Economic Determinants of the Voluntary Adoption of Clawback Provisions in Executive Compensation Contracts

Anna Bergman Brown
Ph.D. Student
Anna.Brown@baruch.cuny.edu

Paquita Y. Davis-Friday
Associate Professor
Paquita.Friday@baruch.cuny.edu

Lale Guler*
Assistant Professor
Lale.Guler@baruch.cuny.edu

September 2011

*Please address correspondence to Lale Guler, Baruch College, Zicklin School of Business, Stan Ross Department of Accountancy, 55 Lexington Ave, New York, NY 10010. Phone: (646) 312-3190.

This paper has benefited from comments received from Divya Anantharaman, Ting Chen, Steve Lilien, Joseph Weintrop and workshop participants at the 2nd Annual Baruch-SWUFE Conference.

Economic Determinants of the Voluntary Adoption of Clawback Provisions in Executive Compensation Contracts

Abstract: Eventually the Dodd-Frank Act of 2010 will require all publicly traded companies to implement clawback provisions. In the interim, some firms have chosen to implement the provisions voluntarily. Using the population of S&P 1500 firms over the period 2005-2009, we investigate the characteristics of firms that voluntarily adopt clawback provisions and those that do not. Since it is not clear whether clawback provisions are complements to or substitutes for strong corporate governance, we do not have any directional expectations regarding the relation between firms' corporate governance characteristics and their adoption of clawback provisions. However, we expect that there are firm-specific incentives, like restated financial statements and significant bonuses for mergers & acquisitions, for adopting clawback provisions. Our results indicate that the size of the firm is one of the strongest determinants of the decision to voluntarily adopt a clawback provision. Additionally, an influential CEO reduces the likelihood that a firm will adopt a clawback provision. Furthermore, even more than restatements, extraordinary M&A bonuses and goodwill impairments significantly increase the likelihood that firms adopt clawback provisions. Finally, examining the content of contractual language surrounding voluntarily adopted clawback provisions, we find that only restatements resulting from *irregularities* are significantly related to the likelihood of adopting *fraud*-based clawback provisions. The results from our analyses have implications for policymakers as they attempt to regulate the ability of executives to extract rents from shareholders through the provisions of the Dodd-Frank Act.

Key Words: Executive Compensation; Corporate Governance; Clawback Provisions

Data Availability: The list of clawback adopters is available from the Corporate Library. The remaining data used in this study are available from public sources.

I. INTRODUCTION

Recently several banks were cited for their efforts to find more creative ways to compensate executives through mechanisms like forgivable loans and flexible restricted stock (Enrich et al. 2010). However, a small number has been recognized for efforts to institute provisions to reclaim compensation (Sidel et al. 2010). On July 21, 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act was signed into law requiring all U.S. public companies to incorporate clawback provisions into incentive compensation arrangements for executive officers. The provisions would be triggered by certain accounting restatements and require companies to recover excess compensation resulting from misstated financial results during the three-year period prior to the restatement. While the Dodd-Frank clawback provisions potentially fill a gap left by Section 304 of Sarbanes-Oxley (SOX), since only the SEC can invoke Section 304, firms were not prevented from voluntarily adopting clawback provisions prior to the enactment of Dodd-Frank. According to the Corporate Library Database, 638 companies had voluntarily adopted clawback provisions as of 2009. Fried and Shilon (2011) suggest that the costs associated with excess pay could be reduced substantially if firms adopt "robust" clawback policies which would require the recovery of any excess pay whether or not there is misconduct. When firms voluntarily adopt clawback provisions they have the discretion to determine the type of action that triggers the clawback as well as the extent of the amount recovered. As one would expect, the nature of clawback provisions adopted varies across several dimensions of firm characteristics.

In this study we investigate the economic determinants of firms' decisions to voluntarily adopt clawback provisions. Specifically, we examine the impact of firm-specific incentives, e.g. restatements and goodwill impairments, on the likelihood of the adoption of clawback provisions

in general as well as the type of provision adopted. Additionally, we investigate the relation between the extent of the CEO's influence and the likelihood that the firm adopts a clawback provision. Finally, we examine whether the adoption is related to a firm's governance characteristics.

To examine these questions, we use a sample of 252 primarily S&P 500 firms from the Corporate Library 2010 database covering the period 2005-2009. We then examine the impact of firm-specific incentives on the likelihood of adopting clawback provisions. First, we consider the effect of accounting restatements on the likelihood that CEOs adopt clawback provisions. Section 304 of the Sarbanes-Oxley Act (SOX) requires executives to forfeit any bonus or incentive-based pay or profits from the sale of stock received in the 12 months prior to an earnings restatement. However, SOX Section 304 is only enforceable by the Securities and Exchange Commission (Neer v. Pelino, 389 F. Supp. 2d 648, 657 [E.D. Pa. 2005]). Therefore, one reason firms might adopt clawback provisions voluntarily is that contractual clawback provisions can be enforced through the terms of the contract which need not include fraud or misconduct.

Second, Watts and Zimmerman's (1986) political cost theory predicts that corporations will engage in activities to reduce the risk of governmental intrusions that may affect firm value. The primary measure of a firm's potential exposure to political costs is the size of the firm. Additionally, the firm's visibility in terms of factors like the level of financial analyst following also captures the firm's exposure to potential government intrusion. To the extent that firms are concerned that the SEC will initiate enforcement actions against them under Sarbanes-Oxley Section 304 to reclaim incentive compensation, they might be more likely to voluntarily implement their own clawback provisions. Third, Lee, Shakespeare and Walsh (2009) report

that CEOs earn an additional $4.07 million during their time in office from acquiring and divesting assets and there is evidence that this source of significant incentive compensation, bonuses resulting from mergers and acquisitions (M&A) is driven by the CEO's influence over the board. Grinstein and Hribar (2004) provide evidence that powerful CEOs (those with more influence over the board) receive significantly larger bonuses and engage in larger deals relative to the size of their own firms. Therefore, we would expect the boards to adopt clawback policies so that extraordinary M&A bonuses awarded to CEOs who undertake value-destroying acquisitions are recovered by the firm.

In addition to firm-specific incentives, we investigate the relation between the extent of CEO influence and the likelihood of adopting clawback provisions. We conjecture that the longer the CEO's tenure and whether she is chairman of the board will increase her influence and reduce the likelihood that the firm adopts a clawback provision. However, if CEO power and influence are tempered by governance mechanisms, like stronger monitoring from institutional investors, and/or large international audit firms, then it is less clear whether these firms will adopt clawback provisions.

Finally, we compare governance characteristics for the clawback sample relative to the remaining S&P 1500 firms that did not adopt clawback provisions during this time period. The corporate governance features that we examine are designed to capture the strength of a firm's governance mechanisms as well as the extent of the CEO's influence. If a firm has strong governance, including a primarily independent board, then it is possible that the firm will not feel compelled to adopt clawback provisions. On the other hand, if clawback provisions are considered an element of strong governance, firms with strong governance features might still adopt the provisions. Alternatively, firms with weak governance might be concerned about

executives' ability to extract significant amounts of compensation from the firm, potentially fraudulently. In this case, the board might find the adoption of a clawback provision to be a relatively costless mechanism for limiting CEO compensation to that which is earned legitimately. However, if the board is sufficiently weak, it might not be able to implement the adoption of a clawback provision. Since a priori it is not clear whether a strong or weak governance environment is more likely to result in a firm's adoption of clawback provisions, our governance tests are non-directional.

Our results indicate that the size of the firm is one of the strongest determinants of the decision to voluntarily adopt a clawback provision. Additionally, an influential CEO reduces the likelihood that a firm will adopt a clawback provision. Finally, even more than restatements, extraordinary M&A bonuses and goodwill impairments significantly increase the likelihood that firms will adopt clawback provisions.

Two concurrent working papers also examine the adoption of clawback provisions. Addy, Chu andYoder (2011) construct a governance index to examine the relation between the extent of management entrenchment and the likelihood firms voluntarily adopt clawback provisions. Generally they find that companies with more independent governance, as proxied by their index, are more likely to adopt clawback provisions; however, those with powerful CEOs (i.e., those where the CEO is also the chairman of the board) are also more likely to adopt clawback provisions. Additionally, they find that restatements resulting from irregularities are associated only with clawback provisions constructed similarly to the Dodd-Frank provisions. Addy et al. (2011) do not consider any firm-specific incentives for clawback adoption nor do they consider the type of clawback adopted beyond whether it has provisions similar to the SOX 304 or Dodd-Frank provisions.

Gao, Iskander-Datta, and Jia (2010) investigate the market's reaction to firms' clawback adoption announcements. They document a significantly positive reaction to the adoption, particularly in firms with previous financial restatements. Within the group of restatement firms they further find that the reaction is largest for firms whose executives are primarily compensated with equity and whose CEOs are influential. Gao et al. (2010) also examine the relation between the adoption of clawback provisions and firms' corporate governance characteristics. However, in keeping with the results from their event study analyses, they focus primarily on the context of restated financial statements. They conclude that the adoption of a clawback provision is more likely when the board is more independent, the CEO is less powerful or when the firm has had a prior restatement. In addition to considering the adoption of clawback provisions in a context other than the case of restated financials, we also investigate a more comprehensive set of corporate governance characteristics than Gao et al. (2010) and in some cases our results are contrary to theirs. Specifically, we do not find any significant association between restatements and the likelihood that firms adopt clawbacks. However, when we refine the analysis to consider separately restatements resulting from irregularities and errors, as identified by Hennes et al. (2008), we identify only one circumstance where restatements are associated with the likelihood of clawback adoption and that is the case of restatements resulting from irregularities and the adoption of fraud-based clawback provisions. Additionally, we do not find any association between board independence and the likelihood of adopting a clawback provision. Most importantly, our study is the first to provide direct evidence that firms' experiences with the payment of bonuses related to mergers and acquisitions are related to their decisions to voluntarily adopt clawback provisions. Overall, our results provide a more complete picture of the economic determinants of firms' decisions to adopt clawback provisions.

The remainder of the paper proceeds as follows. The next section describes the institutional environment surrounding the creation of clawbacks provisions. Section 3 outlines our research questions and develops the theory for forming our hypotheses. Section 4 provides the research design. The sample selection procedures, descriptive statistics and the results from the estimation of our statistical models are presented in Section 5. Section 6 summarizes the findings and concludes.

II. INSTITUTIONAL BACKGROUND

Clawback provisions have different definitions in different contexts. Generally, a clawback provision is a stipulation within a contract that requires repayment of certain kinds of funds due to changing situations. In the most common context, that of executive compensation, a clawback provision is contractual language used in writing performance-based compensation contracts. It allows a company to take back such compensation if future events show that some or all of the compensation was excessive according to the intended terms of the contract. According to The Corporate Library, clawback provisions in compensation contracts are usually one of four types: (1) fraud-based, which apply only to executives who have engaged in misconduct leading to a restatement; (2) performance-based, which pertain to any executive who received incentive compensation based on incorrect financials; (3) non-compete, which reclaim compensation if an executive violates a restrictive covenant like a non-compete clause; and (4) a general catch-all category which might include reclaiming compensation from an executive who leaves without appropriate notice. Fraud-based provisions are the most common with 47% of the companies surveyed by Corporate Library implementing these, followed by performance-based provisions implemented by 34% of the surveyed companies.

Clawback provisions became an important issue in executive compensation in the wake of the 2007-2008 credit crisis. Because the financial results of the lenders were extremely positive in the years leading up to the credit crisis, executives of these companies received extremely large bonuses. When, just a short time later, the value of the lenders' portfolios had to be written down significantly, the results no longer justified the previous compensation. Where there were no clawback provisions, executives had an incentive to frontload their companies' earnings, and most have managed to keep their inflated compensation packages (Lublin and Forelle 2004; Dvorak and Ng 2006). Representative Barney Frank (D-Mass.), chairman of the House Financial Services Committee in 2009, argued that legislation to reform regulation of the financial industry should contain explicit clawback provisions to avoid a repeat of the excessive compensation that occurred prior to the credit crisis. An attempt to recover compensation of AIG executives in the wake of that company's $85 billion bailout from the federal government failed in the Senate due to concerns about its constitutionality despite the provisions of the Sarbanes-Oxley Act Section 304. Section 304 has since been formalized in Title 18 U.S. Code Section 7243. Additionally, the Emergency Economic Stabilization Act of 2008 includes a clawback provision covering any financial institution that sells troubled assets to the Secretary of the Treasury.

Section 304 of the Sarbanes-Oxley Act (SOX) requires executives to forfeit any bonus or incentive-based pay or profits from the sale of stock received in the 12 months prior to an earnings restatement. Specifically, the statute indicates that "if an issuer is required to prepare an accounting restatement due to the material noncompliance of the issuer, as a result of misconduct, with any financial reporting requirement under the securities laws, the chief executive officer and chief financial officer of the issuer shall reimburse the issuer for-

(1) any bonus or other incentive-based or equity-based compensation received by that person from the issuer during the 12-month period following the first public issuance or filing with the Commission (whichever first occurs) of the financial document embodying such financial reporting requirement; and

(2) any profits realized from the sale of securities of the issuer during that 12-month period."

One of the reasons that firms have adopted clawback provisions voluntarily is that "restatement due to the material noncompliance of the issuer," is a prerequisite to prosecution under Section 304. However, contractual clawback provisions can be enforced through the terms of the contract which need not include fraud or misconduct. In 2008 the SEC argued that the Section 304 clawback provision can apply even where the issuer has never restated its financials, but should have done so under accounting rules (SEC vs. Shanahan). Therefore by adopting their own clawback provisions, companies might reduce the chances of SEC litigation regarding clawbacks.

On July 21, 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act was signed into law requiring all U.S. public companies to incorporate clawback provisions into incentive compensation arrangements for executive officers. The provisions would be triggered by material noncompliance in financial reporting, rather than misconduct, and require companies to recover excess compensation resulting from the misstated financial results during the three-year period prior to the restatement. Addy and Yoder (2011, 59) report that 29% of the Standard & Poor's (S&P) 500 Index have adopted a clawback provision and they conjecture that firms adopt the provisions because they are less costly to enforce than equity claims based on unjust enrichment.

III. RESEARCH QUESTIONS AND HYPOTHESES

Core, Holthausen and Larcker (1999) provide evidence that CEOs earn greater compensation when governance structures are weaker. The underlying assumption of the Core et al. (1999) analyses is that shareholders choose a CEO compensation contract that specifies the level of compensation based on the CEO's performance in order to maximize the firm's value conditional on its information environment. Therefore, if the observed board and ownership structures induce optimal contracting, cross-sectional variation in the equilibrium level of CEO compensation should be explained entirely by economic determinants (e.g., firm size and risk) of the level of compensation rather than any governance characteristic. However, Core et al. (1999) find that CEO compensation is significantly higher when the CEO is also chair of the board, the board is relatively large, and a larger percentage of the board is composed of "gray" directors.

Consistent with the evidence in Core et al. (1999), Collins, Gong and Li (2009) find that CEOs of backdating firms receive significantly higher total compensation than their counterparts in non-backdating firms and the likelihood of backdating stock options is higher when stock options are more important in CEO compensation. This suggests that managers have incentives to fraudulently obtain bonus compensation when it represents a larger portion of their compensation packages. Finally, Leone, Wu and Zimmerman (2006) suggest that compensation should be conservative since bonuses are difficult to retrieve if earned fraudulently. Therefore, if retaining high quality executives requires significant bonus compensation, then one option for the firm is to institute a clawback provision that is implementable contractually.

Our first research question examines the incentives for firms to adopt clawback provisions. There are circumstances under which firms might be more likely to adopt clawback

provisions. For example, after a firm experiences a restatement it might be more likely to adopt a clawback provision since there is no guarantee that the SEC will enforce SOX Section 304. Additionally, firms that have paid significant bonuses related to a merger or acquisition might adopt clawback provisions to rescind bonuses for a merger or acquisition that is subsequently unsuccessful. Our second research question examines the nature of corporate governance characteristics that are related to the incidence of firms' voluntarily adopting clawback provisions. Since it is not clear whether clawbacks are complements to strong corporate governance or substitutes for the lack of strong governance, the nature of firms' governance characteristics related to the likelihood of their having clawback provisions remains an empirical question.

Incentives to Adopt Clawback Provisions

The incentives to adopt clawback provisions likely vary according to firm-specific characteristics and situations. For example, Burks (2009,6) reports that 86 percent of CEOs and CFOs who are blamed for misstatements in SEC Accounting and Auditing Enforcement Releases (AAER) are no longer employed (and presumably terminated) one year after the AAER issuance. In addition to restatements, executives and directors might also be disciplined after the discovery of backdated stock option grants. However, terminating an executive is costly, including severance pay and the limited supply of qualified replacements. Therefore, a less costly alternative to termination might be to adopt a clawback provision to retrieve bonus and stock option compensation.

Restatements

Section 304 of the Sarbanes-Oxley Act (SOX) requires executives to forfeit any bonus or incentive-based pay or profits from the sale of stock received in the 12 months prior to an

earnings restatement. According to the popular press (Lublin and Forelle 2004; Dvorak and Ng 2006) few companies recover bonuses because employment contracts and bonus policies often do not include forfeiture language related to accounting restatements. Recent empirical studies have considered the economic consequences of SOX on executive compensation. Efendi et al. (2007) find that the likelihood of misstated financial statements is increasing in the CEO's holdings of in-the-money stock options. Burks (2009) examines whether boards terminate managers and/or reduce their bonuses following accounting restatements. He focuses on restatements that are not frauds and finds that CFO turnover is related to these restatements before SOX, but not after. Rather, boards respond to restatements by withholding bonuses after restatements. The results form Burks (2009) suggest that restatements cause firms to pay fewer bonuses in the future, but it does not address the issue of the bonuses that were already paid. We conjecture that firms will adopt clawback provisions to allow them to recoup the bonuses that were paid prior to a restatement.

Cohen et al. (2007) investigate how SOX affects compensation contracts. They find that while overall compensation did not change, salary and bonus compensation increased and option compensation decreased following the passage of SOX. They conclude that the pay for performance sensitivity of CEO compensation has declined following SOX. Taken together the evidence suggests that the level and nature of compensation has implications for restatements and restatements have economic consequences for managers and directors in terms of compensation and employment.

Finally, Hennes, Leone and Miller (2008) refine the restatement literature by classifying them into those resulting from irregularities versus errors. They provide evidence that irregularities lead to more class-action lawsuits and managerial turnover than errors.

Additionally, they show that over time irregularities have become a decreasing proportion of total restatements. Therefore in our analyses, and in contrast to the analysis in Gao et al (2010), we consider the effects of irregularities and errors separately. Our first hypothesis is:

H1: Companies that have had restatements resulting from irregularities are more likely to have clawback provisions.

Capital markets visibility

We examine whether firms attracting more attention in the capital markets are more likely to adopt clawback policies. Executives of these firms are likely to have stronger incentives to develop and preserve a reputation for high-quality, credible governance mechanisms to ensure continued access to the capital markets and a lower cost of capital. Given the widespread concerns over excessive CEO compensation and its apparent lack of correlation with performance (Bebchuk and Fried 2004; Yermack 2006), having a formal clawback policy in place would establish or enhance a firm's reputation among capital market participants about the credibility of its governance.

Prior literature suggests that firms voluntarily adopt a practice when the benefits of doing so outweigh the costs. For example, Aboody et al. (2004) find that firms who voluntarily recognized stock-based compensation expense were more active in capital markets and had higher political costs, as proxied by firm size. They conclude that voluntary adoption sends a positive signal to the market, and that firms issuing equity would reap the benefits of this signal. In our setting, by adopting clawback policies, executives might be signaling the quality of their firms' governance in order to increase the access to capital and obtain less expensive funding. Although adopting a clawback policy does not cost the firm anything, it might be costly to the executives since it involves recovery of the previously received bonuses. Therefore, introduction of a clawback policy sends a credible signal to the market.

In support of our arguments, Valero Energy Corporation, through a press release on Business Wire on November 2, 2009, justifies its adoption of clawback policies and other compensation measures:

> *"Valero has always been committed to high standards of corporate governance… By adopting these policies, Valero has also demonstrated its commitment to improving its governance program to strengthen investor confidence, increase long-term stockholder value and be responsive to the views of stockholders as best practices in corporate governance evolve."*

Following Aboody et al. (2004) and Barton (2005), we expect firms attracting more attention in the capital markets to be larger and have more participation in the capital markets through equity and debt issuances. These arguments lead us to the second hypothesis:

H2a: Larger firms are more likely to adopt clawback policies.

H2b: Firms that have recently issued equity or debt are more likely to adopt clawback policies.

Recovery of M&A bonuses

We examine whether firms that have undertaken value-reducing acquisitions and awarded M&A bonuses to their CEOs in the past are more likely to adopt clawback policies. We expect that corporate boards would be especially anxious about recovering bonuses in these situations, all else equal, since the purpose of the bonus was specifically to reward the completion of the M&A in most cases. Prior studies provide evidence that CEOs are often rewarded for engaging in acquisitions and even for completing M&A deals; however, M&As typically result in value destruction for the shareholders. For example, focusing on bank mergers, Bliss and Rosen (2001) find that acquisitions significantly increase CEO compensation, primarily through the effect of increased firm size on CEO compensation. They find that CEO compensation generally increases even if a merger is value-destroying as reflected in the

acquiring firm's stock price decline. Grinstein and Hribar (2004) examine the compensation paid to the CEO for *completing* the deal, and find that 39% of the acquiring firms in their sample cite the completion of the deal as a reason for rewarding their CEOs with special cash bonuses. They also find that managerial power explains much more of the variation in the M&A bonuses than measures of managerial effort or performance in the process of an M&A deal. To the extent that corporate boards act in the interest of shareholders, we would expect boards to adopt clawback policies so that M&A bonuses awarded to CEOs who undertake value-destroying acquisitions are recovered by the firm, leading to the third hypothesis:

> **H3:** Firms that have undertaken value-destroying acquisitions and awarded M&A bonuses to their CEOs in the past are more likely to adopt clawback policies.

Corporate governance and the managerial power

Adams et al. (2005) investigate the impact of powerful CEOs on the variability of firm performance. They measure CEO power along three dimensions: whether the CEO is also a founder of the firm, whether he is the only insider on the board and whether the CEO holds the title of president and Chair of the Board. Since clawbacks extend beyond the CEO to other executive officers, we consider the extent of managerial power, rather than CEO power alone and operationalize the concept of managerial power (influence) using similar proxies. Bushman et al. (2004) report that executives who have longer tenures with the firm exert significant influence over decision-making. Therefore, we expect that firms whose CEOs have relatively longer tenure are less likely to adopt clawback policies. Second, we examine the proportion of insiders on the board as an indicator of greater managerial power. We expect that firms with higher insider representation on their boards are less likely to adopt clawback policies. Finally, prior literature shows that executives exert influence over the decisions of the board if they are

the chairperson of their own boards (Jensen 1993; Core et al. 1999; Bebchuk et al. 2002; Bebchuk and Fried 2003, Adams et al. 2005). We expect that firms with CEO-Chair duality are less likely to adopt clawback policies.

Our last measure of managerial power is the number of directors on the board. We expect larger numbers of board members to be associated with less effective boards and higher managerial power (Jensen 1993; Yermack 1996), reducing the likelihood of clawback adoption. Therefore, our last hypothesis is:

H4a: Firms with CEOs who are also the chair of the board are less likely to adopt clawback policies.

H4b: Firms with CEOs who have longer tenure are less likely to adopt clawback policies.

H4c: Firms with a high percentage of inside directors are less likely to adopt clawback policies.

H4d: Firms with a greater number of directors on the board are less likely to adopt clawback policies.

IV. RESEARCH DESIGN

Empirical Model

We employ the following logistic regression model to analyze characteristics of firms that voluntarily adopted clawback policies:

$$\begin{aligned} \textit{Clawback Adoption} = {} & \alpha_1 + \alpha_2 \textit{Firm Size} + \alpha_3 \textit{Profit} + \alpha_4 \textit{Market-to-Book ratio} \\ & + \alpha_5 \textit{Restated} - \textit{irregularity} + \alpha_6 \textit{Restated} - \textit{error} + \alpha_7 \textit{Equity Issue} \\ & + \alpha_8 \textit{Debt Issue} + \alpha_9 \textit{ExtraordinaryM\&A Bonus} + \alpha_{10} \textit{GW Impairment} \\ & + \alpha_{11} \textit{CEO-Chair} + \alpha_{12} \text{CEO } \textit{Tenure} \\ & + \alpha_{13} \textit{Bonus to cashcompensation} + \alpha_{14} \textit{CEO Ownership} \\ & + \alpha_{15} \%\textit{Inside Directors} + \alpha_{16} \textit{Number of Directors} \end{aligned} \quad (1)$$

Clawback Adoption:	An indicator variable that is equal to 1 if the firm has voluntarily adopted a clawback policy in year t and 0 otherwise.
Firm Size:	The logarithm of total assets as of the end of t-1. (Source: Compustat)
Profit:	Net income divided by market value of equity
Market-to-book ratio:	(Shares outstanding in t-1*end of year share price at t-1)/(total assets at t-1 – total liabilities at t-1)
Restated:	Dummy variable equal to 1 if the firm had a restatement in the past 5 years, 0 otherwise.
Restated-Irregularity:	Dummy variable equal to 1 if the restatement above is classified as an intentional (fraudulent) restatement, according to Hennes, Leone and Miller (2008), 0 otherwise.
Restated-Error:	Dummy variable equal to 1 if the restatement above is classified as an unintentional restatement, according to Hennes, Leone and Miller (2008), 0 otherwise.
Equity issuance:	Dummy variable equal to 1 if the firm issued equity in the past 5 years. 0 otherwise.
Debt issuance:	Dummy variable equal to 1 if the firm issued debt in the past 5 years, 0 otherwise.
Extraordinary M&A Bonus:	An indicator variable that is equal to 1 if the firm has paid to the CEO M&A bonuses higher than the sample median during the period from t-5 to t-1, and 0 otherwise. (Source: SDC and ExecuComp)
GW Impairment:	An indicator variable that is equal to 1 if the firm has reported a goodwill impairment loss following the M&A(s) during the period from t-5 to t-1, and 0 otherwise. (Source: Compustat)
CEO-Chair:	An indicator variable that is equal to 1 if the CEO is the chair of the board at the end of t-1, and 0 otherwise. (Source: ExecuComp)

CEO Tenure: The number of years the executive has served as CEO for the firm as of the end of t-1. (Source: ExecuComp)

Bonus to cash comp: The amount of bonus paid to CEO at the end of t-1 divided by the cash compensation of the CEO at the end of t-1. (Source: ExecuComp)

CEO Ownership: Percentage of firm's shares owned by the CEO at the end of t-1 (Source: ExecuComp)

Percentage of Inside Directors: The percentage of insiders on the board at the end of t-1. (Source: The Corporate Library)

Number of Directors: The number of members on the board of directors at the end of t-1. (Source: The Corporate Library)

All independent variables are lagged by one year so that the likelihood of adoption during each year depends on the firm.

V. EMPIRICAL RESULTS

Sample Selection and Descriptive Statistics

The clawback sample is drawn primarily from the Corporate Library 2010 clawback database. The original sample contains 736 firms of which 98 are coded as not having clawbacks. Therefore the Corporate Library clawback sample consists of 638 firms. We eliminate 119 firms that received funding as part of the Troubled Asset Relief Program (TARP) and therefore were required to adopt clawback provisions. In addition to the Corporate Library voluntary clawback sample of 519 firms, we also identify 59 firms that mention the word clawback in their proxy statements and adopt the provisions after 2002 but before 2010. Our analyses require data from several sources including ExecuComp, Compustat, Audit Analytics, Corporate Library and Thomson. Missing data from these sources reduce the clawback sample

to 252 firms over the period from 2005-2009. Table 1 provides the reconciliation from the Corporate Library clawback database to our final sample.

[Table 1]

In order to investigate empirically the characteristics of firms that voluntarily adopt clawback provisions, we compare them to the remaining firms in the S&P 1500 for which all of the required data are available.[1] The number of non-clawback firms in the control sample is 1,071. Descriptive statistics for the clawback and control samples are presented in Table 2. On average, clawback firms are significantly larger than the control firms as measured by the log of total assets in the year prior to clawback adoption. This is compelling evidence that the very largest firms are most likely to adopt clawback provisions since both the clawback and control samples are part of the S&P 1500. Additionally, clawback firms have significantly more restatements for irregularities than the control sample, but the rate of restatements for errors is about the same across the two groups. The clawback sample is also more likely to have issued debt than the control sample. Our fourth hypothesis suggests that firms engaged in M&A are more likely to adopt clawback provisions, especially in the case where the transactions were overvalued. Our univariate results indicate that clawback firms are more likely to have paid extraordinary M&A bonuses, as defined by Grinstein and Hribar (2004), as well as to have incurred goodwill impairments. Our governance hypotheses suggest that firms with powerful executives are less likely to have adopted clawback provisions. While there is no difference between clawback firms and the control sample in terms of the incidence of the CEO also holding the title of Board Chair, the CEOs of clawback firms have significantly shorter tenures than the control sample. Additionally, the CEOs of clawback firms have a smaller portion of

[1] As in Chan et al. (2011) and Wu and Zhang (2009) we choose to use a population-based (S&P 1500) control sample rather than using a matched sample. Zmijewski (1984) cites several methodological concerns regarding a matched-pairs research design including asymptotically biased parameter and probability estimates.

their cash compensation paid as bonuses and they also own a smaller percentage of the firm's shares. Finally, clawback firms have a larger proportion of inside directors and significantly more directors than the control sample. To summarize, the descriptive statistics and the univariate tests of differences across the clawback and control samples support our hypotheses that clawback firms tend to be larger, have had prior restatements resulting from irregularities, have paid M&A bonuses and experienced goodwill impairments and finally, clawback firms tend to have less powerful executives.

[Table 2]

Table 3 provides descriptive information about the distribution of the clawback and control samples by industry. The industries reported in the table are as defined by Fama and French (1997). The clawback sample is primarily from the utility (7.54%) and business services industries (7.14%). The largest percentage of firms in the comparison sample is in business services (10.15%) followed by electronic equipment (7.09%). The remaining industry representation is similar across the two groups.

[Table 3]

Cross Sectional Analysis

The results from our multivariate analyses are presented in Tables 4 and 5. The results presented in Table 4 relate to our hypotheses regarding firm characteristics and incentives to adopt clawback provisions. The first column in Table 4 reports the results from the base model that includes only firm characteristics. The results indicate that firm size is positively and significantly (at the 1% level) related to the likelihood of clawback adoption. No other firm characteristic (i.e., profitability and market-to-book ratio) differentiates the clawback and control samples. In untabulated analyses we also consider other factors related to the size and visibility

of the firm. The results indicate that the level of institutional ownership, the number of analysts following the firm and whether the firm utilizes a Big 4 auditor are not significant determinants of the likelihood the firm voluntarily adopts a clawback provision.

In the second column of Table 4 we estimate the base model along with variables that capture firm-specific incentives to adopt clawback provisions, e.g., restatements, equity and debt issuance and significant M&A bonuses. Although the univariate results indicated that clawback firms are more likely to have had restatements for irregularities than the control sample, once we control for other factors influencing the likelihood of clawback adoption, none of the restatement variables is significant. This result is in direct contrast to the Addy et al. (2011) and Gao et al. (2011) results. Addy et al. (2011) find that restatements resulting from irregularities are significantly related to clawback adoption in their sample of S&P 500 firms. Gao et al. (2011) find that restatements are the most important determinant of the decision to voluntarily adopt a clawback provision. Further, Gao et al. (2011) do not differentiate among types of restatements as suggested by Hennes et al. (2008) as we do and yet we still find no incremental impact of restatements on the likelihood of clawback adoption. Although our data are from the period after SOX, our results are consistent with those in Hennes et al. (2008) and Burks (2009) who report that the severity of restatements decreases after SOX. Therefore it is less likely that they are motivating factors in the decision to adopt a clawback provision.

The remaining results support our hypotheses regarding firm incentives. Specifically, they indicate that firms that have recently issued equity are marginally more likely to adopt clawback provisions. These firms rely on access to the capital markets and therefore likely benefit from the positive signal that clawback adoption gives to investors. It is interesting to note that there is no significant difference between clawback adopters and the control sample in

terms of debt issuance in the multivariate analyses as there was in the univariate tests. Since the equity issuance results are only marginally significant (at the 10% level) they should be viewed with caution. However, the overall pattern suggests that clawback firms perceive more benefit to adopting clawback provisions in equity markets than in the public debt market once all other firm characteristics and incentives are taken into account.

The most significant factors in explaining the likelihood of clawback adoption besides firm size are the payment of extraordinary M&A bonuses and the recognition of goodwill impairments. Recall that Grinstein and Hribar (2004) find that 39% of the acquiring firms in their sample cite the completion of M&A deals as a reason for rewarding their CEOs with special (i.e., extraordinary) cash bonuses. They also find that managerial power explains much more of the variation in the M&A bonuses than measures of managerial effort or performance in the process of an M&A deal. Our results indicate that the payment of extraordinary M&A bonuses in the past and the recognition of goodwill impairments are positively and significantly related to the likelihood of clawback adoption.

[Table 4]

The results in Table 4 support our hypotheses that prior firm experiences, e.g., interaction with equity markets, M&A transactions and goodwill impairments, significantly influence the likelihood that firms voluntarily adopt clawback provisions. In Table 5 we expand our analyses to consider the impact of managerial power and the structure of the board of directors on the likelihood of clawback adoption. Model 3 in Table 5 includes all of the variables estimated in Model 2 of Table 4 along with several CEO characteristics. These characteristics, CEO/Chair duality, CEO tenure, bonus to cash compensation and CEO ownership are intended to capture the extent of CEO power and influence (Adams et al. 2005). Our results indicate that there is no

difference between the clawback and control samples in terms of the incidence of CEO/Chair duality. These results differ from those in Addy et al. (2011) who find that firms with CEOs who also chair the board are more likely to adopt a clawback provision. There are several potential reasons for the differing results. First, Addy et al. (2011) focus on the S&P 500 and compare a sample of 145 clawback adopters to 351 firms without clawbacks. Second, they employ an index of governance features to explain the likelihood of clawback adoption along with the CEO/Chair duality variable. Finally, they include other explanatory variables, like restatements resulting from irregularities, but they do not control for goodwill impairments and M&A bonuses. Therefore, it is difficult to compare the results from their estimation to ours since the treatment and control samples and models differ.

The remaining results in Table 5 indicate that CEOs of clawback firms have significantly shorter tenures than those in the control sample. There is empirical evidence that the longer the CEO's tenure (i.e., the more powerful he is), the less likely he is to choose directors who disagree with him (Westphal and Zajac 1994).[2] However, an alternative explanation for this result is that CEOs with longer tenure are the best performers and therefore there is less need for a clawback provision.[3] Since there is little incentive for a CEO to adopt clawback provisions, the more powerful she is, the less likely the board is to adopt the provisions. In either case, the expected relation is the same: firms with longer-serving CEOs are less likely to adopt clawback provisions. The CEOs of clawback firms have a smaller portion of bonus to cash compensation than those in the control sample. This suggests that when more of the CEOs salary is placed at

[2] In untabulated analyses we substitute CEO turnover for CEO tenure and find that it is significantly positively related to the adoption of a clawback provision. As one might expect, CEO tenure and CEO turnover are significantly negatively correlated.
[3] We thank Robert Bushman for this insight.

risk, the firm is less likely to adopt a clawback provision. Finally, there is no difference between clawback firms and the control sample in terms of the level of CEO ownership.

In the final model presented in Table 5 we examine the effect of the structure of the board on the likelihood of clawback adoption. The results indicate that the number of directors is positively and significantly related to the likelihood of clawback adoption. Taken together, we find that after considering firm characteristics and incentives, managerial power and board characteristics, the most significant factors explaining the likelihood of clawback adoption are the size of the firm, profitability, equity issuance, payment of extraordinary M&A bonuses, goodwill impairments and the size of the board. The factors that reduce the likelihood of adoption are CEO tenure and the ratio of bonus to cash compensation.

[Table 5]

Robustness Tests

In order to triangulate the research questions and reduce any potential effects of endogeneity and correlated omitted variables, we conduct two additional analyses. First, we examine the relation between the nature of the clawback provision adopted and firms' characteristics and incentives. Firms choose among three types of provisions. The majority of the firms, 47%, chooses fraud-based provisions, while 34% choose performance-based provisions. The remainder chooses non-compete and other general types of provisions. Levine and Smith (2010) model the efficiency of clawback provisions and determine that if earnings are less informative about effort than cash flows, then a full-clawback provision is best. However, if earnings are more informative, then a partial clawback is better. Their results suggest that the effectiveness of clawback provisions is dependent on firm-specific characteristics. In our

primary analyses we document that the choice to voluntarily adopt any type of provision is related to the extent of managerial power, firm characteristics, M&A bonuses and goodwill impairments. We conjecture that the choice of the type of provision is also likely related to these characteristics in a predictable manner.

In order to test our conjecture, we categorize the clawback provisions according to the nature of the provisions (i.e., fraud-based, performance-based and non-compete). Then we examine whether the determinants of and incentives for adopting clawback provisions differ systematically across the types of provisions. In untabulated results of the descriptive statistics by clawback type we find that 139 (56%) firms adopt fraud-based clawback provisions, 88 (35%) adopt performance-based provisions and only 22 (9%) adopt non-compete provisions.[4] In univariate tests (untabulated) the only significant difference we find between the two groups is the level of CEO ownership. The level is significantly higher in firms that adopt performance-based provisions than in the firms with fraud-based provisions. The results from the multivariate analysis by clawback type are presented in Table 6. We estimate a multinomial logistic regression to determine the likelihood of adopting a fraud-based, performance-based or non-compete clawback provision. The results indicate that firm size and profitability are positively related to the decision to adopt a fraud-based provision. Additionally, firms that adopt fraud-based provisions are more likely to have issued debt. Consistent with our previous analyses we find that firms that have paid M&A bonuses and experienced goodwill impairments are more likely to adopt fraud-based provisions. With regard to CEO characteristics and clawback adoption we find that the longer the CEO's tenure, the larger the bonus, and the higher the CEO's ownership the less likely it is that a firm adopts a fraud-based provision. Finally, firms

[4] Three of our sample firms fail to provide enough information about the nature of the clawback provision adopted to determine the type.

with relatively large boards of directors are more likely to adopt fraud-based clawback provisions. The results for performance-based provisions are similar. Specifically, large firms with goodwill impairments are more likely to adopt performance-based provisions. The coefficient on goodwill impairment is almost twice as large (0.49 versus 0.85) as in the fraud-based regression. The recognition of a goodwill impairment is a clear indicator that past performance (i.e., the acquisition decision) was not as expected. However, it is not necessarily an indication of fraud. Therefore this variable is even more important in the decision to adopt a performance-based rather than fraud-based clawback provision. CEO tenure is not significantly related to performance-based clawback adoption. It appears that CEO tenure is only relevant in the decision to adopt fraud-based provisions where longer tenure reduces the likelihood of adoption. Overall, the results indicate that CEO characteristics are more important determinants of the decision to adopt fraud-based provisions while board characteristics play a more important role in the decision to adopt performance-based provisions since firms with larger boards and more inside directors are more likely to adopt performance-based provisions. Finally, the decision to adopt non-compete clawback provisions is only marginally related to debt issuance, CEO/Chair duality and the number of directors. Recall that only 9% of the clawback sample firms adopt non-compete provisions. The results indicate that the incentives of these firms are significantly different from those that adopt fraud and performance-based provisions.

Taken together the results indicate that while restatements from irregularities appear to make it more likely that firms adopt clawback provisions in general, when the analysis is refined to consider the type of clawback adopted restatements are not important determinants of the clawback adoption decision. It is also interesting to note that there is no incidence in the sample where a firm with restatements resulting from errors adopts a fraud-based clawback provision.

In fact, the results indicate that restatements resulting from errors have no effect on the likelihood of clawback adoption. Our results are in direct contrast to those in concurrent research by Addy et al. (2011) and Gao et al. (2011) regarding the impact of restatements on clawback adoption.

The results from the analyses of the interaction between goodwill impairments and clawback adoption indicate that firms with goodwill impairments are significantly more likely to adopt performance-based clawback provisions. These results suggest that companies choose the type of clawback provision to adopt based on their prior experiences with restatements and goodwill impairments. Restatements resulting from errors are considered unintentional and therefore do not influence the board's decision to adopt clawback provisions. The recognition of goodwill impairments is inherently subjective, but ultimately results from poor managerial judgment regarding a previous M&A transaction. Therefore performance-based clawback provisions are more appropriate for reclaiming bonus compensation earned from an M&A transaction that subsequently failed.

The second additional analysis that we consider is whether there is a relation between past incidents of backdating and the adoption of a clawback provision. The practice of backdating options, which effectively grants executives in-the-money stock options, has drawn scrutiny by the SEC and the Justice Department. The revelation that a firm has been accused of backdating options usually leads to stock price declines and financial restatements. Given that stock option compensation is granted in order to incent executives to perform in a manner that enhances the value of the firm, backdating the options essentially awards executives guaranteed compensation rather than contingent compensation. If the intention in granting the option compensation is to introduce uncertainty, having the ability to retrieve the compensation in the

case of backdating retains that goal. If options become valuable (in-the-money) through backdating rather than through increased stock prices, it may be in the best interest of shareholders to reclaim the options. Westphal and Zajac (1994) hypothesize and find evidence that firms may pursue legitimacy by acting symbolically to control agency costs. This would suggest that the boards of firms identified as option stock option back-daters may be compelled to adopt clawback provisions in an effort to restore their credibility with stakeholders' in the face of adverse disclosures (i.e., stock option back-dating). The adoption of a clawback provision may signal to stakeholders that the board of directors has regained control of the compensation process and that the CEO no long has influence over the board (Westphal and Zajac 1994, 370).

In order to text this conjecture, we search the Options Scorecard maintained by the Wall Street Journal through September 2007. The Scorecard lists companies that have been investigated by the SEC and/or Justice Department for potentially backdating past stock option grants. Among the 134 companies listed, we were able to match 64 of our sample and control firms by name. Included in the group of 64 are only 21 that were actually cited for backdating at the completion of the investigation. Despite the small sample size, we attempt to ascertain whether there is any difference between the sample and control firms in terms of the incidence of backdating. The untabulated results from our analyses indicate that there are no significant differences.

In our final, untabulated, analyses we examine whether firm-specific characteristics and incentives to adopt clawback provisions change over time as clawback provisions become institutionalized components of compensation contracts (Westphal and Zajac 1994). Initially firms are likely to adopt clawback provisions as a result of firm-specific characteristics and incentives to improve corporate governance. However, as more firms adopt these provisions,

other firms are likely to follow without regard to their firm-specific governance characteristics. The earliest adopters of clawback provisions may seek to reduce agency costs and improve firm performance by aligning CEO and shareholder interests while later adopters might incorporate the provisions into formal compensation arrangements as a normative component of compensation contracts (Westphal and Zajac 1994). Therefore, we perform tests of differences across the earliest and latest adopters. The untabulated results indicate that the only variable that differs across the two groups is profit. Among the later adopters, firm profitability is significantly related to the likelihood of clawback adoption. We interpret this result to mean that as the number of firms adopting clawback provisions increased over time, relatively more profitable firms might have experienced additional scrutiny because of their failure to adopt the provisions.

VI. SUMMARY AND CONCLUSION

The purpose of this research is to examine whether there are systematic differences in the characteristics of firms that voluntarily adopt clawback provisions and those that do not. We expect and find that the extent of managerial power relative to the power of the board of directors is negatively related to the likelihood of adopting clawback provisions. Further, firms that have paid large M&A bonuses and experienced value-reducing mergers and acquisitions are more likely to adopt clawback provisions. Contrary to the results from contemporaneous research, we find that only restatements resulting from *irregularities* are significantly negatively related to the likelihood of adopting *fraud*-based clawback provisions. The results from our analyses have implications for policymakers, and in particular the SEC, as it attempts to regulate the ability of executives to extract rents from shareholders through what is perceived to be excess

compensation through the provisions of Dodd-Frank. We do not attempt to assess the effect of the adoption of clawback provisions on managerial behavior and firm performance. Therefore, future research might examine the relation between the adoption of clawback provisions and subsequent firm performance.

REFERENCES

Aboody, D., M. E. Barth, and R. Kasznik, 2004. Firms Voluntary Recognition of Stock-Based Compensation Expense. *Journal of Accounting Research* 42: 123-150.

Adams, R.B., H. Almeida and D. Ferreira. 2005. Powerful CEOs and their impact on corporate performance. *Review of Financial Studies* (Vol. 18, No. 4): 1403-1432.

Addy, N. and T. Yoder. 2011. The decision to adopt a clawback provision. *The CPA Journal* (January): 58-63.

Addy, N., X. Chu, and T. Yoder. 2011. Recovering bonuses after restated financials: adopting clawback provisions. Working paper, Mississippi State University and Louisiana Tech University.

Barton, J., 2005. Who Cares about Auditor Reputation? *Contemporary Accounting Research* 22, 549-86.

Bebchuk, L.A., J. Fried, 2003. Executive compensation as an agency problem. *Journal of Economic Perspectives* 17, 71–92.

Bebchuk, L. and J. Fried. 2004. Pay without performance: the unfulfilled promise of executive compensation. Cambridge, MA: Harvard University Press.

Bebchuk, L.A., Fried, J.M., Walker, D.I., 2002. Managerial power and rent extraction in the design of executive compensation. *The University of Chicago Law Review* 69, 751–846.

Bliss, T. R. and R. J. Rosen, 2001. CEO compensation and bank mergers. *Journal of Financial Economics* 61, 107-138.

Burks, J. 2009. Disciplinary measures in response to restatements after Sarbanes-Oxley. *Journal of Accounting and Public Policy* (forthcoming).

Bushman, R., Q. Chen, E. Engel and A. Smith. 2004. Financial accounting information, organizational complexity and corporate governance systems. *Journal of Accounting and Economics* 37 (2): 167-202.

Chan, L.H., K.C.W. Chen, T. Chen and Y. Yu. 2011. The effects of firm-initiated clawback provisions on earnings quality and auditor behavior. Working paper, Hong Kong University of Science and Technology.

Cohen, D.A., A. Dey and T.Z. Lys. 2007. The Sarbanes Oxley Act of 2002: Implications for compensation contracts and managerial risk-taking. Working paper, NYU, University of Chicago and Northwestern University.

Collins, D., G. Gong and H. Li. 2009. Corporate governance and backdating of executive stock options. *Contemporary Accounting Research* Vol. 26, No. 2 (Summer): 403-45.

Core, J., R. Holthausen and D. Larcker. 1999. Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics* 51 (3): 371-406.

Dvorak, P and S. Ng. 2006. Check, please: Reclaiming pay from executives is tough to do. *The Wall Street Journal* (20 November): A1, A12.

Efendi, J., A. Srivastava, and E.P. Swanson. 2007. Why do corporate managers misstate financial statements? The role of option compensation and other factors. *Journal of Financial Economics* (85): 667-708.

Enrich, D., S.S. Munoz and A. Lucchetti. 2010. Banks see ways past pay limits. *The Wall Street Journal* (28 January):

Fama, E. and K. French. 1997. Industry costs of equity. *Journal of Financial Economics* 43: 153-93.

Fried, J. and N. Shilon. 2011. Excess-pay clawbacks. Working paper, Harvard Law School.

Grinstein, Y. and P. Hribar, 2004. CEO compensation and incentives: evidence from M&A bonuses. *Journal of Financial Economics* 73, 119-143.

Gao, X., M. Iskandar-Datta and Y. Jia. 2011. Piercing the corporate veil: The case for clawback provisions. Working paper, Wayne State University.

Hennes, K.M., A.J. Leone and B.P. Miller. 2008. The importance of distinguishing errors from irregularities in restatement research: The case of restatements and CEO/CFO turnover. *The Accounting Review* Vol. 83, No. 6 (November): 1487-1519.

Jensen, M.C., 1993. The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance* 48, 831–880.

Lee, L.-F., C. Shakespeare, and J.P. Walsh. 2009. The limits of empire: Asset churning and CEO Compensation. Working paper, Univeristy of Michigan.

Leone, A.J., J.S. Wu and J.L. Zimmerman. 2006. Asymmetric sensitivity of CEO cash compensation to stock returns. *Journal of Accounting and Economics* Vol. 42, Iss. 1/2 (October): 167-192.

Levine, C.B. and M.J. Smith. 2010. The relative efficiency of clawback provisions in compensation contracts. Working paper, Rutgers and Boston Universities.

Lublin, J.S. and C. Forelle. 2004. Recovering bonuses remains infrequent despite emphasis on corporate reform. *The Wall Street Journal* (12 October): C1.

Sidel, R. 2010. Wall Street toughens its rules on clawbacks. *The Wall Street Journal* (27 January): C1

U.S. House of Representatives. 2002. The Sarbanes-Oxley Act of 2002. Public Law 107-204 [H.R. 3763]. Washington, D.C.: Government Printing Office.

Watts, R. and J. Zimmerman. 1986. Positive Accounting Theory. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Westphal, J.D. and E.J. Zajac. 1994. Substance and symbolism in CEO's long-term incentive plans. *Administrative Science Quarterly* (39, 3):367-390.

Wu, J.s. and I.X. Zhang. 2009. The voluntary adoption of internationally recognized accounting standards and firm internal performance evaluation. *The Accounting Review* Vol. 84, No. 4 (July): 1281-1309.

Yermack, D., 1996. Higher market valuation of companies with a small board of directors. *Journal of Financial Economics* 40, 185–211.

Yermack, D. 2006. Flights of fancy: corporate jets, CEO perquisites, and inferior shareholder returns. *Journal of Financial Economics* 80, 211-242.

Zmijewski, M.E. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* Vol. 22 (Supplement): 59-82.

TABLE 1
Reconciliation with the Corporate Library Sample

Corporate Library original sample		736
less: coded as "no" for clawback		(98)
Corporate Library clawback sample		638
less TARP firms		(119)
Corporate Library voluntary clawback sample		519
plus hand collected firms		71
less hand collected firms with 2010 adoption date		(12)
Clawback sample		578
firms not available on ExecuComp	242	
firms not available on Compustat	34	
firms not on Audit Analytics	24	
firms not on Corporate Library	21	
firms not on Thomson	5	
total missing data		326
Final clawback sample		252

TABLE 2
Descriptive Statistics

	Clawback Firms				Non Clawback Firms				Difference	
	N	**Mean**	**Median**	**SD**	**N**	**Mean**	**Median**	**SD**	**t-stat**	**p-value**
Firm size	252	8.672	8.566	1.702	1071	7.558	7.473	1.556	-10.871	0.001
Profit	252	0.020	0.059	0.259	1071	-0.050	0.050	1.138	-0.979	0.164
Market to Book ratio	252	2.953	2.014	4.525	1071	2.139	2.035	32.388	-0.399	0.345
Restated - irregularity	252	0.067	0	0.251	1071	0.039	0	0.193	-2.227	0.013
Restated – error	252	0.151	0	0.359	1071	0.161	0	0.367	0.408	0.342
Equity Issuance	252	0.972	1	0.165	1071	0.965	1	0.184	-0.626	0.266
Debt Issuance	252	0.913	1	0.283	1071	0.818	1	0.386	-3.824	0.001
Extraordinary M&A Bonus	252	0.210	0	0.408	1071	0.297	0	0.457	2.932	0.002
Goodwill impairment	252	0.302	0	0.460	1071	0.184	0	0.388	-4.568	0.001
CEO chair	252	0.587	1	0.493	1071	0.584	1	0.493	-0.117	0.454
CEO tenure	252	5.361	3	5.926	1071	7.794	6	7.403	5.090	0.001
Bonus to cash compensation	252	0.093	0	0.207	1071	0.176	0	0.261	4.937	0.001
CEO ownership	252	14.099	4.956	30.145	1071	23.722	8.339	53.017	2.846	0.002
Inside directors percentage	252	0.231	0.222	0.082	1071	0.242	0.227	0.098	1.768	0.039
Number of directors	252	17.127	17	5.208	1071	13.279	13	5.131	-11.455	0.001

Firm Size: The logarithm of assets as of the end of t-1; *Profit*: net income divided by market value of equity; *Market-to-book ratio*: (shares outstanding in t-1*end of year share price at t-1) / (total assets at t-1 – total liabilities at t-1); *Restated - Irregularity*: Dummy variable equal to 1 if the restatement above is classified as an intentional (fraudulent) restatement, according to Hennes, Leone and Miller (2008), 0 otherwise; *Restated - error*: Dummy variable equal to 1 if the restatement above is classified as an unintentional restatement, according to Hennes, Leone and Miller (2008), 0 otherwise; *Equity issuance*: Dummy variable equal to 1 if the firm issued equity in the past 5 years. 0 otherwise; *Debt issuance*: Dummy variable equal to 1 if the firm issued debt in the past 5 years, 0 otherwise; *Extraordinary M&A Bonus*: An indicator variable that is equal to 1 if the firm has paid to the CEO M&A bonuses higher than sample median during the period from t-5 to t-1, and 0 otherwise; *GW Impairment*: An indicator variable that is equal to 1 if the firm has reported goodwill impairment losses following the M&A(s) during the period from t-5 to t-1, and 0 otherwise; *CEO-Chair*: An indicator variable that is equal to 1 if the CEO is the chair of the board at the end of t-1, and 0 otherwise; *CEO Tenure*: The number of years the executive has served as CEO for the firm as of the end of t-1; *Bonus to cash comp*: The amount of bonus paid to CEO at the end of t-1 divided by the cash compensation of the CEO at the end of t-1; *CEO Ownership*: Percentage of firm's shares owned by the CEO at the end of t-1; *Inside directors percentage*: The percentage of insiders on the board at the end of t-1; *Number of Directors*: The number of members on the board of directors at the end of t-1.

TABLE 3
Sample Distribution by Industry

Industry	Clawback		Non-Clawback		Industry	Clawback		Non-Clawback	
	No.	%	No.	%		No.	%	No.	%
Agriculture	1	0.40	8	0.25	Aircraft	1	0.40	10	0.31
Food Products	4	1.59	64	1.98	Shipbuilding, Railroad	1	0.40	7	0.22
Candy and Soda	2	0.79	10	0.31	Defense	2	0.79	15	0.46
Alcoholic Beverages	1	0.40	1	0.03	Precious Metals	1	0.40	5	0.15
Tobacco Products	0	0.00	4	0.12	Nonmetallic Mining Coal	1	0.40	18	0.56
Recreational Products	2	0.79	14	0.43	Coal	1	0.40	10	0.31
Entertainment	0	0.00	27	0.84	Petroleum and Natural Gas Utilities	13	5.16	139	4.30
Printing and Publishing	3	1.19	16	0.50	Utilities	19	7.54	167	5.17
Consumer Goods	4	1.59	51	1.58	Telecommunications	5	1.98	40	1.24
Apparel	1	0.40	50	1.55	Personal Services	4	1.59	36	1.11
Healthcare	5	1.98	70	2.17	Business Services	18	7.14	328	10.15
Medical Equipment	5	1.98	75	2.32	Computers	7	2.78	111	3.43
Pharmaceutical Products	10	3.97	99	3.06	Electronic Equipment	17	6.75	229	7.09
Chemicals	6	2.38	73	2.26	Measuring and Control Equip	7	2.78	80	2.48
Rubber and Plastic Products	1	0.40	20	0.62	Business Supplies	9	3.57	39	1.21
Textiles	0	0.00	18	0.56	Shipping Containers	1	0.40	21	0.65
Construction Materials	6	2.38	55	1.70	Transportation	10	3.97	93	2.88
Construction	6	2.38	47	1.45	Wholesale	8	3.17	108	3.34
Steel Works, Etc.	5	1.98	44	1.36	Retail	11	4.37	171	5.29
Fabricated Products	1	0.40	2	0.06	Restaurants, Hotel, Motel	5	1.98	66	2.04
Machinery	8	3.17	114	3.53	Banking	9	3.57	207	6.40
Electrical Equipment	3	1.19	50	1.55	Insurance	17	6.75	128	3.96
Miscellaneous	0	0.00	27	0.84	Real Estate	0	0.00	7	0.22
Automobiles and Trucks	2	0.79	52	1.61	Trading	9	3.57	206	6.37

TABLE 4
The Role of Firm Characteristics and Firm Incentives in Explaining the Likelihood of Adopting a Clawback Provision

	Predicted sign	Model 1			Model 2	
		Coef. Estimate	z-stat		Coef. Estimate	z-stat
Intercept	+/-	-5.789***	-15.55		-6.456***	-11.25
Firm size	+/-	0.400***	9.11		0.384***	8.27
Profit	+/-	0.260	1.19		0.411	1.48
Market-to-book ratio	+/-	0.002	1.24		0.002	1.19
Restated - irregularity	+				0.233	0.69
Restated - error	+/-				-0.147	-0.69
Equity issuance	+				0.545*	1.30
Debt issuance	+				0.274	1.10
Extraordinary M&A Bonus	+				0.468***	2.72
GW Impairment	+				0.649***	3.93
Pseudo R^2		0.06			0.08	
Number of observations		3484			3484	

The dependent variable is Clawback Adoption which is an indicator variable that is equal to 1 if the firm has voluntarily adopted a clawback policy in year t and 0 otherwise. *Firm Size*: The logarithm of assets as of the end of t-1; *Profit*: net income divided by market value of equity; *Market-to-book ratio*: (shares outstanding in t-1*end of year share price at t-1) / (total assets at t-1 – total liabilities at t-1); *Restated - Irregularity*: Dummy variable equal to 1 if the restatement above is classified as an intentional (fraudulent) restatement, according to Hennes, Leone and Miller, 2008, 0 otherwise; *Restated - error*: Dummy variable equal to 1 if the restatement above is classified as an unintentional restatement, according to Hennes, Leone and Miller, 2008, 0 otherwise; *Equity issuance*: Dummy variable equal to 1 if the firm issued equity in the past 5 years. 0 otherwise; *Debt issuance*: Dummy variable equal to 1 if the firm issued debt in the past 5 years, 0 otherwise; *Extraordinary M&A Bonus*: An indicator variable that is equal to 1 if the firm has paid to the CEO M&A bonuses higher than sample median during the period from t-5 to t-1, and 0 otherwise; *GW Impairment*: An indicator variable that is equal to 1 if the firm has reported goodwill impairment loss following the M&A(s) during the period from t-5 to t-1, and 0 otherwise. *, **, and *** represent the 10%, 5% and 1% significance levels, respectively.

TABLE 5
The Role of CEO Influence and Board Structure in Explaining the Likelihood of Adopting a Clawback Provision

	Predicted sign	Model 3 Coef. Estimate	Model 3 z-stat		Model 4 Coef. Estimate	Model 4 z-stat
Intercept	+/-	-6.068***	-10.17		-6.453***	-9.83
Firm size	+/-	0.385***	8.25		0.296***	5.25
Profit	+/-	0.439	1.54		0.532*	1.71
Market-to-book ratio	+/-	0.002	1.39		0.002	1.50
Restated - irregularity	+	0.168	0.51		0.036	0.11
Restated - error	+/-	-0.117	-0.55		-0.122	-0.58
Equity issuance	+	0.532	1.25		0.540*	1.26
Debt issuance	+	0.296	1.19		0.304	1.20
Extraordinary M&A Bonus	+	0.534**	2.31		0.433**	1.80
GW Impairment	+	0.582***	3.48		0.576***	3.47
CEO chair	-	-0.102	-0.66		-0.092	-0.60
CEO tenure	-	-0.042***	-2.55		-0.031***	-1.96
Bonustocashcompensation	+	-2.208***	-4.63		-1.835***	-3.63
CEO ownership	-	-0.001	-0.70		-0.002	-0.91
Inside directors percentage	-				0.998	1.23
Number of directors	-				0.051***	3.29
Pseudo R^2		0.10			0.11	
Number of observations		3484			3484	

The dependent variable is *Clawback Adoption* which is an indicator variable that is equal to 1 if the firm has voluntarily adopted a clawback policy in year t and 0 otherwise. *Firm Size*: The logarithm of assets as of the end of t-1; *Profit*: net income divided by market value of equity; *Market-to-book ratio*: (shares outstanding in t-1*end of year share price at t-1) / (total assets at t-1 – total liabilities at t-1); *Restated - Irregularity*: Dummy variable equal to 1 if the restatement above is classified as an intentional (fraudulent) restatement, according to Hennes, Leone and Miller (2008), 0 otherwise; *Restated - error*: Dummy variable equal to 1 if the restatement above is classified as an unintentional restatement, according to Hennes, Leone and Miller (2008), 0 otherwise; *Equity issuance*: Dummy variable equal to 1 if the firm issued equity in the past 5 years. 0 otherwise; *Debt issuance*: Dummy variable equal to 1 if the firm issued debt in the past 5 years, 0 otherwise; *Extraordinary M&A Bonus*: An indicator variable that is equal to 1 if the firm has paid to the CEO M&A bonuses higher than sample median during the period from t-5 to t-1, and 0 otherwise; *GW Impairment*: An indicator variable that is equal to 1 if the firm has reported goodwill impairment loss following the M&A(s) during the period from t-5 to t-1, and 0 otherwise; *CEO-Chair*: An indicator variable that is equal to 1 if the CEO is the chair of the board at the end of t-1, and 0 otherwise; *CEO Tenure*: The number of years the executive has served as CEO for the firm as of the end of t-1; *Bonus to cash comp*: The amount of bonus paid to CEO at the end of t-1 divided by the cash compensation of the CEO at the end of t-1; *CEO Ownership*: Percentage of firm's shares owned by the CEO at the end of t-1; *Inside directors percentage*: The percentage of insiders on the board at the end of t-1; *Number of Directors*: The number of members on the board of directors at the end of t-1. *, **, and *** represent the 10%, 5% and 1% significance levels, respectively.

TABLE 6
The Likelihood of Clawback Adoption by Type of Provision

		Multinomial Logit							
		Fraud-based			Performance-based			Non-compete	
	Predicted sign	Coef. Estimate	z-stat		Coef. Estimate	z-stat		Coef. Estimate	z-stat
Intercept	+/-	-7.182***	-8.36		-7.641***	-7.75		-18.976***	-0.03
Firm size	+/-	0.327***	4.79		0.308***	3.73		-0.048	-0.28
Profit	+/-	0.810*	1.79		0.659	1.35		0.051	0.25
Market-to-book ratio	+/-	0.003	0.5		0.003	0.41		0.001	0.11
Restated - irregularity	+	-0.316	-0.75		0.027	0.06		0.153	0.2
Restated - error	+/-	-0.090	-0.37		0.031	0.1		-1.399	-1.36
Equity issuance	+	0.528	0.98		0.376	0.61		12.417	0.02
Debt issuance	+	0.454*	1.32		-0.099	-0.29		1.401*	1.34
Extraordinary M&A Bonus	+	0.632**	1.85		0.295	0.68		-0.108	-0.13
GW Impairment	+	0.490***	2.43		0.849***	3.62		0.290	0.59
CEO chair	-	-0.01076	-0.06		-0.098	-0.41		-0.610*	-1.31
CEO tenure	-	-0.042**	-2.12		-0.012	-0.63		-0.031	-0.63
Bonustocashcompensation	+	-2.344***	-3.31		-1.391**	-1.68		-0.378	-0.24
CEO ownership	-	-0.006*	-1.36		0.001	0.19		-0.009	-0.65
Inside directors percentage	-	0.788	0.72		1.683*	1.31		0.528	0.21
Number of directors	-	0.044**	2.26		0.058***	2.45		0.091**	1.99
Pseudo R2		0.09							
Number of obs		3485							

The Multinomial Logistic Regression estimates the likelihood of the nominal dependent variable, clawback provision type. We estimate this model since the dependent variable consists of a set of categories which cannot be ordered in any meaningful way (i.e., it is not *categorical*) and consists of more than two categories. The independent variables are as defined in tables 4 and 5.