Clawback Provisions, Equity-based Compensation and

Audit Committees' Oversight Effectiveness

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Clawback provisions, equity-based compensation, and audit committees' oversight effectiveness

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ABSTRACT

This study first examines whether equity-based compensation (i.e., stocks and options) is associated with audit committees' oversight failures. I then examine whether this association between equity-based compensation and oversight failures is affected when firms initiate the clawback provisions in their compensation contracts. I use the likelihood of restatements, the incidence of internal control weaknesses (ICW), and earnings management measures to proxy for audit committees' oversight failures. Based on a sample of 129 firms that voluntarily adopt the clawback provisions during 2003-09 and a matched sample created from the propensity score matching technique, I find several important results. First, larger amounts and portions of stocks and options are associated with higher restatement and ICW likelihood and greater earnings management. Second, equity-based compensation appears to harm audit committees' oversight effectiveness. However, the adoption of the clawback provisions significantly mitigates such negative effect. Finally, the clawback provisions are effective in reducing restatements, ICW, and earnings management only when these provisions are triggered by "bad faith" rather than restatements. Overall, my empirical results bear policy implications on audit committees' compensation practice and the mandatory adoption of the clawback provisions.
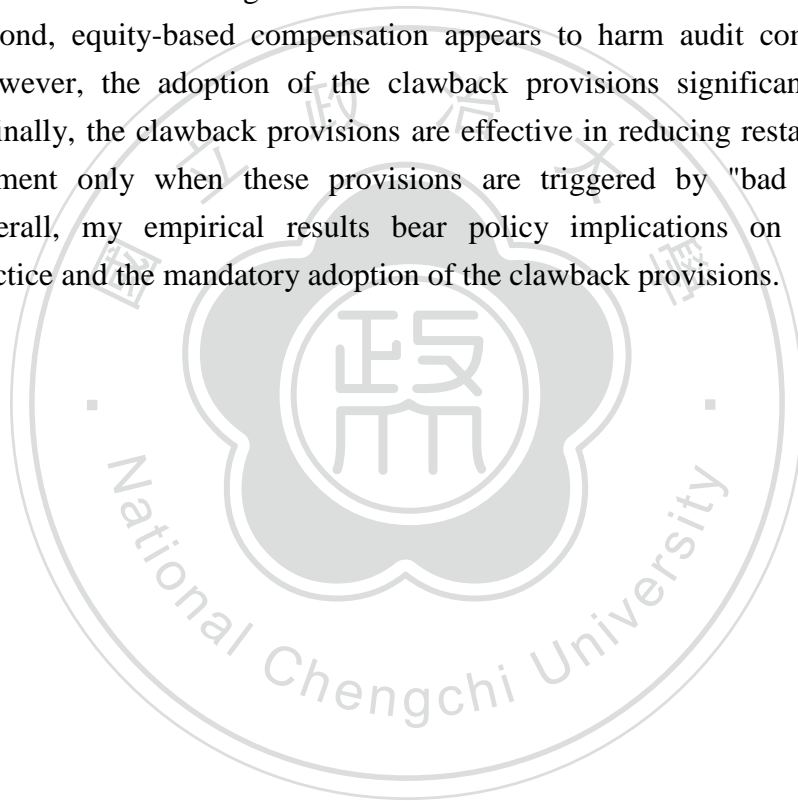
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CHAPTER 1　INTRODUCTION

1.1 Equity-based Compensation and Audit Committees' Oversight Effectiveness

Due to recent financial reporting scandals, regulators and researchers have emphasized the importance of corporate governance to enhance financial reporting quality and restore investors' confidence (e.g., Karamanou and Vafeas 2005; Srinivasan 2005). The Sarbanes-Oxley Act (hereafter, called SOX) marks a significant milestone for corporate governance and imposes numerous provisions on executives (Section 302, 305), board of directors (Section 301, 407), auditors (Section 201, 203), and internal control over financial reporting (Section 404). One major governance mechanism emphasized by the SOX is audit committee.[1] According to Section 301, audit committees should be fully independent so that they can effectively oversee corporate financial reporting, internal controls addressing key risks, and auditor activities such as appointment, dismissal, and the determinant of audit fees. In addition, Section 407 requires that audit committees contain at least one financial expertise. Prior auditing studies have examined whether and how audit committee characteristics (e.g., independence, expertise, composition, and diligence) affect firms' financial reporting (e.g., Bronson et al. 2009; Beasley 1996; Beasley et al. 2000; Dhaliwal et al. 2010; Klein 2002a, 2002b), auditor changes (e.g., Abbott et al. 2000; Carcello and Neal 2003; Chen and Zhou 2007; Lennox and Park 2007; Menon and Williams 2004, 2008; Naiker and Sharma 2009), and audit committees' oversight effectiveness (e.g., Beasley et al. 2009; Bédard et al. 2004; Srinivasan 2005).

More recent studies turn attention to audit committee compensation (e.g., Archambeault et al. 2008; Cullinan et al. 2010; Engel et al. 2010; Magilke et al. 2009). There are two possible reasons

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[1]Before the SOX regulation, the role of audit committees had received much attention. Since 1940, the Securities and Exchange Commission (SEC) has recognized that an audit committee could serve an important, and ultimately necessary, function in ensuring that a publicly traded company's financial reporting is accurate. In the 1970s, the New York Stock Exchange (NYSE) required boards of directors of listed companies to appoint an audit committee; in the 1980s, the National Association of Securities Dealers (Nasdaq) and American Stock Exchange (AMEX) subsequently followed suit. In February 1999, audit committees received attention when a committee composed of individuals from the NYSE, Nasdaq, public companies, and CPA firms issued the Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (available at www.nyse.com or www.nasd.com). The report recognized that the audit committee has a crucial role in ensuring high-quality financial reporting.

for the increased importance of audit committees' compensation. First, audit committees are subjected to many SOX previsions, leading to higher workload and liability exposures than other board members (Ward 2009). Therefore, board compensation has become more individualized to reflect members' different efforts and responsibilities. According to Hay's (2003) survey, 58% of the audit committee chairs and 19% of the audit committee members receive higher retainers than their counterparts on other board committees. Second, the equity-based compensation (including stocks and options) may be a potential source that may threaten audit committee independence. Stocks and options to compensate non-executive directors have been used by large U.S. firms (Hay survey 2003; Taub 2005; Winikoff 2006). Although the National Association of Corporate Directors (NACD 2001, 2003) supports the use of equity-based compensation, compensating audit committees with stocks and options could be problematic because equity ownership may increase the affiliation between audit committee members and the firms (Carcello and Neal 2003), leading to more financially dependent audit committees.

Prior studies use the pre-SOX sample and find that option grants reduce directors' monitoring of earnings management (e.g., Bédard et al. 2004) and are associated with accounting restatements (e.g., Archambeault et al. 2008) and internal control weaknesses (e.g., Cullinan et al. 2010). Engel et al. (2010) focuses on the determinants of audit committee compensation and finds that cash compensation is positively associated with the demand for monitoring financial reporting process.

The first purpose of this study is to test whether equity-based compensation is associated with audit committees' oversight effectiveness. Using S&P 500 firms and controlling for self-selection bias, I find that firms compensating their audit committees with equity-based compensation are more likely to incur restatements, internal control weaknesses, and engage in earnings management.[2] I also find that paying more cash compensation strengthens audit committees'

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[2]I use both accruals quality and real earnings management index to proxy for earnings manipulation. Audit committees are responsible for firms' financial reporting quality, Cohen et al. (2008) find that, while managers tend to use traditional accruals to manage earnings before SOX, they switch to the real activities after SOX. Because this research used post-SOX sample (i.e., year 2003 - 2009), I use real earnings management to proxy for audit committee' oversight failure.

oversight effectiveness.

This study differs from prior studies in four aspects. First, instead of focusing on option compensation, I extend Bédard et al. (2004) and Archambeault et al. (2008) by examining the differential effects cash, stocks, and options on audit committees' oversight effectiveness. Second, Cullinan et al.'s (2010) results may not be convincing because ICW in 2004-2005 are not suitable to proxy for ineffective audit committees' oversight. Firms could probably need more time and audit committees' effort to remedy those ICW in the starting two years of Section 404. My evidence regarding ICW is obtained from 2004 to 2009, and it could be better to test the research question. Third, while Engel et al. (2010) shows that firms having higher demand for monitoring financial reporting process pay more cash retainers to audit committees, I extend Engel et al. (2010) by showing that firms paying more cash compensation are likely to have less audit committees' oversight failure. Finally, once the Public Company Accounting Oversight Board (PCAOB) is steering its attention to audit committees, my empirical results suggest that regulators may need to put more restrictions on audit committees' compensation.[3]

1.2 The Clawback Provisions

Another important provision in SOX is the recoupment of executives' compensation or bonuses (i.e., the clawback provisions). Section 304 stipulates that certain bonuses previously paid to the executives could be forfeited or repaid to the issuer when restatements occur due to material noncompliance or misconduct. Since SOX authorizes the Securities and Exchange Commission (SEC) to recoup these bonuses, the clawback provisions under Section 304 is enforced *at the SEC level* (Fried and Shilon 2011). The SEC rarely enforces this provision due to the difficulty in assessing and proving managerial misconduct (Chan et al. 2012b).[4] Even though Section 304 is

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[3]An opening speech by Franzel (March 28, 2012): We heard from the participants a wide range of potential actions that could help improve the objectivity, credibility and reliability of financial audits, including: strengthening audit committee oversight and evaluation of the audit firm and audit process, including disclosures about the audit committee's activities;….

[4]The recoupment at SEC level is triggered in two cases. UnitedHealth Group recently recouped more than $450 million in compensation from its CEO, Dr. William McGuire, as a result of a stock options backdating scandal that was disclosed in 2006 (SEC 2007). In addition, Maynard Jenkins, former CEO of the car parts manufacturer CSK Auto Corp., was ordered to repay over $4 million in connection with firm financial reports for 2004 and 2007 that were subsequently restated (SEC 2009). It has been reported that the agency is contemplating similar action in a case

enforceable only by the SEC, a few listed firms began to establish their clawback provisions since early 2005. On March 26, 2006, the Council of Institutional Investors recommended to the SEC that firms should include policies for recapturing incentive pay following restatements in the Compensation Discussion and Analysis of their proxy statements. In response to this suggestion, the SEC revised the 2006 Disclosure Provision of Regulation S-K, stating that clawbacks constitute a material element of public firms' compensation of named executive officers and, therefore, should be disclosed.

Two recent Acts further reinforce the implementation of the clawback provisions. The first one is Section 111(b)(2)(B) of the Emergency Economic Stabilization Act (EESA) of 2008 (enacted on October 3, 2008), which require financial institutions have the repayment of executives' bonuses; the second one is Section 954 of the 2010 Dodd-Frank Act (signed on July 21, 2010), which rules that all listed firms to implement a policy to recover incentive compensation from any current or former executive after restatements that occur due to material noncompliance with financial reporting rules (U.S. Congress, 2010).[5] Different from SOX Section 304, the Dodd-Frank Act authorizes the board of directors to recoup the compensation.

While the SEC has decided to postpone the implementation of Section 954 to Middle 2012, a notable trend in the development of the clawback provisions is that many listed firms other than financial institutions voluntarily adopted their own provisions to recover bonuses before the Dodd-Frank Act.[6] Using firms voluntarily adopting clawbacks from 2007 to 2011, recent research examines the economic determinants of firms' voluntary adoptions (e.g., Brown et al. 2011; Addy et al. 2011; Gao et al. 2010), the impacts of clawback provisions on financial reporting quality and auditor behavior (e.g., Chan et al. 2012a; DeHaan et al. 2011), and market's reaction to such

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against Ian McCarthy, CEO of Beazer Homes (Esme 2009).

[5]The SEC must direct national stock exchanges to require each listed firm to adopt a policy to require the clawback of incentive compensation erroneously awarded to current and former executive officers during the three-year period preceding the date on which a firm is required to prepare an accounting restatement.

[6]The Corporate Library (2010) indicates that the number of firms with clawback provisions is increasing, albeit slowly, and this rise has continued. A total of 638 firms (18.9 percent) in The Corporate Library's coverage universe of 3,380 firms had a clawback provision as of January 19, 2010. About 39.8 percent of the S&P 500 have clawback provisions (194 firms), while 28.4 percent of the Russell 1000 have such a policy (284 firms).

voluntary adoptions (e.g., Gao et al. 2010). A well-crafted clawback policy can enhance a firm's overall compensation strategy by establishing a viable disincentive against fraud, misconduct, and excessively risky or otherwise harmful acts. Other regulatory agencies and the press explicitly recognize clawbacks as one of the tools a firm can use to manage compensation related risks (e.g., Leaders' statement 2009; Scott et al. 2010).

The firms voluntarily adopt clawback provisions by showing clawback information in the disclosure in firms' Compensation Discussion and Analysis (CDA), a portion of firms' definitive proxy statement (Form 14A-DEF). The clawback provisions are generally applied to all executives and board members. Since Caskey et al. (2010) points out that audit committees' penalties for not diligently collect information during their oversight process are too low, it is reasonable to expect that clawback provisions shall constitute a form of monetary penalty that may affect audit committees' *ex ante* effort in monitoring firms' financial reporting.

1.3 The Interaction of Equity-based Compensation and Clawback Provisions

Equity-based compensation and clawback provisions create two counterbalancing forces on audit committees' oversight effectiveness. On the one hand, prior auditing studies show that stock options could potentially weakens audit committee independence, leading to oversight failurs reported in restatements, internal control weakness and earnings management (e.g., Archambeault et al. 2008; Bédard et al. 2004; Cullinan et al. 2010). On the other hand, clawback provisions create one form of monetary penalties on audit committees' oversight failures (e.g., Caskey et al. 2010).[7] Therefore, whether firms' clawback provisions mitigate the adverse influence of equity-based compensation on audit committees' effectiveness is an empirical question and deserves more in-depth examination.[8] Currently, such evidence is rare, if exists.

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[7]While Caskey et al. (2010) concluded that audit committee parameters affect not just the *ex post* reporting process, but also the *ex ante* information-collection process, I extend this notion to suggest that misreporting penalties (i.e., clawback provisions) affect audit committees' *ex ante* effort on collecting due-diligence information.

[8]This empirical question seems to the *second-order* effect of clawback provisions. Although the first-order effect (i.e., the association clawback provisions and financial reporting quality) is tested in prior literature, I attempt to consider the role of audit committees on financial reporting process by showing the second-order effects. Considering audit committees and CEOs can help understand how clawback provisions affect firm participants' quality, leading to high financial reporting quality.

Using all S&P 500 firms and controlling for endogenous biases, I find that clawback provisions significantly mitigate the adverse effects of equity-based compensation on audit committees' oversight effectiveness. These findings enrich the growing literature that examines the association between equity-based compensation and audit committees' effectiveness (e.g., Archambeault et al. 2008; Bédard et al. 2004; Cullinan et al. 2010). To the best of my knowledge, my study is the first one that investigates the issue of whether firms' voluntary adoption of clawback provisions mitigates the unfavorable effects of the use of equity-based compensation for their audit committees.

Because a observed decrease in audit committees' oversight failure could be driven by the decreased CEO manipulation in reported earnings, I thus control for CEO compensation by classifying all sample into two subsamples: high and low CEO equity-based compensation groups. Desai et al. (2006) finds that, if managers understand that their fraudulent behavior will be penalized *ex post*, they should have less incentive to engage in earnings manipulation *ex ante*. The control for this possibility does not affect my empirical results notably, and clawback provisions themselves mitigates the adverse effects of the equity-based compensation for their audit committees, no matter what type of firms' CEO compensation.

While the content of clawback provisions may vary widely with the language of any particular contract, Chrry and Wong (2009) suggests that clawback provisions could be triggered under three circumstances: misconduct or fraud, the restatement of financial results, or the event of employees' bad faith. I use Chrry and Wong's (2009) categorization to analyze the possibly differential influences of these three triggers. Since regulators require firms to adopt recoupment policy on firms' compensation agreement from 2012, the evidence of differential trigger effects from voluntary clawback adoption provides implications for the mandatory clawback provisions.

I find that clawback provisions strengthen audit committees' oversight effectiveness, especially when firms use bad faith events as the trigger. This finding makes three contributions to the literature and the practice. First, Caskey et al. (2010) models a financial reporting process to define

audit committees' *ex ante* information-collection process. However, it is hard to observe audit committees' diligence during the financial reporting monitoring. I extend Caskey et al. (2010) by providing empirical evidence of the association between clawback provisions and the monitoring outcome of audit committees. Second, I show the differential effects of ckawback triggers. Although prior literature suggests that clawback provisions have a beneficial impact on financial reporting quality (e.g., Chan et al. 2012a; DeHaan et al. 2011), the diversity of clawback provision has not been discussed. The result in this paper indicates that the benefits of clawback provisions are driven by specific "bad faith" triggers. Third, my empirical results are expected to have useful implications for the mandatory clawbacks that will become effective in July 2012. Under Section 954 of the Dodd-Frank Act, clawback provisions will be triggered only when firms incur restatements. I find no significant association between restatement triggers and audit committees' effectiveness. Since CEOs and directors could engage in bad faith actions which probably do not cause restatements, regulators shall impose extra restrictions on the triggers of clawback provisions to increase the recoupment effects.

The remainder of this dissertation is organized as follows. Section 2 discusses the background, relevant literature and hypothesis development. Section 3 describes the sample selection procedure and research design. Section 4 reports the descriptive statistics and empirical results. Section 5 contains summary and conclusion.

CHAPTER 2　BACKGROUND, LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 Clawback Provisions

2.1.1 Institutional background

Firm's incentive contracts can require that awards be cancelled or "clawed back" (i.e., must be repaid to the firm) after financial statements are restated in order to enhance board's monitoring. Although some firms utilize clawbacks as a tool prior to 2002, Section 304 of SOX is the first federal statute to introduce that certain bonuses previously paid to the executives could be forfeited or repaid to the issuer. Under this provision, such forfeiture or repayment obligation applies only to the issuer's CEO and CFO and is triggered upon a restatement of the issuer's financial statements due to material noncompliance or misconduct. While SOX authorizes the Securities and Exchange Commission (SEC) to recoup bonuses, the SEC rarely enforce this provision due to its limited recourses and difficulty in proving managerial misconduct (Chan et al. 2012b).

Afterward, under the Emergency Economic Stabilization Act (EESA) of 2008 and the American Recovery and Reinvestment Act (ARRA) of 2009, the federal bail-out program re-introduced the concept of executive repayment of bonuses related to inaccuracies of financial statements.[9] These new rules apply to a broader group of executives and are widely viewed as critical to the Congressional approval of the federal bail-out program. In 2009, the Troubled Asset Relief Program (TARP) implements the bailout program's executive compensation provisions.[10] The interim final rule provides that any bonus payment with respect to certain executives of bail-out recipients must be subjected to a recovery or clawback provision, which is triggered under certain circumstances relating to materially inaccurate financial statements or performance metric criteria. A bonus payment for this purpose is broadly defined to include retention and incentive payments and will be deemed to have been made when the employee obtains a legally binding right

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[9]Under the employment agreement, the CEOs are required to repay certain bonus and incentive- or equity-based compensation they receive if firms are required to restate their financial statements as a result of CEOs' misconduct, consistent with Section 304 of the Sarbanes-Oxley Act of 2002.

[10]On June 10, 2009, the Department of the Treasury issued an interim final rule entitled "TARP Standards for Compensation and Corporate Governance." See 31 CFR Part 30, RIN 1505-AC09; scheduled for Federal Register publication on June 15, 2009.

to the payment. In addition, the TARP delegates the Secretary of the Treasury as the enforcement authority and requires each bailout recipient to meet appropriate standards for executive compensation and corporate governance. A key clarification in TARP is that firms are required to enforce the measures unless doing TARP clawbacks is demonstrably unreasonable.[11]

Firms' clawback provisions may bear little resemblance to the similar statutory measures found in the SOX and TARP legislation. Those clawback provisions are applied only to CEOs and CFOs of public firms under SOX, and to a certain number of top executives and highly paid employees under TARP. Importantly, only financial restatements arising from misconduct gives rise to the SOX clawback, which may be enforced solely by and at the discretion of the SEC. In contrast, Section 954 of the Dodd-Frank Act in 2010 requires all listed firms adopt and implement a policy on the recovery of incentive compensation based on erroneous financial statements that are later restated due to material noncompliance with financial reporting requirements. Since the clawback provisions are mandatory under the Dodd-Frank Act, and enforced by the boards, directors will become increasingly concerned with the compliance with Dodd-Frank Act. In light of the importance of the clawback provisions to firms' compensation strategy, shareholder groups, legislators, and compensation reform advocates are endorsing clawbacks as an effective tool to prevent undeserved windfalls by mitigating compensation-related risk.

2.1.2 The nature of clawbacks

The design and implementation of firms' clawback policy can dramatically affect how it is perceived, its efficacy as a deterrent against misconduct or harmful acts, and the extent to which it may be enforced. The clawback design is usually be informed by firms' goals for the clawback policy within the context of its existing compensation, recruitment and retention policies, and practices. Some firms and institutions specifically note the use of clawbacks as a factor to manage risks arising from incentive-based compensation.[12] Also, the corporate culture and the degree of

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[11]For example, the cost of enforcing the rights would exceed the amount to be recovered.

[12]The Group of 20 (G20) nations specifically endorsed clawbacks as a risk-management tool for the financial industry at their September 2009 Summit in Pittsburgh (Leaders' statement 2009). Specifically, Leaders' Statement (2009) stipulates that (emphasis added): "Reforming compensation practices to support financial stability: Excessive

shareholder commitment to good governance initiatives play a vital role in shaping the policy.

One important feature of the clawback provisions is the "trigger" to enforce the recoupment. Since firms employ voluntary clawback provisions for myriad purposes, the purpose of the clawback may affect the choice of triggers. Different triggers result in varying administrative responsibilities when the clawbacks are applied. The clawback provisions could be triggered at the time of the event of fraud or misconduct, the restatement of financial results, or the incidence of employee bad faith (Cherry and Wong 2009). In this study, I also analyze the trigger of clawback provisions using S&P 500 firms. Examples of selected clawback provisions are listed in Appendix A.

Clawback Triggers

The most prevalent trigger is a restatement due to fraud or misconduct. Many clawbacks are drafted to be triggered by violations of firm policy or misconduct actions. This type of clawbacks is perceived as a strategic policy against misconduct or harmful acts. For instance, Monsanto Company will return performance-based compensation in the event of a material restatement in the company's financials as a result of the misconduct or fraud on the part of the executive officers (see Appendix A). From the clawbacks lists in *Corporate Library* database, more than 40% of the clawback adopters employ this type of clawbacks. In fact, the "fraud or misconduct" trigger is consistent with Section 304 of SOX.

Clawback provisions can also be triggered by any material mistake or incorrect data found to be in applicable financial statements or performance criteria, regardless of an individual's knowledge. Some observed firms make no reference to misconduct, and the clawbacks could be triggered when the firm is required to "restate" its financial statement. For example, International

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compensation in the financial sector has both reflected and encouraged excessive risk taking. Reforming compensation policies and practices is an essential part of our effort to increase financial stability. We fully endorse the implementation standards of the FSB aimed at aligning compensation with long-term value creation, *not excessive risk-taking*, including by (i) avoiding multi-year guaranteed bonuses; (ii) requiring a significant portion of variable compensation to be deferred, tied to performance and *subject to appropriate clawback* and to be vested in the form of stock or stock-like instruments, as long as these create incentives aligned with long-term value creation and *the time horizon of risk*;……We task the FSB to monitor the implementation of FSB standards and propose additional measures as required by March 2010."

Paper Company adopted a policy regarding the adjustment and recapture of compensation in the event of a significant restatement of financial results for errors, omission, or fraud (see Appendix A). Under this type of clawbacks, if the financial statements are required to be restated as a result of errors, omission, or fraud, the board may, in its discretion, based on the facts and circumstances surrounding the restatement, direct that firm recover all or a portion of the equity award. Since the trigger to enforce clawbacks is not limited to restatements due to fraud or misconduct, it is closer to the Dodd-Frank Act.

Finally, some clawback provisions may have broader trigger which is called "bad faith" conduct. Some firms impose a clawback on cash bonuses paid to certain managing directors, and the provision is triggered if the employee takes a job with a competitor in the specific period following payment (Kleinman and Harrington 2009). "Bad faith" would include clawbacks triggered by a breach of a non-competition clause. Such performance-based triggers raise similar questions of accountability to those noted above. Some firms, like Automatic Data Processing Inc, recoup certain amounts of compensation awarded since that time when the participants engage in activity that is in conflict with or adverse to firms' interests (see Appendix A). Specifically, these clawbacks have triggers unrelated to erroneous or fraudulent financial data.

In practice, firms choose one or more triggers to strengthen enforceability of the clawback provisions. Although there are a variety of triggers to enforce clawbacks, Section 954 of the Dodd-Frank Act stipulates that firms can initiate their clawbacks only when restatements occur due to material noncompliance with financial reporting rules. The triggers result in different clawbacks enforceability for adopted clawbacks.

Enforcement Authority

For voluntary clawback adopters, each firm's unique circumstances, pay schemes, compensation strategy, and culture will determine the features of clawback provisions. In practice, there is significant uncertainty due to a lack of litigation involving enforcement of clawbacks for voluntary adopters. Another enforcement issue is whether the enforcement authority is definite (i.e.,

giving directors discretion to waive the clawbacks). It is generally preferable that the compensation committee, given its independence requirements, to be delegated with enforcement responsibility because the inherent complexity offers compensation committees the opportunity to tailor firms' clawback provisions to its individual needs, goals and existing arrangements (Scott et al. 2010).[13] With adequate authority, compensation committees could assess the appropriateness of implementing a clawback policy, and, just as importantly, consider modification of clawback measures that are already in place.

Clawback provisions that provide firms considerable discretion in applying and enforcing the provisions will generally leave firms with more options in such cases.[14] It is a good practice to determine default procedures to be followed in order to ensure consistent and fair implementation of the clawback. Arbitrary exercise of discretion in applying a clawback could open the door to accusations of bias, retaliation or other bad faith in enforcement actions (Scott et al. 2010). Many firms, like Rockwell Automation, Inc., International Paper Company, Automatic Data Processing, Inc., and Rowan Companies, Inc., state clearly that the compensation committee or the board have the discretion to enforce the clawbacks. Appendix A reports some of these examples. In this study, I will also consider the enforcement authority in my analyses.

2.1.3 Evidence of clawback provisions

Clawback provisions became an important issue in executive compensation in the wake of the 2007-2008 credit crisis (Brown et al. 2011). Therefore are four research lines for clawback provisions adoption. First, some studies discuss the economic determinants of firms' voluntarily adopting clawback provisions in executive compensation contracts. Addy and Yoder (2011) reports that 29% of the S&P 500 firms have adopted clawback provisions. They conjecture that firms

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[13]If inside directors or other officers are involved, enforcement decisions could be constrained due to associations with those subject to the clawbacks. Therefore, Dodd-Frank Act in 2010 requires U.S. public firms to have fully independent compensation committee members.

[14]However, some reports stated that too much discretion could call into question the firm's dedication to the clawback's effectiveness, lessen its deterrence effect and invite shareholder proposals for stricter measures (e.g., Fried and Shilon 2011; Scott et al. 2010). In my opinion, because neither the firm nor any of its shareholders can sue to enforce section 304, SEC has rarely enforced the clawbacks. It is recommended that the enforcement authority should be more definite and the enforcement body has sufficient discretion to take into account unforeseen extenuating circumstances as may be appropriate.

voluntarily adopt the provisions because they are less costly to enforce than equity claims based on unjust enrichment. Prior studies find that firms with more independent governance (Addy et al. 2011), larger firm size (Brown et al. 2011), and previous financial restatements (Gao et al. 2010) are more likely to voluntarily adopt clawback provisions. In addition, influential CEOs (i.e., those where the CEOs are also the chairman of the board) reduce the likelihood that a firm will adopt a clawback provision (e.g., Addy et al. 2011; Brown et al 2011).

Second, some research suggests that clawbacks are effective governance mechanisms that improve financial reporting quality and affect auditor behavior. For example: Chan et al. (2012a) uses all firms covered in the Russell 3000 from 2005 to 2009 and shows that voluntary clawback adoptions lead to a reduction in financial misstatements. Also, market reacts favorably to such voluntary adoption by higher earnings response coefficients, implying that firm-initiated clawbacks appear to be an effective deterrent of financial misstatements. Notably audit fees are lower after clawback provisions are adopted because auditors may perceive clawback adopters as associated with lower control risk, leading to lower audit risk. In another study, Chan et al. (2012b) finds that, while clawback-adopting firms reduce accruals management, they increase real transactions management (e.g., reduce R&D expenditures), especially when firms have pressure to meet or beat earnings benchmarks. Chan et al.'s (2012b) empirical results further show that engaging in more real transactions after clawbacks mainly occurs in firm-years in which the actual earnings meet or just beat earnings benchmarks. These results imply that, although clawbacks deter managers from engaging in financial misreporting, clawbacks do not fully eliminate earnings management.

The third research issue is to test market reaction. By adopting clawback policies, firms may signal the quality of their governance is that they can access to more capital with lower costs (Brown et al. 2011). Gao et al. (2010) finds a significantly positive market reaction to the announcement of clawback adoption, as well as a reduction in bid-ask spreads following clawback adoption, particularly in firms with previous restatements. Finally, some studies focus on changes of CEO compensation. Prior literature finds that adopting of clawback provisions appears to

increase executive compensation (e.g., Babenko et al. 2012; Chen et al. 2012; DeHaan et al. 2011) and deduce CEO tenure (e.g., Babenko et al. 2012). Clawbacks adoption is also associated with smaller higher CEO pay-performance sensitivity (e.g., Chen et al. 2012).

Appendix B summarizes current studies that have examined the clawback provisions from different aspects. Although prior studies show that clawbacks adoption strengthens earnings quality (e.g., Chan et al. 2012a; DeHaan et al. 2011) and investors have positive reaction to clawback provisions adoption (Gao et al. 2010), little research has discussed how clawback provisions interact with other governance mechanisms to improve financial reporting quality. I attempt to consider the influence of clawback provisions on audit committees' monitoring process of financial reporting.

2.2 Audit Committee Compensation

Even though the agency theory suggests that equity-based compensation can align board members' monitoring incentives with the shareholders (Dalton et al. 2003; Hillman and Dalziel 2003; Monks and Minow 2001), the use of stocks and options has became more problematic in recent years as boards recruit more independent outside directors who are less financially independent than executives who traditionally serve on firms' boards (Zong 2004).

The stock ownership, which makes audit committees economically dependent on the firms, may increases the affiliation between audit committee members and the firms and, thus, the likelihood that the audit committees side with management (Carcello and Neal 2003). Since audit committees play conflicting roles to manage business operations and oversee board decisions simultaneously (Ezzamel and Watson 1997), equity-based compensation could affect audit committees' monitoring effectiveness. Two studies use the pre-SOX data and provide similar evidence. Bédard et al. (2004) shows that stock options may reduce audit committees' monitoring of earnings management to increase either current earnings (positive earnings management) or those of future years (negative earnings management). This is because audit committee members may have a short-term perspective with respect to their ownership stake (Leonhardt 2002), and

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equity-based compensation makes outside members become insiders, which contradicts the traditional definition of independence.[15] In another study, Archambeault et al. (2008) uses restatements announced during 1999 and 2002 to show that both short-term and long-term options are associated with higher restatement likelihood.

In contrast, Cullinan et al. (2010) uses 456 post-SOX firms that have ICW during 2004 and 2005 to examine the association between the likelihood of ICW and option compensation for audit committees. They report a marginally significant association between stock compensation and the incidence of ICW, and conclude that firms with a stock option plan for their audit committees are significantly more likely to report an internal control weakness. Engel et al. (2010) shows that, firms facing a higher demand for monitoring of the financial reporting process pay higher total compensation and cash retainers to their audit committees.

My study differs from the above studies in three aspects. First, since the level of audit committee compensation increases substantially after SOX (Linck et al. 2009), the findings reported in Bédard et al. (2004) and Archambeault et al. (2008) may be different in the post-SOX period. Second, these two studies focus on the analysis of option compensation, and there is a lack of evidence of differential compensation components. It is not clear that, how cash and stock compensation affect audit committees' oversight effectiveness. Finally, the implication from Cullinan et al.'s (2010) findings is limited because the reported ICW do not necessarily mean that the audit committees are not effective. It is possible that the audit committees effectively identify the weakness and thus initiate the auditor (and management) to report ICW. Rather than using ICW alone, I use outcome measures to capture the audit committees' oversight effectiveness.

2.3 Hypothesis Development

Prior experimental research has shown that cash compensation does not create direct incentives for audit committees to prefer biased reporting. Magilke et al. (2009) finds that students serving as audit committee members are least biased when there is no stock-based audit committee

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[15]Prior studies have defined audit committee independence using whether audit committee members are employees or affiliators of the firm (e.g., Klein 2002a; Abbott and Parker 2004; Lennox and Park 2007).

compensation. This suggests that if the audit committees are paid in cash, financial reporting quality shall improve. In a recent empirical research, Engel et al. (2010) shows that firms having higher demand for monitoring financial reporting process pay more cash retainers to audit committees. The cash compensation for audit committee might be a tool to strengthen the effectiveness of monitoring financial reporting. Based on the above findings, I assume that increasing the amounts and portions of cash compensation may improve audit committee independence. I posit the following hypothesis:

H1a: The amounts and portions of the cash compensation are negatively associated with audit committees' oversight failure.

Before SOX, the exchanges' listing requirements provide for the appointment of certain affiliated directors if the board determines it is in the best interests of the firm for these individuals to serve on its audit committee (Klein 2002b; NYSE Rule §303.01[B][3][b]; NASDAQ Rule 4310[c][26][B][ii]). Therefore, many audit committees did not have fully independent outside directors before SOX (Klein 1998, 2002b; Vicknair et al. 1993). The pre-SOX studies use the percentage of outsiders (who may or may not own firms' shares) on the audit committees (e.g., Bédard et al. 2004; Klein 2002a; Abbott and Parker 2000) and whether audit committees do not include employees (e.g., Abbott et al. 2000; Lennox and Park 2007) to measure audit committee independence. Because the inside-affiliated directors probably hold firms' shares before they became members, the issue of equity-based compensation is not important in the pre-SOX period. However, Section 301 of SOX mandates that audit committees be composed entirely of independent directors, and thus, audit committee members' stock ownership exists almost from the equity-based compensation. Therefore, an investigation of the association between equity-based compensation and audit committee independence becomes important.

When firms reward audit committees by equity-based compensation, an affiliation relation occurs between the audit committees and the firms because audit committee members' wealth is

tied closely with firms' reported performance.[16] Archambeault et al. (2008) shows that firms with option compensation for their audit committees are significantly more likely to have higher likelihood of restatements. However, they use the pre-SOX data, and their finding may be different in the post-SOX period because the pre- and post-SOX restatements tend to be caused by different types of misstatements (Hennes et al. 2008). Archambeault et al. (2008) focuses on options purely, and only use restatements as the measure of audit committees' oversight effectiveness. Cullinan et al. (2010) uses ICW in 2004-2005 as the measure of audit committees' oversight failures only and finds that firms with option compensation are more likely to report ICW. The concerns about their findings are that ICW may reflect effective audit committees and firms are still in their learning stage in 2004-2005. Thus, Cullinan et al.'s (2010) results may not be convincing. In light of the potential problem of audit committees compensated by firms' stocks and options, I consider both stock and option compensation in this study and predict a positive association between equity-based compensation and audit committees' oversight failure. These give rise to the following hypotheses:

> **H1b:** *The amounts and portions of the stock compensation are positively associated with audit committees' oversight failure.*

> **H1c:** *The amounts and portions of the option compensation are positively associated with audit committees' oversight failure.*

Recently, shareholders, legislators, and compensation reform advocates have endorsed clawback provisions as a tool to prevent executives and employees from retaining undeserved windfalls and to enhance pay-for-performance initiatives (Scott and Bradley 2010). While

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[16]With respect to the qualification of the independence, the SOX states that an audit committee member cannot accept any fees from the company other than for serving as a director, and cannot be an affiliated person of the company or any of its subsidiaries. Under NYSE rules approved on August 1, 2002, audit committees must consist of a minimum of three members. To be independent, a director must not have any relationship with the company that interferes with the exercise of independent judgment, and must not have worked for the company within the past three years. NASDAQ's board of directors approved similar rules on July 24, 2002, and amended them on August 21, 2002, to reflect certain provisions of the Sarbanes-Oxley Act. AMEX's board of directors also approved new corporate governance rules conforming to the Act in September 2002. Accordingly, companies should ensure that current and new audit committee members have no potential *conflicts of interest* that may interfere with their ability to act independently from management (Buchalter et al. 2003).

clawback provisions can be employed for a variety of purposes, many clawbacks are drafted to be triggered under violations of firm policy or ethical misconduct. Desai et al. (2006) points out that, if managers understand that their fraudulent behavior will be penalized *ex post* through a loss in wealth, job, and/or reputation, they should have less incentive to engage in earnings manipulation *ex ante*. Similarly, Caskey et al. (2010) indicates that the misreporting penalty affects not only audit committees' *ex post* reporting process, but also their *ex ante* information-collection process. Therefore, clawback provisions may serve as an effective tool in strengthening audit committees' oversight effectiveness.

Since clawback provisions impose restrictions against illusory gains for board compensation, it is reasonable to assume that clawbacks could improve board governance.[17] Specifically, firms may be more interested in ensuring that incentive pay is based on appropriate time horizons because clawbacks can offer a backstop against payments of bonuses (including cash, stocks, and options) based on fleeting or illusory gains in performance metrics (Scott and Bradley 2010).[18] Since the equity-based compensation may weaken audit committees' independence while clawback provisions could improve audit committees' oversight effectiveness, the issue of whether the positive effect of clawback provisions outweighs the negative effect of equity-based compensation becomes an empirical one. Currently, no studies have ever examined this issue. I thus posit the following hypothesis:

H2: *Firms' voluntary adoption of the clawback provisions will change the association between equity-based compensation and audit committees' oversight failure, if exist.*

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[17]The litigation risk due to firms' recoupment enforcement is expected to affect board governance. The growth of shareholder litigation against directors coupled with the media attention and reputational damage to the directors who are sued, and to some extent to all directors. Lipton (2008) indicates that, to compound pressures on boards, shareholder litigation and other public attacks on board members have been undermining the willingness of some of the most qualified individuals to serve as directors.

[18]Engel et al. (2010) indicate that cash compensation for audit committee is positively associated with firms' demand for financial reporting monitoring. Chan et al. (2012a) suggest that clawbacks are effective governance mechanisms that improve financial reporting quality. Therefore, it is expected that firms using more cash compensation are less likely to have audit committees' oversight failure when firms adopt clawback provisions.

CHAPTER 3 RESEARCH DESIGN

3.1 Data and Sample Selection

The list of clawback adopters is available from the *Corporate Library* database. There are 195 S&P 500 firms adopting clawback provisions. Twenty-six financial institutions (SIC codes 6000-6999) are excluded because of their unique operating environment and accounting practices. To ensure that firms' clawback provisions are applied to audit committees, I review the content of clawback provisions and further eliminate 38 firms whose clawback provisions are applied only to CEOs or executive board members but not the audit committees.[19] Two firms changing their clawback provision coverages are also deleted from the sample. The final clawback adopters consist of 129 firms. Panel A of Table 1 presents the sample selection procedure.

[Insert Table 1 here]

The original sample consists of 3,500 S&P 500 firm observations during fiscal years from 2003 to 2009.[20] Five hundred and ninety-five financial institutions (SIC codes 6000-6999) are excluded because of their unique operating environment and accounting practices. Three hundred and fifty-three observations are excluded due to incomplete financial and corporate governance data. I further hand-collect audit committees' compensation and background information from firms' definitive proxy statement (Form DEF 14A) using the EDGAR database. One hundred and forty-five observations are eliminated due to missing compensation data. The above procedures give rise to the sample consisting of 2,407 firm-year observations, which are used to estimate firms' propensity scores. I use a matched-pair procedure and obtain matched sample by identifying the pairings that result in observations with the smallest propensity score differences. Because there are 281 firm-year observations with voluntary adoption, 562 observations are used in the analysis. Thirty-eight observations are excluded due to missing ICW information. Panel B of Table 1

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[19]The survey results from TheCorporateCounsel.net report that about 25.9% of clawbacks only apply to executive officers.

[20]I use S&P 500 firms in this research because of the greater disclosures of audit committee compensation for larger size firms. Since firms with high market values are more likely to disclose corporate information voluntary (Bamber et al. 2010), this compensation data is available for most S&P 500 firms.

presents this sample selection procedure.

I specifically identify the years of adopting the clawback provisions from firms' proxy statements. I use restatements coded in *Audit Analytics* to identify firms that restate their financial statements during the sample period. I also identify ICW firms from *Audit Analytics* if firms reported internal control weaknesses in their SOX Section 404 report.[21] Each sample firm's financial data are collected from *Compustat*. Other corporate governance information is collected from *ExecuComp*, *CRSP*, and *Audit Analytics*.

3.2 The Endogenous Biases

Firms' decisions to voluntarily adopt clawback provisions are endogenous prior to the enactment of Dodd-Frank Act. To ensure that the expected correlation between clawback provisions and audit committees' effectiveness is not driven by the determinants of this voluntary adoption feature, I use propensity score matching to control for this endogenous (self-selection) problem.

I employ propensity score matching but not Heckman's (1979) two-stage model for two reasons.[22] First, Heckman et al. (1997) selection model is more likely to suffer from multicollinearity problems when there are no exclusion restrictions (i.e., which of the independent variables in the first stage model should be excluded from the second stage model). If there are no exclusion restrictions, the inverse mills ratio is correlated with the independent variables in the second stage (Manning et al. 1987; Puhani 2000; Li and Prabhala 2007).[23] Because there is no inverse mills ratio variable under propensity score matching and so it is not required to impose exclusion restrictions (Heckman et al. 1997; Heckman and Navarro-Lozano 2004). Second, the

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[21]I focus on ICW under Section 404 because firms with ineffective internal controls may not discover or disclose their ICW under Section 302 if these firms have weak governance systems. Therefore, Section 302 reporting may give rise to weak association between corporate governance quality and internal control quality (Hoitash et al. 2009). See Hoitash et al. (2009) for discussions of these two regulatory regimes. Also ee Schneider et al. (2009) for prior studies examining internal control issues after SOX.

[22]Previous studies examining the existence of endogenous biases typically used Heckman's (1979) two-stage model (e.g., Fan and Wong 2005; Khurana and Raman 2004; Mansi et al. 2004; Louis 2005; Rajan and Servaes 1997, Weber and Willenborg 2003). Heckman (1979) include the inverse mills ratio estimated from the first-stage logistic model as an additional explanatory variable in the second-stage regression model. However, Lennox et al. (2012) analyzes the inherent limitations and fragility of Heckman (1979) two-stage model.

[23]The inverse mills ratio is nonlinear in Heckman et al.'s (1997) arguments.

propensity score matching mitigate the selection biases due to observables but the Heckman two-stage model address the selection biases due to unobservables (Lennox 2012; Tucker 2010).[24] Because the determinants of voluntary adoption of clawback provisions obtained from prior research are observable variables, I use propensity score matching to control for potential self-selection bias. While Heckman's (1979) two-stage model uses a specific functional form to provide an indirect estimate of the treatment effects, the propensity score matching does not rely on a specific functional form but provide a more direct estimate of the treatment effects (Li and Prabhala 2007).

3.2.1 Propensity score matching

Rosenbaum and Rubin (1983) develops the propensity score matching as a way to address matched pair problem and assess hidden bias within a broader sample. The propensity score is a conditional probability of receiving some level of treatment given the observable covariates (Armstrong et al. 2010). In the case where a binary treatment is present (i.e., treatment or no treatment), matched pairs are formed by selecting an observation that received the treatment and selecting another observation with the closest propensity score that did not receive the treatment. Therefore, propensity score matching models match observations based on the probability of undergoing the treatment, which is the probability of adopting clawback provision in this paper. Since I use clawbacks adoption as the treatment, matching sample becomes an optimization problem of minimizing a function of the probabilities to adopt clawbacks between the propensity scores of the broader sample (Armstrong et al. 2010). Identifying the control firms via propensity score matching helps ensure that the observable characteristics that affect both the probability of clawback implementation and the probability of correlated omitted events are controlled in the analysis (Lemmon and Roberts 2010).

According to Armstrong et al. (2010) and Lawrence et al. (2011), I use propensity score

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[24]Selection bias due to "observables" results from a failure to control for differences researchers can observe. Examples of observable differences are firm size and growth. Examples of unobservables are information revealed during a financial audit that is known to some market participants or other information that is publicly disclosed by the company but is too costly for researchers to collect (Tucker 2010).

matching to control for the endogenous biases in the following way. First, I estimate a logistic propensity score model, which provides the probability that firms will adopt clawback provisions (i.e., the treatment) conditional on observable features of the contracting environment. The propensity score is estimated by including determinants to adopting clawback provisions into this propensity score model. Second, the developed propensity score model is then used to calculate firms' probabilities of adopting clawback provisions. Particularly, I find matched firms by identifying the pairings that result in observations with the smallest propensity score differences (i.e., the most similar observed contracting environments). Using observations collected by propensity score matching, the effect of clawback provisions on the audit committees' effectiveness is then inferred from the estimated coefficient on clawback adoption while other control variables are included in the regression estimation.

3.2.2 Voluntary adoption model

Incentives to Adopt Clawback Provisions

Some research investigated the economic determinants of firms' decisions to voluntarily adopt clawback provisions (e.g., Addy et al. 2011; Brown et al. 2011). These determinants include firm-specific incentives, the CEO's influence, and firm's governance characteristics. Under propensity score matching, the voluntary adoption model is used to calculate each observation's propensity score. I then match each clawback firm to a non-adopting control firm using firms' propensity score. The voluntary adoption model is as follows:

$$
\begin{aligned}
P(CLAWBACK)_{i,t} = \alpha_0 &+ \beta_1 LnASSET_{i,t-1} + \beta_2 PROFIT_{i,t-1} + \beta_3 PRIORSTAT_{i,t-1} \\
&+ \beta_4 EQUITY\_Issue_{i,t-1} + \beta_5 DEBT\_Issue_{i,t-1} \\
&+ \beta_6 EXTRA\_Bonus_{i,t-1} + \beta_7 CEO\_Tenure_{i,t-1} \\
&+ \beta_8 CEO\_Chair_{i,t-1} + \beta_9 Bonus\ to\ cash_{i,t-1} \\
&+ \beta_{10} CEO\_Ownership_{i,t-1} + \beta_{11} BSIZE_{i,t-1} \\
&+ \beta_{12} INSIDE\_\%_{i,t-1} + \varepsilon_{i,t}
\end{aligned}
\tag{CLAW}
$$

where the definitions of all the variables are summarized in Table 2.

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

year depends on the firm. I include firm size (denoted by *LnASSET*) because larger firms, which are more likely to attract more attention in the capital markets (Aboody et al. 2004; Barton 2005), are more likely to adopt clawback provisions to enhance their reputation (Brown et al. 2011). I predict the coefficient on *LnASSET* be positive. Since more profitable firms are more likely to adopt clawbacks (Brown et al. 2011; DeHaan et al. 2011), and I use firms' net income (denoted by *PROFIT*) to proxy for firms' profitability and predict its coefficient to be positive.

Recent studies indicate that prior restatements significantly increase firms' likelihood to adopt clawback provisions (e.g., Brown et al. 2011; Gao et al. 2010) because past restatements are more salient to the boards (Addy et al. 2011). I control for restatements in the past five years (denoted by *PRIORSTAT*) and predict its coefficient to be positive. Moreover, since adopting clawback policy would establish firms' reputation about the credibility of its governance (Aboody et al. 2004; Barton 2005) to ensure a lower cost of capital, firms issuing equity and debts in the capital market are more likely to adopt the clawback provisions to send credible signals to the market (Brown et al. 2011). I include firms' issuance of equity (denoted by *EQUITY_Issue*) and debts (*DEBT_Issue*) in the prior year as two indicator variables and predict their coefficients to be positive.

While Bliss and Rosen (2001) reports that CEOs are often rewarded for engaging in acquisitions, even if these activities are value-destroying, Brown et al. (2011) suggests that 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. I control for extraordinary CEO compensation in M&A bonuses (denoted by *EXTRA_Bonus*) in the logistic regression model and predict its coefficient to be positive.

I also control for CEOs' power on firms' likelihood of adopting the clawback provisions. The executives having longer tenures with the firm could have significant influence over firms' major operation decisions (Bushman et al. 2004). In addition, if CEOs are the chairman of firms' board, the executives seem to strengthen CEO power (e.g., Jensen 1993, Core et al. 1999; Bebchuk et al. 2002; Adams et al. 2005). Higher relative compensation and higher CEO stock ownership reduce

the influence of the board and thus increase CEO power (Lisic et al. 2011). I use four proxies for CEO power: the number of years the executive has served as CEO for the firm (denoted by *CEO_Tenure)*, whether the CEO is the chairman of the board (denoted by *CEO_Chair*), the ration of CEO bonus to cash compensation (denoted by *Bonus to cash*) and percentage of firm's shares owned by the CEO (denoted by *CEO_Ownership*). I predict their coefficients to be negative because CEO power is likely to reduce the likelihood that firms adopt clawback provisions (Addy et al. 2011; Brown et al. 2011).

Browen et al. (2011) indicates that managerial power, which is measured by the number of directors on the board, is negatively associated with firms' likelihood of adopting clawback adoptions. Therefore, I include board size (denoted by *BSIZE*) in the CLAW model and predict its coefficient to be negative. Addy et al. (2011) finds that firms with more independent governance are more likely to adopt clawback provisions. I thus include the percentage of inside directors (denoted by *INSIDE_%*) in the CLAW model and predict its coefficient to be negative.

3.3 Regression Model

This study extends the audit committee compensation literature by investigating the link between clawback provisions and audit committees' effectiveness. I use four measures to proxy for audit committees' oversight failure: the likelihood of restatements, the incidence of ICW, and the level of accruals quality and real earnings management. Each of these oversight failure measures is discussed below.

3.3.1 Restatement likelihood

I use restatement likelihood to proxy for audit committees' oversight failure because SOX expends audit committees' responsibilities to assure that financial statement accurately portray companies' economic activities (Laux and Laux 2009). To test whether the clawback provisions enable compensation policy more efficient for audit committees, leading to less likelihood of restatements, I estimate the following logistic model following Archambeault et al. (2008), Efendi et al. (2007), and Palmrose et al. (2004):

$$\begin{aligned}
RESTATED_{i,t} = \alpha_0 &+ \beta_1 LnASSET_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 GOING_{i,t} + \beta_4 M\&A_{i,t} \\
&+ \beta_5 ROA\_ind_{i,t} + \beta_6 MB_{i,t} + \beta_7 ACSIZE_{i,t} \\
&+ \beta_8 OVERLAPCOM_{i,t} + \beta_9 ACCEXPERT_{i,t} + \beta_{10} MEETING_{i,t} \qquad \text{(REST)} \\
&+ \beta_{11} CLAWBACK_{i,t} + \beta_{12} Compensation\_Variables_{i,t} \\
&+ \beta_{13} CLAWBACK \times Compensation\_Variables_{i,t} + \varepsilon_{i,t}
\end{aligned}$$

where the definitions of all the variables are summarized in Table 2. Note that I include industry fixed effects and year fixed effects as controls for unobserved firm-level heterogeneity over time (Bowen et al. 2010; Linck et al. 2009). The fixed-effect model helps alleviate the endogeneity problem caused by the omitted variables (Campa and Kedia 2002).

[Insert Table 2 here]

Dependent variable

The dependent variable, *RESTATED*, is a dummy variable that equals 1 if a firm's year *t* financial statements are restated and 0 otherwise. Instead of using whether or not firms announce restatements in year *t*, variable *RESTATED* provides a more appropriate test of the association between audit committees' compensation and restatement likelihood because outside directors serving on year *t*'s audit committees are responsible for overseeing year *t*'s financial statements and receive year *t*'s compensation. The use of restatement announcement year will mismatch the year audit committees exercise their oversight responsibility and the year they receive compensation. I thus use *RESTATED* to proxy for audit committees' oversight failure and predict that the association between audit committee compensation and financial reporting failure is a moderated by clawback provisions.

Control Variables

In the REST model, I include major firm characteristics that are likely to affect the likelihood of restatements. Similar to previous studies (e.g., Dechow et al. 1996; Richardson et al. 2002; Desai et al. 2006), I control for firm size (denoted by *LnASSET*) and predict its coefficient to be negative because size might capture firm-specific risk (Fama and French 1995) and larger firms are more likely to be subjected to closer scrutiny by regulators and investors (Balsam et al. 2003; Romanus

et al. 2008). Also, controlling for size can potentially mitigate the problem of correlated omitted variables (Myers et al., 2005; Ahmed and Goodwin 2007).

Farber (2005) reports a smaller proportion of brand-name audit firms in fraud firms compared with control firms. Therefore, I include Big 4 CPA firms (denoted by *BIG4*) to control for audit firm quality and predict its coefficient to be negative. In addition, firms receiving going concern opinions are more likely to restate their financial statements afterwards (DeFond and Jiambalvo 1991; Kinney and McDaniel 1989; Sennetti and Turner 1999). Hence, I include going concern opinion as an indicator variable (denoted by *GOING*) and predict its coefficient to be positive.

Empirical evidence has shown that mergers and acquisitions may increase the probability of restatements due to new, difficult, or contentious accounting issues, and possible business integration problems (e.g., Kinney et al. 2004; Efendi et al. 2007; Stanley and DeZoort 2007; Carcello et al. 2011). As a result, I control for firms' merger and acquisition activities (denoted by *M&A*) and predict its coefficient to be positive. I also consider industry-median-adjusted return on assets (donated by *ROA_ind*) and predict its coefficient to be negative because prior studies show that more profitable firms are less likely to restate due to weaker incentives of manipulating earnings (e.g., Abbott et al. 2004; DeFond and Jiambalvo 1991; Ettredge et al. 2010; Kinney and McDaniel 1989; Loebbecke et al. 1989; Scholz 2008). I consider firms' market-to-book ratio (donated by *MB*) to control for growth opportunities because high-growth firms having less growth opportunities are most likely to adopt aggressive accounting practices (Carcello et al., 2011; Burns and Kedia 2006).

I control for four determinants that may influence the oversight effectiveness of audit committees: *ACSIZE*, *OVERLAPCOM*, *ACCEXPERT*, and *MEETING*. [25] I consider audit committee size (donated by *ACSIZE*) because larger audit committees are perceived to have increased power (Chen and Zhou 2007; Kalbers and Fogarty 1993) and are more likely to challenge

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[25]The correlation coefficients between these four audit committee characteristics and the compensation variables range from 0.51 to 1.20, which are all insignificant. Also, the variance inflation factors (VIFs) of these variables are all between 4.03 and 7.92. Therefore, the use of these four audit committee characteristics variables shall not lead to multicollinearity problem.

top management and internal control personnel in fulfilling their monitoring responsibilities (Goh 2009; Krishnan 2005). I also control for membership overlapping (denoted by *OVERLAPCOM*) because there has been a tendency of significant overlapping between the audit committees and other committees (Hoitash and Hoitash 2009; Lorsch and MacIver 1989; *Wall Street Journal* 2011).[26] Some research shows that overlapping compensation and audit committees creates the conflict of interests, and compensation committee members sitting on the audit committees will result in less effective CEO compensation contracts (e.g., Laux and Laux 2009; Hoitash and Hoitash 2009). CEO power continues to have an impact on audit committees' effectiveness in the post-SOX era (Lisic et al. 2011). I thus predict the coefficient on *OVERLAPCOM* to be positive.

Recent studies examine whether narrowly-defined accounting and finance expertise individually contributes to audit committees' monitoring activities (e.g., Archambeault and DeZoort 2001; Bédard et al. 2004; Goh 2009; Krishnan 2005; Krishnan and Visvanathan 2008; Raghunandan et al. 2001; Dhaliwal et al. 2010; Engel et al. 2010). Following DeFond et al. (2005), I measure *ACCEXPERT* by the percentage of audit committee members having accounting expertise only.[27] Accounting experts are members who have CPA licenses or with accounting-related experience (e.g., accountants, auditors, controllers, or chief accounting officers). Since more specialized skills in accounting contribute more to audit committees' oversight effectiveness (Agrawal and Chadha 2005; DeFond et al. 2005; McDaniel et al. 2002), I predict the coefficient of *ACCEXPERT* to be negative. I also consider annual meeting times (denoted by *MEETING*) to capture audit committees' effort (Engel et al. 2010) because more diligent audit committees are more likely to effectively exercise their oversight duties (DeZoort et al. 2002) so that they can remain informed of accounting and auditing issues (Raghunandan et al. 2001).

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[26]Laux and Laux (2009) reports that, based on the 2006 proxy statements of the S&P 100 firms, 23 percent have at least one member of the compensation committees sitting on the audit committees. In about 20 percent of the cases, the chairs of the compensation committees serve on the audit committees as well.

[27]Engel et al. (2010) categorizes four types of financial reporting expertise for the selection of audit committee chairs: non-financial director, finance financial expert, general accounting financial expert, and accounting expert with Big4 employment experience. Their classifications of finance and accounting expertise are narrower than those of the proposed and final SEC rules. Because accounting expertise is not a major test variable in this study, I adopt a simplified classification used by DeFond et al. (2005).

In REST model, three major audit committee's compensation components are examined: *cash retainer*, which does not include meeting fees; *stock awards*, which include common stock with and without restrictions, deferred stock units, and phantom stock units; *option grants*, which include short-term and long-term stock options. The value of compensation is measured using firms' disclosures in the proxy statement. For firms disclosing the number of stock or option compensation only, the value of stocks is determined by multiplying the number of shares awarded by the closing price. Following Brick et al. (2006) and Core et al. (1999), I compute the value of options using the 25 percent of their exercise price or the closing market price on the annual meeting date if exercise price is not available. I exclude meeting fees because they are often viewed as an opportunity cost of attending a meeting and, thus, are not similar to annual compensation (Adams and Ferreirs 2008). Also, an exclusion of meeting fees avoids a potential mechanical relation with the meeting times (Engel et al. 2010), one of the key control variables in the regression model.

I use the dollar amounts and relative weights of cash, stocks and options in an audit committees' compensation package to test how the amounts and portions of various compensation components affect restatement likelihood. I refer to these two constructs as the *magnitude* and *percentage* approaches, respectively. Under the magnitude approach, I use the natural logs of cash (denoted by *ACCASH*), stocks (denoted by *ACSTOCK*), and options (denoted by *ACOPTION*) paid to the audit committees as my test variables in the REST model to examine the associations between individual compensation components and restatement likelihood.[28] Hypothesis H1 predicts the coefficients on *ACSTOCK* and *ACOPTION* to be positive. I include an indicator variable *CLAWBACK*, which is equal to one if firms adopt the clawback provisions in the year *t*, and 0 otherwise into the REST model. Following Chan et al. (2012a), I predict that the coefficient of *CLAWBACK* to be negative. Hypothesis H2 predicts the coefficient on *ACSTOCK*×*CLAWBACK*

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[28] I use skewness and kurtosis statistics to test the normality of the compensation data. Both tests reject the null hypothesis that compensation amounts are normally distributed ($p < 0.01$), and this result is robust to total compensation as well as to various compensation components. To ensure normality for the regression analyses, I us the natural logs to transform the dollar amounts of cash, stocks, and options.

and *ACOPTION×CLAWBACK* to be negative. Specifically, in order to test the overall effect of stock compensation (option compensation), I expect the sum of coefficients on *ACSTOCK* and *ACSTOCK×CLAWBACK* (*ACOPTION* and *ACOPTION×CLAWBACK*) to be positive.

Under the percentage approach, variables *ACCASH%*, *ACSTOCK%*, and *ACOPTION%* are the ratios of cash, stocks, and options to total compensation, respectively. I thus replace *ACCASH*, *ACSTOCK*, and *ACOPTION* by these three percentage variables in the REST model. H1 predicts the coefficient of *ACSTOCK%* and *ACOPTION%* to be positive. Furthermore, according to hypothesis H2, I predict the coefficients on *ACSTOCK%×CLAWBACK* and *ACOPTION%×CLAWBACK* to be negative.

3.3.2 Incidence of internal control weaknesses

I use ICW reported under Section 404 to proxy for audit committees' oversight effectiveness because Section 301 of SOX has explicitly stipulated that audit committees assume full responsibility of overseeing the design and implementation of internal controls. The following logistic model is used to investigate the effects of clawback provisions on audit committees' oversight failure reported in ICW:

$$
\begin{aligned}
ICW_{i,t} = \alpha_0 &+ \beta_1 LnASSET_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 LOSS_{i,t} + \beta_4 RESTR_{i,t} + \beta_5 FOREIGN_{i,t} \\
&+ \beta_6 SEGMENTS_{i,t} + \beta_7 SALESGROW_{i,t} + \beta_8 ACSIZE_{i,t} \\
&+ \beta_9 OVERLAPCOM_{i,t} + \beta_{10} ACCEXPERT_{i,t} + \beta_{11} MEETING_{i,t} \\
&+ \beta_{12} CLAWBACK_{i,t} + \beta_{13} Compensation\_Variables_{i,t} \\
&+ \beta_{14} CLAWBACK \times Compensation\_Variables_{i,t} + \varepsilon_{i,t}
\end{aligned}
\quad \text{(ICW)}
$$

where the definitions of all the variables are summarized in Table 2.

Dependent Variable

The dependent variable, *ICW*, is a dummy variable that equals 1 if a firm reports internal control weaknesses in a given year and 0 otherwise. Therefore, *ICW* measures the incidence of one or more internal control weaknesses.

Control Variable

I include major firm characteristics that are likely to affect the incidence of ICW in the ICW model. Following prior studies, I use firm size (denoted by *LnASSET*) to proxy for firms'

investment in information system and internal controls. Extant literature does not provide consistent results on the association between firm size and ICW. Even though larger firms have more resources available for internal controls, they are also subjected to higher control risk due to their large number of transactions across multiple accounting cycles (Doyle et al. 2007a). Therefore, I do not predict a direction for *LnASSET*.[29] Previous literature has documented that higher audit quality contributes to the design and implementation of solid internal controls (e.g., Ashbaugh-Skaife et al. 2007), and Big N auditors are generally recognized as high-quality audit providers (e.g., Behn et al. 2008; Craswell et al. 1995; Palmrose 1988). Therefore, the incidence of ICW is less likely to be associated with Big 4 clients. In addition, firms with poor performance or financial distress may not be able to invest adequate time and/or money in proper controls (Ashbaugh-Skaife et al. 2007; Doyle et al. 2007a), and have fewer resources to invest in the remediation of their internal control weaknesses (Hoitash et al. 2009). I control for firms' financial performance (denoted by *LOSS*) and predict its coefficient to be positive.

Because firms with greater operation complexity and higher business risk are more likely to incur ICW (Ashbaugh-Skaife et al. 2007), I adopt four variables to control for these firm-specific characteristics. First, *RESTR* equals 1 if a firm is under restructuring (i.e., any one of COMPUSTAT data item #376, #377, #378, and #379 is non-zero) and 0 otherwise. Second, *FOREIGN* equals 1 if a firm involves foreign currency adjustments in year t and 0 otherwise. Third, *SEGMENTS* is the number of a firm's total business segments within and outside the U.S. Finally, *SALESGROW* is a firm's industry-adjusted growth in sales. Following prior literature (Ashbaugh-Skaife et al. 2007; Doyle et al. 2007a), I predict the coefficients of *RESTR*, *FOREIGN*, *SEGMENTS*, and *SALESGROW* to be positive.

Similar to the REST model, I control *ACSIZE*, *OVERLAPCOM*, *ACCEXPER*, and *MEETING*

---

[29]Prior studies adopt different proxies for firm size. For example, Ashbaugh-Skaife et al. (2007) and Doyle et al. (2007a) measure firm size using the log of market value of equity and find a negative relation between firm size and ICW. Differently, DeFond and Jiambalvo (1991) and Krishnan (2005) measure firm size using the natural log of total assets and document a positive relation. The different proxies for firm size could cause the mixed results about association between firm size and ICW.

because they are major determinants that may influence the oversight effectiveness of audit committees.

3.3.3 Earnings management

Since prior studies find that audit committee independence improves earnings quality (e.g., Beasley et al. 2009; Bédard et al. 2004; Srinivasan 2005), the level of firms' earnings manipulation is used to proxy for audit committees' oversight failure. Two measures are used to proxy for earnings manipulation: accruals quality and real earnings management index.

Accruals quality

I use accruals quality as the proxy for audit committees' oversight effectiveness because independent audit committees have the ability to improve accruals quality when managers attempt to use the accruals opportunistically. Accruals represent the difference between accrual earnings and cash earnings. Because the accruals represent a variety of different transactions and events, accruals are nevertheless all manifestations of the accrual accounting process.[30] I measure *ACCRUALS* by the comprehensive definition of accruals indicated by Richardson et al. (2005).[31] This measure extends the concept of working capital accruals to include changes in long-term operating assets and long-term operating liabilities. Dechow et al. (2011) suggests that this measure can reflect the changes in the level of property, plant, and equipment (PP&E), which is subject to discretion in the sense that managers can overcapitalize costs and delay write-offs. The measure of accruals quality, is defined as follows: $ACCRUALS = (\Delta WC + \Delta NCO + \Delta FIN) /$ average total assets, where:

(i) ΔWC, the change in net working capital is defined as $WC_t - WC_{t-1}$. WC is calculated as Current Operating Assets (COA) - Current Operating Liabilities (COL), and COA = Current Assets (Compustat data item #4) - Cash and Short Term Investments (STI)

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[30]I use accruals quality, rather than discretionary accruals, because the traditional "discretionary accruals" show incentive earnings management. However, the measurement of accruals quality is not limited to opportunistic behavior (Doyle et al. 2007b).

[31]Richardson et al. (2005) refer to the corresponding accrual categories as the change in non-cash working capital, the change in net non-current operating assets and the change in net financial assets, respectively.

(Compustat data item #1), and COL = Current Liabilities (Compustat data item #5) - Debt in Current Liabilities (Compustat data item #34).

(ii) Δ NCO, the change in net non-current operating assets is defined as $NCO_t - NCO_{t-1}$. NCO is calculated as Non-Current Operating Assets (NCOA) - Non-Current Operating Liabilities (NCOL), and NCOA = Total Assets (Compustat data item #6) - Current Assets (Compustat data item #4) – Investments and Advances (Compustat data item #32), and NCOL = Total Liabilities (Compustat data item #181) - Current Liabilities (Compustat data item #5) - Long-Term Debt (Compustat data item #9).

(iii) Δ FIN, the change in net financial assets is defined as $FIN_t - FIN_{t-1}$ and FIN = Financial Assets (FINA) - Financial Liabilities (FINL). FINA = Short Term Investments (STI) (Compustat data item #193) + Long Term Investments (LTI) (Compustat data item #32), and FINL = Long Term Debt (Compustat data item #9) + Debt in Current Liabilities (Compustat data item #34) + Preferred Stock (Compustat data item #130).

As in previous research, I deflate each of these components of earnings by average total assets.

To test my hypotheses, I use *ACCRUALS* as the dependent variables and include the proxies for audit committee compensation and an indicator variable for adopting clawback provisions in the following model:

$$
\begin{aligned}
ACCRUALS_{i,t} = \alpha_0 &+ \beta_1 LnASSET_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 LOSS_{i,t} + \beta_4 OPCYCLE_{i,t} \\
&+ \beta_5 SALESVLT_{i,t} + \beta_6 ACSIZE_{i,t} + \beta_7 OVERLAPCOM_{i,t} \\
&+ \beta_8 ACCEXPERT_{i,t} + \beta_9 MEETING_{i,t} + \beta_{10} CLAWBACK_{i,t} \\
&+ \beta_{11} Compensation\_Variables_{i,t} \\
&+ \beta_{12} CLAWBACK \times Compensation\_Variables_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{ACC}
$$

where the definitions of all the variables are summarized in Table 2.

Control Variables

Dechow and Dichev (2002) identified some factors as affecting accruals quality. The accruals quality increases with firm size because of greater stability and diversification of portfolio of activities and is correlated with firm performance (Kasznik 1999). Accordingly, I control for firm

size (denoted by *LnASSET*) and financial performance (denoted by *LOSS*) in the model. Furthermore, high quality auditors improves earnings quality (Craswell et al. 1995), leading to decreasing estimation errors in accruals. Accordingly, I control for audit quality (denoted by *BIG4*) in the regression model. I also control for operating cycles (denoted by *OPCYCLE*) and sales volatility (denoted by *SALESVLT*) because longer operating cycles and greater volatility in the operating environment are generally associated with higher estimation errors (Dechow and Dichev 2002; Srinidhi and Gul 2007). Similar to the REST model and ICW model, I control *ACSIZE*, *OVERLAPCOM*, *ACCEXPER*, and *MEETING* in the ACC model.

Real earnings management

Since one of important roles of audit committees is to serve as an intermediary to improve the communication between the management and external auditors (Verschoor 1993), managers' decision on the operation strategy could be involved in the communication. Roychowdhury (2006) considers a firm's abnormal cash flows, abnormal inventory production, abnormal discretionary expenditures as indicators of real activities manipulations. Following Cohen et al. (2008), I use a summary measure combining these three components. First, I calculate abnormal cash flows as residuals of predicted regression model (B), which is estimated by year and industry identified using two-digit SIC code:

$$\frac{CFO_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t-1}}{Assets_{i,t-1}} + k_3 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \tag{B}$$

where *CFO* is cash flow from operations. *SALES* are annual sales revenues (Compustat data item #12) and *Assets* are total assets (Compustat data item #6). Furthermore, abnormal discretionary expenses are estimated as the residuals from the following industry-year regression (C):

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \tag{C}$$

where *DISX* are discretionary expenses during the year, which is defined as the sum of advertising expenses (Compustat data item #45), R&D expenses (Compustat data item #46) and SG&A

(Compustat data item #189). *SALES* are annual sales revenues (Compustat data item #12) and *Assets* are total assets (Compustat data item #6);

Finally, abnormal production costs are estimated as the residuals from the following industry-year regression (D):

$$\frac{PROD_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t-1}}{Assets_{i,t-1}} + k_3 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it}, \qquad (D)$$

where *PROD* are production costs, defined as the sum of costs of goods sold (Compustat data item #41) and change in inventory during the year (Compustat data item #3). I thus compute *REM_Index* as the sum of the three standardized individual components, (i.e., - standardized abnormal cash flows + standardized abnormal production costs - standardized abnormal discretionary expenses). Higher levels of *REM_Index* imply higher levels of real earnings management.

To test my hypotheses, I use *REM_Index* as my dependent variables and include the proxies for audit committee compensation and an indicator variable for adopting clawback provisions in the following model:

$$
\begin{aligned}
EM_{i,t} = \alpha_0 &+ \beta_1 LnASSET_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 LEVERAGE_{i,t} + \beta_4 MB_{i,t} \\
&+ \beta_5 \Delta E_{i,t} + \beta_6 ACSIZE_{i,t} + \beta_7 OVERLAPCOM_{i,t} + \beta_8 ACCEXPERT_{i,t} \\
&+ \beta_9 MEETING_{i,t} + \beta_{10} CLAWBACK_{i,t} + \beta_{11} Compensation\_Variables_{i,t} \\
&+ \beta_{12} CLAWBACK \times Compensation\_Variables_{i,t} + \varepsilon_{i,t}
\end{aligned} \qquad (EM)
$$

where the definitions of all the variables are summarized in Table 2.

Control Variables

I consider firm size (denoted by *LnASSET*) because larger firms generally face greater political costs and, therefore, have less flexibility and weaker incentives to overstate earnings (Watts and Zimmerman 1978). The earnings management literature also recognizes that the Big N auditors provide higher quality audits and offer greater credibility to clients' financial statements than the non-Big N auditors (e.g., Lennox 1999). I control for audit quality (denoted by *BIG4*) and predict the coefficient to be negative. Prior empirical evidence shows that managers manage earnings to avoid the violation of debt convents (e.g., DeFond and Jiambalvo 1994; Dichev and Skinner 2002).

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Thus, I control for firms' financial leverage (denoted by *LEVERAGE*) and expect its coefficient to be positive. Also, firms with higher growth opportunity have stronger incentives to avoid negative earnings surprises (Matsumoto 2002) or to have more discretion in terms of accounting choices (Smith and Watts 1992). Similar to prior studies (e.g., Frankel et al. 2002; Chi et al. 2011), I use the market-to-book ratio (denoted by *MB*) and the change in the firm's equity (denoted by ΔE) to control for firms' growth opportunity and predict a positive coefficient on them. Similar to the REST, ICW and ACC model, I control *ACSIZE*, *OVERLAPCOM*, *ACCEXPER*, and *MEETING* in the EM model.

3.3.4 Control for CEO compensation

Recent studies have indicated that CEOs' performance-based compensation has unintended consequences in exacerbating earnings manipulation and accounting irregularities (e.g., Bergstresser and Philippon 2006; Burns and Kedia 2006; Cheng and Warfield 2005; Efendi et al. 2007; Feng et al. 2011; Jiang et al. 2010). Because clawback provisions are also applicable to the CEOs, it is possible that the clawback provisions may reduce CEOs' motive to manage earnings (which leads to fewer restatements) and motivate CEOs to maintain solid internal control. To control for the potential impact of clawback provisions on CEOs' behavior and to avoid possible multicollinarity, I separate the full sample into two subsamples using the median of the ratios of CEOs' equity-based compensation to their total compensation (denoted by "Low CEO Equity Group" and "High CEO Equity Group"). I then run my REST, ICW, ACC and EM models using these two subsamples separately.

CHAPTER 4　EMPIRICAL RESULTS

4.1 Descriptive Statistics

Panel A of Table 3 shows the distribution of clawbacks adoptions by years. The firm-initiated clawbacks adoption increased dramatically during years 2007-2009. The distribution of clawbacks is similar to Addy and Yoder (2011), which report that 29% of the S&P 500 firms adopt clawback provisions because such provisions are less costly to enforce than equity claims based on unjust enrichment.

[Insert Table 3 here]

Clawbacks can vary remarkably with respect to their application, triggers, enforcement procedures and other features. Panel B of Table 3 provides a breakdown of the 129 voluntary adoption firms based on these clawback characteristics. As shown in this panel, more than half (50.39%) of the clawbacks are triggered by fraud and misconduct. This is consistent with Addy et al. (2011), which shows that 52.4% of the clawback adopters indicate that misconduct is a trigger for implementing the clawback policy. In contrast, only 22.48% of the clawback provisions are triggered by restatements. Finally, 10.08% of the clawbacks are triggered at the time when employees engage in bad faith acts. Note that 17.05% of the clawbacks use multiple triggers.

Approximately 75.97% (98 out of 162) of the clawback adopters specify definitely that compensation committees may, in their discretion and based on the facts and circumstances, direct the recovery of all or a portion of compensation from the participants. These clawback provisions allow boards' discretion in exactly how they respond to an event triggering the clawbacks. These results are similar to Fried and Shilon (2011), which shows that 81% of the clawback firms give directors discretion on the enforcement of clawbacks. This suggests that many adopters prefer the benefits of this discretion, possibly because it provides flexibility to deal with unforeseen events. Finally, durable manufacturing firms have the highest percentage of voluntary adoption in the sample (21.71%), followed by computers (13.18%) and retailing (11.63%). Overall, these distributions are similar to those reported in Chan et al. (2012a).

Table 4 shows the distribution of audit committee compensation. Panel A indicates that the number of firms without (with) equity-based compensation decreased (increased) since 2004. Across the sample period, over 85% of the firms use equity-based compensation in their compensation packages. This result parallels Hewitt Association (2010), which reports that 83% of the firms provide some form of non-retainer equity compensation. Note that the dollar amounts reported in Panel B represent the total cash, stocks, and options a firm pays to all (not individual) audit committee members.

[Insert Table 4 here]

Panel B of Table 4 shows that the amounts and percentages of cash compensation for audit committee increased over the years, consistent with the finding in Linck et al. (2009). However, the amounts of stock and option compensation vary dramatically during the sample period. Notably, firms increased (decreased) the amounts and percentages of stocks (options) paid to their audit committees annually. Recent survey reports indicate that this increasing/decreasing trend may be due to depressed share prices in recent years and the SFAS No 123, which requires that options should be expensed (e.g., NACD 2010; Mercer compensation survey 2008).[32] Note that the total compensation paid to the audit committees has increased substantially since 2003, suggesting that the demands for audit committees' oversight have increased (Miller 2010; The NACD report 2010). Furthermore, cash accounts for 40.09% of the total compensation while stocks and options account for 31.53% and 28.38% of the total compensation, respectively. These results indicate that equity-based compensation is widely used. Overall, the distribution of compensation is similar to recent survey reports and academic research (e.g., Chowdhury 2009; Engel et al. 2010).

Table 5 presents the descriptive statistics and univariate statistics for all variables. Several findings are worth noting. First, as compared to firms without clawback provisions, firms with

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[32]The NACD (2010) showed that among the Top 200 firms, the use of stock options peaked at 75 percent of firms in 2002, falling to 51 percent by 2005 and 27 percent in the 2009 proxy season. In addition, Mercer compensation survey (2008) found the trend declining in the use of stock options in favor of other equity vehicles, usually in the form of restricted stock. For Mid 150 firms, option use accounted for 46 percent in 2005, 37 percent in 2006, and 32 percent in 2007.

clawback provisions have significantly lower likelihood of restatements, less incidence of ICW, and use less real activities to manage earnings.

[Insert Table 5 here]

Second, compared to the non-adopters, firms adopting clawback provisions are larger (*LnASSET*), engaging in more debt issuances (*DEBT_Issue*), having higher extra M&A bonus (*EXTRA_Bonus*), having lower CEO tenure (*CEO_Tenure*), paying fewer bonus than cash to CEO (*Bonus to cash*), having higher CEO's ownership (*CEO_Ownership*), and hiring more directors in the board (*BSIZE*). These findings are similar to prior research examining the economic determinants of voluntary clawback adoption (e.g., Addy et al. 2011; Gao et al. 2010; Brown et al. 2011; DeHaan et al. 2011). Finally, clawback adopters are more likely to have higher market-to book ratio (*MB*), engage in organization restructure (*RESTR*), have lower level of leverage (*LEVERAGE*), hire more audit committee members (*ACSIZE*), have less membership overlapping (*OVERLAPCOM*), pay more cash to audit committees (*ACCASH* and *ACCASH%*), use fewer stock options to compensate audit committees (*ACOPTION* and *ACOPTION%*), and pay more cash and equity-based compensation to CEOs (*CEOCASH* and *CEOEQUITY*). The significant differences in these characteristics strongly imply that a control for endogenous biases is vital.

I use four measures to proxy for audit committee's oversight failures. In order to ensure that my research findings are not subjected to time series or industry biases, I report the distribution of the four oversight failure measures by years and by industries. Panel A of Table 6 shows that, while restatements substantially decreased after 2006, there are no notable changes in ICW and earnings management during the sample period. Panel B reports that pharmaceuticals and utilities industries have the highest frequencies of restatements. In contrast, food industry is more likely to incur ICW. Firms in food, durable manufactories, transportation, services, and computer industries tend to use less real activities to manage their earnings.

[Insert Table 6 here]

4.2 Regression Results

4.2.1 The voluntary adoption model

The results of the voluntary adoption are presented in Tables 7. As depicted in this Table, firm size (*LnASSET*) is positively related to the likelihood of clawback adoption (0.219, $p < 0.01$). The coefficient on *PRIORSTAT* is significantly positive (0.305, $p < 0.10$), implying that prior restatements are also the determinant of firms' voluntary adoption of clawback provisions, consistent with Gao et al. (2010). The significantly positive coefficients on *EQUITY_Issue* (0.605, $p < 0.10$) and *DEBT_Issue* (0.550, one-tailed $p < 0.10$), indicate that firms that have recently issued equity and debt are more likely to adopt clawback provisions. The magnitude and significance of these coefficients support Brown et al.'s (2011) finding that clawback firms perceive more benefit to adopt clawback provisions in the equity market than in the debt market. The significant coefficients on *CEO_Tenure* (-0.058, $p < 0.01$), *Bonus to cash* (-1.053, $p < 0.05$), and *CEO_Ownership* (-0.008, one-tailed $p < 0.10$), imply that CEO power and influence are negatively associated with the adoption of clawback provisions. I find no significant coefficient on *CEO_Chair* and this result is consistent with Brown et al. (2011), which finds no difference between the clawback and control samples in terms of the incidence of CEO/Chair duality.

[Insert Table 7 here]

Board size (*BSIZE*) is also a significant factor explaining the likelihood of voluntary clawback adoption (0.075, $p < 0.01$). This result differs from my prediction that board size is negatively associated with the likelihood of adopting clawback provisions. One possible reason underlying this inconsistency is that the board may find the adoption of clawback provisions to be a relatively costless mechanism in restricting CEOs' compensation (Brown et al. 2011). The negative coefficient on *INSIDE%* (-0.141, $p < 0.10$) implies that firms hiring more independent boards are more likely to adopt clawback provisions. This is because independent monitoring leads to the presence of clawback provisions or firms' incentive alignment requires the joint usage of the full array of governance mechanisms (Babenko et al. 2012).

Using the probabilities estimated from the voluntary adoption model and a 50% cutoff, the percentage of correct classification is 0.8109. Similar to Lawrence et al. (2011), this high percentage suggests that, under the propensity score matching process, my voluntary adoption model is effective in forming a balanced sample of clawbacks and no-clawbacks adopters.[33]

4.2.2 Audit committees' oversight failure – Proxied by restatement likelihood

The regression results using the propensity score matching technique are shown in Table 8. Under the magnitude approach, the first column reports a negative coefficient on *ACCASH* (-0.058, $p < 0.10$), implying that the more the cash compensation paid to the audit committees, the less the likelihood of restatements. This result is consistent with Magilke et al.'s (2009) experimental finding that audit committee members are least biased when there is no stock-based compensation. Accordingly, H1a is supported. In addition, the positive coefficients on *ACSTOCK* (0.119, one-tailed $p < 0.10$) and *ACOPTION* (0.092, $p < 0.10$) support my H1b and H1c. This evidence extends Archambeault et al.'s (2008) result that option compensation for audit committees is associated with more restatements. Overall, these findings suggest that equity-based compensation appears to jeopardize audit committees' independence, resulting in higher restatement likelihoods.

[Insert Table 8 here]

The second column of Table 8 further considers the interactive effects of clawback adoptions and audit committees' compensation components. The results indicate that all of the coefficients of the interaction terms are significantly negative. Since cash compensation does not decrease audit committees' independence, the negative coefficient on *ACCASH×CLAWBACK* (-0.243, $p < 0.10$) implies that the clawback provisions reinforce cash compensation's positive effect on audit committees' oversight effectiveness. This finding extends Engel et al. (2010) by showing the benefit of clawback provisions when firms pay more cash compensation to their audit committees. In contrast, the negative coefficients on *ACSTOCK×CLAWBACK* (-0.168, $p < 0.05$) and

---

[33]Tucker (2012) indicates that it is important for researchers to check the balancing property, after matching by propensity scores. I have checked the balancing property to make sure the covariates of treated and control firms have similar distributions.

ACOPTION× *CLAWBACK* (-0.124, *p* < 0.10) support H2, suggesting that, firms' voluntary adoption of the clawback provisions mitigates the adverse effect of equity-based compensation on audit committees' oversight effectiveness.

Because clawback provisions may impose monetary penalties on CEOs, it is possible that the decreased restatement likelihood may be driven by the decrease in CEOs' incentives to manage earnings after firms' adoption of clawback provisions. To test whether this possibility exists, I control for CEOs' compensation by classifying all observations into two subsamples: High CEO Equity Group (in which firms' CEO equity-based compensation ratio is greater than the median) and Low CEO Equity Group (in which firms' CEO equity-based compensation ratio is less than the median).[34] The third and fourth columns indicate that the coefficients on *ACCASH*× *CLAWBACK,* *ACSTOCK*× *CLAWBACK* and *ACOPTION*× *CLAWBACK* remain significantly negative. I use *t* test to examine whether there are significant differences in the coefficients of *ACSTOCK*× *CLAWBACK* and *ACOPTION*× *CLAWBACK* between the High and Low CEO Equity Groups. The insignificant *t* statistics -1.1123 and 1.0467 indicates that the beneficial effect of the clawback provisions on audit committees' oversight effectiveness is robust after controlling for CEOs' compensation.

Under the percentage approach, the empirical results reported in the last four columns of Table 8 are similar to those reported under the magnitude approach. For example, the negative coefficient on *CASH%* (-0.264, p < 0.05) and the positive coefficients on both *ACSTOCK%* (0.182, p < 0.10) and *ACOPTION%* (0.074, one-tailed *p* < 0.10) support H1a, H1b, and H1c. These findings suggest that higher portions of cash (equity-based compensation) in the compensation packages are associated with lower (higher) restatements likelihood. Prior literature lacks the compensation evidence using the percentage approach. Importantly, the coefficients on *ACCASH%*× *CLAWBACK,* *ACSTOCK%*× *CLAWBACK* and *ACOPTION%*× *CLAWBACK* are all significantly negative in

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[34]Because prior literature suggests that clawback provisions impose excessive risk on the manager (Chen et al. 2012), and increase CEO compensation (Babenko et al. 2012; Chen et al. 2012; DeHaan et al. 2011), in order to avert the potential multicollinearity between clawback adoption and CEO compensation, I use CEO compensation structure to classify the sample, rather than including CEO compensation variables in the model.

column (5), (6-1) and (6-2), suggesting that the clawback provisions mitigate the negative effect of equity-based compensation on audit committee independence.

Table 8 also documents several results related to the control variables. First, firms with higher restatement likelihood are audited by non-Big 4 auditors (*BIG4*), involve more going-concern opinions (*GOING*), and suffer worse financial conditions (*ROA_ind*). Second, the coefficients on *ACSIZE* are significantly negative. This result is consistent with prior studies' findings that larger audit committees appear to have greater power (Chen and Zhou 2007; Kalbers and Fogarty 1993) and are more likely to challenge top management in fulfilling their oversight responsibilities (Goh 2009; Krishnan 2005). Third, I find no association between *OVERLAPCOM* and restatement likelihood. This result does not support prior studies, which find that membership overlapping is beneficial to the design of compensation schemes (Zheng and Cullinan 2010) and to the mitigation of earnings management (Chandar et al. 2008). Finally, the significance of the coefficients on *ACCEXPERT* is consistent with the commonly-accepted notion that accounting expertise is important to the audit committees because their primary duties require a relatively high degree of accounting sophistication. This finding contributes to the growing studies that focus on the controversy of the SEC's broadly-defined financial expertise (e.g., Dhaliwal et al. 2010). This paper suggests that the regulators may need to re-consider narrowing the latitude of financial expertise to ensure audit committees' quality of overseeing financial reporting process.

4.2.3 Audit committees' oversight failure – Proxied by the incidence of ICW

I further use the incidence of ICW as the proxy for audit committees' oversight failure. The clawback provisions effect on the association between the incidence of ICW and audit committee compensation is reported in Table 9. The first four columns report the results of the magnitude approach. I find no association between the amounts of cash compensation and the incidence of ICW because the coefficient on *ACCASH* is not significant. Hypothesis H1a is thus not supported. One possible explanation is that cash compensation decreases audit committees' bias, this bias is likely to be related to financial reporting rather internal control (Magilke et al. 2009).

ACSTOCK and *ACOPTION* are positively associated with the incidence of ICW (0.076, $p < 0.05$ and 0.032, $p < 0.10$), suggesting that equity-based compensation decreases audit committees' oversight effectiveness on internal control. Hypotheses H1b and H1c are thus supported. This finding differs from Cullinan et al. (2010), which only shows a marginally significant association between stock compensation and ICW. This difference may result from the fact that, while Cullinan et al. (2010) uses a dummy variable (i.e., whether firms use stock compensation in the given year) to measure the effect of stocks, I use the dollar amounts of stock compensation to examine the association between stocks and ICW incidence.

I have no find significant coefficient on the interaction term *ACSTOCK×CLAWBACK* but *ACOPTION×CLAWBACK* have significantly negative coefficients (-0.186, one-tailed $p < 0.10$). Hypothesis H2 is partially supported, implying that the voluntary adoption of the clawback provisions is likely to mitigate the adverse effect of equity-based compensation on audit committees' oversight effectiveness.

I then separate the sample into two subsamples using the CEOs' equity-based compensation ratio. The third and fourth columns report that the coefficients on *ACSTOCK×CLAWBACK* but *ACOPTION×CLAWBACK* are all significantly negative. Note that, the coefficients on *ACSTOCK×CLAWBACK* in the Low and High CEO Equity Groups are not significantly different from each other ($t = -0.9160$). Also, the difference in the coefficients on *ACOPTION×CLAWBACK* is not significant ($t = -0.1224$) as well. Therefore, the clawbacks' positive effect on audit committees' oversight effectiveness is not affected by CEO compensation structure.

The empirical results under the percentage approach are similar to those under the magnitude approach. I find the association between the percentage of cash compensation and the incidence of ICW because the coefficient on *ACCASH* is significant (-1.342, $p < 0.10$). H1a is thus supported. H1b and H1c are also supported by the significantly positive coefficients on *ACSTOCK%* and *ACOPTION%* (1.308, $p < 0.10$ and 0.861, $p < 0.10$), implying that equity-based compensation

causes unfavorable effect on audit committee monitoring effectiveness, reflected as incidence of ICW. The fifth column shows that, as predicted in the hypothesis H2, both *ACSTOCK%× CLAWBACK* and *ACOPTION%× CLAWBACK* have significantly negative coefficients (-2.172 and -2.216, one-tailed *p* < 0.10), implying that the clawback provisions really moderate effectively the adverse influence owing to equity-based compensation.

After controlling for CEO compensation, I observe significantly negative coefficients on *ACSTOCK%× CLAWBACK* and *ACOPTION%× CLAWBACK* in the Low CEO Equity Group. Even though the coefficients of these two interactions are not significant in the High CEO Equity Group, their direction remains negative. Therefore, H2 is qualitatively supported when CEOs are compensated by larger stocks and options.

The coefficients on control variables also show some implication. First, the coefficients on *BIG4* are significantly negative, implying that the Big 4 auditors appear to effectively mitigate the incidence of ICW. Second, consistent with the univariate results and Doyle et al. (2007a), firms with ICW have poor financial performance (*LOSS*), and are involving more restructuring activities (*RESTR*) and foreign exchange translation issues (*FOREIGN*)). Third, the coefficients on *ACSIZE* are significantly negative. This result confirms some prior studies on audit committee characteristics (e.g., Chen and Zhou 2007; Goh 2009; Kalbers and Fogarty 1993), but contrasts with some others (e.g., Abbott et al. 2004; Hoitash et al. 2009; Krishnan and Visvanathan 2008; Krishnan 2005). Finally, I find no association between *OVERLAPCOM* and the incidence of ICW. This result provides new evidence to the extant literature that uses membership overlapping to proxy for audit committee quality. For example, some research shows that overlapping compensation and audit committees creates a knowledge spillover effect that is beneficial to the design of compensation schemes (Zheng and Cullinan 2010) and to the mitigation of earnings management (Chandar et al. 2008). In contrast, I infer that the insignificance of *OVERLAPCOM* may possibly due to the fact that, since the design, implementation, and monitoring of internal controls demand a long-term continuous process in which internal controls are often modified to

adapt to the changing business environment, meeting agenda and discussion content are more important than meeting frequency.

The coefficients on *ACCEXPERT*'s coefficients are significant negative (one-tailed $p < 0.10$). This suggests that accounting expertise alone appears to be sufficient in mitigating the incidence of ICW, consistent with the commonly-accepted notion that accounting expertise is important to audit committee members because their primary duties require a relatively high degree of accounting sophistication. This finding complements the audit committee literature in three aspects. First, it adds to the growing studies that focus on the controversy of the SEC's broadly-defined financial expertise (e.g., Dhaliwal et al. 2010). This paper suggests that the regulators may need to re-consider narrowing the latitude of financial expertise to ensure audit committees' quality of overseeing internal controls. Second, this finding provides relatively stronger evidence than Hoitash et al. (2009) because this paper explicitly considers the effects of audit committee compensation and membership overlapping on the incidence of ICW. Finally, this finding contrasts with Goh (2009), which shows that the remediation of ICW holds only for non-accounting financial expertise but not for accounting financial expertise. This difference arises because studies make different comparisons based on different ICW sources. Goh (2009) focuses on firms having ICW reported under Section 302. Therefore, Goh's (2009) finding may be subjected to smaller sample and self-selection biases. This paper, on the other hand, compares firms with and without ICW under Section 404.[35]

4.2.4 Audit committees' oversight failure – Proxied by accruals quality

I use accruals quality as the proxy for audit committees' oversight failure. The results are shown in Table 10. Under magnitude approach, the first four columns of Table 10 show that almost all coefficients on *ACCASH, ACSTOCK* and *ACOPTION* are significant. Therefore, hypotheses H1a, H1b, and H1c are supported. This finding extends Bédard et al. (2004), which uses pre-SOX data and reports a significantly negative association between accruals and options.

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[35]Johnstone et al. (2011) further use four-year sample of SOX Section 404 disclosures shows some evidence on ICW remediations, but the paper does not consider specific accounting experts variables.

When I use the full sample, the second column reveals that *ACOPTION*× *CLAWBACK* has significantly negative coefficients (-0.027, $p < 0.10$). This implies that the benefit of clawback provisions mitigates the adverse effect of option compensation on audit committees' oversight effectiveness. Hypothesis H2 is marginally supported. When I separate the sample into High-Low CEO Equity Groups, the third and fourth columns report that all coefficients on *ACSTOCK*× *CLAWBACK* and *ACOPTION*× *CLAWBACK* are significantly negative. I use *t* test to examine whether there are significant differences in the coefficients of these two groups. The coefficients on *ACSTOCK*× *CLAWBACK* and *ACOPTION*× *CLAWBACK* do not significantly differ from each other (t = -0.299 and 0.307, respectively). This evidence indicates that, no matter how much equity-based compensation the CEOs receive, clawback provisions mitigate the association between equity-based compensation and earnings management. This finding extends Chan et al. (2012b), which show that clawback-adopting firms reduce accruals management.

The coefficient on *ACCASH%* is not significant, but the coefficients on *ACSTOCK%* and *ACOPTION%* are significantly negative. Thus, H1b and H1c are supported. Similar to the results under the magnitude approach, the last three columns show that the coefficients on *ACSTOCK%*× *CLAWBACK* and *ACOPTION%*× *CLAWBACK* are significantly negative, no matter whether I use the full sample or two subsamples. Therefore, hypothesis H2 is supported. Note that the differences on the coefficients on *ACSTOCK%*× *CLAWBACK* and *ACOPTION%*× *CLAWBACK* between the two subsamples (t = -0.242 and -0.419) are insignificant, suggesting that the mitigating effect of clawback provisions on the association between equity-based compensation and earnings management remains after controlling for CEOs' compensation.

4.2.5 Audit committees' oversight failure – Proxied by real earnings management

I also use real earnings management index as the proxy for audit committees' oversight failure. The results are shown in Table 11. The first four columns of Table 11 show the results under magnitude approach. I find no significant coefficient on *ACCASH*. Hypothesis H1a is thus not

supported. The significant positive coefficients on *ACSTOCK* and *ACOPTION* (0.086, $p < 0.10$ and 0.054, $p < 0.10$) reflect that larger amounts of equity-based compensation are more likely to be associated with more manipulated earnings. The hypotheses H1b and H1c are supported. Compared to the results in Table 10, this finding shows that equity-based compensation weakens audit committees' oversight effectiveness in deterring real earnings manipulation activities, rather than accrual-based earnings management.

[Insert Table 11 here]

Further, the second column reveals that both *ACSTOCK× CLAWBACK* and *ACOPTION× CLAWBACK* have significantly negative coefficients (-0.023, one-tailed $p < 0.10$ and -0.054, $p < 0.10$). It implies that the benefits of clawback provisions mitigated the adverse influence due to the use of equity-based compensation. Hypothesis H2 is thus supported. While Cohen et al. (2008) suggests that managers prefer the real earnings management activities after SOX, my evidence shows that clawback provisions are beneficial to audit committees' oversight in deterring real earnings management. The third and fourth columns show that all coefficients on *ACSTOCK× CLAWBACK* and *ACOPTION× CLAWBACK* are significantly negative. While the coefficients on *ACSTOCK× CLAWBACK* in the Low-High CEO Equity Group are not significantly different ($t = 0.896$), the coefficients on *ACOPTION× CLAWBACK* in the Low-High CEO Equity Group differ significantly from each other ($t = 1.45$).

The coefficients on *ACCASH%*, *ACSTOCK%*, and *ACOPTION%* are not significant. Thus H1 are thus not supported when I use the level of real earnings management activities as the dependent variable. Similar to the dollar amount results,, the coefficients on *ACSTOCK%× CLAWBACK* and *ACOPTION%× CLAWBACK* are significantly negative (-0.048 and -0.104, one-tailed $p < 0.10$). The moderating effect of clawback provisions on adverse influence due to equity-based compensation is concluded, and hypothesis H2 is supported. Given that significantly different coefficients in the Low-High CEO Equity Group for *ACOPTION× CLAWBACK* ($t= 1.376$), I conclude that clawback provisions are effective governance tools for audit committees' oversight

failure, particularly in those firms with low CEO equity-based compensation. The control variables are consistent with the predicted signs.

Overall, I find that larger amounts and portions of stocks and options are associated with higher restatement and ICW likelihood and greater real earnings management. Therefore, equity-based compensation appears to harm audit committees' oversight effectiveness. However, the adoption of the clawback provisions significantly mitigates such negative effect. The findings in this paper alert regulators and researchers that mandating incentive clawback provisions could potentially affect audit committees' effectiveness, a benefit that has not been documented in prior research.

4.3 Additional Tests

4.3.1 Trigger effects

While SOX specifies misconduct as the trigger of recoupment, Dodd Frank Act does not limit recovery to restatements where there has been 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. Chrry and Wong (2009) analyzes the common trigger events and indicates that clawback provisions could be triggered under three circumstances: misconduct or fraud, the restatement of financial results, or the event of employees' bad faith. For voluntarily adopters, clawback provisions could be arranged according to firms' objectives. I therefore analyze what clawback trigger causes the observed improvement in audit committees' oversight effectiveness. I decompose *CLAWBACK* into four types: fraud/misconduct (denoted by *TRIGGER1*), all restatements (denoted by *TRIGGER2*), bad faith (denoted by *TRIGGER3*), and multiple triggers (denoted by *TRIGGER4*).[36] Because firms with prior frauds or restatements may tend to use frauds or restatements as the triggers, I exclude 54 observations with fraud or restatements prior to the initial adoption of clawback provisions and eliminate their matched

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[36]Due to a lack of theory and empirical evidence that can explain/predict the relative efficacy of these four triggers in implementing the clawback provisions, I use observations with and without clawback provisions to examine the trigger effects.

sample.

The differential effects of triggers are reported in Table 12. The results reveal that the coefficients on *TRIGGER1* and *TRIGGER3* are significantly negative across four oversight failure measures under both the magnitude and percentage approaches. Note that the association between *TRIGGER3* and oversight failure measures is stronger, suggesting that specifying bad faith as the trigger appears to be more desirable if regulators attempt to increase the benefits of the clawback provisions. The significant coefficient on *TRIGGER1* may possibly due to the fact that, firms simply follow SOX (which explicitly specifies misconduct as the trigger) and choose fraud/misconduct as the trigger. This paper is the first empirical research showing the different trigger effects. Since the observed benefit of adopting clawback provisions is driven by bad faith trigger, regulator shall pay more attention to the terms of firms' recoupment policies.

[Insert Table 12 here]

4.3.2 Excluding special restatement period

It is possible that the restatement period may span firms' initial adoption of clawback provisions. For example, a firm restates its 2005-2008 financial statements in 2009 but adopts the clawback provisions in 2007. Under this situation, this firm will be classified as a non-adopter in 2005 and 2006 but will be classified as an adopter in 2007 and 2008. To eliminate the potential impact of this classification issue on my empirical results, I exclude restatements which span the initial adoption of the clawback provisions and report the results in Table 13. My previous results and conclusions remain unchanged.

[Insert Table 13 here]

4.3.3 Panel data results for restatements

From the yearly distribution of restatements shown in Panel A of Table 6, it appears that restatements substantially decreased after 2006. To ensure that the association between audit committee compensation and restatements likelihood is not subjected to time series biases, I re-run REST model using panel data analysis. I also use a Hausman test to examine whether a fixed or

random effects model is appropriate. The significant Hausman statistics suggest that the use of the fixed-effect model is adequate. The panel data results are reported in Table 14. This alternative research design does not change the findings.

[Insert Table 14 here]

4.3.4 Excluding certain industries

In my main analyses, I include industry fixed effects and year fixed effects to controls for unobserved firm-level heterogeneity. However, according to industry distribution shown in Panel B of Table 6, more restatements, ICW, and real earnings management seems to exist in certain industries. Accruals quality appears to be consistent during the sample period. To control for the potential biases due to some specific industry characteristics, I exclude particular industries which contain unusual frequencies of restatements/ICW and level of real earnings management. I re-run REST model by excluding firms in the pharmaceuticals and utilities industries. I also eliminate firms in the food industry and re-run the ICW model. Finally, firms in the food, durable manufactories, transportation, services, and computer industries are excluded when I re-run my EM model. The results are reported in Table 15. Even though the coefficients of few variables are not significant, their directions are correct. Therefore, the overall results documented in section 4.2 are generally unchanged.

[Insert Table 15 here]

4.3.5 Excluding cash compensation ratio variable

In the regression model, I use three compensation ratios to test the differential percentage effects of cash, stocks, and options. Because these three compensation ratios sum up to one, a potential multicollinearity may exist. To address this issue, I exclude *ACCASH%* and use *ACSTOCK%* and *ACOPTION%* to re-run all regression models. As reported in Table 16, this alternative research design does not alter the results.

[Insert Table 16 here]

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4.3.6 Corporate governance effects

It is possible that the moderating effect of clawback provisions on the unfavorable influence of audit committee equity-based compensation is spuriously caused by a lack of control for variations of corporate governance mechanisms. Therefore, I include a corporate governance indicator variable (*Gov_Index*) and their interactions with the compensation-related variables (i.e., *ACCASH×Gov_Index, ACSTOCK×Gov_Index* and *ACOPTION×Gov_Index*) as additional control variables in the regression model to test the robustness of the relation among equity-based compensation, clawback provision and audit committees' monitoring effectiveness.

Following Vyas (2011), I measure corporate governance for the sample period using the index-adjusted Corporate Governance Quotient (CGQ) computed by Institutional Shareholder Services (ISS) for the same period. The CGQ comprises 63 variables in the following eight categories: board of directors, audit, charter and bylaw provisions, laws of the state of incorporation, executive and director compensation, qualitative factors, ownership, and director education. I then classify observation into two subsamples. *Gov_Index* is coded one if firms' CGO is more than the sample median, and 0 otherwise. The results are reported in Table 17. I find a significantly positive coefficient of *ACSTOCK×Gov_Index* and *ACOPTION×Gov_Index*, suggesting that sound corporate governance does not moderate the detrimental effects of equity-based compensation. Further, I find significant coefficients on *ACSTOCK×CLAWBACK* and *ACOPTION×CLAWBACK*, even after controlling for the quality of governance. Thus, the results reported in the previous sections remain the same.

[Insert Table 17 here]

4.3.7 Effects of board compensation

Although audit committees assume the ultimate responsibility in overseeing the quality of firms' internal controls and financial reporting, the entire boards are also charged with the duty to monitor firms' overall financial reporting process (Cullinan et al. 2010). Linck et al. (2009) examines the changes in board compensation structure after SOX and shows that director

compensation increased substantially post-SOX due to the changes in directors' workload. Some research also emphasizes that directors should be sufficiently compensated to increase boards' governance effectiveness (e.g., Ryan and Wiggins 2004). Therefore, it is possible that the clawback provisions affect not only the audit committees, but also other members in the boards. To address this concern, I replace all audit committee compensation variables by compensation paid to board members other than audit committees and CEOs (denoted by *OtherCASH, OtherSTOCK, OtherOPTION, OtherCASH%, OtherSTOCK%*, and *OtherOPTION*) and re-run all regressions using the High-Low CEO Equity Groups. Table 18 shows that all coefficients on these compensation variables and their interactions with the clawback provisions are insignificant except for few that are only marginally significant. These results imply that the adverse effect of equity-based compensation and the mitigating effect of the clawback provisions affect the audit committees rather than other board members.

[Insert Table 18 here]

4.3.8 Heckman two stage results

I also employ Heckman's (1979) two-stage model to control for endogenous biases. At the first stage, I use the voluntary adoption model to estimate the inverse Mill's ratio (denoted by *IMR*). At the second stage, I include *IMR* as an additional explanatory variable in the second-stage regression model. Lennox et al. (2012) suggests that the implementations of the Heckman model in accounting research should satisfy three requirements: variable exclusion restrictions, tests for multicollinearity, and significant inverse Mill's ratio. Because only one variable (i.e., *LnASSET*) in the first stage model is also used in the second stage, I roughly meet the exclusion restrictions. In addition, I use variance inflation factors (VIFs) to evaluate the multicollinearity of *IMR* and find that its VIFs are between 2.98 ~ 4.04, which are far below the 10.0 threshold suggested by Neter et al. (1996). Finally, Table 19 reports that all coefficients on *IMR* are significant. Note that, Table 19 shows some differences in the empirical results between the Heckman model and the propensity score matching. Specifically, my hypotheses H1a, H1b, and H1c are not fully supported under the

Heckman model, even though my H2 is supported.

[Insert Table 19 here]

4.3.9 Alternative measures in firm performances

To ensure that my results are not sensitive to measures of firm performance, I control for firm performances in the four regression models. There are many measures to proxy for firm performances. Following Chhaochharia and Grinstein (2009), I use the natural log of the gross annual stock return of the firms (donted by *lnRETURN*) to replace firm performance variables (i.e., *ROA_Ind* and *LOSS*) and add it in all regression models. As reported in Table 20, the different measures in the firm performance do not alter the results.

[Insert Table 20 here]

4.3.10 Excluding financial crisis period

Recent studies argue that the financial crisis after 2008 has a significant impact on firms' risk management, financing policies and firm performance (Brunnermeier 2009; Erkens et al., 2012), an important concern is that observed clawback provision effects could be biased during the crisis period. To control for the economic impact, I exclude the 2008-2009 sample and conduct the related tests described in section 3 of this paper, with no substantive change in the results. The results are reported in Table 21. However, the negative coefficients on *ACSTOCK*× *CLAWBACK* and *ACOPTION*× *CLAWBACK* are insignificant in ICW model. A possible explanation for this limited evidence is the bias under initial stage of Section 404 when I use ICW as the dependent variable. Because Section 404 reports are disclosure from the fiscal year ends of 2004, *AuditAnalytics* compiles data from public disclosures of material weaknesses in the 10-K reports of accelerated filers and suggests that, among the 2,451 companies, the number disclosing ICW fell from 337 in 2004 to 179 in 2005. A likely explanation is that internal control quality is improving overall. The tremendous ICW reported in the first two or three years could cause the weak coefficients on the interactions. Overall, the results are robust to the variation in sample period.

[Insert Table 21 here]

CHAPTER 5   SUMMARY AND CONCLUSIONS

I examine whether clawback provisions improve audit committees' oversight effectiveness, and discuss the moderating effect of clawback provisions on the association between equity-based compensation and audit committees' oversight failure. The major finding is that, when firms voluntarily adopt clawback provisions in the compensation contracts, the adverse effects of equity-based compensation will be decreased. The findings meet the prediction that the benefit of clawback provisions to audit committees' oversight effectiveness, tested by the likelihood of restatements, the incidence of ICW, and the level of real earning management activities. I also find the moderating effects of clawback provision on CEOs' action due to equity-based compensation. Several potential implications of the findings should also interest regulators addressing issues related to compensation contracts and oversight effectiveness of audit committees.

This paper points to several directions for future research. Hennes et al. (2008) classifies restatements as either errors or irregularities and reports that market reaction to restatements due to irregularities is more negative than restatements due to errors. Brown et al. (2011) finds that only restatements resulting from *irregularities* are significantly related to the likelihood of adopting *fraud*-based clawback provisions. I further consider separately restatements resulting from irregularities and errors, and therefore, future research might examine the relation between the adoption of clawback provisions and restatements types.

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Table 1

Sample Selection Procedure

Panel A: Firms voluntarily adopting the clawback provisions

All S&P 500 clawback adopters from the Corporate Library	195
Less: financial institutions (SIC codes 6000-6999)	(26)
Less: firms whose clawback provisions are applied to CEOs or executives only[a]	(38)
Less: firms changing their clawback provisions coverages	(2)
Firms voluntarily adopting clawback provisions	**129**

Panel B: Sample used for analyses

All S&P 500 observations during fiscal year 2003 to 2009	3,500
Less: financial institutions (SIC codes 6000-6999)	(595)
Less: observations with missing financial data[b]	(353)
Less: observations with missing audit committee compensation data[c]	(145)
Sample used to calculate propensity scores	**2,407**
Less: observations that do not meet the propensity score matching criterion[d]	(1,842)
Sample used to test the association between audit committee compensation and restatement likelihood/earnings management	**562**
Less: observations without ICW information	(38)
Sample used to test the association between audit committee compensation and ICW	**524**

[a]I review the content of clawback provision and make sure that disclosure clawback provisions are applied to audit committees and CEOs.

[b]All sample firms must have complete data on Compustat, ExecuComp, CRSP, and Audit Analytics.

[c]Audit committee compensation data and other related information are obtained from firms' Form DEF 14A using the EDGAR.

[d]I match the control firms by identifying the pairings that result in observations with the smallest propensity score differences.

Table 2

Variable Definitions

Variables	Pred. Sign	Definitions
Dependent Variables		
CLAWBACK		An indicator variable that is equal to 1 if the firm has voluntarily adopted a clawback policy in year t and 0 otherwise.
RESTATED		An indicator variable that equals 1 if a firm's year *t* reported earnings is restated, and zero otherwise.
ICW		An indicator variable that equals 1 if a firm reports ICW in a given year, and 0 otherwise.
ACCRUALS		Working capital and the changes in long-term operating assets and long-term operating liabilities. *ACCRUALS* = (ΔWC+ΔNCO+ΔFIN)/ average total assets, where WC is calculated as current operating assets - current operating liabilities, and NCO is calculated as non-current operating assets - non-current operating liabilities. FIN is calculated as financial assets - financial liabilities.
REM_Index		The sum of the three standardized individual components, i.e., - standardized abnormal cash flows + standardized abnormal production costs - standardized abnormal discretionary expenses.
Determinants		
LnASSET	-	Natural log of a firm's total assets.
PROFIT	-	Net income divided by market value of equity.
PRIORSTAT	+	Dummy variable equal to 1 if the firm had a restatement in the past 5 years, 0 otherwise.
EQUITY_Issue	+	Dummy variable equal to 1 if the firm issued equity shares in the past 5 years, 0 otherwise.
DEBT_Issue	+	Dummy variable equal to 1 if the firm issued debt in the past 5 years, 0 otherwise.
EXTRA_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)
CEO_Tenure	-	The number of years the executive has served as CEO for the firm. (Source: ExecuComp)
CEO_Chair	-	An indicator variable that is equal to 1 if the CEO is the chair of the board, and 0 otherwise. (Source: ExecuComp)
Bonus to cash	-	The amount of bonus paid to CEO at the end of t-1 divided by the cash compensation of the CEO. (Source: ExecuComp)

CEO_Ownership	-	Percentage of firm's shares owned by the CEO. (Source: ExecuComp)
BSIZE	-	The number of directors in the board.
INSIDE _%:	-	The percentage of insiders on the board.

Control Variables

LnASSET	-	The same as the above definition.
BIG4	-	An indicator variable that equals 1 if a firm's year t financial statements are audited by a Big 4, and 0 otherwise.
GOING	+	An indicator variable that equals 1 if a firm receives a going concern opinion in year t, and 0 otherwise.
M&A	+	An indicator variable that equals 1 if there was an acquisition during the misstated period, else 0.
ROA_ind	-	The industry-median-adjusted ROA (return on assets).
MB	+	(Shares outstanding × end of year share price)/(total assets − total liabilities)
LOSS	+	An indicator variable that equals 1 if earnings before extraordinary items in year t-1 is negative, and 0 otherwise.
RESTR	+	An indicator variable that equals 1 if a firm is involved in a restructuring (COMPUSTAT data items #376, #377, #378 or #379) in a given year, and 0 otherwise.
FOREGIN	+	An indicator variable that equals 1 if a firm has a non-zero foreign currency translation (COMPUSTAT data item #150) in a given year, and 0 otherwise.
SEGMENTS	+	Number of reported business segments (inside and outside the U.S.).
SALESGROW	+	The industry-adjusted growth in sales (COMPUSTAT data item #12).
OPCYCLE	+	Operating cycle for the firm/100, measured by 360/(sales/average account receivables) +360/(cost of goods sold/average inventory), where sales is COMPUSTAT data item #12, cost of goods sold is COMPUSTAT data item #41, account receivables is COMPUSTAT data item #2, and inventory is COMPUSTAT data item #3.
SALESVLT	+	Volatility in sales revenue (in millions) measured by the standard deviation in quarterly sales for 20 quarters prior to year t.
LEVERAGE	+	Long-term debt divided by total assets.
ΔE	+	Change in a firm's annual equity, deflated by prior year total

		assets.

Audit Committee Characteristics

ACSIZE	-	Number of audit committee members.
OVERLAPCOM	+	The number of audit committee members who also sit in the compensation committee, divided by the audit committee size.
ACCEXPERT	-	Ratio of the number of audit committee members who are CPA or have accounting-related experience to audit committee size.
MEETING	-	Number of annual audit committee meetings.

Compensation Variables

CLAWBACK	+	The same as the above definition.
ACCASH	-	Natural log of annual cash payments to audit committee, including free and deferred cash compensation, but not meeting fees.
ACSTOCK	+	Natural log of annual stock compensation to audit committee, including common stocks, restricted stocks, deferred stock units and phantom stock units.
ACOPTION	+	Natural log of annual option compensation to audit committee, including short-term and long-term options.
ACCASH%	-	Ratio of cash to total compensation to audit committee.
ACSTOCK%	+	Ratio of stocks to total compensation to audit committee.
ACOPTION%	+	Ratio of options to total compensation to audit committee.

Table 3
Distribution of Clawbacks

Panel A: Yearly Distribution of Voluntary Clawbacks Adoption

	2003	2004	2005	2006	2007	2008	2009	Total[a]
N	6	4	5	14	26	39	35	129
% of total	4.65%	3.10%	3.88%	10.85%	20.16%	30.23%	27.13%	100.00%

Panel B: Clawbacks Characteristics

	Frequency	Percentage of Total
All Clawbacks	129	100.00%
Trigger [b]		
Fraud and misconduct	65	50.39%
All restatements	29	22.48%
Bad faith	13	10.08%
Multiple triggers	22	17.05%
Enforcement Authority		
Definite[c]	98	75.97%
Indefinite	31	24.03%
Industry[d]		
Agriculture	1	0.78%
Mining and Construction	2	1.55%
Food	8	6.20%
Textiles and Printing/Publishing	10	7.75%

Chemicals	11	8.53%
Pharmaceuticals	7	5.43%
Extractive	6	4.65%
Durable Manufacturing	28	21.71%
Transportation	10	7.75%
Utilities	7	5.43%
Retailing	15	11.63%
Services	7	5.43%
Computers	17	13.18%

[a]The list of clawback adopters are collected from the Corporate Library. I specifically identify the years of adopting clawback provisions from firms' proxy statements. Compensation arrangements are typically disclosed in a firm's Compensation Discussion and Analysis (CDA), a portion of the firm's definitive proxy statement (Form DEF 14A). The selection procedure for final 129 clawback adopters is the same as Table 1.

[b]When firms voluntarily adopt clawback provisions, they have the discretion to determine the type of action that triggers the clawbacks. I identify clawback triggers from firms' proxy statements (Form DEF 14A).

[c]Firms definitely specify the enforcement body that has considerable discretion in the application and enforcement of the clawback provisions. This information is collected from Form DEF 14A.

[d]Industry membership is determined by the SIC code as follows: agriculture (0100-0999), mining and construction (1000-1999, excluding 1300-1399), food (2000-2111), textiles and printing/publishing (2200-2799), chemicals (2800-2824, 2840-2899), pharmaceuticals (2830-2836), extractive (1300-1399, 2900-2999), durable manufacturing (3000-3999, excluding 3570-3579 and 3670-3679), transportation (4000-4899), utilities (4900-4999), retail (5000-5999), services (7000-8999, excluding 7370-7379), computers (3570-3579, 3670-3679, 7370-7379).

Table 4

Analysis of Audit Committee Compensation

Panel A: Yearly Distribution of Audit Committee Compensation

year	Firms without Equity-Based Compensation		Firms Using Equity-Based Compensation		Number of Yearly Observations	
	Number	Percentage of the yearly observations	Number	Percentage of the yearly observations	Number	Percentage of total sample
2003	56	16.72%	279	83.28%	335	13.92%
2004	54	16.17%	280	83.83%	334	13.88%
2005	50	14.49%	295	85.51%	345	14.33%
2006	49	14.20%	296	85.80%	345	14.33%
2007	47	13.47%	302	86.53%	349	14.50%
2008	45	12.75%	308	87.25%	353	14.67%
2009	44	12.72%	302	87.28%	346	14.37%
Total	345	14.33%	2,062	85.67%	2,407	100.00%

Panel B: Distribution of Compensation Components

Year	Average Amount of Annual Compensation[a]				Compensation Ratio		
	Cash	Stock	Option	Total	Cash	Stock	Option
2003	187,989.7	132,921.2	216,128.5	537,039.4	35.00%	24.75%	40.24%
2004	219,179.1	163,462.6	203,610.3	586,252.0	37.39%	27.88%	34.73%
2005	256,586.9	204,155.4	210,312.2	671,054.5	38.24%	30.42%	31.34%
2006	314,913.5	231,270.2	213,577.6	759,761.3	41.45%	30.44%	28.11%
2007	333,107.6	259,172.5	189,745.4	782,025.5	42.60%	33.14%	24.26%
2008	336,298.6	272,312.6	187,230.4	795,841.6	42.26%	34.22%	23.53%

| 2009 | 313,769.1 | 279,650.8 | 168,302.8 | 761,722.7 | 41.19% | 36.71% | 22.10% |
| Total | 280,263.5 | 220,420.8 | 198,415.3 | 699,099.6 | 40.09% | 31.53% | 28.38% |

[a]The dollar amounts of the compensation are obtained from firms' proxy statements.

Table 5
Descriptive Statistics

Variables[a]	Firms with clawback provisions[c] (N=281)			Firms without clawback provisions[d] (N=2,126)			Propensity score matched firms[e] (N=281)			Clawbacks firms vs. Non-adopting firms		Clawbacks firms vs. Propensity score matched firms	
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Parametric t tests[b]	Mann-Whitney z tests[b]	Parametric t tests[b]	Mann-Whitney z tests[b]
Dependent Variables													
RESTATED	0.023	0.000	0.167	0.107	0.000	0.330	0.045	0.000	0.154	-4.196***	-3.257***	-1.650*	-1.725*
ICW	0.026	0.000	0.158	0.046	0.000	0.194	0.039	0.000	0.132	-1.659*	-1.711*	-1.513#	-1.439#
ACCRUALS	0.131	0.080	0.254	0.160	0.108	0.257	0.161	0.094	0.248	-1.780*	-1.710*	-1.900*	-0.884
REM_Index	-0.182	-0.453	1.863	-0.023	-0.325	1.422	-0.176	-0.459	1.246	-1.692*	-0.629	-0.044	-0.056
Determinants													
LnASSET	9.695	9.859	1.072	9.132	9.085	1.188	9.643	9.682	1.237	7.548***	8.264***	0.523	1.031
PROFIT	0.034	0.060	0.248	0.031	0.051	0.155	0.022	0.052	0.239	0.320	0.942	0.769	0.528
PRIORSTAT	0.340	0.000	0.474	0.335	0.000	0.472	0.323	0.000	0.406	0.195	0.056	0.552	0.003
EQUITY_Issue	0.552	1.000	0.498	0.529	1.000	0.499	0.527	1.000	0.500	0.825	0.061	0.617	0.135
DEBT_Issue	0.682	1.000	0.472	0.644	1.000	0.437	0.673	1.000	0.436	1.356#	1.476#	0.234	0.286
EXTRA_Bonus	0.484	0.000	0.485	0.419	0.000	0.500	0.449	0.000	0.477	2.414**	1.650#	1.044	0.059
CEO_Chair	0.587	1.000	0.489	0.595	1.000	0.491	0.582	1.000	0.495	-0.256	0.110	0.120	0.986
CEO Tenure	4.956	4.500	2.679	5.864	5.000	2.836	5.142	5.600	2.656	-4.926***	-2.217***	-0.827	-2.221**
Bonus to cash	0.218	0.000	0.292	0.321	0.357	0.309	0.209	0.000	0.288	-6.216***	-11.547***	0.445	0.826

CEO_ownership	4.576	2.848	5.551	3.859	1.027	4.726	3.604	1.905	6.420	2.736***	3.843***	2.318**	2.247**
BSIZE	10.667	11.000	1.970	9.527	9.000	2.567	10.730	11.000	2.423	8.510***	10.931***	-0.409	-0.338
INSIDE_%	0.564	0.571	0.110	0.553	0.562	0.162	0.562	0.560	0.138	1.316#	1.602#	0.230	1.265

Control Variables

GOING	0.003	0.000	0.059	0.006	0.000	0.078	0.007	0.000	0.084	-0.578	-0.010	-0.535	-0.048
M&A	0.093	0.000	0.329	0.089	0.000	0.284	0.072	0.000	0.259	0.253	0.210	1.018	1.360#
ROA_ind	0.102	0.061	0.833	0.080	0.032	1.297	0.150	0.077	1.013	0.330	0.435	-0.742	-0.247
MB	2.931	2.294	1.294	2.584	2.047	1.626	2.635	2.136	1.294	4.023***	2.814***	3.118***	1.795*
LOSS	0.076	0.000	0.267	0.098	0.000	0.289	0.088	0.000	0.288	-1.508#	-1.416#	-0.698	-0.651
SALESGROW	0.044	0.024	0.131	0.040	0.019	0.143	0.041	0.023	0.136	0.444	0.459	0.266	1.007
RESTR	0.846	1.000	0.362	0.688	1.000	0.464	0.767	1.000	0.423	6.514***	3.002***	2.880***	2.225**
FOREGIN	0.340	0.000	0.474	0.335	0.000	0.472	0.344	0.000	0.470	0.195	0.102	-0.121	-0.004
SEGMENTS	3.225	3.024	0.305	3.192	3.004	0.295	3.206	3.016	0.303	2.055**	1.121	0.897	0.377
OPCYCLE	0.721	0.720	1.862	0.733	0.729	1.921	0.728	0.726	1.895	-0.098	-0.074	-0.044	-0.037
SALESVLT	0.053	0.062	1.423	0.062	0.066	1.239	0.060	0.063	1.306	-0.112	-0.049	-0.060	-0.008
LEVERAGE	0.193	0.178	0.116	0.208	0.194	0.150	0.201	0.186	0.152	-1.914*	-2.042**	-0.849	-0.922
ΔE	0.080	0.066	0.329	0.051	0.041	0.356	0.054	0.046	0.340	1.294	1.503#	0.921	1.265

Audit Committee Characteristics and Compensation Variables

ACSIZE	4.556	4.000	1.078	4.190	4.000	1.185	4.354	4.000	1.159	5.649***	3.018***	2.678***	2.204**
OVERALPCOM	0.202	0.143	0.240	0.286	0.250	0.295	0.276	0.250	0.293	-5.420***	-5.905***	-3.965***	-5.734***
ACCEXPERT	0.111	0.000	0.165	0.092	0.000	0.243	0.099	0.000	0.168	1.516#	1.221	1.034	1.269
MEETING	7.926	7.883	2.356	7.792	7.750	2.512	7.890	7.765	2.368	0.996	1.035	0.216	0.665
ACCASH	12.624	12.708	0.531	11.784	12.375	2.608	12.235	12.476	2.054	7.004***.	2.524***.	4.708***	2.192**
ACSTOCK	9.452	11.382	4.260	8.835	10.790	5.337	9.016	11.000	4.907	2.202**	0.750	1.361	1.193

ACOPTION	3.526	0.000	4.872	4.483	0.000	5.815	4.129	0.000	5.665	-3.121***	-1.986*	-1.638#	-1.524#
ACCASH%	0.495	0.479	0.182	0.465	0.452	0.252	0.470	0.453	0.221	2.295**	2.066**	1.772*	1.843*
ACSTOCK%	0.368	0.407	0.212	0.283	0.363	0.253	0.341	0.370	0.248	6.372***	3.298***	1.679*	2.301**
ACOPTION%	0.123	0.000	0.164	0.186	0.000	0.273	0.144	0.000	0.238	-4.518***	-3.001***	-1.474#	-1.526#

[a]The definitions of all variables are summarized in Table 2.

[b]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively. pound key # denotes one-tailed 10% significance level.

[c]The firm-year observation has voluntarily adopted a clawback policy in the given year.

[d]All observations without adopting clawbacks in S&P 500 Index.

[e]I match each clawbacks firm to a non-adopting control firm using-score matching.

Table 6

Distribution of Restatements, ICW, and Earnings Management

Panel A: Distribution by Years

year	RESTATED		ICW		ACCRUALS		REM_Index	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
2003	0.113	0.353	-	-	0.146	0.248	-0.139	1.688
2004	0.130	0.339	0.026	0.161	0.131	0.256	-0.124	1.519
2005	0.120	0.327	0.082	0.276	0.137	0.262	-0.118	1.615
2006	0.050	0.218	0.052	0.222	0.141	0.241	-0.129	1.751
2007	0.071	0.258	0.040	0.195	0.151	0.235	-0.149	1.623
2008	0.044	0.152	0.030	0.172	0.139	0.250	-0.138	1.734
2009	0.061	0.186	0.033	0.188	0.142	0.198	-0.154	1.521

Panel B: Distribution by Industries

Industry[a]	RESTATED		ICW		ACCRUALS		REM_Index	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Agriculture	0.000	0.000	0.000	0.000	0.149	0.241	-0.110	1.421
Mining and Construction	0.016	0.140	0.000	0.000	0.147	0.232	-0.082	1.125
Food	0.029	0.167	0.167	0.129	0.138	0.231	-0.310	1.223
Textiles and Printing/Publishing	0.075	0.266	0.059	0.238	0.156	0.232	0.035	1.236
Chemicals	0.032	0.119	0.000	0.000	0.142	0.236	-0.053	1.218
Pharmaceuticals	0.130	0.344	0.000	0.000	0.149	0.248	-0.016	1.183
Extractive	0.027	0.164	0.000	0.000	0.135	0.262	-1.163	1.218
Durable Manufacturing	0.051	0.221	0.014	0.154	0.158	0.253	0.012	1.377
Transportation	0.013	0.012	0.000	0.000	0.146	0.242	-0.139	1.212

Utilities	0.152	0.360	0.000	0.000	0.152	0.244	-0.092	1.426
Retailing	0.038	0.192	0.014	0.117	0.150	0.235	-0.069	1.388
Services	0.053	0.220	0.081	0.267	0.146	0.236	-0.132	1.281
Computers	0.082	0.184	0.069	0.117	0.148	0.251	-0.129	1.353

[a]Industry membership is determined by the SIC code as follows: agriculture (0100-0999), mining and construction (1000-1999, excluding 1300-1399), food (2000-2111), textiles and printing/publishing (2200-2799), chemicals (2800-2824, 2840-2899), pharmaceuticals (2830-2836), extractive (1300-1399, 2900-2999), durable manufacturing (3000-3999, excluding 3570-3579 and 3670-3679), transportation (4000-4899), utilities (4900-4999), retail (5000-5999), services (7000-8999, excluding 7370-7379), computers (3570-3579, 3670-3679, 7370-7379).
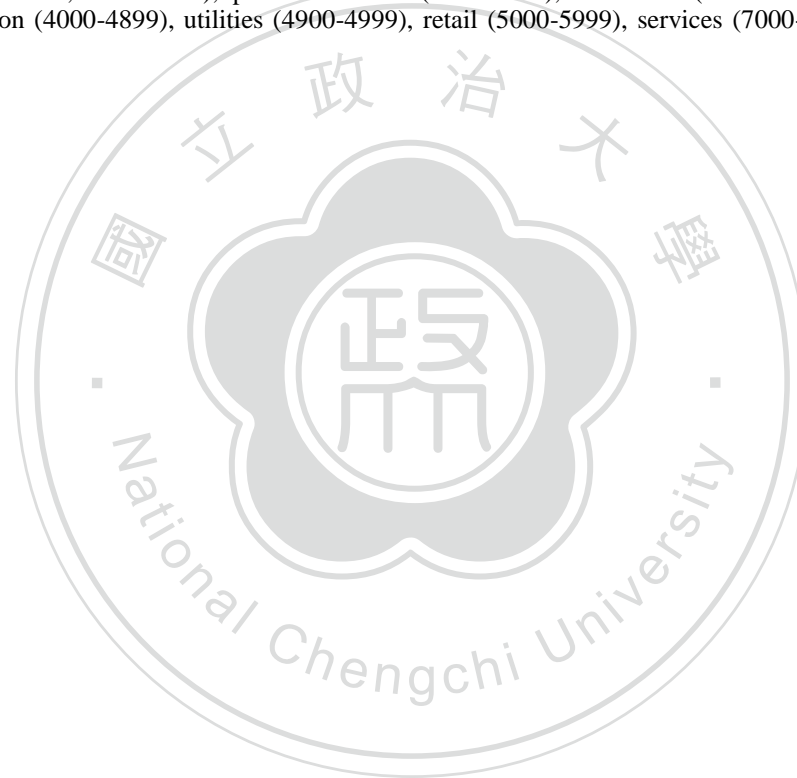
Table 7

Regression Result of the Voluntary Adoption Model

Variables	Predicted Sign	Coefficient (*t* statistics)
INTERCEPT		-3.572***
		(-5.72)
LnASSET	+	0.219***
		(6.89)
PROFIT	+	-0.139
		(-0.81)
PRIORSTAT	+	0.305*
		(1.79)
EQUITY_Issue	+	0.605*
		(1.86)
DEBT_Issue	+	0.550#
		(1.41)
EXTRA_Bonus	+	0.210
		(1.04)
CEO Tenure	−	-0.058***
		(-3.22)
CEO_Chair	−	-0.033
		(-0.48)
bonus to cash	−	-1.053**
		(-2.23)
CEO_Ownership	−	-0.008#
		(-1.35)
BSIZE	−	0.075**
		(2.11)
INSIDE_%	−	-0.141*
		(-1.78)
N		2,407
Pseudo R^2		0.211
Likelihood Ratio χ^2		153.47***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b]All variables are defined in Table 2.

Table 8

Clawback Provision Effects on the Association between Restatement Likelihood and Audit Committee Compensation[a]

Variables[b]	Pred. Sign	Magnitude Approach				Percentage Approach			
		Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group	Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group
		Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)
INTERCEPT		-3.932***	-3.029*	-1.987	-1.516***	-2.038***	-1.925**	-1.181	-1.290
		(-3.49)	(-1.89)	(-0.31)	(-2.82)	(-2.84)	(-2.07)	(-0.55)	(-1.21)
LnASSET	−	0.135	-0.110	-0.184	0.172	0.094	0.085	-0.026	0.071
		(0.89)	(-0.16)	(-1.20)	(1.26)	(0.65)	(0.98)	(-1.61)	(0.46)
BIG4	−	-0.809*	-1.011	0.145	-0.188*	-0.097	-0.209**	0.212	-0.117*
		(-1.88)	(-0.62)	(0.57)	(-1.77)	(-1.48)	(-2.03)	(0.79)	(-1.82)
GOING	+	0.293**	0.286*	0.167	0.194[#]	0.382**	0.341*	0.516[#]	0.131[#]
		(2.17)	(1.72)	(1.21)	(1.40)	(2.11)	(1.88)	(1.44)	(1.36)
M&A	+	0.150	0.228	0.364	-0.099	0.142	0.059[#]	0.023	-0.027
		(0.68)	(1.07)	(0.73)	(-0.19)	(1.02)	(1.53)	(0.47)	(-0.38)
ROA_Ind	−	-0.067*	-0.043*	-0.016*	-0.023	-0.019**	-0.026*	-0.014	-0.036*
		(-1.77)	(-1.81)	(-1.78)	(-1.24)	(-2.12)	(-1.69)	(-0.80)	(-1.74)
MB	−	0.208	-0.179[#]	-0.171	0.097	0.183	0.156	-0.166	0.413
		(0.92)	(-1.42)	(-0.89)	(0.77)	(0.82)	(0.95)	(-0.84)	(0.48)
ACSIZE	−	-0.098**	-0.058***	-0.014*	-0.018***	-0.127**	-0.016***	-0.018[#]	-0.029**
		(-2.09)	(-2.66)	(-1.86)	(-3.71)	(-2.18)	(-3.18)	(-2.12)	(-2.02)
OVERLAPCOM	+	0.282	-0.308	0.126	-0.269	0.186	-0.205	0.303	-0.082
		(1.07)	(-0.82)	(0.22)	(-0.53)	(1.04)	(-0.69)	(0.05)	(-0.16)
ACCEXPERT	−	-0.124***	-0.275*	-0.577	-0.715[#]	-0.389***	-0.108**	-0.039[#]	-0.107*
		(-2.83)	(-1.80)	(-0.64)	(-1.82)	(-2.89)	(-2.33)	(-1.41)	(-1.69)
MEETINGTIME	−	-0.030*	-0.027[#]	-0.012[#]	0.068	-0.025*	-0.052[#]	-0.091[#]	-0.103**
		(-1.82)	(-1.48)	(-1.52)	(0.79)	(-1.82)	(-1.32)	(-1.56)	(-2.09)
ACCASH	−	-0.058*	-0.143	-0.216	-0.186*				
		(-1.84)	(-1.07)	(-1.02)	(-1.76)				

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Variable	Sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ACSTOCK	+	0.119[#]	0.126*	0.069[#]	0.056				
		(1.52)	(1.89)	(1.57)	(-0.20)				
ACOPTION	+	0.092*	0.128*	0.023	0.021				
		(1.90)	(1.88)	(0.64)	(0.05)				
CLAWBACK	−		-1.104	-0.338	-0.286*		-0.718[#]	-1.182[#]	-1.101[#]
			(-1.04)	(-1.18)	(-1.77)		(-1.52)	(-1.58)	(-1.33)
ACCASH× CLAWBACK	−		-0.243*	-0.138***	-0.182***				
			(-1.77)	(-3.64)	(-8.38)				
ACSTOCK× CLAWBACK	−		-0.168**	-0.050[#]	-0.015*				
			(-2.18)	(-1.65)	(-1.77)				
ACOPTION× CLAWBACK	−		-0.124*	-0.032*	-0.085*				
			(-1.73)	(-1.69)	(-1.81)				
ACCASH%	−					-0.264**	-0.403	0.282	-0.820
						(-2.02)	(-1.17)	(0.33)	(-1.28)
ACSTOCK%	+					0.182*	0.253	0.146	1.110
						(1.77)	(0.93)	(0.89)	(0.93)
ACOPTION%	+					0.074[#]	0.123	0.092	0.191
						(1.56)	(1.02)	(1.11)	(0.83)
ACCASH%× CLAWBACK	−						-1.022*	-1.133**	-1.372*
							(-1.86)	(-2.02)	(-1.76)
ACSTOCK%× CLAWBACK	−						-1.392[#]	-0.168*	-1.339[#]
							(-1.54)	(-1.72)	(-1.63)
ACOPTION% × CLAWBACK	−						-0.604*	-0.093**	-0.114*
							(-1.69)	(-2.34)	(-1.84)
N		562	562	281	281	562	562	281	281
Pseudo R^2		0.138	0.152	0.159	0.198	0.153	0.120	0.225	0.228
Likelihood Ratio χ^2		36.21**	38.31**	21.61***	25.68***	37.66***	31.53***	41.48***	39.02***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.

[b]All variables are defined in Table 2.

Table 9

Clawback Provision Effects on the Association between Incidence of ICW and Audit Committee Compensation[a]

Variables[b]	Pred. Sign	Magnitude Approach				Percentage Approach			
		Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group	Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-4.483***	-3.591*	-2.737*	-4.729*	-4.691***	-4.267**	-2.910	-3.701*
		(-3.09)	(-1.69)	(-1.71)	(-1.67)	(-3.29)	(-2.49)	(-0.39)	(-1.79)
LnASSET	+	0.325	-0.218	-0.324	-0.264	0.246	0.227	-0.115	-0.270[#]
		(1.02)	(-0.82)	(-0.85)	(-1.28)	(1.17)	(0.96)	(-0.45)	(-1.34)
BIG4	−	-0.509*	-0.518[#]	-0.285*	-0.182*	-0.468*	-0.578**	-0.187[#]	-0.338[#]
		(-1.76)	(-1.56)	(-1.82)	(-1.58)	(-1.81)	(-2.26)	(-1.35)	(-1.56)
LOSS	+	1.049***	1.047***	1.419*	1.359**	1.058***	1.062***	0.610	1.392**
		(2.89)	(2.92)	(1.78)	(2.43)	(2.84)	(3.28)	(1.07)	(2.57)
RESTR	+	0.586**	1.218**	0.068[#]	0.079**	0.682**	1.324*	0.175	0.150**
		(2.18)	(2.34)	(1.38)	(2.11)	(2.28)	(1.76)	(0.01)	(2.17)
FOREGIN	+	0.691***	0.542*	-0.681	-0.224	0.684***	-0.069	-0.425	0.026
		(3.14)	(1.84)	(-0.99)	(-0.52)	(3.15)	(-0.84)	(-0.83)	(0.06)
SEGMENTS	+	0.268	1.018*	0.168	0.117**	0.247	1.042*	0.175**	0.115**
		(1.08)	(1.76)	(0.08)	(2.23)	(0.69)	(1.69)	(2.11)	(2.06)
SALESGROW	+	-0.064	-0.043[#]	-0.376[#]	-0.062	-0.066	0.050[#]	-0.774*	-0.083
		(-1.12)	(-1.53)	(-1.44)	(-0.68)	(-0.87)	(1.54)	(-1.88)	(-0.98)
ACSIZE	−	-0.017*	-0.086	-0.058	-0.032[#]	-0.094[#]	-0.053	-0.076	-0.044[#]
		(-1.76)	(-0.94)	(-1.14)	(-1.47)	(-1.49)	(-0.76)	(-0.03)	(-1.53)
OVERLAPCOM	+	-0.250	-1.082	-0.096	0.324	-0.480	-1.090	-1.020	0.380
		(-0.69)	(-0.76)	(-0.09)	(0.66)	(-0.95)	(-1.19)	(-0.02)	(0.77)
ACCEXPERT	−	-1.086[#]	-0.239	-0.233**	-0.492	-1.094[#]	-0.254	-1.06[#]	-0.235
		(-1.52)	(-0.76)	(-2.12)	(-0.32)	(-1.59)	(-0.70)	(-1.57)	(-0.16)
MEETINGT	−	-0.048**	-0. 060	-0.066	0.083	-0.041**	0.029	0.059	0.081
		(-1.98)	(-1.15)	(-0.64)	(0.44)	(-2.09)	(0.49)	(0.55)	(0.55)

ACCASH	−	0.098 (0.76)	0.073 (0.97)	1.377# (1.55)	0.062* (0.32)				
ACSTOCK	+	0.076** (2.06)	0.046 (0.68)	0.220 (0.97)	-0.155 (-0.03)				
ACOPTION	+	0.032* (1.73)	0.101* (1.83)	0.565 (0.11)	0.141** (2.30)				
CLAWBACK	−		-0.043 (-0.76)	-1.033 (-0.44)	-1.921** (-2.17)		-1.195 (-0.88)	-1.504 (-0.03)	-1.267# (-1.46)
ACCASH× CLAWBACK	−		-1.018* (-1.87)	-1.212* (-1.84)	-0.526** (-2.18)				
ACSTOCK× CLAWBACK	−		-0.350 (-0.85)	-0.272# (-1.42)	-0.094* (-1.72)				
ACOPTION× CLAWBACK	−		-0.186# (-1.58)	-0.094 (-0.76)	-0.084# (-1.36)				
ACCASH%	−					-1.342* (-1.78)	-1.240 (-0.97)	-1.067 (-1.11)	-1.018# (-1.56)
ACSTOCK%	+					1.308* (1.83)	1.247# (1.58)	1.028# (1.56)	1.057# (1.36)
ACOPTION%	+					0.861* (1.86)	1.093** (2.34)	-0.613 (-0.10)	1.589** (2.28)
ACCASH%× CLAWBACK	−						-2.185* (-1.80)	-1.286 (-0.19)	-1.501** (-2.01)
ACSTOCK%× CLAWBACK	−						-2.172# (-1.57)	-1.132# (-1.43)	-1.175 (-1.26)
ACOPTION% × CLAWBACK	−						-2.216# (-1.43)	-1.098** (-1.95)	-1.063 (-0.13)
N		524	524	262	262	524	524	262	262
Pseudo R^2		0.194	0.290	0.335	0.382	0.187	0.198	0.299	0.321
Likelihood Ratio χ^2		31.43***	46.22***	32.91***	37.12***	29.87***	31.54***	31.04***	31.38***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b]All variables are defined in Table 2.

Table 10

Clawback Provision Effects on the Association between Accruals Quality and Audit Committee Compensation[a]

Variables[b]	Pred. Sign	Magnitude Approach				Percentage Approach			
		Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group	Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group
		Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)
INTERCEPT		3.501*** (3.08)	2.852** (2.28)	3.148* (1.85)	2.901* (1.72)	3.481*** (2.75)	3.117*** (3.04)	2.812** (2.24)	2.895*** (3.08)
LASSET	−	-0.024* (-1.81)	-0.028* (-1.75)	-0.032* (-1.71)	-0.024# (-1.53)	-0.022** (-2.04)	-0.026** (-2.20)	-0.030* (-1.72)	-0.026* (-1.84)
BIG4	−	-1.072** (-2.18)	-1.081 (-1.17)	-0.072* (-1.84)	-0.056** (-2.07)	-1.005* (-1.72)	-0.898* (-1.69)	-1.004 (-1.25)	-1.118* (-1.70)
LOSS	+	0.061* (1.78)	0.057** (2.15)	0.068*** (2.84)	0.066*** (3.02)	0.068*** (2.83)	0.064* (1.71)	0.059** (2.07)	0.062*** (2.69)
OPCYCLE	+	0.014* (1.82)	0.012 (1.20)	0.011 (1.03)	0.017 (1.24)	0.015 (0.87)	0.013 (1.15)	0.017# (1.48)	0.016 (0.96)
SALESVLT	+	0.097** (2.22)	0.089** (1.98)	0.094* (1.77)	0.095** (2.30)	0.102** (2.12)	0.114*** (3.50)	0.118*** (2.84)	0.107** (2.35)
ACSIZE	−	-0.024# (-1.58)	-0.032* (-1.72)	-0.027# (-1.48)	-0.028* (-1.69)	-0.042 (-0.89)	-0.038 (-1.17)	-0.054 (-1.03)	-0.067 (-0.78)
MEETING	−	-0.042* (-1.74)	-0.040# (-1.32)	-0.047 (-1.05)	-0.041 (-1.28)	-0.035 (-1.01)	-0.038 (-1.09)	-0.037 (-0.94)	-0.042 (-1.12)
ACCEXPT	−	-0.077* (-1.81)	-0.072# (-1.49)	-0.074 (-1.23)	-0.075 (-1.09)	-0.082* (-1.72)	-0.089* (-1.81)	-0.087* (-1.74)	-0.088* (-1.88)
OVERLAPCOM	+	0.197 (0.88)	0.251 (1.03)	0.204 (1.25)	0.158* (1.78)	0.181# (1.58)	0.135# (1.52)	0.128 (1.08)	0.164* (1.69)
ACCASH	−	-0.023* (-1.89)	0.020 (1.08)	0.024 (1.26)	0.028# (1.57)				
ACSTOCK	+	0.028# (1.48)	0.018 (1.25)	0.020* (1.74)	0.024 (1.25)				

ACOPTION	+	0.019* (1.72)	0.032 (1.11)	0.030 (1.20)	0.039# (1.41)				
CLAWBACK	−		-0.127 (-0.78)	-0.130* (-1.76)	-0.126# (-1.36)		-0.176* (-1.69)	-0.206 (-0.94)	-0.218* (-1.76)
ACCASHxCLAWBACK	−		-0.023** (-2.14)	-0.027 (-1.23)	-0.031* (-1.70)				
ACSTOCKxCLAWBACK	−		-0.036 (-1.26)	-0.037* (-1.74)	-0.028# (-1.32)				
ACOPTIONxCLAWBACK	−		-0.027* (-1.72)	-0.024* (-1.69)	-0.031* (-1.74)				
ACCASH%	−					-0.040 (-1.08)	0.029 (0.86)	-0.051 (-1.22)	-0.062# (-1.47)
ACSTOCK%	+					0.064# (1.59)	-0.062 (-1.24)	0.073 (1.08)	0.069 (0.84)
ACOPTION%	+					0.036* (1.71)	0.035* (1.75)	0.048* (1.72)	0.050 (0.37)
ACCASH%xCLAWBACK	−						-0.042* (-1.76)	-0.037 (-1.13)	-0.038 (-1.18)
ACSTOCK%xCLAWBACK	−						-0.015# (-1.48)	-0.032 (-1.25)	-0.025* (-1.87)
ACOPTION%xCLAWBACK	−						-0.038* (-1.72)	-0.042# (-1.50)	-0.029** (-2.19)
N		562	562	281	281	562	562	281	281
Adjusted R^2		0.123	0.169	0.267	0.254	0.112	0.140	0.276	0.267
F Statistics		5.38***	5.23***	9.17***	8.05***	5.09***	4.87***	9.26***	9.02***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.

[b]All variables are defined in Table 2.

Table 11

Clawback Provision Effects on the Association between Real Earnings Management and Audit Committee Compensation[a]

Variables[b]	Pred. Sign	Magnitude Approach				Percentage Approach			
		Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group	Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		0.497***	0.686***	0.280***	0.122*	0.199***	-1.421**	0.299***	0.135*
		(5.79)	(-2.89)	(4.01)	(1.66)	(2.97)	(-2.06)	(3.52)	(1.77)
LnASSET	−	-0.108	-0.129*	-0.161***	-0.091	-0.143	-0.188	-0.116***	-0.114
		(-1.03)	(-1.76)	(-3.87)	(-0.26)	(-1.09)	(-0.92)	(-5.58)	(-0.40)
BIG4	−	-1.013***	-1.098***	-0.056*	-0.048	-0.075***	-0.182***	-0.065*	-0.039*
		(-5.18)	(-3.07)	(-1.77)	(-1.17)	(-2.79)	(-3.29)	(-1.78)	(-1.81)
LEVERAGE	+	0.403***	0.236***	0.106***	0.101***	0.055***	0.075*	0.089***	0.107***
		(5.38)	(2.81)	(4.55)	(3.53)	(3.12)	(1.82)	(3.77)	(3.72)
MB	+	-0.218	0.273	0.113	0.098	-0.282	0.276[#]	0.303	0.131
		(-0.22)	(1.08)	(1.04)	(0.23)	(-1.08)	(1.51)	(1.15)	(0.08)
ΔE	+	0.073	0.066	0.060[#]	0.065[#]	0.096	0.107	0.023	0.053
		(0.12)	(0.49)	(1.39)	(1.33)	(0.67)	(1.20)	(0.43)	(0.72)
ACSIZE	−	-0.084	-0.076[#]	-0.048*	-0.079	-0.052	-0.041	-0.032**	-0.057[#]
		(-1.25)	(-1.49)	(-1.74)	(-0.52)	(-0.84)	(-0.45)	(-1.99)	(-1.53)
ACCEXPERT	−	-0.287***	-0.125	-0.110*	-0.074***	-0.085***	-0.107*	-0.049**	-0.076***
		(-3.26)	(-1.76)	(-2.19)	(-3.60)	(-2.97)	(-1.71)	(-2.11)	(-3.58)
MEETING	−	-0.089	-0.085[#]	-0.011	-0.015	-0.056	-0.048	-0.033	-0.104
		(-0.99)	(-1.39)	(-1.13)	(-0.83)	(-0.87)	(-1.13)	(-0.34)	(-1.01)
OVERLAPCOM	+	-0.976	-1.029	-0.823[#]	-0.072	-0.128**	-0.075	-0.099	-0.071
		(-1.29)	(-1.16)	(-1.51)	(-0.50)	(-2.13)	(-0.67)	(-1.03)	(-0.55)
ACCASH	−	-0.083	-0.067	-0.065	-0.029				
		(-1.04)	(-0.94)	(-0.31)	(-1.01)				
ACSTOCK	+	0.086*	0.058	0.027	0.073				
		(1.70)	(1.22)	(0.0)	(0.07)				

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Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ACOPTION	+	0.054*	0.083**	0.048	0.064				
		(1.74)	(2.19)	(-0.16)	(1.11)				
CLAWBACK	−		-0.224	-0.167#	-0.117		-0.430	-0.183*	0.229
			(-0.69)	(-1.63)	(-0.63)		(-0.64)	(-1.72)	(-0.58)
ACCASH× CLAWBACK	−		-0.089	-0.037	-0.054*				
			(-1.09)	(-1.27)	(-1.71)				
ACSTOCK× CLAWBACK	−		-0.023#	-0.018**	-0.049#				
			(-1.46)	(-2.16)	(-1.46)				
ACOPTION× CLAWBACK	−		-0.054*	-0.011*	-0.056#				
			(-1.81)	(-1.74)	(-1.48)				
ACCASH%	−					-0.030	-0.143	-0.080	-0.036
						(-1.16)	(-0.79)	(-0.27)	(-1.11)
ACSTOCK%	+					0.041	0.049	0.034	0.038#
						(1.25)	(0.49)	(0.61)	(1.48)
ACOPTION%	+					0.062	0.024	0.044	0.051
						(0.84)	(0.89)	(0.78)	(0.72)
ACCASH%× CLAWBACK	−						-0.106	-0.023	-0.038
							(-1.26)	(-0.66)	(-0.98)
ACSTOCK%× CLAWBACK	−						-0.048#	-0.012#	-0.046*
							(-1.58)	(-1.58)	(-1.69)
ACOPTION% × CLAWBACK	−						-0.104#	-0.015**	-0.041**
							(-1.43)	(-2.18)	(-2.33)
N		562	562	281	281	562	562	281	281
Adjusted R^2		0.112	0.105	0.302	0.270	0.116	0.128	0.263	0.323
F statistics		4.22***	3.96***	9.43***	9.27***	4.62***	4.68***	8.01***	9.45***

[a] Asterisks *, **, *** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.

[b] All variables are defined in Table 2.

Table 12

Trigger Effects on Audit Committees' Oversight Failures[a]

Variables[b]	Pred. Sign	P(Restated) Magnitude Approach Coefficient (*t* statistics)	P(Restated) Percentage Approach Coefficient (*t* statistics)	P(ICW) Magnitude Approach Coefficient (*t* statistics)	P(ICW) Percentage Approach Coefficient (*t* statistics)	ACCRUALS Magnitude Approach Coefficient (*t* statistics)	ACCRUALS Percentage Approach Coefficient (*t* statistics)	REM_Index Magnitude Approach Coefficient (*t* statistics)	REM_Index Percentage Approach Coefficient (*t* statistics)
INTERCEPT		-3.171 (-1.03)	-5.127** (-2.18)	-4.383 (-0.92)	-3.194** (-1.98)	-2.361** (-2.03)	-3.127 (-0.18)	0.384*** (2.71)	0.319*** (3.09)
TRIGGER1	$-$	-1.718* (-1.75)	-1.490[#] (-1.45)	-1.846[#] (-1.53)	-1.073[#] (-1.33)	-1.524* (-1.88)	-1.332[#] (-1.51)	-0.078 (-1.14)	-0.063* (-1.78)
TRIGGER2	$-$	-0.925[#] (-1.38)	-0.849 (-1.06)	-0.783 (-1.27)	-0.583 (-0.98)	-0.882[#] (-1.46)	-0.814 (-0.95)	-0.076 (-1.06)	-0.044 (-1.08)
TRIGGER3	$-$	-1.216*** (-3.33)	-1.280*** (-3.07)	-1.946** (-2.23)	-1.460** (-2.04)	-1.420** (-2.04)	-1.358* (-1.69)	-0.082* (-1.88)	-0.075* (-1.72)
TRIGGER4	$-$	-0.317 (-0.87)	-0.586 (-1.15)	-0.604 (-1.09)	-0.547 (-1.14)	-0.501 (-0.59)	-0.499 (-1.07)	-0.086* (-1.69)	-0.072* (-1.74)
LnASSET	$-$	-0.124 (-0.98)	-0.119 (-1.23)	-0.315 (-1.01)	-0.248 (-0.86)	-0.294 (-1.24)	-0.304 (-0.74)	-0.048*** (-3.25)	-0.036*** (-2.94)
BIG4	$-$	-0.316** (-1.98)	-0.307 (-1.13)	-0.516** (-2.20)	-0.476* (-1.88)	-0.670** (-2.18)	-0.520* (-1.74)	-0.034[#] (-1.34)	-0.028 (-1.29)
GOING	$+$	1.076** (2.08)	0.823* (1.30)					0.070** (2.18)	0.066*** (3.23)
M&A	$+$	0.481[#] (1.45)	0.806* (1.71)						
ROA_Ind	$-$	-0.013[#] (-1.51)	-0.027[#] (-1.35)						
MB	$+$	0.097* (1.79)	0.082** (2.32)					0.050** (2.16)	0.057** (2.04)
LOSS	$+$			2.782*** (2.71)	1.907*** (2.94)	0.078** (1.98)	0.086** (2.05)		

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	Pred.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RESTR	+			-2.185	-2.199#				
				(-0.88)	(-1.56)				
FOREGIN	+			0.107	0.128				
				(0.96)	(0.88)				
SEGMENTS	+			0.079**	0.048**				
				(2.12)	(1.99)				
SALESGROW	+			0.068*	0.057				
				(1.70)	(1.28)				
OPCYCLE	+					0.098**	0.107***		
						(2.34)	(2.81)		
SALESVLT	+					0.106*	0.141#		
						(1.86)	(1.32)		
LEVERAGE	+							0.123***	0.117***
								(2.94)	(3.09)
ΔE	+							0.287	0.510
								(1.08)	(0.76)
ACSIZE	−	-0.091*	-0.087*	0.076	0.015	-0.074	-0.090*	-0.025	-0.036
		(-1.69)	(-1.74)	(0.87)	(1.03)	(-0.57)	(-1.88)	(-0.94)	(-1.02)
OVERLAPCOM	+	-0.125	-0.249	-0.381	-0.433	-0.088#	-0.049	-0.054	-0.049
		(-0.72)	(-0.58)	(-0.29)	(-0.67)	(-1.47)	(-0.32)	(-0.94)	(-1.09)
MEETING	−	-0.087#	-0.083*	0.027	0.040#	-0.092	-0.077#	-0.023	-0.022
		(-1.67)	(-1.74)	(0.94)	(1.41)	(-0. 91)	(-1.44)	(-0.40)	(-0.48)
ACCEXPERT	−	-0.392	-0.361	-1.323	-2.332	-0.059**	-0.058***	-0.031***	-0.039***
		(-0.40)	(-0.29)	(-0.48)	(-1.09)	(-2.04)	(-2.70)	(-2.89)	(-3.12)
ACCASH	−	-0.082		-1.833		-0.088*		-0.038	
		(-0.63)		(-1.03)		(-1.77)		(-1.17)	
ACSTOCK	+	0.017*		0.141#		0.120*		0.096*	
		(1.71)		(1.32)		(1.69)		(1.86)	
ACOPTION	+	0.023#		0.030*		0.104*		0.012*	
		(1.34)		(1.93)		(1.73)		(1.61)	
ACCASH%	−		-1.069#		-1.072		-0.049#		-0.024#

		(-1.37)		(-1.18)		(-1.58)		(-1.50)
ACSTOCK%	—	0.299		0.350*		0.057		0.097
		(0.88)		(1.70)		(1.24)		(1.18)
ACOPTION%	—	0.380*		0.801$^{\#}$		0.069*		0.069*
		(1.75)		(1.56)		(1.69)		(1.80)
N^{c}		454	454	410	410	454	454	454	454
R^2		0.228	0.106	0.289	0.188	0.214	0.216	0.219	0.218
Likelihood Ratio χ^2 / F statistics		34.62***	31.56***	83.40***	29.84***	22.89***	22.14***	22.55***	22.04***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.

[b]All variables are defined in Table 2.

[c] I exclude 54 observations with fraud or restatements prior to the initial adoption of clawback provisions and eliminate their matched sample.
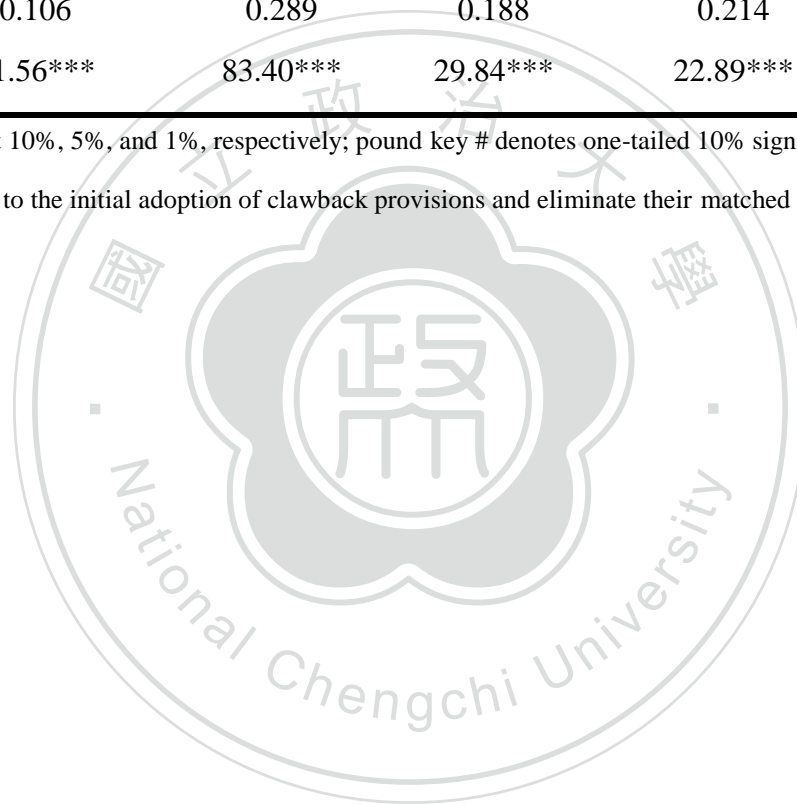
Table 13

Clawback Provision Effects on Restatement Likelihood – Excluding Restatements Spanning Initiated Clawback Provision Adoption[a]

Variables[b]	Pred. Sign	Magnitude Approach			Percentage Approach		
		Full Sample	Low CEO Equity Group	High CEO Equity Group	Full Sample	Low CEO Equity Group	High CEO Equity Group
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-2.748	-2.849	-3.258	-3.053	-4.408	-2.473
		(-1.33)	(-0.89)	(-1.08)	(-0.11)	(-0.04)	(-0.10)
LnASSET	−	-0.205[#]	-0.356	-0.512	-0.268*	-0.425[#]	-0.336
		(-1.33)	(-1.06)	(-0.98)	(-1.78)	(-1.46)	(-0.99)
BIG4	−	-0.098[#]	-0.103	-0.099*	-0.114*	-0.107	-0.108[#]
		(-1.34)	(-1.22)	(-1.83)	(-1.82)	(-1.11)	(-1.38)
GOING	+	0.156	0.049	0.237	0.072	-0.201	0.269
		(0.78)	(0.17)	(0.76)	(0.35)	(-0.59)	(0.89)
M&A	+	0.765	0.642	0.241	0.722	0.827	0.269
		(1.52)	(1.34)	(0.40)	(1.43)	(1.22)	(0.49)
RO_Ind	−	-0.093	-0.119*	0.085	-0.150[#]	-0.093**	-0.065
		(-0.94)	(-1.65)	(0.32)	(-1.30)	(-2.07)	(-0.36)
MB	−	-0.058	-0.053	-0.070	-0.015	0.022	-0.083
		(-0.09)	(-0.05)	(-0.43)	(-0.24)	(0.17)	(-0.53)
ACSIZE	−	-0.013	-0.088**	-0.067	-0.047	-0.046**	-0.098
		(-1.22)	(-1.96)	(-0.12)	(-1.34)	(-1.96)	(-1.08)
OVERLAPCOM	+	-0.266	-0.317	-0.109	-0.186	-0.239	-0.096
		(-0.79)	(-0.61)	(-0.21)	(-0.56)	(-0.47)	(-0.20)
ACCEXPERT	−	-0.082***	-0.114**	-0.096	-0.077**	-0.104**	-0.041
		(-2.66)	(-2.55)	(-1.09)	(-2.39)	(-2.19)	(-0.87)
MEETINGTIME	−	-0.076	-0.015	-0.040	-0.068	-0.060	0.017
		(-0.93)	(-0.86)	(-0.29)	(-0.88)	(-0.81)	(0.02)
ACCASH	−	-0.043	-0.042	-0.119			
		(-0.24)	(-1.02)	(-0.45)			

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ACSTOCK	+	0.125[#]	0.162[#]	0.141			
		(1.58)	(1.60)	(0.47)			
ACOPTION	+	0.085[#]	0.073	0.061			
		(1.46)	(0.82)	(1.07)			
CLAWBACK	−	-0.268	-0.436*	-0.269	-0.446	-0.423	-0.269*
		(-1.98)	(-1.69)	(-1.11)	(-1.06)	(-0.79)	(-1.88)
ACCASH× CLAWBACK	−	-0.066*	-0.136**	-0.069			
		(-1.87)	(-2.04)	(-0.15)			
ACSTOCK× CLAWBACK	−	-0.021[#]	-0.077*	-0.082*			
		(-1.53)	(-1.76)	(1.77)			
ACOPTION× CLAWBACK	−	-0.026**	-0.026[#]	-0.052*			
		(-2.07)	(-1.49)	(-1.73)			
ACCASH%	−				-1.235	1.725	-1.058
					(-0.11)	(0.04)	(-0.10)
ACSTOCK%	+				0.997	1.104	0.943
					(0.11)	(0.04)	(0.10)
ACOPTION%	+				0.586	1.506	0.315
					(0.11)	(0.04)	(0.10)
ACCASH%× CLAWBACK	−				-0.434*	-0.671	-1.176
					(-1.78)	(-0.97)	(-1.13)
ACSTOCK%× CLAWBACK	−				-0.133**	-0.392	-0.651
					(-1.98)	(-0.44)	(-0.84)
ACOPTION%× CLAWBACK	−				-0.288[#]	-0.728**	-0.698[#]
					(-1.49)	(-2.05)	(-1.54)
N		512	512	512	512	512	512
Pseudo R^2		0.192	0.223	0.219	0.198	0.217	0.228
Likelihood Ratio χ^2		29.35***	32.88***	30.49***	30.29***	31.89***	32.25***

[a] I exclude the restatements which span the first year of adopting clawback provisions. Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b] All variables are defined in Table 2.

Table 14

Clawback Provision Effects on Restatement Likelihood – Panel Data Results[a]

Variables[b]	Pred. Sign	Magnitude Approach				Percentage Approach			
		Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group	Full Sample	Full Sample	Low CEO Equity Group	High CEO Equity Group
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-0.747	-0.213	-0.501***	-0.244	-0.179	-0.244	-0.363*	-0.141
		(-0.03)	(-0.83)	(-3.25)	(-0.08)	(-0.64)	(-0.86)	(-1.70)	(-0.44)
LnASSET	−	-0.140	0.229	0.163[#]	-0.146	-0.155	-0.115	0.133	-0.208[#]
		(-0.15)	(0.26)	(1.41)	(-1.10)	(-0.16)	(-0.12)	(1.02)	(-1.44)
BIG4	−	-0.258	-0.791	-0.152	-0.106	-0.051	-0.248	-0.115*	-0.162
		(-0.10)	(-0.03)	(-1.26)	(-0.42)	(-0.20)	(-0.10)	(-1.72)	(-0.61)
GOING	+	0.315[#]	0.315[#]	0.191	0.303	0.320[#]	0.311[#]	0.191	0.360
		(1.37)	(1.46)	(0.66)	(0.89)	(1.37)	(1.33)	(0.58)	(1.02)
M&A	+	0.224	0.253	0.213	0.424	0.196	0.169	0.433	0.344
		(0.64)	(0.08)	(0.46)	(0.88)	(0.55)	(0.47)	(0.82)	(0.69)
RO_Ind	−	-0.983	-0.534*	-0.191	-0.162	-0.102	-0.968	-0.286[#]	-0.128
		(-0.79)	(-0.76)	(-1.16)	(-0.95)	(-0.83)	(-0.79)	(-1.54)	(-0.72)
MB	−	0.250	0.353	0.145	0.148	0.159	0.222	0.347	0.159
		(0.34)	(0.51)	(0.95)	(0.85)	(0.22)	(0.03)	(0.42)	(0.89)
ACSIZE	−	-0.012[#]	-0.034***	-0.051***	-0.016	-0.010	-0.014[#]	-0.028**	-0.063
		(-1.32)	(-3.71)	(-4.03)	(-1.14)	(-1.16)	(-1.50)	(-2.07)	(-0.05)
OVERLAPCOM	+	0.071	-0.021	-0.032	0.067	0.071	-0.017	-0.020	-0.016
		(0.19)	(-0.58)	(-0.69)	(0.12)	(0.19)	(-0.47)	(-0.39)	(-0.03)
ACCEXPERT	−	-0.042**	-0.029*	-0.055	-0.063	-0.042**	-0.032**	-0.080*	-0.037[#]
		(-2.13)	(-1.84)	(-1.09)	(-1.31)	(-2.17)	(-2.48)	(-2.16)	(-1.35)
MEETINGTIME	−	0.077	0.062	0.047	0.071	0.078	0.089	0.105	0.075
		(1.23)	(0.15)	(0.86)	(0.99)	(0.78)	(1.20)	(0.84)	(0.96)
ACCASH	−	-0.039[#]	-0.053	-0.015[#]	-0.061				
		(-1.59)	(-0.84)	(-1.59)	(-0.07)				

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Variable	Sign								
ACSTOCK	+	0.019*	0.015	0.035	0.048				
		(1.80)	(0.52)	(0.83)	(1.14)				
ACOPTION	+	0.047*	0.011	0.024	0.014#				
		(1.71)	(0.44)	(0.65)	(1.41)				
CLAWBACK	−		-1.065*	-1.339*	-1.885**		-0.106	-0.104	-0.129
			(-1.72)	(-1.83)	(-2.14)		(-0.74)	(-0.45)	(-0.70)
ACCASH× CLAWBACK	−		-0.165***	-0.187***	-0.150***				
			(-4.01)	(-2.98)	(-4.08)				
ACSTOCK× CLAWBACK	−		-0.067*	-0.038#	-0.087#				
			(-1.66)	(-1.58)	(-1.42)				
ACOPTION× CLAWBACK	−		-0.084**	-0.063*	-0.022#				
			(-2.03)	(-1.74)	(-1.48)				
ACCASH%	−					-0.084	-0.219*	-0.143	-0.255*
						(-0.93)	(-1.93)	(-0.80)	(-1.67)
ACSTOCK%	+					0.084*	0.180#	0.083	0.063*
						(1.79)	(1.59)	(0.46)	(1.76)
ACOPTION%	+					0.123#	0.176#	0.168	0.191#
						(1.30)	(1.52)	(0.88)	(1.48)
ACCASH%× CLAWBACK	−						-0.234#	-0.206	-0.299#
							(-1.46)	(-0.82)	(-1.39)
ACSTOCK%× CLAWBACK	−						-0.164*	-0.109#	-0.207*
							(-1.69)	(-1.44)	(-1.78)
ACOPTION%× CLAWBACK	−						-0.101*	-0.172*	-0.188#
							(-1.70)	(-1.81)	(-1.46)
N		562	562	281	281	562	562	281	281
Pseudo R^2		0.180	0.189	0.210	0.204	0.217	0.228	0.261	0.238
Likelihood Ratio χ^2		20.36***	28.65***	31.28***	29.89***	31.89***	32.25***	36.49***	32.57***

[a] Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b] All variables are defined in Table 2.

Table 15

Clawback Provision Effects – Excluding Certain Industries[a]

Variables[b]	Pred. Sign	P(RESTATED)		P(ICW)		REM_Index	
		Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-3.154**	-2.951**	-3.007*	-4.812**	1.447***	3.951***
		(-2.06)	(-2.11)	(-1.74)	(-2.28)	(3.26)	(3.44)
LnASSET	−	-0.186	-0.161#	-0.216	-0.268	-0.051***	-0.064***
		(-0.94)	(-1.61)	(-0.61)	(-1.06)	(-3.86)	(-3.40)
BIG4	−	-0.301**	-0.286	-0.395**	-0.334*	-0.089#	-0.079*
		(-1.69)	(-0.97)	(-2.03)	(-1.76)	(-1.49)	(-1.86)
GOING	+	1.097**	0.994*			0.076**	0.084***
		(2.18)	(1.57)			(2.25)	(2.95)
M&A	+	0.273#	0.328*				
		(1.57)	(1.79)				
ROA_Ind	−	-0.079#	-0.079*				
		(-1.41)	(-1.89)				
MB	+	0.094*	0.098**			0.069**	0.077**
		(1.79)	(2.22)			(2.07)	(2.07)
LOSS	+			0.949**	0.891***		
				(2.15)	(3.54)		
RESTR	+			-1.085	-1.017#		
				(-0.67)	(-1.42)		
FOREGIN	+			0.149	0.119		
				(1.02)	(0.92)		
SEGMENTS	+			0.116**	0.109**		
				(2.18)	(1.73)		
SALESGROW	+			0.091*	0.106		
				(1.78)	(1.16)		

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LEVERAGE	+					0.124***	0.114***
						(3.17)	(3.84)
ΔE	+					0.125#	0.172#
						(1.54)	(1.46)
ACSIZE	−	-0.057*	-0.081*	0.410	0.395	-0.097	-0.089
		(-1.74)	(-1.80)	(0.67)	(0.83)	(-0.72)	(-0.30)
OVERLAPCOM	+	-0.152	-0.147	-0.369#	-0.410	-0.076	-0.081*
		(-1.14)	(-0.51)	(-1.49)	(-0.23)	(-0.18)	(-1.76)
MEETING	−	-0.033#	-0.047*	0.614	0.595#	-0.074	-0.065
		(-1.41)	(-1.76)	(0.88)	(1.32)	(-0.46)	(-1.07)
ACCEXPERT	−	-0.310	-0.304	-0.404	-0.524*	-0.075**	-0.081**
		(-0.18)	(-0.29)	(-0.97)	(-1.77)	(-1.98)	(-2.10)
ACCASH	−	-0.104		-0.581		-0.084#	
		(-0.52)		(-0.52)		(-1.29)	
ACSTOCK	+	0.072*		0.101#		0.089*	
		(1.70)		(1.40)		(1.68)	
ACOPTION	+	0.051#		0.105*		0.069*	
		(1.38)		(1.76)		(1.92)	
CLAWBACK	−	-0.574*	-0.804	-0.177*	-0.192	-0.576**	-0.485*
		(-1.85)	(-0.89)	(-1.71)	(-0.36)	(-2.20)	(-1.78)
ACCASH× CLAWBACK	−	-0.325		-0.425*		-0.204	
		(-0.51)		(-1.88)		(-0.58)	
ACSTOCK× CLAWBACK	−	-0.524*		-0.308#		-0.103#	
		(-1.87)		(-1.57)		(-1.36)	
ACOPTION× CLAWBACK	−	-0.528		-0.207**		-0.084*	
		(-1.04)		(-2.10)		(-1.70)	
ACCASH%	−		-0.976*		-1.054		-0.429#
			(-1.71)		(-0.68)		(-1.38)
ACSTOCK%	+		0.571		0.641*		0.120
			(0.47)		(1.74)		(0.87)
ACOPTION%	+		0.472*		0.657#		0.070*

		(1.75)		(1.48)		(1.81)
ACCASH%× CLAWBACK	—	-0.483*		-0.640[#]		-0.094*
		(-1.68)		(-1.36)		(-1.78)
ACSTOCK%× CLAWBACK	—	-0.684**		-0.849		-0.064*
		(-2.15)		(-0.67)		(-1.84)
ACOPTION%× CLAWBACK	—	-0.518*		-0.570[#]		-0.084*
		(-1.78)		(-1.36)		(-1.77)
N	472	472	454	454	358	358
R^2	0.208	0.153	0.212	0.179	0.195	0.186
Likelihood Ratio χ^2/ F statistics	27.56***	26.07***	31.40***	28.94***	6.72***	5.98***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b]All variables are defined in Table 2.

Table 16

Clawback Provision Effects - Excluding Cash Compensation Ratio Variables[a]

		Percentage Approach							
		P(Restated)		*P(ICW)*		*ACCRUALS*		*REM_Index*	
Variables[b]	Pred. Sign	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-1.086*	-1.077	-1.095**	-1.072*	1.059***	1.287***	-0.109	-0.086*
		(-1.78)	(-1.25)	(-1.95)	(-1.77)	(3.28)	(2.97)	(-1.04)	(-1.78)
LnASSET	—	-0.512	-0.452	-0.436	-0.486	-0.182	-0.107	-0.267	-0.283
		(-1.23)	(-0.95)	(-1.28)	(-0.78)	(-0.95)	(-0.71)	(-1.26)	(-0.86)
BIG4	—	-0.383*	-0.344*	-0.545***	-0.527***	-0.198*	-0.217	-0.426***	-0.523***
		(-1.72)	(-1.79)	(-2.49)	(-2.75)	(-1.77)	(-1.03)	(-3.54)	(-2.84)
GOING	+	0.364*	0.372*					0.250#	0.243#
		(1.88)	(1.72)					(1.58)	(1.36)
M&A	+	0.249#	0.244#						
		(1.58)	(1.45)						
ROA_Ind	—	-0.129	-0.133						
		(-1.24)	(-1.08)						
MB	+	0.276	0.280					-0.282	-0.277
		(0.95)	(0.76)					(-0.54)	(-0.16)
LOSS	+			1.077***	1.049***	0.408#	0.305#		
				(3.46)	(3.19)	(1.40)	(1.61)		
RESTR	+			0.282	0.276				
				(0.89)	(0.76)				
FOREGIN	+			0.326**	0.377**				
				(1.98)	(2.08)				
SEGMENTS	+			0.096***	0.083***				
				(2.96)	(2.76)				
SALESGROW	+			-2.330#	-2.405#				
				(-1.54)	(-1.49)				

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Variable	Pred.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OPCYCLE	+					0.114*	0.108**		
						(1.88)	(2.09)		
SALESVLT	+					0.125***	0.117**		
						(3.04)	(2.35)		
LEVERAGE	+							0.267***	0.253***
								(3.77)	(3.25)
ΔE	+							0.576	0.692
								(0.97)	(0.31)
ACSIZE	−	-0.086[#]	-0.042[#]	-0.147	-0.136	-0.162*	-0.181	-0.257*	-0.248*
		(-1.58)	(-1.56)	(-0.76)	(-0.86)	(-1.69)	(-1.13)	(-1.80)	(-1.74)
OVERLAPCOM	+	0.242	0.261	-0.231	-0.250	0.157	0.162	0.180**	0.176***
		(1.26)	(0.86)	(-1.17)	(-0.77)	(0.49)	(0.64)	(2.14)	(3.94)
ACCEXPERT	−	-0.529**	-0.956**	-1.124**	-1.118*	-0.241***	-0.237*	-0.373*	-0.324*
		(-2.34)	(-1.94)	(-2.08)	(-1.76)	(-2.87)	(-1.80)	(-1.77)	(-1.77)
MEETING	−	-0.097[#]	-0.086	-0.120[#]	-0.106*	-0.079	-0.088	0.087[#]	0.076
		(-1.35)	(-1.25)	(-1.54)	(-1.78)	(-0.92)	(-0.61)	(1.44)	(1.09)
ACSTOCK%	+	0.177*	0.186*	0.544[#]	0.658	0.107*	0.112[#]	0.148*	0.143
		(1.84)	(1.70)	(1.35)	(0.79)	(1.82)	(1.42)	(1.73)	(0.83)
ACOPTION%	+	0.195[#]	0.188[#]	0.314***	0.205**	0.112[#]	0.120	0.190*	0.189[#]
		(1.58)	(1.40)	(2.59)	(2.21)	(1.32)	(0.88)	(1.71)	(1.50)
CLAWBACK	−		-0.877*		-0.607		-0.164**		-0.188**
			(-1.86)		(-0.97)		(-2.01)		(-2.35)
ACSTOCK%× CLAWBACK	−		-0.555		-0.689*		-0.324*		-0.305
			(-1.10)		(-1.72)		(-1.69)		(-0.62)
ACOPTION%× CLAWBACK	−		-1.037*		-0.450**		-0.124*		-0.278[#]
			(-1.76)		(-2.12)		(-1.77)		(-1.42)
N		562	562	542	542	562	562	562	562
R^2		0.200	0.207	0.293	0.294	0.241	0.243	0.188	0.175
Likelihood Ratio χ^2/ F statistics		49.59***	50.59***	57.72***	57.81***	22.07***	22.38***	40.52***	36.00***

[a] Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b] All variables are defined in Table 2.

Table 17

Clawback Provision Effects – Controlling for Corporate Governance Effects[a]

Variables[b]	Pred. Sign	P(Restated)		P(ICW)		ACCRUALS		REM_Index	
		Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-2.064*	-4.281**	-2.698	-4.221**	3.204	3.278*	1.236***	2.601***
		(-1.95)	(-2.23)	(-0.92)	(-1.98)	(1.25)	(1.86)	(2.89)	(2.95)
LnASSET	−	-0.156	-0.153#	-0.229	-0.315	-0.217***	-0.185**	-0.066***	-0.059***
		(-0.66)	(-1.46)	(-1.01)	(-0.86)	(-2.87)	(-2.12)	(-4.11)	(-3.05)
BIG4	−	-0.294**	-0.226	-0.465**	-0.488*	-0.114*	-0.109#	-0.094#	-0.087#
		(-1.74)	(-1.16)	(-2.20)	(-1.88)	(-1.68)	(-1.36)	(-1.46)	(-1.46)
GOING	+	1.094**	0.914*					0.085**	0.097***
		(2.23)	(1.37)					(2.01)	(3.16)
M&A	+	0.267#	0.645*						
		(1.49)	(1.83)						
ROA_Ind	−	-0.067#	-0.084#						
		(-1.36)	(-1.41)						
MB	+	0.108*	0.093**					0.059**	0.065**
		(1.82)	(2.38)					(2.35)	(2.16)
LOSS	+			1.669**	1.701***	0.108*	0.112**		
				(2.71)	(2.94)	(1.78)	(2.17)		
RESTR	+			-1.952	-1.998#				
				(-0.88)	(-1.56)				
FOREGIN	+			0.117	0.126				
				(0.96)	(0.88)				
SEGMENTS	+			0.108**	0.086**				
				(2.12)	(1.99)				
SALESGROW	+			0.089*	0.099				
				(1.70)	(1.28)				

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	Pred.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OPCYCLE	+					0.117***	0.119***		
						(3.08)	(2.96)		
SALESVLT	+					0.158*	0.126		
						(1.77)	(1.18)		
LEVERAGE	+							0.165***	0.106***
								(2.87)	(2.86)
ΔE	+							0.105	0.214
								(0.84)	(0.46)
ACSIZE	—	-0.048*	-0.062*	0.449	0.512	-0.109	-0.141	-0.089	-0.106
		(-1.86)	(-1.72)	(0.87)	(1.03)	(-0.89)	(-0.86)	(-0.65)	(-0.48)
OVERLAPCOM	+	-0.146	-0.188	-0.486	-0.497	-0.075	-0.086	-0.087	-0.076*
		(-0.85)	(-0.46)	(-0.29)	(-0.67)	(-1.02)	(-0.79)	(-0.78)	(-1.85)
MEETING	—	-0.079#	0.046*	0.628	0.569#	-0.098	-0.077#	-0.046	-0.053
		(-1.52)	(1.88)	(0.94)	(1.41)	(-0.49)	(-1.48)	(-0.99)	(-1.26)
ACCEXPERT	—	-0.267	-0.228	-0.499	-0.998	-0.082***	-0.078***	-0.070**	-0.046**
		(-0.76)	(-0.74)	(-0.48)	(-1.09)	(-3.02)	(-2.80)	(-2.00)	(-2.36)
ACCASH	—	-0.094		-1.087		-0.083		-0.066#	
		(-1.12)		(-1.03)		(-1.05)		(-1.48)	
ACSTOCK	+	0.039*		0.122#		0.128*		0.103*	
		(1.86)		(1.32)		(1.76)		(1.77)	
ACOPTION	+	0.048#		0.128*		0.106*		0.049*	
		(1.44)		(1.93)		(1.75)		(1.78)	
CLAWBACK	—	-0.526	-0.624	-0.156*	-0.251	-0.441#	-0.559**	-0.583**	-0.265#
		(-1.26)	(-0.95)	(-1.86)	(-0.24)	(-1.33)	(-2.05)	(-2.04)	(-1.33)
Gov_Index	—	-0.874	-0.991	-1.042	0.560	-0.207	-0.429	0.095	0.107
		(-0.94)	(-0.67)	(-1.04)	(0.06)	(-0.47)	(-0.69)	(0.84)	(1.16)
ACCASH× CLAWBACK	—	-0.168		-0.448		-0.114		-0.088	
		(-1.32)		(-0.98)		(-0.96)		(-0.47)	
ACSTOCK× CLAWBACK	—	-0.568**		-0.526**		-0.104*		-0.074#	
		(-2.06)		(-2.04)		(-1.69)		(-1.36)	
ACOPTION× CLAWBACK	—	-0.846		-0.410		-0.088*		-0.076*	

	Pred. Sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		(-1.06)		(-1.14)		(-1.70)		(-1.75)	
$ACCASH \times Gov\_Index$	—	-0.449		-0.551		-0.085		-0.100	
		(-0.95)		(-0.98)		(-1.18)		(-1.06)	
$ACSTOCK \times Gov\_Index$	—	0.998**		0.298*		0.107*		0.079	
		(2.13)		(1.74)		(1.72)		(1.28)	
$ACOPTION \times Gov\_Index$	—	0.712		-0.249		0.120*		0.069*	
		(1.12)		(-1.14)		(1.69)		(1.69)	
$ACCASH\%$	—		-0.948#		-1.008		-0.172*		-0.089#
			(-1.61)		(-1.18)		(-1.76)		(-1.64)
$ACSTOCK\%$	+		0.568		0.561*		0.109		0.104
			(0.97)		(1.70)		(0.46)		(1.07)
$ACOPTION\%$	+		0.446*		0.669#		0.117*		0.073*
			(1.81)		(1.56)		(1.70)		(1.76)
$ACCASH\% \times CLAWBACK$	—		-0.846#		-0.158*		-0.099		-1.008#
			(-1.43)		(-1.69)		(-0.79)		(-1.38)
$ACSTOCK\% \times CLAWBACK$	—		-1.332***		-0.141#		-0.108*		-0.098*
			(-3.58)		(-1.58)		(-1.88)		(-1.84)
$ACOPTION\% \times CLAWBACK$	—		-0.289		-0.563#		-0.102#		-0.091*
			(-1.26)		(-1.33)		(-1.42)		(-1.77)
$ACCASH\% \times Gov\_Index$	—		-0.997*		-0.884		-0.096		-0.086*
			(-1.76)		(-1.27)		(-0.86)		(-1.69)
$ACSTOCK\% \times Gov\_Index$	—		0.846		-0.987		0.118		-0.052
			(1.15)		(-0.23)		(1.18)		(-1.14)
$ACOPTION\% \times Gov\_Index$	—		1.448*		0.548		0.105		0.103
			(1.89)		(1.26)		(0.88)		(1.02)
N		562	562	524	524	562	562	562	562
R^2		0.219	0.104	0.236	0.178	0.224	0.219	0.216	0.214
Likelihood Ratio χ^2 / F statistics		33.56***	31.08***	86.40***	32.14***	23.20***	22.58***	22.48***	22.02***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b]All variables are defined in Table 2.

Table 18

Clawback Provision Effects – Compensation for Other Board Committees[a]

Panel A: Low CEO Equity Group

Variables[b]	Pred. Sign	P(Restated) Magnitude Approach Coefficient (*t* statistics)	P(Restated) Percentage Approach Coefficient (*t* statistics)	P(ICW) Magnitude Approach Coefficient (*t* statistics)	P(ICW) Percentage Approach Coefficient (*t* statistics)	ACCRUALS Magnitude Approach Coefficient (*t* statistics)	ACCRUALS Percentage Approach Coefficient (*t* statistics)	REM_Index Magnitude Approach Coefficient (*t* statistics)	REM_Index Percentage Approach Coefficient (*t* statistics)
INTERCEPT		-3.446** (-1.26)	-2.185* (-1.89)	-3.485 (-0.04)	-9.033 (-0.48)	0.426** (2.16)	0.447*** (3.41)	-0.259* (-1.77)	-0.426* (-1.78)
LnASSET	—	-0.156 (-0.79)	-0.241 (-0.62)	-0.181 (-0.99)	-0.175 (-0.75)	-0.124* (-1.76)	-0.140 (-0.86)	-0.132* (-1.75)	-0.287 (-0.79)
BIG4	—	-0.485* (-1.89)	-0.479* (-1.76)	-0.529 (-0.79)	-0.499** (-2.16)	-0.117** (-1.97)	-0.124 (-1.26)	-0.342*** (-3.57)	-0.320*** (-3.04)
GOING	+	0.426* (1.86)	0.238# (1.46)					0.356** (2.30)	0.352* (1.78)
M&A	+	0.026* (1.76)	0.051* (1.75)						
ROA_Ind	—	-0.107# (-1.46)	-0.114 (-1.06)						
MB	+	0.099# (1.39)	0.103 (0.49)					-0.317 (-0.86)	-0.316 (-0.79)
LOSS	+			1.941*** (3.58)	1.820*** (2.95)	0.101* (1.69)	0.112 (1.24)		
RESTR	+			0.428 (0.76)	0.265# (1.36)				
FOREGIN	+			0.449* (1.88)	0.412** (2.23)				
SEGMENTS	+			0.065*** (2.94)	0.086*** (3.57)				

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Variable	Sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SALESGROW	+			-1.765	-1.247*				
				(-0.89)	(-1.84)				
OPCYCLE	+					0.164**	0.182*		
						(2.07)	(1.75)		
SALESVLT	+					0.187*	0.194**		
						(1.75)	(2.16)		
LEVERAGE	+							0.204**	0.254***
								(2.36)	(2.79)
ΔE	+							0.685*	0.673
								(1.86)	(0.69)
ACSIZE	−	-0.058	-0.063	-0.116	-0.118	-0.147**	-0.146#	-0.128*	-0.135*
		(-1.08)	(-0.85)	(-0.76)	(-0.74)	(-2.23)	(-1.64)	(-1.69)	(-1.74)
OVERLAPCOM	+	0.084	0.104	-0.184	-0.189	-0.078#	0.084	0.152***	0.153***
		(0.83)	(0.97)	(-0.98)	(-0.78)	(-1.48)	(0.75)	(3.40)	(2.96)
ACCEXPERT	−	-1.006*	-0.756**	-0.912*	-0.908*	-0.046**	-0.048***	-0.086#	-0.089#
		(-1.95)	(-1.99)	(-1.86)	(-1.82)	(-2.13)	(-2.86)	(-1.54)	(-1.43)
MEETING	−	-0.069*	-0.084	-0.228	-0.235*	-0.065	-0.074	0.036	0.034
		(-1.74)	(-1.20)	(-1.00)	(-1.84)	(-1.24)	(-0.95)	(0.76)	(0.68)
OtherCASH	−	-0.072		-0.462**		-0.087		0.089	
		(-1.05)		(-2.15)		(-0.62)		(0.48)	
OtherSTOCK	+	0.086*		0.064		0.065		0.054#	
		(1.88)		(0.49)		(0.84)		(1.36)	
OtherOPTION	+	0.041		-0.077		0.101		0.069*	
		(0.32)		(-0.23)		(0.65)		(1.77)	
CLAWBACK	−	-0.339	-0.446#	-1.598	-1.140	-0.125#	-0.136**	-0.239	-0.175
		(-0.94)	(-1.46)	(-0.79)	(-1.44)	(-1.57)	(-2.21)	(-0.64)	(-0.75)
OtherCASH× CLAWBACK	−	-0.053		-0.238		-0.075#		-0.071	
		(-0.95)		(-1.15)		(-1.52)		(-1.02)	
OtherSTOCK× CLAWBACK	−	-0.072		-0.140		-0.045		-0.047#	
		(-1.28)		(-1.17)		(-1.21)		(-1.36)	
OtherOPTION× CLAWBACK	−	-0.085		-0.081		-0.075		-0.069	

Variables	Pred. Sign								
			(-1.12)		(-0.53)		(-0.97)		(-0.88)
OtherCASH%	−		-0.046**		-0.524*		-0.524*		-0.152#
			(-2.13)		(-1.86)		(-1.74)		(-1.50)
OtherSTOCK%	+		0.172		-0.125		-0.100		0.118
			(1.07)		(-0.69)		(-1.13)		(0.69)
OtherOPTION%	+		0.065		0.095*		0.096		0.107
			(0.58)		(1.76)		(0.81)		(0.49)
OtherCASH%× CLAWBACK	−		-0.043		-0.204		-0.087		-0.092
			(-0.66)		(-1.07)		(-0.87)		(-0.58)
OtherSTOCK%× CLAWBACK	−		-0.112		-1.204		-0.112#		-0.114
			(-1.23)		(-1.10)		(-1.63)		(-0.70)
OtherOPTION%× CLAWBACK	−		-0.498		-1.158		-0.095#		-0.107
			(-1.25)		(-1.28)		(-1.42)		(-1.10)
N		562	562	524	524	562	562	562	562
R^2		0.162	0.204	0.363	0.360	0.360	0.351	0.193	0.184
Likelihood Ratio χ^2/ F statistics		42.04***	50.26***	60.21***	58.96***	23.41***	22.89***	6.23***	5.98***

Panel B: High CEO Equity Group

Variables[b]	Pred. Sign	P(Restated)		P(ICW)		ACCRUALS		REM_Index	
		Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-2.514	-1.752	-2.240	-9.023	0.248***	0.288***	-0.033	-0.034
		(-0.03)	(-0.09)	(-0.03)	(-0.02)	(3.14)	(3.88)	(-1.39)	(-1.30)
LnASSET	−	-0.218	-0.307	-0.198	-0.186	-0.181*	-0.195	-0.128#	-0.219
		(-0.12)	(-0.33)	(-0.99)	(-0.12)	(-1.75)	(-0.68)	(-1.34)	(-0.78)
BIG4	−	-0.336*	-0.345*	-0.462	-0.448***	-0.172#	-0.146#	-0.496***	-0.507***
		(-1.79)	(-1.82)	(-0.07)	(-3.87)	(-1.52)	(-1.30)	(-3.57)	(-3.33)
GOING	+	0.320*	0.373					0.258**	0.249
		(1.44)	(1.53)					(2.30)	(1.13)
M&A	+	0.277*	0.281*						

Variable	Sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		(1.86)	(1.73)						
ROA_Ind	—	-0.122#	-0.129						
		(-1.46)	(-0.52)						
MB	+	0.396	0.404					0.218#	-0.221
		(0.44)	(0.97)					(1.34)	(-0.15)
LOSS	+			2.125**	2.132*	0.133	0.135#		
				(2.13)	(1.89)	(0.68)	(1.52)		
RESTR	+			0.336	0.329*				
				(0.52)	(1.71)				
FOREGIN	+			0.458*	0.467**				
				(1.76)	(2.09)				
SEGMENTS	+			0.026***	0.026***				
				(3.04)	(2.69)				
SALESGROW	+			-1.469	-1.513#				
				(-0.76)	(-1.56)				
OPCYCLE	+					0.112**	0.110**		
						(2.05)	(2.32)		
SALESVLT	+					0.184*	0.185**		
						(1.82)	(2.28)		
LEVERAGE	+							0.312***	0.304***
								(3.05)	(2.77)
ΔE	+							0.484#	0.478
								(1.51)	(1.21)
ACSIZE	—	-0.084	-0.092#	-0.108#	-0.112	-0.145#	-0.139	-0.176#	-0.182
		(-0.87)	(-1.48)	(-1.43)	(-1.21)	(-1.41)	(-0.97)	(-1.36)	(-1.21)
OVERLAPCOM	+	0.282	0.269	-0.258	-0.261	-0.077	0.054	0.175*	0.176***
		(0.66)	(0.53)	(-0.63)	(-0.79)	(-0.55)	(0.86)	(1.72)	(2.65)
ACCEXPERT	—	-1.325#	-0.407**	-0.899*	-1.078#	-0.057***	-0.053**	-0.077*	-0.073#
		(-1.42)	(-1.99)	(-1.72)	(-1.40)	(-3.53)	(-2.16)	(-1.74)	(-1.30)
MEETING	—	-0.086	-0.084	-0.117	-0.126	-0.096	-0.094	0.057	0.059
		(-0.49)	(-1.11)	(-0.54)	(-1.08)	(-1.07)	(-0.96)	(0.73)	(0.40)

	Pred.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OtherCASH	−	-0.079		-1.810*		-0.058#		0.010	
		(-0.53)		(-1.80)		(-1.49)		(0.76)	
OtherSTOCK	+	0.086		0.046		0.088		0.058	
		(1.15)		(0.87)		(0.46)		(1.01)	
OtherOPTION	+	0.062*		0.075		0.074		0.085*	
		(1.69)		(0.85)		(0.38)		(1.76)	
CLAWBACK	−	-0.475#	-0.335	-1.054	-1.130#	-0.135*	-0.144**	-0.157	-0.177
		(-1.28)	(-1.21)	(-0.70)	(-1.56)	(-1.74)	(-2.07)	(-0.88)	(-0.56)
OtherCASH× CLAWBACK	−	-0.058		-0.165#		-0.093#		-0.102	
		(-0.77)		(-1.36)		(-1.58)		(-1.07)	
OtherSTOCK× CLAWBACK	−	-0.109		-0.119		-0.074#		-0.043*	
		(-0.39)		(-0.89)		(-1.38)		(-1.88)	
OtherOPTION× CLAWBACK	−	-0.456		-0.125#		-0.065		-0.061#	
		(-1.24)		(-1.44)		(-0.75)		(-1.29)	
OtherCASH%	−		-0.075***		-0.556**		-0.094		-0.106
			(-2.77)		(-2.06)		(-1.08)		(-0.77)
OtherSTOCK%	+		0.109*		0.652		0.084*		0.118
			(1.76)		(0.53)		(1.68)		(0.46)
OtherOPTION%	+		-0.089		0.108**		0.103#		0.133
			(-0.04)		(2.31)		(1.48)		(0.46)
OtherCASH%× CLAWBACK	−		-0.046		-0.586		-0.086*		-0.129
			(-0.53)		(-1.22)		(-1.77)		(-0.78)
OtherSTOCK%× CLAWBACK	−		-0.107		-1.048		-0.124		-0.146
			(-1.06)		(-0.88)		(-0.98)		(-0.99)
OtherOPTION%× CLAWBACK	−		-0.551		-1.160#		-0.102#		-0.274
			(-0.41)		(-1.38)		(-1.33)		(-0.66)
N		562	562	524	524	562	562	562	562
Adjusted R^2		0.162	0.192	0.397	0.362	0.362	0.357	0.191	0.187
Likelihood Ratio χ^2 / F statistics		41.52***	49.58***	63.58***	59.01***	23.18***	22.52***	6.17***	6.08***

[a] Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b] All variables are defined in Table 2.

Table 19

Clawback Provision Effects – Using Heckman Two-Stage Selection Model (Second-Stage Results)[a,b]

Panel A: Restatement likelihood

Variables[c]	Pred. Sign	Magnitude Approach		Percentage Approach	
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-4.073***	-3.773***	-4.165***	-4.422***
		(-3.79)	(-3.37)	(-3.86)	(-4.10)
LnASSET	−	-0.243*	-0.232#	-0.245***	-0.105***
		(-1.82)	(-1.47)	(-3.84)	(-3.83)
BIG4	−	-0.039	-0.034	-0.0231	-0.026
		(-0.02)	(-0.08)	(-0.01)	(-0.01)
GOING	+	0.361*	0.357*	0.350*	0.350*
		(1.79)	(1.77)	(1.74)	(1.74)
M&A	+	0.649***	0.633***	0.590***	0.582***
		(3.44)	(3.28)	(3.18)	(3.19)
ROA_Ind	−	-0.013***	-0.013***	-0.013***	-0.134**
		(-2.88)	(-2.68)	(-2.92)	(-2.32)
MB	−	0.025	0.021	0.019	0.020
		(0.61)	(0.47)	(1.37)	(1.37)
ACSIZE	−	-0.042**	-0.069**	-0.245***	-0.161**
		(-2.15)	(-2.24)	(-3.84)	(-2.21)
OVERLAPCOM	+	-0.389	-0.315	-0.0231	-0.257
		(-0.30)	(-0.24)	(-0.01)	(-0.66)
ACCEXPERT	−	-1.263***	-1.274***	-0.590***	-1.329***
		(-4.28)	(-4.17)	(-3.18)	(-4.50)
MEETINGTIME	−	-0.021**	-0.019**	-0.350*	-0.017
		(-1.97)	(-1.76)	(-1.74)	(-1.59)
ACCASH	−	-0.028**	-0.029**		
		(-1.98)	(-2.02)		
ACSTOCK	+	0.042#	0.009		

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Variables	Pred. Sign	Coefficient	Coefficient	Coefficient	Coefficient
		(1.55)	(1.20)		
ACOPTION	+	0.048*	0.016		
		(1.71)	(0.90)		
CLAWBACK	−		-0.406#		-0.585***
			(-1.39)		(-3.81)
ACCASH× CLAWBACK	−		-1.274***		
			(-4.17)		
ACSTOCK× CLAWBACK	−		-0.872*		
			(-1.73)		
ACOPTION× CLAWBACK	−		-0.491***		
			(-3.40)		
ACCASH%	−			-0.236**	0.240
				(-2.15)	(0.96)
ACSTOCK%	+			0.105#	0.107
				(1.43)	(0.41)
ACOPTION%	+			0.134#	0.138
				(1.59)	(0.54)
ACCASH%× CLAWBACK	−				-0.404*
					(-1.90)
ACSTOCK%× CLAWBACK	−				-0.361*
					(-1.79)
ACOPTION% × CLAWBACK	−				-0.059*
					(-1.86)
IMR		0.718***	0.647***	0.717***	0.740***
		(3.94)	(3.40)	(3.89)	(4.09)
N		2,407	2,407	2,407	2,407
Pseudo R^2		0.159	0.196	0.149	0.150
Likelihood Ratio χ^2		267.83***	347.84***	264.79***	264.36***

Panel B: ICW likelihood

Variables[b]	Pred. Sign	Magnitude Approach		Percentage Approach	
		Coefficient	Coefficient	Coefficient	Coefficient

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		(*t* statistics)	(*t* statistics)	(*t* statistics)	(*t* statistics)
INTERCEPT		-2.214	-2.748	-2.573	-2.583
		(-0.04)	(-0.04)	(-0.04)	(-0.04)
LnASSET	+	0.648**	0.628**	0.584**	0.622**
		(2.13)	(2.06)	(1.96)	(2.08)
BIG4	−	0.369	0.316	-0.326	-0.348
		(0.30)	(0.26)	(-0.27)	(-0.29)
LOSS	+	0.996***	0.907**	0.944***	0.893**
		(2.70)	(2.40)	(2.59)	(2.44)
RESTR	+	0.544*	0.950*	0.185**	0.027*
		(1.95)	(1.86)	(1.99)	(1.94)
FOREGIN	+	0.654**	0.597**	0.640**	0.614**
		(2.38)	(2.15)	(2.33)	(2.22)
SEGMENTS	+	0.391***	0.396***	0.355***	0.346***
		(3.29)	(3.38)	(3.63)	(3.64)
SALESGROW	+	-1.167	-1.192	1.255	1.261
		(-1.04)	(-1.08)	(1.47)	(1.47)
ACSIZE	−	-0.296**	-0.274*	-0.272*	-0.260*
		(-2.04)	(-1.90)	(-1.94)	(-1.85)
OVERLAPCOM	+	-0.680	-0.672	-0.610	-0.647
		(-1.30)	(-1.29)	(-1.17)	(-1.24)
ACCEXPERT	−	-2.149**	-1.997**	-2.286**	-2.050**
		(-2.38)	(-2.19)	(-2.49)	(-2.21)
MEETINGT	−	0.112	0.084	0.089	0.103
		(0.20)	(0.15)	(0.16)	(0.18)
ACCASH	−	0.038	0.034		
		(0.54)	(0.49)		
ACSTOCK	+	0.056*	0.052*		
		(1.85)	(1.66)		
ACOPTION	+	0.084#	0.032		
		(1.35)	(0.13)		
CLAWBACK	−		-0.177*		-0.225*
			(-1.79)		(-1.95)

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Variables	Pred. Sign	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)
ACCASH× CLAWBACK	−		-0.943**		
			(-2.06)		
ACSTOCK× CLAWBACK	−		-0.154*		
			(-1.83)		
ACOPTION× CLAWBACK	−		-0.130#		
			(-1.52)		
ACCASH%	−			-0.159	-1.530**
				(-0.16)	(-2.32)
ACSTOCK%	+			0.511	0.492
				(0.05)	(0.81)
ACOPTION%	+			-0.682	-0.389
				(-0.68)	(-0.60)
ACCASH%× CLAWBACK	−				1.859*
					(1.83)
ACSTOCK%× CLAWBACK	−				-1.155#
					(-1.63)
ACOPTION% × CLAWBACK	−				-1.424#
					(-1.54)
IMR		1.138**	1.072**	1.894**	2.029**
		(2.20)	(2.14)	(2.00)	(2.13)
N		1,747	1,747	1,747	1,747
Pseudo R^2		0.246	0.255	0.242	0.248
Likelihood Ratio χ^2		169.27***	175.31***	166.56***	170.57***

Panel C: Accruals quality and real earnings management

		ACCRUALS				REM_Index			
		Magnitude Approach		Percentage Approach		Magnitude Approach		Percentage Approach	
Variables[b]	Pred. Sign	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)	Coefficient (t statistics)
INTERCEPT		0.252***	0.256***	0.268*	0.568*	0.561*	0.621*	0.559**	0.566***
		(3.85)	(4.82)	(1.80)	(1.86)	(1.81)	(1.69)	(2.08)	(5.62)
LnASSET	−	-0.018*	-0.013*	0.038	0.103*	0.109*	-0.099*	-0.154***	0.042

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	Pred.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		(-1.81)	(-1.73)	(1.03)	(1.81)	(1.82)	(-1.68)	(-5.25)	(1.16)
BIG4	−	-0.050**	-0.051***	-0.023**	-0.035***	-0.105***	-0.298***	0.141***	-0.224***
		(-2.32)	(-2.79)	(-2.18)	(-3.15)	(-4.05)	(-4.20)	(2.90)	(-5.32)
OPCYCLE	+	0.243#	0.217#	0.225	0.183#				
		(1.52)	(1.54)	(0.22)	(1.35)				
SALESVLT	+	0.045	0.057	0.071	0.137**				
		(1.15)	(1.20)	(1.07)	(2.05)				
LEVERAGE	+					0.112	0.134***	0.063***	0.220***
						(0.49)	(2.57)	(6.15)	(3.95)
MB	+					0.116	0.102	0.130*	-0.156
						(1.40)	(1.23)	(1.77)	(-0.21)
ΔE	+					0.142	0.215	0.146	0.091
						(1.16)	(1.25)	(0.46)	(0.13)
ACSIZE	−	-0.023**	-0.019#	-0.035	0.191	0.031	-0.110*	0.028**	0.150
		(-1.97)	(-1.59)	(-1.25)	(0.03)	(0.07)	(-1.73)	(2.35)	(1.04)
OVERLAPCOM	+	-0.307***	-0.301**	-0.213	-0.303	-0.415	-0.207	-0.146	-0.164#
		(-3.52)	(-2.35)	(-0.99)	(-1.23)	(-1.08)	(-1.25)	(-1.03)	(-1.44)
ACCEXPERT	−	-0.075**	-0.073**	-0.072	-0.113*	-0.111*	0.073	-0.096***	0.049
		(-2.11)	(-2.02)	(-1.05)	(-1.73)	(-1.79)	(0.15)	(-3.40)	(0.83)
MEETINGT	−	-0.053	-0.051	-0.055*	0.077	0.045	-0.123	-0.084**	-0.041
		(-1.17)	(-1.15)	(-1.79)	(1.21)	(1.24)	(-1.10)	(-1.99)	(-0.95)
ACCASH	−	-0.028#	-0.033			-0.020	-0.021		
		(-1.38)	(-0.58)			(-0.87)	(-0.87)		
ACSTOCK	+	0.038#	-0.023*			0.022	0.018		
		(1.35)	(-1.72)			(0.89)	(0.71)		
ACOPTION	+	0.053	0.059			0.056	0.049		
		(1.15)	(1.12)			(0.23)	(0.20)		
CLAWBACK	−		-0.178#		-0.133#		-0.204		-0.123
			(-1.56)		(-1.32)		(-1.06)		(-1.26)
ACCASH× CLAWBACK	−		-0.011*				0.023**		
			(-1.82)				(2.08)		
ACSTOCK× CLAWBACK	−		-0.012#				-0.026**		
			(-1.38)				(-2.10)		

ACOPTION× CLAWBACK	−			-0.007* (-1.69)				-0.223# (-1.46)	
ACCASH%	−			-0.013# (-1.37)	-0.010 (-1.15)			-0.125 (-0.87)	-0.103 (-0.88)
ACSTOCK%	+			0.037 (0.71)	0.073 (1.19)			0.104 (0.89)	0.089 (0.69)
ACOPTION%	+			0.012# (1.33)	0.010 (1.12)			0.112 (0.23)	0.089 (0.47)
ACCASH%× CLAWBACK	−				-0.037 (-1.23)				0.058** (1.98)
ACSTOCK%× CLAWBACK	−				-0.019* (-1.79)				-0.076** (-2.26)
ACOPTION% × CLAWBACK	−				-0.030# (-1.50)				-0.112# (-1.57)
IMR		-0.107* (-1.84)	-0.125*** (-3.14)	1.134** (2.36)	1.140** (2.12)	0.197** (2.26)	0.269** (2.03)	0.992# (1.30)	0.945* (1.82)
N		2,407	2,407	2,407	2,407	2,407	2,407	2,407	2,407
Adjusted R^2		0.268	0.267	0.269	0.272	0.276	0.268	0.258	0.269
F statistics		26.84***	25.07***	28.51***	27.22***	25.39***	27.39***	25.02***	27.97***

[a]The first-stage results are shown in Table 7.

[b]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.

[c]All variables are defined in Table 2.

Table 20

Clawback Provision Effects – Alternative Measures in Firm Performances[a]

Variables[b]	Pred. Sign	P(Restated)		P(ICW)		ACCRUALA		REM_Index	
		Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-3.770	-4.727***	-3.118*	-3.201**	2.260***	2.254***	0.390***	0.302***
		(-0.32)	(-3.12)	(-1.86)	(-2.18)	(4.18)	(3.19)	(2.89)	(2.89)
LnASSET	−	-0.235#	-0.219	-0.323	-0.253	-0.061***	-0.078***	-0.053***	-0.041***
		(-1.63)	(-1.09)	(-1.19)	(-0.74)	(-3.12)	(-2.84)	(-3.19)	(-2.70)
BIG4	−	-0.257**	-0.298	-0.536**	-0.489*	-0.086*	-0.070#	-0.048#	-0.032
		(-2.08)	(-0.67)	(-2.03)	(-1.76)	(-1.72)	(-1.45)	(-1.42)	(-1.24)
GOING	+	0.993**	0.774*					0.063**	0.072***
		(1.98)	(1.72)					(2.23)	(2.87)
M&A	+	0.421#	0.693*						
		(1.32)	(1.80)						
lnRETURN	−	-0.025#	-0.042#	-0.016#	-0.032#	-0.022#	-0.030#	-0.032#	-0.033#
		(-1.64)	(-1.42)	(-1.48)	(-1.44)	(-1.57)	(-1.46)	(-1.48)	(-1.44)
MB	+	0.103*	0.098**					0.063**	0.068*
		(1.80)	(2.25)					(2.06)	(1.72)
RESTR	+			-2.192	-2.183#				
				(-0.54)	(-1.36)				
FOREGIN	+			0.112	0.131				
				(0.75)	(0.72)				
SEGMENTS	+			0.081**	0.053**				
				(1.98)	(2.04)				
SALESGROW	+			0.073*	0.061				
				(1.82)	(1.03)				
OPCYCLE	+					0.204***	0.176***		
						(3.10)	(3.68)		

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SALESVLT	+					0.195*	0.189**		
						(1.77)	(2.03)		
LEVERAGE	+							0.123***	0.142***
								(3.01)	(3.14)
ΔE	+							0.228	0.302*
								(0.92)	(1.88)
ACSIZE	−	-0.082*	-0.088*	0.084	0.021	-0.058#	-0.097**	-0.077	-0.044
		(-1.74)	(-1.82)	(0.42)	(0.88)	(-1.54)	(-2.14)	(-0.83)	(-0.87)
OVERLAPCOM	+	-0.119	-0.183	-0.302	-0.390	-0.070	-0.072	-0.060	-0.052
		(-0.37)	(-0.78)	(-0.61)	(-0.23)	(-1.13)	(-1.04)	(-0.76)	(-0.73)
MEETING	−	-0.079#	-0.091*	0.045	0.038#	-0.084	-0.090	-0.032	-0.031
		(-1.43)	(-1.69)	(0.73)	(1.61)	(-0.51)	(-0.66)	(-0.50)	(-0.26)
ACCEXPERT	−	-0.293	-0.316	-1.194	-2.194	-0.078***	-0.059***	-0.040***	-0.043***
		(-0.16)	(-0.42)	(-0.44)	(-0.94)	(-2.99)	(-3.79)	(-3.17)	(-3.41)
ACCASH	−	-0.091		-1.290#		-0.068#		-0.043	
		(-0.87)		(-1.56)		(-1.52)		(-1.04)	
ACSTOCK	+	0.023*		0.136#		0.100*		0.106*	
		(1.68)		(1.49)		(1.72)		(1.73)	
ACOPTION	+	0.019#		0.035**		0.096#		0.034*	
		(1.42)		(2.05)		(1.49)		(1.77)	
CLAWBACL	−	-0.298	-0.305	-0.764#	-0.531*	-0.068#	-0.074	-1.891	-1.804#
		(-0.54)	(-0.77)	(-1.43)	(-1.78)	(-1.44)	(-0.99)	(-0.51)	(-1.45)
ACCASH× CLAWBACL	−	-0.087		-0.057*		-0.034		-0.055#	
		(-1.11)		(-1.88)		(-1.15)		(-1.61)	
ACSTOCK× CLAWBACL	−	-0.086*		-0.043*		-0.038		-0.038*	
		(-1.78)		(-1.72)		(-1.11)		(-1.78)	
ACOPTION× CLAWBACL	−	-0.074#		-0.038#		-0.048#		-0.084#	
		(-1.49)		(-1.43)		(-1.62)		(-1.48)	
ACCASH%	−		-1.046#		-1.049**		-0.072#		-0.026#
			(-1.42)		(-2.03)		(-1.48)		(-1.41)
ACSTOCK%	−		0.263		0.278*		0.071		0.043**

		(0.96)		(0.93)		(1.04)		(2.21)
ACOPTION%	—	0.353*		0.542#		0.058*		0.054*
		(1.87)		(1.29)		(1.69)		(1.70)
ACCASH%× CLAWBACL	—	-0.104#		-0.113**		-0.063#		-0.089*
		(-1.32)		(-2.01)		(-1.43)		(-1.83)
ACSTOCK%× CLAWBACL	—	-0.120*		-0.105#		-0.079		-0.075#
		(-1.88)		(-1.57)		(-1.20)		(-1.38)
ACOPTION%× CLAWBACL	—	-0.098#		-0.142*		-0.081*		-0.048#
		(-1.34)		(-1.69)		(-1.73)		(-1.34)
N^c	562	562	542	542	562	562	562	562
R^2	0.227	0.114	0.243	0.189	0.227	0.218	0.212	0.204
Likelihood Ratio χ^2/ F statistics	34.48***	31.30***	68.42***	29.39***	22.84***	22.03***	21.42***	21.24***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b]All variables are defined in Table 2.

Table 21

Clawback Provision Effects – Excluding Financial Crisis Period[a]

Variables[b]	Pred. Sign	P(Restated)		P(ICW)		ACCRUALS		REM_Index	
		Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach	Magnitude Approach	Percentage Approach
		Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)	Coefficient (*t* statistics)
INTERCEPT		-3.750	-3.657***	-3.146*	-3.739***	1.232***	2.273***	0.349***	0.338***
		(-0.44)	(-3.74)	(-1.77)	(-2.49)	(3.147)	(2.79)	(4.03)	(3.27)
LnASSET	—	-0.238#	-0.206	-0.348	-0.247	-0.064**	-0.075***	-0.079**	-0.036*
		(-1.42)	(-0.85)	(-1.04)	(-0.59)	(-2.08)	(-3.86)	(-2.08)	(-1.86)
BIG4	—	-0.243**	-0.244	-0.377**	-0.353*	-0.042*	-0.039#	-0.027#	-0.037
		(-1.97)	(-0.42)	(-2.07)	(-1.72)	(-1.69)	(-1.43)	(-1.52)	(-1.17)
GOING	+	0.639**	0.705*					0.068**	0.071***
		(2.23)	(1.80)					(2.14)	(2.80)
M&A	+	0.426#	0.524*						
		(1.48)	(1.73)						
ROA_Ind	—	-0.076#	-0.062#						
		(-1.51)	(-1.36)						
MB	+	0.104*	0.087**					0.069	0.072*
		(1.79)	(2.18)					(1.18)	(1.78)
LOSS	+			2.694**	2.076**	0.155*	0.094		
				(2.18)	(2.18)	(1.83)	(1.17)		
RESTR	+			-2.104	-2.114#				
				(-0.88)	(-1.40)				
FOREGIN	+			0.109	0.095				
				(0.73)	(0.83)				
SEGMENTS	+			0.073**	0.064**				
				(2.20)	(2.16)				
SALESGROW	+			0.068*	0.067				
				(1.73)	(1.14)				

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	Pred.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OPCYCLE	+					0.204***	0.189**		
						(3.09)	(2.08)		
SALESVLT	+					0.153	0.148		
						(1.27)	(0.84)		
LEVERAGE	+							0.117***	0.128***
								(2.88)	(3.32)
ΔE	+							0.201	0.213*
								(1.02)	(1.70)
ACSIZE	—	-0.082**	-0.088*	0.084	0.021	-0.068	-0.097***	-0.077	-0.044
		(-2.25)	(-1.72)	(0.19)	(0.21)	(-1.14)	(-2.83)	(-0.50)	(-1.17)
OVERLAPCOM	+	-0.119	-0.183	-0.302	-0.390	-0.070	-0.072	-0.060	-0.052
		(-0.88)	(-0.73)	(-1.28)	(-1.04)	(-0.64)	(-0.74)	(-0.83)	(-0.83)
MEETING	—	-0.079#	-0.091#	0.045	0.038#	-0.084	-0.090#	-0.032	-0.031
		(-1.36)	(-1.44)	(0.44)	(1.17)	(-0.83)	(-1.60)	(-1.09)	(-0.44)
ACCEXPERT	—	-0.293**	-0.316*	-1.194	-1.391#	-0.077***	-0.069**	-0.040**	-0.043**
		(-2.28)	(-1.82)	(-0.85)	(-1.50)	(-2.77)	(-2.14)	(-2.27)	(-2.14)
ACCASH	—	-0.091		-1.290*		-0.068		-0.043	
		(-0.31)		(-1.83)		(-1.25)		(-1.18)	
ACSTOCK	+	0.023*		0.136#		0.100*		0.106*	
		(1.77)		(1.30)		(1.80)		(1.69)	
ACOPTION	+	0.019#		0.035*		0.083*		0.034*	
		(1.52)		(1.90)		(1.74)		(1.70)	
CLAWBACL	—	-0.298*	-0.305**	-0.764#	-0.531*	-0.053	-0.074#	-1.891*	-1.804*
		(-1.70)	(-2.29)	(-1.31)	(-1.74)	(-1.05)	(-1.34)	(-1.85)	(-1.84)
ACCASH× CLAWBACL	—	-0.087#		-0.057*		-0.034#		-0.055#	
		(-1.31)		(-1.70)		(-1.32)		(-1.44)	
ACSTOCK× CLAWBACL	—	-0.086#		-0.043		-0.025**		-0.038*	
		(-1.44)		(-0.68)		(-2.32)		(-1.74)	
ACOPTION× CLAWBACL	—	-0.074*		-0.038		-0.048#		-0.084#	
		(-1.88)		(-1.09)		(-1.37)		(-1.53)	
ACCASH%	—		-1.046*		-1.049**		-0.064		-0.026*

		(-1.69)		(-2.12)		(-1.07)	(-2.78)
ACSTOCK%	—	0.263		0.278*		0.071	0.043*
		(0.37)		(0.73)		(1.06)	(1.71)
ACOPTION%	—	0.353[#]		0.542[#]		0.060*	0.054*
		(1.56)		(1.44)		(0.64)	(1.75)
ACCASH%× CLAWBACL	—	-0.098*		-0.108**		-0.083*	-0.073*
		(-1.74)		(-2.08)		(-1.77)	(-1.69)
ACSTOCK%× CLAWBACL	—	-0.105*		-0.094[#]		-0.074*	-0.069[#]
		(-1.69)		(-1.34)		(-1.82)	(-1.58)
ACOPTION%× CLAWBACL	—	-0.087[#]		-0.053*		-0.088[#]	-0.080[#]
		(-1.44)		(-1.78)		(-1.42)	(-1.42)
N^c	398	398	378	378	398	398	398	398
R^2	0.235	0.198	0.282	0.221	0.237	0.236	0.234	0.233
Likelihood Ratio χ^2/ F statistics	30.77***	27.31***	61.48***	49.30***	12.89***	18.79***	29.42***	28.62***

[a]Asterisks *, **,*** denote two-tailed significance levels at 10%, 5%, and 1%, respectively; pound key # denotes one-tailed 10% significance level.
[b]All variables are defined in Table 2.

APPENDIX A

Examples of Clawbacks Disclosed in Firms' Definitive Proxy Statements

The clawback provisions are categorized by the triggers, including fraud or misconduct, a restatement of financial results, and the event of employee bad faith. I collect clawback information from the disclosure in firms' Compensation Discussion and Analysis (CDA), a portion of firms' definitive proxy statement (Form 14A-DEF).

Example 1: Monsanto Company (MON) (Dec 17, 2009).

In order to further align management's interests with the interests of shareowners and support good governance practices, our board has adopted a recoupment policy applicable to annual incentive awards, Financial Goal RSUs and other performance-based compensation to our officers. As revised in October 2009, the policy generally provides that in the event our company is required to prepare *an accounting restatement due to our company's material noncompliance with any financial reporting requirement* under the securities laws as a result of misconduct or an error (as determined by the members of our board who are considered independent for purposes of the listing standards of the NYSE), our company may, in the exercise of its discretion (as determined by such board members) take action to recoup the amount by which such award exceeded the payment that would have been made based on the restated financial results. Our company's right of recoupment expires unless demand is made within three years following payment of the award, and does not apply to stock options, restricted stock or other securities that do not have performance-vesting criteria. A copy of our current policy is filed as Exhibit 10.27 to our annual report on Form 10-K for the fiscal year ended August 31, 2009.

Example 2: Walter Energy, Inc. (WLT)(Mar 31, 2009)

The Committee may, in its sole discretion, but acting in good faith, direct that the Company recover all or a portion of any Award made or granted under this Plan to a Holder in respect of any fiscal year in which the Company's financial statements are *restated to reflect adverse results from those previously released financial statements, as a consequence of errors, omissions, fraud, or misconduct.* For purposes of this Section 10.7, *errors, omissions, fraud, or misconduct may include*

and is not limited to circumstances where the Company has been required to prepare an accounting restatement due to material noncompliance with any financial reporting requirement, as enforced by the Securities and Exchange Commission, and the Committee has determined in its sole discretion that such Holder had knowledge of the material noncompliance or the circumstances that gave rise to such noncompliance and failed to take reasonable steps to bring such noncompliance to the attention of the appropriate individuals within the Company, or the Holder personally or knowingly engaged in practices which materially contributed to the circumstances that enabled a material noncompliance to occur; provided further that the provisions of this Section 10.7 shall only apply to Awards granted on or after April 23, 2009.

Example 3: International Paper Company (IP) (Apr 9, 2009).

Our LTICP and our proposed 2009 Incentive Compensation Plan contain a claw back provision relating to our long-term equity awards. Under this claw back provision, *if our financial statements are required to be restated as a result of errors, omission, or fraud*, *the Committee may, in its discretion, based on the facts and circumstances surrounding the restatement*, direct that we recover all or a portion of an equity award from one or more participants with respect to any fiscal year in which our financial results are negatively affected by such restatement. To do this, we may pursue various ways to recover from one or more participants: (i) seek repayment; (ii) reduce the amount that would otherwise be payable under another Company benefit plan; (iii) withhold future equity grants, bonus awards, or salary increases; or (iv) take any combination of these actions.

Example 4: Automatic Data Processing, Inc. (ADP) (Sep 30, 2009).

Our 2008 Omnibus Award Plan gives the compensation committee the flexibility to grant cash and equity awards that may be recovered if a recipient engages in certain types of misconduct. Beginning in February 2009, stock options and restricted stock awards under our 2008 Omnibus Award Plan allow the compensation committee to cause a recipient's award to be forfeited, and to require the recipient to pay to us any option gain and/or the value of vested restricted stock, as applicable, *if the recipient engages in activity that is in conflict with or adverse to our interests,*

including but not limited to fraud or conduct contributing to any financial restatements or irregularities, or if the recipient violates a restrictive covenant.

Example 5: E.I. du Pont de Nemours and Company (DD) (Mar 19, 2007).

The EIP contains a "clawback" provision under which: (1) a grantee forfeits the right to receive future awards under the EIP; and (2) the Company may demand repayment of awards if the grantee engages in misconduct, including grantee's conduct that (a) results in termination for cause (as defined in the plan), (b) breaches a noncompete or confidentiality clause between the Company and grantee or (c) results in the Company restating financial statements due to material noncompliance and the grantee either (i) had knowledge of the material noncompliance or the circumstances that gave rise to such noncompliance and failed to take reasonable steps to bring it to the attention of appropriate individuals within the Company or (ii) personally and knowingly engaged in practices which materially contributed to the circumstances that enabled a material noncompliance to occur. A grantee is entitled to a hearing before the full Committee at which the grantee may be represented by counsel. Consistent with the standard applicable to other Board and Committee actions, the decision of the Committee is effective if approved by the majority of the Committee's members.

Awards granted under the Stock Performance Plan are subject to forfeiture if the Committee determines, after a hearing, that the grantee willfully engaged in any activity harmful to the interest of the Company. The Stock Performance Plan does not define specific instances of misconduct. Rather, what constitutes "activity harmful to the interest of the Company" is a determination made by the Committee based on the facts and circumstances in the situation at issue.

Example 6: Rowan Companies, Inc. (RDC) (February 26, 2008).

If within five years of the grant or payment of an award (1) the Company's reported financial or operating results are subject to a material negative restatement or (2) a participant *engages in conduct which is fraudulent, negligent or not in good faith, and which disrupts, damages, impairs or interferes with the business, reputation or employees of the Company or its affiliates* (as

determined in the sole discretion of the Committee), then in each case the Committee may, in its discretion, seek to recoup all or a portion of such grant or payment.

Current Working Papers Related to the Clawback Provisions

Paper	Research Issue	Sample and Data Source	Main Variables and Categories	Research Results	Difference and Contribution of this Paper
Addy et al. (2009)	Determinants to voluntarily adopt clawback provisions	145 firms with clawback provisions/total 496 (Corporate Library)	Clawback (0/1) -misconduct as a trigger - excess payment or entire payment	1. The firms adopt clawback provisions when firms' directors are on other boards of other firms that have clawbacks. 2. Firms' recent restatements increase the likelihood of clawback, while a high level of accruals makes a clawback less likely.	1. These determinants are used in the first-stage/determinant model in this paper. 2. These studies do not attempt to assess the effects of the different types of clawback provisions on managerial behavior and monitoring quality.
Brown et al. (2011)	The firm characteristics related to the adoption of clawback provisions	252 firms with clawback provisions/total 1,071 S&P 500 firms (Corporate Library)	Clawback (0/1) - a fraud-based, performance-based or non-compete clawback provision.	1. The size of the firm is one of the strongest determinants to adopt a clawback provision. 2. The influential CEO reduces the likelihood of adopting a clawback provision. 3. Firms that have paid large M&A bonuses and experienced value-reducing mergers and acquisitions are more likely to adopt clawback provisions. 4. That only restatements resulting from *irregularities* are significantly negatively related to the likelihood of adopting *fraud*-based clawback provisions.	

Cherry and Wong (2009)	Description about the clawback provisions in executive compensation and Ponzi schemes.	N/A	N/A	They provide an important way of prospectively changing the legal landscape to further the protection of shareholders and investors.	The different type of triggers is used in this paper to classify clawback provisions.
Levine and Smith (2010)	Modeling the efficiency of clawback provisions in a two-period agency model.	Modeling	N/A	1. If earnings are less informative about effort than cash flows, then a full-clawback provision is best. 2. The no-clawback contract dominates the clawback contract if the cash realization is relatively noisy, earnings management is difficult, or the agent is very impatient.	My empirical evidence extends the theoretical analysis. I show that marginal effects of clawback provisions on CEOs.
Gao et al. (2010)	The market's reaction to firms' clawback adoption announcements.	285 firms with clawback provisions/total 1,404 S&P 500 firms (Corporate Library)	Clawback (0/1) -Performance-based , non-complete or fraud-based clawbacks	1. There is a positive market reaction to the adoption, particularly in firms with previous financial restatements. 2. Within the group of restatement firms, the reaction is largest for firms whose executives are primarily compensated with equity and whose CEOs are influential.	1. I focus on the improvement of financial reporting quality to support perceived benefits of clawback provisions. 2. The interactions between clawback provisions and CEO compensation are considered to support the strong positive reaction for firms using equity-based compensation for CEOs.
Babenko	Determinants of	723 firms with	Clawback (0/1)	1. The prior executive misbehavior, feasible	While I find that clawback provisions

et al. (2012)	adoption, credit rating and market reaction to the adoption	clawback provisions/total S&P 1500 firms (keyword search)	-Recovery of equity award or cash awards	earnings items, higher external monitoring, more independent boards are more likely to adopt clawbacks. 2. Adopting of clawbacks appears to increase executive compensation and deduce CEO tenure.	weakly decrease CEOs' earnings manipulation, the increased CEO compensation and decreased CEO tenure could be a cost of adopting clawback provisions.
Chan et al. (2012a)	Effects of clawback provisions on earnings quality and auditor behavior	343 firms with clawback provisions/total 2,183 Russell 3000 firms (Corporate Library)	Clawback (0/1)	1. The incidence of accounting restatements declines and firms' earnings response coefficients increase after firms adopt clawback provisions. 2. The auditors are less likely to report material internal control weaknesses, charge lower audit fees for firms that adopt clawbacks.	1. Because the results in Chan et al. (2012a) could be driven by the signaling effect, my evidence extents Chan et al. (2012a) by considering the role of CEOs and audit committees in the financial reporting process. 2. Rathing only using a dummy variable (CLAWBACK), I decompose clawback provisions by the triggers to test the effects of the recoupment.
Chan et al. (2012b)	The association between clawback provisions and earning management	343 firms with clawback provisions/total 2,183 Russell 3000 firms (Corporate Library)	Clawback (0/1)	1. The clawback provisions reduce accruals management, but increase real transactions management. 2. The unintended earnings management occurs in firms in which the actual earnings meet or just beat earnings benchmarks.	1. Since the clawback provisions could improve earnings quality and tie CEO compensation to financial reporting quality, Chan et al. (2012b) do not provide strong evidence why executives choose real transactions

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					management not accruals management. 2. The audit committees are mainly responsible for monitoring financial reporting quality, but these two papers do not consider the audit committees' influence.
DeHaan et al. (2011)	Whether financial reporting quality improves after voluntarily adopting clawbacks	281 firms with clawback provisions/total 2,027 firms (Corporate Library)	Clawback (0/1) - misconduct vs. robust	1. There are significant improvements in both actual and perceived financial reporting quality following clawback adoption. 2. The compensation for CEOs increases subject to new clawback provisions. 3. Clawback policies that apply to restatements involving intentional and unintentional restatements are incrementally more effective	Rather only analyzing the effects of misconduct type, I classify clawback provisions according to the triggers. Bad faith trigger is not discussed in DeHaan et al. (2011).
Fried and Shilon (2011)	Description of clawback policy	485 S&P 500 firms (Corporate Library)	The types of excess pay, board discretion to trigger, and whether misconduct is the trigger	The Dodd–Frank Act, which requires firms to adopt a policy for clawing back certain types of excess pay, will improve compensation arrangements at most firms.	In my voluntary adoption sample, it is not easy to identify whether firms recoup all incentive pay or excess pay. This is one of the limitations in my study.

| Ang et al. (2012) | The analysis of the benefits, costs, and consequences of clawback provisions | 275 high concern restatements (Audit Analytics) | Excess compensation subject to clawbacks | 1. The amount of excess incentive compensation subject to clawback under the Dodd-Frank Act accounts for a small fraction of the total unearned gains.
 2. The costs of recovery are likely to outweigh the amount recoverable | 1. The predicted excess compensation subject to clawbacks is likely biased because of rare triggered clawbacks.
 2. Rather using profits from the sale of stock and option exercises, I use original equity-based compensation to reflect the audit committees' *ex ante* cognition for the recoupment.
 3. My evidence about cash compensation suggests regulators add cash payment to the amount recoverable. |
| Chen et al. (2012) | The analysis of the benefits, costs, and consequences of clawback provisions | 515 firms with clawback provisions / Fortune 1000 firms (LexisNexis keywords search) | Clawback (0/1) | 1. Modeling: a clawback rule reduces misreporting but can impose excessive risk on the manager, leading to lower productive effort.
 2. Empirical evidence: the voluntary adoption of clawback rules is associated with smaller abnormal accruals and higher CEO pay-performance sensitivity, but these benefits appear to be offset by higher average CEO compensation. | After controlling for CEO compensation structure, my findings extend Chen et al. (2012) by suggesting an incremental influence of audit committees' oversight on decreasing the risk of financial reporting process. |

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