell and Skinner (1988), Weeks and Nantel (1992), Adams et al. (2001), Schwartz (2001), McKinney and Moore (2007), and Egels-Zandén (2014)).

There have been a number of articles linking ethical performance to market performance. Specifically, research has shown a direct relationship between a firm's commitment to ethical behavior and its stock market performance. Pae and Choi (2011) found that firms that are committed to higher standards of business ethics typically increase their valuation. They also found that strong corporate governance contributes to ethical conduct and provides a strong premium over firms with weaker corporate governance. Yu et al. (2022) found that a portfolio of the most ethical firms has a higher risk-adjusted return and that their stock is underpriced due to information asymmetry. Ng et al. (2015) found that ethical behavior and trustworthiness can positively influence stock market performance and macroeconomic performance. Rao and Brooke Hamilton (1996) found that unethical conduct, discovered and publicized, lowered stock performance compared to expected market-adjusted returns. These studies, collectively, suggest corporate governance and ethics greatly affect the bottom line.

Passage of the Sarbanes-Oxley Act in 2002 required firms to have a code of ethics for top financial executives. An effective code of ethics, also known as a code of conduct is a comprehensive statement including the principles and values of the organization, as well as the rules or expectations of conduct. Generally, a code of ethics should have methods for reporting alleged violations and disciplinary actions as a structure for due process (Ferrell et al. (2022)). In addition, a code of ethics often has altruistic or inspirational statements to help shape the ethical culture. There is evidence that ethics codes can influence financial executives' decisions. Financial executives are likely to integrate their firm's ethics code if they believe: the code of ethics creates an ethical culture and supports the external regulatory climate; and the code is integrated into the daily activities through ethics training programs (Stevens et al. (2005)). This same study did not find external pressure from regulatory bodies had a unique impact on ethical conduct. Boyle et al. (1997) found that a government ethics initiative (Defense Industry Initiative) for an effective ethics program negatively influenced stock prices, possibly because the market perceived that the companies involved had engaged in unethical conduct. This study examines the impact of regulatory requirements for a code of ethics for financial officers (CEFO) on firm performance.

General corporate codes of ethics do not address specific risk areas associated with decision making in accounting, finance, information technology, or other professional areas. For example, professional

association codes of ethics address ethical and legal risks in their respective professional areas. The development of a specific code of ethics for top financial officers addresses their specific risks and is different from a general corporate code of ethics.

Our objective is to determine how the adoption of a code of ethics specifically targeted toward senior financial officers by a firm affects its valuation and stock returns. Ex ante, there are several reasons why one can expect a firm's adoption of a code of ethics for its financial officers to be related to its stock market performance. First, as Palich et al. (2016) show, firms that adopt an effective code of ethics tend to be less tolerant of unethical behavior than those that have not yet adopted such a code of ethics. As a result, employees in companies that have adopted an explicit ethical code of conduct appear to have a greater awareness of ethics risks that surround their day-to-day work responsibilities than employees in firms that have not yet done so. Similarly, Ahluwalia et al. (2018) find that the adoption of a code of ethics for financial officers (CEFO) improves the integrity of financial reporting thereby decreasing the frequency of financial restatements over a ten-year period. Second, prior studies, such as Sikes and Potts (2008) already establish that corporate values (such as a firm's commitment to ethical behavior) have a statistically significant correlation with its future performance. This study investigates whether investors understand this correlation and whether the benefits of a firm's commitment to ethical behavior are incorporated in its stock market returns and valuation. Finally, the theoretical framework for integrity in Erhard et al. (2007) also suggests a causal link between a firm's commitment to ethical behavior and increased performance and value-creation. To our knowledge, this is the first study to empirically show that firms that commit to corporate ethical behavior by adopting a code of ethics specifically for their senior financial officers are valued more and viewed as less risky by the stock market as compared to firms of similar size, operating in the same industry, without a CEFO.

1.1 Overview of Sarbanes Oxley Act of 2002 and CEFO

For this study, we examine the introduction of the Sarbanes Oxley Act of 2002 (henceforth SOX Act or simply SOX). The primary purpose of the SOX Act of 2002 was to restore investors' confidence in the stock markets by improving the accuracy and reliability of financial disclosures, establishing transparency and integrity in the financial reporting process, increasing the accountability of a firm's top executives, and enforcing stringent internal controls, audit, and governance procedures (Romano (2005) and Coates (2007)). The SOX Act implemented various provisions to achieve these goals. For instance, SOX Section

301 requires an independent audit committee, SOX Section 302 requires executive certification of financial reports, and SOX Section 404 requires disclosure of managerial assessment of internal controls. We focus on SOX Act Section 406 requiring large, publicly listed corporations to adopt a code of ethics specifically for their senior financial officers (henceforth, code of ethics for financial officers or CEFO). This provision was enacted to ensure senior financial officers of a firm are held accountable and focus on creating shareholder value. The requirement for a CEFO was intended to address the issue of 'risk compartmentalization' by ensuring leaders committed to ethical behavior made decisions based on principles and values as well as compliance with legal requirements.[2] Specifically, SOX Section 406 created a 'code of ethics' requirement for the top financial executives of a firm. That is, the firm's chief executive officer, chief financial officers, and other top financial officers who are responsible for reporting the financial condition of the firm, were required to have specific and relevant codes of ethics to manage the specific risks associated with their reporting activities.

The Securities and Exchange Commission (SEC) finalized the SOX Act Section 406 rule in March 2003. All publicly listed corporations in the U.S. were required to comply with this rule by July 2003. In 2005, and again in 2011, using public data sources (annual reports, SEC filings, websites, news releases, etc.) we hand-collect data for large, publicly listed, Fortune 500 firms, that were required to comply with SOX Section 406, and had adopted a code of ethics specifically for their senior financial officers. We refer to these firms as CEFO firms throughout the rest of the paper. In addition, we hand-collect data for a matched sample of large, publicly listed, Fortune 500 firms, of similar size, operating in the same industry, that were also required to comply with SOX Section 406, but either used a pre-existing, generic code of ethics for their senior financial officers or not yet adopted a code of ethics at all. We refer to these firms as non-CEFO firms respectively throughout the rest of the paper.

There is a significant difference between a general code of ethics (non-CEFO) and a SOX section 406 code of ethics (CEFO). A general code of ethics or organizational code of ethics is a broad set of principles and standards that guides behavior in a business context. It does not usually address specific risk areas in subject matter areas such as marketing, finance, or human resource management. It often addresses overarching principles such as fairness, integrity, diversity, and respect for others. It also addresses compliance with laws, internal reporting, and accountability to comply with the code. This code

[2]Risk compartmentalization can occur when top management at subsidiaries (or departments) can engage in clandestine unethical conduct and are unaware of the overall consequences of their actions on the firm as a whole (Ferrell (2017)). The pressure to maximize profits or meet specific sales or revenue targets can encourage risk compartmentalization in financial reporting in public companies where the market value of the share is the only metric that reflects firm performance.

of ethics is not required by law and has a great deal of variation among firms and industries. However, the NY Stock Exchange and NASDAQ require companies to have a general code of ethics. If it is a requirement, none of the non-CEFO firms could be classified as more proactive in adopting ethics rules. Therefore, in our sample, all firms have a general code of ethics and CEFO firms have both a general code of ethics and a SOX 406 code of ethics. General codes of ethics usually do not address the specific SEC requirements for senior financial officers.

On the other hand, the SOX 406 code of ethics (CEFO) required by law deals specifically with financial reporting as well as the responsibilities of top financial officers. For example, the SOX 406 code of ethics defines financial officer responsibilities including the adoption of a CEFO code of ethics for principal financial and accounting officers, or controllers. The code of ethics should address conflicts of interest in professional relationships and managing high integrity conduct; required disclosures, reports, and other communications to the SEC or public in general; compliance with financial and accounting federal and regulatory laws, rules, and regulations; internal monitoring of code compliance with any infractions reported immediately to the appropriate individuals; and accountability for abiding by the code. Other aspects of the code may relate to the role of the board, the audit committee, and relationships with independent finance and accounting firms. The goal of the CEFO is to address the financial risks that are unique to a specific firm. Any changes to the code must be disclosed publicly. Overall, most of the provisions of the codes should prevent fraudulent accounting and reporting activities. While the SOX 406 code is required, there are no audits to determine the existence or effectiveness of the code that has been developed. If there is misconduct and a firm does not have a CEFO code of conduct, that will be taken into consideration as inappropriate risk mitigation with respect to current legal and regulatory guidance.

Using this proprietary, hand-collected, data, our paper establishes three primary results that show that the adoption of a code of ethics specific to financial officers by a firm is positively correlated with its stock market performance. First, we find that CEFO firms have a higher valuation as compared to non-CEFO firms. Our valuation measure is simply the proxy for Tobin's q, namely the market value of assets divided by the book value of assets, where the market value is estimated by the book value of assets minus the book value of equity and preferred stock plus the market value of equity and preferred stock.

The results are both economically and statistically meaningful. For data collected in 2005, Tobin's q is 7.13% (5.96%) higher for CEFO firms as compared to non-CEFO firms over the subsequent 3-year

(5-year window). For the updated list of firms in 2011, we find Tobin's q is 4.96% (1.42%) higher for CEFO firms than for non-CEFO firms. All results are statistically significant at the 5% level or better.

Second, we analyze long-run stock returns for both CEFO and non-CEFO firms. Our logic for this analysis is as follows: In valuation formulas, a firm's free cash flows are discounted at a risk-adjusted appropriate cost of capital. Holding free cash flows constant, if CEFO firms are viewed as less risky by investors, they could benefit from lower risk-adjusted returns (i.e., a lower rate at which free cash flows are discounted) and this can partly explain their higher valuations. For data collected in 2005, monthly risk-adjusted returns for a value-weighted portfolio of CEFO firms is approximately -0.44% (-0.46%) lower as compared to that for non-CEFO firms over the subsequent 3-year (5-year) window. This implies that annual difference in risk-adjusted returns for CEFO firms of approximately -5.30% (-5.47%) over the subsequent 3-year (5-year) window. For data collected in 2011, monthly risk-adjusted returns for CEFO firms are lower by approximately -0.42% (-0.34%) or approximately -5.05% (-4.07%) per year over the subsequent 3-year (5-year) window, with all results statistically significant at the 5% level better. These results are generally consistent with the idea that CEFO firms are viewed as less risky by investors and therefore have lower discount rates, resulting in higher valuations.

Third, and finally, to better understand why CEFO firms are valued more highly and viewed as less risky by investors, we compare additional firm characteristics along which CEFO and non-CEFO firms differ. In this, we are guided by recent literature (e.g., Ahluwalia et al. (2018)) which suggests that CEFO firms have better compliance and quality of financial reporting as compared to non-CEFO firms. Specifically, we investigate if profitability, audit fees (i.e., a proxy for compliance costs), and frequency of shareholder disputes and concerns differ for CEFO and non-CEFO firms.

For data collected both in 2005 and 2011, CEFO firms have higher overall profitability (i.e., higher cash flows) as compared to non-CEFO firms. For data collected in 2005, the profitability for CEFO firms is 28% (40%) higher over the subsequent 3-year (5-year) period as compared to the average firm, and this result is statistically significant. For data collected in 2011, CEFO firms are again more profitable but now by 45% (24%) over the subsequent 3-year (5-year period).

Next, we check if audit fees (normalized by total lagged book value of assets) are lower for CEFO firms as compared to non-CEFO firms. For data collected in 2005 (and again in 2011) over the subsequent 3- and 5-year windows. CEFO firms pay approximately $0.22 to $1.19 (per dollar of total book value of assets) lower in audit fees when compared to non-CEFO firms. This result is again statistically significant

at the 5% level or better.

In our last set of results, we find that for CEFO firms, especially after 2011, the number of shareholder disputes and concerns are significantly lower than non-CEFO firms. CEFO firms had 57% (75%) lower shareholder disputes (concerns) over a 5-year period beginning in 2011 as compared to the 5-year period prior to 2011. To summarize, our paper establishes a relation between a firm's adoption of a code of ethics specifically for their senior financial officers and its valuation, risk-adjusted returns, profitability, compliance costs, and frequency of shareholder disputes and concerns. We use data for the long run, i.e., subsequent 3- and 5-year windows, as such data is less likely to be less impacted by reverse causality (i.e., firms that are naturally performing well choosing to adopt a code of ethics specifically for financial officers in the first place). We focus on stock market data as it allows us to quantify the gains to a firm from adopting a code of ethics specifically for their financial officers while controlling for risk.

Our paper contributes to the growing literature on business ethics and firm performance. Summarizing this vast literature is beyond the scope of this paper.[3] Recently, Erhard et al. (2007) have developed a theoretical framework for integrity – which they define as a firm's (or an individual's) commitment to moral, ethical, and legal behavior. One implication of their framework is that a firm's commitment to ethical behavior leads to improved performance. In their paper, Erhard et al. (2007) cite firm annual reports as one channel through which a firm can commit to ethical behavior (page 59). In this paper, we use a firm's public adoption of a code of ethics specifically for senior financial officers as a signal of its commitment to ethical standards and analyze its implications for firm valuation and stock returns. In this sense, we provide a direct test for the theoretical framework in Erhard et al. (2007) and show that a firm's commitment to ethical behavior indeed improves its stock market performance and valuation. Thus, the stock market tends to value a firm's commitments to ethical behavior.

Our study also relates to the literature that explores the consequences of the SOX Act. Coates (2007)and Iliev (2010) argue that studying the effect of SOX has been difficult as the law was enforced in the midst of significant financial, economic, and political upheaval. In addition, Leuz (2007) and Hochberg et al. (2009) argue that in most studies on SOX, it is nearly impossible to select a control group of publicly traded firms that were not impacted by the law. By hand-collecting data for a sample of firms that specifically adopt a code of ethics for their senior financial officers in response to SOX Section 406, and comparing them to a matched sample of firms of similar size, operating in the same industry, that

[3]See Werhane and Freeman (1999) for a comprehensive review of the literature on business ethics. They summarize current areas of research in business ethics and suggest directions for future work.

either adopted a generic code for their financial officers or did not adopt such a code of ethics at all, we are able to overcome some of these difficulties.[4]

In addition, our study also extends the literature on how the market values intangible assets. Some prior research shows that the stock market fails to fully incorporate intangible assets such as its commitment to ethical behavior (see Lev and Sougiannis (1996), Aboody and Lev (1998), Deng et al. (1999), and Chan et al. (2001) for related papers). Other studies (e.g., Lins et al. (2017)) show that the stock market indeed recognizes that firms with high social capital earn higher returns during the recent financial crisis than firms with low social capital. We show that the stock market values a firm's commitment to ethical corporate behavior for their senior financial officers and correctly realizes that such firms have lower risk and better compliance.

Finally, our study also relates to research on how securities legislation impacts firm valuation and returns. Some studies on changes in securities regulations show that new regulations often impose unprecedented substantiative costs on how firms operate (Bainbridge (2003) and Romano (2005)). Analyzing how the stock market evaluates firms that specifically adopted a code of ethics for senior financial officers as required by SOX Act Section 406 shows that sometimes such regulations also provide benefits that are at least partially reflected in the stock prices.

The rest of the paper of this paper is organized as follows. Section 2 presents background information, discusses related literature, and develops testable hypotheses. In Section 3, we present details regarding our data collection and research methodology. Section 4 presents our results. Section 5 summarizes and discusses our results, and finally, Section 6 concludes.

2 Literature review and hypothesis development

In this section, we provide background information regarding SOX Section 406, review the related literature, and develop testable hypotheses.

2.1 Provisions of SOX 406

In 2002, the U.S. Congress passed the SOX Act to prevent accounting fraud, establish transparency in financial reporting, and set standards of accountability for publicly listed firms in the U.S. The SOX Act has several provisions (i.e., sections) aimed at preventing the type of financial misconduct that regulators

[4] Although, despite careful data collection, a firm's self-selection into adopting a code of ethics specifically for their senior financial officers is still an endogenous choice.

and market participants believe led to the numerous accounting scandals, including those at Enron and WorldCom in the early 2000s. For instance, SOX Section 404 relates to the role of managerial responsibility and ensuring the effectiveness of a firm's internal controls. SOX Section 404 (among other things) requires publicly listed firms to state the responsibility of specific managers for developing and maintaining sufficient internal controls and financial reporting processes. A textbook example of the failure to comply with the spirit or the letter of SOX 404, related to managerial responsibility and board oversight, is the collapse of Silicon Valley Bank. The bank had been operating without a risk manager for almost a year prior to its collapse and there were other insufficient oversight (board of directors) and managerial responsibilities.

Our study relates to the implementation of SOX Section 406, which requires publicly listed firms in the U.S. to adopt a code of ethics specifically for their senior financial and accounting executives and officers. A code of ethics contains a statement of core values and principles, behavioral examples, a discussion of the firm's reporting systems, and a statement regarding personal responsibility (Navran and Pittman (2003)). Under SOX Section 406, publicly listed firms must also include in their code of ethics written standards to deter wrongdoing and promote ethical conduct among senior financial officers. Compliance with SOX 406 means that a firm must state whether it has adopted a code of ethics, and if not provide an explanation for why it has not done so. Deviation from the code must also be reported through an ethics waiver (Cornelius (2010)), which is defined as an 'approval by the [firm] of a material departure from a provision of the code of ethics' (Rodrigues and Stegemoller (2010)). The requirement for a code of ethics was based on the belief that if senior finance officers set and adhere to ethical principles and values, they will encourage ethical behavior among all employees, and this may help prevent future financial misconduct.

There is already a large and growing literature on SOX Section 406. For example, using textual analysis techniques, Forster et al. (2009) document that there is substantial commonality in codes of ethics adopted by various firms. Extant research also shows that organizations with more comprehensive codes of ethics score higher in corporate citizenship, ethical behaviors, and public perception (Erwin (2011)). More recently, Loughran et al. (2022) analyzed how codes of ethics have changed over time by comparing the codes of ethics adopted by firms in 2008 with those adopted by firms in 2019. Consistent with the idea that investors increasingly care about ethical corporate behavior, as compared to 2008, they find that in 2019 firm codes of ethics have lengthened.

2.2 Hypothesis development

There is research that relates to the adoption of ethics codes and how they affect organizational performance (Pae and Choi (2011)). On the other hand, there are often incentives to corporate managers for profit maximization for principals (shareholders). Agency theory explains the tension between the agent and the principal related to varying goals and risk aversion. Managers with goals related to short-term profitability who are provided with increased compensation could take unjustified risks due to shareholder interest in long-term value. Managers could manipulate accounting and reporting rules to maximize short-term profits (Eisenhardt (1989)). Additionally, Chari et al. (2019) suggest that managers acting in their own self-interest may engage in risky projects to benefit their own careers, even if the project negatively affects shareholder return. A CEFO should address excessive risk taking and effective corporate governance with the establishment of an ethical culture in the finance and accounting areas. An effective CEFO can reduce agency loss related to the agent acting contrary to the principals' interests.

2.2.1 Hypothesis 1: CEFO and firm value

The SEC finalized the SOX Act Section 406 rule in March 2003, and all publicly listed corporations in the U.S. were required to comply with this rule by July 2003. Firms responded to SOX Section 406 rule by either developing and adopting a code of ethics specifically for their senior financial officers (i.e., CEFO firms) or choosing to use their pre-existing, generic code of ethics for their senior financial officers (i.e., non-CEFO firms). We wish to examine if stock performance and valuation differ for CEFO and non-CEFO firms. In this sense, our paper is similar to Yermack (2006), Gompers et al. (2003), Bebchuk et al. (2009), and Cremers and Nair (2005) who find that better corporate governance structures (of which ethical corporate behavior is one aspect) are associated with better firm performance and higher firm value.

Numerous studies in agency theory show that reducing agency costs can enhance firm value by diminishing the portion that managers allocate for personal gain (Lambert (2001); Stein (2003)). Agency theory has provided a crucial framework for understanding how principle-agent relationships and corporate governance function to influence firm value (Jung and Dobbin (2015)). Companies adopting a CEFO may have higher valuation due to reduced agency costs and improved alignment between managers (agents) and shareholders (principals). Agency theory explains that differing goals and risk preferences create tensions

between principals and agents (Eisenhardt (1989)). Adhering to ethical codes promotes long-term value maximization over short-term self-interest, mitigating incentives for earnings manipulation or excessive risk-taking (Jensen and Meckling (2019)). This builds shareholder trust, lowering the cost of capital (Lins et al. (2017)). Public commitment to ethics also signals low litigation risk, decreasing the cost of capital (Easley and O'hara (2004)). Overall, ethics codes reduce agency losses, manifesting in superior valuation (Yermack (2006); Gompers et al. (2003)).

The current literature provides several other channels for why CEFO firms may have higher valuations. For instance, Stevens (1994) proposes that firms usually treat codes of ethics as important managerial tools for shaping change, demanding higher standards of behavior from employees than that required by law – all of which can improve firms' valuation and risk profile. Finally, firms' ethical climate is usually associated with higher levels of job satisfaction and organizational commitment (Domino et al. (2015)), and current literature already documents that such employee satisfaction and commitment can lead to improved performance and valuation (Green et al. (2019)). Based on this literature, our first hypothesis is therefore stated as follows:

Hypothesis 1: Companies that adopt a code of ethics specifically for their senior financial officers (CEFO firms) have higher valuations as compared to firms of similar size, operating in the same industry that have not yet adopted such a code of ethics (non-CEFO firms).

2.2.2 Hypothesis 2: CEFO and risk-adjusted returns

CEFO firms may have lower risk-adjusted returns as ethical codes enhance transparency and accountability (Yu et al. (2022)). Ethics codes increase awareness of conduct risks, so investors perceive less risk in CEFO firms. Transparent and ethical reporting also reduces information asymmetry between agents and principals (Lambert et al. (2007)). Agents focused on ethics are less likely to take unjustified risks contrary to principals' interests. In contrast, agents may create conflict by taking risks, and reduce shareholder value, to enhance their career prospects (Chari et al. (2019)). Thus, market participants value ethics commitment, demanding lower returns for investing in such firms.

The standard asset pricing approach has long been used to study which firm characteristics that investors care about most. This literature has established that investors (and the stock market) seem to care about a firm's size (Banz (1981), Fama and French (1992), and Jegadeesh and Titman (1993)),

leverage (Gomes and Schmid (2010)), liquidity (Amihud and Mendelson (1986)) and Acharya and Pedersen (2005)) employee satisfaction (Edmans (2011)), SOX section 404 (Iliev (2010)), and regulations (Gaganis et al. (2015)), and these characteristics are related to a firm's risk-adjusted returns. We use the same approach to test if equity investors seem to care about the adoption of a code of ethics specifically for senior financial officers. The standard asset pricing approach of analyzing risk- adjusted returns for CEFO and non-CEFO firms over long windows (subsequent 3- or 5-year windows) also avoids problems associated with reverse causality (i.e., better performing firms choosing to adopt a CEFO). Our second hypothesis is therefore stated as:

Hypothesis 2: Companies that adopt a code of ethics specifically for their senior financial officers will have lower risk-adjusted returns over the long run as compared to firms that have not yet adopted such a code of ethics.

2.2.3 Hypothesis 3: CEFO and firm profitability

CEFO firms may have higher profitability as ethical codes limit managerial opportunism and self-dealing (Webster (2023)). When agency problems exist between firms and managers, the effectiveness of the firm's accounting and information system directly impacts the extent of these issues, consequently influencing the equilibrium decisions regarding production and investment (Lambert et al. (2007)). Alignment of incentives between agents and principals enhances efficiency and productivity (Jensen and Meckling (2019)). Reputation benefits from ethical conduct can also increase profitability by facilitating revenue growth and customer retention (Lins et al. (2017)).

Hypothesis 3: Companies that adopt a code of ethics specifically for senior financial officers will have higher profitability compared to firms that have not yet adopted such a code of ethics.

2.2.4 Hypothesis 4: CEFO and audit fees

To gain a deeper understanding of the factors contributing to the perception of lower risk in CEFO firms, leading to higher firm valuations and risk-adjusted returns for investors, we will explore additional avenues that both mitigate risk and impact the cash flows of CEFO firms as compared to non-CEFO firms. In this, we are guided by recent literature which suggests that CEFO firms have better compliance and quality of financial reporting as compared to non-CEFO firms.

For instance, in a recent paper, Ahluwalia et al. (2018) already document that CEFO firms issue fewer earnings restatements, and when they do so, these restatements are likely to be internally initiated rather than by external parties (such as regulators or auditors). Restatements by CEFO firms are also unlikely to be due to fraud, and investors do not associate restatements by CEFO firms to be indicative of widespread compliance problems or increased risk within the firm. CEFO firms thus may have lower audit fees as adherence to ethical standards reduces risks requiring external validation, lowering auditor effort (Kothari et al. (2005)). Transparent and ethical financial reporting also reduces information asymmetry between agents and principals, decreasing monitoring costs (Lambert et al. (2007)). Higher quality ethics codes resulting from adopting SOX Section 406 code requirements for senior financial officers results in reduced audit fees and mitigates principle agent conflicts (Duong et al. (2022)). Ethics cultures limit litigation risks from disputes or misconduct, reducing related costs. Overall, CEFOs improve financial reporting quality, resulting in lower compliance costs.

Our fourth hypothesis is therefore stated as:

Hypothesis 4: Companies that adopt a code of ethics specifically for senior financial officers will pay lower audit fees or compliance costs compared to firms that have not yet adopted such a code of ethics.

2.2.5 Hypothesis 5: CEFO and shareholder relations

CEFO firms may have fewer shareholder disputes and concerns due to enhanced transparency and trust from ethics commitment. When the contract between a principle and agent is outcome-based (such as avoiding disputes) the agent is more likely to behave in the interests of the principle (Eisenhardt (1989)). Codes of conduct, a key element of corporate governance, assist in minimizing outcome-based issues and assist in aligning management and shareholder interests (Homayoun and Homayoun (2015)). Public commitment reassures shareholders of integrity in conduct, mitigating perceived risks of misconduct that prompt legal actions (Shleifer and Vishny (1997)). Reduced information asymmetry through ethical reporting increases confidence in managers- the agents- adhering to codes. Codes that create alignment between principle and agent should help avoid conflicts with stakeholders (Nyberg et al. (2010)). Thus, CEFOs likely improve shareholder relations.

Hypothesis 5: Companies that adopt a code of ethics specifically for senior financial officers will have a lower probability of disputes, actions, and complaints filed by shareholders compared to firms that have

not yet adopted such a code of ethics.

3 Research methodology and data

In this section, we discuss our sample selection methodology and our data collection processes, list all of our data sources, and present basic summary statistics for all our data.

Under SOX Section 406, publicly traded firms were required to disclose whether they had adopted a code of ethics specifically for their senior financial officers defined as persons who perform the role of principal financial officer, principal accounting officer, or other similar functions. The SEC did not have specific requirements about how Section 406 should be implemented in practice. Many large firms already had a pre-existing code of ethics for all of their employees even before the passage of SOX, and details for such codes of ethics were available on their websites or filings with the SEC. To comply with SOX Section 406, some firms argued that since their pre-existing codes of ethics apply to all employees, the codes also naturally apply to their senior financial officers. We view this as not being in the true spirit of SOX Section 406, as SOX required the development and implementation of a code of ethics specifically for senior financial executives. This is because generic, off-the-shelf codes of ethics were not the intent of SOX, which mandated that codes should vary according to the firms' risk areas, scope, and scale (Canary and Jennings (2008) and Holder-Webb and Cohen (2012)). Thus, we actually read the text of the ethics codes adopted by the firms in response to SOX Section 406 and differentiate between firms that specifically developed a customized code for their senior financial officers post-SOX and those that did not.

In 2005 and 2011, we collected detailed data on which firms had developed and adopted a customized code of ethics specifically for its financial officers by referencing their firm websites as well as various filings filed with the SEC. To keep the hand-collection of data task manageable, we restricted our sample to firms from Fortune magazine's 2004 Fortune 500 list of public firms. The Fortune 500 list is broadly representative of the whole universe of firms. Fortune 500 firms also tend to be larger firms and are definitely required to comply with the SOX Section 406 provisions. Further, we utilized the 43 industry categories specified by Fortune magazine. From each of the 43 industry groups, we selected five firms. Some industry classifications did not have five firms and in that case, we took the maximum available firms categorized under that industry.

Each short-listed firm's website was checked for information on a code of ethics for senior financial officers in 2005 and 2011. If the firm had developed a customized code of ethics specifically for their senior

financial officers post-SOX, it was classified as a CEFO firm. Firms with only a pre-existing or generic code of ethics or where a code of ethics was missing entirely were classified as non-CEFO firms. Our final sample includes 176 firms for which we have detailed data on codes of ethics for senior financial officers for the years 2005 and 2011 to implement our longitudinal study. Table 1 shows the breakdown of sample firms by CEFO. Panel A of this table reports that there were 67 and 109 firms classified as CEFO and non-CEFO firms in 2005, respectively. Similarly, in 2011, 77 and 99 firms were classified as CEFO and non-CEFO firms. Panel B of Table 1 lists some of the largest 20 CEFO and non-CEFO firms by market capitalization in both 2005 and 2011.

For each firm in our sample, we collect data for stock prices, holding period returns including dividends, and total shares outstanding from the Center for Research on Security Prices (CRSP). Summary statistics for average annualized returns, average annualized stock return volatility, and average firm size (as measured by total market capitalization) are presented in Panel A of Table 2.

We can see that both CEFO and non-CEFO firms are more or less large firms (as measured by market capitalization) and similar in size. The average market capitalizations of CEFO and non-CEFO firms is close to about $30 billion whether measured in 2005 or in 2011. Average annual raw returns and annual volatility for both firms also seem similar. The average annual return for both sets of firms is close to 15% and the average annualized volatility for both sets is also close to 35%, indicating that the risk (as measured by standard deviation or volatility) and return profile for the two sets of firms are somewhat similar. This is not entirely unexpected, as both CEFO and non-CEFO firms are large firms that are somewhat matched by industry.[5]

In Panel B of Table 2, we report summary statistics for the balance sheet data for CEFO and non-CEFO firms in our sample for 2005 and 2011. Specifically, this table reports the mean value for the log total book value of assets, profitability, tangible assets, and leverage. Profitability is defined as the ratio of net quarterly income to total book value of assets, tangibility as the ratio of net property, plant, and equipment to total book value of assets, and leverage as the ratio of total book value of debt to total book value of assets. Panel B of Table 2 again shows that for data collected in 2005 and 2011, both CEFO and non-CEFO firms appear similar as measured by size, profitability, tangible assets, and

[5]Note that the selection and matching criteria we follow could result in cases where all firms within one industry have adapted a code of ethics for senior financial officers. In this case, we could be comparing firms in one industry with those in another. However, a manual check of our data confirms that this is not the case. Indeed, for each industry we have a few firms that are classified as CEFO and others that are classified as non-CEFO. Nevertheless, in all our tests we include industry fixed effects which ensures that our results are not driven by comparing firms in one industry with those in another.

leverage. Thus, differences in these dimensions per se should not be driving our results. Regardless, we are careful to control for these balance sheet characteristics, along with industry fixed effects in all our regressions below. However, even from simple summary statistics in Panel B of Table 2, it is clear that CEFO firms are somewhat more profitable than non-CEFO firms with an average ratio of net income to total book value of assets of 0.0120 as compared to that of 0.0113 for non-CEFO firms (as measured in 2005). The difference in profitability between CEFO and non-CEFO firms is even higher for data collected in 2011.[6]

4 Results

This section reports the results for the relation between firms' adoption of a code of ethics for financial officers and their stock market valuation and stock returns. Note that in this section and throughout the rest of the paper, when we state that we are testing for the adoption of a code of ethics, we are specifically testing for the adoption of a code of ethics for senior financial officers. In none of our specifications do we test what happens when a firm adopts a generic code of ethics. We also investigate different characteristics (such as profitability, audit fees, and frequency of shareholder disputes and concerns) along which CEFO and non-CEFO firms may differ.[7]

4.1 Do CEFO firms have higher valuations?

To empirically test whether a firm's adoption of a CEFO affects its valuation, we regress measures of its stock market valuation on a dummy variable that indicates its status as a CEFO or non-CEFO firm. Specifically, we estimate a regression of the following form:

$$TobinQ_{i,t} = \alpha + \beta D_{2005} + Controls + Industry + \epsilon_{i,t} \tag{1}$$

Here, $TobinQ_{i,t}$ is measured using Tobin's q estimated for each firm i at time t. Tobin's q is defined as the market value of a firm's assets divided by the book value of assets, where the market value is estimated by the book value of assets minus the book value of equity and preferred stock plus the market

[6] We later also use data on audit fees, shareholder disputes, and shareholder concerns. Data for these items are collected from Audit Analytics from WRDS.

[7] Note that in this section and throughout the rest of the paper, when we state that we are testing for adoption of a code of ethics, we are specifically testing for the adoption of a code of ethics for senior financial officers. In none of our specifications do we test what happens when a firm adopts a generic code of ethics.

value of equity and preferred stock. The primary independent variable of interest is D_{2005} which is a dummy variable that equals 1 if the firm adopted a CEFO in 2005 and 0 otherwise.

In all regressions we control for leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by the ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. All regressions also include industry fixed effects (defined by the form's 4-digit SIC code).

Controlling for leverage is important as the extant literature shows that leverage influences valuation (Korteweg (2010)) and that firms with higher leverage are perceived as riskier and can have lower free cash flows than firms with lower leverage. Similarly, profitability, size, and industry classification of a firm are also commonly used variables that have been shown to influence its valuation. In addition to these variables, we also control for tangibility because firms with low tangible assets have fewer fixed assets. Accounting for and valuing intangible assets involves various judgment calls by the management. For example, it is much more difficult to compute the value of a brand or a trademark as compared to a manufacturing facility that a firm owns. This is because the value of a tangible asset such as a manufacturing plant can easily be benchmarked or checked against its market price or its replacement price. One of the purposes of SOX section 406 was to improve financial reporting by having managers make sound and ethical decisions for issues that fall in gray areas, such as assigning value to intangible assets. Thus, it is important to have control for tangibility in our regressions. In addition, business cycle conditions can also influence firm valuations (although it is not clear why business cycle conditions would differentially affect CEFO and non-CEFO firms), so in all regressions we control for the change in the index of total industrial production, the change in consumer sentiment index, the change in the term spread, and the change in the default spread.

Table 3 reports the coefficients, t-statistics, and R2 values for the regression in Equation (1). To ensure our results are robust, each column reports the results for a separate regression specification. For instance, in Column (1) we control for leverage but not size, in Column (2) we control for size but not leverage, and finally in Column (3) we control for both size and leverage. All specifications always control for profitability and tangibility, as well as include industry fixed effects.

The dependent variable (i.e., the Tobin's q) for CEFO and non-CEFO firms is measured either over a subsequent (i.e., post-2005) 3-year or over a 5-year window, and the results for these windows are presented

separately in Panel A and B, respectively. The choice of 3- and 5-year windows is somewhat arbitrary. This is because for firms that do adopt a code of ethics for senior executives, it is not exactly clear how long (or if at all) might it take for an ethical culture or values to become entrenched, thereby affecting the behavior of senior executives, leading to positive actions by the management, that then subsequently results in higher valuation or better stock market performance. We verify that our results are robust to varying the time window over which our effects are measured.

Panel A of Table 3 shows that the coefficient on D_{2005} is always positive, indicating that firms that adopt a CEFO benefit from higher valuations over a subsequent 3-year window in 2005. Controlling for firm leverage, size, or both does not impact the results. When controlling for leverage but not size (Panel A, Column (1)), adoption of a CEFO in 2005 is associated with a Tobin's q that is 0.0848 higher than that for non-CEFO firms over the subsequent 3-year window. Controlling for firm size but not leverage (Panel A, Column (2)) makes the results if anything stronger with the coefficient on D_{2005} now increasing to 0.1289. Finally, in Column (3), when controlling for both size and leverage, the adoption of CEFO by a firm in 2005 is now associated with a nearly 0.1284 higher Tobin's q than that for non-CEFO firms over the subsequent 3-year window.

Panel B of Table 3 indicates that these results also hold when the effects are measured over the subsequent 5-year window. For firms that adopted a CEFO, Tobin's q is 0.0930 higher (when controlling for both size and leverage in Column (3)) than that for firms that did not adopt a CEFO over the subsequent 5-year window. All results for either the 3-year or 5-year window are statistically significant at conventional levels, with t-statistics values of 3.16 or higher.

It is important to give some sense of the economic significance of these results. Over the 3-year window post-2005, the average Tobin's q for the firms in our sample is 1.80. Thus, a coefficient of 0.1284 on the dummy variable (Panel A, Column (3)) indicates that adoption of a CEFO is associated with a Tobin's q that is nearly 7.13% higher than that for non-CEFO firms over the subsequent 3-year period. Similarly, over the 5-year window post-2005, the average Tobin's q for the firms in our sample is 1.56. This means that the coefficient of 0.0930 on the dummy variable (Panel A, Column (1)) translates into a Tobin's q that is nearly 5.96% higher for CEFO firms than for non-CEFO firms over the subsequent 5-year window.

Table 4 re-estimates the regression in Equation (1), now focusing on 3- and 5-year windows after data collection in 2011. The organization of this Table and the control variables is the same as in Table 3. The coefficient of interest is now D_{2011}, which takes the value of 1 if firms adopt a CEFO in 2011 and 0

otherwise.

We again notice that in all specifications, either over 3- or 5-year windows, the coefficient on D_{2011} is always positive, indicating that a firm's adoption of CEFO is associated with higher valuation as measured by Tobin's q. In Panel A, Column (3), when controlling for both size and leverage the coefficient on D_{2011} is 0.0774, indicating that Tobin's q for CEFO firms is 0.1082 higher than that for non-CEFO firms over the subsequent 3-year period post-2011. Similarly, in Panel B, Column (3), when controlling for both size and leverage the coefficient on D_{2011} is 0.0421, indicating that Tobin's q for CEFO firms is 0.0221 higher than that for non-CEFO firms over the subsequent 3-year period post-2011.

All t-statistics values are 2.07 or higher, indicating that the results are again statistically significant at 5% levels or better. Over 3-year and 5-year windows post-2011, the average Tobin's q for the firms in our sample is 1.56. Thus, a coefficient of 0.0774 in Panel A, Column (3) (0.0221 in Panel B, Column (3)) indicates that adoption of a CEFO is associated with a Tobin's q that is nearly 4.96% (1.42%) higher than that for non-CEFO firms over the subsequent 3-year (5-year) window. Together, the results in Tables 3 and 4 provide support for our first hypothesis which states that companies that adopt a code of ethics specifically for their senior financial officers (CEFO firms) may have higher valuations as compared to firms of similar size, operating in the same industry that have not yet adopted such a code of ethics (non-CEFO firms). We next attempt to trace the possible economic channels that lead to higher valuations for CEFO firms.

Note that in all regressions controlling for business cycle variables does not affect the magnitude or the statistical significance of the coefficients on the dummy variables (D_{2005} and D_{2011}), thus indicating that changing business cycle conditions are not driving our results. For the most part, the coefficient on the dummy variables is small (in magnitude), and in many cases, the coefficients on these business cycle variables are not statistically significant at conventional levels.

In addition, in Tables 3 and 4 we also control for various firm characteristics that could be correlated with valuation. These variables include the number of independent directors on the board of directors of the firm, the number of women directors on the board, and finally a dummy variable that measures if the chairperson of the board of directors is independent from the chief executive officer of the firm. We note that the inclusion of any or all of these variables has no impact on our results regarding the relation between the implementation of a CEFO and firm valuation.

4.2 Do CEFO firms have lower risk-adjusted returns?

In the previous section, we establish that CEFO firms have higher valuations than non-CEFO firms. In valuation formulas, cash flows for a firm are discounted at the risk-adjusted appropriate cost of capital. Hence, holding cash flows constant, one driver for higher valuation for CEFO firms could be lower risk-adjusted returns. Such a result would indicate that CEFO firms are viewed as less risky by investors, who then demand lower risk-adjusted returns for investing and holding equity in such firms. To investigate this issue, we next examine whether CEFO firms have different risk-adjusted returns than non-CEFO firms.

We start by building portfolios of CEFO and non-CEFO firms. We employ the standard portfolio formation strategy of Fama and French (1993). That is, we allocate all firms in our sample into two portfolios based on whether they did or did not adopt a code of ethics in response to SOX Section 406. We then calculate value-weighted returns for each portfolio for each month over our entire sample. At the end of this exercise, we have monthly value-weighted returns for a portfolio of CEFO and non-CEFO firms.

Next, we adjust the portfolio returns for CEFO and non-CEFO firms to the standard risk factors that explain cross-sectional variation in average returns on other portfolios of stocks and bonds. To do so, we use the Fama and French (1993) three-factor model. Specifically, we estimate a regression of the following form:

$$R_{i,t} - R_{f,t} = \alpha + \beta_{MKT} MKT_t + \beta_{SMB} SMB_t + \beta_{HML} HML_t + BusinessCycle + \epsilon_{i,t} \tag{2}$$

Here, $R_{i,t}$ is either the return on the value-weighted portfolio of CEFO or non-CEFO firms measured at time t. $R_{f,t}$, MKT_t, SMB_t, and HML_t are the risk-free rate of return, the market, value, and size factors, respectively. As was the case for the regressions in the previous section, we ensure that business cycle conditions are not driving our results by controlling for changes in the index of industrial production, the changes in the consumer sentiment index, the change in the term spread, and the change in the default spread. Also, note that since the regression for risk-adjusted returns in equation (2) is estimated at the portfolio level by forming portfolios of CEFO and non-CEFO firms, it is not possible for us to include control variables that are measured at the individual firm level. As such, the regression specification in equation (2) does not include controls for firm leverage, size, tangibility, and profitability. For the same reason we also cannot include variables that control for the number of independent directors in the board

of directors of the firm, the number of women directors on the board, and variables that measure if the chairperson of the board of directors is independent from the chief executive officer of the firm.

Data for risk-free rate of return and factors is available from Kenneth French's website. Since all factors are traded returns, the estimated regressions provide an estimate for risk-adjusted returns for CEFO and non-CEFO firms. The primary variable of interest is α which is the average monthly return that is left unexplained by the 3-factor model and indicates the extent to which investors demand higher (positive α) or lower returns (negative α) for the portfolio of CEFO or non-CEFO firms.

Tables 5 and 6 provide the results for the regression specified in Equation (2) for data collected in 2005 and 2011, respectively. In each Table, Panels A and B present the results for the 3-year window and the 5-year window after data collection. The Tables report the regression coefficients for the value-weighted portfolio of CEFO and non-CEFO firms, along with their statistical significance and the adjusted-R^2. In all cases, standard errors are adjusted using Newey-West which allows for the residuals to be heteroscedastic and serially correlated over time.

The key takeaway from Tables 5 and 6 is that over the same sample period, CEFO firms have lower risk-adjusted returns than those of non-CEFO firms. In all cases, the intercept (or the α) for CEFO firms is negative and that for non-CEFO firms is positive. This clearly indicates that non-CEFO firms have higher risk-adjusted returns than CEFO firms, which is consistent with the idea that investors view non-CEFO firms to be riskier than CEFO firms, and hence demand greater compensation for investing and holding stock in non-CEFO firms.

Panel A of Table 5 shows that non-CEFO firms have an annual risk-adjusted return of 0.46%, (not statistically significant with a t-statistic of 0.35), while that for CEFO firms is -4.8380 (statistically significant at the 10% level with a t-statistic of 1.92). A long-short position, that goes long \$1 in the portfolio of CEFO firms and short \$1 in the portfolio of non-CEFO firms earns a negative (nearly) 5.30% per annum over a three-year period. The corresponding return of this long-short portfolio over a five-year period is also -5.47%. The difference in the risk-adjusted returns of non-CEFO and CEFO firms is statistically significant at the 5% level or better. Results in Table 6 indicate that these results also hold for data collected in 2011. Now, a long-short position, that goes long \$1 in the portfolio of CEFO firms and short \$1 in the portfolio of non-CEFO firms earns a negative 5.05% (4.07%) per annum over a three-year (five-year) period.

The results in Tables 5 and 6 suggest that investors are correctly able to differentiate between firms

that are truly committed to building an ethical culture and firms that are only interested in paying lip service to their commitment to ethical behavior. They also suggest that market participants 'value' CEFO firms' commitment to ethics, perceive these firms to be less risky than their non-CEFO counterparts, and are therefore willing to accept lower risk-adjusted returns for investing in such firms.

Why might CEFO firms be less risky? The results in Ahluwalia et al. (2018) such that one reason could be that CEFO firms have improved the integrity of financial reporting and reduced the frequency of financial restatements. Our results – showing lower risk-adjusted returns for CEFO firms – indicate that investors further perceive CEFO firms to benefit from improved accuracy and reliability of financial disclosures, better transparency and integrity in the financial reporting process, increased accountability of a firm's top executives, and adherence to stringent internal controls, audit, and governance procedures (Romano (2005) and Coates (2007)). We therefore next analyze if characteristics (such as profitability, compliance costs, and the frequency of shareholder disputes differ for CEFO and non-CEFO firms).

4.3 Does profitability differ for CEFO and non-CEFO firms?

In this section, we investigate the relation between a firm's adoption of CEFO and its profitability. On one hand, we may expect that CEFO firms have higher profitability than non-CEFO firms. This is because the extant literature already establishes that firms that adopt a code of ethics demand higher standards of ethical behavior from their employees and this often leads to improved exogenous measures of ethical behavior (Stevens (1994)) and Erwin (2011)). In addition, employees in firms that adhere to improved ethical standards tend to have better job satisfaction and organizational commitment (Loughran et al. (2022)). All of the above can lead not only to improved productivity but also lower compliance costs, which in turn can spur improved profitability. On the other hand, one can expect that CEFO firms have lower profitability as a firm's public commitment to follow a code of ethics may require that it expends greater resources on employee training and compliance costs. Thus, whether a firm's adoption of a CEFO is associated with higher or lower profitability is an open empirical question.

To empirically test the relation between CEFO firms and profitability we regress measures of its profitability on a dummy variable that indicates its status as a CEFO or non-CEFO firm. Specifically, the regression we estimate takes the following form:

$$ROA_{i,t} = \alpha + \beta D_{2005} + Controls + Industry + \epsilon_{i,t} \tag{3}$$

Here, $ROA_{i,t}$ is measured using the ratio of net income to lagged total book value of assets for each firm i at time t. The primary independent variable of interest is again D_{2005} which is a dummy variable that equals 1 if the firm adopted a CEFO in 2005 and 0 otherwise. As above in all regressions, we control for leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. All regressions not only include the business cycle variables defined above but also control for industry fixed effects (defined by the form's 4-digit SIC code), as profitability like valuation can vary by industry. As was the case for Tables 3 and 4 we again control for the number of independent directors in the board of directors of the firm, the number of women directors on the board, and variables that measure if the chairperson of the board of directors is independent from the chief executive officer of the firm.

Tables 7 and 8 present the results for the regression in Equation (3). Panels A and B of each Table again report results over 3- and 5-year windows, respectively. In all cases, the coefficient on the dummy variable is positive and statistically significant at conventional levels. Specifically, in panel A of Table 7 the coefficient on D_{2005} is 0.0048 (Column (3)) with a t-statistic of 2.59. Similarly, in panel B the coefficient on D_{2005} is 0.0068 (Column (3)) with a t-statistic of 3.29. Since the average profitability for the firms in our sample over this period is 0.017, a coefficient of 0.0048 (0.0068) indicates that profitability for CEFO firms is nearly 28% (40%) higher than that for non-CEFO firms in the 3-year (5-year) period starting in 2005.

Table 8 confirms these conclusions also hold for data collected in 2011. Although the results are statistically significant, the economic magnitude of the effect changes somewhat. In Panel A of Table 8, the coefficient on D_{2011} is 0.0062 (Column (3)). Over the 3-year period beginning in 2011, the average profitability for the firms in our sample is 0.0135. Thus, profitability for CEFO firms appears to be nearly 45% higher than that for non-CEFO firms over this period. Similarly, the coefficient of 0.0032 on D_{2011} in Column 3 of Panel B of this table, implies that as compared to non-CEFO firms, profitability for CEFO firms is approximately 24% higher over the subsequent 5-year window. These results are consistent with our third hypothesis that higher valuation for CEFO firms may be driven not only by lower risk adjusted returns but also higher profitability (i.e., higher cash flows), which in part may result from lower compliance costs – a question we turn to next.

4.4 Do CEFO firms pay lower audit fees?

In Tables 9 and 10 we directly investigate the relation between the CEFO status of a firm and its compliance costs. We essentially run a panel regression of the form specified in Equations (1) and (3) but where the dependent variable is now the total annual audit fees paid by the firm in each fiscal year. Data for audit fees is from Audit Analytics (collected via Wharton Research Data Services (WRDS)). Total audit fees reflect all fees paid by a firm required to perform the audit or review of its accounting statements and practices in accordance with Generally Accepted Accounting Standards (GAAS). This category may in addition include services that generally only independent accountants can provide, including but not limited to comfort letters, statutory audits, attest services, consents, and assistance with and review of documents filed with the SEC.

Since large firms with complex organizational structures may pay substantially higher audit fees as compared to smaller firms, in all cases the dependent variable (total audit fees) is normalized by the total book value of assets. The variable of interest is again the coefficient on the dummy variables D_{2005} and D_{2011}. A negative coefficient on these dummy variables indicates that CEFO firms pay lower audit fees (per dollar book value of assets) over 3- and 5-year windows for data collected in 2005 and 2011, respectively.

The estimates for this regression are presented in Tables 9 and 10. We find that CEFO firms had significantly lower audit fees than non-CEFO firms. In panel A of Table 9, audit fees for CEFO firms are up to 91 cents lower (per dollar book value of assets) than for non-CEFO firms over the subsequent 3-year period. The t-statistic for the coefficient on D_{2005} is -2.07, indicating that it is statistically significant at the 5% level. Similarly, CEFO firms pay audit fees that are 119 cents lower per dollar book value of assets than non-CEFO firms over the subsequent 5-year window in 2005.

Table 10 shows our conclusions hold also for 3- and 5-year windows for data collected in 2011. Now, audit fees for CEFO firms are anywhere between 91 to 101 cents (per dollar of total book value of assets) lower than that for non-CEFO firms. The results are also statistically significant at the 5% level or better with t-statistics ranging from -1.99 to -2.59.

4.5 Do CEFO firms have lower incidence of shareholder disputes and concerns?

In our final test, we check if the adoption of CEFO affects the frequency of shareholder disputes and concerns that a firm faces. To test this, we collect data from the 'Shareholder Activism' database of Audit Analytics for all shareholder disputes and concerns filed by activist shareholders that have beneficial ownership of more than 5% of a voting class of a firm's securities and are disclosed in Securities and Exchange Commission's (SEC) Schedule 13D filings. Shareholder disputes are concerns and include disagreement among shareholders or between shareholders and management about the governance of the corporation, especially fiduciary responsibilities. We then simply count the frequency of shareholder disputes and concerns separately for CEFO and non-CEFO firms over a five-year period before and after information on their CEFO status was collected in 2005 and 2011.

Table 11 presents the results of this analysis. Panel A and B of this table report the results for shareholder disputes and concerns respectively. The first two columns report the results for data collected in the five-year window before and after 2005 (i.e., 2000–2005 and 2006–2011), respectively. Similarly, the last two columns report the results for data collected in the five-year window before and after 2011 (i.e., 2005–2010 and 2011–2016), respectively.

The first two columns of Table 11 show that for data collected in 2005, for both sets of firms, the incidence of shareholder disputes and concerns was practically non-existent over the five-year period prior to 2005. CEFO firms had 7 shareholder disputes as compared to 3 shareholder disputes for non-CEFO firms in our sample in the five-year window after data collection. Given that we have data for 67 CEFO and 109 non-CEFO firms over this period, these numbers translate to a 10.45% and 2.75% rate for the incidence of shareholder disputes for CEFO and non-CEFO firms in the five-year period post-2005.

Panel B of Table 11 shows that again for both sets of firms, the number of shareholder concerns was zero in the five-year period prior to 2005. The number of shareholder concerns for both sets of firms was somewhat comparable at 12 and 13, respectively in the five-year period after 2005. Given 67 CEFO and 109 non-CEFO firms over this period, this again translates to a higher incidence of shareholder concerns for CEFO (17.91%) than for non-CEFO (11.93%) firms in the five-year period post-2005, which is somewhat surprising.

More importantly, the number and incidence of shareholder disputes and concerns markedly improved for CEFO firms with the passage of time. In the five-year window post data collection in 2011, for

CEFO firms there were just 3 shareholder disputes and concerns as compared to 14 shareholder disputes and concerns for non-CEFO firms. Thus, CEFO firms had a 57% reduction in shareholder disputes as compared to non-CEFO firms. Over the same window, CEFO firms had 75% fewer shareholder concerns in the 5-year window post-2011 as compared to CEFO firms.

While the results in Table 11 showing higher incidence of shareholder disputes and concerns for CEFO firms is somewhat surprising, it could be on account of the fact that Audit Analytics – from which we source data for this table – started tracking shareholder disputes and concerns only after 2000 and in initial years the data coverage may be scant and improves steadily over time. Thus, our results regarding lower incidence of shareholder disputes for CEFO firms post-2011, are not conclusive and provide only partial support for our third hypothesis – that shareholders have fewer disputes and concerns for CEFO firms. Perhaps as time progresses, with better data, one can test if the adoption of a code of ethics is truly statistically correlated with a firm's commitment to a code of ethics.

Tables 9 to 11 show that firms that had adopted CEFO have lower audit costs, higher profitability, and lower shareholder disputes than non-CEFO firms and provide support to hypothesis three.

5 Discussion and limitations

The efficacy of SOX has been the subject of debate for over a decade. In this research, we focus on one specific provision of SOX – that of section 406 – and show how the implementation of section 406, which requires the top financial officers in a firm to adhere to a code of ethics, affects the valuation and risk of the firm. Specifically, we show that firms that had adopted a CEFO had higher valuations and profitability and lower risk-adjusted returns than a matched sample of firms of similar size operating in the same industries that did not adopt a CEFO. Our study is, to the best of our knowledge, the first to show empirically how adoption of CEFO by public firms can translate into greater valuation and lower cost of capital.

Hypothesis 1 in this study is supported. Companies that adopt a code of ethics for Senior Financial Officers (CEFO) have a higher valuation compared to firms of a similar size, operating in the same industry, that have yet to adopt a financial code of ethics (non-CEFO firms). This finding is significant in that the view that there is a cost to implementing codes of ethics is disputed. In fact, it is the opposite that is true. There is a higher valuation for firms that invest in implementing a financial code of ethics. This investment appears to create stakeholder trust and eliminates misconduct that could damage the

value of the firm.

Agency theory provides a framework to explain higher valuations due to reducing agency cost by improving the alignment between agents and principles. CEFO firms achieved long-term value maximization by reducing the excessive risk taking by agents. The findings of our research are consistent with and support agency theory in explaining higher valuations.

Hypothesis 2 is also supported in that CEFO firms will have lower risk-adjusted returns over the long run, as compared to non-CEFO firms of similar size operating in the same industry. CEFO firms have better compliance and a higher quality of financial reporting as compared to non-CEFO firms. CEFO firms issue fewer earnings restatements and these statements are internally initiated rather than originating externally through regulators or auditors (Ahluwalia et al. (2018)). This evidence leads us to believe senior financial executives at CEFO firms are more diligent in correcting errors and avoiding mistakes in financial reporting. The results of Hypothesis 1 indicate that any costs of implementation are offset by a higher valuation of the firm. Therefore, there is a positive financial return on investing in improving financial reporting. These results support why CEFO firms are viewed as less risky by investors resulting in high valuations (risk-regulated returns) holding cash flows constant.

Our research contributes to the importance of business ethics initiatives and the positive impact on firm valuations. CEFO firms have made a commitment by requiring higher quality financial reporting as well as addressing important risk that would be contrary to the principles' interests. Firms should implement a CEFO to avoid the risks associated with financial reporting.

Hypothesis 3,4 and 5 investigated whether CEFO firms have lower audit fees and a lower probability of disputes, actions, and complaints filed by shareholders. Of great importance is the question, are CEFO firms operating more profitably than non-CEFO firms? Surprisingly, we found that CEFO firms had significantly lower audit fees than firms that had not implemented CEFO. Lower audit fees may result from a better quality of financial reporting. Avoiding errors and restatements can lower audit fees and minimize the time involved in audits. CEFO firms are more profitable than non-CEFO firms. This makes our findings very consistent. Higher valuation for CEFO firms may be a driver, not only by risk adjusted returns but also higher profitability (cash flows) which may, in part, result from lower compliance costs. Shareholder disputes and activist concerns are reported in Section 13D filings. In 2005, CEFO firms had more shareholder disputes than non-CEFO firms. But, as time progressed there was a reduction in shareholder disputes in the period from 2011 to 2015. In fact, CEFO firms had 57%

lower shareholder disputes for 5 years after 2011. This finding supports that as a company adopted and implemented a financial code of ethics, shareholders saw fewer issues to address related to questionable decision making. This research has provided a foundation for future research to determine why CEFO implementation has a positive effect on metrics such as valuation, risk-adjusted returns, lower audit fees as well as profitability, and fewer shareholder disputes and concerns. These positive outcomes from a CEFO need further explanation. This was a quantitative study that discovered the relationships. Qualitative studies are needed to determine how the CEFO is being used and implemented within firms. What role do the CFO or ethics and compliance officer play in making sure the code of ethics is effectively implemented? How does the board of directors interplay in the implementation and decision-making processes? How has the CEFO been incorporated into ethics training? All evidence points to the fact that the CEFO is effective but, more understanding of why can help to enhance the efficiency and effectiveness of the CEFO and highlight some best practices in implementation.

There is much support that business ethics contributes to firm profitability by limiting opportunism and excessive risk-taking by agents. Ethisphere, a global leader in identifying the world's most ethical companies, found that their index of the most ethical companies were 12.3% more profitable than those not identified in their rating (2019-2024), (Ethisphere (2023)). CEFO firms prioritize ethics by adopting and implementing a financial code of ethics. While all publicly traded firms have a general code of ethics, those with a CEFO have higher firm valuations.

These findings provide important guidance for boards, investors, analysts, executives and the legal and regulatory community. Boards have the responsibility to provide oversight of a firm's ethics and compliance initiative. Our research suggests that boards should require an effective CEFO for many reasons. It has the potential to improve firm profitability by reducing agency losses related to excessive risk-taking. In addition, it can lower audit fees and decrease the probability of disputes and complaints filed by shareholders. Investors should consider firms with a CEFO when making investment decisions.

Financial analysts play a key role in constructing financial models to predict business outcomes. To guide investment decisions, analysts should consider whether the firm has a CEFO since our findings are that it is a key variable in driving financial performance. This will help companies, such as mutual funds, as well as financial services sales agents, that deal with stocks, bonds and other investments. Executives, as agents, play a role in steering an organization towards success. Financial executives, such as CFOs, should understand the inherent value of a CEFO. If CFOs support an effective CEFO, it will assist in

helping them with oversight of reporting, budgets, investments and financial planning to maximize their success. The legal and regulatory community is tasked with providing oversight and guidance for ethical and legal conduct. Their awareness of the existence and effectiveness of CEFOs should provide an incentive for firms to develop an effective CEFO.

This research has provided a foundation for future research to determine why CEFO implementation has a positive effect on metrics such as valuation, risk-adjusted returns, lower audit fees as well as profitability, and fewer shareholder disputes and concerns. These positive outcomes from a CEFO need further explanation. This was a quantitative study that discovered the relationships. Qualitative studies are needed to determine how the CEFO is being used and implemented within firms. What role do the CFO or ethics and compliance officer play in making sure the code of ethics is effectively implemented? How does the board of directors interplay in the implementation and decision-making processes? How has the CEFO been incorporated into ethics training? All evidence points to the fact that the CEFO is effective but, more understanding of why can help to enhance the efficiency and effectiveness of the CEFO and highlight some best practices in implementation.

However, our study has a few limitations. Our sample firms are predominantly large. Further research is needed to confirm if our findings are applicable to smaller firms. Since we measure risk-adjusted returns in our study it should be noted that any test involving risk-adjusted returns is a joint test of the issue at hand and the asset pricing model. If the selected asset pricing model is not correct the results will be inconsistent. Our study also provides the path to further explore how exactly the adoption of a code of ethics influences the judgment and decision making of the top financial officers.

6 Conclusion

SOX section 406 requires publicly traded companies in the U.S. to adopt a specific code of ethics for senior financial officers and accounting executives. This requirement was established to prevent misconduct based on the belief that senior financial officers who adhere to an effective code of ethics will implement and require ethical behavior of all employees involved in accounting and financial decision making. While there has been a large and growing body of literature on SOX section 406, there remains a gap in existing knowledge related to the positive performance relationships, for those firms that implemented the code. This research found a positive relationship with the existence of a code and valuation, risk-adjusted returns, lower audit fees, profitability, and fewer shareholder disputes. These positive outcomes for those firms

that adopted the code provide strong evidence that firms should adopt a financial code of ethics, carefully implement the code, and align with key risk areas in finance and accounting. There is also evidence that more comprehensive codes of ethics will result in even higher scores on the metrics evaluated in this study (Erwin (2011)). In addition, shareholders increasingly care about the ethical conduct of the firm (Loughran et al. (2022)). Therefore, we conclude that a financial code of ethics, that is comprehensive and effectively implemented will significantly improve overall performance, including stakeholder support.

References

Aboody, D. and Lev, B. (1998). The value relevance of intangibles: The case of software capitalization. *Journal of Accounting Research*, 36:161–191.

Acharya, V. V. and Pedersen, L. H. (2005). Asset pricing with liquidity risk. *Journal of Financial Economics*, 77(2):375–410.

Adams, J. S., Tashchian, A., and Shore, T. H. (2001). Codes of ethics as signals for ethical behavior. *Journal of Business Ethics*, 29:199–211.

Ahluwalia, S., Ferrell, O. C., Ferrell, L., and Rittenburg, T. L. (2018). Sarbanes–oxley section 406 code of ethics for senior financial officers and firm behavior. *Journal of Business Ethics*, 151:693–705.

Amihud, Y. and Mendelson, H. (1986). Asset pricing and the bid-ask spread. *Journal of Financial Economics*, 17(2):223–249.

Bainbridge, S. M. (2003). The creeping federalization of corporate law. *Regulation*, 26:26–31.

Banz, R. W. (1981). The relationship between return and market value of common stocks. *Journal of Financial Economics*, 9:3–18.

Bebchuk, L., Cohen, A., and Ferrell, A. (2009). What matters in corporate governance? *The Review of Financial Studies*, 22:783–827.

Boyle, E. J., Higgins, M. M., and Rhee, G. S. (1997). Stock market reaction to ethical initiatives of defense contractors: Theory and evidence. *Critical Perspectives on Accounting*, 8(6):541–561.

Canary, H. E. and Jennings, M. M. (2008). Principles and influence in codes of ethics: A centering resonance analysis comparing pre-and post-sarbanes-oxley codes of ethics. *Journal of Business Ethics*, 80(2):263–278.

Chan, L. K. C., Lakonishok, J., and Sougiannis, T. (2001). The stock market valuation of research and development expenditures. *The Journal of Finance*, 56:2431–2456.

Chari, M. D., David, P., Duru, A., and Zhao, Y. (2019). Bowman's risk-return paradox: An agency theory perspective. *Journal of Business Research*, 95:357–375.

Coates, J. C. (2007). The goals and promise of the sarbanes-oxley act. *Journal of Economic Perspectives*, 21:91–116.

Cornelius, D. (2010). Public companies fail to disclose ethics waivers.

Cremers, K. J. M. and Nair, V. B. (2005). Governance mechanisms and equity prices. *the Journal of Finance*, 60:2859–2894.

Cressey, D. R. and Moore, C. A. (1983). Managerial values and corporate codes of ethics. *California Management Review*, 25:53–77.

Deng, Z., Lev, B., and Narin, F. (1999). Science and technology as predictors of stock performance. *Financial Analysts Journal*, 55:20–32.

Domino, M. A., Wingreen, S. C., and Blanton, J. E. (2015). Social cognitive theory: The antecedents and effects of ethical climate fit on organizational attitudes of corporate accounting professionals—a reflection of client narcissism and fraud attitude risk. *Journal of Business Ethics*, 131:453–467.

Duong, H. K., Gotti, G., Stein, M. T., and Chen, A. (2022). Code of ethics quality and audit fees. *Journal of Accounting and Public Policy*, 41(6):107001.

Easley, D. and O'hara, M. (2004). Information and the cost of capital. *The journal of finance*, 59(4):1553–1583.

Edmans, A. (2011). Does the stock market fully value intangibles? employee satisfaction and equity prices. *Journal of Financial Economics*, 101:621–640.

Egels-Zandén, N. (2014). Revisiting supplier compliance with mnc codes of conduct: Recoupling policy and practice at chinese toy suppliers. *Journal of Business Ethics*, 119:59–75.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1):57–74.

Erhard, W., Jensen, M. C., and Zaffron, S. (2007). Integrity: Where leadership begins - a new model of integrity (pdf file of powerpoint slides). *SSRN Electronic Journal*.

Erwin, P. M. (2011). Corporate codes of conduct: The effects of code content and quality on ethical performance. *Journal of Business Ethics*, 99:535–548.

Ethisphere (2023). World's most ethical companies in 2023. Technical report, Ethisphere.

Fama, E. F. and French, K. R. (1992). The cross-section of expected stock returns. *the Journal of Finance*, 47:427–465.

Fama, E. F. and French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33:3–56.

Ferrell, O. (2017). Broadening marketing's contribution to data privacy. *Journal of the Academy of Marketing Science*, 45:160–163.

Ferrell, O. C., Fraedrich, J., and Ferrell, L. K. (2022). *Business ethics: Ethical decision making and cases*. Cengage learning.

Ferrell, O. C. and Skinner, S. J. (1988). Ethical behavior and bureaucratic structure in marketing research organizations. *Journal of Marketing Research*, 25:103–109.

Forster, M., Loughran, T., and McDonald, B. (2009). Commonality in codes of ethics. *Journal of Business Ethics 2010 90:2*, 90:129–139.

Gaganis, C., Liu, L., and Pasiouras, F. (2015). Regulations, profitability, and risk-adjusted returns of european insurers: An empirical investigation. *Journal of Financial Stability*, 18:55–77.

Glazer, E. and Rexrode, C. (2016). Wells fargo ceo defends bank culture, lays blame with bad employees. *Wall Street Journal*.

Gomes, J. F. and Schmid, L. (2010). Levered returns. *The Journal of Finance*, 65:467–494.

Gompers, P., Ishii, J., and Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, 118:107–156.

Graham, J. R., Harvey, C. R., and Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of accounting and economics*, 40(1-3):3–73.

Green, T. C., Huang, R., Wen, Q., and Zhou, D. (2019). Crowdsourced employer reviews and stock returns. *Journal of Financial Economics*, 134(1):236–251.

Hochberg, Y. V., Sapienza, P., and Vissing-Jørgensen, A. (2009). A lobbying approach to evaluating the sarbanes-oxley act of 2002. *Journal of Accounting Research*, 47:519–583.

Holder-Webb, L. and Cohen, J. (2012). The cut and paste society: Isomorphism in codes of ethics. *Journal of Business Ethics*, 107(4):485–509.

Homayoun, S. and Homayoun, S. (2015). Agency theory and corporate governance. *International Business Management*, 9(5):805–815.

Iliev, P. (2010). The effect of sox section 404: Costs, earnings quality, and stock prices. *The Journal of Finance*, 65:1163–1196.

Jegadeesh, N. and Titman, S. (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *The Journal of Finance*, 48:65–91.

Jensen, M. C. and Meckling, W. H. (2019). Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate governance*, pages 77–132. Gower.

Jung, J. and Dobbin, F. (2015). Agency theory as prophecy: How boards, analysts, and fund managers perform their roles. *Seattle UL Rev.*, 39:291.

Korteweg, A. (2010). The net benefits to leverage. *The journal of finance*, 65(6):2137–2170.

Kothari, S. P., Leone, A. J., and Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of accounting and economics*, 39(1):163–197.

Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, 115(2):304–329.

Lambert, R., Leuz, C., and Verrecchia, R. E. (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research*, 45(2):385–420.

Lambert, R. A. (2001). Contracting theory and accounting. *Journal of accounting and economics*, 32(1-3):3–87.

Leuz, C. (2007). Was the sarbanes–oxley act of 2002 really this costly? a discussion of evidence from event returns and going-private decisions. *Journal of Accounting and Economics*, 44:146–165.

Lev, B. and Sougiannis, T. (1996). The capitalization, amortization, and value-relevance of r and d. *Journal of Accounting and Economics*, 21:107–138.

Lins, K. V., Servaes, H., and Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance*, 72:1785–1824.

Loughran, T., McDonald, B., and Otteson, J. R. (2022). How have corporate codes of ethics responded to an era of increased scrutiny? *Journal of Business Ethics*, pages 1029–1044.

Loughran, T., McDonald, B., and Yun, H. (2009). A wolf in sheep's clothing: The use of ethics-related terms in 10-k reports. *Journal of Business Ethics*, 89:39–49.

McKinney, J. A. and Moore, C. W. (2007). International bribery: Does a written code of ethics make a difference in perceptions of business professionals. *Journal of Business Ethics*, 79:103–111.

Navran, F. and Pittman, E. (2003). Corporate ethics and sarbanes-oxley.

Ng, A., Ibrahim, M. H., and Mirakhor, A. (2015). Ethical behavior and trustworthiness in the stock market-growth nexus. *Research in International Business and Finance*, 33:44–58.

Nyberg, A. J., Fulmer, I. S., Gerhart, B., and Carpenter, M. A. (2010). Agency theory revisited: Ceo return and shareholder interest alignment. *Academy of Management Journal*, 53(5):1029–1049.

Pae, J. and Choi, T. H. (2011). Corporate governance, commitment to business ethics, and firm valuation: Evidence from the korean stock market. *Journal of Business Ethics*, 100:323–348.

Palich, L. E., Neubert, M. J., and McKinney, J. A. (2016). Ethical attitudes of business professionals in china and the united states: same or different? *The Journal of Business Inquiry*, 15(2):55–84.

Rao, S. M. and Brooke Hamilton, J. (1996). The effect of published reports of unethical conduct on stock prices. *Journal of Business Ethics*, 15:1321–1330.

Rodrigues, U. and Stegemoller, M. (2010). Placebo ethics: a study in securities disclosure arbitrage. *Hein Online*, 96:1–68.

Romano, R. (2005). Is regulatory competition a problem or irrelevant for corporate governance? *Oxford Review of Economic Policy*, 21:212–231.

Schwartz, M. (2001). The nature of the relationship between corporate codes of ethics and behaviour. *Journal of Business Ethics*, 32:247–262.

Shleifer, A. and Vishny, R. W. (1997). A survey of corporate governance. *The journal of finance*, 52(2):737–783.

Sikes, P. and Potts, A. (2008). Researching education from the inside. *Investigations from Within*.

Stein, J. C. (1988). Takeover threats and managerial myopia. *Journal of Political Economy*, 96(1):61–80.

Stein, J. C. (2003). Agency, information and corporate investment. *Handbook of the Economics of Finance*, 1:111–165.

Stevens, B. (1994). An analysis of corporate ethical code studies:"where do we go from here?". *Journal of Business Ethics*, 13(1):63–69.

Stevens, J. M., Kevin Steensma, H., Harrison, D. A., and Cochran, P. L. (2005). Symbolic or substantive document? the influence of ethics codes on financial executives' decisions. *Strategic Management Journal*, 26(2):181–195.

Webster, J. (2023). How ethical business tactics can improve profitability. Technical report, Forbes Finance Council.

Weeks, W. A. and Nantel, J. (1992). Corporate codes of ethics and sales force behavior: A case study. *Journal of Business Ethics*, 11:753–760.

Werhane, P. H. and Freeman, R. E. (1999). Business ethics: The state of the art. *International Journal of Management Reviews*, 1:1–16.

Yermack, D. (2006). Flights of fancy: Corporate jets, ceo perquisites, and inferior shareholder returns. *Journal of Financial Economics*, 80:211–242.

Yu, B., Wu, S., and Lenard, M. J. (2022). Do ethical companies have high stock prices or high returns? *Journal of Risk and Financial Management*, 15(2):81.

Table 1. Sample firms by CEFO adoption as of 2005 and 2011.

Notes: This table presents information on our sample. To get a representative sample, we use the 43 industry categories specified by Fortune magazine. From each of the 43 industry groups, we select five firms. For industries with less than five firms, we select the maximum available firms. Each short-listed firm's website was checked for information on the code of ethics for financial officers in 2005 and again in 2011. CEFO and Non-CEFO refer to whether a firm's website had or did not have a specific, customized code of ethics for their senior financial officers in 2005 and 2011. Panel A reports the number of CEFO and non-CEFO firms and Panel B lists some of the largest 20 CEFO and non-CEFO firms by market capitalization in 2005 and 2011.

2005		2011	
$CEFO$	$Non-CEFO$	$CEFO$	$Non-CEFO$
Panel A: Number of firms			
67	109	77	99
Panel B: List of firms			
Alcoa	*Aetna*	*Alcoa*	*AT&T*
AmericanInternationalGroup	*AgilentTechnologies*	*AmericanInternationalGroup*	*JPMorganChase*
Boeing	*AmericanElectricPower*	*Boeing*	*LeggettandPlatt*
BristolMyersSquibb	*AmericanExpress*	*BristolMyersSquibb*	*Metlife*
Brunswick	*AutoNation*	*Brunswick*	*NewYorkTimes*
CiscoSystems	*AutomaticDataProcessing*	*CiscoSystems*	*OwensCorningCorporate*
Citigroup	*BakerHughes*	*Citigroup*	*ScienceApplicationsInternational*
ComputerSciencesCorp.	*BrinksCo.*	*ComputerSciencesCorp.*	*TransmontaigneInc.*
ConagraFoods	*Caterpillar*	*ConagraFoods*	*TimeWarnerInc.*
Con-Way	*Chevron*	*Con-Way*	*TexasInstruments*

Table 2. Summary statistics.

Notes: This table shows the summary statistics for stock returns and balance sheet data for the firms in our sample. CEFO and Non-CEFO refers to whether a firm's website have or did not have a specific, customized code of ethics for their senior financial officers in 2005 and 2011. For firms in our sample, Panel A reports the mean returns, standard deviations, returns at the 25^{th}, 50^{th}, and 75^{th} percentiles. We also report the average size (as measured by market capitalization measured in dollar billions) in the row titled in 'Size' and the number of observations in the row titled ''N'. Panel B shows the mean for log book value of assets, profitability (ratio of net income to total book value of assets), tangible assets (ratio of net property, plant, and equipment to total book value of assets), and leverage (total debt to total book value of assets). Panel A uses monthly data, 2005 – 2016. Panel B uses quarterly data, 2005 – 2016.

	2005		2011	
	$CEFO$	$Non{-}CEFO$	$CEFO$	$Non{-}CEFO$
Panel A: Stock returns				
Mean	15.4699	15.9394	14.9617	16.6370
σ	37.6538	35.1120	36.8858	36.5147
25^{th}	-47.5722	-48.2157	-47.3910	-48.5646
Median	13.4832	15.1368	13.4832	14.8992
75^{th}	74.3154	77.3745	73.4688	78.3804
Size ($B)	29.9029	30.3843	30.7366	29.1240
N	27,752	16,239	26,095	17,896
Panel B: Balance sheet				
Assets	9.7660	9.5662	9.6699	9.6142
Profit	0.0120	0.0113	0.0125	0.0109
Tangible	0.2673	0.2543	0.2569	0.2601
Leverage	2.6831	2.3262	2.5094	2.4133

Table 3. Valuation: Sorted in 2005.

Notes: This table shows estimates from the OLS regression of valuation ratio (Tobin's q) on a dummy variable, D_{2005}, that takes the value of 1 for firms whose website indicate they had a code of ethics for financial officers in 2005. Valuation ratio is measured using Tobin's q. Each column shows the results for a different specification. We control for leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by the ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. We also include controls for changes in industrial production, U.S consumer sentiment index, the term spread, and the default spread. In addition, we also control for the number of independent directors and the number of women directors that serve on the board of directors of the firm. We also include a dummy variable that equals 1 when the chairperson of the board is independent of the chief executive office of the firm. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Quarterly data, 2005 – 2010.

	(1)		(2)		(3)	
Panel A: 3-year window						
D_{2005}	0.0848***	(3.67)	0.1289***	(4.18)	0.1284***	(4.17)
$Leverage$	-0.0009	(-0.40)	–	(–)	0.0054***	(2.89)
$Size$	–	(–)	0.3996***	(2.92)	0.3052	(3.15)
$Profit$	1.7772***	(5.62)	1.0704***	(3.87)	1.1642***	(4.18)
$Tangible$	-0.3159**	(2.00)	0.1171	(0.84)	0.0848	(0.61)
$Production$	-0.02398	(-1.14)	-0.0410**	(-2.23)	-0.0387**	(-2.11)
$Sentiment$	0.0012	(0.46)	0.0029	(1.29)	0.0030	(1.32)
$TermSpread$	-0.0653	(-0.66)	-0.0219	(-0.25)	-0.0194	(-0.22)
$DefaultSpread$	-0.0285	(-0.36)	-0.1238*	(-1.80)	-0.1202*	(-1.75)
$Independent$	0.0488	(0.25)	0.0999	(0.58)	0.0741	(0.43)
$Women$	0.8977	(0.10)	0.5379	(0.07)	0.3271	(0.04)
$Chairperson$	-0.1302***	(-3.85)	-0.1537***	(-5.18)	-0.1497***	(-5.05)
$R^2 - adj$	0.7774		0.8285		0.8293	
Industry fixed effects	Yes		Yes		Yes	
Panel B: 5-year window						
D_{2005}	0.0928***	(3.16)	0.0904***	(3.53)	0.0930***	(3.65)
$Leverage$	-0.0005	(-0.01)	–	(–)	0.0052***	(6.70)
$Size$	–	(–)	0.2949***	(9.03)	0.3104***	(13.72)
$Profit$	2.2710***	(8.98)	1.2913***	(5.71)	1.2837***	(5.72)
$Tangible$	-0.3444***	(-2.65)	0.1769	(1.52)	0.1755	(1.52)
$Production$	0.1009***	(3.97)	0.0644***	(9.93)	0.0664***	(10.30)
$Sentiment$	-0.01423***	(-8.60)	-0.0096***	(-6.57)	-0.0096***	(-6.63)
$TermSpread$	-0.2830***	(-4.96)	-0.2009***	(-3.98)	-0.2039***	(-4.06)
$DefaultSpread$	0.1747***	(6.21)	0.0881***	(3.52)	-0.2039***	(-4.06)
$Independent$	-0.6843***	(-3.99)	-0.3618**	(-2.39)	-0.4335***	(-2.87)
$Women$	-7.2977	(-1.45)	-4.9617	(-1.11)	-0.4335***	(-2.87)
$Chairperson$	-0.0828***	(-3.03)	-0.1105***	(-4.58)	-0.1034***	(-4.31)
$R^2 - adj$	0.7046		0.7690		0.7723	
Industry fixed effects	Yes		Yes		Yes	

Table 4. Valuation: Sorted in 2011.

Notes: This table shows estimates from the OLS regression of valuation ratio (Tobin's q) on a dummy variable, D_{2005}, that takes the value of 1 for firms whose website indicate they had a code of ethics for financial officers in 2005. Valuation ratio is measured using Tobin's q. Each column shows the results for a different specification. We control for leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by the ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. We also include controls for changes in industrial production, U.S consumer sentiment index, the term spread, and the default spread. In addition, we also control for the number of independent directors and the number of women directors that serve on the board of directors of the firm. We also include a dummy variable that equals 1 when the chairperson of the board is independent of the chief executive office of the firm. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Quarterly data, 2011 – 2016.

	(1)		(2)		(3)	
Panel A: 3-year window						
D_{2005}	0.0721***	(2.81)	0.0701***	(2.88)	0.0774***	(2.90)
$Leverage$	-0.0599***	(-9.59)	–	(–)	-0.0053	(-1.04)
$Size$	–	(–)	0.3004***	(3.60)	0.2977***	(5.50)
$Profit$	2.2354***	(6.29)	0.4689*	(1.69)	0.4568*	(1.64)
$Tangible$	-0.4347**	(-3.11)	-0.3395	(-3.15)	-0.3428***	(-3.18)
$Production$	0.0653***	(3.16)	0.0487***	(3.08)	0.0474***	(2.98)
$Sentiment$	-0.0010	(-0.79)	-0.0009	(-0.99)	-0.0015	(-1.00)
$TermSpread$	0.2257***	(3.92)	0.1352***	(3.04)	0.1342***	(3.02)
$DefaultSpread$	-0.0214	(-0.48)	-0.0127	(-0.37)	-0.0129	(-0.38)
$Independent$	-0.5328***	(-4.11)	-0.2133**	(-2.13)	-0.2143***	(-2.14)
$Women$	-4.0191	(-1.30)	-4.2550*	(-1.79)	-4.2821*	(-1.81)
$Chairperson$	0.0101	(0.44)	-0.0529***	(-3.01)	-0.0498***	(-2.80)
$R^2 - adj$	0.7596		0.8574		0.8575	
Industry fixed effects	Yes		Yes		Yes	
Panel B: 5-year window						
D_{2005}	0.0373***	(2.99)	0.0235**	(2.14)	0.0221**	(2.07)
$Leverage$	-0.0835***	(-3.34)	–	(–)	-0.0153***	(-2.75)
$Size$	–	(–)	0.3303***	(3.84)	0.3221***	(6.65)
$Profit$	2.2591***	(6.81)	0.7803***	(2.79)	0.7579***	(2.71)
$Tangible$	-0.0975	(-0.74)	-0.1142	(-1.03)	-0.1203	(-1.09)
$Production$	-0.0583***	(-3.49)	-0.0435***	(-3.12)	-0.0442***	(-3.17)
$Sentiment$	-0.0001	(-0.08)	-0.0006	(-0.46)	-0.0006	(-0.51)
$TermSpread$	0.2082***	(3.00)	0.1231**	(2.12)	0.209**	(2.08)
$DefaultSpread$	-0.0387	(-0.76)	-0.0209	(-0.49)	-0.0211	(-0.50)
$Independent$	-0.3237**	(-2.39)	-0.0039	(-0.04)	0.0034	(0.03)
$Women$	-0.5364	(-0.17)	0.8029	(0.30)	0.8126	(0.30)
$Chairperson$	-0.0014	(-0.06)	-0.0749***	(-4.07)	-0.0673***	(-3.62)
$R^2 - adj$	0.7138		0.8000		0.8004	
Industry fixed effects	Yes		Yes		Yes	

Table 5. Risk-adjusted returns: Sorted in 2005.

Notes: This table shows estimates from the OLS regression of monthly value-weighted excess returns on CEFO-sorted portfolios of firms in our same on the three Fama and French (1993) factors. MKT , SMB, and HML, are the three Fama-French stock factors: market, small minus big, and high minus low, respectively, $Production$ is the total U.S. industrial production index, $Sentiment$ is the University of Michigan consumer sentiment index, $Termspread$ is the difference in the yield to maturity between the 10-year note and the 3-month bill issued by the U.S. Treasury, and $Defaultspread$ is the difference in the yield to maturity on bonds issued by U.S. non-financial corporations rated BBB and U.S. non-financial corporations rated AAA by Moody's. Panel A (B) shows the estimates for a 3-year (5-year) window after sorting firms on CEFO in 2005. The risk-adjusted returns are annualized and expressed in percentages. The numbers in parenthesis are the t-statistics. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Monthly data, 2011 – 2016.

	$non-CEFO$		$CEFO$		$CEFO-non-CEFO$	
Panel A: 3-year window						
α	0.4589	(0.35)	-4.8380*	(-1.92)	-5.2968**	(-2.45)
MKT	0.9184***	(9.25)	1.0381***	(4.70)	0.1197	(1.53)
SMB	-0.1603***	(-5.86)	-0.2829***	(-4.31)	-0.1225	(-1.52)
HML	0.2407***	(4.73)	0.2597**	(2.54)	0.0190	(0.16)
$Production$	-0.0021	(-0.84)	0.0084*	(1.86)	0.0105	(1.60)
$Sentiment$	0.0004*	(1.79)	-0.0004	(-1.63)	-0.0007**	(-2.05)
$TermSpread$	-0.0012	(-0.41)	0.0065	(0.53)	0.0077	(0.65)
$DefaultSpread$	0.0119***	(2.82)	0.0084	(1.10)	-0.0035	(-0.37)
R^2-adj	0.9680		0.8967		0.0736	
Panel B: 5-year window						
α	-0.6943	(-0.92)	-6.1658***	(-2.78)	-5.4715**	(-2.28)
MKT	0.9279***	(5.08)	1.0355***	(3.32)	0.1076*	(1.96)
SMB	-0.1442***	(-6.02)	-0.2255***	(-4.23)	-0.0813	(-1.27)
HML	0.1964***	(6.59)	0.1736**	(2.29)	-0.0227	(-0.33)
$Production$	0.0001	(0.07)	0.0013	(0.48)	0.0012	(0.32)
$Sentiment$	0.0002	(0.88)	-0.0003	(-1.42)	-0.0005	(-1.33)
$TermSpread$	0.0021	(0.37)	0.0130	(0.91)	0.0110	(0.85)
$DefaultSpread$	0.0079***	(2.72)	0.0019	(0.21)	-0.0061	(-0.65)
R^2-adj	0.9645		0.9018		0.0209	

Table 6. Risk-adjusted returns: Sorted in 2011.

Notes: This table shows estimates from the OLS regression of monthly value-weighted excess returns on CEFO-sorted portfolios of firms in our same on the three Fama and French (1993) factors. MKT , SMB, and HML, are the three Fama-French stock factors: market, small minus big, and high minus low, respectively, $Production$ is the total U.S. industrial production index, $Sentiment$ is the University of Michigan consumer sentiment index, $Termspread$ is the difference in the yield to maturity between the 10-year note and the 3-month bill issued by the U.S. Treasury, and $Defaultspread$ is the difference in the yield to maturity on bonds issued by U.S. non-financial corporations rated BBB and U.S. non-financial corporations rated AAA by Moody's. Panel A (B) shows the estimates for a 3-year (5-year) window after sorting firms on CEFO in 2005. The risk-adjusted returns are annualized and expressed in percentages. The numbers in parenthesis are the t-statistics. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Monthly data, 2005 – 2010.

	$non-CEFO$		$CEFO$		$CEFO-non-CEFO$	
Panel A: 3-year window						
α	1.8902*	(1.82)	-3.1631***	(-2.39)	-5.0533***	(-2.55)
MKT	0.9484***	(11.09)	1.1306***	(13.37)	0.1821**	(2.30)
SMB	-0.2063***	(-3.28)	-0.2228***	(-2.92)	-0.0165	(-0.20)
HML	0.1013**	(2.13)	0.1975***	(3.44)	-0.0962	(-1.05)
$Production$	-0.0029***	(-2.55)	0.0005	(0.31)	0.0034*	(1.65)
$Sentiment$	-0.0001	(-0.39)	0.0003	(1.54)	0.0004**	(2.43)
$TermSpread$	-0.0030	(-0.22)	0.0058	(0.42)	0.0088	(0.68)
$DefaultSpread$	0.0075**	(2.03)	0.0161***	(5.15)	0.0086*	(1.72)
R^2-adj	0.9156		0.9280		0.0186	
Panel B: 5-year window						
α	1.6932**	(2.33)	-2.3802**	(-2.50)	-4.0734***	(-2.91)
MKT	0.9394***	(8.07)	1.0530***	(9.00)	0.1136***	(3.08)
SMB	-0.2125***	(-4.29)	-0.1961***	(-3.88)	0.0164	(0.22)
HML	0.0877***	(3.11)	0.1419***	(4.40)	0.0542	(1.63)
$Production$	-0.0032***	(-4.23)	0.0000	(0.04)	0.0032**	(2.07)
$Sentiment$	-0.0002	(-0.84)	-0.0000	(-0.01)	0.0002	(0.66)
$TermSpread$	0.0053	(0.74)	0.0050	(0.80)	-0.0004	(-0.06)
$DefaultSpread$	0.0042*	(1.88)	0.0084***	(4.64)	0.0042**	(2.22)
R^2-adj	0.9524		0.9507		0.0893	

Table 7. Profitability: Sorted in 2005.

Notes: This table shows estimates from the OLS regression of profitability ratio (return on assets) on a dummy variable, D_{2005}, that takes the value of 1 for firms whose website indicate they had a code of ethics for financial officers in 2005. Profitability is the ratio of net income to lagged total book value of assets. Each column shows the results for a different specification. We control for leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by the ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. We also include controls for changes in industrial production, U.S consumer sentiment index, the term spread, and the default spread. In addition, we also control for the number of independent directors and the number of women directors that serve on the board of directors of the firm. We also include a dummy variable that equals 1 when the chairperson of the board is independent of the chief executive office of the firm. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Quarterly data, 2005 – 2010.

	(1)		(2)		(3)	
Panel A: 3-year window						
D_{2005}	0.0031**	(2.20)	0.0042***	(2.57)	0.0048**	(2.59)
$Leverage$	-0.0008***	(-5.63)	–	(–)	-0.0007***	(-4.94)
$Size$	–	(–)	0.0054***	(4.87)	0.0045***	(4.06)
$Tangible$	0.0008	(0.07)	0.0022	(0.19)	0.0069	(0.58)
$Production$	-0.0011	(-0.76)	-0.0011	(-0.69)	-0.0014	(-0.90)
$Sentiment$	0.0001	(0.38)	0.0001	(0.55)	0.0001	(0.51)
$TermSpread$	0.0025	(0.34)	0.0036	(0.48)	0.0032	(0.43)
$DefaultSpread$	-0.0029	(-0.51)	-0.0039	(-0.65)	-0.0043	(-0.74)
$Independent$	-0.0202	(-1.38)	-0.0237	(-1.61)	-0.0196	(-1.34)
$Women$	0.3785	(0.55)	0.3390	(0.49)	0.3649	(0.53)
$Chairperson$	-0.0038	(-1.50)	-0.0034	(-1.36)	-0.0040	(-1.58)
$R^2 - adj$	0.1599		0.1562		0.1672	
Industry fixed effects	Yes		Yes		Yes	
Panel B: 5-year window						
D_{2005}	0.0057***	(2.75)	0.0067***	(3.28)	0.0068***	(3.29)
$Leverage$	-0.0001	(-1.59)	–	(–)	0.0002	(0.28)
$Size$	–	(–)	0.0067***	(8.34)	0.0068***	(8.19)
$Tangible$	-0.0283***	(-3.03)	-0.0163*	(-1.74)	-0.0163**	(-1.74)
$Production$	0.0028***	(5.49)	0.0020	(3.87)	0.0020***	(3.88)
$Sentiment$	-0.0001	(-1.15)	-0.0003	(-0.30)	-0.0003	(-0.30)
$TermSpread$	0.0161***	(3.95)	0.0175***	(4.33)	0.0175***	(4.32)
$DefaultSpread$	0.0041**	(2.03)	0.0022	(1.11)	0.0022	(1.12)
$Independent$	-0.03372***	(-2.74)	-0.0273**	(-2.24)	-0.0275**	(-2.35)
$Women$	-0.1669**	(-2.17)	-0.1156	(-0.32)	-0.1161	(-0.32)
$Chairperson$	-0.0042**	(-2.16)	-0.0046**	(-2.36)	-0.0045**	(-2.35)
$R^2 - adj$	0.1560		0.1742		0.1740	
Industry fixed effects	Yes		Yes		Yes	

Table 8. Profitability: Sorted in 2011.

Notes: This table shows estimates from the OLS regression of profitability ratio (return on assets) on a dummy variable, D_{2011}, that takes the value of 1 for firms whose website indicate they had a code of ethics for financial officers in 2011. Profitability is the ratio of net income to lagged total book value of assets. Each column shows the results for a different specification. We control for leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by the ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. We also include controls for changes in industrial production, U.S consumer sentiment index, the term spread, and the default spread. In addition, we also control for the number of independent directors and the number of women directors that serve on the board of directors of the firm. We also include a dummy variable that equals 1 when the chairperson of the board is independent of the chief executive office of the firm. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Quarterly data, 2011 – 2016.

	(1)		(2)		(3)	
Panel A: 3-year window						
D_{2011}	0.0032**	(2.20)	0.0061***	(2.65)	0.0062***	(2.69)
$Leverage$	-0.0018***	(-4.45)	–	(–)	-0.0008*	(-1.80)
$Size$	–	(–)	0.0058***	(8.87)	0.0054***	(7.84)
$Tangible$	-0.0113	(-1.21)	-0.0086	(-0.95)	-0.0091	(-1.01)
$Production$	-0.0001	(-0.09)	-0.0002	(-0.01)	-0.0002	(-0.15)
$Sentiment$	0.0001	(1.42)	0.0001	(1.43)	0.0001	(1.40)
$TermSpread$	0.0008	(-0.02)	-0.0014	(-0.38)	-0.0015	(-0.42)
$DefaultSpread$	-0.0031	(-1.07)	-0.0028	(-0.99)	-0.0029	(-1.00)
$Independent$	-0.01618*	(-1.91)	-0.0097*	(-1.76)	-0.0099	(-1.17)
$Women$	0.0225	(0.11)	0.0209	(0.10)	0.0169	(0.09)
$Chairperson$	-0.0011	(-0.72)	-0.0026*	(-1.76)	-0.0021	(-1.43)
$R^2 - adj$	0.2504		0.2734		0.2743	
Industry fixed effects	Yes		Yes		Yes	
Panel B: 5-year window						
D_{2011}	0.0042**	(2.32)	0.0031**	(2.38)	0.0032**	(2.22)
$Leverage$	-0.0016***	(-4.68)	–	(–)	-0.0006	(-1.62)
$Size$	–	(–)	0.0049***	(9.35)	0.0045***	(8.22)
$Tangible$	-0.0007	(-0.99)	-0.0070	(-0.99)	-0.0073	(-1.02)
$Production$	0.0002	(0.03)	0.0003	(0.28)	0.0001	(0.25)
$Sentiment$	0.0001	(1.48)	0.0001	(1.40)	0.0001	(1.37)
$TermSpread$	0.0013	(0.35)	0.0001	(0.03)	0.0003	(0.01)
$DefaultSpread$	-0.0010	(-0.37)	-0.0007	(-0.27)	-0.0007	(-0.27)
$Independent$	-0.0169**	(-2.30)	-0.0121*	(-1.66)	-0.0118	(-1.62)
$Women$	-0.0327	(-0.19)	-0.0131	(-0.08)	-0.0127	(-0.07)
$Chairperson$	-0.0007	(-0.61)	-0.0019*	(-1.64)	-0.0017	(-1.38)
$R^2 - adj$	0.2247		0.2407		0.2411	
Industry fixed effects	Yes		Yes		Yes	

Table 9. Audit fees: Sorted in 2005.

Notes: This table shows estimates from the OLS regression of audit fees (normalized by total lagged book value of assets) on a dummy variable, D_{2005}, that takes the value of 1 for firms whose website indicate they had a code of ethics for financial officers in 2005. Each column shows the results for a different specification. We control leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. We also include controls for changes in industrial production, U.S consumer sentiment index, the term spread, and the default spread. In addition, we also control for the number of independent directors and the number of women directors that serve on the board of directors of the firm. We also include a dummy variable that equals 1 when the chairperson of the board is independent of the chief executive office of the firm. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Quarterly data, 2005 – 2010.

	(1)		(2)		(3)	
Panel A: 3-year window						
D_{2005}	-0.2266**	(-2.27)	-0.9092**	(-2.06)	-0.9129**	(-2.07)
$Leverage$	3.5101	(0.80)	–	(–)	-0.6265	(-0.14)
$Size$	–	(–)	-0.2260***	(-5.71)	-0.2271***	(-5.65)
$Profit$	0.2088*	(1.87)	0.2271**	(2.17)	0.2263**	(2.15)
$Tangible$	-0.6374	(-1.33)	-0.9256**	(-1.96)	-0.9152*	(-1.91)
$Production$	-0.0187	(-0.38)	0.2977	(0.01)	0.0229	(0.001)
$Sentiment$	2.6762	(0.44)	0.5900	(0.10)	0.5811	(0.10)
$TermSpread$	-2.0144	(-0.89)	-1.6289	(-0.72)	-1.6243	(-0.72)
$DefaultSpread$	2.5892	(1.44)	1.8147	(1.02)	1.8172	(1.02)
$Independent$	-0.1664	(-0.04)	-0.0206	(-0.46)	-0.0198	(-0.45)
$Women$	-0.2131	(-0.10)	-0.1446	(-0.07)	-0.1986	(-0.07)
$Chairperson$	0.08668	(1.09)	0.0983	(1.25)	0.09746	(1.24)
$R^2 - adj$	0.6950		0.7021		0.7019	
Industry fixed effects	Yes		Yes		Yes	
Panel B: 5-year window						
D_{2005}	-0.63771***	(-2.74)	-1.1621**	(-2.29)	-1.1904**	(-2.35)
$Leverage$	1.0833	(0.85)	–	(–)	-1.9294	(-1.47)
$Size$	–	(–)	-0.1905***	(-8.72)	-0.1992***	(-8.80)
$Profit$	0.2805***	(6.89)	0.3241***	(8.02)	0.3253***	(8.05)
$Tangible$	-0.3953	(-1.45)	-0.3743	(-1.57)	-0.3732*	(-1.71)
$Production$	0.1733	(1.44)	0.1343	(0.28)	0.2842	(1.17)
$Sentiment$	-1.7066	(-1.67)	-1.5879	(-1.14)	-1.5913	(-1.15)
$TermSpread$	-5.2478	(-1.58)	-5.8799	(-0.26)	-4.2126	(-1.25)
$DefaultSpread$	1.2066	(0.47)	5.6951	(1.57)	5.8969	(1.53)
$Independent$	-0.5471	(-0.02)	-0.2943	(-0.36)	-0.2684	(-0.98)
$Women$	-0.3694	(-0.30)	-0.3576	(-0.68)	-0.3703	(-0.58)
$Chairperson$	0.1388	(1.59)	0.3155	(0.36)	0.2699	(0.37)
$R^2 - adj$	0.7552		0.7628		0.7629	
Industry fixed effects	Yes		Yes		Yes	

Table 10. Audit fees: Sorted in 2011.

Notes: This table shows estimates from the OLS regression of audit fees (normalized by lagged book value of assets) on a dummy variable, D_{2011}, that takes the value of 1 for firms whose website indicate they had a code of ethics for financial officers in 2005. Each column shows the results for a different specification. We control leverage as measured by the ratio of total book value of assets to the market value of equity, size as measured by the log of total market capitalization, profitability as measured by ratio of net income to total assets, and tangibility as measured by the ratio of net property, plant, and equipment to total assets. Statistical significance is indicated by *, **, and *** at the 10%, 5% and 1% levels, respectively. Quarterly data, 2011 – 2016.

	(1)		(2)		(3)	
Panel A: 3-year window						
D_{2011}	-0.9196**	(-1.99)	-1.1219***	(-2.54)	-1.1459***	(-2.59)
$Leverage$	3.0239***	(2.94)	–	(–)	3.3289	(0.81)
$Size$	–	(–)	-2.4722**	(-2.26)	-2.5258***	(-11.89)
$Profit$	4.7953***	(12.20)	5.2644***	(13.95)	5.2584***	(13.93)
$Tangible$	-0.1045**	(-3.32)	-0.1370***	(-4.55)	-0.1381***	(-4.58)
$Production$	0.5041	(0.14)	0.5283	(0.74)	0.5392	(0.68)
$Sentiment$	1.2953	(0.55)	1.1776	(0.53)	1.1882	(0.53)
$TermSpread$	2.6893***	(2.63)	3.5788***	(3.66)	3.5625***	(3.64)
$DefaultSpread$	0.8215	(1.04)	0.6790	(0.90)	0.6764	(0.90)
$Independent$	-0.2271	(-1.07)	-0.2658	(-0.19)	-0.2666	(-0.23)
$Women$	-0.1307	(-0.22)	-0.1969	(-0.14)	-0.1923	(-0.16)
$Chairperson$	0.6772	(1.58)	0.5592	(0.14)	0.1230	(0.30)
$R^2 - adj$	0.6376		0.6696		0.8678	
Industry fixed effects	Yes		Yes		Yes	
Panel B: 5-year window						
D_{2011}	-0.9085**	(-2.24)	-0.9818***	(-2.50)	-1.0139***	(-2.58)
$Leverage$	2.6471***	(2.86)	–	(–)	-2.1428	(-1.49)
$Size$	–	(–)	-2.1908***	(-2.62)	-2.2855**	(-2.36)
$Profit$	4.3915***	(5.03)	4.7029***	(6.51)	4.6943***	(6.48)
$Tangible$	-0.4102	(-1.57)	-0.4706*	(-1.77)	-0.4725*	(-1.84)
$Production$	-0.1088	(-0.41)	-0.2294	(-0.09)	-0.1835	(-0.07)
$Sentiment$	-0.2840	(-1.22)	-0.2239	(-0.99)	-0.2276	(-1.01)
$TermSpread$	-1.6915	(-1.53)	2.4479**	(2.27)	2.4265**	(2.26)
$DefaultSpread$	-2.8692	(-0.35)	-1.4448	(-0.18)	-1.3877	(-0.18)
$Independent$	-0.3172	(-1.58)	-0.3655***	(-3.33)	-0.3657***	(-3.34)
$Women$	-0.2341	(-0.26)	-0.0808	(-0.09)	-0.0705	(-0.08)
$Chairperson$	0.8906	(1.45)	0.9053	(0.86)	0.5257	(0.57)
$R^2 - adj$	0.8678		0.8753		0.8753	
Industry fixed effects	Yes		Yes		Yes	

Table 11. Shareholders disputes and concerns.

Notes: This table shows the number of shareholder disputes (Panel A) and shareholder concerns (Panel B) for CEFO and non-CEFO firms. The number of shareholders disputes and concerns are measured over a 5-year window before and after data collection. Thus, for data collected in 2005 (first two columns), the 5-year prior period is from 2000–20004 and the 5-year post period is from 2005–2009. Similarly, for data collected in 2011 (last two columns), the 5-year prior period is from 2006–2010 and the 5-year post period is from 2011–2015. Shareholder disputes and concerns are based on Schedule 13D filing by activist shareholders that have beneficial ownership of more than 5% of a voting class of a firms' securities.

	2005		2011	
	$CEFO$	$Non{-}CEFO$	$CEFO$	$Non{-}CEFO$
Panel A: Shareholder disputes				
Five years prior	0	0	7	3
Five years post	7	3	3	14
Number firms	67	109	77	99
Panel B: Shareholder concerns				
Five years prior	0	0	12	13
Five years post	12	13	3	14
Number firms	67	109	77	99

Appendix

Does being ethical pay? Evidence from the implementation of SOX section 406

Table 12. Definition of variables for data analysis.

Notes: This table provides details regarding the construction of key variables used in the paper. The first column lists variable names. Column titled 'Abbreviated form' lists the mnemonic used to reference the variable throughout the paper. Finally, column titled 'Explanation' details the definition of each variable.

Variable name	Abbreviated form	Explanation
Tobin's q	Tobin's q	Valuation ratio calculated as market value of assets divided by the book value of assets
CEFO firm dummy	D_{2005}, D_{2011}	Takes value 1 if firm adopted a code of ethics for financial officers in 2005 or 2011, 0 otherwise
Leverage	Leverage	Ratio of total book value of assets to market value of equity
Size	Size	Natural log of total market capitalization
Profitability	Profit	Ratio of net income to total book value of assets
Tangibility	Tangible	Ratio of net property, plant, and equipment to total book value of assets
Industrial production	Production	Change in the index of total industrial production
Consumer sentiment	Sentiment	Change in the Michigan U.S. consumer sentiment index
Term spread	TermSpread	Change in the slope of the term structure as measured by the difference in the yield to maturity on the 10-year note and the 3-month bill issued by the U.S. Treasury
Default spread	DefaultSpread	Change in the difference in the yield to maturity on corporate bonds issued by those U.S. non-financial corporations that are rated BAA and those that are rated AAA
Audit fees	AuditFees	Total audit fees paid by the firm, normalized by the lagged total book value of assets
Shareholder disputes	Disputes	Number of shareholder disputes based on Schedule 13D activist filings
Shareholder concerns	Concerns	Number of shareholder concerns based on Schedule 13D activist filings