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To the Graduate Council:

I am submitting herewith a dissertation written by Victoria Javine entitled "The Impact of Sarbanes-Oxley on Bank CEO and Director Compensation." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

Michael C. Ehrhardt, Major Professor

We have read this dissertation and recommend its acceptance:

Harold A. Black, Phillip R. Daves, Terry L. Neal

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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THE IMPACT OF SARBANES-OXLEY ON BANK CEO AND DIRECTOR COMPENSATION

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Victoria Javine
August 2009

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DEDICATION

This dissertation is dedicated to the memory of my grandmother, Lola Mae Kirkland, who always encouraged me to work hard to fulfill my dreams.

ACKNOWLEDGEMENTS

I would like to thank my committee members, Mike Ehrhardt (chair), Harold Black, Phillip Daves, and Terry Neal for their valuable assistance and guidance throughout this process. I would especially like to thank my husband, Kevin Javine. Your support keeps me going and I am grateful to have you in my life. I also wish to thank my son, Ashton for reminding me of why I decided to pursue my Ph.D.

ABSTRACT

This study examines the impact of Sarbanes-Oxley on CEO compensation and director compensation for banks. The presence of pre-SOX regulation in the banking industry, particularly, FIRREA and FDICIA, suggests that SOX may affect banks differently than other industries. Specifically, this study examines the changes in the trends for CEO compensation and for director compensation for banks over time. The results indicate that compensation for directors and CEOs has changed for all firms over time, but the sign and the significance of the change varies with respect to the type of compensation. Additionally, the differences in director/CEO compensation for banks and industrial firms have also changed over time. Whether or not the changes in the gap between compensation for banks and industrials is a consequence of banks being financial firms or banks being regulated firms varies depending on the type of compensation.

The results show that bank directors are paid more cash compensation, more total compensation, and less in levels but not proportions of equity-based compensation after SOX when compared to before SOX levels. Additionally, all forms of compensation are lower for banks than non-banks after SOX. Director cash, equity, and total compensation increased for all firms from before to after SOX. There is no significant change in the difference of any form of director compensation from before to after SOX.

Similar to the director compensation results, the results for CEO compensation indicate that bank CEOs are paid less cash compensation, less total compensation, and less in levels of equity-based compensation and less in percent of equity after SOX. Additionally, the level of equity compensation and total compensation are lower for banks than non-banks after SOX. However, there is no difference in cash or percent equity compensation between banks and non-

banks after SOX. The results suggest that the gap between bank CEO compensation and industrial CEO compensation for equity and total compensation is widening and it may be driven by the fact that banks are financial firms. The evidence also supports the notion that the widening gap between CEO compensation between banks and industrials may be driven by bank regulation.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This study examines the impact of the Sarbanes-Oxley Act of 2002 (SOX) on CEO compensation and director compensation for banks. Chief executive officer compensation and director compensation have increased dramatically for all firms since the early 1990s. As a consequence, executive compensation has been a subject of great debate over the last two decades. In recent years, media and Congressional scrutiny of both executive compensation and corporate governance has prompted numerous studies examining such issues. The news of the accounting scandals of Enron, WorldCom, and the Federal National Mortgage Association (Fannie Mae) has added fuel to the fire. For example, the SEC and the Office of Federal Housing Enterprise Oversight (OFHEO)¹ concluded that Fannie Mae senior executives misstated earnings in financial statements by more than \$10 billion from 1998 to 2004 in order to maximize their bonuses.

While a considerable number of studies focus on the impact of SOX on industrial firms, a much smaller number consider the impact of SOX on the banking industry. None examine the impact on CEO and director compensation firms since SOX was implemented. Around the news of Enron and other accounting scandals, Congress hastily began talks of reform and greater disclosure. The Sarbanes-Oxley Act (SOX) of 2002 was the result of the debate. Now, after several years after the passage of SOX and much anecdotal discussion of SOX's impact, it is important to examine the effects of the Act on the banking industry.

¹ The OFHEO is responsible for regulating Fannie Mae.

The banking industry is heavily regulated. In particular, The Financial Institutions Recovery, Reform, and Enforcement Act (FIRREA) of 1989 and the Federal Depositary Insurance Corporation Improvement Act (FDICIA) of 1991 predates SOX, include similar provisions and yet banks are not exempt from SOX.

The presence of the FIRREA and the FDICIA suggests that SOX may affect banks differently than industrials. Specifically, the impact of SOX on compensation in the banking industry should not be as great as the impact of SOX on industrials firms because FIRREA and FDICIA have many of the same requirements as SOX. Both of these banking regulations and the SOX center on internal control mechanisms as the primary component for transparent financial statements. They also require independent auditors to verify the accuracy of the financial statements. Given that the banking industry was already complaint with several of the issues raised by Sarbanes-Oxley (in fact FDICIA was the basis for SOX), banking firms should find that complying with the new regulation might be less onerous than firms in other industries. Consequently, banking firms should observe lower compliance cost and smaller changes in compensation, particularly for large banks and bank holding companies.

One of the primary goals of Sarbanes-Oxley is to increase investor confidence in markets and financial reporting by requiring among other things CEO and CFO certification of financial statements. Accordingly, the level of scrutiny has increased and the responsibilities of the board increased. This suggests that the CEO, the board, and its various committees will require greater compensation for this additional level of risk, as well as the additional effort necessary to effectively run and monitor the firm. Core and Guay (1999) in a study of industrial firms hypothesize that firms have some optimal level of equity-based incentives for the CEO. The CEO's residual equity-based compensation is a measure of the level of excess

compensation. Given the potential improvements in corporate governance as a result of SOX, the level of excess compensation should be lower. Furthermore, it has been argued by some that the banking firms are more opaque because they tend to hold very few physical assets in their capital structure (Morgan, 2002; Flannery et al., 2004; and Hirtle 2006). Following the assumption that banking firms are not transparent, what impact if any has SOX had on compensation in the banking industry. This has policy implications. Particularly, lawmakers should consider how policies may affect different industries. For example, evidence suggests that the fixed costs of regulatory requirements fall more heavily on smaller firms and has had a significantly negative impact on such firms (Jordan et al., 2004). The main purpose of this dissertation is to examine the influence SOX has exerted on bank director and CEO compensation and whether or not differences in compensation between banks and non-banks have converged. The results show that bank directors are paid more cash compensation, more total compensation, and less in levels but not proportions of equity-based compensation after SOX when compared to before SOX levels. Additionally, all forms of compensation are lower for banks than non-banks after SOX. Director cash, equity, and total compensation increased for all firms from before to after SOX. There is no significant change in the difference of any form of director compensation from before to after SOX.

Similar to the director compensation results, the results for CEO compensation indicate that bank CEOs are paid less cash compensation, less total compensation, and less in levels of equity-based compensation and less in percent of equity after SOX. Additionally, the level of equity compensation and total compensation are lower for banks than non-banks after SOX. However, there is no difference in cash or percent equity compensation between banks and non-banks after SOX. The results suggest that the gap between bank CEO compensation and

industrial CEO compensation for equity and total compensation is widening and it may be driven by the fact that banks are financial firms. The evidence also supports the notion that the widening gap between CEO compensation between banks and industrials may be driven by bank regulation.

This dissertation is presented in the following order. Chapter 2 provides background information about the Sarbanes-Oxley Act of 2002, FIRREA, and FDICIA. Chapter 3 provides a detailed review of the literature. Chapter 4 sets forth the hypotheses to be tested and the empirical models used to test the hypotheses. The data and sample are discussed in Chapter 5. The results of the empirical analyses for director and CEO compensation are presented and discussed in Chapter 6 and Chapter 7. Chapter 8 provides the results of the empirical analysis for restatements. Chapter 9 provides suggestion for future research and concludes.

CHAPTER 2

A COMPARISON OF THE SARBANES-OXLEY ACT OF 2002, THE FINANCIAL INSTITUTIONS RECOVERY, REFORM, AND ENFORCEMENT ACT OF 1989, AND THE FEDERAL DEPOSITORY INSURANCE CORPORATION IMPROVEMENT ACT OF 1991: IMPLICATIONS FOR CHANGES IN GOVERNANCE

2.1 Overview

Named for its sponsors Senator Paul Sarbanes and Representative Michael G. Oxley, the Sarbanes-Oxley Act of 2002 was signed into law by President George W. Bush on July 30, 2002. The Act was one of the most wide-ranging pieces of legislation since the Securities and Exchange Acts of the 1930s. The provisions of SOX provide regulations for auditors, CEOs and CFOs, boards of directors, investment analysts, and investment banks. The provisions cover issues ranging from auditor independence and financial disclosure to criminal and civil penalties for violations of securities laws.

The goal of this legislation is to protect investors by improving the accuracy and reliability of corporate disclosure. The Act attempts to increase transparency by requiring: (1) that the companies that perform audits are independent of the firm that is being audited; (2) that key executives, specifically the chief executive officer and the chief financial officer, certify the completeness and accuracy of financial statements; (3) that all the members of the board of directors' audit committee are to be independent of management; (4) that financial analysts are relatively independent of the firms they analyze; and (5) that companies release all important information about their financial condition to the public quickly. This chapter provides a summary of the eleven titles contained in SOX, highlights some of the major provisions, and

discusses the similarities and differences of the provision in SOX to provisions in FDICIA and FIRREA. Background about the regulation in the banking industry is discussed in this section.

2.2 The Provisions of the Sarbanes-Oxley Act

Title I: Public Company Accounting Oversight Board: Title I establishes the Public Company Accounting Oversight Board, which is charged with overseeing auditors and establishing quality control and ethical standards for audits. SOX institutes seven duties of the Oversight Board. The Board must:

1. Register public accounting firms;
2. Establish and/or adopt rules for auditing, quality control ethic and independence standards for audit reports;
3. Conduct inspections of public accounting firms;
4. Conduct inspections and disciplinary proceedings of public accounting firms and impose appropriate sanctions where justifiable on the firm and associated individuals;
5. Perform duties as the Board finds necessary or appropriate to promote high professional standards or improve the quality of audit reports;
6. Enforce compliance with the Act, the rules of the Board, professional standards, and securities laws relating to audit reports; and
7. Set the budget and manage the operations of the Board.

Although banking firms were required to produce annual financial reports in accordance with FDICA, no such authority for supervising auditors existed for the banking industry prior to SOX.

Title II: Auditor Independence: Title II requires that auditors be independent of the companies that they audit. The Securities Exchange Act of 1934 also requires that auditors be independent, but the regulation had not explicitly defined independence. SOX provides more guidance about is the definition of an independent relationship. In particular, auditors cannot provide any consulting services such as bookkeeping, internal auditing, valuation, investment banking, or legal services. Any non-audit services that are not included in the list of prohibited services must be pre-approved by the audit committee. The goal of this provision is to reduce the likelihood of managers, either knowingly or unknowingly, falsifying financial statements by encouraging auditors to diligently analyze financial reports and report any potential problems without fear of their firm losing any non-auditing fees.

There is a similar independent auditor provision in the FDICIA of 1991. Specifically, Section 112 (d) of FDICIA requires financial institutions to have an independent audit conducted by an independent public accountant each year. Also Section 112 (c) requires the independent public accountant or auditor of financial institutions to attest to and report separately on management's annual report of condition as being prepared according to generally accepted accounting practices and complying with disclosure requirements set forth by the FDIC.

The existence of the independent auditor provision for financial institutions since 1991 has implications for the impact of SOX on the financial services industry. Specifically, because banking firms already were required to have an independent auditor, one would expect the impact of the SOX independent auditor provision on the number of restatements to be less for banking firms in comparison to industrial firms.

Title III: Corporate Responsibility: Title III deals with corporate responsibility. Section 301 covers composition of audit committees, the responsibility of audit committees, complaint

and whistle-blowing safeguards, independent legal counsel and advisors' retention. Section 301 mandates that the SEC issue rules that direct the self-regulatory organizations, such as the New York Stock Exchange (NYSE) and NASDAQ, to prohibit the listing of any security of an issuer that is not in compliance with the audit committee standards.

The fundamental prerequisite for the composition of the audit committee is that each member of the audit committee must be an independent member of the board of directors. Independence is based on the compensation relationship between the director and firm. SOX states explicitly:

“[I]n order to be considered as independent an audit committee member may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee accept any consulting, advisory, or other compensatory fee from the issuer or be an affiliated person of the issuer or any subsidiary thereof.”²

There is considerable overlap between SOX and the banking regulations that were already in place in terms of independence requirements. The FDICIA of 1991 requires that all members of an insured depository institution audit committee be outside directors who are independent of management of the institution [Section 112(g)(1)(A-C)]. To be independent, the board of directors consider all related information including whether the director is or has been an officer or employee of the institution or its affiliates; serves or served as a consultant, adviser, promoter, underwriter, legal counsel or trustee of or to the bank or its affiliates; is a relative of an officer or other employee of the bank or its affiliates; holds or controls, or has held or controlled, a direct or indirect financial interest in the institution or its affiliates; and has outstanding

² Sarbanes-Oxley Act of 2002, Section 301(B). An affiliated person is someone who has or had a business relationship with the issuing firm, or is related to someone who is an officer or an employee of the firm.

extensions of credit from the institution or its affiliates. Although the FDIC's audit committee requirements apply only to financial institutions with assets of \$500 million or more, bank regulators encourage compliance by institutions that do not meet this asset threshold. According to the FDIC's Statistics on Banking 2005 Report, of the 8,832 FDIC-insured institutions, 1,246 (about 14%) had \$500 million or more in assets; see Table 1 (All tables are in the Appendix). Even though the FDIC's audit committee requirements apply to a relatively small percentage of institutions, those institutions held over 90% of the total assets of all FDIC-insured depository institutions (about \$9.9 trillion of the \$10.9 trillion total).

Thus, the banks that have the vast majority of assets were already required to have an audit committee comprised of independent directors.

In addition to audit committee independence, there is the issue of whether or not the audit committee is required to have a member who is a financial expert. Even though SOX does not require a financial expert, Section 407 of SOX requires public companies to disclose whether or not at least one member of the audit committee is a financial expert as defined by the SEC. The SEC's initial proposed definition of an audit committee financial expert was a person who has education and experience as: (1) a public accountant or auditor; (2) a principal financial officer, controller, or principal accounting officer of a company that, at the time the person held such position, was required to file reports pursuant to Section 13(a) or 15(d) of the Securities and Exchange Act of 1934; or (3) experience in one or more of positions that involves the performance of similar function. In other words, this initial definition required a financial expert to have some formal education in finance and some experience in financial accounting roles in a publicly traded firm.

However, the proposed definition was controversial because it was thought to be too restrictive, making it too difficult to recruit qualified audit committee members, especially for small firms. The final definition of an audit committee financial expert is broader and it includes a person who has acquired the necessary expertise through any one or more of the following:

- Education and experience as a principal financial officer, principal accounting officer, controller, public accountant, or auditor or experience in one or more positions that involve the performance of similar functions;
- Experience actively supervising someone in the aforementioned positions
- Experience overseeing or assessing the performance of companies or public accountants with respect to the preparation, auditing or evaluation of financial statements; or other relevant experience.

If there is no financial expert on the committee, then SOX requires that the firm must provide an explanation as to why it does not have a financial expert. The vast majority of companies have in fact chosen to have a financial expert on the audit committee.

Bank regulations prior to SOX already included provisions requiring financial expertise on the audit committee. In particular, financial institutions with assets of more than \$3 billion are subject to bank regulatory requirements concerning the expertise of their audit committee members. Specifically, at least two members of the audit committee are required to have banking or related financial management expertise [FDICIA, Section 112(g)(1)(C)(i)]. These are individuals who have significant executive professional, educational, or regulatory experience in financial, auditing, accounting, or banking matters. As of 2005, 264 (about 3%) institutions meet this threshold and they held more than 81% of total assets for FDIC insured depository institutions; see Table 1.

Thus, the banks controlling the vast majority of assets were already required to have financial expertise on the audit committee (though the definition of a financial expert was somewhat different from the current SOX definition).

A third issue concerns the role and authority of the audit committee. As defined by SOX, the audit committee is responsible for the appointment, compensation, and oversight of the work of any registered public accounting firm employed by the issuer for the purpose of preparing or issuing an audit report or related work, including the resolution of disagreements between management and the auditor regarding financial reporting. Additionally, the audit committee must establish procedures for the receipt, retention, and treatment of complaints received by the issuer regarding accounting, internal accounting controls or auditing matters. They must establish procedures for the confidential, anonymous submission by employees of the issuer of concerns regarding questionable accounting or auditing matters, as well. Moreover, SOX grants the audit committee the authority to engage independent counsel and other advisers, as needed to carry out the duties of the committee.

Under FDICIA, the audit committees of financial institutions also have the authority to engage outside counsel [Section 112(g)(1)(C)(ii)]. Thus, SOX did little to expand the role and authority of the audit committee.

SOX Section 302 requires that the CEO and the CFO review the annual and quarterly financial reports and certify that they are complete and accurate. Under SOX, executives face penalties of up to \$5 million in fines and/or a 20-year prison sentence for certifying reports they know to be false. Section 303 focuses on the improper influence on the conduct of audits by prohibiting executives and directors from influencing, coercing, manipulating, or misleading independent auditors in the performance of an audit of financial statements of that issuer for the

purpose of rendering the financial statement materially misleading. Additionally, Section 304 requires that bonuses and equity-based compensation earned by executives be reimbursed to the company if the financial statements are determined to be false and need to be restated, while Section 306 prohibits insider trading during pension fund blackout periods.³

FDICIA [Section 112(b)(1-2)] requires that the CEO and the CFO review the annual and quarterly financial reports and certify that they are complete and accurate. Thus, banks were already complying with the provisions of SOX Section 302 even before SOX was passed (although the penalties for noncompliance were not exactly the same as those of SOX).

Title IV: Enhanced Financial Disclosures: Title IV of SOX enhances the quality of financial disclosures. It requires that all “material” changes to a firm’s financial condition, including off-balance sheet transaction be disclosed to the public quickly.

The FDICIA already has a provision that requires all insured institutions to submit an annual report of financial condition and management to the FDIC, and any appropriate Federal and state regulators. The report must also be publicly available [(Section 112(a)(1-3)]. Also, it requires that management perform an annual assessment of its internal financial and auditing controls. Section 112 of FDICIA requires that the CEO and the CFO include in the annual report a signed statement of their responsibilities for preparing financial statements, establishing and maintaining adequate internal control, and complying with safety and soundness laws and regulations. Furthermore, management must attest to the effectiveness of internal controls and

³ A blackout period is any period of more than 3 consecutive business days during which the ability of not fewer than 50 percent of the participants or beneficiaries under all firm maintained individual account plans to purchase or sell an interest in firm equity held in the individual account plan is temporarily suspended by the firm or the fiduciary of plan; SOX Section 306(a)(4)(A).

compliance to the laws and regulations related to safety and soundness of the institution [(Section 112(b)].

There are some provisions in SOX Section 402 that are new to financial institutions, such as restrictions on personal loans to executives. In particular, Section 402 prohibits personal loans directly or indirectly, including loans through any subsidiary, extending or maintaining credit, arranging for the extension of credit, or renewing an extension of credit in the form of a personal loan to or for any directors or executives of the firm. However, a grandfather clause exempts loans already in place when Section 402 was enacted, given that no material changes are applied to the terms of the loan or renewal of the loan. This prohibition of executive loans may have a significant impact on financial institutions, particularly for larger institutions.

Regulation O from the Federal Reserve Act implements the Federal Reserve's oversight of the extension of credit to executive officers, directors, and principal shareholders of Federal Reserve member banks. In essence, SOX Section 402 does not apply to loans made or maintained by an insured depository institution, if the loan is subject to the insider lending restrictions of Section 22(h) of the Federal Reserve Act. Thus, Regulation O provides an exception to the loan restrictions in SOX Section 402 for some financial institutions.

Title V: Analyst Conflicts of Interest: This chapter of SOX deals with the relationship between financial analysts, the investment banks they work for, and the companies they analyze. It requires that analysts and brokers who make stock recommendations disclose any conflicts of interest that might exist between them and the stocks they recommend in an effort to foster greater public confidence in securities research and to protect the objectivity and independence of security analysts. Title V has no direct implications for banks vis-à-vis non-banks.

Title VI: Commission Resources and Authority and Title VII Studies and Reports: These chapters deal with technical issues. Title VI sets the SEC's budget and powers. Title VII requires the completion of several studies by the SEC on the consolidation of public accounting firms, credit rating agencies, violators and violations, enforcement actions, and investment banks. Because Title VI focuses on the SEC, there are no direct implications for banks vis-à-vis non-banks.

Title VIII: Corporate and Criminal Fraud Accountability: The penalties for destroying, altering, or falsifying audit reports are established in SOX Chapter VIII. Among the penalties under SOX provisions for destroying or falsifying audit reports are a fine, up to 20 years in prison, or both. Any accountant who conducts an audit of a firm must keep all audit and review files for 5 years after the fiscal year in which the audit was conducted. Violators may be fined, imprisoned for no more than 10 years, or both. A statute of limitations is set on securities fraud that is either two years after the discovery of the fact constituting a violation or five years after the violation. This chapter also established whistle-blower protection for employees of publicly traded companies who report fraud. The criminal penalty for defrauding shareholders of publicly traded companies is a fine under SOX, imprisonment for up to 25 years, or both.

For banks, Title IX, Section 902 of FIRREA provides greater enforcement powers for regulatory agencies than had previously been in place before 1989. The FIRREA gives the regulators the authority to:

1. Require restitution, reimbursement, indemnification, or guarantee against pecuniary loss;
2. Restrict the institution's growth;
3. Dispose of any loan or asset;
4. Rescind agreements or contracts;
5. Require the employment of qualified personnel;
6. Place restrictions on an institution's activities;
7. Apply enforcement actions;
8. Issue temporary orders with respect to incomplete or inaccurate recordkeeping by insured institutions; and
9. Remove or prohibit certain personnel from engaging in banking activities in the industry.

Moreover, Title IX of FIRREA establishes a tiered schedule of increased civil penalties for violations by institutions and their officers as well as criminal penalties for participation in prohibited affairs and increase civil penalties for non-compliance. Both FDICIA and FIRREA provide provisions for whistle-blower protections for employees who report banking violations to the appropriate authorities [FDICIA (Section 251); FIRREA (Section 932)]. Thus, banks were already subject to many of the provisions in SOX Chapter VIII.

Title IX: White-Collar Crime Penalty Enhancements: Title IX enhances the penalties for white-collar crimes associated with securities fraud, such as mail and wire fraud. It makes a crime to attempt or conspire to destroy, alter, or hide documents that might be used in an

investigation. It also sets a fine of up to \$5 million, 20 years in prison, or both, for executives who knowingly certify inaccurate financial reports. Title IX has no direct implications for banks vis-à-vis non-banks.

Title X: Corporate Tax Returns: Title X requires that the chief executive officer sign the firm's federal income tax return. Title X has no direct implications for banks vis-à-vis non-banks.

Title XI: Corporate Fraud Accountability: Title XI sets penalties for obstructing an investigation, which includes altering or destroying information, as well as retaliating against an informant. Also, this chapter grants the SEC authority to remove officers or directors from a company if they have committed fraud. Additionally this chapter increases the criminal penalties under the Securities and Exchange Act of 1934 to a fine of \$5 million or imprisonment up to 25 years. Title XI has no direct implications for banks vis-à-vis non-banks.

2.3 A Brief Overview of Key Issues Regarding Bank Regulation

In addition to FIDICIA and FIRREA, financial institutions are subject to other regulations and so compete in a different environment than non-banking firms. These additional expectations may lead to differences in corporate governance for banks. A brief overview of the regulatory process and its implications follows.

Financial depository institutions are regulated by one of four regulatory agencies: the Office of Comptroller of Currency (OCC), the Office of Thrift Supervisory (OTS), the Federal Reserve System (Fed), and the Federal Deposit Insurance Corporation (FDIC). The OCC charters, regulates, and supervises all national banks. The OTS regulates savings and loans

One way regulators exercise their authority is to conduct on-site examinations. During an on-site examination the examiners assess the condition and operations of the financial institution six key components: **C**apital adequacy, **A**sset quality, **M**anagement capability, **E**arnings quantity and quality, **L**iquidity adequacy, and **S**ensitivity to market risk. These components make up the composite ratings commonly referred by the acronym CAMELS rating. The FDICA requires that each regulator performs a full-scope, on-site examination of all insured financial institutions for safety and soundness at least once every 12 months. The frequency may be extended to 18 months if the following criteria are met:

1. Total assets were less than \$250 million at the end of previous examination,
2. The institution is considered well-capitalized in accordance with FDICIA section 131, Prompt Corrective Action (12 U.S.C. 1831o; 12 C.F.R 6),
3. The institution is well-managed,
4. The institution received a composite CAMELS rating of 1 or the institution received a composite CAMELS rating of 1 or 2 and total assets are less than \$100 million at the close of the previous examination,
5. The institution is not subject to any formal enforcement action by the FDIC, the OCC, or the Federal Reserve System, and
6. No person acquired control of the institution during the 12-month period in which a full-scope, on-site examination would be required.

Regulators do have discretion to schedule examinations on a more frequent basis as deemed appropriate. Appropriate reasons include, but are not limited to, potential or actual deterioration in an institution that requires prompt attention, change in control of the institution, and supervisory office scheduling conflicts or priorities. Regulators use information gathered both internally and externally to determine when to schedule an on-site examination. Off-site monitoring and analysis, bank-supplied information, other regulator-provided information, excessive executive compensation, information from media outlets, and even rumors have all been used as legitimate reasons to conduct an examination.

Consequently, regulators who are concerned with the safety and soundness of the financial institutions may apply additional pressure and legal responsibility on the bank boards. Thus, the presence of FIDICIA and FIRREA were not the only differences between banks and non-financial institutions before and after SOX. For example, regulation and external scrutiny might be among the factors that cause compensation at banks to be less than at nonfinancial firms. Regulation and external scrutiny might also cause banks to have fewer restatements before and after SOX than non-financial firms. These issues are examined empirically later in this dissertation.

Changes in Regulations during the 1980s through Today: The U.S. banking industry of the 1970s was a different landscape from what we know today. Market interest rates fluctuated widely and savings and loan institutions faced greater competition from money markets. There were restrictions on interest rates, geographical scope, and financial activities for many depository institutions. During the 1980s and on into the 1990s, several legislative acts ushered in technological advances and deregulation. The Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980, phased out Regulation Q, eliminated state interest

rate ceilings on mortgage loans and some commercial loans, and developed uniform reserve requirements for all depository institutions. DIDMCA also extended the authority of banks and thrifts to offer NOW accounts nationwide. It allowed thrifts to offer financial services that had previously been offered only by commercial banks such as offering credit card services and commercial loans. Additionally, DIDMCA pre-empted state usury ceilings on mortgage loans.

Then, in 1982, the Garn-St Germain Act permitted savings and loan institutions to offer money market deposit accounts to compete with money market mutual funds. It also allowed commercial banks to acquire failed savings and loans, thereby expanding the financial services offered by commercial banks. By 1990, FIRREA and FDICIA were in place. The Riegle-Neal Interstate Banking and Branching Efficiency Act removed interstate banking and branching restrictions in 1994. Other legislation in the late 1990s reduced paperwork requirements and streamlined the lending process for mortgages.

The Gramm-Leach-Bliley Act (GLBA) of 1999 repealed provisions of the Glass-Steagall Act of 1934, which prohibited financial institutions from engaging in both investment banking and commercial banking or both banks and insurance. The GLBA allowed bank holding companies to merge with investment banks and elect to be treated as financial holding companies. Such companies were allowed to engage in a list of pre-determined financial activities such as insurance and securities underwriting in addition to banking activities.

2.4 Summary and Implications

Table 2 provides a comparison of SOX with FIDICIA and FIRREA. Following is a brief discussion of the provisions in SOX that are new to all firms, the provisions in SOX that are similar to extant provisions in FIDICIA/FIRREA, and the implications of these differences and similarities.

2.4.1. Provisions in SOX—New to All Firms

As shown in Table 2, some features of SOX are new for all public companies, including banks. For example, SOX provides for the establishment of the PCAOB to oversee the audit of public companies that are subject to the Securities Exchange Act of 1934; it also requires accounting firms that prepare or issue audit reports for public companies to register with the PCAOB. The PCAOB is charged with establishing standards for auditing, quality control and ethics among other areas. The PCAOB is also responsible for conducting inspections of public accounting firms and investigations, as well as imposing sanctions when necessary.

Also new to all firms is Section 303, which prohibits executives and directors from influencing, coercing, manipulating, or misleading independent auditors. In addition, Section 304 requires that bonuses and equity-based compensation earned by executives be reimbursed if the financial statements need to be restated as a result of misconduct. Section 306 prohibits insider trading during pension fund blackout periods. Another new feature for all companies is the prohibition of personal loans to executives (although there are some exceptions for financial institutions, as noted previously).

Provisions concerning conflicts of interest between security analysts and the firms they analyze are new to all public companies. Several enhancements to penalties of existing

regulation concerning white-collar crime and corporate fraud such as altering or destroying audit reports, wire fraud, and retaliating against an informant also affect all public companies.

2.4.2. Provisions in SOX—Similar to Extant FDICIA/FIRREA Provisions for Banks

Although there are some SOX provisions that are new for all firms, some SOX provisions are similar to those of FDICIA and FIRREA for which banks were already complying.

Independent Auditor Requirement: SOX defines a more explicit independent auditor requirement than was previously required for all public firms. However, financial institutions had operated under a similar requirement as early as 1991 under FDICIA.

Independent Directors on Audit Committees: SOX requires that the audit committee consist of independent directors. However, financial institutions also had stringent requirements for the audit committee under FDICIA. Regulators require institutions having assets of \$500 million or more to have all independent members on the audit committee and encourage all other financial institutions to follow suite.

Financial Expert on Audit Committee: SOX suggests that all public companies have a financial expert on the audit committee and requires that all non-complying companies explain why they do not have one. However, financial institutions with assets of \$3 billion or more were already required to have at least two financial experts on the audit committee.

Role and Authority of the Audit Committee: SOX grants the audit committee the authority to engage independent counsel and other advisers. However, banks' audit committees already had this authority.

Internal Controls: SOX Section 404 is particularly important for all companies. This section requires that management include in the annual report a statement of its "responsibility

for establishing and maintaining an adequate internal control structure and procedures for financial reporting. Furthermore, management must assess the effectiveness of its internal control structure and procedures for financial reporting. In addition to management's statement and assessment, the registered public accounting firm that prepares or issues the audit report must attest to, as well as report on, management's assessment of the effectiveness of internal controls. However, banks have similar rules under FDICIA requiring the assessment of the effectiveness of internal controls related to financial reporting as well as to compliance with laws and regulation regarding the safety and soundness of the financial institution.

2.4.3. Implications of Similarities and Differences between SOX and FIRREA/ FDICIA

Chapters 3 and 4 provide a more detailed discussion of the hypotheses tested in this dissertation, but it is helpful now to identify the essential motivation for the tests. Previous studies have documented that SOX has caused increases in audit fees, Director and Officer (D&O) insurance premiums, and the likelihood of firms going private; for example, see Janson and Scheiner (2006), Linck, Netter, and Yang (2006), and Akighbe and Martin (2006). However, no studies have yet looked at the impact of SOX on CEO and director compensation. In general, SOX imposes more risk on the CEO, which could lead to an increase in CEO compensation. But SOX also imposed greater responsibilities on directors, which might also lead to greater compensation.

For example, SOX clearly imposes greater responsibilities on the audit committee, which are likely to lead to higher compensation to induce a director to expend more time and effort. SOX may also have an indirect effect on the compensation committee because several SOX provisions affect executive compensation. For example, some provisions of SOX that may

impact the compensation committee are the forfeiture of executive bonuses (Section 304), pension fund blackout periods (Section 306), two-business day reporting deadlines for directors, officers and principal shareholders (Section 403), and insider loans prohibitions (Section 402). Consequently, the compensation committee may need to meet more frequently to handle such issues, which again might require higher levels of compensation to induce directors to expend more time and effort.

But as noted previously, there are many similarities between bank regulation under FIRREA/FDICIA and the provisions of SOX. Therefore, compensation at banks might have a more muted reaction to SOX than compensation at non-financial companies. This is the essential issue addressed in this dissertation, which will provide insight into the impact of regulation on compensation.

CHAPTER 3

BANK GOVERNANCE AND COMPENSATION: A BRIEF LITERATURE REVIEW

3.1 Overview

Because one of the central questions addressed by this dissertation concerns impact of regulation on the relative compensation at banks and non-banks, it will be helpful to examine some of the relevant literature on compensation and governance, especially at banks.

Compensation equity incentives levels for executives and directors are areas in corporate governance that are of significant interest to several parties including government regulators and stockholders. The literature has produced significant insights, but there is by no means complete consensus. This chapter will examine the research in the areas of executive compensation, director compensation, board characteristics and its impact on compensation, bank opacity, and the impact of Sarbanes-Oxley.

The literature review begins with an examination of a framework for executive compensation based on agency theory and the use of equity-based pay. Next, a discussion of board characteristics of banks is provided. The discussion centers on the difference between bank boards and the boards of manufacturing firms. This distinction is important because bank boards tend to be more independent than manufacturing firms boards prior to SOX, which affects the impact of SOX on bank and non-bank firms.

Also, included is a discussion of executive compensation and director compensation as it pertains to banks. This is important because it provides a framework for compensation in banks for comparison to non-bank firms.

Next, is a discussion of nominating committees and compensation committees because nominating committees play an important role in selecting directors and compensation committees set executive compensation. Then, there is a discussion of the opacity of banks. These studies focus on the relative transparency or lack thereof between banks and industrial firms. Additionally, as most of the studies suggest that banks are opaque, it provides some explanations as to the more extensive regulation that banks face relative to industrial firms.

Recent studies have examined the impact of SOX on various topics. This review will focus on those studies that examine the influence SOX has had on auditors and audit fees; on corporate disclosure and internal control systems; on executive compensation; and on corporate boards to illustrate the changes many firms face as a result of the new legislation.

3.2 A Framework for Executive Compensation as a Mechanism to Reduce Agency Costs

The principal-agent problem recognizes divergence between the agent's decisions and the decisions that would maximize the principal's welfare. Jensen and Meckling (1976) hypothesize that equity-based pay provides incentives that align managers' decision with shareholders' interest, providing the basis of theory for much of the executive compensation literature. In one of the earliest empirical studies related to compensation, Jensen and Murphy (1990) examine incentive contracts as a solution to the agency problem. Their primary focus is on how executives are paid rather than the amount of compensation. Jensen and Murphy argue that too much of CEO compensation is independent of performance, which poses agency problems. They estimate the magnitude of the incentives provided by performance-based bonuses and salary revisions, stock options, and performance-based dismissal decisions. Pay-performance sensitivity is defined as the dollar change in CEO's wealth associated with a dollar change in the

shareholder's wealth. The higher the sensitivity of pay-performance the more aligned the interests between the CEO and the shareholders. Their results show that the pay for performance is almost insensitive to cash compensation when it comes to maximizing value for the shareholders.

Other early research, such as that of Brickley and Hevert (1991), examined equity-based pay in the form of direct employee stock ownership. The Brickley and Hevert study was based on a survey of 1,209 firms that offered stock purchase plans. During that time, about 67% of the firms had less than 1% of outstanding stock owned by employees. Brickley and Hevert suggest that more stock ownership may provide stronger incentives.

Many firms began to increase their equity-based compensation in the mid-1990s, perhaps because of the literature published during the early 1990s that suggested that equity-based pay would increase shareholder value by reducing agency costs and better aligning managers' interests with those of shareholders. Whatever the cause, the increase in compensation is well documented. For example, Boschen and Smith (1995), show that both cash and noncash compensation increased significantly. They also find evidence that suggests that performance as measured by returns may be responding to changes in compensation. In essence, executives' rewards or penalties from current performance easily can be overwhelmed by the consequences of past performance.

Hall and Liebman (1998) find a strong relationship between firm performance and CEO compensation, a finding that is in contrast to that of Jensen and Murphy (1990). These differences are partially attributable to the fact that previous studies ignored changes in the value of stock and stock options already owned by the CEO and partially attributable to using data from the 1990s instead of earlier data.

Gibbons and Murphy (1990) examine the relative performance evaluation and find that changes in CEO compensation are positively related to firm performance. Aggarwal and Samwick (1999) test for the effects of strategic competition on relative performance evaluation (RPE) in executive compensation contracts. Their results indicate that the own-firm and the rival-firm performance sensitivity is positive for total compensation. Also, the ratio of the own-firm pay-for-performance sensitivity to the rival-firm pay-for-performance sensitivity is lower for more competitive industries.

Instead of focusing on the level of compensation, Mehran (1995) takes a different approach and examines the structure on executive compensation. He argues that executive compensation, ownership structure, and board composition are all part of a simultaneous system. For that reason, he makes no claims regarding causal relationships. He finds that firm performance as measured by Tobin's Q and return on assets is positively related to the percentage of equity-based compensation and the percentage of equity held by managers. The relationship between the percentage of equity-based compensation and the percentage of equity holdings is negative.

Overall, the recent evidence suggests that CEO compensation is higher in industrial firms than in regulated firms (Murphy, 1999). Additionally, CEO compensation is related to performance. The remainder of this chapter focuses on banks, beginning with characteristics of bank boards.

3.3 Board Characteristics of Banks

Previous research has suggested that corporate governance is different for banking organizations; for example, see Adams and Mehran (2003) and John and Qian (2003). In

particular, Adams and Mehran (2003) compare a sample of manufacturing firms with a sample of BHCs and find that bank boards are larger than boards of manufacturing firms (although banking boards are becoming smaller over time).⁴ The size of the board has been shown elsewhere in the literature (for example, Yermack (1996) and Hermalin and Weisbach (2003) to be positively related to the size of the firm, and banks tend to have more assets than non-banks. Additionally, the complex structure of bank holding companies (BHC), which may have several subsidiaries with their own boards whose members may be required to sit on the parent company's board, adds to the size of the BHCs board.

Board size can be influenced by acquisitions. Friendly acquisitions, which are typical for banks, can lead to a larger board size because there is a reluctance to displace sitting board members from either company. Hostile takeovers are extremely rare in the banking industry. In fact, financial institutions seldom attempt hostile bids and most have failed. An article from the *American Banker* (2001) reports that in the 15-year period from 1986 to 2000, less than a dozen hostile bank bids were attempted and only two actually resulted in mergers. The Bank of New York Corporation's hostile bid for Irving Trust Corporation in 1988 took over a year to close. As a result, Irving lost a considerable number of its corporate customers. In 1996, Wells Fargo & Co. made a hostile bid for First Interstate Bancorp. Although the deal was a success, several First Interstate executives left the firm. On the other hand, several hostile bids have failed in the banking industry, including SunTrust's hostile bid for Wachovia in 2001, H.F. Ahmanson & Co.'s hostile offer for Great Western Financial in 1997, and North Fork Bancorp's hostile bid for

⁴ Adams and Mehran (2003) do not use a multivariate regression in their analysis. Instead they focus on descriptive statistics and comparisons of mean and median values. This might be because no data set existed that contained all the governance variables of interest during their 1986-1999 sample period. Due to better data availability, I will be able to use a multivariate model to control for factors that were not controlled in Adams and Mehran.

Dime Bancorp in 2000. Conversely, there were more than 73 hostile deals outside the banking industry in 1996 alone (*American Banker*, 2001).

One possible explanation for the low incidence of hostile takeovers in the banking industry is based on regulatory requirements. Any hostile takeover requires approval by at least one of the federal regulatory agencies and by the state authorities. Additionally, there are significant delays on any hostile bid. After the federal and state regulators grant approval, the deal is scrutinized over a thirty-day waiting period by the United States Justice Department to consider the antitrust implications of the agreement.

Adams and Mehran (2003) suggest other potential reasons for which hostile takeovers are atypical in the banking industry. They argue that stakeholders can use the delays to organize opposition to a regulated acquisition and influence the decision made by the regulatory body. Moreover, hostile offers are usually all cash or mostly cash transactions. Banks may be unwilling to borrow funds for the purpose of acquisition since they are already highly leveraged. Finally, Adams and Mehran (2003) point out that banks in holding companies or subsidiaries of holding companies have very large block shares of the parent company as pension trustees or fund managers, which decreases the probability of success of a hostile takeover. Furthermore, most acquisitions in the banking industry provide directors of the acquired board the opportunity to complete their term in office. Adams and Mehran (2005) find that in a sample of 35 BHCs, each BHC engaged in an average of two merger and acquisition transactions. Of those transactions, the average number of target directors added to the board was around three, which made up about 17% of the merged firms board at the time of the transaction. Therefore, bank boards may tend to be much larger than the boards of unregulated firms.

Given these characteristics of bank boards, it is expected that the overall impact of SOX on the board would be less for banking firms. The question, then, is “Were bank boards adequately independent before the passage of SOX?” This study hopes to provide additional evidence regarding the impact of SOX on the difference between boards of banks and non-banks.

Overall, the empirical research suggests that bank boards tend to be larger than non-banks boards. This may be because banks are larger in terms of assets than other types of firms. In addition to having larger boards, banks also have a higher proportion of independent directors.

3.4 Executive and Director Compensation in Banks

The moral hazard problem has implications for the executive compensation policy at banks. The moral hazard hypothesis asserts that equity based compensation in banking firms tempts managers to maximize the put option feature of fixed rate deposit insurance; see Benston and Kaufman (1996). To see the impact on banks, first consider any levered firm. All else equal, the call option that shareholders have on the assets of levered firms provides risk-taking incentives. For non-bank firms, actions that shareholders might take to maximize this call option might also increase the cost of debt financing in the long run. If executive compensation policies are designed to promote risk taking, bank compensation contracts will provide managers with even greater risk-taking incentives than in other industries if bank managers try to maximize the call option on levered assets and maximize the put option implicit in insured deposits. To mitigate this problem, the FDICIA of 1991 offers regulators oversight authority for increases in executive compensation and for bonuses. Specifically, undercapitalized firms are required to receive prior written approval from regulators before paying senior management bonuses or to increasing senior management compensation. To summarize, the moral hazard hypotheses

suggests that equity-based compensation contracts for bank managers can induce too much risk-taking, so boards should limit the use of equity-based compensation for bank managers relative to that of managers at non-banks.

Smith and Watts (1992) developed the contracting hypothesis, which offers an alternative explanation for the determinants of executive compensation. This hypothesis states that cross-sectional differences in executive compensation are due to differences in the investment opportunity sets of firms, which are determined exogenously by factors such as the product markets and regulation.

Houston and James (1995) offer supporting evidence for the contracting hypothesis concerning the determinants of compensation. They examine the level and structure of CEO compensation for banking firms and compare bank compensation to the compensation of industrial firms. Their primary focus is to determine whether the structure of bank CEO compensation encourages risk taking. The study includes data collected from the Forbes annual executive compensation survey on CEO compensation, stock holdings, and other CEO characteristics for 134 commercial banks from 1980 to 1990. Data on stock options granted and exercised from 1982 to 1988 were collected from proxy statements. Accounting information from Compustat and Moody's Manuals along with stock return and outstanding stock from CRSP were also used in their analysis. The authors obtained a list of "too-big-to-fail" banks from a prior study (O'Hara and Shaw (1990)) and CAMELS ratings for a sub-sample of 58 banks for year-end 1984 through 1989.

Using this sample, Houston and James found that the bank CEOs receive less cash compensation and are less likely to participate in stock options than CEOs from non-bank firms. Also bank CEOs receive a smaller percentage of their total compensation in the form of equity-

based pay than do CEOs in other industries. This is consistent with the Smith and Watts (1992) contracting hypothesis. This difference is explained largely by the nature of the firm's assets and investment opportunity set, which have an impact on the type of agency problems that a particular firm may face. Regulation may still be a factor, particularly, since regulators can impose restrictions or cost on bank risk taking activities.

Hubbard and Palia (1995) also suggest the investment opportunity set influences pay. Specifically, they use interstate bank restrictions as a measure of competition to determine whether more competition requires higher levels of managerial skill, and, consequently, greater levels of competition. They find evidence that CEO compensation and performance are related, which supports the hypothesis that more competition requires higher pay.

Additionally, if the market believes that the moral hazard problem does exist, the role of bank directors may be more important for the safety and soundness of the bank. Information about director compensation can provide additional insight into the role of the board as a monitor of the firm. Becher, Campbell, and Frye (2005) provide evidence suggesting that bank directors serve as monitors. Their sample includes all non-employee director compensation for all the banking firms in Standard & Poor's ExecuComp database. Bank characteristics are collected from Bank Compustat. Board characteristics are collected from proxy statements and 10Ks. Becher, Campbell and Frye define inside directors as current executives, grey1 directors as all former or retired employees and directors related to current or former employees, grey2 directors as those who have or had some business relationship with the firm, outside directors as directors with no current or past relationship with the firm. They also have a sample of non-banking firms matched based on 1992 market values.

Becher et al. compare the mean values of different types of compensation for bank and non-bank firms over three different time periods after deregulation. Additionally, their multivariate analysis includes a panel model with random effects in the regression. They control for market-to-book ratio, leverage, firm size, and firm risk.

The results of the Becher et al. study indicate that after deregulation in the 1990s, the percentage of equity-based compensation for bank directors increased, but remained significantly less than that of non-bank directors. Bank directors also received less total compensation than non-bank directors. They suggest that the increase in the percentage of equity-based compensation may just be a result of bank directors operating in an environment more like the environment facing unregulated industries.

Becher et al. also analyze the impact of bank director equity-based compensation. With deregulation, it seems that more of the burden of monitoring the bank has been placed on the directors. The increase in equity-based compensation seems to come with the increased responsibility of the director's role as indicated by the positively significant association of high levels of equity-based compensation and higher performance measured using ROA or ROE. They also provide additional evidence regarding board independence for the banking industry. Overall, they find that bank boards are more independent than the board of industrial firms. Also, board size and independence did not change after deregulation in the 1990s.

Weisbach (1988) authored one of the first studies that analyzed the role of the board of directors as monitors of management. He examines the relationship between the monitoring of CEOs by inside and outside directors and CEO turnover. His study provides valuable insight into the role of outside directors on the board. Weisbach extends the data collected from a previous study by MacAvoy, Cantor, Dana, and Peck (1983). Board composition data are

collected for all firms listed on NYSE between 1977 and 1980 from proxy statements and matched with CEO succession data. He classifies directors using the methodology of MacAvoy et al. (1983) as either outside, inside, or grey. Inside directors are directors who are full-time employees of the corporation. Outside directors are directors who are neither employees of the firm nor have any “extensive” dealings with the firm. Grey directors are directors who are not employees of the firm, but have some “extensive” business dealings with the firm or family relationships with management. He uses stock return data from CRSP and accounting data from Compustat.

Weisbach employs Logit models to estimate the probability of a change in the CEO given firm performance and board type. His findings indicate that firms with more outside directors are more likely to remove CEOs based on firm performance than firms with more insider directors when performance is measured using earnings or stock returns, suggesting that outsiders on the board of directors serve a monitoring role. However, he excludes banks and other financial institutions from his analysis.

Core, Holthausen, and Larcker (1999) examine corporate governance and CEO compensation and find that firms with weaker corporate governance structures have more agency problems. Moreover, the CEOs of such firms receive higher levels of compensation. Firms with weak governance structures are defined as firms with CEOs as chairperson, large boards, busy boards and lower director ownership.

There is limited evidence that the structure of director compensation is dependent on board characteristics. Ryan and Wiggins (2004) present evidence suggesting that even when controlling for such industry and firm characteristics, boards with more independent directors

use more equity-based compensation, which may provided greater incentives for monitoring by the board.

Bryan et al. (2000) compare a sample of regulated firms including banks with unregulated firms. They find that the structure of director compensation is related to firm size, growth opportunities and other firm characteristics, Bryan et al. use a sample of over 1,700 firms from 1992 to 1997. The sample consists of regulated (electric utilities, banking, and insurance firms) and unregulated firms. They use an indicator variable that identifies regulated firms. Although the firms are similar in that they are regulated, there are differences in the regulation imposed on the different types of regulated firms. For example, utilities require approval from regulators to issue securities, but banking and insurance firms do not have that constraint. Bryan et al. fail to separate the regulated firms by industry. They collect compensation data from ExecuComp, earnings data from Compustat, stock return data from CRSP, managerial ownership and institutional stock ownership data from Compact Disclosure, and business segment data from Compustat's Business Segment Files. All firms are listed on NYSE, NASDAQ, or the American Stock Exchange. Director compensation is composed of cash, stock option awards, stock grants, and pension plans. In order to analyze the economic determinants of the level and mix of outside director compensation, they regress the hypothesized determinants on the levels of outside director compensation.

Bryan et al. show that the levels of board compensation are related to the firm's investment opportunity set, managerial and institutional stock ownership, firm size, the number of lines of business, industry, and the threat of takeover. Evidence also suggests that stock option awards provide more efficient incentives to outside directors when firms have more investment opportunities and high likelihood of takeover threat than stock grants. Tobit

regression of the relation between the mix of board compensation and the hypothesized determinants indicate that the mix of stock options compensation is positively related to the firm's growth opportunities, institutional ownership, and negatively associated with managerial stock ownership, firm leverage, effective tax costs, levels of free cash flow, firm size, the number of segments, and regulation. The mix of stock grants is negatively related to growth opportunities and managerial stock ownership, and positively related to firm leverage, liquidity, firm size, and number of segments. Furthermore, their evidence suggests that board compensation is structured to alleviate agency problems.

Ryan and Wiggins (2004) examine the relation between director compensation and board independence. The sample of 1,018 firms from 1995 to 1997 includes compensation data from ExecuComp. Banks are excluded from this study. They collect board characteristic data from proxy statements. Financial and accounting data are collected from the Research Insight database. They use three-digit SIC code to identify firms. Difference-in-means tests are used to analyze both the level and structure of outside board compensation, board size, board composition, CEO tenure, and CEO/chair duality. Large boards are defined as those boards with more directors than the sample median of nine directors. Outside boards are boards in which outside directors, excluding gray directors, make up more than 50% of the board membership. Entrenched CEOs are those with tenure greater than the sample median of six years. They use three different methods to analyze the association of board independence and director compensation. An ordinary least squares regression is used for total director compensation, a Tobit regression is used for the proportion of equity-based compensation, and a Probit model is used for the likelihood that firms give directors any equity-based compensation. They control for industry effects with two-digit SIC code indicator variables.

Ryan and Wiggins find a negative association between total compensation and board size and CEO tenure. Larger firms, firms with more investment opportunities, and family-controlled firms offer more compensation. Firms with lower accounting returns offer less total compensation. The Tobit analysis indicates that the percentage of equity-based compensation is negatively related to the number of directors, the proportion of insiders, and CEO tenure, while positively related to market-to-book assets. Additionally, equity-based compensation is negatively related to accounting performance, but unrelated to stock price performance. This suggests that firms in which the CEO achieves high accounting performance provide directors with fewer incentives to monitor, particularly when the CEO is entrenched or where a higher proportion of inside directors are on the board.

Ryan and Wiggins also briefly analyze the compensation structure of CEO's compared to director compensation. They regress the proportion of CEO equity-based compensation onto the proportion of director equity-based compensation. The residual from the regression is regressed on the explanatory variables used to explain director compensation. They find that the CEO's residual equity-based compensation is negatively related to board size and CEO tenure, which suggests that managerial power and weak governance create agency problems.

Perry (1999) investigates the effectiveness of director incentive compensation. He finds a substantial increase in the use of incentive compensation for directors from 1992-1995. Moreover, the evidence suggests that the director incentive compensation influences the level of monitoring by the board as documented by CEO turnover. However, banks are not included in the sample.

Very few studies examine the relationship between director compensation and CEO compensation. Brick, Palmon, and Wald (2006) investigate the issue of whether or not excessive

director compensation is linked to a weak corporate governance structure, excessive CEO compensation, and poor firm performance. They find a significantly positive relationship between excess director compensation and CEO compensation. Additionally, excess compensation of the directors and CEO is linked to poor performance.

In sum the empirical literature suggests that bank CEOs receive less cash compensation than CEOs from non-bank firms. Also, bank CEOs receive a smaller percentage of their total compensation in the form of equity-based pay than do CEOs in other industries. However, the gap between CEO compensation for banks and non-banks has declined in the 1990s, possibly due to deregulation allowing banks to engage in a broader scope of business activities over a wider geographic area. Bank director equity-based compensation has also increased since deregulation. Additionally, there is limited evidence that excessive director compensation is linked to poor firm performance and excessive CEO compensation.

3.5 Role of Compensation and Nominating Committees

Another important area of research in CEO compensation pertains to the compensation committee and the nominating committee. The nominating committee is a subcommittee of the board of directors charged with the responsibility of nominating directors to serve on the board. The compensation committee is the subcommittee of the board of directors charged with determining the level and structure of compensation for executives. Research related to these two committees and their relationship with compensation is presented below.

Vafeas (1999b) examines the composition of nominating committees and the role that nominating committee plays in corporate governance. He focuses on three measures of board quality. They are the percentage of outside directors, the independence of outside directors, and

the number of directorships held by outside directors. Some firms do not have a nominating committee, so Vafeas tests the likelihood of a firm having a nominating committee and finds that the likelihood is related to board characteristics. Firms with nominating committees have lower insider (executives and directors) ownership, have directors with more directorships, and a higher proportion of outside directors, suggesting that the committee serves as a substitute mechanism for monitoring. Additionally, larger firms tend to have nominating committees. In terms of the nominating committee's role in corporate governance, Vafeas results support the idea that nominating committees influence the quality of the board by selecting fewer "grey" directors. Similarly, Shivdasani and Yermack (1999) find that if the CEO serves on the nominating committee or if the firm has no nominating committee, then the board selects more grey directors, suggesting that the selection of directors is a way for powerful CEOs to mitigate performance pressures from board monitoring.

The research related to the compensation committee is mixed. Newman and Mozes (1999) examine the influence that the composition of the compensation committee has on CEO compensation. Using data from 1991 and 1992 for 161 firms, they find no difference in CEO compensation of firms with insiders on the compensation committee versus firms with no insiders on the compensation committee. However, the pay-for-performance sensitivity is more favorable to management when there are insiders on the compensation committee.

Anderson and Bizjak (2003) examine the role of the CEO and the compensation committee in structuring executive compensation to determine if the CEO's involvement in setting compensation leads to opportunistic pay that is not in the best interest of shareholders. Anderson and Bizjak focus on the differences in pay when CEOs serve on the compensation committee and compensation changes when a CEO leaves the compensation committee. Their

results indicate that CEOs that serve on the compensation committee do not act opportunistically. Instead they tend to receive less fixed, equity, and total pay. However, they do have high ownership levels. This suggests that insiders on the compensation committee are not problematic for the interest of shareholders.

Finally, Vafeas (2003) also examines the relationship between CEO compensation and compensation committee characteristics. He finds contrary evidence that suggests that insiders on the compensation committee do play an opportunistic role by using more fixed compensation and less equity-based compensation. However, he does not interpret this as conclusive evidence since he does not examine ownership for the CEO, which has been shown to serve as a substitute for equity-based compensation.

Overall, the research on committees suggests that independent nominating committees play an important role in selecting directors that are more likely monitor the CEO. Additionally, insiders on the compensation committee are not indicative of higher CEO compensation. However, there is limited evidence that pay-for-performance sensitivities are tilted in favor of management when there are insiders on the compensation committee.

3.6 Opacity of Banks

To justify the strong presence of government regulation of the banking industry, it has been argued that the assets of banks are difficult for outsiders to value; i.e., banks are opaque rather than transparent to investors. However, the research on the opacity or transparency of banks is limited. There is no smoking gun suggesting that banks are any less transparent than other firms. Nonetheless, a few studies shed some light on the subject.

Morgan (2002) investigates the relative opacity of banking firms to nonfinancial firms and finds evidence from bond ratings suggesting that banks are more opaque than other firms mainly because of differences in banks' capital structure. Morgan argues that banks' tendency to hold very few physical fixed assets may invite asset substitution and other agency problems. Also particular financial assets may invite agency problems such as lending to opaque borrowers. In banks, trading assets create uncertainty for outsiders because the positions can be changed very quickly making it hard to monitor. He uses the disagreement between the two major bond-rating agencies, Moody's and Standard & Poor's, as a proxy for uncertainty, arguing that if bank risk is harder to observe, the raters should disagree more often over bank bond issues. His evidence shows that they do.

Using data on 7,862 new bonds issued between January 1983 and July 1993, Morgan finds that bond rating agencies split much more often over the bank issues than over other issues with similar features. Only insurance firms generated more disagreement. The differences in ratings were lopsided in that one agency tended to have lower ratings on average across all sectors. However, the degree of asymmetry in the intermediaries was greater providing evidence of opacity in that segment.

Morgan's data came from various public sources such as *Bond Digest* and *Investors' Weekly*. Morgan does not account for changes in ratings over time. Each letter ratings for the agencies were given a numeric equivalent with better letter ratings corresponding to lower numbers. He estimates Probit regressions using the probability of disagreement as the dependent variable. Disagreement is measured by an indicator variable, SPLIT, or by the absolute difference between the ratings. The type of issuer (which is identified using indicator variables for each segment), the average rating, the face value of the bond, the bond maturity, year, and

issue size are all used as independent variables. Next, Morgan uses Call Report data for 532 bond issues for 96 BHCs or their subsidiaries to test the hypothesis that uncertainty over bank risk reflects the mix of assets and capital structure. Morgan concludes that banks are more opaque than other firms due to capital structure.

However, other empirical evidence from Flannery et al. (2004) suggests that banks are not “unusually” opaque. They examine whether banks equity market features are consistent with their assets being relatively more opaque. They use a matched sample of similarly-sized and similarly-priced, publicly-traded BHCs and unregulated, nonfinancial firms to test whether a BHC’s asset composition affects the bid-ask spreads, trading volume, or return volatility. The microstructure variables are significant. However, the relationship is smaller than traditional market microstructure variables. When they use BHC analyst earnings forecasts as a proxy for asset opacity, they find evidence of differences only for smaller firms. They attribute the differences to the smaller BHCs trading less frequently, having lower insider and block ownership, have lower return volatilities than the comparable non-banks. Analysts tend to predict the earnings for the smaller BHCs more accurately, suggesting that opacity is not an issue for these firms. It is unclear from the Flannery et al. analysis whether the transparency in this sample of BHCs is a result of the high level of regulation and supervision characteristic of financial institutions. Furthermore, additional regulatory attempts to improve transparency as in the SOX legislation may not be necessary for banking firms.

Jordan et al. (2000) examine the market’s reaction to announcements and the implications for bank transparency. In particular, they focus on the stock market reaction to supervisory enforcement actions announcements in accordance with FIRREA. They use a sample of 35 BHCs during the period 1989 to 1994 with formal action announcements to determine the impact

such announcements have on stock prices for the corresponding BHC in an event study. They find that abnormal returns are significant and negative following a formal action announcement and they persist. The results suggest that banks are not completely transparent, as supervisory action announcements, on average, result in a five percent drop in stock prices. There is an indication that announcements may impact the value of other banks that have similar portfolios and operate in the same region.

Jordan et al. propose a need for greater disclosure enhancements. However, both FIRREA and FDICIA went into effect during their sample period. It is unclear from their analysis whether the impact of action announcements changes from the beginning of the sample to the end of the sample as a consequence of the enhancements via FDICIA. Thus, there may be no need of greater disclosure enhancements given the current provisions in FIRREA and FDICIA.

Hirtle (2006) supplements the bank opacity literature by examining the market reaction of bank holding companies' returns to the requirement by the SEC to certify financial statements.⁵ She examines the stock price reaction of the 40 BHCs subject to the certification order issued by the SEC using event study methodology. To control for temporal clustering, she uses portfolio methodology and Seemingly Unrelated Regression. The event dates are the announcement to develop the certification requirements, the announcement of firms subject to the certification requirements, and the certification of financial statements by the 40 BHCs.

In particular, Hirtle's results indicate that there were no significant abnormal returns in response to any of the three announcement events concerning certification requirements when

⁵ The SEC certification requirement ordered the CEO and CFO of large, publicly traded firms to certify the accuracy of their 2001 annual and 2002 quarterly financial statements by August 13, 2000 for firms whose fiscal year matched the calendar year and in the 10-K filings for all others. SOX later extend the certification requirement to cover all publicly-traded firms. The SEC issued its final rule making the requirement effective August 29, 2002.

examining the entire sample. Hirtle divides the sample into three categories according to the timing of certification to analyze the relation between certification date and average abnormal returns. The analysis indicates that early certifiers, those that certify by August 9, experienced significantly, positive average abnormal returns around 80 to 100 basis points. The results for the other two subsamples are not significantly different from zero. Additional examination indicates that BHCs that certified later experienced positive stock price reaction on the day the first two BHCs certified, suggesting that the market participants anticipated eventual certification of other BHCs.

Hirtle also examines firm-specific factors associated with relative opaqueness of bank activities and earnings to determine if such factors influence the stock market reaction to certification. Liquid assets and information-intensive loans are associated with higher certification related returns. Overall, her research indicates that the BHCs are comparatively opaque to outsiders.

In general, it seems that the majority of the studies find evidence that banks are opaque. However, Flannery et al. (2004) suggests that banks are no more opaque than industrial firms.

3.6 Impact of Sarbanes-Oxley

The literature on the impact of the Sarbanes-Oxley Act is in its infancy. Most of studies focus on industrial firms. The few studies to include banking firms either focus on audit fees (mainly because SOX has several provisions relation to the audit committee) or focus on the relative impact of the legislation. The primary papers included here focus on the following topics:

- The impact of SOX on auditors and audit fees

- The impact of SOX on corporate disclosure and internal control systems
- The impact of SOX on executive compensation
- The impact of SOX on corporate boards

Janson and Scheiner (2006) is one of the few studies to examine the impact of SOX on the banking industry. Their focus is on the Section 404 assessment and certification of internal controls for financial reporting requirement only. The FDICIA has a similar provision. Janson and Scheiner examine the impact of this requirement on bank audit fees by analyzing the bank and BHC disclosures of audit and audit-related services fees for 2003 and 2004. They provide evidence that suggests that banks that had experienced the wave of FDICIA compliance were better equipped to control audit fees associated complying with SOX.

Akhigbe and Martin (2006) conduct a study that examines the impact of SOX on financial institutions. This study provides evidence that indicates that the level of opacity in a firm affects the valuation effects due to the adoption of SOX. They use event study methodology to estimate the valuation effects from six major events associated with the passage of SOX. They find that the cross-sectional differences in the valuation effects can be explained by disclosure and governance characteristics. Specifically, valuation effects are less favorable for firms with less independent audit committees, without a financial expert on the audit committee, with less financial statement footnote disclosure, with less involved CEOs, and smaller in size. Although this study does not examine the changes in compensation, it does suggest that banks benefit from SOX because firm value increased around the time of various events associated with SOX. The governance characteristics found in this study to be positively related with valuation effects are also those governance characteristics that are typical of bank firms. Additionally, others studies have found a strong relationship between firm performance

and executive compensation. Moreover, Akhigbe and Martin (2006) show that having an independent board and a financial expert are consistent with risk reduction for the firm. The results of these studies suggest that the impact of SOX on executive compensation may also be significantly different for the banking industry relative to non-banking firms. For example, one might expect banks to have more favorable valuation effects since banks tend to have more independent boards and are required under FDICIA to have a financial expert. These positive valuation effects may influence compensation because many of the governance characteristics consistent with this effect were already present in most bank firms the impact on compensation may be smaller.

Currently, there are some studies that examine the impact of SOX on director compensation and executive compensation. However, none of those studies include bank firms in the sample of firms. Two studies examine the effect of Section 403 of SOX on the timing manipulation of CEO stock options; see Narayanan and Seyhun (2005) and Collins, Gong, and Li (2005). Section 403 requires executive stock option grants be reported within two business days after the grants. These studies indicate that before SOX executives affected the exercise price of options by influencing the timing of option awards, manipulating the timing of value-relevant information around option awards, or backdating the award in an attempt to lower the grant date stock price, which increase the options value. These studies show that Section 403 of SOX deters, but does not completely eliminate this opportunistic behavior by executives associated with the timing of stock option grants, timing of relevant news, and backdating option awards.

Linck, Netter, and Yang (2006) examine more than 7,000 public companies to determine the impact on SOX on corporate boards. Their study offers some interesting observations. The

results indicate that boards are more independent and larger since the passage of SOX. Both director workload and risk has increase after SOX. Additionally, the director pool consists of more lawyers and consultants, financial experts, and retired executives. Director compensation also increased in their post-SOX sample. However, financial institutions are excluded from their analysis, creating a void in the literature.

Overall, extant studies of SOX suggest that the new stricter regulation has had a significant impact on firms in terms of value and compliance costs. Compliance costs have increased significantly in the form of higher auditor fees and overhead charges. However, SOX has had a positive effect on firm value on average, possibly as the market rewards better governance and transparency.

However, these studies have not examined the impact that SOX has had on bank CEO compensation and director compensation relative to non-bank compensation. This dissertation will address this void.

3.7 Implications for This Dissertation

The primary goal of SOX is to increase managerial accountability, as well as board oversight and monitoring, in an effort to restore investor confidence. However, as some evidence suggests there (Link, et al., 2006) may be unintended consequences associated with SOX. SOX provisions impose greater levels of risk on the CEO and more monitoring responsibilities on directors. This could potentially lead to higher levels of compensation for both CEOs and directors in all firms. However, the magnitude of the impact on compensation may differ across industry.

As discussed in Chapter 2, there are several similarities in FDICIA/FIRREA regulation, which applies to banks, and SOX regulation, which applies to all public firms. Until now, no studies have examined the impact of SOX on CEO compensation and director compensation. Given the many similarities in the regulation, one would anticipate that impact to be less dramatic for large banking firms that were in many cases already complying with some variation of SOX.

Additionally, previous research has documented significant differences in corporate governance between banks and non-bank firms. For example, bank boards tend to be larger than non-bank boards and they have a higher proportion of outside directors. These differences also are related to compensation. Specifically, bank executives receive less cash, equity-based and total compensation than non-bank executives.

This dissertation examines the effect of governance and regulation to determine whether the impact of SOX differs across industry by comparing changes in the level and structure of compensation for banks and non-banks. The hypotheses are presented in Chapter 4.

CHAPTER 4

HYPOTHESES DEVELOPMENT

4.1 Overview

The banking industry is one of the mostly highly regulated industries in the United States. Banks are subject to supervision from federal agencies such as the Federal Deposit Insurance Corporation, the Federal Reserve, the Office of Thrift Supervisory, or the Office of the Comptroller of the Currency. They may also be subject to monitoring by the Securities and Exchange Commission and a variety of state regulatory agencies (for state chartered banks). FDICIA and FIRREA also spell out specific provisions regarding governance and compensation. To the extent that extant bank regulation, especially FDICIA and FIRREA, has some overlap with SOX, the overall impact of SOX may be somewhat diminished for banks. The following subsections in this chapter identify specific aspects of corporate governance and compensation that SOX might be affect differently at banks relative to non-banks. In addition, these subsections provide the formulation for the hypotheses that are tested in this dissertation. Chapter 5 describes the data and Chapter 6 presents univariate tests of the hypotheses. Chapter 7 provides multivariate tests.

4.2 Board Compensation

Although firms are not required by SOX to have a financial expert on the audit committee, they must disclose whether or not they have a financial expert. If there is no financial expert on the committee, the firm must explain why they do not have one. Most firms have simply chosen to add a financial expert rather than explain why they did not. In addition to

the presence of a financial expert on the audit committee, the committee's scope of work and authority were expanded by SOX. The compensation committee is also likely to have a greater workload as they comply with Title IV of SOX.

These provisions have likely resulted in an increase in workload for directors, including greater monitoring responsibilities, greater significance and frequency of board and committee meetings, additional time needed to prepare for the meetings, additional expertise on the audit committee. An increased workload suggests that directors for all companies will demand more compensation. In addition, potential directors may be less likely to take on a directorship because of the increase workload and risk associated with such a role. Higher compensation might be required to induce potential directors to take on this additional risk. Thus, these provisions in SOX are likely to lead to higher compensation for all directors:

H1a: *Director compensation will increase after SOX at all companies.*

However, as discussed previously, FDICIA and FIRREA had already imposed similar provisions on banks prior to the passage of SOX. Therefore, an increase in director compensation is expected after SOX, but the increase in bank director compensation is expected to be smaller than the increase in non-bank director compensation because bank boards already adhere to many provisions required by SOX:

H1b: *The increase in bank director compensation will be less than the increase in non-bank director compensation.*

4.3 CEO Compensation

Some SOX provisions cause senior management to face greater scrutiny of their actions by directors and investors. SOX also increases civil and criminal penalties associated with violations of certain SOX provisions. For example, executives are required to certify the accuracy of financial reports. By certifying the report, the executive is liable for any misreporting, criminal or not. In addition, executives may be required to forfeit any equity-based compensation and profits from the sell of stock in the event of material misconduct and/or earnings have to be restated. Thus, SOX imposes additional responsibilities and additional risk on executives. Consequently, executives should require additional compensation. Therefore, CEO compensation is expected to increase following the passage of SOX:

H2a: *CEO total compensation at all companies will increase after SOX.*

Ryan and Wiggins (2004) show that CEOs with more influence over the board are less likely to decrease their cash compensation and are less likely to increase the proportion of equity-based compensation. In other words, powerful CEOs want to increase the portion of their compensation that is in the form of risk-free cash rather than in risky equity. If bank CEOs have more power relative to non-bank CEOs, then bank CEOs would prefer to increase the portion of their compensation that is in the form of cash. To determine the relative power of bank and non-bank CEOs, Becher and Frye (2005) create a CEO power index, which includes board structure characteristics and ownership structure characteristics. Becher and Frye provide evidence suggesting that bank CEOs possess more power in determining their own compensation than non-bank CEOs; Albuquerque and Maio (2006) provide similar evidence.

There are two effects for CEO compensation. First, there is the fact that banks are subject to FDICIA/FIRREA which have many provisions that are similar to SOX. Thus, the

increase for bank CEO compensation should be smaller than the increase for non-bank CEO compensation. Second, bank CEOs typically have more power than non-bank CEOs. This suggests that bank CEO compensation should increase more than non-bank CEOs (or that the change in the structure of CEO compensation should show higher increase in cash for banks). Evidence from previous studies has shown bank total compensation to be lower than non-bank compensation. Therefore, the total impact of the two effects is expected to result in a smaller increase in the total compensation for bank CEOs relative to that of non-bank CEOs:

H2b: *The increase in bank CEO compensation will be less than the increase in non-bank CEO compensation.*

As describe above, powerful CEOs want a higher proportion of their compensation to be in cash instead of risky equity. Because bank CEOs are more powerful, bank CEOs are expected to have a higher portion of cash compensation after SOX:

H2c: *The proportion of equity-based compensation will decline and the proportion of cash compensation will increase.*

CHAPTER 5

DATA AND SAMPLE CONSTRUCTION

5.1 Data Structure and Sources

Chapter 5 provides a detailed description of the data used in the empirical analysis. Before going into details, it is helpful to provide an overview of the data structure.

5.1.1 Data Structure

The data consist of four different samples based on the firm's line of business. The first is a sample of banks, the second is a sample of financial firms but not banks, the third is a sample of utilities but not banks or financials, and the fourth is a sample of firms that are not banks, not financials, and not utilities (denoted as non-banks). The primary comparison will be between the banks and non-banks; the other firms are included to perform robustness tests to ensure that the results are not due to the fact that a bank is in the financial services industry and not due to the fact that a bank is regulated.

The sample period is for the years 1998-2005. SOX was passed in 2002, so this sample period has four years prior to SOX (1998-2001) and four years post-SOX (2002-2005).

For each firm-year, data is gathered about the firm, the CEO, the directors, and governance characteristics. Section 5.2 describes in detail how the samples are constructed, but Sections 5.1.2-5.1.5 identify the data variables required and describe the sources for that data.

5.1.2 *Compensation Data*

Compensation data for CEOs and directors are collected from Standard & Poor's ExecuComp database. ExecuComp provides executive and nonemployee director compensation information on firms in the S&P 500, the Midcap 400, and the Smallcap 600.

For directors, data on the annual cash retainer paid to each director, the per meeting fees paid to each director, the number of stocks granted, and the number of stock options granted for director compensation are collected. As ExecuComp does not provide the value of directors' options, the per-option value of director options are set equal to the per-option value of the CEO's options as done by Brick et al. (2006) and Becher et al. (2005). The value of director stock grants is the number of stocks granted multiplied by the market price of the stock on the date of the grant. Director cash compensation is the annual retainer fee for each outside director plus the fee per meeting multiplied by the number of board meetings. Total compensation for the director is the base cash compensation plus the value of stock and options granted for outside directors.

CEO data include information on cash compensation, long-term incentive compensation, and total compensation for the CEO. Cash compensation is defined as the sum of salary and bonus paid to the CEO. Long-term incentive compensation is the market value of restricted stock and stock option grants. Total compensation is the sum of cash compensation and long-term incentive compensation. ExecuComp provides the value of stock grants as determined on the date of the grant. This is the value used as the value of stock grants. The Black-Scholes value per option from ExecuComp is used to value stock options.

5.1.3 Firm Characteristics Data

Several control variables are included to account for firm characteristics that may influence compensation. The firm characteristics used as controls are market value, market-to-book ratio, leverage ratio, ROA, and stock return. Market-to-book is used to control for firm growth or investment opportunities (Becher, Campbell, and Frye, 2005; Bryan et al., 2000; Ryan and Wiggins, 2004). The natural log of the firm's market value is used to control for firm size and the leverage ratio is used to control for risk (Bryan et al., 2000). Stock return and ROA control for current and prior performance. Stock return data are collected from ExecuComp. Accounting data are collected from Compustat.

5.1.4 CEO and Board Characteristics Data

There are also control variables used to account for governance characteristics that may affect compensation. Governance characteristics include: CEO ownership (defined as the percentage of outstanding common stock owned by the CEO); director ownership (defined as the average percentage of outstanding common stock owned by directors); an indicator variable for majority institutional stock ownership (defined as equal to 1 if, institutions own more than 50% of the firm); board size; proportion of outside directors; an indicator variable for nominating committee independence (defined as equal to 1, if the nominating committee is completely independent); an indicator variable for compensation committee independence (defined as 1, if the compensation committee is completely independent); CEO tenure; CEO/chair indicator variable (defined as equal to 1, if the CEO is also the chairperson of the board); number of board meetings, an indicator variable for busy boards (defined as equal to 1, if 50% or more of the directors serve on more than three boards); and average director tenure. Director characteristics

are collected from Corporate Library Board Analyst Companies and Directors database from 2001-2006 and RiskMetrics (formerly Investor Responsibility Research Center (IRRC)) from 1996 to 2005.

5.2 Sample Construction

All dollar-valued data are converted into constant-year 2005 dollars to adjust for inflation and make numbers comparable across years. The Bureau of Labor Statistics consumer price index (CPI) is used to adjust for inflation. When matching datasets by year, they are matched by fiscal year. Following is a detailed description of how the samples are constructed.

5.2.1 ExecuComp

The sample construction begins with the ExecuComp database which includes data for the top five executives of the firm for a given year; it also includes data for the firm. For the years 1998 to 2005, the database contains 107,723 executive-firm years. All executives that did not serve as the CEO for the current year are deleted, leaving a total of 13,549 CEO-firm years. Next, an industry variable defined by the 48 Fama-French industries based on the SIC codes (Fama and French, 1997) is added. All compensation information including salary, bonus, total compensation, stock options, and restricted stock for CEOs from ExecuComp are collected. Other collected data includes the year the CEO began to serve as CEO, the percentage of shares held by the CEO, the director annual cash retainer, and the director per meeting fees. ExecuComp also contains key financial information. These are also obtained and include total assets, return on assets, market value of equity, the number of shares outstanding, and fiscal year end stock price, and one-year stock returns.

5.2.2 *Compustat*

Data from Compustat contains financial information which includes total assets, return on assets, long-term debt, and short-term debt.

5.2.3 *Merge of Compustat and ExecuComp*

Next, the Compustat dataset is merged with the ExecuComp dataset using the company ID number (gvkey) and fiscal year. The total number of CEO-firm years falls to 13,222. Banks are firms with an SIC code equal to 6020. Of the 13,222 CEO-firm year observations, 478 are banks. All firms remain in the data set at this point, although later the dataset is used to create matched samples with the banks.

5.2.4 *Corporate Library and RiskMetrics*

There are two different databases that contain information about directors, Corporate Library and RiskMetrics. The Corporate Library Board Analyst Companies and Directors database included the years from 2001-2006 and RiskMetrics include the years from 1996 to 2005. The Corporate Library database has two datasets, one for companies and one for directors. The year variable in the Corporate Library databases corresponds to the year of the proxy date and there is information about the annual meeting date. The Corporate Library companies dataset has 15,561 firm-year observations, while the directors dataset has 179,399 director-firm years. The Corporate Library datasets also have as identifiers the Committee on Uniform Securities Identification Procedures (CUSIP) number and Central Index Key (CIK). The six-digit CUSIP number uniquely identifies most securities. The CIK is the number assigned to identify firms that have filed disclosures with the Securities and Exchange Commission (SEC). There are some firms that are missing the CIK number, those are filled in manually. Unlike, the

CIK, the firm CUSIP can change over time. The CIK is the only unique identifier between the Corporate Library dataset and the ExecuComp dataset. The two Corporate Library datasets are combined by the proxy date year, CUSIP, and ticker symbol. Information on board size, the director type, the percentage of shares held by directors, whether the CEO is chairman, the number of other boards a director serves, the date the directors service began and ended, an indicator of whether the majority of shares are held by institutions, and the number of board meetings.

RiskMetrics, like Corporate Library, has information about the annual meeting date. The RiskMetrics dataset contains 165,728 director firm-year observations. The Corporate Library data is combined with the RiskMetrics data using the CUSIP, the meeting date and the name of the directors to create the directors' dataset. The resulting director dataset has a total of 99,931 director-firm-year observations.

5.2.5 Going from Director-Firm-Year to Firm-Year

The average value for each firm for each year is calculated for each of the variables for compensation, director ownership, and director tenure. For example, the average stock option compensation paid to directors for each firm for each year is the director equity compensation. For clarity of exposition, these averages are referred as the director-firm-year variables henceforth.

Finally, the director (Corporate Library/Riskmetrics) dataset is combined with the ExecuComp/Compustat dataset. This resulted in 97,371 director-firm-year observations. Since all director data for compensation are averages, average director tenure and average director ownership is in the analysis.

Any firm-year observation that is missing information pertaining to any key variable such as number of board meetings, options awards, restricted stock grants, average director tenure, director retainer and meeting fees, institutional ownership or busy boards are deleted. Also deleted are any duplicate observations that were created during the merging process.

To summarize, this combined sample with data from ExecuComp, Compustat, Corporate Library and RiskMetrics contains 9,968 firm year observations. For each firm-year observation, there is data for CEO compensation, average director compensation, firm accounting data, and firm governance characteristics. This dataset contains all the required compensation variables for directors and CEOs which are cash compensation, equity compensation, percentage equity compensation, and total compensation. The firm characteristic variables are market value, market-to-book ratio, one-year return on assets, one-year stock returns. The governance variables included are number of meetings, a binary for CEO is chair, CEO tenure, average director tenure, CEO ownership, average director ownership, an indicator for busy boards, the percentage of independent directors, and an indicator for majority institutional ownership. Note that this dataset contains all remaining firms, including 478 bank firm-years and 9,490 firm-years for companies that are not banks.

5.2.6 Creating Matched Samples of Other Financial Institutions, Utilities, and Non-Banks

The term “non-bank” is used to denote a company that is an unregulated non-financial firm (i.e., firms with SIC 4000-4999 and SIC 6000-6999 are excluded). For example, telecommunications firms, utilities, insurance firms, and financial services firms are not in the non-bank sample. Thus, a non-bank is not a bank, not another type of financial institution, and is

not a regulated firm. Out of the total sample of 9,968 firm year observations, there are 7,431 firm-years classified as non-bank firm-years.

The sample of non-banks matched is matched to the sample of banks on the basis of market value. The matching process is similar to the process used by Becher, et al.(2005), who match on market values of a base-year and do not match on ROA. Unlike Becher, et al. (2005), these matches are made on annual market values rather than base-year market values to account for differences from year to year. Becher, et al. also run test using a different base-year from later in their sample to account for changes in the composition of banks over time. Not all firms are expected to survive throughout the sample period, which means that the market values may shift over time. Since the composition of banks changes overtime it does not matter if the composition of the matched firms also change. Actually, matching on annual market values takes into account the shifting of market values over time. Following is a detailed description of the matching process.

The sample of bank firm-years is sorted from highest to lowest market values in each year, and each bank is assigned a ranking for that year. For example, if a bank has the highest market value for a year, its rank is 1 for that year. Then the non-bank sample is sorted from highest to lowest on market value for each year. Next, the first bank is selected (based on its rank) and matched to the non-bank with the closest market value to the bank's market value. Then the non-bank is assigned the same rank as the bank. That process is repeated until all banks has a match. The result is a sample of non-banks that match the bank sample each year on the basis of market value.

The term “non-bank, regulated” is used to denote a company that is a non-financial firm but that is regulated (i.e., firms with SIC 4000-4999). The matching process described above is

repeated with a resulting sample of non-bank, regulated companies matched to the bank sample by size.

The term “non-bank financial” is used to denote a company that has an SIC code between 6000-6999, excluding 6020. There were two firms that had the SIC 6020 that are included in this financial firm sample because their primary business was not as a depository institution. These are not banks, but they are financial firms, such as savings and loans institutions, insurance companies, financial services firms, and real estate firms. The matching process described above is repeated with a resulting sample of non-bank, financial firms. Note that there are controls for differences in the market value in a multivariate analysis later in this dissertation.

5.2.7 The Full Matched Sample

The full-matched sample contains 1,912 firm-year observations. That includes 478 firm-years for banks, 478 firm-years for non-banks, 478 firm-years for regulated, non-financials, and 478 firm-years for non-bank, financial firm sample. Table 3 presents the number of firms for each year of the sample.

Note that there are 52 to 68 firm-year observations for banks in any given year and there are 68 firms in the sample during the first year. There a total of 89 unique banks in the sample. Over time the bank sample gains and loses firms, but 39 (57.35%) of the original 68 firms from 1998 are still in the sample in 2005. A total of 51 (75.00%) of the original firms are included in the sample for 7 years or more and 53 (77.94%) of the original firms are included in the sample for 6 years or more. Thus, composition of banks varies throughout the sample, but a significant number of banks (about 75%) are in the sample for at least 7 years. Also, 45 of the 89 banks are also financial holding companies as defined by the Federal Reserve.

CHAPTER 6

UNIVARIATE ANALYSIS

6.1 Overview

Chapter 6 provides results of the univariate analysis of director compensation and CEO compensation. Table 4 provides a description of each variable used in the analysis, including its name, definition, and source.

Table 5 reports summary statistics for the full matched sample of firms. The full matched sample, as shown in Table 5 has an average CEO cash compensation of \$2,579,400 and a standard deviation of \$2,782,370. The median CEO cash compensation is \$1,860,630. CEO equity compensation is heavily skewed right with a mean around \$6,787,450 a standard deviation of \$21,818,590, and a median CEO equity compensation at \$2,498,130. CEO mean percent equity compensation of 51.03% and median percent equity compensation of 55.72% suggest a more symmetrical distribution. Overall, the level of CEO compensation is skewed right. Director cash compensation has a tighter distribution. The average director cash compensation is \$41,510 with a standard deviation of \$21,400. The median director cash compensation is \$39,730. Also, director equity compensation is a higher than director cash compensation and varies much more as well. It averages \$99,700 and has a standard deviation of \$279,710. The median is only \$43,980. Director total compensation has an average of \$141,200 and a standard deviation of \$280,940. The median is much lower at \$86,190. The average director percent equity compensation is 46.48% and the median is 51.30%. The standard deviation is 32.16%.

The variables for firm characteristics indicate that there is a high level of variation in firm size. The mean market value is \$55.3 billion and the median is only \$17.7 billion. The mean and median leverage values are 29.96% and 27.77% respectively. The average market-to-book ratio is 1.65, the median market-to-book is 1.29, and the standard deviation is about 1.28. The average return on assets is 2.76%, while the median is 1.76%. The standard deviation of return on assets is 4.52%. There is much more variation in the stock returns. The average stock return is 11.90% and the median is 9.05% with a standard deviation of 45.07%.

Average director ownership and CEO ownership are low. For directors, average ownership is less than 1%. The standard deviation in director ownership is about 1%. The average CEO ownership is 1.32% and the standard deviation is 3.82%. The average board size is 11.70 and the average board is 71.96% independent. The typical board averages about 8.42 meetings. CEO tenure is 7.42 years on average and director tenure is 9.24 years on average.

Table 6 reports summary statistics for banks only. This sample includes banks that are financial holding companies as identified by the Federal Reserve. Although, not reported in the tables separately compensation summary statistics for the financial holding company banks are slightly higher, but still close to the compensation of compensation summary statistics for banks that are not financial holding companies. The average bank CEO cash compensation is less than the average for the full sample. The average bank CEO cash compensation is \$2,030,520 and the standard deviation is \$1,820,940. The median is lower than the average at \$1,385,180. Bank CEO equity compensation is less than the equity compensation for the CEO for firms in the full sample. The average bank CEO equity compensation is \$3,680,670 and the median is \$1,483,820. The standard deviation of CEO equity compensation is \$7,371,330. This is lower than the standard deviation of CEO equity compensation for the full sample. The percentage of

equity compensation for the bank sample is lower than it is for the full sample. The mean is 47.14% and the median is 50.10%. The CEO total compensation for banks averages \$5,711,190. The median is much less at \$2,999,700 and the standard deviation is \$8,521,930. The average director cash compensation for banks is \$32,450 and the standard deviation is \$19,210. The median is \$29,350. Bank director equity compensation and bank director total compensation and both are lower than the averages and medians for the full sample. Average director equity compensation is \$43,990, with a standard deviation of \$207,680. The median director equity compensation is \$15,410. The average total director compensation is \$76,440 with a standard deviation of \$209,920 and the median is \$44,530. The director percent equity compensation for banks is also lower. The average is 35.51% and the median is 36.69%.

The summary statistics for firm characteristics indicate that banks have much higher market values and lower levels of market-to-book ratios than the full sample. The average market value is \$73.6 billion and the average market-to-book is 1.26. Banks also have lower levels of leverage as measured by debt to asset. The return on assets and the stock returns are also lower for banks. The banks boards are also larger with an average of 13.92. CEO and director tenure are both longer for banks. The average levels of director and CEO ownership are similar to those for the full sample. However, the median levels for ownership for banks are about twice those of the full sample.

Overall, the summary statistics reveal that bank CEOs and bank directors are paid less in compensation than the CEOs and directors of the full sample. Banks are also larger than the other firms in the sample with larger boards and longer director and CEO tenure.

6.2 Univariate Tests of Director Compensation

Section 6.2 presents the results of univariate tests of director compensation. These tests are performed to determine whether director compensation for banks, non-banks, non-bank financials, and non-bank regulated firms (utilities) changes between the pre-SOX and post-SOX periods. There are four compensation measures examined: cash compensation, equity compensation, percent of equity compensation, and total compensation.

The difference in director compensation between banks and the other samples of firms for each firm-year for each of the four compensation variables are also examined. For example, the difference in director compensation at bank 1 is calculated as director compensation at bank 1 minus director compensation at non-bank 1 for each year. This is repeated for all banks and for all four measures of compensation. This also is repeated for director compensation at bank 1 minus director compensation at non-bank financial 1 and non-bank regulated 1.

There are several tests conducted using these differences in matched pairs. The first test is used to determine whether director compensation for banks is different from director compensation for other types of firms in the pre-SOX period. These tests are repeated to determine whether director compensation for banks is different from director compensation for other types of firms in the post-SOX period.

Another test is used to determine whether any difference in bank director compensation from non-bank director compensation during the pre-SOX period changed in the post-SOX period. In other words, did SOX cause bank director compensation to converge to or diverge from non-bank director compensation? If banks are already subject to many of the provisions in SOX, compensation is expected to diverge as non-bank directors' compensation increases to compensate for effort and risk that bank directors are already bearing before SOX.

Following are the univariate test results (Chapter 7 presents results using multivariate tests).

6.2.1 Changes in Director Compensation between the Pre-SOX and Post-SOX Periods

The analysis begins with an examination of the difference in the various measures of director compensation after SOX versus before SOX for each of the individual matched samples. Panel A of Table 7 reports results for cash compensation for directors. Column 1 shows the mean and median for each sample during the period before SOX (1998-2001). Column 2 shows the mean and median for each sample during the period after SOX (2002-2005). Given the increase in workload and risk for directors in the post-SOX period, cash compensation should increase, as indicated in Column 3). Column 4 reports the mean (or median) post-SOX minus the mean (or median) pre-SOX. All the differences are positive, as expected, indicating an increase in director compensation in the post-SOX period. Column 5 reports results of a t-test for difference in means between the post-SOX and pre-SOX periods; Column 6 reports results from a rank sum test of the differences in the median. The tests in Columns 5 and 6 indicate that director cash compensation increased by a statistically significant amount in the post-SOX period for all groups of companies in the sample.

Panel B reports similar test results for equity compensation. A decrease in equity compensation is expected for all groups. As expected, the mean equity compensations for all groups, except financials, decline in the post-SOX period (although only the regulated, utilities sample is statistically significant). The median equity compensation actually increased for all the groups. Only the full sample is statistically significant.

As shown in Figures 1 and 2, there is a strong secular pattern in director equity compensation, with the compensation mimicking movements in the overall stock market. A control for such secular patterns is added later in this dissertation using multivariate analysis.

Panel C of Table 7 reports results for univariate test of the percent of director compensation that is in the form of equity. Based on t-tests, there are no significant differences in mean director percentage equity compensation in any of the sample groups. Difference-in-median tests indicate no significant difference in percentage equity compensation for any of the groups.

Panel D reports the results for test of changes in total compensation for directors. The differences in average total compensation indicate a statistically significant increase in total compensation after SOX for the financial sample only. The results for total compensation difference-in-median test indicate that the increase in medians for the full sample, banks, industrials, and utilities is significant.

In summary, the evidence suggests that the cash compensation for directors increased for each of the samples post-SOX, equity compensation declined for utilities over time, the percentage of equity compensation did not change for any groups, and total compensation increased over time for all groups.

6.2.2 Differences in Director Compensation for Matched-Pair Groups in the Pre-SOX Period

The difference in director compensation between banks and each of the other groups of firms for each firm-year for each of the four compensation variables is also of interest. For example, the difference in director cash compensation is calculated as director cash compensation at bank 1 minus director cash compensation at the matched non-bank 1 for each

year, for all banks. This is repeated for each of the other measures of compensation (equity compensation, percent equity compensation, and total compensation) and for each of the other groups (director compensation at bank 1 minus director compensation at non-bank financial 1; and director compensation at bank 1 minus director compensation at non-bank regulated 1).

The first test concerns whether director compensation for banks is different from director compensation for other types of firms in the pre-SOX period. Table 8 presents the results. The first row shows the results for the matched pairs of banks and non-banks, the second row shows the results for matched pairs of banks and non-bank financials, and the third row shows the results for matched pairs of banks and non-bank regulated firms.

Column 1 of Table 8 shows the mean difference (or median difference) of the matched pair differences of director cash compensation and the level of significance during the pre-SOX period. The results in Column 1 indicate that the average director cash compensation at banks was lower than at non-banks, financial, and utilities. Based on t-tests, bank cash compensation for directors was significantly lower than cash compensation at industrials, financials, and utilities before SOX. Using rank sum test, the median director cash compensation at banks was significantly lower when compared to all three other groups.

Column 2 of Table 8 reports results for director equity compensation. Results of t-tests show that average director equity compensation at banks was significantly lower than at each of the non-banks groups during the pre-SOX period. Differences-in-median tests on equity compensation provide additional evidence showing significantly lower equity compensation at banks relative to industrials, financials, and utilities before SOX.

Column 3 of Table 8 reports tests of the percent of equity compensation. The results indicate that banks pay directors significantly less in percent equity compensation before SOX.

The results for differences in total director compensation between banks and non-banks are in Column 4 of Table 8. They show that banks have lower mean and median director total compensation other types of firms in the period before SOX was enacted.

Overall, the evidence suggests that banks paid directors less than other types of firms in each form of compensation.

6.2.3 Differences in Director Compensation for Matched-Pair Groups in the Post-SOX Period

Similar tests to determine whether bank director compensation was different from director compensation at other firms in the post-SOX period are performed. The results are presented in Table 9.

Column 1 suggests that banks pay significantly lower mean and median director cash compensation than industrials, financials, and utilities firms in the years after SOX. Column 2 shows that banks pay significantly lower mean and median director equity compensation than industrials and financials, and utilities. Results in Column 3 indicate that banks pay significantly lower mean and median director percentage equity compensation than the other groups. Additionally, banks pay significantly less mean and median director total compensation than other types of firms in the post-SOX period.

All in all, banks still paid directors less in all forms of compensation than industrials, financials, and utilities after SOX. Banks paid less cash compensation and more percentage equity compensation than utilities after SOX.

6.2.4 Differences in Director Compensation for Matched-Pair Groups Before and After Sox

The next set of tests examines compensation to determine whether any difference in bank director compensation from non-bank director compensation during the pre-SOX period changed

in the post-SOX period. In other words, did SOX cause bank director compensation to converge to or diverge from non-bank director compensation? If banks are already subject to many of the provisions in SOX, compensation should diverge as non-bank directors' compensation increases to compensate for effort and risk that bank directors are already bearing before SOX.

Panel A of Table 10 reports test results for director cash compensation, Panel B reports results for equity compensation, Panel C reports results for the percent of equity compensation, and Panel D reports results for total compensations. Within each panel are separate rows for the bank-industrial matched pairs, the bank-financial matched pairs, and the bank-utilities matched pairs. Column 1 reports the mean and median matched-pair difference in compensation for the pre-SOX period. Column 2 reports the mean and median matched-pair difference in compensation for the post-SOX period. Column 3 reports the expected change in the matched pair difference in compensation from the pre-SOX period to the post-SOX period.

Column 4 of Table 10 reports the change in the relative compensation of matched pairs from before to after SOX. For example, in Panel A, first row, the value of -\$16.77 is shown in Column 1, indicating that when comparing director cash compensation of a bank to its matched industrial, bank directors had an average of \$16,770 less in cash compensation. Column (2) shows that in the post-SOX period, bank directors had an average of \$21,670 less in cash compensation than their peers at matched industrials. In other words, bank directors lost ground by about \$4,900, as shown in Column 4. This is consistent with the hypothesis that compensation should diverge as non-bank directors take on duties and risk that bank directors were already bearing. Furthermore, as shown in Columns 5 and 6, this change in relative compensation is statistically significant for banks and utilities.

Panel B for equity compensation shows that the mean difference between banks and financials diverges and no other differences are statistically significant. Panel C for percent equity compensation shows the mean and median differences for banks and other groups. There is no significant change in percent equity compensation for banks and any group. Panel D for total compensation shows that the differences in director compensation for banks and financials diverge. There is some evidence that the differences in the total compensation between banks and industrials and the differences in total compensation between banks and utilities decreased, although not at a statistically significant amount.

Overall, the evidence suggests that banks pay directors, less cash compensation, less equity compensation, less percent equity, and less total compensation than other types of firms pay directors before and after SOX. Additionally, there is a statistically significant movement away from equality over time for cash compensation for banks when compared to industrials and when compared to utilities. There is also a movement away from equality for total compensation over time for banks and financials.

6.3 Univariate Tests of CEO Compensation

Next, univariate tests are conducted with CEO compensation. These tests are performed to determine whether CEO compensation for banks, non-banks, non-bank financials, and non-bank regulated firms (utilities) changes between the pre-SOX and post-SOX periods. There are four compensation measures examined: cash compensation, equity compensation, percent of equity compensation, and total compensation.

Also of interest is the difference in CEO compensation between banks and the other samples of firms for each firm-year for each of the four compensation variables. For example,

the difference in CEO compensation is calculated as CEO compensation at bank 1 minus CEO compensation at non-bank 1 for each year, and repeated for all banks and for all four measures of compensation. This is also repeated for CEO compensation at bank 1 minus CEO compensation at non-bank financial 1 and non-bank regulated 1.

Several tests are performed using these differences in matched pairs. First, a test of whether CEO compensation for banks is different from CEO compensation for other types of firms in the pre-SOX period is performed. This test is repeated to determine whether CEO compensation for banks is different from CEO compensation for other types of firms in the post-SOX period.

The differences in bank CEO compensation from non-bank CEO compensation during the pre-SOX period changed in the post-SOX period are also examined. In other words, did SOX cause bank CEO compensation to converge to or diverge from non-bank CEO compensation? If banks are already subject to many of the provisions in SOX, compensation is expected to diverge as non-bank CEO's compensation increases to compensate for effort and risk that bank CEO are already bearing before SOX.

Following are the univariate test results (Chapter 7 presents results using multivariate tests).

6.3.1 Changes in CEO Compensation between the Pre-SOX and Post-SOX Periods

First, is the examination of the difference in the various measures of CEO compensation after SOX versus before SOX for each of the individual matched samples. Panel A of Table 11 reports results for cash compensation for CEOs. Column 1 shows the mean and median for each sample during the period before SOX (1998-2001). Column 2 shows the mean and median for

each sample during the period after SOX (2002-2005). Given the increase in workload and risk for the CEO in the post-SOX period, cash compensation is expected to increase, as indicated in Column 3. Column 4 reports the mean (or median) post-SOX minus the mean (or median) pre-SOX. All the differences are positive, as expected, indicating an increase in CEO compensation in the post-SOX period. Column 5 reports results of a t-test for difference in means between the post-SOX and pre-SOX periods; Column 6 reports results from a rank sum test of the differences—in-the median. The tests in Columns 5 and 6 indicate that CEO cash compensation increased by a statistically significant amount in the post-SOX period for the full sample and the utility sample. There is no statistically significant difference in mean or median compensation for financials. However, the median CEO compensation for industrials is positive and significant and the mean CEO compensation for banks is positive and significant.

Panel B reports similar test results for equity compensation. Equity compensation is expected to decrease for all groups. As expected, the mean and median equity compensation for all groups decline by a statistically significant amount in the post-SOX period. The median equity compensation declines for all groups, except the industrial group. Only the differences in the utility sample are statistically significant at the 10% level.

As shown in Figures 3 and 4, there is a strong secular pattern in CEO equity compensation, with the compensation mimicking movements in the overall stock market. Controls for such secular patterns are added later in this dissertation using multivariate analysis.

Panel C of Table 11 reports results for univariate test of the percent of CEO compensation that is in the form of equity. Note in columns 1 and 2 the percentage of equity compensation for CEO, range between 40% and 66% for the pre-SOX and post-SOX periods. Based on t-tests, there are no significant differences in mean or median percentage equity

compensation in the financial and industrial samples at the 10% significance level. However, the full sample, the bank sample, and the utility sample all show a significantly negative difference in mean and median CEO percentage equity compensation post-SOX. Unlike the differences for director percentage equity compensation the differences are statistically significant and economically meaningful. For example, using the full sample, the median percent equity compensation for CEO decreased from 57.46% to 53.40%. Based on the rank sum test, this was a statistically significant change of 3.59%.

Panel D reports the results for test of changes in total compensation for CEOs. The results for total compensation difference-in-mean test indicate that the decline in means is significant for all the samples except the bank sample. The differences-in-median tests indicate that none of the samples show a significant difference in total compensation over time at the 10% level of significance.

In summary, the evidence suggests that the cash compensation for CEOs increases for each of the samples except the financial sample post-SOX, equity compensation declines for each of the samples over time. The percentage of equity compensation declines for all samples, except the financials (which are positive and not statistically significant). Total compensation also decline significantly for the full, financial, and utility samples over time.

6.3.2 Differences in CEO Compensation for Matched-Pair Groups in the Pre-SOX Period

The difference in CEO compensation between banks and each of the other groups of firms for each firm-year for each of the four compensation variables is also examined. For example, the difference in CEO cash compensation is equal to CEO cash compensation at bank 1 minus CEO compensation at the matched non-bank 1 for each year. This is repeated for all

banks and for all the other measures of compensation (equity compensation, percent equity compensation, and total compensation) and for each of the other groups (CEO compensation at bank 1 minus CEO compensation at non-bank financial 1; and CEO compensation at bank 1 minus CEO compensation at non-bank regulated 1).

This first test examines whether CEO compensation for banks is different from CEO compensation for other types of firms in the pre-SOX period. Table 12 presents the results. The first row shows the results for the matched pairs of banks and non-banks, the second row shows the results for matched pairs of banks and non-bank financials, and the third row shows the results for matched pairs of banks and utility firms.

Column 1 of Table 12 shows the mean difference (or median difference) of the matched pair differences of CEO cash compensation and the level of significance during the pre-SOX period. The results in Column 1 indicate that the average CEO cash compensation at banks is lower than at industrials, financials, and utilities before SOX. Based on t-tests and rank sum test, the mean and median CEO cash compensation at banks was significantly lower when compared to financials and industrials. Only the median CEO cash compensation at banks is significantly lower when compared to utilities.

Column 2 of Table 12 reports results for CEO equity compensation. Results of t-tests show that average CEO equity compensation at banks was significantly lower than at other non-bank firms during the pre-SOX period. Differences-in-median tests on equity compensation provide additional evidence showing significantly lower equity compensation at banks relative to non-banks before SOX. However, the median difference for banks and utilities is roughly \$0.00 and not statistically significant at the 10% level of significance.

Column 3 of Table 12 reports tests of the percent of equity compensation. The results vary depending on the matched sample. There is a significant difference in mean and median percentage equity compensation between the banks and industrials. That is, banks pay lower mean and median percentage equity compensation than industrials. There is not a significant difference in mean or median percentage equity compensation for banks and financials nor is the difference significant for banks and utilities before SOX.

Column 4 of Table 12 reports tests of CEO total compensation. The results for differences in total CEO compensation between banks and non-banks show that banks pay lower mean and median CEO total compensation than industrials, that banks pay lower mean and median CEO total compensation than other financials, and that banks pay lower mean total CEO compensation than utilities in the period before SOX was enacted.

Overall, the evidence suggests that banks pay the CEO lower compensation in all forms of compensation than industrials before SOX. Additionally, banks pay less cash, equity and total compensation than financial firms before SOX. Also, banks pay less cash, equity and total compensation than utilities before SOX.

6.3.3 Differences in CEO Compensation for Matched-Pair Groups in the Post-SOX Period

There are similar tests performed to determine whether bank CEO compensation was different from CEO compensation at other firms in the post-SOX period. The results are presented in Table 13.

Column 1 reports results for cash compensation. The results indicate that banks pay significantly lower mean and median CEO cash compensation than industrials and financials in

the years after SOX. Also, banks pay lower median CEO cash compensation than utility firms after SOX.

Column 2 shows that banks pay lower mean and median CEO equity compensation than industrials and financials. Results in Column 3 indicate that banks pay lower mean and median CEO percentage equity compensation than industrials and financials after SOX.

The results in Column 4 show that banks pay lower mean and median CEO total compensation than industrial and financials in the post-SOX period. Also, banks pay lower median CEO total compensation than utility firms after SOX.

All in all, banks continue to pay CEO less in all forms of compensation than industrials and financials after SOX. Banks pay CEO less cash, equity, percent equity, and total compensation than financials after SOX. Banks pay less cash compensation and less total compensation than utilities after SOX.

6.3.4 Differences in CEO Compensation for Matched-Pair Groups Before and After SOX

Further tests are performed to determine whether any difference in bank CEO compensation from non-bank CEO compensation during the pre-SOX period changed in the post-SOX period. In other words, did SOX cause bank CEO compensation to converge to or diverge from non-bank CEO compensation? If banks are already subject to many of the provisions in SOX, compensation is expected to diverge as non-bank CEO compensation increases to compensate for effort and risk that bank CEO are already bearing before SOX

Panel A of Table 14 reports test results for CEO cash compensation, Panel B reports results for equity compensation, Panel C reports results for the percent of equity compensation, and Panel D reports results for total compensations. Within each panel are separate rows for the

bank-industrial matched pairs, the bank-financial matched pairs, and the bank-utilities matched pairs. Column 1 reports the mean and median matched-pair difference in compensation for the pre-SOX period. Column 2 reports the mean and median matched-pair difference in compensation for the post-SOX period. Column 3 reports the expected change in the matched pair difference in compensation from the pre-SOX period to the post-SOX period.

Column 4 of Table 14 reports the change in the relative compensation of matched pairs from before to after SOX. For example, in Panel A, first row, the value of -\$1,356.28 is shown in Column 1, indicating that when comparing CEO cash compensation of a bank to its matched industrial, bank CEO are paid an average of \$1,356,280 less in cash compensation. Column (2) shows that in the post-SOX period, bank CEOs receive an average of \$-1,149,530 less in cash compensation than their peers at matched industrials. In other words, bank CEO gained ground by about \$206,750, as shown in Column 4. This is inconsistent with the hypothesis that compensation should diverge as non-bank CEOs take on duties and risk that bank CEO are already bearing. However, as shown in Columns 5 and 6, this change in relative compensation is not statistically significant.

Panel B for equity compensation shows that the mean difference between banks and industrials converged and the mean difference between banks and utilities converged. Panel C for percent equity compensation shows that the mean and median differences diverge for banks and financials. There is no significant change in percent equity compensation for banks and utilities or for banks and industrials.

Panel D for total compensation shows no significant change in the relative compensation for CEOs at banks versus financials. However, there is some evidence that the differences in the

total compensation between banks and industrials and the differences in total compensation between banks and utilities diverge after SOX.

Overall, the evidence suggests that banks pay CEOs less equity compensation, less percent equity, and less total compensation than industrials pay CEOs before and after SOX. Additionally, there is a statistically significant movement closer to equality over time for equity and total compensation, but a movement away from equality for percent equity compensation over time for banks and industrials(although not significant). Banks and financials show a statistically significant movement away from equality over time for percent equity compensation. Banks and utilities equity compensation and total compensation also show a statistically significant movement closer to equality over time.

CHAPTER 7

MULTIVARIATE ANALYSIS

In Chapter 4, the hypotheses that are tested in this dissertation are identified. The univariate test results in Chapter 5 support the hypotheses, but they fail to control for many well known factors that affect compensation. Therefore, multivariate tests are performed in this chapter. Following is a description of the multivariate model used to test the hypotheses.

7.1 Methodology for Multivariate Analysis of Compensation

In the multivariate analysis, there are several factors included that have been shown in the literature to be effective in explaining compensation for the CEO and directors. In particular, control for firm characteristics, CEO characteristics, director characteristics, and several governance characteristics are included.

In general, the firms that are difficult to manage require more talented managers. This implies that such firms should pay higher compensation. Firms that are complex (i.e. larger firms) make it difficult for directors to monitor executives and more difficult for shareholders to monitor directors. This suggests that such firms should pay higher equity compensation and have a higher level of compensation in the form of equity to align incentives. Following is a more detailed discussion of firm characteristics that affect compensation.

Firm Size: Larger firms are more difficult to manage and should require talented executives. Large firms are also more difficult to monitor. Thus, large firms should have higher total compensation and greater equity-based compensation (Jensen and Murphy, 1990). Consequently, market value is expected to have a positive relationship with compensation. The

natural logarithm of market value is used to proxy for firm size. Market value is defined as the market value of equity plus total assets minus book value of equity. See Table 4 for definitions of all variables.

Investment Opportunities: Firms with rich investment opportunities are more difficult to manage and more difficult to monitor. Therefore, they should pay executives a larger proportion of their salaries in equity-based compensation (Smith and Watts, 1992). The market-to-book ratio (i.e., market equity/book equity) is used to measure investment opportunities. The level of equity-based compensation and the proportion of equity-based compensation to cash compensation are expected to have a positive relationship to market-to-book.

Leverage: Previous research indicates that debt can alleviate agency problems (Grossman and Hart, 1982; Jensen, 1986; Stulz, 1990). For example, managers often seek to build empires and might prefer to invest in negative net present value projects, rather than return cash flow to shareholders. However, increased leverage limits an executive's tendency to invest in poor projects because it reduces the margin for error and pre-commits cash flows for debt service, rather than investment in poor projects. Because poor investments are curtailed with increased leverage, firm value should increase. Thus, leverage can induce managers to act in the interests of shareholders, obviating the need to use equity-based compensation as a means to align managerial and shareholder interests. This suggests that equity compensation and leverage are negatively related. Leverage is defined as the total debt (sum of short-term and long-term debt) divided by the market value (total assets).

Performance: Prior firm performance has been shown to be associated with compensation. Firms pay directors and CEO based on performance and firms reduce

compensation after poor performance. The prior year's stock return and the current 1-year stock return are used to measure market performance. The prior year's return on assets and the current return on assets are used to measure accounting performance.

The following are governance characteristics that have been shown in the literature to influence compensation for both CEOs and directors. In general, characteristically weak boards are associated with higher levels of compensation for CEOs and directors. More discussion about these characteristics follows.

Director Ownership: Ryan and Wiggins (2004) suggest that directors negotiate their own compensation. In essence, director compensation is a reflection of the negotiation process between the board and the CEO. A more powerful board of directors should exhibit higher compensation. This can be achieved in one of two ways: powerful boards can increase pay for directors or they may be able to control excessive CEO compensation. The average percentage of director ownership is used as a measure of director power.

CEO Ownership: Several prior studies focus on CEO negotiating power (Jensen and Murphy, 1990; Hermalin and Weisbach, 1998; Ryan and Wiggins, 2004). CEOs with greater power relative to the board receive more compensation. Additionally, CEOs with larger proportions of ownership in their firms may become entrenched. As a result, they are more difficult to remove and have more power. CEO ownership is the percentage of ownership for the CEO.

Institutional Ownership: Institutional investors have strong incentives to engage in active monitoring of firms (Shleifer and Vishny, 1986), reducing the need for using compensation as a substitute for monitoring. This suggests a negative relationship between institutional ownership

and compensation. An indicator variable (0,1) for institutional majority is equal to 1 if institutional ownership is 50% or higher; otherwise, it is equal to 0.

Board Size: Larger boards may be more inefficient because of coordination problems among directors (Ryan and Wiggins, 2004). Consequently, the CEO should be more powerful relative to the board of directors. Directors are expected to receive less total compensation with more cash compensation and less equity-based compensation. The board size is the total number of directors.

Board Meetings: Since the number of board meetings is used in the direct calculation of director compensation, a positive relationship is expected between the number of board meetings and director's cash and total compensation. The relationship between the number of board meetings and CEO compensation is unclear. However, there is some evidence that the frequency of board meetings is a relevant attribute of the board and it may have implications for the complexity of the job and the performance of directors of monitoring the firm (Vafeas, 1999a). For example, one would expect more complex firms to have more meetings. Additionally, directors that attend more meeting may be more likely to perform their job duties in the interest of shareholders. Each of these could potentially lead to higher total and equity compensation.

Board Independence: Theoretically, independent boards and equity-based compensation could be either complements or substitutes. If they are complements, then both mechanisms can serve in the monitoring role. If they are substitutes, then an independent board serving in the monitoring role for firms would reduce the need for equity-based compensation. Mishra and Nielsen (2000) find evidence of both complementary and substitution roles. Directors and executives are expected to receive more equity-based compensation in firms with independent boards particularly, if the average director tenure is high. Each director is categorized as

independent if the director has no relationships with the firm other than serving as director, inside if the director is an employee of the firm, or grey if the director is not an employee of the firm. Board independence is defined as the percentage of directors that are independent.

Nominating Committee Independence: The nominating committee is comprised of directors who nominate candidates for director appointments. If the CEO serves on the nominating committee, then the CEO can have more influence over the directors nominated during the CEO's tenure. If the nominating committee is completely independent then the CEO would have less influence and power. Firms with independent nominating committees are expected to pay less in total compensation. Nominating committee independence is a binary variable equal to 1, if the committee is wholly independent and 0 otherwise.

Compensation Committee Independence: The compensation committee sets the level and mix of compensation for CEOs. Firms with insiders on the compensation committee are expected to pay CEOs more compensation than firms with independent compensation committees because the insiders are able to exert their influence over the committee to obtain higher levels of compensation. Compensation committee independence is a binary variable equal to 1, if the committee is wholly independent and 0 otherwise.

CEO/Chair: Ryan and Wiggins (2004) find the CEOs who also chair the board are less likely to substitute cash compensation with equity-based compensation. This suggests that directors of firms with CEO-chair duality should have more total compensation with a greater percentage of compensation in the form of cash. Brick, et al., find that directors of firms with CEO-chair duality receive more total compensation. CEO/Chair duality is equal to 1, if the CEO is also the chairperson of the board and 0 otherwise.

Busy Board Binary: Busy board is a binary variable equal to 1 to indicate that 50% or more of the directors serve on 3 or more boards. When the directors are busy, they have less time to monitor, so they may use more equity-based compensation to provide the CEO with incentives to act in the best interest of shareholders. Therefore, greater levels of equity-based compensation to the CEO are expected when the majority of the board is busy.

CEO Tenure: CEO tenure is the number of years the CEO has held the current position. The likelihood of entrenchment is greater when CEO tenure is higher (Ryan and Wiggins, 2004). Greater levels of compensation for CEOs and directors are expected when the CEO has held the position longer.

Director Tenure: Director tenure is the average number of years the director has been serving as a director of the firm. Greater levels of compensation are expected with higher levels of average director tenure.

7.2 Variables to Measure Effects Due to Industry and Due to Sarbanes-Oxley

At the heart of the empirical tests are the hypotheses that Sarbanes-Oxley has effects on bank compensation that are different from its effects on non-bank compensation. Since SOX added to the duties and responsibilities of all directors and executives, compensation should have increased for directors and executives after SOX was enacted. However, directors and CEOs at banks already were bearing many (but not all) of SOX's newly imposed duties and responsibilities, so SOX's impact on banks should be muted relative to its impact on non-banks. In other words, the increase in bank compensation should be less than the increase in non-bank compensation.

The univariate tests in Chapter 6 confirm well known results in the literature by showing that compensation at banks is typically lower than compensation at industrials. This is observed both before and after SOX; see Tables 8 and 9 for director compensation and Tables 12 and 13 for CEO compensation. Thus, there is a gap in non-bank vs. bank compensation before and after SOX's enactment. Because SOX should cause the increase in non-bank compensation to be greater than the increase in bank compensation, the gap between non-bank and bank compensation should widen in the post-SOX period.

Univariate tests in Table 10 show that the gap in director total compensation between non-banks and banks do not change in a statistically significant manner after SOX; the mean gap increases, the median gap decreases, but neither change by a statistically significant amount. The univariate tests in Table 14 CEO compensation show that CEO total compensation decreases by a statistically significant amount after SOX. However, the data also show that total compensation in the post-SOX period for all types of companies is lower than total compensation in the pre-SOX period; see Table 7 for directors and Table 11 for CEOs. This is contrary to the hypothesis that SOX should have led to higher compensation because SOX imposes additional duties and responsibilities. Either the hypothesis is incorrect or there are other secular or structural differences (such as firm characteristics, board composition, etc.) between the pre-SOX and post-SOX periods. If this is the case, a multivariate analysis is required rather than the univariate analyses in Tables 7-14 compared to the pre-SOX period.

Section 7.1 explained the variables used to control for firm characteristics, CEO/director characteristics, and governance characteristics. It is also necessary to define variables that can identify the change in the gap between bank compensation and non-bank compensation and how that gap changed after the implementation of SOX. Following is a description of these variables.

Bank Binary: Bank directors and CEOs are expected to receive lower equity-based and total compensation. If the firm has an SIC codes equal to 6020, then the bank indicator variable is equal to 1; otherwise, it is equal to 0.

Financial Holding Company Binary: The Gramm-Leach-Bliley Act of 1999 allowed banks and other types of financial services firms to consolidate and be treated as financial holding companies. A wave of mergers resulted. Consequently, many banks in the sample also offer non-depository services such as insurance and investment. Financial holding company bank directors and CEOs are expected to receive lower equity-based and total compensation. If the firm has an SIC code equal to 6020 and it is identified as a financial holding company by the Federal Reserve, the financial holding company binary is equal to 1; otherwise, it is equal to 0.

Non-Bank Financial Binary: There should be no difference or lower equity-based and total compensation for non-bank, financial firm directors and CEOs. If the firm has SIC codes in the 6000-6999 range and it is not a bank firm, then the non-bank financial indicator variable is equal to 1; otherwise, it is equal to 0.

Regulated Utility Binary: Bank directors and CEOs are expected to receive lower equity-based and total compensation for non-bank, regulated firm directors and CEOs. If the firm has SIC codes in the 4000-4999 range, then the non-bank, regulated binary variable is equal to 1 and 0 otherwise.

SOX Binary: Firms may increase compensation after SOX in an effort to recruit and retain directors and CEOs with better qualifications. The SOX binary is equal to 1 for years after SOX (2002-2005) and 0 for years before SOX (1998-2001).

Bank-SOX Interaction: Directors of banking firms should have a smaller increase in compensation than non-banking firms after SOX. In other words, the gap between director

compensation at banks and non-banks should shrink after SOX. Bank CEOs are expected to have a larger increase in compensation after SOX, partly because bank CEOs are more powerful than non-bank CEOs.

Financial-SOX Interaction: The interaction is included to test whether or not the significance in the difference in banks and industrials is because the bank is a financial firm or for some other reason.

Utility-SOX Interaction: This interaction is included to test whether or not the significance in the difference in banks and industrials is because the bank is a regulated firm or for some other reason.

7.3 Director Compensation

The hypotheses are:

H1a: *Director compensation will increase after SOX.*

H1b: *The increase in bank director compensation will be less than the increase in non-bank director compensation.*

Following are multivariate tests of these hypotheses.

7.3.1 Multivariate Analysis of Director Compensation

In order to examine the impact of SOX on bank director compensation, several model specifications are employed. Since the data are cross-sectional, time series observations, a random effects regression panel model is used. For robustness, pooled cross-sectional OLS regressions as well as a cross-section (firm) fixed effects model are employed. The Breusch-Pagan Lagrange Multiplier test rejects the null hypothesis for a pooled regression suggesting that a random effects model is more appropriate for the models of cash, equity, and total

compensation (Greene, 2003). The Hausman specification test cannot reject the null hypothesis that the individual effects are uncorrelated with the other regressors in the model for cash compensation suggesting that the random effects model is appropriate (Greene, 2003). For the equity and total compensation the bank binary, the non-bank, financial binary, and the non-bank, utility binary were dropped from the model by the program because of multicollinearity. Then, the Hausman test rejects the null hypothesis suggesting that the fixed effects model is the more appropriate model. Since the key binary variables for the test are lost in the fixed effects model, the random effects model is used to examine the data as done in the Becher, et al study (2005).

The random effects model controls for unobservable or neglected firm- specific characteristics that may be correlated with compensation and other control variables used in the model. Additionally, the random effects control for endogeneity.

There are three measures of compensation used as the dependent variable for directors. Cash compensation includes annual cash retainer and cash from fees per meeting for the director. Equity-based compensation is the Black-Scholes value of options and restricted stock for the director. Total compensation is sum of cash compensation and equity-based compensation from ExecuComp. The proportion of total compensation as equity-based is the final measure. A Tobit regression is estimated for this fourth and final measure of compensation. There is no fixed effects Tobit regression for panel data. Controls for previously identified variables for firm characteristics, CEO and director characteristics, as well as other governance characteristics are included in each model.

Additionally, binary variables to indicate the industry (1 for bank firms and 0 otherwise; 1 for financial holding company banks and 0 otherwise; 1 for financial and 0 otherwise; and 1 for

utilities and 0 otherwise) and a binary variable to indicate the period (1 for the post-SOX period and 0 otherwise) are also included. Also included are interaction terms for the industry and SOX (BankSOX, FinSOX, and RegSOX).

The models are listed below:

$$\begin{aligned}
 drcash = & \alpha_0 + \alpha_b bank + \alpha_f fin + \alpha_r reg + \alpha_{Sox} sox + \alpha_{bSox} (bank*sox) \\
 & + \alpha_{fbfSox} (fin*sox) + \alpha_{rSox} (reg*sox) + \beta_1 mktbk + \beta_2 mktval + \beta_3 lev \\
 & + \beta_4 roa_{t-1} + \beta_5 roa + \beta_6 ret_{t-1} + \beta_7 ret + \beta_8 dirown + \beta_9 ceoown + \beta_{10} insmaj \\
 & + \beta_{11} bdsz + \beta_{12} nummgts + \beta_{13} bdindep + \beta_{14} ceochair + \beta_{15} busybd + \beta_{16} dirten
 \end{aligned} \tag{6-1}$$

$$\begin{aligned}
 dreq = & \alpha_0 + \alpha_b bank + \alpha_f fin + \alpha_r reg + \alpha_{Sox} sox + \alpha_{bSox} (bank*sox) \\
 & + \alpha_{fbfSox} (fin*sox) + \alpha_{rSox} (reg*sox) + \beta_1 mktbk + \beta_2 mktval + \beta_3 lev \\
 & + \beta_4 roa_{t-1} + \beta_5 roa + \beta_6 ret_{t-1} + \beta_7 ret + \beta_8 dirown + \beta_9 ceoown + \beta_{10} insmaj \\
 & + \beta_{11} bdsz + \beta_{12} nummgts + \beta_{13} bdindep + \beta_{14} nomindbd + \beta_{15} compindbd \\
 & + \beta_{16} ceochair + \beta_{17} busybd + \beta_{18} dirten
 \end{aligned} \tag{6-2}$$

$$\begin{aligned}
 drtotcomp = & \alpha_0 + \alpha_b bank + \alpha_f fin + \alpha_r reg + \alpha_{Sox} sox + \alpha_{bSox} (bank*sox) \\
 & + \alpha_{fbfSox} (fin*sox) + \alpha_{rSox} (reg*sox) + \beta_1 mktbk + \beta_2 mktval + \beta_3 lev \\
 & + \beta_4 roa_{t-1} + \beta_5 roa + \beta_6 ret_{t-1} + \beta_7 ret + \beta_8 dirown + \beta_9 ceoown + \beta_{10} insmaj \\
 & + \beta_{11} bdsz + \beta_{12} nummgts + \beta_{13} bdindep + \beta_{14} nomindbd + \beta_{15} compindbd \\
 & + \beta_{16} ceochair + \beta_{17} busybd + \beta_{18} dirten
 \end{aligned} \tag{6-3}$$

$$\begin{aligned}
dr\%equity = & \alpha_0 + \alpha_b bank + \alpha_{fin} fin + \alpha_r reg + \alpha_{Sox} sox + \alpha_{bSox} (bank*sox) \\
& + \alpha_{bfSox} (fin*sox) + \alpha_{rSox} (reg*sox) + \beta_1 mktbk + \beta_2 mktval + \beta_3 lev \\
& + \beta_4 roa_{t-1} + \beta_5 roa + \beta_6 ret_{t-1} + \beta_7 ret + \beta_8 dirown + \beta_9 ceoown + \beta_{10} insmaj \\
& + \beta_{11} bdsz + \beta_{12} nummgt + \beta_{13} bdindep + \beta_{14} nomindbd + \beta_{15} compindbd \\
& + \beta_{16} ceochair + \beta_{17} busybd + \beta_{18} dirten
\end{aligned} \tag{6-4}$$

7.3.2 Multivariate Results of Director Compensation

Director Cash Compensation: The results from the random effects regression for director cash compensation are presented in Table 15. The results indicate that the average bank director receives significantly less cash compensation than the average non-bank director. Additionally, the average cash compensation for all directors has increased after SOX which suggests that directors are requiring less risky compensation. However, there is no difference in director cash compensation for banks and non-banks after SOX as the interaction between the bank and SOX binary variables is insignificant. The evidence also suggests directors of larger firms require more cash compensation since director cash compensation is higher for firms with larger market values. Moreover, firms with better performance as measured by current return on assets and prior stock returns also pay directors more in cash compensation. As expected, firms that have more board meetings pay more in cash compensation. Also, regulated, utility firms and financial firms both pay less cash compensation for directors. The interaction between the financial binary and the SOX binary is insignificant. The interaction between the regulated, utility binary and the SOX binary is insignificant also. Tests of the coefficients indicate that the bank-SOX interaction is no different than neither the financial-SOX interaction, nor the utility-SOX interaction.

Director Equity Compensation: The results for director equity compensation are shown in Table 16. The results indicate that banks use significantly lower levels of equity-based compensation than non-banks. Although, there are significantly higher levels of equity-based compensation for all firms from before to after SOX, there is no difference in bank levels of equity-based compensation and non-banks levels of equity-based compensation after SOX, since the Bank-SOX interaction term is not significant. Additionally, larger firms and firms with expanding growth opportunities pay more equity-based compensation, which suggests that these firms may require more monitoring from the directors. Firms with higher levels of director ownership and higher levels of institutional ownership also pay higher levels of equity-based compensation. Firms with better prior performance pay more equity compensation, suggesting that equity-based compensation is use in part to reward directors. On the other hand, equity-based compensation is less for firms with longer average director tenure, which suggests that additional monitoring incentives may not be required. Firms with better current stock performance actually pay less director equity-based compensation. As with cash compensation, regulated, utilities pay less equity-based compensation. The financial-SOX interaction and the utility-SOX interaction are both insignificant. Also, tests of the coefficients indicate that the bank-SOX interaction is no different than neither the utility-SOX interaction nor the financial-SOX interaction.

Director Total Compensation: Table 17 has the results for director total compensation. Banks pay lower director total compensation than non-banks. Director total compensation is higher for all firms from before SOX to after SOX. Larger firms, firms with more growth opportunities, firms with better accounting performance, firms that meet more often, and firms with higher levels of director ownership and institutional ownership pay more total

compensation. Firms with higher levels of CEO ownership, better current stock performance, and longer director tenure pay less total compensation. Regulated, utility firms and financial firms each pay less total compensation than other types of firms. The financial-SOX interaction and the utility-SOX interactions are insignificant. Additionally, test of coefficients indicate that the bank-SOX interaction is no different than neither the financial-SOX interaction nor the utility-SOX interaction.

Director Percent Equity Compensation: See Table 18 for the results for percent equity-based compensation. Banks pay less percentage of equity-based compensation than non-banks. However, banks that are financial holding companies pay more equity-based compensation than other firms. Also firms with greater investment opportunities, with higher levels of institutional ownership, completely independent compensation committees, and CEO as the chairman pay greater proportions of equity-based compensation, while firms with better stock performance, firms that meet more often, and firms with greater levels of CEO ownership pay smaller proportions of equity-based compensation. Regulated, utility firms also pay less percent equity compensation than other types of firms. There is no significant difference in director equity-based compensation for financial firms and other types of firms. Test of the coefficients indicate that for director compensation the FinSOX interaction and the UtilSOX interaction are both insignificant. Neither the FinSOX interaction nor the FinSOX interaction is different than the BankSOX interaction.

In sum, the results for director compensation suggest that banks pay directors less cash compensation, less total compensation, less in levels of equity compensation, and less in proportions of equity-based compensation. Additionally, the levels of all forms of compensation are lower for banks than non-banks after SOX. The BankSOX interaction is insignificant in each

regression suggesting no change in the difference in compensation from before SOX to after SOX.

7.3.3 Test of Coefficients for Interacted Terms and SOX Binary for Director Compensation

The overall hypothesis of this dissertation is that there is a gap between bank compensation and industrial compensation. Moreover, SOX adds more new duties and responsibilities to industrials than to banks. Consequently, the gap between bank compensation and industrial compensation should widen after SOX. The multivariate regressions are used to determine what has happened to the gap in compensation after SOX. Additionally, it is important to determine if the results are driven by the fact that banks are financial firms or by the fact that banks are regulated firms. Tests are conducted to determine whether or not the gap for banks has widen after SOX and to determine if the results are unique to the banks or if the results are the same for financials or for utilities.

Within-Equation Test of Differences in the Coefficients of Interacted Terms for Director Compensation: The first group of tests is within-equation tests. These tests are performed to determine whether the differences in the coefficients for the interaction terms are equal to zero. For example, in the multivariate regression, there are three interaction terms, BankSOX, FinSOX, and UtilSOX. The within-equation test of coefficients examines whether BankSOX minus FinSOX equals zero and it examines whether BankSOX minus UtilSOX equals zero. A negative value for the coefficient BankSOX indicates that the gap between banks and industrial firms is widening.

The results of the multivariate regressions reported in Section 7.3.2 and in Table 15-18 indicate that the gap is widening for all forms of compensation, although not by a statistically significant amount.

The coefficients for the BankSOX interaction for cash compensation, equity compensation, percent equity compensation, and total compensation are all negative and insignificant. The coefficients for the UtilSOX interaction are insignificant for all forms of director compensation. Also the coefficients for the FinSOX interaction are insignificant for all forms of director compensation. Moreover, the tests of differences in the coefficients of the interacted terms indicate that the BankSOX interaction is no different than the UtilSOX interaction nor the FinSOX interaction for any of compensation. These results suggest that the gap between bank compensation and industrial compensation is widening, but not significantly. However, the changes may be driven by the fact that banks are regulated firms or financial firms.

Cross-Equation Tests of Differences in the Coefficient of the SOX Binary for Director Compensation: In the second group of tests, the SOX binary variable is examined to determine if it is different for banks when compared to other types of firms. Separate regressions are run with various samples. These samples are either banks only, industrials only, financials only, or utilities only. These tests are conducted to determine if the SOX coefficient is significant in the various samples and to test the significance of difference in the SOX coefficient from the bank sample and the SOX coefficient for the industrial sample. The process is repeated for the bank sample and the financial sample, and for the bank sample and the utility sample.

The results are presented in Table 19. There are rows in each panel for the various samples. Column 1 shows the SOX coefficient for each sample. Column 2 shows the z-statistic for the SOX coefficient used to determine the level of significance of the SOX coefficient.

Column 2 shows the χ^2 -statistics from the cross-equation test of differences in the coefficients. Panel A has the results for cash compensation. Panel B has the results for equity compensation. Panel C has the results for percent equity compensation, and Panel D has the results for total compensation. The results indicate that banks pay higher cash compensation after SOX, but there is no significant change in equity, percent equity, or total compensation after SOX. Industrials pay higher cash, equity, and total compensation after SOX, but there is no change in percent equity compensation after SOX. Financials have no significant change in any form of compensation. Utilities have higher cash, equity, and total compensation, but no significant change in percent equity compensation after SOX.

Furthermore, the results indicate that the SOX coefficient for banks is no different than the SOX coefficient for industrials for any form of compensation. The SOX coefficient for banks is different than the SOX coefficient for financials for cash compensation, but not for any other form of compensation. Also the SOX coefficient for banks is no different than the SOX coefficient for utilities for any compensation. These results suggest that the change in bank director compensation after SOX is no different than the change in industrial director compensation or the change in utility director compensation after SOX. On the other hand, the gap between bank compensation and financial compensation increased after SOX for director cash compensation.

Cross-Equation Tests of Differences in the Coefficients of Interacted Terms for Director Compensation: In the third group of testing, separate regressions are run with various samples. One sample is composed of banks and industrials only, a second sample is composed of financials and industrials only, and a third sample is composed of utilities and industrials. First, an examination of the corresponding interaction term for each regression is conducted for

significance. That is, the BankSOX interaction for the bank and industrial sample is checked for significance, the FinSOX interaction for the financials and industrial sample is checked for significance, and the UtilSOX interaction for the utilities and industrial sample is checked for significance. Then tests of the differences in the coefficients of the BankSOX interaction and the coefficients of the FinSOX interaction are performed to determine if the difference is equal to zero. Similar tests are conducted for the differences in the coefficients of the BankSOX interaction and the coefficients of the UtilSOX interaction to determine if the difference is equal to zero.

The results are presented in Table 20. There are rows in each panel for the various samples. Column 1 shows the interaction coefficient for each sample. Column 2 shows the z-statistic for the interaction coefficient used to determine the level of significance of the interaction coefficient. Column 2 shows the χ^2 -statistics from the cross-equation test of differences in the coefficients. Panel A has the results for cash compensation. Panel B has the results for equity compensation. Panel C has the results for percent equity compensation, and Panel D has the results for total compensation. The results indicate that the BankSOX interaction is negative for all forms of director compensation and significant for equity, percent equity, and total compensation. This suggests that director equity, percent equity, and total compensation declined more for banks than industrials after SOX. The FinSOX interaction is negative for all forms of director compensation, although it is not significant at the 10% level of significance. The FinSOX interaction suggests that equity compensation, percent equity compensation, and total compensation all declined more for financials than industrials after SOX, but not at significant levels. To determine if the results are because banks are financial firms, tests of the difference in the coefficient of the BankSOX interaction and the coefficient of

the FinSOX interaction are conducted. The tests reveal that the BankSOX interaction is not different from the FinSOX interaction for any form of compensation. This suggests that the difference in director compensation for banks and industrials are be driven by the fact that banks are financial firms.

A similar analysis comparing banks and utilities is performed. The UtilSOX interaction is negative and insignificant at the 10% significance level for all forms of compensation. The UtilSOX interaction suggests that director compensation declined more for utilities than for industrials after SOX, but not at significant levels. To determine if the results are because banks are regulated, tests of the differences in the coefficients of the BankSOX interaction and the coefficients of the UtilSOX interaction are employed. The tests reveal that the BankSOX interaction is not equal to the UtilSOX interaction for equity compensation and percent equity compensation. However, there is no difference in the BankSOX interaction and the UtilSOX interaction for cash and total compensation. This suggests that the difference in director cash and total compensation for banks and industrials are driven by the fact that banks are regulated, but not necessarily so for equity and percent equity compensation.

7.4 CEO Compensation

The hypotheses are:

H2a: *CEO total compensation will increase after SOX.*

H2b: *The increase in bank CEO compensation will be lower than the increase in non-bank CEO compensation.*

H2c: *The proportion of equity-based compensation will decline and the proportion of cash compensation will increase for bank firms.*

Following are multivariate tests of these hypotheses.

7.4.1 *Multivariate Analysis of CEO Compensation*

In order to examine the impact of SOX on bank CEO compensation, I estimate random effects regressions for compensation in which I use three measures of compensation as the dependent variable for the CEO's compensation. Cash compensation includes cash and bonus payments for the CEO. Equity-based compensation is the Black-Scholes value of options and restricted stock for both the director and the CEO. Total compensation is sum of cash compensation and equity-based compensation from ExecuComp. The proportion of total compensation as equity-based is the final measure for compensation. A Tobit regression is executed for this fourth and final measure of compensation. Controls firm characteristics, CEO and director characteristics, as well as other governance characteristics are included in each model.

Binary variables to indicate the industry (1 for bank firms and 0 otherwise; 1 for FHC banks and 0 otherwise; 1 for industrials and 0 otherwise; 1 for financials and 0 otherwise; 1 for utilities and 0 otherwise) are included in each model. A binary variable is also included to indicate the period (1 for the post-SOX period and 0 otherwise). Additionally, interaction terms between the industry and SOX are included in the model.

The models are listed below:

$$\begin{aligned}
 \text{cash} = & \alpha_0 + \alpha_b \text{bank} + \alpha_f \text{fin} + \alpha_r \text{reg} + \alpha_{\text{Sox}} \text{sox} + \alpha_{b\text{Sox}} (\text{bank} * \text{sox}) \\
 & + \alpha_{f\text{Sox}} (\text{fin} * \text{sox}) + \alpha_{r\text{Sox}} (\text{reg} * \text{sox}) + \beta_1 \text{mktbk} + \beta_2 \text{mktval} + \beta_3 \text{lev} \\
 & + \beta_4 \text{roa}_{t-1} + \beta_5 \text{roa} + \beta_6 \text{ret}_{t-1} + \beta_7 \text{ret} + \beta_8 \text{dirown} + \beta_9 \text{ceoown} + \beta_{10} \text{insmaj} \\
 & + \beta_{11} \text{bdsz} + \beta_{12} \text{nummgts} + \beta_{13} \text{bdindep} + \beta_{14} \text{nomindbd} + \beta_{15} \text{compindbd} + \beta_{16} \text{ceochair}
 \end{aligned} \tag{6-5}$$

$$+ \beta_{17} \text{ busybd} + \beta_{18} \text{ ceoten} + \beta_{19} \text{ dirten}$$

$$\text{equity} = \alpha_0 + \alpha_b \text{ bank} + \alpha_f \text{ fin} + \alpha_r \text{ reg} + \alpha_{\text{Sox}} \text{ sox} + \alpha_{b\text{Sox}} (\text{bank} * \text{sox}) \quad (6-6)$$

$$+ \alpha_{fbf\text{Sox}} (\text{fin} * \text{sox}) + \alpha_{r\text{Sox}} (\text{reg} * \text{sox}) + \beta_1 \text{ mktbk} + \beta_2 \text{ mktval} + \beta_3 \text{ lev}$$

$$+ \beta_4 \text{ roa}_{t-1} + \beta_5 \text{ roa} + \beta_6 \text{ ret}_{t-1} + \beta_7 \text{ ret} + \beta_8 \text{ dirown} + \beta_9 \text{ ceoown} + \beta_{10} \text{ insmaj}$$

$$+ \beta_{11} \text{ bdsz} + \beta_{12} \text{ nummgts} + \beta_{13} \text{ bndep} + \beta_{14} \text{ nomindbd} + \beta_{15} \text{ compindbd} + \beta_{16} \text{ ceochair}$$

$$+ \beta_{17} \text{ busybd} + \beta_{18} \text{ ceoten} + \beta_{19} \text{ dirten}$$

$$\text{totalcomp} = \alpha_0 + \alpha_b \text{ bank} + \alpha_f \text{ fin} + \alpha_r \text{ reg} + \alpha_{\text{Sox}} \text{ sox} + \alpha_{b\text{Sox}} (\text{bank} * \text{sox}) \quad (6-7)$$

$$+ \alpha_{fbf\text{Sox}} (\text{fin} * \text{sox}) + \alpha_{r\text{Sox}} (\text{reg} * \text{sox}) + \beta_1 \text{ mktbk} + \beta_2 \text{ mktval} + \beta_3 \text{ lev}$$

$$+ \beta_4 \text{ roa}_{t-1} + \beta_5 \text{ roa} + \beta_6 \text{ ret}_{t-1} + \beta_7 \text{ ret} + \beta_8 \text{ dirown} + \beta_9 \text{ ceoown} + \beta_{10} \text{ insmaj}$$

$$+ \beta_{11} \text{ bdsz} + \beta_{12} \text{ nummgts} + \beta_{13} \text{ bndep} + \beta_{14} \text{ nomindbd} + \beta_{15} \text{ compindbd} + \beta_{16} \text{ ceochair}$$

$$+ \beta_{17} \text{ busybd} + \beta_{18} \text{ ceoten} + \beta_{19} \text{ dirten}$$

$$\% \text{equity} = \alpha_0 + \alpha_b \text{ bank} + \alpha_f \text{ fin} + \alpha_r \text{ reg} + \alpha_{\text{Sox}} \text{ sox} + \alpha_{b\text{Sox}} (\text{bank} * \text{sox}) \quad (6-8)$$

$$+ \alpha_{fbf\text{Sox}} (\text{fin} * \text{sox}) + \alpha_{r\text{Sox}} (\text{reg} * \text{sox}) + \beta_1 \text{ mktbk} + \beta_2 \text{ mktval} + \beta_3 \text{ lev}$$

$$+ \beta_4 \text{ roa}_{t-1} + \beta_5 \text{ roa} + \beta_6 \text{ ret}_{t-1} + \beta_7 \text{ ret} + \beta_8 \text{ dirown} + \beta_9 \text{ ceoown} + \beta_{10} \text{ insmaj}$$

$$+ \beta_{11} \text{ bdsz} + \beta_{12} \text{ nummgts} + \beta_{13} \text{ bndep} + \beta_{14} \text{ nomindbd} + \beta_{15} \text{ compindbd} + \beta_{16} \text{ ceochair}$$

$$+ \beta_{17} \text{ busybd} + \beta_{18} \text{ ceoten} + \beta_{19} \text{ dirten}$$

7.4.2 *Multivariate Results of CEO Compensation*

CEO Cash Compensation: The results for CEO cash compensation are in Table 21.

These results indicate that banks pay less CEO cash compensation than non-banks in general. However, there are no significant differences in CEO cash compensation for banks and non-banks from before SOX to after SOX as the bank-SOX interaction is insignificant. Larger firms, better performing firms, firms with busy boards, and firms with CEOs with longer tenure pay more CEO cash compensation, while firms with higher levels of CEO ownership pay less CEO cash compensation. Also, the evidence suggests that utility firms are different from other types of firms because they pay more in CEO cash compensation. The FinSOX interaction is insignificant but the UtilSOX interaction is significant. Tests of coefficients reveal that the UtilSOX interaction is different from the bank-SOX interaction, while the FinSOX interaction is no different.

CEO Equity Compensation: The results for CEO equity compensation are in Table 22.

The results indicate that banks pay lower levels of equity-based compensation than non-banks. The level of equity-based compensation for all firms is higher from before to after SOX. Banks pay lower levels of equity-based compensation than non-banks after SOX. Additionally, larger firms, firms with busy boards, and firms with expanding growth opportunities pay higher levels of equity-based compensation, suggesting that these larger firms require alignment of CEO interests with the interest of shareholders. Also firms with better stock return performance in the prior year pay more equity-based compensation suggesting they are rewarding managers with equity compensation. Firms with higher levels of director ownership also pay more equity compensation. On the other hand, equity-based compensation is less for firms with higher board independence reflecting that the independent board provides sufficient monitoring. Furthermore,

equity-based compensation is less for firms with longer average director tenure, suggesting that entrenchment of directors might affect pay. Also, utility firms and financial firms both pay less equity-based compensation. The FinSOX interaction and the UtilSOX interaction are both significant. Neither is different from the BankSOX interaction according to the test of coefficients.

CEO Total Compensation: Table 23 has the results for CEO total compensation. Banks pay less CEO total compensation than non-banks. Even though the SOX coefficient is insignificant, the BankSOX interaction coefficient is significant. This suggests that banks pay less CEO total compensation than non-banks after SOX. Larger firms, better performing firms, firms with busy boards, and more growth opportunities pay more in total compensation, perhaps because such firms are more complex. Also, firms with higher levels of director ownership pay more total compensation. However, firms with higher levels of CEO ownership pay less total compensation. Both financial firms and utility firms pay less total compensation than other types of firms. The FinSOX and the UtilSOX interactions are both insignificant. The UtilSOX interaction is different from the BankSOX interaction.

CEO Percent Equity Compensation: See Table 24 for the results for percent equity-based compensation. Banks pay less CEO percentage equity-based compensation than non-banks. Firms with larger market values, higher levels of director ownership, better current stock performance, expanding growth opportunities, and CEO as the chairman pay greater proportions of equity-based compensation. On the other hand, firms with have greater levels of CEO ownership, firms with poor prior performance, and firms with longer CEO tenure pay smaller proportions of equity-based compensation. Also utilities pay smaller proportions of equity-based compensation than other types of firms. The FinSOX interaction is insignificant and the utility-

SOX interaction is significant. The FinSOX interaction is different from the bank-SOX interaction.

In sum, the results for CEO compensation suggest that banks pay CEOs less cash compensation, less total compensation, less equity, and less percent equity compensation. Additionally, the level of equity compensation and total compensation are lower for banks than non-banks after SOX. However, there is no difference in cash or percent equity compensation between banks and non-banks after SOX. Only CEO equity compensation and total compensation increased for all firms from before to after SOX.

7.4.3 Test of Coefficients for Interacted Terms and SOX Binary for CEO Compensation

The overall hypothesis is that there is a gap between bank compensation and industrial compensation. Moreover, SOX adds more new duties and responsibilities to industrials than to banks. Consequently, the gap between bank compensation and industrial compensation should widen after SOX. The multivariate regressions are used to determine what has happened to the gap in compensation after SOX. Also of interest is whether the results are driven by the fact that banks are financial firms or by the fact that banks are regulated firms. Tests are employed to determine whether or not the gap for banks has widened after SOX and to determine if the results are unique to the banks or if the results are the same for financials or for utilities.

Within-Equation Test of Differences in the Coefficients of Interacted Terms for CEO Compensation: The first group of tests is within-equation tests. These tests examine whether the differences in the coefficients for the interaction terms are equal to zero. For example, in the multivariate regression, there are three interaction terms, BankSOX, FinSOX, and UtilSOX. The within-equation test of coefficients test whether BankSOX minus FinSOX equals zero and it

tests whether BankSOX minus UtilSOX equals zero. A negative value for the coefficient of the BankSOX indicates that the gap between banks and industrial firms is widening. The results of the multivariate regressions as reported in Section 7.4.2 and Tables 21-24 indicate that the gap is widening for CEO equity and total compensation. The coefficient for percent equity compensation is negative, but is not significant at the 10% level of significance. Also the coefficient for the FinSOX interaction is significant only for equity compensation. The coefficient of the UtilSOX interaction is significant for CEO cash, equity, and percent equity compensation. Moreover, the tests of differences in the coefficients of the interacted terms indicate that the BankSOX interaction is different from the UtilSOX interaction cash, equity, and percent equity compensation. Additionally, the BankSOX interaction is different from the FinSOX interaction only for percent equity compensation. These results suggest that the gap between bank compensation and industrial compensation is widening and it may be driven by the fact that banks are financial firms for all forms of compensation except percent equity compensation. The evidence also supports the notion that the widening gap between CEO compensation between banks and industrials may be driven by banks being regulated.

Cross-Equation Tests of Differences in the Coefficient of the SOX Binary for CEO Compensation: The second group of tests focuses on the SOX binary variable to determine if it is different for banks when compared to other types of firms. Separate regressions on various samples are performed. These samples are banks only, industrials only, financials only, or utilities only. Tests of the difference in the SOX coefficient from the bank sample and the SOX coefficient for the industrial sample are conducted, after determining the significance of coefficient for SOX. The process is repeated for the bank sample and the financial sample, and for the bank sample and the utility sample.

The results for these tests are presented in Table 25. There are rows in each panel for the various samples. Column 1 shows the SOX coefficient for each sample. Column 2 shows the z-statistic for the SOX coefficient used to determine the level of significance of the SOX coefficient. Column 2 shows the χ^2 -statistics from the cross-equation test of differences in the coefficients. Panel A has the results for cash compensation. Panel B has the results for equity compensation. Panel C has the results for percent equity compensation, and Panel D has the results for total compensation. The results indicate that banks pay more in percent equity and total compensation after SOX. Industrials have no significant change in any form of compensation after SOX. Financials have no significant change in any form of compensation. Utilities pay more in cash and total compensation after SOX. Furthermore, the results indicate that the SOX coefficient for banks is no different than the SOX coefficient for financials for any form of compensation. The SOX coefficient for banks is no different than the SOX coefficient for industrials for any form of compensation. The SOX coefficient for banks is different than the SOX coefficient for utilities for cash compensation. These results suggest that the gap between bank cash compensation and utilities cash compensation got larger after SOX.

Cross-Equation Tests of Differences in the Coefficients of Interacted Terms for CEO Compensation: In the third group of testing, separate regressions are executed with various samples. One sample is composed of banks and industrials only, a second sample is composed of financials and industrials only, and a third sample is composed of utilities and industrials. First, an examination of the significance of the corresponding interaction term for each regression is conducted. That is, the BankSOX interaction for the bank and industrial sample, the FinSOX interaction for the financials and industrial sample, and the UtilSOX interaction for the utilities and industrial sample are each examined to determine if it is significant. Then the

tests of the difference in the coefficient of the BankSOX interaction and the coefficient of the FinSOX interaction are performed to determine if the difference is equal to zero for each form of compensation. Additional, tests are used to determine whether the difference in the coefficient of the BankSOX interaction and the coefficient of the UtilSOX interaction is equal to zero for each compensation measure.

The results are in Table 26. There are rows in each panel for the various samples. Column 1 shows the interaction coefficient for each sample. Column 2 shows the z-statistic for the interaction coefficient used to determine the level of significance of the interaction coefficient. Column 2 shows the χ^2 -statistics from the cross-equation test of differences in the coefficients. Panel A has the results for cash compensation. Panel B has the results for equity compensation. Panel C has the results for percent equity compensation, and Panel D has the results for total compensation. The results indicate that the coefficient of the BankSOX interaction is negative for all forms of CEO compensation and significant for all forms except cash. This suggests that compensation declines more for banks than industrials after SOX. The coefficient of the FinSOX interaction is significant and negative for CEO equity compensation and CEO total compensation only. Although the coefficient of the FinSOX interactions is negative for CEO cash compensation and percent equity compensation, it is not significant at the 10% level of significance. The coefficient of the FinSOX interaction suggests that equity compensation and total compensation declined more for financials than industrials after SOX. To determine if the results are because banks are financial firms, tests of the difference in the coefficient of the BankSOX interaction and the coefficient of the FinSOX interaction are executed. The tests reveal that the BankSOX interaction is not different than the FinSOX

interaction for any form of compensation. This suggests that the difference in CEO compensation for banks and industrials may be driven by the fact that banks are financial firms.

Similar analyses are conducted comparing banks and utilities. The coefficient of the UtilSOX interaction is significant and negative for equity, percent equity, and total compensation. It is positive for cash, but insignificant at the 10% significance level. The coefficient of the UtilSOX interaction suggests that equity, percent equity, and total compensation declined more for utilities than for industrials after SOX. To determine if the results are because banks are regulated, tests of the difference in the coefficient of the BankSOX interaction and the coefficient of the UtilSOX interaction are performed. The tests reveal that the BankSOX interaction is not equal to the UtilSOX interaction for cash compensation. However, there is no difference in the BankSOX interaction and the UtilSOX interaction for equity, total, and percent equity compensation. This suggests that the difference in CEO equity, total and percent equity compensation for banks and industrials may be driven by the fact that banks are regulated, but not necessarily so for cash compensation.

CHAPTER 8

ABNORMAL DIRECTOR AND CEO COMPENSATION

8.1 Overview

In addition to univariate and multivariate analyses of director and CEO compensation, an alternative measure of director and CEO compensation is considered. First, a regression of the independent variables for the previous regression is estimated on each of the measures of compensation for all of the years in the sample before SOX was passed into law. The Fama-French industry indicator variables and a year trend are included in the regression. The coefficients from this regression represent the pre-SOX compensation. Then, the pre-SOX coefficients are used to estimate the compensation for each of the companies in each of the years in the sample after the passage of SOX. These values represent the predicted post-SOX compensation without the change in the environment due to SOX. Abnormal compensation is obtained by taking the difference between the actual compensation and predicted compensation for each company in each year in the post-SOX sample.

8.2 Analysis of Abnormal Compensation across Samples

Since the differences in banks and non-banks are the basis of the hypotheses, an examination of the differences in abnormal compensation for banks compared to each non-bank group is required. Test results for differences in the mean and median abnormal compensation for banks vis-à-vis other groups are presented in Table 27 and 28. There are rows in each table for differences in abnormal compensation for each matched-pair group (bank minus industrials; banks minus financials; and banks minus utilities). Column1 refers to the differences in abnormal

cash compensation for each matched pair. Column 2 refers to the differences in abnormal equity compensation for each matched pair. Column 3 refers to the differences in abnormal percent equity compensation for each matched pair and Column 4 shows the results for the differences in abnormal total compensation for each matched pair.

Differences in Abnormal Director Compensation after SOX: Post-SOX levels of compensation are examined to determine if the difference in abnormal compensation for banks and various non-bank groups is equal to zero for each form of compensation after SOX. The differences in director compensation for banks and the non-bank groups after SOX are presented in Table 27. The results for the bank and industrial match sample indicate that the differences in abnormal compensation are insignificant at the 10% level of significance for all forms of compensation after SOX. The results for the bank and financial match sample indicate that the differences in abnormal compensation are insignificant at the 10% level of significance for all forms of compensation. The results for the bank and utility match sample indicate that the differences in abnormal cash compensation is negative and significant, suggesting that banks pay directors less cash compensation than utility directors after SOX. However, the differences in other forms of abnormal compensation are not different than zero.

Differences in Abnormal CEO Compensation after SOX: Post-SOX abnormal compensation levels are examined to determine if the differences in CEO abnormal compensation for banks relative to other firms are equal to zero for each form of compensation after SOX. The results of the test of differences are presented in Table 28. The results for the bank and industrial matched sample indicate that banks are paid less abnormal equity compensation and less abnormal percent equity compensation than industrials after SOX. However, the results for abnormal cash compensation and abnormal total compensation after

SOX are insignificant. The results for the bank and financial matched sample indicate that banks pay directors less abnormal percent equity compensation than financials after SOX. The results for abnormal cash, abnormal equity, and abnormal total compensation are insignificant at the 10 percent level of significance for the bank and financial sample, suggesting that the difference in those forms of compensation for banks and financials were no different. The results for the bank and utility matched sample indicate that the bank directors are paid less in abnormal cash compensation and abnormal total compensation than utility directors. The results for abnormal percent equity compensation and abnormal equity compensation are insignificant at the 10 percent significance level.

CHAPTER 9

FUTURE RESEARCH

9.1 Overview

There are many questions that remain unanswered. SOX provisions focus on issues related to corporate governance. Therefore, other corporate governance mechanisms should be examined to determine the impact of SOX and the costs and benefits of the regulation.

9.2 Board Workload

SOX calls for enhanced corporate disclosures and requires management to assess the effectiveness of internal controls. The board of directors, specifically the audit committee, is responsible for ensuring that their firm complies with this requirement. As noted in Chapter 2, there are no provisions in SOX that are directed explicitly to the compensation committee. However, SOX may have a significant impact on the duties of the compensation committee because several of the provisions of SOX affect the duties of this committee. Additionally, the board of directors and compensation committee will need to enhance their oversight of management to avoid conflicts of interest, deter executive malfeasance and improve public disclosure.

Some provisions of SOX that may impact the compensation committee are the forfeiture of executive bonuses from Section 304, pension fund blackout periods from Section 306, two-business day reporting deadlines for directors, officers and principal shareholders from Section 403, and insider loans prohibitions from Section 402. The board of directors may need to meet more frequently to handle such issues. Given that the FDICIA required disclosure of internal controls for large financial institutions, the increase in workload should be smaller for banks,

especially those with assets greater than \$500 million (large institutions according to FDIC rules).

9.3 Board Size and Independence

Another important provision in SOX pertains to board independence. Previous evidence indicates that bank boards are larger and more independent than non-bank boards (Adams and Mehran, 2003 and 2005). The independence of bank boards may reduce the probability of managerial entrenchment thereby decreasing the CEO's power to influence compensation. Also, as previous studies have suggested, industrial firms are moving towards independent boards as exhibited in the banking industry, the increase in level of independence for banks after SOX is expected to continue.

Bank boards are inherently different than non-bank boards (Adams and Mehran, 2003). Specifically, Adams and Mehran find that bank boards are becoming smaller. Bank board size is expected to continue to decline for two reasons. The first reason is that insiders and non-qualified directors may be removed from the board. Banks may be less likely to bring on directors who have had past experience with management since the technical definition of independence has changed. Additionally, individuals who may have once been considered independent now might be considered insiders under the new regulation.

Secondly, the additional work requirements will force some directors to reconsider their role on the board. In the past, bank directors were typically local businessmen with little familiarity with the operation of the bank. In this new environment of heavy regulation, bank directors require legal and or accounting skills to affirm the reliability of internal controls and financial statements. Directors must be willing to devote more of their time to reading and

comprehending the large volume of information contained in reports, as well as the frequent board meetings both scheduled and unscheduled. Some directors are likely to be unwilling to take on the additional responsibilities associated with being on the board in the era of SOX. Moreover, this may also impact the number of boards directors on which directors elect to serve. The quality of directors that do choose to serve on the board could potentially change and this could have an impact on the performance of the firm.

CHAPTER 10

CONCLUSION

Comparatively speaking, there are many documented differences between banks and industrial firms. For example, banks tend to have larger market values, larger boards, and more independent boards. Additionally, banks are heavily regulated firms. Banks that operate as depository institutions are subject to rules under the FDICIA and the FIRREA regulations. As discussed throughout this dissertation, Sarbanes-Oxley applies to all public firms and contains many rules that overlap bank regulations. Still banks are subject to SOX. The presence of pre-SOX regulation in the banking industry suggests that SOX may affect banks differently than other industries. This dissertation examines the influence of SOX on bank director and CEO compensation and test for changes in the gap of compensation between banks and non-banks over time.

The results show that bank directors are paid more cash compensation, more total compensation, and less in levels but not proportions of equity-based compensation after SOX when compared to before SOX levels. Additionally, all forms of compensation are lower for banks than non-banks after SOX. Director cash, equity, and total compensation increased for all firms from before to after SOX. There is no significant change in the difference of any form of director compensation from before to after SOX.

Similar to the director compensation results, the results for CEO compensation indicate that bank CEOs are paid less cash compensation, less total compensation, and less in levels of equity-based compensation and less in percent of equity after SOX. Additionally, the level of equity compensation and total compensation are lower for banks than non-banks after SOX.

However, there is no difference in cash or percent equity compensation between banks and non-banks after SOX. The results suggest that the gap between bank CEO compensation and industrial CEO compensation for equity and total compensation is widening and it may be driven by the fact that banks are financial firms. The evidence also supports the notion that the widening gap between CEO compensation between banks and industrials may be driven by bank regulation.

The results for abnormal compensation indicate whether or not the gap between bank compensation and nonbank compensation diverges or converges. There are no changes in the gap for director compensation for banks and industrials or for banks and financials after SOX. The results for banks and utilities indicate that the gap in director cash compensation widens after SOX. The results for CEO compensation indicate that the gap in equity compensation and the gap in percent equity compensation for banks and industrials have widened after SOX. The gap for CEO percent equity compensation between banks and financials has widened after SOX. The gap for CEO cash compensation and the gap for CEO total compensation between banks and utilities have widened after SOX.

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APPENDIX

Table 1 **Number and Total Assets of FDIC-Insured Depository Institutions^a**

<i>December 31, 2005</i>	<i>TOTAL FDIC- INSURED</i>	<i>COMMERICAL BANKS</i>				<i>SAVINGS INSTITUTIONS^c</i>		
		<i>TOTAL</i>	<i>National Charter</i>	<i>State Charter</i>		<i>TOTAL</i>	<i>Federal Charter</i>	<i>State Charter</i>
				<i>Fed Membe r</i>	<i>Fed Nonmembe r</i>			
Number of institutions:								
Less than \$25 million	679	596	89	45	462	83	47	36
\$25 to \$50 million	1,216	1,100	200	100	800	116	67	49
\$50 to \$100 million	1,968	1,763	394	175	1,194	205	127	78
\$100 to \$300 million	2,902	2,465	667	324	1,474	437	269	168
\$300 to \$500 million	821	670	173	95	402	151	79	72
\$500 to \$1 billion	616	458	120	81	257	158	78	80
\$1 to \$3 billion	366	278	85	48	145	88	55	33
\$3 to \$10 billion	146	113	45	20	48	33	21	12
\$10 billion or more	118	84	45	19	20	34	29	5
Total institutions	8,832	7,527	1,818	907	4,802	1,305	772	533
Amount of assets:^b								
Less than \$25 million	11,398	10,132	1,466	770	7,896	1,266	671	595
\$25 to \$50 million	45,220	40,866	7,674	3,722	29,470	4,354	2,571	1,783
\$50 to \$100 million	144,105	129,120	29,024	13,010	87,086	14,985	9,299	5,686
\$100 to \$300 million	506,765	428,129	118,764	56,772	252,592	78,636	46,763	31,874
\$300 to \$500 million	317,294	259,871	66,862	37,901	155,109	57,422	29,621	27,802
\$500 to \$1 billion	423,521	312,883	84,037	54,646	174,200	110,638	55,435	55,203
\$1 to \$3 billion	597,230	454,068	136,930	84,116	233,026	143,162	91,246	51,916
\$3 to \$10 billion	795,732	620,579	241,576	108,221	270,782	175,153	110,823	64,330
\$10 billion or more	8,035,809	6,784,025	5,316,834	958,752	508,439	1,251,784	1,150,908	100,876
Total assets	10,877,075	9,039,674	6,003,169	1,317,907	1,718,599	1,837,401	1,497,336	340,065

^a Data are from the FDIC Statistics on Banking Report for 2005: A Statistical Profile of the United States Banking Industry, FDIC Division of Insurance and Research, Published March 2006.

^b Assets are reported in millions of dollars.

^c Data include SAIF-insured savings institutions regulated by the Office of Thrift Supervision.

Table 2 Comparison of SOX Provisions with Bank Regulation (FDICIA/FIRREA)

<i>Provision</i>	<i>Sarbanes-Oxley of 2002</i>	<i>FDICIA of 1991</i>	<i>FIRREA of 1989</i>
Title I-Public Company Accounting Oversight Board	creates PCAOB to oversee auditors and establish quality control and ethical standards for audits		
Title II-Auditor Independence	requires auditors to be independent of companies that they audit	financial institution's independent public accountant or auditor must attest to and report separately on management annual report of condition as being prepared to GAAP and complying with disclosure requirements of FDIC	

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Table 2 **Continued**

<i>Provision</i>	<i>Sarbanes-Oxley of 2002</i>	<i>FDICIA of 1991</i>	<i>FIRREA of 1989</i>
Title III-Corporate Responsibility	<ul style="list-style-type: none"> -independent directors on audit committee -disclosure of whether or not one member of the audit committee is a financial expert, explanation as to why not if there is none -audit committee (AC) is responsible for appointment, compensation, and oversight of auditor -AC must establish procedures for receipt, retention and treatment of complaints regarding accounting, internal accounting controls, or auditing matters -AC must establish procedures for the confidential, anonymous submission by employees of concerns regarding questionable accounting or auditing matters -AC has the authority to engage independent counsel and other advisers -CEO/CFO certification of financial reports -prohibits executives and directors from influencing, coercing, manipulating, or misleading independent auditors -requires bonuses and equity-based compensation be reimbursed if financial statements need to be restated 	<ul style="list-style-type: none"> -independent directors on audit committee (required for institutions with assets greater than or equal to \$500 million, encouraged for all institutions. -institutions with assets greater than \$3 billion required to have at least two banking or related financial management expertise on audit committee -AC has authority to engage independent counsel and other advisers - CEO/CFO certification of financial reports 	

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Table 2 **Continued**

Provision	Sarbanes-Oxley of 2002	FDICIA of 1991	FIRREA of 1989
Title III-Corporate Responsibility-continued	-prohibits insider trading during blackout periods -penalties of up to \$5million in fines and/or a 20-year prison sentence for knowingly certifying false financial reports		
Title IV-Enhance Financial Disclosure	-requires all “material” changes to firm’s financial condition, including off-balance sheet transactions be disclosed publicly -restrictions on personal loans to executives -requires an annual assessment on internal financial and auditing controls -the rule does not apply to loans made or maintained by an insured depository institution, if the loan is subject to the insider lending restrictions of Section 22(h) of the Federal Reserve Act	-requires all insured institutions submit an annual report of condition and management to appropriate regulators and to the public	
Title V-Analyst Conflicts of Interest	-requires analysts and brokers who make stock recommendations to disclose any conflicts of interest that might exist		
Title VI-Commission Resources and Authority	-sets the SEC’s budget and powers		
Title VII-Studies and Reports	Requires the completion of several studies by the SEC on the consolidation of public accounting firms, credit rating agencies, violators & violations, enforcement actions, and investment banks		

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Table 2 **Continued**

<i>Provision</i>	<i>Sarbanes-Oxley of 2002</i>	<i>FDICIA of 1991</i>	<i>FIRREA of 1989</i>
Title VIII- Corporate and Criminal Fraud Accountability	<ul style="list-style-type: none"> -penalties for destroying, altering, or falsifying audit reports is a fine or up to 20 years in prison or both -any accountant that conducts an audit must retain all files for 5 years after -violators fined, imprisoned for up to 10 years or both -statute of limitations on securities fraud set at either two years after the discovery of violation or five years after the violation -establishes whistle-blower protection for employees of publicly traded companies who report fraud 	<ul style="list-style-type: none"> -provides whistle-blower protection for employees who report banking violation to the appropriate authorities 	<ul style="list-style-type: none"> -establishes a tiered schedule of increase civil penalties for violation by institutions and their officers and criminal penalties for participation in prohibited affairs and increase civil penalties for non-compliance. -provides greater enforcement powers to regulators -whistle- protections for employees reporting violations Gives regulators authority <ul style="list-style-type: none"> -to require restitution, reimbursement, indemnification, or guarantee against loss -to restrict the institutions growth -to dispose of any loan or asset -to rescind agreements or contracts -to require the employment of qualified personnel -to place restrictions on an institutions activities -to apply enforcement actions -to issue temporary orders with respect to incomplete or inaccurate recordkeeping -to remove or prohibit certain personnel from engaging in banking activities

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Table 2 **Continued**

<i>Provision</i>	<i>Sarbanes-Oxley of 2002</i>	<i>FDICIA of 1991</i>	<i>FIRREA of 1989</i>
Title IX- White-Collar Crime Penalty Enhancements	<ul style="list-style-type: none"> -makes a crime the attempt or conspiracy to destroy, alter, or hide documents that might be used in an investigation -sets a fine up to \$5 million, 20 years in prison, or both for executives who knowingly certify inaccurate financial reports 		<ul style="list-style-type: none"> -establishes maximum civil penalties for specified violations -increases the statute of limitations from five years to ten years -civil and criminal forfeiture of any property derived from proceeds traceable to crimes affecting federally insured financial institutions
Title X- Corporate Tax Returns	<ul style="list-style-type: none"> -requires CEO to sign firm's federal income tax return 		
Title XI-Corporate Fraud Accountability	<ul style="list-style-type: none"> -sets penalties for obstructing an investigation -grants SEC authority to remove officers or directors from a company if they have committed fraud 		<ul style="list-style-type: none"> -requires regulators to publicly disclose final enforcement orders -requires institutions to notify regulators before appointing senior executive personnel, regulators may disapprove of appointments -requires annual reports on all enforcement actions

Table 3 **Types of Companies in Each Year's Sample**

<i>Year</i>	<i>Number of Banks (1)</i>	<i>Number of Non-banks, Industrials (2)</i>	<i>Number of Non-bank, Financials (3)</i>	<i>Number of Non-bank, Utilities (4)</i>	<i>Total Number of Firms (5)</i>	<i>Percent of Banks (6)</i>
1998	68	68	68	68	272	25.00
1999	64	64	64	64	256	25.00
2000	64	64	64	64	256	25.00
2001	63	63	63	63	252	25.00
2002	59	59	59	59	236	25.00
2003	53	53	53	53	212	25.00
2004	55	55	55	55	220	25.00
2005	52	52	52	52	208	25.00
Total	478	478	478	478	1912	25.00

This table shows the breakdown of banks and non-bank samples in the full matched dataset by year from 1998 to 2005. Non-banks are companies that are not a bank, not another type of financial institution, and not a regulated utility firm. They are a control sample matched to a bank by total assets. Non-bank financial companies are not a bank but are some other type of financial institution. Non-bank utilities are those that are not a bank, not a financial institution, but are regulated; they are matched by total assets.

Table 4 Variable definitions, descriptions, and sources

<i>Variable name</i>	<i>Equation Variable</i>	<i>Variable description, comments, and source</i>
<i>Compensation variables</i>		
CEO cash compensation	cash	The sum of salary and bonus paid to the CEO from ExecuComp.
CEO equity compensation	equity	The Black-Scholes value stock options from ExecuComp plus stock grants which are value by multiplying the number of shares by the previous fiscal year's closing stock price from ExecuComp (Ryan and Wiggins, 2004).
CEO total compensation	totalcomp	The sum of cash compensation and long-term incentive compensation from ExecuComp.
Director cash compensation	drcash	The annual fee paid to each outside director plus the per meeting fee times the number of board meetings from ExecuComp, RiskMetrics, and/or Corporate Library.
Director equity compensation	dreq	ExecuComp does not provide the value for the directors' options. Others (Brick et al., 2006 and Becher et al., 2005) use the per option value of CEOs as the per option value for directors. The Black-Scholes value of options is given in ExecuComp. Stock grants are value by multiplying the number of shares by the previous fiscal year's closing stock price from ExecuComp.
Director total compensation	drtotalcomp	The base cash compensation plus the value of stock and options granted for outside directors from ExecuComp, RiskMetric, and/or Corporate Library.
<i>Firm characteristics</i>		
Market Value of Equity	mveq	The market value of the firm's common stock from ExecuComp.
Size (Market Value of Firm)	mktval	The natural log of the firm's market value, where the firm's market value is defined as the market value of equity plus total assets minus book value of equity (total assets from Compustat).
Market-to-book	mktbk	The ratio of the firm's market value to book value derived from Compustat values (Becher et al., 2005).
Leverage	lev	The firm's total debt divided by total assets from Compustat.
ROA	roa	The firm's return of assets for year t from ExecuComp.
ROA _{$t-1$}	roa _{$t-1$}	The firm's return of assets for year $t-1$ from ExecuComp.
Ret	ret	The firm's return for year t from ExecuComp.
Ret _{$t-1$}	ret _{$t-1$}	The firm's return for year $t-1$ from ExecuComp.
<i>Governance characteristics</i>		
Director Ownership	dirown	The average percentage of ownership by all directors of the firm from Corporate Library and RiskMetrics. The percentage of ownership by the CEO from ExecuComp.
CEO Ownership	ceoown	
Institutional Majority	instmaj	A binary variable equal to 1 to indicates if institutions own 50% or more of the firm from Corporate Library and RiskMetrics.
Board Size	bdsz	The number of directors on the board from Corporate Library and RiskMetrics.
Board Independence	bndep	Measure of board independence, the percentage of outside directors on the board from Corporate Library and RiskMetrics.

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Table 4 **Continued**

<i>Variable name</i>	<i>Equation Variable</i>	<i>Variable description, comments, and source</i>
<i>Governance characteristics</i>		
Nominating Committee Independence	nomind	A binary variable equal to 1 if the nominating committee is completely independent and zero otherwise.
Compensation Committee Independence	compcomind	A binary variable equal to 1 if the compensation committee is completely independent and zero otherwise.
Number of meetings	nummtgs	The number of board meetings held during the fiscal year from ExecuComp, Corporate Library and RiskMetrics.
CEO/Chair	ceochr	Indicates that the CEO is also chair from Corporate Library and RiskMetrics.
CEO tenure	ceoten	The number of years a CEO has held current position from ExecuComp.
Director tenure	dirten	The number of years a director has been a director of the firm from Corporate Library and RiskMetrics.
Busy Board	busybd	A binary variable equal to 1 to indicate that 50% or more of the directors sit on 3 or more boards and 0 otherwise from RiskMetrics.
Bank	bank	A binary variable equal to 1 to indicate the firm is a banking firm with SIC code 6020 and zero otherwise.
Financial Holding Company	fhc	A binary variable equal to 1 to indicate a banking firm is or has elected to be treated as a financial holding company and zero otherwise.
Financial	fin	A binary variable equal to 1 to indicate that the firm is a non-bank, financial firm with SIC codes from 6000-6999, excluding the SIC code 6020, and equal to 0 otherwise.
Utility	reg	A binary variable equal to 1 to indicate that the firm is a non-bank, regulated utility firms with SIC codes from 4000-xxxx and equal to 0 otherwise.
SOX	sox	A binary variable equal to 1 to indicate the observation is in the post-SOX era and 0 otherwise
BankSOX	banksox	Interaction term for Bank and SOX.
Fin/SOX	finsox	Interaction term for Financial and SOX.
Utility/SOX	utilsox	Interaction term for Utility and SOX.

Table 5 **Summary Statistics for Matched Sample, Including Banks**

<i>Variable name</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>25th Percentile</i>	<i>Median</i>	<i>75th Percentile</i>
<i>Compensation variables</i>					
CEO cash compensation (thousands)	\$2,579.40	\$2,782.37	\$1,100.52	\$1,860.63	\$2,992.92
CEO equity compensation (thousands)	\$6,787.45	\$21,818.59	\$709.34	\$2,498.13	\$6,657.18
CEO total compensation (thousands)	\$9,366.85	\$22,443.10	\$2,193.70	\$4,600.80	\$10,180.46
CEO percent equity compensation	51.03%	27.74%	34.94%	55.72%	72.37%
Director cash compensation (thousands)	\$41.51	\$21.40	\$28.35	\$39.73	\$53.76
Director equity compensation (thousands)	\$99.70	\$279.71	\$0	\$43.98	\$98.66
Director total compensation (thousands)	\$141.20	\$280.94	\$46.18	\$86.19	\$148.38
Director percent equity compensation	46.48%	32.16%	11.26%	51.30%	71.79%
<i>Firm characteristics</i>					
Market value of equity (millions)	\$26,767.42	\$58,400.48	\$2,660.38	\$7,354.26	\$20,073.87
Market value of firm (millions)	\$55,350.22	\$130,386.30	\$7,732.16	\$17,695.50	\$44,089.15
Market-to-book	1.65	1.28	1.18	1.29	1.58
Leverage	29.96%	19.92%	14.73%	27.77%	41.98%
ROA	2.76%	4.52%	1.03%	1.76%	3.78%
ROA _{t-1}	2.95%	6.86%	1.06%	2.00%	4.54%
Ret	11.90%	42.50%	-9.83%	8.37%	27.03%
Ret _{t-1}	13.40%	45.07%	-10.74%	9.05%	29.02%
<i>Governance characteristics</i>					
Insider ownership					
Director ownership	0.50%	1.07%	0.05%	0.14%	0.46%
CEO ownership	1.32%	3.82%	0.05%	0.19%	0.69%
Institutional majority (binary)	0.13	0.33	0.00	0.00	0.00
Board size	11.70	3.43	9.00	11.00	13.00
Board independence	71.96%	15.22%	62.50%	75.00%	83.33%
Nominating committee independence	0.55	0.50	0.00	1.00	1.00
Compensation committee independence	0.79	0.41	1.00	1.00	1.00
Number of meetings	8.42	3.61	6.00	8.00	10.00
CEO/Chair (binary)	0.70	0.46	0.00	1.00	1.00
CEO tenure (years)	7.42	7.62	2.00	5.00	10.00
Director tenure (years)	9.24	3.55	6.88	9.00	11.29
Busy board (binary)	0.21	0.41	0.00	0.00	0.00

Table 5 provides the summary statistics for the full matched sample that includes bank, other financials, regulated, and industrial firms from 1998-2005. This consists for 2432 CEO-firm-year observations.

Table 6 **Summary Statistics for Bank Sample**

<i>Variable name</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>25th Percentile</i>	<i>Median</i>	<i>75th Percentile</i>
<i>Compensation variables</i>					
CEO cash compensation (thousands)	\$2,030.52	\$1,820.94	\$951.48	\$1,385.18	\$2,346.22
CEO equity compensation (thousands)	\$3,680.67	\$7,371.33	\$556.65	\$1,483.82	\$3,999.01
CEO total compensation (thousands)	\$5,711.19	\$8,521.93	\$1,721.74	\$2,999.70	\$6442.56
CEO percent equity compensation	47.14%	25.09%	31.34%	50.10%	66.48%
Director cash compensation (thousands)	\$32.45	\$19.21	\$20.30	\$29.35	\$42.27
Director equity compensation (thousands)	\$43.99	\$207.68	\$0.00	\$15.41	\$47.66
Director total compensation (thousands)	\$76.44	\$209.92	\$28.35	\$44.53	\$89.82
Director percent equity compensation	35.51%	32.10%	0%	36.69%	62.92%
<i>Firm characteristics</i>					
Market Value of Equity (millions)	\$13,552.35	\$25,356.75	\$1,613.91	\$3,896.97	\$13,623.39
Size: Market Value of firm (millions)	\$73,587.08	\$165,229.20	\$7,961.12	\$18,335.28	\$53,521.24
Market-to-book	1.26	0.14	1.17	1.23	1.32
Leverage	21.46%	9.91%	14.32%	21.88%	28.13%
ROA	1.28%	0.47%	1.03%	1.26%	1.49%
ROA _{t-1}	1.49%	6.55%	1.03%	1.28%	1.65%
Ret	9.59%	25.71%	-5.91%	8.60%	23.19%
Ret _{t-1}	9.81%	28.80%	-6.41%	8.88%	23.89%
<i>Governance characteristics</i>					
Insider ownership					
Director ownership	0.44%	0.64%	0.08%	0.27%	0.50%
CEO ownership	1.27%	3.10%	0.17%	0.34%	1.06%
Institutional majority (binary)	0.13	0.34	0.00	0.00	0.00
Board size	13.92	4.24	11.00	14.00	17.00
Board independence	73.01%	13.67%	65.00%	75.00%	83.33%
Nominating committee independence	0.49	0.50	0.00	0.00	1.00
Compensation committee independence	0.72	0.45	0.00	1.00	1.00
Number of meetings	8.29	3.36	6.00	8.00	11.00
CEO/Chair (binary)	0.72	0.45	0.00	1.00	1.00
CEO tenure (years)	9.11	7.43	3.00	7.50	14.00
Director tenure (years)	10.17	2.93	8.22	10.00	11.94
Busy board (binary)	0.13	0.34	0.00	0.00	0.00

Table 6 provides the summary statistics for the bank. This consists for 478 CEO-firm-year observations.

Table 7 Differences in Director Compensation before and after Sarbanes Oxley (All dollar values are in thousands)

<i>Director Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference: z-statistic (p-value) (6)</i>
Panel A: Cash Compensation						
Full Sample	\$38.29 \$36.40	\$45.31 \$43.42	+	\$7.02 \$7.02	7.242 (0.0000)	6.662 (0.0000)
Banks	\$30.25 \$28.38	\$35.05 \$30.18	+	\$4.80 \$1.80	2.739 (0.0032)	2.154 (0.0313)
Industrials	\$47.01 \$45.79	\$56.72 \$56.00	+	\$9.70 \$10.21	5.012 (0.0000)	5.054 (0.0000)
Financials	\$35.12 \$34.62	\$40.54 \$38.77	+	\$5.42 \$4.15	3.187 (0.0008)	3.028 (0.0025)
Utilities	\$40.78 \$38.75	\$48.95 \$46.22	+	\$8.17 \$7.47	4.2997 (0.0000)	4.410 (0.0000)
Panel B: Equity Compensation						
Full Sample	\$103.08 \$39.14	\$95.70 \$50.43	-	\$-7.38 \$11.29	-0.575 (0.2827)	1.826 (0.0679)
Banks	\$49.02 \$9.26	\$38.04 \$18.48	-	\$-10.98 \$9.22	-0.5756 (0.2826)	1.641 (0.1007)
Industrials	\$165.48 \$70.95	\$135.90 \$85.84	-	\$-29.58 \$14.89	-1.261 (0.1039)	1.002 (0.3165)
Financials	\$105.89 \$57.21	\$141.80 \$69.99	-	\$35.92 \$12.78	1.148 (0.2517)	0.813 (0.4161)
Utilities	\$91.92 \$30.13	\$67.04 \$43.17	-	\$-24.88 \$13.04	-0.947 (0.0003)	1.080 (0.2806)

Continued on next page.

Table 7 **Continued**

<i>Director Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference: z-statistic (p-value) (6)</i>
Panel C: % Equity Compensation						
Full Sample	46.30% 50.37%	46.68% 52.69%	-	0.38% 2.32%	0.254 (0.3997)	0.093 (0.9256)
Banks	34.80% 36.02%	36.33% 37.67%	-	1.53% 1.65%	0.515 (0.3035)	0.490 (0.6241)
Industrials	56.85% 61.49%	55.64% 63.27%	-	-1.21% 1.78%	-0.465 (0.3211)	-0.337 (0.7363)
Financials	49.94% 59.77%	51.26% 62.34%	-	1.32% 2.57%	0.405 (0.6860)	-0.042 (0.9662)
Utilities	43.34% 43.78%	43.41% 48.65%	-	0.07% 4.87%	0.0285 (0.9773)	0.457 (0.6479)
Panel D: Total Compensation						
Full Sample	\$141.37 \$80.58	\$141.01 \$96.76	+	\$-0.36 \$16.18	-0.028 (0.4888)	3.555 (0.0004)
Banks	\$79.27 \$40.22	\$73.09 \$51.70	+	\$-6.18 \$11.48	-0.321 (0.3744)	2.371 (0.0177)
Industrials	\$212.50 \$118.43	\$192.61 \$142.87	+	\$-19.88 \$24.44	-0.850 (0.1980)	2.014 (0.0440)
Financials	\$141.01 \$89.51	\$182.34 \$106.00	+	\$41.33 \$16.49	1.3178 (0.0941)	1.323 (0.1859)
Utilities	\$132.70 \$72.70	\$115.99 \$92.49	+	\$-16.71 \$19.79	-0.637 (0.5246)	2.522 (0.0117)

This table reports means and medians for various measures of director compensation for the full sample, the bank sample and the non-bank samples separately from 1998-2005. Compensation data are from ExecuComp. The matched sample represents the difference between the mean and median director compensation for the bank sample and the director compensation of the non-bank sample. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. The t-test column present the results of the difference in means tests, while the ranksum column presents the results of the difference in median tests.

Table 8 Differences in Director Compensation for Banks and Non-Banks before Sarbanes Oxley

<i>Director Compensation</i>	<i>Cash Compensation: mean median (1)</i>	<i>Equity Compensation: mean median (2)</i>	<i>%Equity Compensation mean median (3)</i>	<i>Total Compensation mean median (4)</i>
Matched (Bank- Industrials)	\$-16.77*** \$-18.79***	\$-116.46*** \$-44.10***	-0.22%*** -0.21%***	\$-133.23*** \$-69.06***
Matched(Bank- Financials)	\$-4.88*** \$-6.46**	\$-56.87*** \$-21.63***	-0.15%*** -0.12%***	\$-61.74*** \$-34.82***
Matched (Bank- Utilities)	\$-10.54*** \$-11.27***	\$-42.89* \$-13.23***	-7.88%*** -5.16%**	\$-53.43** \$-26.83***

This table reports mean and median differences in director compensation for matched bank and non-bank samples before Sarbanes Oxley. Compensation data are from ExecuComp. The matched sample represents the difference between the mean director compensation for the bank sample and the respective non-bank sample. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. The sample period is from 1998-2005. All dollar values are in thousands. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively.

Table 9 Differences in Director Compensation for Banks and Non-Banks after Sarbanes Oxley

<i>Director Compensation</i>	<i>Cash Compensation: mean median (1)</i>	<i>Equity Compensation: mean median (2)</i>	<i>%Equity Compensation: mean median (3)</i>	<i>Total Compensation: mean median (4)</i>
Matched (Bank- Industrials)	\$-21.67*** \$-22.00***	\$-97.86*** \$-52.57***	-0.19%*** -0.19%***	\$-119.53*** \$-76.53***
Matched(Bank- Financials)	\$-5.49*** \$-7.09***	\$-103.76*** \$-29.02***	-0.15%*** -0.12%***	\$-109.26*** \$-38.88***
Matched (Bank- Utilities)	\$-13.90*** \$-11.67***	\$-29.00*** \$-19.14***	-7.24%*** -3.77%**	\$-42.90*** \$-34.73***

This table reports mean and median differences in director compensation for matched bank and non-bank samples before Sarbanes Oxley. Compensation data are from ExecuComp. The matched sample represents the difference between the mean director compensation for the bank sample and the respective non-bank sample. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. The sample period is from 1998-2005. All dollar values are in thousands. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively.

Table 10 Differences in Director Compensation for Banks versus Other Groups before and after Sarbanes Oxley

<i>Director Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected d Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference: z-statistic (p-value) (6)</i>
Panel A: Cash Compensation						
Matched (Bank – Industrials)	\$-16.77 \$-18.79	\$-21.67 \$-22.00	-	\$-4.90 \$-3.21	-2.117 (0.0174)	-1.878 (0.0604)
Matched (Bank- Financials)	\$-4.88 \$-6.46	\$-5.49 \$-7.09	-	\$-0.62 \$-0.63	-0.282 (0.7783)	-0.859 (0.3904)
Matched (Bank- Utilities)	\$-10.54 \$-11.27	\$-13.90 \$-11.67	+	\$-3.37 \$-3.51	-1.427 (0.0771)	-0.738 (0.4607)
Panel B: Equity Compensation						
Matched (Bank – Industrials)	\$-116.46 \$-44.10	\$-97.86 \$-52.57	-	\$18.60 \$-8.47	0.632 (0.5278)	-0.198 (0.8433)
Matched (Bank- Financials)	\$-56.87 \$-21.63	\$-103.76 \$-29.02	-	\$-46.90 \$-7.39	-1.290 (0.0988)	0.026 (0.9790)
Matched (Bank- Utilities)	\$-42.89 \$-13.23	\$-29.00 \$-19.14	+	\$13.89 \$-147.97	0.428 (0.6690)	-0.067 (0.9467)

Continued on next page

Table 10 Continued

<i>Director Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected d Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference: z-statistic (p-value) (6)</i>
Panel C: % Equity Compensation						
Matched (Bank – Industrials)	-0.22% -0.21%	-0.19% -0.19%	-	0.03% -0.02%	0.7565 (0.4498)	0.430 (0.6676)
Matched (Bank- Financials)	-0.15% -0.12%	-0.15% -0.12%	-	-0.00% 0.00%	-0.055 (0.9560)	-0.035 (0.9719)
Matched (Bank- Utilities)	-7.88% -5.16%	-7.24% -3.77%	+	-0.64% -00.42%	0.163 (0.8703)	0.081 (0.9351)
Panel D: Total Compensation						
Matched (Bank – Industrials)	\$-133.23 \$-69.06	\$-119.53 \$-76.53	-	\$13.70 \$-7.47	0.464 (0.6428)	-0.529 (0.5970)
Matched (Bank- Financials)	\$-61.74 \$-34.82	\$-109.26 \$-38.88	-	\$-47.51 \$-4.06	-1.306 (0.0961)	-0.009 (0.9928)
Matched (Bank- Utilities)	\$-53.43 \$-26.83	\$-42.90 \$-34.73	+	\$10.53 \$-161.44	0.324 (0.7460)	-0.580 (0.5620)

This table reports mean and median differences for various measures of director compensation for each matched sample separately. Compensation data are from ExecuComp. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. The sample period is from 1998-2005. All dollar values are in thousands. The t-test column presents the results of the difference in means tests, while the ranksum column presents the results of the difference in median tests.

Table 11 Differences in CEO Compensation before and after Sarbanes Oxley (All dollar values are in thousands)

<i>CEO Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference: z-statistic (p-value) (6)</i>
Panel A: Cash Compensation						
Full Sample	\$2,489.81 \$1,751.26	\$2,685.35 \$2,011.00	+	\$195.55 \$259.74	1.532 (0.0629)	2.938 (0.0033)
Banks	\$1,914.89 \$1,369.76	\$2,167.27 \$1,431.44	+	\$252.38 \$61.68	1.5118 (0.0656)	1.160 (0.2460)
Industrials	\$3,271.17 \$2,402.53	\$3,316.80 \$2,731.35	+	\$45.63 \$328.82	0.144 (0.8858)	1.744 (0.0812)
Financials	\$2,800.43 \$1,799.64	\$2,917.96 \$1,878.89	+	\$117.53 \$79.25	0.392 (0.6951)	0.552 (0.5808)
Utilities	\$1,972.75 \$1,420.52	\$2,339.39 \$1,896.54	+	\$366.64 \$476.02	1.991 (0.0235)	3.044 (0.0023)
Panel B: Equity Compensation						
Full Sample	\$8,416.03 \$2,632.27	\$4,864.42 \$2,351.56	-	\$-3,554.61 \$-280.71	-3.560 (0.0002)	-1.506 (0.1321)
Banks	\$4,167.24 \$1,600.50	\$3,105.23 \$1,397.06	-	\$-1,062.01 \$-203.44	-1.572 (0.0583)	-1.258 (0.2085)
Industrials	\$14,505 \$4,809.46	\$8,293.30 \$5,064.31	-	\$-6,212.18 \$254.85	-1.8650 (0.0314)	-0.530 (0.5964)
Financials	\$7,410.73 \$2,890.58	\$5,030.79 \$2,665.64	-	\$-2,379.94 \$-224.94	-1.803 (0.0360)	0.249 (0.8035)
Utilities	\$7,580.66 \$1,703.31	\$3,016.34 \$1,471.18	-	\$-4,564.32 \$-232.13	-2.962 (0.0016)	-1.695 (0.0901)

Continued on next page.

Table 11 Continued

<i>CEO Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference: z-statistic (p-value) (6)</i>
Panel C: % Equity Compensation						
Full Sample	52.67% 57.46%	49.08% 53.40%	-	-3.59% -4.06%	-2.818 (0.0024)	-3.287 (0.0010)
Banks	49.88% 53.34%	43.89% 45.22%	-	-5.98% -8.12%	-2.611 (0.0047)	-2.610 (0.0090)
Industrials	60.36% 66.09%	57.52% 61.43%	-	-2.84% -4.66%	-1.155 (0.2485)	-1.587 (0.1125)
Financials	50.19% 56.03%	51.85% 56.40%	-	1.66% 0.37%	0.632 (0.5275)	0.255 (0.7990)
Utilities	50.22% 50.33%	42.92% 47.83%	-	-7.30% -2.50%	-2.766 (0.0008)	-2.732 (0.0063)
Panel D: Total Compensation						
Full Sample	\$10,905.84 \$4,680.38	\$7,546.77 \$4,543.46	+	\$-3,359.07 \$-136.92	-3.269 (0.0005)	-0.596 (0.5551)
Banks	\$6,082.13 \$2,976.74	\$5,272.50 \$3,026.64	+	\$-809.63 \$49.90	-1.035 (0.1506)	-0.671 (0.5023)
Industrials	\$17,776.65 \$7,679.94	\$11,610.10 \$8,609.17	+	\$-6,166.55 \$929.23	-1.838 (0.0333)	-0.305 (0.7601)
Financials	\$10,211.16 \$5,300.65	\$7,948.75 \$4,827.29	+	\$-2,262.40 \$-473.36	-1.543 (0.0618)	0.249 (0.8034)
Utilities	\$9,553.41 \$3,525.47	\$5,355.74 \$3,673.35	+	\$-4,197.68 \$147.88	-2.658 (0.0041)	-0.371 (0.7110)

This table reports means and medians for various measures of CEO compensation for the full sample, the bank sample and the non-bank samples separately. Compensation data are from ExecuComp. The cash compensation is the sum of salary and bonus. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. The t-test column presents the results of the difference in means tests, while the ranksum column presents the results of the difference in median tests. The sample period is from 1998-2005.

Table 12 Differences in CEO Compensation for Banks and Non-Banks before Sarbanes Oxley

<i>CEO Compensation</i>	<i>Cash Compensation: mean median (1)</i>	<i>Equity Compensation: mean median (2)</i>	<i>%Equity Compensation: mean median (3)</i>	<i>Total Compensation: mean median (4)</i>
Matched (Bank- Industrials)	\$-1,356.28*** \$-824.02***	\$-10,338.24*** \$-2,253.70***	-10.48%*** -10.02%***	\$-11,694.52*** \$-3,863.46***
Matched (Bank- Financial)	\$-885.54*** \$-246.23***	\$-3,243.49*** \$-501.35**	-0.52% -2.66%	\$-4,129.03*** \$-1,001.48***
Matched (Bank-Utilities)	\$-57.87 \$-109.99*	\$-3,413.42** \$0.00	-0.14% -0.24%	\$-3,471.29** \$-343.80*

This table reports mean and median differences in director CEO compensation for matched bank and non-bank samples before Sarbanes Oxley. Compensation data are from ExecuComp. The matched sample represents the difference between the mean director CEO compensation for the bank sample and the respective non-bank sample. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings,. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. All dollar values are in thousands. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 13 Differences in CEO Compensation for Banks and Non-Banks after Sarbanes Oxley

<i>CEO Compensation</i>	<i>Cash Compensation: mean median (1)</i>	<i>Equity Compensation: mean median (2)</i>	<i>%Equity Compensation: mean median (3)</i>	<i>Total Compensation: mean median (4)</i>
Matched (Bank- Industrials)	\$-1,149.53*** \$-1,193.63***	\$-5,188.07*** \$-3,135.63***	-13.68%*** -14.99%***	\$-6,337.60*** \$-4,168.91***
Matched(Bank- Financials)	\$-750.70*** \$-349.88***	\$-1,925.56*** \$-861.37***	-7.92%*** -6.57%**	\$-2,676.26*** \$-1,536.03***
Matched (Bank- Utilities)	\$-172.13 \$-237.22*	\$88.89 \$-79.01	1.11% 0.53%	\$-83.24 \$-491.94*

This table reports mean and median differences in director CEO compensation for matched bank and non-bank samples before Sarbanes Oxley. Compensation data are from ExecuComp. The matched sample represents the difference between the mean director CEO compensation for the bank sample and the respective non-bank sample. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. All dollar values are in thousands. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 14 Differences in CEO Compensation for Banks versus Other Groups before and after Sarbanes Oxley

<i>CEO Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference z-statistic (p-value) (6)</i>
Panel A: Cash Compensation						
Matched (Bank – Industrials)	\$-1,356.28 \$-824.02	\$-1,149.53 \$-1,193.63	-	\$206.75 \$-369.61	0.634 (0.5264)	-0.912 (0.3619)
Matched (Bank- Financials)	\$-885.54 \$-246.23	\$-750.70 \$-349.88	-	\$134.85 \$-103.65	0.473 (0.6367)	0.396 (0.6923)
Matched (Bank- Utilities)	\$-57.87 \$-109.99	\$-172.13 \$-237.22	+	\$-114.26 \$-127.23	-0.530 (0.5967)	-1.306 (0.1917)
Panel B: Equity Compensation						
Matched (Bank – Industrials)	\$-10,338.24 \$-2,253.70	\$-5,188.07 \$-3,135.63	-	\$5,150.18 \$-881.92	1.527 (0.0637)	-0.220 (0.8261)
Matched (Bank- Financials)	\$-3,243.49 \$-501.35	\$-1,925.56 \$-861.37	-	\$1,317.93 \$-360.02	1.017 (0.3096)	-0.858 (0.3911)
Matched (Bank- Utilities)	\$-3,413.42 \$0.00	\$88.89 \$-79.01	+	3,502.31 \$-79.01	2.112 (0.0176)	0.814 (0.4154)

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Table 14 Continued

<i>CEO Compensation</i>	<i>Before SOX: mean median (1)</i>	<i>After SOX: mean median (2)</i>	<i>After vs. Before (Expected d Sign) (3)</i>	<i>Differences in After vs. Before: mean median (4)</i>	<i>t-test of Difference: t-statistic (p-value) (5)</i>	<i>Rank Sum test of Difference z-statistic (p-value) (6)</i>
Panel C: % Equity Compensation						
Matched (Bank – Industrials)	-10.48% -10.02%	-13.68% -14.99%	-	-3.20% -4.97%	-0.955 (0.3403)	-1.237 (0.2160)
Matched (Bank- Financials)	-0.52% -2.66%	-7.92% -6.57%	-	-7.40% -3.91%	-2.185 (0.0147)	-1.971 (0.0487)
Matched (Bank- Utilities)	-0.14% -0.24%	1.11% 0.53%	+	1.26% 0.77%	0.364 (0.7158)	0.204 (0.8383)
Panel D: Total Compensation						
Matched (Bank – Industrials)	\$-11,694.52 \$-3,863.46	\$-6,337.60 \$-4,168.91	-	\$5,356.93 \$-305.45	1.574 (0.0581)	0.115 (0.9087)
Matched (Bank- Financials)	\$-4,129.03 \$-1,001.48	\$-2,676.26 \$-1,536.03	-	\$1,452.77 \$-534.55	1.022 (0.3072)	-0.347 (0.7289)
Matched (Bank- Utilities)	\$-3,471.29 \$-343.80	\$-83.24 \$-491.94	+	\$3,388.05 \$-835.74	1.989 (0.0237)	0.463 (0.6434)

This table reports mean and median differences for various measures of CEO compensation for matched samples separately. Compensation data are from ExecuComp. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. All dollar values are in thousands. The t-test column presents the results of the difference in means tests, while the ranksum column presents the results of the difference in median tests. The sample period is from 1998-2005.

Table 15 Regression of Director Cash Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank binary	-	-0.5535	-7.65***	
FHC binary	-	-0.0129	-0.18	
Financial Binary	-	-0.2866	-5.08***	
Utility Binary	-	-0.1260	-2.26**	
Post-SOX binary	+	0.1335	3.91***	
Bank/Post-SOX binary	-	-0.0133	-0.33	
Fin/SOX binary		-0.0537	-1.25	1.06
Utility/SOX binary		-0.0171	-0.42	0.01
<i>Firm Controls</i>				
Market-to-Book	-?	-0.0098	-0.97	
Size	+	0.1392	9.55***	
Leverage	-	-0.1037	-1.26	
ROA _{t-1}	+	-0.0005	-0.43	
ROA	+	0.0098	4.22***	
Ret _{t-1}	+	0.0003	1.87*	
Ret	+	0.0001	0.57	
<i>Corporate Governance Controls</i>				
Director Ownership	+	0.9428	0.84	
CEO Ownership	-?	-0.0005	-0.14	
Institutional Ownership	-	0.0001	0.01	
Board Size	+	-0.0027	-0.78	
Number of Meetings	+	0.0329	12.30***	
Board Independence	-	0.0003	0.39	
Nominating Committee Independence	-	0.0068	0.34	
Compensation Committee Independence	-	-0.0038	-0.16	
CEO/Chair Duality	+(?)	0.0048	0.25	
Busy Board	+	0.0204	0.85	
Director Tenure	+	-0.0038	-1.09	
R-squared =		0.3002		
Wald χ^2 =		514.51***		
Number of Observations =		1726		

This table reports results of the random effects regression of director cash compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristics data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column label χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 16 Regression of Director Equity Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-0.9582	-5.28***	
FHC Binary	-	0.0461	0.27	
Financial Binary	-	-0.0426	-0.33	
Utility Binary	-	-0.4951	-3.98***	
Post-SOX Binary	+	0.2968	3.60***	
Bank/Post-SOX Binary	-	-0.0391	-0.37	
Fin/SOX Binary		-0.1320	-1.25	0.81
Utility/SOX Binary		-0.0443	-0.44	0.00
<i>Firm Controls</i>				
Market-to-Book	+	0.1143	4.70***	
Size	+	0.1637	4.84***	
Leverage	-	-0.4236	-2.23**	
ROA _{t-1}	+	-0.0008	-0.25	
ROA	+	0.0084	1.58	
Ret _{t-1}	+	0.0007	1.69*	
Ret	+	-0.0018	-3.96***	
<i>Corporate Governance Controls</i>				
Director Ownership	+	5.1110	1.82*	
CEO Ownership	-	0.0070	0.61	
Institutional Ownership	-	0.2698	4.89***	
Board Size	-	-0.0169	-1.89*	
Number of Meetings	+	-0.0061	-0.86	
Board Independence	+	-0.0002	-0.10	
Nominating Committee Independence	-	-0.0647	-1.30	
Compensation Committee Independence	-	-0.0177	-0.29	
CEO/Chair Duality	-(?)	-0.0636	-1.29	
Busy Board	+	-0.0868	-1.53	
Director Tenure	+	-0.0194	-2.17***	
R-squared =		0.2500		
Wald χ^2 =		229.86***		
Number of Observations =		1353		

This table reports results of the random effects regression of director equity compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristics data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column label χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 17 Regression of Director Total Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-1.2100	-9.89***	
FHC Binary	-	0.1753	1.48	
Financial Binary	-	-0.3742	-3.91***	
Utility Binary	-	-0.4932	-5.24***	
Post-SOX Binary	+	0.1094	1.72*	
Bank/Post-SOX Binary	-	0.0677	0.88	
Fin/SOX Binary		0.0022	0.03	0.81
Utility/SOX Binary		0.0595	0.78	0.01
<i>Firm Controls</i>				
Market-to-Book	?	0.0503	2.69***	
Size	+	0.1582	6.39***	
Leverage	-	-0.3418	-2.43**	
ROA _{t-1}	+	0.0001	0.04	
ROA	+	0.0071	1.65*	
Ret _{t-1}	+	-0.0001	-0.39	
Ret	+	-0.0008	-2.23**	
<i>Corporate Governance Controls</i>				
Director Ownership	+	3.6829	1.79*	
CEO Ownership	-	-0.0153	-2.44**	
Institutional Ownership	-	0.1826	4.46***	
Board Size	-	-0.0048	-0.78	
Number of Meetings	+	0.0184	3.78***	
Board Independence	+	-0.0009	-0.64	
Nominating Committee Independence	+	-0.0394	-1.07	
Compensation Committee Independence	+	-0.0452	1.03	
CEO/Chair Duality	-(?)	0.0532	1.49	
Busy Board	+	0.0012	0.03	
Director Tenure	+	-0.0196	-3.14***	
R-squared =		0.2841		
Wald χ^2 =		308.70***		
Number of Observations =		1774		

This table reports results of the random effects regression of director total compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristics data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column label χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 18 Regression of Director Percent Equity Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-0.2816	-5.98***	
FHC Binary	-	0.1112	2.48**	
Financial Binary	?	0.0477	-1.29	
Utility Binary	-	-0.1377	-3.80***	
Post-SOX Binary	+	0.0013	0.05	
Bank/Post-SOX Binary	-	0.0096	0.31	
Fin/SOX Binary		0.0163	0.50	0.05
Utility/SOX Binary		0.0229	0.73	0.21
<i>Firm Controls</i>				
Market-to-Book	+	0.0207	2.75***	
Size	+	0.0130	1.36	
Leverage	-	-0.0788	-1.44	
ROA _{t-1}	+	-0.0001	-0.11	
ROA	+	-0.0018	-1.02	
Ret _{t-1}	+	-0.0002	-1.55	
Ret	+	-0.0004	-2.69***	
<i>Corporate Governance Controls</i>				
Director Ownership	+	1.1815	1.43	
CEO Ownership	-	-0.0081	-3.28***	
Institutional Ownership	-	0.0723	4.30***	
Board Size	-	0.0024	0.96	
Number of Meetings	+	-0.0066	-3.31***	
Board Independence	+	0.0005	0.77	
Nominating Committee Independence	+	-0.0153	-1.02	
Compensation Committee Independence	+	0.0366	2.06**	
CEO/Chair Duality	- (?)	0.0298	2.05**	
Busy Board	+	0.0037	0.20	
Director Tenure	+	-0.0051	-2.02	
Wald χ^2 =		136.64***		
Number of Observations =		1774		

This table reports results of the random effects regression of director percent equity compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristics data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column label χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 19 Director Compensation Cross-Equation Tests of Coefficients for SOX Binary

<i>Director Compensation</i>	<i>SOX coefficient</i>	<i>z-statistic</i>	χ^2
Panel A: Cash Compensation			
Banks	0.3639	2.11**	-
Industrials	0.2443	2.93***	0.39
Financials	-0.0101	-0.09	3.30*
Utilities	0.2100	2.87***	0.68
Panel B: Equity Compensation			
Banks	0.2595	0.63	-
Industrials	0.4069	2.21**	0.11
Financials	-0.0070	-0.04	0.34
Utilities	0.4484	2.39**	0.17
Panel C: % Equity Compensation			
Banks	-0.0026	-0.03	-
Industrials	0.0348	0.88	0.18
Financials	-0.0072	-0.17	0.00
Utilities	0.0595	1.41	0.48
Panel D: Total Compensation			
Banks	0.2225	0.79	-
Industrials	0.31.69	2.59**	0.09
Financials	-0.0055	-0.04	0.53
Utilities	0.3047	2.77***	0.07

This table reports the coefficient of the SOX binary in each regression for each sample. The z-statistic is the statistics for the SOX coefficient and the χ^2 -statistic is the statistic for the cross-equation test of difference, which compares the Bank sample with the corresponding non-bank sample. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 20 Director Compensation Cross-Equation Tests of Coefficients for Interactions

<i>Director Compensation</i>	<i>Interaction coefficient</i>	<i>z-statistic</i>	χ^2
Panel A: Cash Compensation			
Banks and Industrials	-0.0214	-0.27	-
Financials and Industrials	-0.0424	-0.59	0.06
Utilities and Industrials	0.0027	0.05	0.10
Panel B: Equity Compensation			
Banks and Industrials	-0.3257	-2.10**	-
Financials and Industrials	-0.1310	-0.96	1.44
Utilities and Industrials	-0.0553	-0.45	3.12*
Panel C: % Equity Compensation			
Banks and Industrials	-0.0623	-2.00**	-
Financials and Industrials	-0.0274	-0.95	1.15
Utilities and Industrials	-0.0083	-0.31	2.98*
Panel D: Total Compensation			
Banks and Industrials	-0.2024	-1.90*	-
Financials and Industrials	-0.0747	-0.78	1.25
Utilities and Industrials	-0.0594	-0.74	1.94

This table reports the coefficient of the various interaction terms in each regression for each sample.

The z-statistic is the statistics for the interaction coefficient and the χ^2 -statistic is the statistic for the cross-equation test of difference, which compares the BankSOX interaction to the FinSOX or the BankSOX interaction to the UtilSOX interaction. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively.

The sample period is from 1998-2005.

Table 21 Regression of CEO Cash Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-0.4536	-2.81***	
FHC Binary	-	0.0555	0.36	
Financial Binary	?	-0.1666	-1.93	
Utility Binary	-	-0.4657	-3.76***	
Post-SOX Binary	-	0.0802	0.70	
Bank/Post-SOX Binary	-	0.0609	0.56	
Fin/SOX Binary		0.0327	0.29	0.07
Utility/SOX Binary		0.2439	2.23**	3.24*
<i>Firm Controls</i>				
Market-to-Book	-?	-0.0044	-0.18	
Size	+	0.3012	9.05***	
Leverage	-	0.2104	1.10	
ROA _{t-1}	+	0.0017	0.57	
ROA	+	0.0168	2.74***	
Ret _{t-1}	+	0.0012	2.55**	
Ret	+	0.0030	5.66***	
<i>Corporate Governance Controls</i>				
Director Ownership	-?	2.7643	0.94	
CEO Ownership	+	-0.0491	-5.56***	
Institutional Ownership	-	0.0215	0.08	
Board Size	+	0.0071	1.25	
Number of Meetings	(-)?	-0.0007	-0.10	
Board Independence	-	0.0016	0.08	
Nominating Committee Independence	-	0.0071	0.13	
Compensation Committee Independence	-	0.0394	0.63	
CEO/Chair Duality	+(?)	0.0657	1.29	
Busy Board	+	0.1839	2.90***	
CEO Tenure	+	0.0159	3.83***	
Director Tenure	+	-0.0063	-0.71	
R-squared =		0.2368		
Wald χ^2 =		277.98***		
Number of Observations =		1768		

This table reports results of random effects regression of CEO cash compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristic data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Cash compensation is the sum of salary and bonus paid to the CEO. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column labeled χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 22 Regression of CEO Equity Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-1.1655	-6.44***	
FHC Binary		0.0849	0.50	
Financial Binary	-	-0.5905	-4.12***	
Utility Binary	-	-0.6197	-4.45***	
Post-SOX Binary	+	0.2273	1.81*	
Bank/Post-SOX Binary	-	-0.2759	-2.27**	
Fin/SOX Binary		-0.2285	-1.78*	0.17
Utility/SOX Binary		-0.2248	-1.81*	0.20
<i>Firm Controls</i>				
Market-to-Book	+	0.1538	5.55***	
Size	+	0.4892	13.03***	
Leverage	-	-0.3934	-1.85*	
ROA _{t-1}	+	-0.0020	-0.58	
ROA	+	0.0059	0.89	
Ret _{t-1}	+	0.0015	2.96***	
Ret	+	-0.0008	-1.28	
<i>Corporate Governance Controls</i>				
Director Ownership	-(?)	10.2075	3.10***	
CEO Ownership	+	-0.0036	-0.30	
Institutional Ownership	-	0.0168	0.05	
Board Size	+(?)	-0.0109	-1.10	
Number of Meetings	+	-0.0011	-0.14	
Board Independence	+	-0.0032	-1.36**	
Nominating Committee Independence	+	-0.0410	-0.69	
Compensation Committee Independence	+	-0.1218	-1.72*	
CEO/Chair Duality	-(?)	-0.0092	-0.16	
Busy Board	+	0.2263	3.23***	
CEO Tenure	+	0.0051	1.01	
Director Tenure	+	-0.0264	-2.64***	
R-squared =		0.3844		
Wald χ^2 =		448.07***		
Number of Observations =		1570		

This table reports results of the random effects regression of CEO equity compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristic data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column labeled χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 23 Regression of CEO Total Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-0.8568	-4.99***	
FHC Binary	-	0.1053	0.62	
Financial Binary	-	-0.4249	-3.22***	
Utility Binary	-	-0.6703	-5.09***	
Post-SOX Binary	+	0.0910	0.93	
Bank/Post-SOX Binary	-	-0.0665	-0.73*	
Fin/SOX Binary	-	0.0230	0.24	1.10
Utility/SOX Binary	-	0.0756	0.83	2.98*
<i>Firm Controls</i>				
Market-to-Book	?	0.0753	3.49***	
Size	+	0.3856	11.23***	
Leverage	-	-0.2171	-1.15	
ROA _{t-1}	+	-0.0044	-1.67*	
ROA	+	0.0179	3.41***	
Ret _{t-1}	+	0.0012	3.13***	
Ret	+	0.0006	1.31	
<i>Corporate Governance Controls</i>				
Director Ownership	+	5.6680	2.18**	
CEO Ownership	-	-0.0458	-5.45***	
Institutional Ownership	-	-0.1973	-0.86	
Board Size	-	-0.0009	-0.11	
Number of Meetings	+	-0.0087	-1.47	
Board Independence	+	0.0008	-0.42	
Nominating Committee Independence	-	-0.0190	-0.43	
Compensation Committee Independence	-	0.0382	0.73	
CEO/Chair Duality	- (?)	0.0509	1.18	
Busy Board	+	0.1611	2.97***	
CEO Tenure	+	0.0038	1.03	
Director Tenure	+	-0.0119	-1.49	
R-squared =		0.3128		
Wald χ^2 =		344.86***		
Number of Observations =		1787		

This table reports results of random effects regression of CEO total compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristic data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Cash compensation is the sum of salary and bonus paid to the CEO. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column labeled χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 24 Regression of CEO Percent Equity Compensation

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>z-statistic</i>	χ^2
Bank Binary	-	-0.0880	-2.00**	
FHC Binary	-	0.0225	0.57	
Financial Binary	-	-0.0511	-1.45	
Utility Binary	-	-0.1015	-3.01***	
Post-SOX Binary	+	0.0554	1.55	
Bank/Post-SOX Binary	-	-0.0540	-1.53	
Fin/SOX Binary		0.0213	0.58	4.79**
Utility/SOX Binary		-0.0460	-1.30***	0.06
<i>Firm Controls</i>				
Market-to-Book	+	0.0283	3.70***	
Size	+	0.0328	3.66***	
Leverage	-	0.0002	0.00	
ROA _{t-1}	+	-0.0018	-1.85*	
ROA	+	0.0002	0.13	
Ret _{t-1}	+	0.0002	1.28	
Ret	+	-0.0005	-3.08***	
<i>Corporate Governance Controls</i>				
Director Ownership	+(?)	1.4851	1.71*	
CEO Ownership	+	-0.0090	-3.40***	
Institutional Ownership	-	-0.0344	-0.37	
Board Size	+	0.0013	0.46	
Number of Meetings	+(?)	-0.0021	-0.96	
Board Independence	+	0.0004	0.54	
Nominating Committee Independence	+	-0.0120	-0.70	
Compensation Committee Independence	+	0.0149	0.75	
CEO/Chair Duality	-(?)	0.0401	2.48**	
Busy Board	+	0.0308	1.56	
CEO Tenure	+	-0.0057	-4.47***	
Director Tenure	+	0.0003	0.13	
Wald χ^2 =		164.46***		
Number of Observations =		1787		

This table reports results of random effects regression of CEO percent of equity compensation on the listed independent variables for the matched sample of firms. Compensation data and stock return data are from ExecuComp. Firm characteristic data are from Compustat. Corporate governance characteristics are from ExecuComp, Board Analyst, IRRC, or proxy statements. Performance is measured using the prior year's and current ROA and prior year's and current stock return. Cash compensation is the sum of salary and bonus paid to the CEO. Total compensation is the sum of cash compensation and equity-based compensation. Total compensation is the sum of cash compensation and equity-based compensation. Equity-based compensation is the sum of the value of stock options and restricted stock granted. The column labeled χ^2 reports the χ^2 statistic and level of significance for the within-equation test of coefficients for differences in the interaction terms (BankSOX against FinSOX and BankSOX against UtilitySOX). Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 25 CEO Compensation Cross-Equation Tests of Coefficients for SOX Binary

<i>CEO Compensation</i>	<i>SOX coefficient</i>	<i>z-statistic</i>	χ^2
Panel A: Cash Compensation			
Banks	-0.0401	-0.39	-
Industrials	0.1134	0.75	0.70
Financials	-0.0949	-0.82	0.12
Utilities	0.4334	3.93***	9.77***
Panel B: Equity Compensation			
Banks	0.2059	0.84	-
Industrials	0.1509	0.74	0.03
Financials	0.0289	0.13	0.28
Utilities	0.2920	1.23	0.06
Panel C: % Equity Compensation			
Banks	0.0820	1.78*	-
Industrials	0.0418	1.23	0.49
Financials	0.0258	0.61	0.80
Utilities	-0.0049	-0.10	1.67
Panel D: Total Compensation			
Banks	0.2388	1.89*	-
Industrials	0.0629	0.41	0.79
Financials	-0.0081	-0.05	1.60
Utilities	0.3244	2.56**	0.23

This table reports the coefficient of the SOX binary in each regression for each sample. The z-statistic is the statistics for the SOX coefficient and the χ^2 -statisic is the statistic for the cross-equation test of difference, which compares the Bank sample with the corresponding non-bank sample, Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively.

The sample period is from 1998-2005.

Table 26 CEO Compensation Cross-Equation Tests of Coefficients for Interactions

<i>CEO Compensation</i>	<i>Interaction coefficient</i>	<i>z-statistic</i>	χ^2
Panel A: Cash Compensation			
Banks and Industrials	-0.0574	-0.32	-
Financials and Industrials	-0.1137	-0.60	0.37
Utilities and Industrials	0.1132	0.69	3.92**
Panel B: Equity Compensation			
Banks and Industrials	-0.4805	-3.02***	-
Financials and Industrials	-0.3061	-1.95**	1.18
Utilities and Industrials	-0.3263	-2.19**	0.98
Panel C: % Equity Compensation			
Banks and Industrials	-0.0747	-2.93***	-
Financials and Industrials	-0.0325	-1.23	2.38
Utilities and Industrials	-0.0586	-2.19**	0.08
Panel D: Total Compensation			
Banks and Industrials	-0.2215	-2.05**	-
Financials and Industrials	-0.2241	-1.93**	0.00
Utilities and Industrials	-0.1771	-1.70*	0.34

This table reports the coefficient of the various interaction terms in each regression for each sample. The z-statistic is the statistics for the interaction coefficient and the χ^2 -statistic is the statistic for the cross-equation test of difference, which compares the BankSOX interaction to the FinSOX or the BankSOX interaction to the UtilSOX interaction. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The sample period is from 1998-2005.

Table 27 Differences in Abnormal Director Compensation for Banks versus Other Groups after Sarbanes Oxley

<i>Director Compensation</i>	<i>Abnormal Cash Compensation: mean median (1)</i>	<i>Abnormal Equity Compensation: mean median (2)</i>	<i>Abnormal %Equity Compensation: mean median (3)</i>	<i>Abnormal Total Compensation: mean median (4)</i>
Matched (Bank- Industrials)	\$-0.0506 \$-0.0047	\$-0.1266 \$-0.2037	0.12% -1.28%	\$0.0227 \$0.0099
Matched(Bank- Financials)	\$0.0413 \$0.0774	\$-0.0648 \$0.1911	2.14% 4.61%	\$0.0917 \$0.1690
Matched (Bank- Utilities)	\$-0.0550* \$0.0192	\$0.0379 \$-0.0225	2.69% 2.77%	\$0.0294 \$0.0003

This table reports mean and median differences in abnormal director compensation for matched bank and non-bank samples after Sarbanes Oxley. Compensation data are from ExecuComp. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. . Abnormal compensation is the difference between actual compensation and the compensation expected if SOX had not been in effect from 2002 and later. The t-test tests whether the mean difference in abnormal compensation is equal to zero and the sign rank test tests whether the median difference in abnormal compensation is equal to zero. All dollar values are in thousands. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The after SOX period is from 2003-2005.

Table 28 Differences in Abnormal CEO Compensation for Banks versus Other Groups after Sarbanes Oxley

<i>CEO Compensation</i>	<i>Abnormal Cash Compensation: mean median (1)</i>	<i>Abnormal Equity Compensation: mean median (2)</i>	<i>Abnormal %Equity Compensation: mean median (3)</i>	<i>Abnormal Total Compensation: mean median (4)</i>
Matched (Bank- Industrials)	\$-0.0513 \$-0.0009	\$-0.1773* \$-0.1094	-6.92%*** -7.32%***	\$-0.0788 \$-0.0795
Matched(Bank- Financials)	\$0.0912 \$0.0269	\$-0.0763 \$-0.1943	-7.32%*** -8.85%**	\$-0.0607 \$-0.1187
Matched (Bank- Utilities)	\$-0.1032 \$-0.3716***	\$-0.1437 \$-0.1986	0.36% -1.04%	\$-0.0103 \$-0.2112***

This table reports mean and median differences in abnormal CEO compensation for matched bank and non-bank samples after Sarbanes Oxley. Compensation data are from ExecuComp. Cash compensation is the sum of the annual retainer and the per meeting fee times the number of meetings. Total compensation is the sum of cash compensation and equity-based compensation. Equity compensation is the sum of the value of stock options and restricted stock granted. The percentage of equity compensation is the total equity-based compensation divided by the total compensation. . Abnormal compensation is the difference between actual compensation and the compensation expected if SOX had not been in effect from 2002 and later. The t-test tests whether the mean difference in abnormal compensation is equal to zero and the sign rank test tests whether the median difference in abnormal compensation is equal to zero. All dollar values are in thousands. Each *, **, and *** represent significance at the 10%, 5%, and 1% levels respectively. The after SOX period is from 2003-2005.

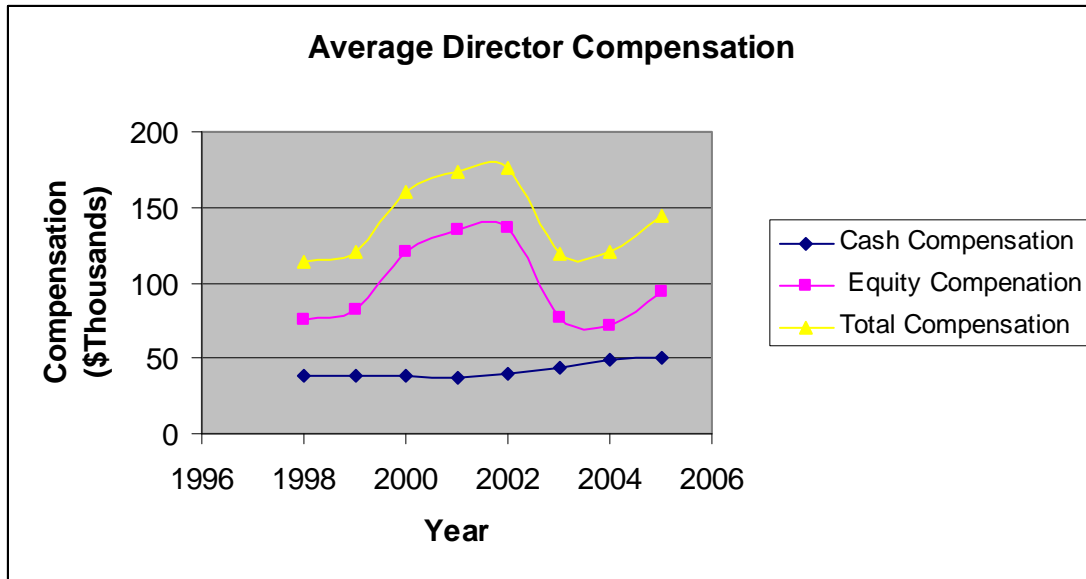


Figure 1. Average Director Compensation

This graph shows the average director compensation. Total compensation is comprised of mostly equity-based compensation. However, cash compensation does increase over time at a much lower rate. There is a huge increase in equity compensation in 2000, but it declines until 2003 where it begins to slightly increase.

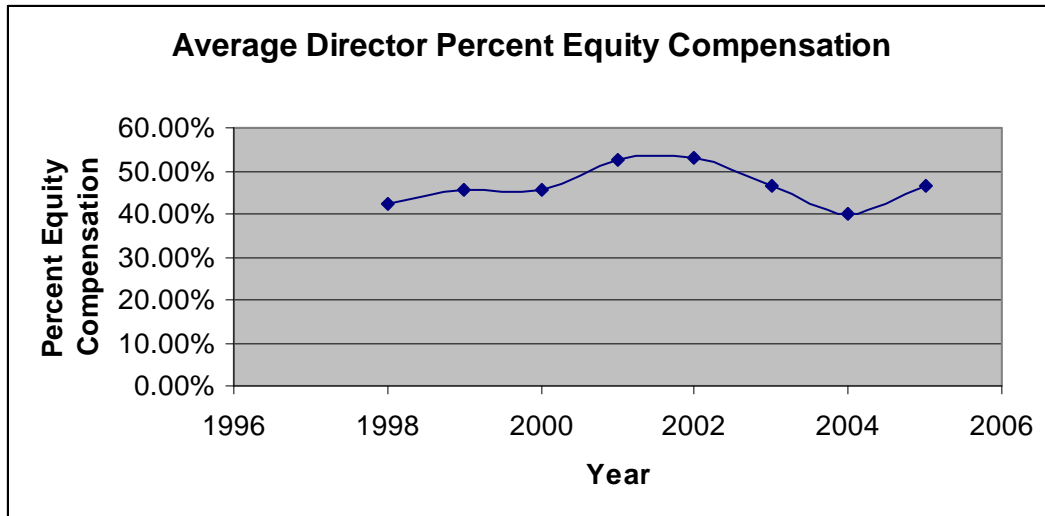


Figure 2. Average Director Percent Equity Compensation
Notice the increase in percent equity compensation until 2000. Equity compensation ranges from about 40 percent to 54 percent of total compensation for directors.

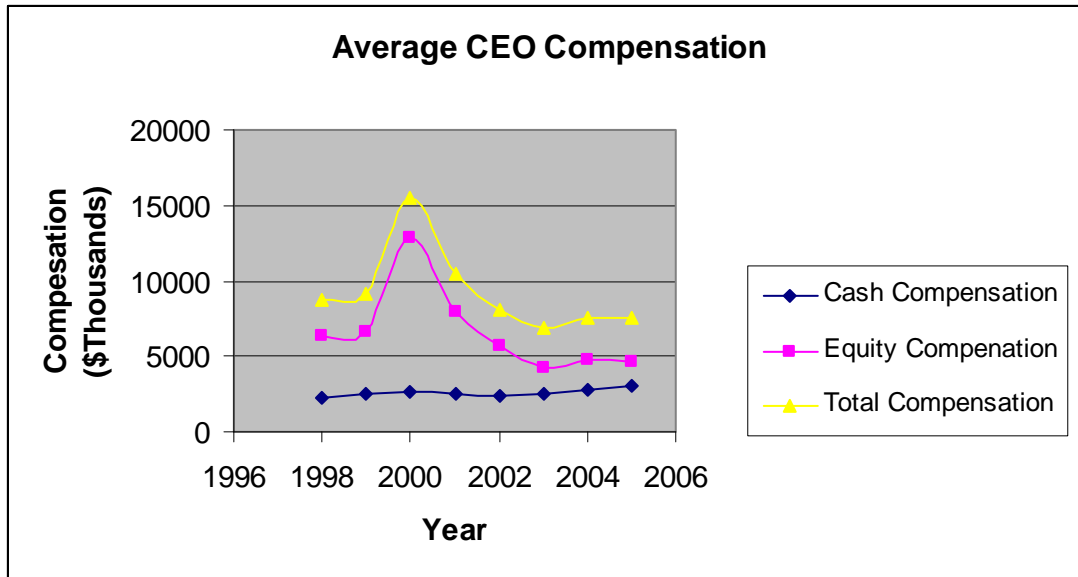


Figure 3. Average CEO Compensation

Figure 3 shows the average compensation paid to CEO over the sample period for the full matched sample. Equity compensation seems to drive total compensation. Notice the spike in equity compensation from 1999 to 2000, while cash compensation remains relatively stable and changing at a much smaller rate. After 2000, equity compensation declines and begins to increase after 2002.

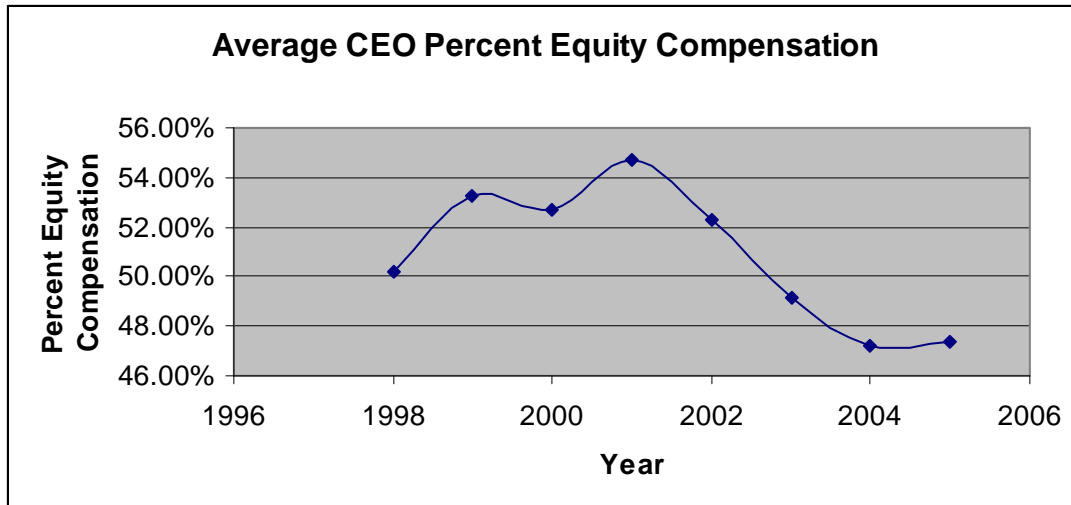


Figure 4. Average CEO Percent Equity Compensation

This graph shows that the percentage of equity-based compensation increase from 1998 to 2001 and begins to decline. The percentage of compensation continues to decline throughout the remaining portion of the sample period.

VITA

Victoria Javine is from Aliceville, AL. She graduated as Valedictorian from Aliceville High School in 1998. In 2002, she graduated Magna Cum Laude with a B.S. in Business Administration from the University of Alabama, Tuscaloosa. She moved to Knoxville the same year to pursue her Ph.D. in Business Administration at the University of Tennessee.