

# Three Essays Examining the Effects of Mandatory Compensation Clawbacks on Judgment and Decision Making in Accounting

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## PREFACE

This thesis consists of three essays, a literature review and two experimental studies, that examine costs and benefits of mandatory compensation clawbacks. Clawback provisions recover previously paid-out compensation from executives who acted in ways that are detrimental to companies and their shareholders (Kapner and Lucchetti 2012). This corporate governance instrument is aimed at increasing management accountability by more closely tying executive compensation to managers' actions (Hodge and Winn 2012; Iskandar-Datta and Jia 2013). While some firms have adopted compensation clawbacks voluntarily (Babenko et al. 2017), recent regulatory attempts to mandate clawback provisions have fueled a debate on whether and how to implement clawback requirements by government regulation. In the U.S., the Dodd-Frank Act (DFA) introduced a clawback mandate in 2010, requiring stock-exchange listed firms to adopt clawback provisions. The Securities and Exchange Commission proposed a rule to implement the DFA-clawback. Though not enforced yet, the rule will force firms to recover compensation from corporate executives upon the occurrence of an accounting restatement. The clawback mandate is intended to discourage managers from publishing misstated accounting information, as well as punish managers who nonetheless do so (Dehaan et al. 2013). However, as for any regulation, a mandatory compensation clawback does not only produce benefits but also imposes costs (Denis 2012). The objective of this dissertation is to shed light on potential benefits and costs of a mandatory clawback regulation in order to examine the impact that a clawback mandate might have on capital markets.

The first essay, develops a framework to review current research on compensation clawbacks to gauge potential implications of the DFA-clawback. As such, Essay 1 consolidates the latest state of knowledge in the field of compensation clawbacks while laying out the theoretical foundations for this dissertation. Essay 2 and Essay 3 extend the literature on mandatory compensation clawbacks by investigating unintended consequences of a clawback mandate. Debates on financial accounting regulation often focus on dealing with current problems but neglect a discussion of possible problems that arise due to a response of those affected by the new policy (Arya et al. 2003). Essay 2 and Essay 3 add to our knowledge on potential unintended side-effects of mandatory clawbacks by providing empirical evidence from two experiments. Experiments are particularly suitable to explore the effects of mandatory clawbacks because data on existing clawback regulations is scarce and experiments allow to analyze mandatory clawbacks before they are actually enforced in

practice (Kachelmeier and King 2002; Libby et al. 2015). Overall, my dissertation informs regulators and researchers about the potential effects of both, the proposed clawback mandate in the U.S. and clawback regulations in general. The following subsections provide additional details on each of my three essays by highlighting the main findings of each study. The overall contribution of this dissertation is summarized in the last subsection.

Essay 1 addresses the question of whether the proposal of the DFA-clawback may potentially be valuable for capital markets. The essay develops a framework to structure the existing literature on compensation clawbacks. The aim of the framework is to analyze whether the current environment, where clawbacks are voluntary, calls for a regulatory mandate and to gauge the potential effects of the proposed rule. An analysis of the literature on the determinants of voluntary clawback adoption suggests that there are market frictions that may justify a regulatory intervention. In particular, a considerable part of the literature suggests that managers use their power over the board of directors to resist voluntary clawback adoption. A regulatory mandate addresses this shortcoming by imposing clawbacks on all firms. However, an ill-designed regulation may have unintended consequences such that the costs of the regulation exceed its benefits. Thus, in a second part, Essay 1 reviews the literature on consequences of compensation clawbacks to analyze the cost-benefit tradeoff of the proposed mandate. Due to lacking evidence on mandatory compensation clawbacks, the essay also considers studies on consequences of voluntary clawback adoption. The literature indicates that markets generally react positively to clawback adoption and that the provision increases firms' reporting quality as well as improves the incentive alignment between managers and owners. However, a growing number of studies also find indications that managers try to circumvent the clawback by using misreporting practices that are not covered by the clawback. Interestingly, stakeholders appear to not fully account for these evading strategies when assessing firms that adopt compensation clawbacks. Analyses in Essay 1 reveal that there is a mismatch between stakeholder perception and actual firm behavior following clawback adoption for firms with previous misreporting or poor governance. This discrepancy could be induced by managers' efforts to evade the provision while simultaneously maintaining the impression of having an effective governance instrument in place. The finding highlights that it is important to consider both, direct effects but also unintended secondary effects, to determine the overall value of a clawback mandate.

Essay 2 reports the findings of a controlled experiment that studies how mandated clawback recoveries affect directors' decisions on the future compensation of managers. In particular, the study explores how directors set a manager's compensation after a clawback recovery

depending on i) whether the manager was responsible for triggering the clawback and ii) the cause for triggering the clawback. The essay provides evidence that, following clawback recoveries, directors make compensation decisions to favor corporate executives in two ways. First, directors increase the compensation of managers who are not responsible for triggering the clawback compared to managers who are responsible. Directors do so to reimburse non-responsible managers for compensation recoveries that these managers may consider to be unfair. Second, directors give responsible managers the benefit of the doubt when directors are unaware of the cause that triggered the clawback (error vs. misconduct). That is, directors pay responsible managers a lower compensation if managers engaged in intentional misconduct compared to when managers made unintentional errors, but directors' compensation decisions do not differ when directors are unaware of the cause for triggering the clawback compared to when the cause is known to be an error. Overall, the results indicate that, following clawback recoveries, directors incorporate justice considerations into their compensation decisions, thereby potentially distorting managers' pay-for-performance incentives in periods after the clawback recovery.

Essay 3 (in cooperation with Alexis H. Kunz) focuses on investors' perception of compensation clawbacks. Prior research reports positive investor reactions to clawback adoption (Iskandar-Datta and Jia 2013). However, a recent study provides evidence that firms' long-term value is negatively affected by the adoption of clawbacks (Chan et al. 2015). The negative long-term effect appears to originate from managers' increased use of real earnings management (REM) that is not covered by the clawback. Essay 3 investigates an investor bias that may explain the seemingly inconsistent findings in prior research. The study posits that investors do not anticipate the likely increase in REM following clawback initiation. Instead, the clawback lets investors fall prey to a judgment error, called halo effect, that makes them feel safe against financial statement manipulations, independent of whether these manipulations are covered by the clawback. That is, the clawback makes investors less skeptical toward any type of earnings manipulations, including REM. Thus, investors react positively to the introduction of a clawback mandate despite the potentially detrimental consequences on future firm value. Results of a controlled experiment largely indicate that clawbacks provoke a decrease in non-professional investors' skepticism toward REM. Interestingly, the effect is more pronounced when a firm has a prior history of misreporting. Finally, our results indicate that the investor bias positively affects investors' desirability to invest in a firm. The clawback-induced bias among non-professional investors is likely to adversely affect their investment decisions potentially resulting in a mispricing effect in capital markets.

My dissertation extends and complements current knowledge on the consequences of mandatory compensation clawbacks in several ways. First, Essay 1 proposes a framework to evaluate research on compensation clawbacks in order to assess potential implications of the the DFA-clawback. Given that a comprehensive review of clawback research has been lacking so far, the essay contributes to prior literature by consolidating the research on compensation clawbacks and by discussing the extent to which the findings might transfer to a mandate. Second, Essay 2 examines directors' decisions about the future compensation of a manager following clawback recoveries. By reimbursing non-responsible managers, directors undermine the regulators' intention to return paid-out excess compensation to the firm and may render the clawback partly obsolete. Furthermore, directors give managers the benefit of the doubt and pay excessive compensation to misreporting managers when the cause of the restatement is unknown. The compensation is paid out of shareholders' pockets and is thus detrimental to shareholder value. Essay 2 suggests that directors' compensation decisions following mandated clawback recoveries are likely to distort managers' performance incentives. Thus, regulators should carefully consider the potential negative side effects from director behavior when deliberating about a clawback mandate. Lastly, Essay 3 reveals a bias among non-professional investors who become less skeptical toward REM following clawback initiation. The bias is likely to adversely affect non-professional investors' investment decisions. Behavioral biases may persist in financial markets and potentially introduce mispricing in capital markets (Daniel et al. 2002). Furthermore, investors' false sense of security against REM provides managers with a large potential to manipulate their reports using REM without being adequately sanctioned. Thus, the essay makes regulators aware that a clawback mandate may be associated with substantial costs due to this particular investor bias. In sum, by reviewing the current knowledge of compensation clawbacks and by detecting unintended consequences of a clawback mandate, this dissertation extends researchers' understanding of compensation clawbacks and helps regulators make more informed decisions on whether and how to implement mandatory clawback requirements.

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## ESSAY 1

### Does the Dodd-Frank Clawback Have the Potential to be a Valuable Corporate Governance Regulation?

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#### Abstract

The objective of this review is to assess whether the Dodd-Frank clawback as proposed by the SEC has the potential to be valuable for capital markets. This mandatory clawback is aimed at deterring top-managers from publishing misstated accounting information by recovering compensation from executives who do so. To date, many firms have adopted compensation clawbacks voluntarily. However, it is largely unclear, whether clawbacks should be imposed through regulatory action as intended by the Dodd-Frank clawback. I develop an organizing framework to review the clawback literature in order to analyze whether there is room for a regulatory mandate and to gauge the potential effects of the proposed rule. First, I review the literature on determinants of voluntary clawback adoption to detect potential market frictions that call for a regulatory intervention. A considerable part of the literature indicates that managers use their power over the board of directors to resist the adoption decision. This finding suggests that a government mandate may be suitable to address these inefficiencies. In a second part, I analyze the research on consequences of compensation clawbacks to form expectations about the implications of the prospective mandate. The literature predominantly examines effects of voluntary clawbacks. Results consistently suggest that markets react positively to clawback adoption and that the provisions enhance financial reporting quality and increase incentive alignment between owners and managers. The findings support the contention that clawbacks improve a firm's corporate governance. However, a number of studies provide evidence that managers try to evade the clawback. That is, following clawback adoption, managers increasingly mislead investors by using misreporting practices that are not subject to the clawback. I discuss the extent to which the findings are attributable to the Dodd-Frank clawback and provide avenues for future research.

**Keywords:** Clawback provisions; the Dodd-Frank Act, corporate governance; regulation.

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## 1. Introduction

The purpose of this study is to analyze whether the compensation clawback as required by the Dodd-Frank Wall Street Reform and Consumer Protection Act (DFA) has the potential to be a valuable corporate governance regulation for capital markets. In 2010, the DFA mandated clawback policies for firms listed at U.S. stock exchanges (U.S. House of Representatives 2010). To enforce the regulation, the Securities and Exchange Commission (SEC) proposed a rule. The rule requires firms to make incentive-based compensation of corporate managers subject to recovery in case of a material accounting restatement (SEC 2015). In particular, the clawback will force executives to return any performance-related compensation they had earned based on overstated financial statements. The DFA-clawback is intended to strengthen managers' incentives to accurately report financial results and to induce higher transparency and integrity of financial information (Denis 2012). However, the DFA-clawback has fueled a controversial discussion on the effectiveness of such a mandate. Opponents of the mandate argue that it constitutes an undesirable infringement of firms' freedom of contract (Bainbridge 2011). A mandate would constrain firms' flexibility in arranging clawback provisions and may prevent them from adopting the policy that is most beneficial to shareholders. Sceptics of a regulatory intervention thus posit that private ordering is superior (Ribstein 2010). Conversely, proponents of the regulation claim that market failures prevent firms from voluntarily adopting an optimal compensation regime (Fried and Shilon 2011). As such, a regulatory intervention may be necessary to overcome these market frictions.

I develop a framework to organize the existing literature on compensation clawbacks to assess whether the DFA-clawback has the potential to be valuable for capital markets. The framework broadly partitions the research into two components: determinants and consequences of clawback adoption. Studies on determinants explore factors that contribute to a firm's decision to voluntarily adopt clawbacks whereas studies on consequences investigate effects that result from clawback adoption. Using the framework, I first examine whether the current environment, where clawbacks are voluntary, calls for a regulatory mandate. For this reason, I analyze the literature on determinants of voluntary clawbacks to evaluate two competing theories on how firms enter into compensation contracts such as clawbacks (Weisbach 2007). The *optimal contracting view* assumes that firms voluntarily adopt efficient contracts that provide managers with incentives to act in the best interest of shareholders (Jensen and Murphy 1990; Murphy 1999). Firms for which clawbacks are

beneficial will thus include clawback provisions into managers' compensation arrangements to maximize shareholder value. Under optimal contracting, regulatory intervention is not desirable as it unnecessarily restricts a firm's contracting options. Conversely, the *managerial power view* presumes that managers misuse their bargaining power to negotiate contracts that are most beneficial for themselves but harm shareholders (Bebchuk and Fried 2003; 2004). That is, managers may influence the design of clawback provisions such that the clawback is ineffective, or they may prevent the adoption of clawbacks in the first place. Evidence in line with the managerial power perspective would suggest that firms do not adopt value maximizing clawback provisions of their own accord. In such a case, a regulatory intervention can address the inefficiency by imposing policies against managers' will.

However, even in the presence of contracting frictions, a mandate may not necessarily be beneficial (Edmans et al. 2017). For example, an ill-designed regulation may have unintended consequences such that the costs of the regulation exceed its benefits. Thus, I examine, in a second step, the research on consequences of clawback adoption to gauge the potential implications of DFA-clawback as proposed by the SEC. Because research on mandatory clawbacks is scarce, I also review studies on voluntary clawback adoption. I group the literature into major topics to identify potential benefits and costs of the adoption of clawbacks. I discuss to which extent the findings in the literature are likely to be informative for the proposed regulation to assess potential implications of mandatory compensation clawbacks. I also identify gaps in the literature that need to be filled in order to more reliably judge the effects of the proposed mandate.

From my literature review I derive a causal model that summarizes the most important determinants and consequences of clawback adoption. That is, the model informs about the main factors that contribute to a firm's decision to adopt clawbacks and highlights the implications that a clawback policy is likely to provoke. As such, the model synthesizes the major findings in clawback research.

My study adds to the literature in the following ways. First, I develop an organizing framework to evaluate the research on compensation clawbacks. Using the framework, I discuss the insights that the clawback literature provides for the DFA-clawback. Thereby, I inform regulators on the risks and benefits of the prospective mandate. Second, I draw on research on voluntary clawbacks to make inferences about the mandate. Previous studies have used a similar approach to gauge the potential effects of a regulation (e.g. Barth et al. 2008; Daske et al. 2013). As such, my literature review contributes to the body of research

that examines how the voluntary adoption of policies can generate knowledge about government mandates. Third, I synthesize the current literature on compensation clawbacks and provide an overview of the latest state of knowledge in this field. Given that a comprehensive review on clawbacks has been missing so far, I contribute to the literature on corporate governance and executive compensation by consolidating the findings of research on compensation clawbacks.

Inspection of the published research through the lens of my framework yields several conclusions. First, my review of determinants of voluntary clawbacks suggests that the adoption decision is influenced by self-serving parties who try to enforce their personal interests. Specifically, empirical evidence indicates that powerful managers resist clawback adoption (Chen and Vann 2014, 2017) and that board members rarely seek recovery when a clawback is triggered (Babenko et al. 2017; Glater 2005). These findings imply that firms may not necessarily adopt optimal provisions and that a regulatory intervention may thus be appropriate.

The second part of the study examines the consequences of clawback adoption to assess potential benefits and costs of the DFA-clawback. A large part of the literature finds positive stock market reactions to voluntary clawback adoption (Chen et al. 2015; Iskandar-Datta and Jia 2013) and an increase in users' reliance on financial information (Chan et al. 2012; Dehaan et al. 2013). Further evidence shows improved incentive alignment between managers and shareholders (Biddle et al. 2017; Chen and Vann 2014, 2017; Kroos et al. 2017). The results suggest that clawbacks may achieve the objective of improving the reporting environment.

However, it is also important to consider potential unintended consequences that clawback policies may generate (Denis 2012). In particular, an increasing number of studies suggests that managers of clawback-adopting firms mislead investors by using alternative forms of manipulations that are not subject to the clawback (Bao et al. 2018; Chan et al. 2015; Kyung et al. 2016) or influence gatekeepers to prevent the clawback from being triggered (Pyzoha 2015). These effects provide indication that managers engage in potentially harmful activities to undermine the effectiveness of clawback provisions. Interestingly, though, investors appear not to be aware of such evading strategies. In contrast, there seems to be a misfit between the external perception of clawback adoption and the clawback's actual effects on firm behavior. In particular, stakeholders react most positively to the voluntary clawback adoption of firms with prior incentive problems (e.g. poor corporate governance

or previous misreporting), presumably because they consider the clawback as a fix for misaligned incentives (e.g. Babenko et al. 2017; Iskandar-Datta and Jia 2013). However, these firms exhibit less incentive alignment and are also most likely to switch to alternative misreporting practices to evade the clawback provision (Bao et al. 2018; Hales et al. 2017; Kroos et al. 2017). These findings indicate that firms with prior incentive problems derive lower benefits from clawback adoption but reap the highest stakeholder reactions. Stakeholders may thus be subject to a bias that makes them overstate the clawback's effectiveness. In sum, my analysis suggests that a mandate may generate substantial costs in terms of unintended consequences.

Overall, it remains unclear how the costs of unintended consequences compare to the benefits of increased reporting quality. For the DFA-clawback, the above described costs may be limited as the clawback is considered to be relatively stringent and allows for little discretion (Beck 2015). That is, the mandate may prevent managers' attempts to undermine its proper functioning and may serve as a remedy for weak voluntary provisions. Also, prior research consistently finds more positive capital market and financial reporting effects following the adoption of a more stringent clawback, suggesting high benefits. (Babenko et al. 2017; Beck 2015; Erkens et al. 2017). Additional support for the hypothesis that the DFA-clawback is beneficial for capital markets is provided by event studies that report positive market reactions to important announcements regarding mandatory clawbacks (e.g. Bakke et al. 2017; Li 2014). However, it is an empirical question of whether the DFA-clawback proves effective.

To make more reliable predictions about the overall value of the DFA-clawback, more research is needed. I identify several gaps in the literature that appear to be fruitful areas for further work. First, future research should investigate clawbacks that exclusively use restatement-triggers to establish whether their effects differ from those of other clawbacks. Such research would increase our knowledge on the applicability of voluntary clawback research for the proposed mandate. Second, research could investigate how the consequences of compensation clawbacks depend on firm characteristics. The study of such interactions may help to understand the circumstances, under which clawbacks are likely to be effective. Lastly, there is a lack of studies on clawback mandates. Whereas the U.S. does not provide a suitable setting for such research, archival studies could investigate clawback mandates in other countries (e.g. the Netherlands). Experimental studies could complement this research to better understand the potential benefits and costs of mandatory clawbacks. Future research may find the underlying framework that I developed useful as it facilitates the understanding

of relations between determinants, clawback adoption, and consequences established so far. It also suggests an approach to evaluate a proposed regulatory intervention.

My literature review is structured as follows: Section two describes how compensation clawbacks work and how they evolved. The section also outlines the characteristics of the proposed rule of the DFA-clawback. Section three establishes conditions under which a mandate can be effective. Section four lays out the methodological approach to the literature review and describes the framework. Section five examines the literature on determinants of clawback policies and the section six reviews the literature on consequences of the clawback adoption. Finally, the last section concludes and provides directions for future research.

## **2. Compensation Clawbacks**

### **2.1 Definition, Design, and Properties**

Clawback policies are contractual agreements between a firm and its executives that specify conditions under which the firm can reclaim previously paid out compensation (Sharp 2012). They are typically arranged as clauses in executive employment contracts (Beck 2015). Clawbacks allow for recoupment of executive pay that was earned based on undesirable behavior (Kapner and Lucchetti 2012). As such, they constitute an instrument to tie executive compensation to conditions that can only be verified ex-post (Spindler 2012). The corporate governance mechanism is aimed at imposing greater accountability on executives (Iskandar-Datta and Jia 2013) and improving the alignment of interests between managers and shareholders (Hodge and Winn 2012).

Because clawbacks are contractual agreements between a firm and its managers, there is substantial flexibility as to how these provisions are designed (Babenko et al. 2017). To draft clawbacks, firms have to decide on a number of issues. Most importantly, they must determine (i) in which situations the clawback is activated – referred to as the trigger event, (ii) who is covered by the provision – i.e. employees under the scope of the clawback, (iii) what compensation components are subject to recovery, (iv) how far back in time the provision is applicable – also called the look-back-period, and (v) who is responsible for enforcing the recoveries and how much discretion is granted to the enforcement body (Babenko et al. 2017; Beck 2015; Gao et al. 2011). Appendix A presents a summary of the main characteristics of compensation clawbacks and explains how clawbacks are shaped in practice.

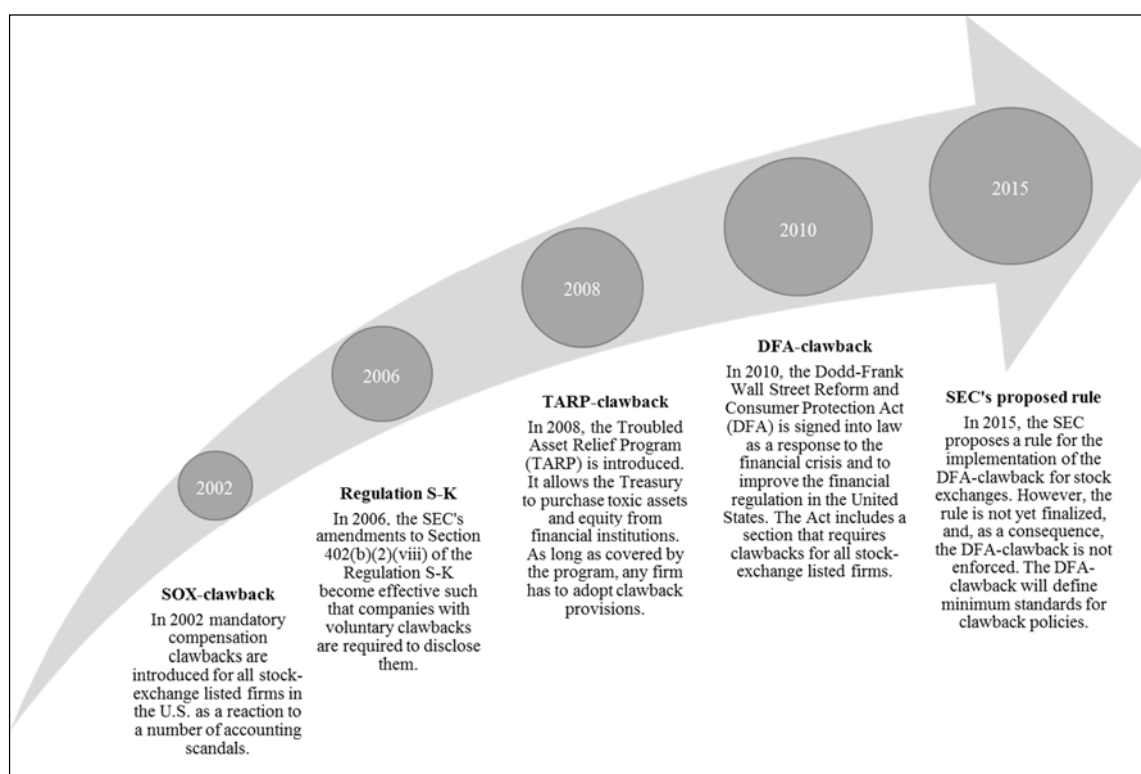
The most widely used trigger event is the issuance of an accounting restatement (Babenko et al. 2017). Clawback policies that tie incentive pay to restatements, allow for recovery of previously paid out bonuses if it comes to light that the financial statements, on which the bonus was based, did not accurately reflect the firm's economic situation (Iskandar-Datta and Jia 2013). Thus, clawbacks should mitigate managers' incentive to deliberately misreport financial information to maximize their compensation. The clawback is additionally expected to increase financial reporting quality as executives will be more cautious to prevent accounting errors (Dehaan et al. 2013). As such, the policy should strengthen a firms' incentive to report financial results accurately, consequently inducing enhanced transparency and integrity of financial information (Denis 2012).

In the absence of clawback provisions, a firm can still sue its executives based on unjust enrichment in the event of managerial misconduct. However, the burden of proof is much larger (Addy and Yoder 2011). Thus, a lawsuit is unlikely to be filed in smaller cases or with scant evidence. Compensation clawbacks, in contrast, are more efficient because they do not require litigation. A similar instrument to clawback policies are so-called holdback provisions (or malus clauses) which also lower executive compensation based on some pre-specified events. Unlike clawback policies, holdback provisions only apply to compensation components that have not yet been paid-out (Hodge and Winn 2012). Holdback provisions defer management pay using bonus banks and reduce the account in case a trigger is activated. However, holdback provisions can be activated only for the periods of retention (Bettis et al. 2016; Gopalan et al. 2014) whereas clawbacks address the problem beyond the deferral of incentive pay.

## **2.2 Institutional Background**

Despite the possibility of firms to adopt clawbacks voluntarily, several attempts have been taken by U.S. regulators to force firms to adopt such provisions (see Figure 1 for an overview).

**FIGURE 1**  
**Institutional Background of Compensation Clawbacks**



In 2002, mandatory compensation clawbacks were introduced by the Sarbanes-Oxley Act (SOX) as a reaction to several accounting scandals (e.g. Enron and Worldcom). The SOX-clawback authorized the SEC to recoup performance-based compensation paid to CEOs and CFOs when the firm had to restate its financial statements as a result of misconduct (U.S. House of Representatives 2002). The SEC had the sole authority to seek recovery of variable pay as well as any profits realized from the sale of securities awarded in the year following to the issuance of the faulty financial statements (Addy and Yoder 2011).<sup>1</sup> Thus, the compensation clawback was aimed at ex-ante deterring top-managers from publishing misstated accounting information and ex-post penalizing executives for misconduct (Dehaan et al. 2013). However, the SEC was confronted with far more financial restatements than it could possibly process, not least due to financial restrictions (Iskandar-Datta and Jia 2013). In many cases, it also proved to be hard for the SEC to demonstrate that the restatement was triggered by misconduct (Fried and Shilon 2011). As a result, only a fraction of the

<sup>1</sup> See United States District Court, Eastern District Pennsylvania in *Neer v. Pelino* in 2005.

accounting restatements filed with the SEC were litigated. McKenna (2015) reports that out of approximately 4,600 material accounting restatements from the introduction of the SOX-clawback in 2002 up to 2015 the SEC sought recoupment in only 15 cases. Due to its lax enforcement, the regulation is unlikely to have acted as a credible deterrent to executive misbehavior.

Following the introduction of the SOX-clawback, some firms started adopting clawbacks voluntarily (Dehaan et al. 2013), potentially to address the shortcomings of the SOX-clawback. The firms were not required to disclose any information on their voluntary clawbacks until 2006. Thereafter, the amendment of the regulation S-K<sup>2</sup> required firms to disclose their clawback policies in the compensation discussion and analysis (CD&A).<sup>3</sup> Since 2002, the number of firms that voluntarily adopted clawbacks has continuously increased. The SEC estimates that about 23% of all listed issuers have some kind of recoupment provision in place (SEC 2015). Babenko et al. (2017) document that 79.8% of entities in the S&P 500 had adopted voluntary clawbacks by 2013. In many cases, the adopted provisions differ from the ones proposed by the SOX in their respective designs (e.g. trigger event, look-back period, compensation coverage, etc.).<sup>4</sup>

In 2008, during the financial crisis, the Troubled Asset Relief Program (TARP) allowed the Treasury to purchase toxic assets and equity from financial institutions. Any firm covered by the program had to include clawback provisions to recover incentive pay that was based on materially inaccurate financial statements or performance metrics (U.S. House of Representatives 2008). The TARP-clawback renounced the misconduct requirement of the SOX-clawback and extended the provision to senior executives and the next 20 most highly compensated employees (U.S. House of Representatives 2009). In addition, the TARP-clawback transferred the responsibility for seeking recoupments to the firm rather than to the SEC. The clawback provisions only applied to firms covered by the TARP-program. To date, only a fraction of firms are still subject to the program.<sup>5</sup>

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<sup>2</sup> In 2006, section 402(b)(2)(viii) of regulation S-K was amended such that firms with voluntary clawback policies in place are required to disclose them. According to C&DI 117.03 of SEC Regulation S-K Compliance and Disclosure Interpretations, last updated October 18, 2016, firms also have to disclose amount, reasons for recovery, and how the amount was determined in their CD&A (<https://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>).

<sup>3</sup> Several studies report to have found information about clawbacks in filings other than the CD&A as well (e.g. Babenko et al. 2017; Iskandar-Datta and Jia 2013).

<sup>4</sup> Beck (2015) provides an overview of the defining features of voluntary clawback policies.

<sup>5</sup> See: <https://projects.propublica.org/bailout/list/index>

In 2010, the DFA was signed into law as a response to the financial crises of 2008 and with the objective of improving the financial regulation in the United States (U.S. House of Representatives 2010). With Section 954, the DFA introduced clawbacks that should address the shortcomings of the SOX-clawback. In particular, the regulation abandons the misconduct requirement and makes the board of directors responsible for seeking recoupment. In 2015, the SEC has proposed a rule for the implementation of the clawback for stock exchanges (SEC 2015). However, to date, the SEC has not yet finalized its rule, and, as a consequence, the DFA-clawback is not yet enforced. The following section highlights the most important properties of the proposed rule of the SEC.

### **2.3 The DFA-Clawback**

Whereas voluntary clawbacks grant substantial flexibility regarding the design of the provisions, the DFA-clawback formulates minimum requirements for firms listed on U.S. securities exchanges. In the following I discuss the most important characteristics of the DFA-clawback as proposed by the SEC.

***Trigger event.*** The DFA-clawback is triggered by an accounting restatement due to material noncompliance with financial reporting requirements. That is, the clawback is activated when previous financial statements are materially incorrect and therefore need to be restated (SEC 2015).

***Scope.*** Under the rule, any current or former executive officer is subject to the clawback provision.<sup>6</sup> The scope includes the firm's president, principal financial officer, principal accounting officer, any vice-president in charge of a principal business unit, division, or function, and any other person who performs policy-making functions for the firm (SEC 2015). The rule allows to make recoveries from executive officers who served any time during the performance period of the compensation that is subject to recoupment. The policy applies in absence of executives' misconduct and independent of responsibility for the restatement (SEC 2015).

***Compensation subject to recovery.*** In case the clawback is activated, the rule provides that all compensation components granted, earned, or vested based upon attainment of any financial reporting measure are covered. However, only the amount paid out in excess of

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<sup>6</sup> The term "executive officer" draws on the definition of "officer" as in section 16 of the Securities Exchange Act.

what would have been paid without the restatement can be recovered. The amount of recovery equals the excess incentive-based compensation (including stock options) received based on the erroneous data (SEC 2015).

***Look-back period.*** The proposed rule covers the three-year period preceding the date on which the firm is required to prepare the accounting restatement. The excess compensation received during the look-back period is subject to recovery (SEC 2015).

***Enforcement body and discretion.*** The rule entrusts the board of directors (or the compensation committee) with the responsibility to seek recovery when the clawback is triggered. Recovery is always required except in two cases. The board can only abstain from litigation when i) the recovery violates the home country law of a foreign issuer, or ii) when the costs of enforcement would exceed the recoverable amount. However, before concluding that a recoupment is impractical as it imposes undue costs, the issuer would first need to make a reasonable attempt of recovery (SEC 2015).

***Disclosures.*** In case the clawback is activated, the proposed rule requires substantial disclosures including the names of executives subject to recoveries, amounts recovered, amounts outstanding as well as the reason when the board decided not to pursue recovery (SEC 2015).

If a firm fails to comply with any of the above described requirements of the DFA-clawback, the issuer would be subject to delisting. If enacted, the provision would apply to approximately 4,800 issuers that are listed at U.S. stock exchanges (SEC 2015). It would cover accounting restatements reported on form 8-K under item 4.02. Thereof, 4,246 were filed between 2005 and 2012 (Tsang and Bachelder 2015).

In comparison to the SOX-clawback, the DFA-clawback provides significant changes that may address the main defects of the former mandate. On the one hand, it delegates the responsibility to litigate the clawback to the firm itself. By designating the board of directors as the enforcement body, the SEC does not have to invest its constrained resources into the execution of clawbacks. Also, the SEC drops the misconduct requirement that was difficult to prove in court. Thus, recoupment is also possible when executives have no responsibility for the restatement. The regulation differs from the SOX-clawback in many other dimensions as well (Table 1 presents an overview of the main differences between the two regulations). First, the DFA-clawback requires stock exchange-listed firms to include provisions that cover any executive officer, instead of the CEO and the CFO only. Second, the clawback has

a look-back period of 3 years compared to the one-year period of the SOX-clawback. Third, only the excess incentive-based pay can be recovered rather than the total bonus.

**TABLE 1**  
**Comparison Between the SOX-Clawback and the DFA-Clawback**

	<b>SOX-Clawback</b>	<b>DFA-Clawback</b>
<i>Trigger event</i>	Accounting restatement caused by misconduct.	Accounting restatement (no misconduct required).
<i>Scope</i>	CEO and CFO	Executive officers
<i>Compensation subject to recovery</i>	All incentive-based compensation, plus stock profits.	Excess incentive-based compensation.
<i>Look-back period</i>	The year following the issuance of the misstated financial statements.	The 3 year period preceding the date on which the issuer is required to prepare an accounting restatement.
<i>Enforcement body</i>	SEC	Firm (board of directors)

Despite covering only excess pay rather than all incentive-based compensation, the SEC has established quite strict rules in comparison to both, previous mandates and existing voluntary clawbacks (Bakke et al. 2017; Beck 2015). As such, the DFA-clawback severely interferes with the board’s freedom to choose executives compensation contracts. However, by requiring a clawback that limits board discretion and by including a more objectively determinable no-fault based restatement trigger, the SEC has proposed a more suitable regulatory instrument compared to previous mandates.

**3. Voluntary vs. Mandatory Compensation Clawbacks**

Firms may want to consider compensation clawbacks voluntarily because they allow for ex-post adjustments of management pay in case of undesirable executive behavior. By incorporating information into management pay that is revealed only after the payout date,

clawbacks should better align the interests of shareholders and managers. That is, they should deter executives from engaging in misbehavior by retrospectively penalizing corporate executives who do so (Dehaan et al. 2013).

The benefit of an efficient clawback policy can be illustrated using the principal agent model. The principal is the firm owner who hires an agent (manager) to run her firm. The principal can motivate the agent and limit shirking behavior by tying the agent's pay to the profits of the firm. However, the agent is better informed about her own actions than the principal. This information asymmetry creates a moral hazard problem as the agent will take advantage of the superior information (Jensen and Meckling 1976). That is, the agent may influence measures to which her compensation is tied in order to increase her pay at the expense of the owner. The actual performance of the agent may only be verified ex-post, e.g. when earnings manipulation is detected and a restatement is issued. Clawback provisions allow to mitigate the problem of ex-post verification of performance by recovering management pay when earnings management is subsequently detected. Importantly, the threat of recoveries mitigates moral hazard because the agent has less incentive ex-ante to manipulate earnings. As such, compensation clawbacks improve the link between agents' compensation and their behavior.

Despite the potential advantages of compensation clawbacks, it is largely unclear whether firms adopt provisions that are value maximizing for their shareholders. The academic literature is divided into two competing views on how contracts between principals and agents, such as clawback provisions, are generally negotiated: the *optimal contracting view* and the *managerial power view* (Larcker et al. 2011; Weisbach 2007). The first perspective assumes that parties involved in an agency conflict negotiate value-maximizing contracts in order to mitigate agency problems and align the interests between the parties (Jensen and Murphy 1990; Murphy 1999). Firms for which clawbacks are beneficial will adopt such policies and will automatically choose the characteristics that best fit the firm to achieve an optimal corporate governance. Under the optimal contracting view, a regulatory clawback mandate would unnecessarily constrain the flexibility that firms have in designing compensation clawbacks.<sup>7</sup> By prescribing minimum requirements, a mandate would force firms to adopt a certain type of clawback even if a different set of policies or the non-adoption of clawbacks would maximize shareholder value. That is, the regulation would introduce

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<sup>7</sup> See Core et al. (2003) for a review of literature in line with this perspective.

inefficiencies and might even be value-destroying (e.g. see Murphy and Jensen 2018). In contrast, the managerial power view of governance suggests that top-managers are very powerful when it comes to determining their compensation contracts (Bebchuk and Fried 2003; 2004). According to this perspective, managers will use their power to negotiate contracts that are most beneficial for themselves but not necessarily optimal for the owner. They will oppose clawback adoption or enter into contracts that are ineffective. The contracting power of managers is reinforced in practice because owners of a firm do not directly negotiate with managers. Rather, owners delegate the oversight function to directors who monitor the manager and determine her compensation (Singh 2006). As such, the board of directors adds another layer to the agency problem (Dew-Becker 2009). Directors may not act in the best interest of the owner as they have social and psychological reasons to favor executives (Bebchuk and Fried 2003).<sup>8</sup> Therefore, they may collude with managers. Fried and Shilon (2011) argue that directors have only limited financial prospects from implementing clawback provisions. Most board members have low stock ownership such that recoveries of management pay do not have a large impact on directors' holdings. However, their personal costs of implementing recoupment provisions are substantial. In particular, implementing clawbacks may put their own reputation at stake and they may face harsh resistance from managers. In sum, proponents of the managerial power perspective claim that firms are unlikely to adopt value maximizing clawback provisions of their own accord. Fried and Shilon (2011) argue that only a mandate can address the problem that managers resist clawbacks and that board members have no incentives to impose such policies against managers' will.<sup>9</sup> A mandate may introduce and enforce recoupment policies despite the large influence of powerful managers who have a disincentive to adopt effective clawback provisions.<sup>10</sup>

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<sup>8</sup> For evidence in favor of this perspective, see e.g. Bebchuk and Jackson (2005), Chhaochharia and Grinstein (2009), Core et al. (1999), and Greenstone et al. (2006).

<sup>9</sup> A third view is provided by Bainbridge (2000) who argues that behavioral biases (status quo bias, herding behavior, habit and tradition, and social norms) may lead to non-optimal choices of firms in a voluntary setting. Also in case of such biases, a mandate may solve the problem.

<sup>10</sup> Kleymenova and Tuna (2017) argue that mandates can even be value enhancing when the interests of shareholders and managers are perfectly aligned as in case of optimal contracting. They claim that markets fail when negative externalities exist that are not internalized by market participants (see Edmans et al. (2017) for further examples of externalities). For example, a bank failure affects other financial institutions to fail because of the high interconnectedness through the payment system. Shareholders do not bear the cost of failure of other institutions. Due to their limited downward risk they may show an increased risk propensity. As a consequence, even if the interests of shareholders and managers are perfectly aligned (and optimal from a private contracting point of view), managers will take more risk than is socially optimal. A regulation may therefore be beneficial in absence of agency conflicts.

Whether there is room for a mandatory prescription such as the DFA-clawback largely depends on firms' ability to implement the mechanism that is optimal for them of their own accord (Edmans et al. 2017). In case that firms engage in optimal contracting, private ordering is likely to be value-maximizing. That is, the DFA-clawback would unnecessarily restrict the firms' flexibility in choosing policies that best suit their needs, thereby destroying shareholder value (Aggarwal et al. 2016). Conversely, when contracting follows the managerial power perspective, a government intervention has the potential to address the contracting inefficiencies.

Importantly, even when circumstances indicate that a regulatory intervention is desirable, the clawback mandate may not necessarily be value enhancing. That is, it is also important to consider whether the benefits of the DFA-clawback outweigh its costs (Edmans et al. 2017). One of the main benefits of the DFA-clawback is that it should lead firms to report their financial results more accurately. The clawback mitigates firms' incentives to issue misstated financial information by increasing the potential cost of doing so (Denis 2012). As such, the clawback should decrease managers' incentives to manage earnings as well as make them more cautious of accounting errors. In sum, the benefits of clawback provisions materialize in fewer accounting mistakes, less managerial misreporting, and fewer incidences of financial fraud (Chen et al. 2015). In turn, this should lead to more accurate financial statements and, as a consequence, lower information asymmetry between executives and shareholders. A lower information asymmetry has been shown to attract increased demand from investors as well as to lower the cost of capital and increase stock liquidity (Diamond and Verrecchia 1991).

A clawback mandate does not only present the prospect of benefits but also imposes costs on the firm (Denis 2012). First, there are direct cost of implementation. The DFA-clawback is likely to impose some administrative costs on firms in terms of costs of introduction and increased disclosure. In case of mandatory clawbacks, also one-time and ongoing administrative costs on the part of the stock exchanges and the regulator may arise. Second, the mandate may also entail indirect costs of implementation. Specifically, there are likely to be unintended negative consequences because the players adapt to the new regulatory environment (Denis 2012). Regulations are frequently circumvented such that the policy is either ineffective or counterproductive (Edmans et al. 2017). That is, firms may switch to alternative forms of manipulations that are less likely to trigger the clawback, such as real earnings management (REM) or non-GAAP reporting (Chan et al. 2015; Kyung et al. 2016). Alternatively, managers may engage in activities that undermine the proper functioning of

the policy, e.g. by resisting the issuance of restatements (Pyzoha 2015). Third, there are opportunity cost. The mandated clawback may override more appropriate clawbacks that firms would otherwise have adopted (Denis 2012). Also, there may exist a different regulatory action instead of a clawback mandate that would have been more beneficial or could have reached the same objective at lower cost. For example Edmans et al. (2017) argue that because regulators are under-informed, it is unclear whether pay regulations are beneficial after all. They claim that regulations that target the principals’ incentives to adopt optimal contracts in the first place may be superior to interventions in executive pay.

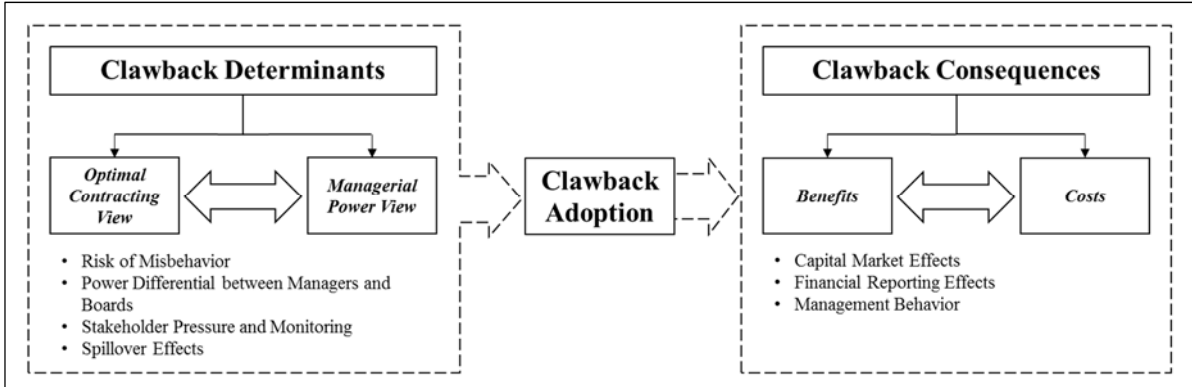
In sum, for mandatory clawbacks to be beneficial, two conditions need to be met. First, mandatory clawbacks can only be effective in the presence of contracting inefficiencies or market frictions that they address. Second, government-mandated claw-backs need to have positive net benefits to be valuable for capital markets. In this literature review, I analyze the research on compensation clawbacks with respect to these two criteria.

**4. Methodology**

**4.1 Framework**

I develop a framework according to which I evaluate the literature on compensation clawbacks to assess the potential of the proposed rule of the DFA-clawback. The framework partitions the research into determinants and consequences of clawback adoption. Figure 2 depicts the framework.

**FIGURE 2**  
**A Framework for Analyzing Compensation Clawbacks**



In an environment where clawbacks are not mandated by a regulator, a firm is free to decide on whether or not to adopt clawback provisions. Studies on determinants of compensation clawbacks are primarily interested in the firm-specific attributes that predict the adoption or the non-adoption of voluntary clawbacks. Such studies add to the knowledge of how compensation plans evolve and provide insights as to why firms decide for or against clawbacks. I analyze the determinants of voluntary clawback adoption to identify potential frictions in the adoption process. I structure the review by classifying the determinants into a self-developed classification scheme that consists of four categories (*Risk of misbehavior*, *Power differential between managers and boards*, *Stakeholder pressure and monitoring*, and *Spillover effects*). For each category, I analyze the corresponding determinants to derive underlying motives that determine clawback adoption. I evaluate whether these motives are more in line with the optimal contracting view or the managerial power view (see, e.g. Gerakos 2010 for a similar approach). Indication of management power being associated with the non-adoption of clawbacks clears the way for a regulation to be effective. Conversely, evidence in accordance with optimal contracting would suggest that private ordering is preferable.

In a second step, I assess whether the benefits of the DFA-clawback as proposed by the SEC are likely to outweigh its costs. To do so, I analyze the literature on consequences of compensation clawbacks. For this part of the review, research on mandatory as well as voluntary clawback adoption is discussed. I include all types of methods to allow for a comprehensive picture of possible effects of clawback adoption. I structure my review by grouping the consequences of clawback adoption into three thematic sections that represent the major topics of the clawback literature (*Capital market effects*, *Financial reporting effects*, and *Management behavior*). For each section, I identify potential benefits and costs of the adoption of clawbacks and discuss to which extent the findings are likely to be informative for the DFA-clawback. I weigh the potential benefits and costs of the proposed rule in a qualitative manner in order to gauge the net benefits of the mandate. In this review I abstain from making statements about how an optimal clawback mandate should look like. Rather, the clawback as proposed by the SEC serves as a benchmark that is examined with respect to its potential to be valuable for capital markets.

In the process of analyzing the literature, I also derive a causal model that summarizes the most important determinants and consequences of clawback adoption. This model consolidates the main findings in clawback research and groups the results into my self-developed sections to facilitate their interpretation. The model informs about the main

factors that determine clawback adoption and highlights implications that the policy is likely to provoke. As such, the model synthesizes the achievements in clawback research.

My framework serves three purposes. First, it provides guidance on how this literature review is organized. It divides the research on compensation clawbacks into determinants and consequences. The former are analyzed to detect potential frictions that call for a regulation. The latter help to form expectations about the net benefits of the proposed clawback mandate. As such, the framework serves as a roadmap for the evaluation of the DFA-clawback. Second, this framework may be used to guide future reviews on other corporate governance policies in order to evaluate proposals for government mandates. That is, it suggests an approach of how to analyze the previous literature with respect to the potential value of a mandate. Lastly, the framework serves as the basis for the structure of my causal model that provides an overview of the major achievements in the domain of compensation clawbacks.

## **4.2 Identification of Clawback Studies**

### **4.2.1 The Use of Voluntary Clawback Research to Assess a Mandate**

To assess whether the DFA-clawback has the potential to be a valuable corporate governance regulation I draw on both, research on mandatory as well as voluntary clawbacks. Studies on determinants of compensation clawbacks examine a voluntary clawback environment. Conversely, studies on effects of compensation clawbacks may investigate mandatory or voluntary clawbacks. The research on consequences of compensation clawbacks can be segmented into three subareas with respect to its value for assessing the effectiveness of the DFA-clawback. The most relevant research to draw on is archival research on the exact same mandatory clawbacks implemented in the same environment. However, such data is not available as there has not been a mandatory clawback in the U.S with the same characteristics as the DFA-clawback. A second best type of studies are those that examine a mandatory clawback with different characteristics in the same environment or a mandatory clawback with the same characteristics in a different environment.

As described in chapter 2.2, so far there have been two mandatory clawbacks with different characteristics in the U.S.: the SOX-clawback and the TARP-clawback. However, few studies exist on these clawback mandates because their circumstances of adoption pose the risk that archival studies are severely flawed. The SOX-clawback was introduced concurrently with multiple other regulations that are aimed at enhancing firms' corporate

governance. This makes it difficult for archival studies to separate the effects of the clawback from other simultaneously enacted prescriptions (Natarajan and Zheng 2017). Also, the SOX-clawback turned out to be of low effectiveness which diminishes the relevance of such research. In regard to TARP-clawback-studies (Davis-Friday et al. 2011), the adopters are likely to suffer from selection bias (Dehaan et al. 2013). Only firms that needed government support were mandated to adopt such clawbacks.

Clawbacks are a relatively new phenomenon (Cherry and Wong 2009) and the U.S. is in a pioneering role in implementing mandatory clawbacks. Only few countries besides the U.S. have adopted government-initiated recoupment provisions (Apanpa and Ananaba 2016). Thus, there is a lack of studies that examine clawbacks in environments different than the U.S.

In absence of sufficient research on mandated clawbacks, a third best type of studies are voluntary clawback studies. I primarily draw on research on consequences of voluntary clawback adoption to derive potential effects of the DFA-clawback. However, results from studies on voluntary clawbacks need not necessarily apply to a mandate (Denis 2012). First, rather than actually affecting the corporate governance, the adoption of compensation clawbacks may serve as a signaling device to communicate to the market that the firm already has a good reporting quality. If so, any effects found by voluntary clawback studies would not replicate in a mandatory setting. Second, voluntarily adopted clawbacks may differ in their characteristics from the government mandate. The results reported by voluntary clawback research could thus originate from clawbacks with different features (e.g. other trigger events) than the DFA-clawback. Third, to the extent that firms adopt optimal contracts, firms may already have implemented the policies that maximize shareholder value. That is, the effects found by voluntary clawback research would not apply to firms that are forced to adopt what would be value destroying provisions. Conversely, if firms do not adopt clawbacks in an optimal way, results from voluntary clawback research may be amplified under a mandatory setting. Lastly, some of the results from voluntary clawback research could be driven by confounding factors such as actions that are implemented simultaneously with the clawback adoption (Denis 2012). In this case, the effects reported by voluntary clawback research may not stem from the clawback policy itself, and thus, would not necessarily be transferrable to a mandate.

Despite the mentioned drawbacks of including voluntary clawback research into the assessment of a mandate, such studies provide useful insights and help to form expectations

about the regulation (Daske et al. 2008). Other studies have used a similar approach when faced with a lack of research on a particular regulation (see e.g. Barth et al. 2008; Daske et al. 2013).<sup>11</sup> I will thus use these studies to gauge effects of the DFA-clawback. For the sake of simplicity, I will assume during my review that effects from voluntary clawback adoption are transferable to the proposed government mandate. I will then discuss the extent to which each of the previously stated drawbacks is likely to affect my findings.

#### **4.2.2 Selection of Research Articles**

For the identification of the relevant literature I followed established guidelines of systematic literature reviews as recommended by Denyer and Tranfield (2009), Fink (2010), Jesson et al. (2011), Mulrow (1994), and Tranfield et al. (2003).

I conducted a general search in the following electronic databases: Elsevier, EBSCO Business Source Premier, EBSCO EconLit, JSTOR, Wiley, Springer, SSRN, and Google Scholar. I used search terms that are most often employed in the archival literature to detect clawback provisions of firms in SEC filings (Babenko et al. 2017, Chen et al. 2015, Iskandar-Datta and Jia 2013). The keywords I used are: “clawback”, “recover”, and “recoup”. To locate further relevant studies, I additionally examined the reference lists of the identified articles. Lastly, I made personal requests to researchers who are currently conducting research in this field. I included articles up to March 31, 2018. As the research area of compensation clawbacks is relatively new, many of the articles are not yet published. I therefore also considered working papers and conference proceedings. I did not restrict the method for the search of studies. However, I only considered research in English language that either examines i) mandatory clawbacks in any country, ii) voluntary clawbacks in the U.S., or iii) that is country-independent in case of experiments and theoretical work.

I excluded several types of articles related to clawbacks. In particular, I did not consider the literature on the tax treatment of compensation clawbacks in my review. Clawbacks pose a problem regarding taxation because an executive from whom compensation is recovered is required to return the total amount of bonus compensation independent of the taxes she paid at the date of receipt (Melone 2010). I also excluded the technical literature that examines legal aspects of clawback provisions (e.g. Cherry and Wong 2009; Lombardi 2011).

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<sup>11</sup> Research has also drawn on findings on voluntary mechanisms to inform regulators about the potential effects of a mandate (see e.g. the introduction of the International Financial Reporting Standards (IFRS) in the European Union or regulations about mandating voluntary disclosures such as Regulation Fair Disclosure).

Equivalents to clawbacks also exist in other contexts such as in hedge funds, private equity, or mortgage brokerage (Spindler 2012) as well as in debt contracts (Goyal et al. 1998). I did not include literature on clawbacks other than those to structure executive compensation in my review. Also, some studies use the term clawback clauses to actually describe holdback clauses (e.g. Assel et al. 2017; Hirsch et al. 2017). Whereas the two instruments are similar in nature from an economic perspective, they are likely to have different psychological implications on executives (e.g. Brink and Rankin 2013; Hodge and Winn 2012). Also, holdback provisions often use trigger events different from accounting restatements. Thus, results of holdback studies are of low value to assess the effectiveness of the DFA-clawback. Therefore, I excluded studies that examine holdback clauses only. Lastly, I did not consider studies which exclusively cover trigger events that differ from the restatement trigger as required by the DFA-clawback (e.g. Thanassoulis and Tanaka 2018). The search procedure yielded a total of 52 studies (see Appendix B for an overview).

## **5. Determinants of Voluntary Clawback Adoption**

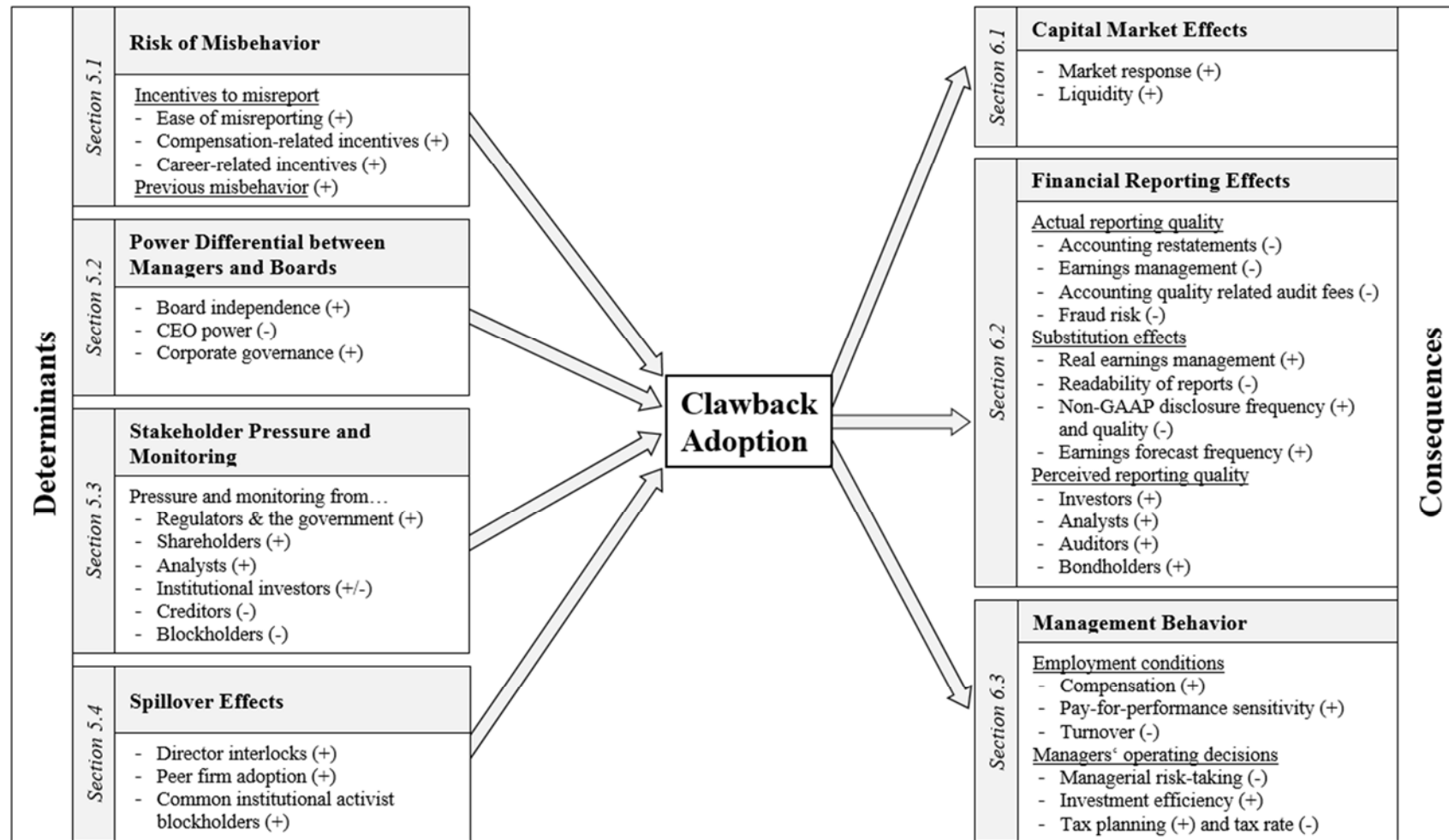
Following my framework, I identify four groups of findings for the analysis of determinants (see Figure 2). First, a large portion of research examines whether a firm's *risk of misbehavior* determines the adoption of clawback provisions. The clawback aims at reducing misbehavior and is thus expected to be more often adopted by firms with an increased risk of malfeasance. Second, a substantial part of research on determinants of compensation clawbacks investigates whether voluntary clawback adoption depends on the *power differential between managers and the board of directors*. While managers are suspected to try to avoid clawback implementation, directors are in charge of management oversight and may use the instrument for better incentive alignment. Research examines whether the adoption of clawbacks is dependent on who has the power to enforce their interest. A third stream of literature analyzes whether clawback adoption is associated with *pressure from parties outside of the firm*. Stakeholders of the firm may have their own preferences with respect to clawbacks and may try to influence the firm's adoption decision. Fourth, clawback adoption may be affected by *spillover effects* of firms that have already adopted clawback provisions. Specifically, several studies examine if clawback adoption is a function of information available from other firms that have experience with such provisions.

I review the findings in each of the four categories and discuss to which extent they reconcile with the optimal contracting view or with the managerial power view. Studies which suggest that clawbacks are not adopted in an optimal manner point toward frictions in the market and

indicate that a regulation may prove to be beneficial. Conversely, research that provides indication for optimal contracting behavior suggests that a regulatory intervention is not needed.

For each of the four groups, I include the main factors that determine clawback adoption as well as their direction of influence into the causal model. The model depicted in Figure 3 provides an overview of the major achievements in clawback research and is intended to serve as an aid to guide the reader through the review.

**FIGURE 3**  
**Causal Model of Clawback Adoption**



## **5.1 Risk of Misbehavior**

The first stream of research on determinants of compensation clawbacks examines whether firms with a high risk of misbehavior are more likely to include clawback provisions into the compensation contracts with their managers (e.g. Babenko et al. 2017; Brown et al. 2015). Clawbacks allow to mitigate misbehavior by recovering management compensation that was earned based on undesirable actions. As such clawbacks are likely to be more attractive for firms that are most prone to misbehavior. I divide the literature that examines the risk of misbehavior into i) studies that measure the incentives to misreport present in a firm and ii) studies that measure the level of previous misbehavior.

### **5.1.1 Incentives to Misreport**

A first type of research investigates managers' *ease of misreporting* as an indication of their incentives to misreport. Several studies expect firm complexity to be correlated with clawback adoption. Complex firms are assumed to be less transparent and may vary a lot in performance such that it is easier for managers to engage in malfeasance without being detected. Therefore, complex firms are suspected to have a higher need for clawback policies as they are more prone to misbehavior (Babenko et al. 2017). Babenko et al. (2017) measure complexity with firm size and research and development (R&D) intensity and additionally use prior stock return variability as a measure of difficulty of detecting malfeasance. Despite not finding significant differences for R&D intensity, they find support for their prediction with regard to firm size and prior stock return variability. Cashman et al. (2016) also report that complexity increases the likelihood of clawback adoption using an overlapping set of measures.

Another indication of managers' ease of misreporting are the resources that managers have at their disposal for misappropriation. Babenko et al. (2017) hypothesize that the scope of firm resources that are potentially subject to misappropriation is positively associated with clawback adoption. They use firm size and scaled cash flows as proxies for the scope of potential malfeasance and find support in favor of their hypothesis. Similarly, Levine and Smith (2010) set up a model in which they test a clawback contract against a no-clawback contract in a two-period setting. They demonstrate that the clawback contract dominates the no-clawback contract when the agent can easily engage in misreporting activities.

The ease of misreporting is also a function of the range of different manipulation options that managers have at their disposal. Brown et al. (2015) hypothesize that firms will acquire

firms with low reporting quality to extend their range of earnings manipulations. In line with their expectations, they find an increased frequency of clawback adoption for firms that acquire targets with poor accounting quality.

A second indicator of high incentives to misreport and thus high expected benefits from clawback adoption is the amount of *compensation-related incentives*. Prior research documents negative secondary effects of incentive compensation such as increased misreporting and lower firm performance (Burns and Kedia 2006; Collins et al. 2009; Core et al. 1999; Efendi et al. 2007). A clawback can discourage these negative effects and thereby increase pay-to-performance sensitivity. Thus, clawbacks are likely to be most valuable for firms that provide high compensation incentives for their managers. Babenko et al. (2017) find a significant association between clawback adoption and the percentage of named executive officers' (NEO's) equity-based pay, the presence of performance-vesting provisions on equity-based pay, and golden parachutes. The results indicate that clawback provisions are more likely to be adopted with higher amounts of incentive pay. Similarly, Brown et al. (2011) report that firms that paid significant bonuses related to mergers & acquisitions (M&A) adopt clawback provisions more frequently. CEOs are often rewarded for M&A deals even in case the transaction is value destroying (Bliss and Rosen 2011). Brown et al. (2011) believe that firms adopt clawbacks as a remedy for the wrong incentives of M&A bonuses. Addy et al. (2014), however, find little evidence of increased likelihood of clawback adoption if the bonus paid to executives is a material amount in comparison to total assets.

A third type of studies examine *career-related incentives* that managers are subject to. Brown et al. (2015) argue that poor M&A outcomes reveal negative information about the CEO and pressure them to perform well in the future to avoid being dismissed. They build on prior research that suggests that poor M&A decisions evoke a higher amount of earnings manipulation and an increased risk of accounting restatements (Bens et al. 2012). Brown et al. (2015) suggest and find that firms are more likely to adopt clawback provisions when M&A announcement returns are negative. Clawback provisions allow the firm to preempt the likely increase in earnings management.

In sum, findings provide evidence that clawback adoption is more likely when managers have high incentives to misreport. High misreporting incentives make clawbacks especially beneficial because they reduce the increased risk that these firms face. The result thus suggests that clawbacks work as a deterrent to misreporting. Consistent with the optimal

contracting perspective, the finding indicates that firms with high expected benefits from clawback adoption have already adopted compensation clawbacks. Conversely, a mandate would force firms to implement clawback provisions that have - on average - a lower misreporting risk and therefore lower expected benefits. As a result, the benefits of the non-adopting firms are likely to be smaller or may even be negative. However, the finding that the firms with high misreporting incentives have an increased likelihood of clawback adoption may be driven by firms with low management power. That is, clawbacks may only be adopted by firms with high misreporting risk that simultaneously have low management power. If so, regulatory intervention may still be desirable as it would require firms with both, high misreporting incentives and high managerial power to adopt clawback policies.

### **5.1.2 Previous Misbehavior**

Clawbacks are likely to be beneficial when there is evidence of *previous misbehavior*. This is the case if the previous misbehavior is indicative of future wrongdoing which can be mitigated by clawbacks. Several studies focus on how prior malfeasance affects clawback adoption. As clawbacks oftentimes use accounting restatements as trigger events, previous restatements are used as an indicator for misbehavior. The presence of a recent restatement makes the problem of inaccurate financial reports more salient to the board and to shareholders and increases the likelihood that clawbacks are discussed and introduced (Addy et al. 2014). Firms may adopt clawback provisions following restatements to discourage future misbehavior (Babenko et al. 2017) and to alleviate the shareholders' wealth losses and reputational costs that occur after such incidences (Gao et al. 2011, 5).<sup>12</sup> Prior research has shown that the probability of restatements is strongly related to executive compensation schemes (Burns and Kedia 2006; Efendi et al. 2007). Therefore, the adoption of compensation clawbacks is a credible signal to investors that past failures are redressed (Gao et al. 2011). Indeed, many research studies report a significant association between previous restatements and clawback adoption (Davis-Friday et al. 2011; Gao et al. 2011; Iskandar-Datta and Jia 2013; Zhang and Zhou 2017). Also, some studies distinguish between restatements that stem from intentional misstatements (irregularity) and such that are a result of errors. They find some evidence of clawbacks being associated with intentional misstatements (Addy et al. 2014), but not with error misstatements (Brown et al. 2011). In

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<sup>12</sup> This is especially the case because there is no guarantee that the SEC will make use of the SOX clawbacks (Brown et al. 2011).

contrast, Babenko et al. (2017) and Chen et al. (2015) do not find that firms are more likely to make use of clawback provisions following a restatement. Babenko et al. (2017) additionally use class action lawsuits as evidence of prior executive misbehavior in the firm. Such lawsuits are often filed by shareholders of a firm to hold culpable managers accountable in case of fraud. Babenko et al. (2017) neither find a relation between prior class action lawsuits and the adoption of clawbacks.

Previous literature suggests that managers use accruals to opportunistically influence earnings (e.g. Healy and Wahlen 1999). Low accruals quality is an indicator of opportunistic behavior (Givoly et al. 2010). Firms with low accruals quality have earnings that are less persistent, stock prices that are less reflective of current accruals, and are more often subject to SEC enforcement actions (Desai et al. 2006a; Desai et al. 2006b). Thus, firms with low quality accruals are suspected to have high levels of misreporting and are likely to have high benefits from clawback adoption. In contrast to this argument, Addy et al. (2014) document that firms with higher accruals quality adopt clawbacks more frequently. Addy et al. (2014) use total accruals to measure accruals quality.<sup>13</sup> Their findings seem not to fit into the previous narrative which assumed that increased levels of misreporting make it more beneficial to adopt clawback policies. Addy et al.'s (2014) results rather suggest that firms are more likely to adopt a clawback when they are least affected by its consequences. A potential reason for the finding may be that firms with better accruals quality have superior governance structures and may thus face less resistance when adopting clawbacks.

Brown et al. (2011) examine whether prior goodwill impairments affect the clawback adoption decision. Goodwill impairments may be indicative of previous misbehavior such as “big bath accounting”. However, the impairments need not stem from intentional misconduct but may also be a result of poor M&A decisions (Ramanna 2008). Brown et al.'s (2011) results indicate that prior goodwill impairments are more strongly associated with performance-based than with fraud-based clawback adoption. Thus, firms with goodwill impairments are likely to adopt clawbacks that trigger independent of misconduct, potentially because it is difficult to judge whether goodwill impairments stem from intentional misbehavior or from poor M&A decisions. As such, the result suggests that these firms choose to adopt a type of clawback that most directly addresses the problem. This

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<sup>13</sup> An earlier draft of Babenko et al. (2017) measures discretionary accruals according to the modified Jones model following Dechow et al. (1995) and does not find a significant relation to clawback adoption. However, this result is not included in Babenko et al. (2017).

underlines that firms choose the characteristics of the clawback to suit their needs. The finding puts into question whether the one-fits-all solution of the mandatory DFA-clawback is the best way to go. This is especially true as Denis (2012) warns that sometimes, a compulsory regulation overrides a more appropriate action. Thus, the mandatory DFA-clawback may make firms forgo provisions that are more suitable for them because they are too concerned about adhering to the government mandate. Such effects would also speak against a government-imposed regulation.

Overall, the literature on determinants of voluntary clawbacks finds some evidence that clawbacks are increasingly adopted following previous misbehavior. A clawback may be valuable following such instances because prior misreporting can be indicative of future malfeasance against which a clawback acts as a deterrent. Consistent with the optimal-contracting view, firms with instances of prior malfeasance are more likely to adopt recoupment provisions. However, a frequently mentioned argument in the literature is that the clawback adoption following misbehavior may be used by firms to signal their willingness to improve financial integrity (e.g. Iskandar-Datta and Jia 2013). Rather than the clawback being itself effective at curbing misbehavior, the adoption conveys the firm's plan to increase corporate governance. The signal is valuable because by adopting a costly clawback the firm can reliably communicate its willingness to increase governance. Thus, the clawback adoption may restore investors' trust which is likely to be impaired.<sup>14</sup> In case of a mandate, the clawback would lose its value as a signal because all firms would be required to comply with the clawback rule (Chan et al. 2012). To the extent that a clawback is ineffective, but is used as a signal to show a firm's willingness to improve its corporate governance, a mandate is value destroying. Firms without clawbacks may be required to adopt a non-functioning instrument and would need to find other - potentially costlier - ways to communicate to investors that the firm is willing to improve its financial integrity following previous misbehavior.

In sum, research on voluntary clawback adoption indicates that firms with increased incentives for managerial self-dealing behavior or firms with previous incidences of

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<sup>14</sup> Alternatively, the clawback could be misused by firms to let investors erroneously believe that the previous governance problem is solved (Chen and Vann 2017). In such a case, a government mandate would not be beneficial either. Rather it would introduce an unwarranted illusion of increased governance on the part of investors (Denis 2012). However, the fact that many studies find a decrease in misbehavior following clawback adoption (discussed in chapter 6) contradicts the view that clawbacks are adopted as a pretention of improved governance.

misbehavior are more likely to adopt clawback provisions. The effect is suspected to be due to the high benefits from clawback adoption. With respect to mandatory clawbacks, this could mean that non-adopters have lower expected benefits. The fact that only a fraction of firms have adopted clawbacks voluntarily<sup>15</sup> could indicate that their expected benefits are too low in comparison with the expected cost of such provisions. Following this argumentation, a mandate would be associated with negative net benefits for non-adopters and would likely be value destroying.

## **5.2 Power Differential between Managers and Boards**

The effects discussed so far support the view that firms estimate the expected benefits of voluntary clawbacks to decide about the adoption. The findings provide some indication that clawback adoption follows a process that is in line with the optimal-contracting perspective. However, previous research on management compensation indicates that the incentives of shareholder, directors, and managers are not perfectly aligned and cast doubt on whether firms adopt optimal contracts. For example, previous literature indicates that firms hid substantial CEO pension benefits in absence of disclosure mandates (Bebchuk and Jackson 2005), experienced high excess returns following disclosure regulation (Greenstone et al. 2006), or decreased management compensation substantially following board independence regulation (Chhaochharia and Grinstein 2009). Such findings suggest that mandated regulation with regards to compensation can be beneficial and provides a counterargument to advocates who believe that firms always make optimal contracting choices. Several studies therefore examine whether clawback adoption is a function of the respective power of managers and the board. These studies measure board independence, CEO power, and the firm's corporate governance to assess how powerful managers are compared to the board of directors.

Babenko et al. (2017) find a strong positive association between *board independence* and clawback adoption. Empirical literature documents that independent directors improve the governance of a firm as they have better incentives to carry out their monitoring tasks than inside directors (Agrawal and Chadha 2005; Beasley 1996; Weisbach 1988). Also, compared to inside directors, the reputation of independent directors is likely to suffer more from an accounting restatement which is reflected by an increased turnover of outside directors

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<sup>15</sup> The SEC estimates that 1,116 of 4,845 potentially affected filers had voluntarily adopted compensation clawbacks in 2015 (SEC 2015).

following restatements (Srinivasan 2005). Diligent boards are therefore suspected to be more interested in avoiding reputational damages (Gao et al. 2011). Gao et al. (2011) also report a significant relation between the percentage of directors without ties to the firm and the use of clawback provisions. Brown et al. (2011), however, do not find the percentage of inside directors to significantly reduce the likelihood of clawback adoption.

Brown et al. (2011) and Gao et al. (2011) suggest that high *CEO power* will keep firms from adopting clawbacks as the board is more likely to be influenced by the manager who tries to avoid such clauses. They both test various governance characteristics that proxy for the power of the CEO. The results indicate that the influence of the CEO is negatively associated with the introduction of clawback provisions. Babenko et al. (2017) use CEO tenure as a proxy for CEO power and find effects consistent with power to negatively affect clawback adoption. The effects are in line with influential CEOs successfully resisting clawback provisions. In a different study, Huang et al. (2018) find that board co-option is negatively associated with clawback adoption. Board co-option refers to the percentage of board members that were appointed after the CEO assumed office. They argue that the CEO is highly involved in the selection of new board members and that such directors are unlikely to make a stand against the CEO. Interestingly, Huang et al. (2018) do not find that the power of the CEO is negatively associated with clawback adoption when they control for board co-option.

Several studies analyze the *corporate governance* as a determinant of clawback adoption. Addy et al. (2014) construct a Corporate Governance Index using 13 proxies to examine whether governance tilts toward management entrenchment or toward oversight. Addy et al. (2014) expect clawback adoption to be more likely when the index suggests good oversight. Overall, the results of the corporate governance index provide indication for oversight to be positively related to clawback adoption. Interestingly, CEO duality is positively related to clawback adoption. CEO duality is a measure of whether the CEO is also a chairman of the board. This finding is surprising because CEO duality is usually seen as an indicator for weak oversight (Fama and Jensen 1983; Jensen 1993; Lipton and Lorsch 1992). However, other studies do not support the finding. Brown et al. (2011) who also test CEO duality as a determinant of clawback adoption do not find a significant relation. Beck (2015) reports that less stringent clawbacks are adopted when the CEO is also chair of the board. She suspects that because of her power, a manager who also serves as chair of the board will hinder the implementation of more stringent clawbacks.

Chen and Vann (2017) examine a set of proxies for governance with respect to the CEO (e.g. duality and tenure) as well as the board of directors (independence, diligence and size). They find evidence for clawback adoption being associated with strong governance characteristics. Similarly, Chen and Vann (2014) test a set of measures that proxy for the strength of the board of directors and the entrenchment of the management. They report the clawback adoption to be positively associated with their proxies for board strength and negatively associated with board entrenchment. They conclude that the clawback acts as a complement to a firm's internal corporate governance.

Erkens et al. (2014) create an index that measures the level of deterrence of clawback policies. They examine corporate governance factors that influence whether a high deterrent or a low deterrent clawback is adopted. By adopting high-deterrent clawbacks, directors renounce the discretion to forego recovery and therefore obligate themselves to enforce the clawback. Erkens et al. (2014) find evidence that weak corporate governance and high executive power is associated with the adoption of low-deterrent clawbacks. They suspect that firms with a weak governance structure misuse their discretion in designing clawbacks. Such firms adopt low-deterrent clawbacks that allow boards to retain discretion and forego recovery.

By analyzing the clawback provisions in their sample in detail, Erkens et al. (2014) document that the clawbacks provide the board of directors with considerable discretion in deciding whether to seek recoupment. They argue that this is dangerous because boards have low financial incentives to litigate managers, have personal reasons not to confront executives, and are likely to benefit from maintaining a good relationship with the CEO due to her influence outside the firm. Similarly, Fried (2016) reports that the board oftentimes has considerable discretion when it comes to deciding whether to seek recovery in case that a clawback is triggered. Fried (2016) documents that of 225 examined clawback policies, 81% of the provisions gave directors complete discretion to avoid recovery even in the event of misconduct. From a theoretical viewpoint it seems intuitive to let the board, who monitors executives, make the recoupment decision. One would imagine that the board only disregards the recovery of compensation in case that it is not beneficial for the firm. However, findings from voluntary clawback adoption indicate that recoupment from executives is only sought in rare cases (Erkens et al. 2014). Out of 272 clawback adopters that issued a restatement Babenko et al. (2017) find only three instances of recoupment of management compensation between 2000 and 2013. Similarly, Glater (2005) finds very few firms that activate their compensation clawbacks following restatements and Morgenson (2013) reports that activist

shareholders start trying to address the problem.<sup>16</sup> As Section 402(b)(2)(viii) of the regulation S-K prescribes that issuers disclose information on both, their recoupment policies in place as well as on amounts recovered, the low number of recoupment cases may not be due to non-disclosure. The finding strongly suggests that voluntary clawbacks are not activated because boards use their discretion. This evidence raises doubts about the effectiveness of voluntarily adopted clawback provisions.

Overall, many of the determinants of compensation clawbacks suggest that the decision to adopt clawbacks highly depends on the power differential between top-management and the board of directors. The empirical evidence discussed in this chapter suggests that clawbacks are more likely adopted when the board is strong or when the management is weak. The results are mainly in line with the managerial power view and indicate that executives exert their power over the board to prevent clawback adoption. If the decision not to adopt clawbacks is driven by the resistance of high powered executives, a clawback mandate is potentially beneficial. Mandatory clawbacks would force any firm to comply with the rule, independent of the opposition of opportunistic manager.

Several studies additionally indicate that even if clawbacks are adopted, board members often retain considerable discretion when it comes to the recoupment decision. Their financial, social, and psychological reasons to favor executives (Bebchuk and Fried 2004) prevent them from actually enforcing the clawback. This raises the concern that the legal provisions merely exist on paper without having actual consequences. The low effectiveness of existing voluntary clawbacks underline the importance of the design of mandated clawback provisions. The clawback rule needs to be very objective and specific in order to be effective. Any kind of discretion granted to the board runs the danger of being influenced by the powerful management. Consistent with this view, the proposed rule of the DFA-clawback formulates clawbacks that allow very little room for board discretion. They require boards to always litigate managers in case of a restatement and make appropriate disclosure.

In sum, the empirical evidence documents that clawback adoption is likely to be driven by the respective power of directors and managers which suggests that there is room for a regulatory intervention. A mandate would require the board to enforce the provision despite resistant managers. The proposed rule of the DFA-clawback provides a regulation that allows a minimum of discretion. As such, the rule has the potential to effectively counteract the

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<sup>16</sup> See Skroupa (2014) for an example of how the activist shareholder CtW initiated clawback adoption at Walmart.

collusion of directors and managers. Clearly, the value of such a mandate would still crucially depend on whether the initiative is effective at mitigating the problem without imposing undue costs.

### **5.3 Stakeholder Pressure and Monitoring**

In the previous chapters, clawback adoption has so far been discussed as being mainly driven by the internal characteristics of the firm. Some research presumes that voluntary clawback adoption is a function of external pressure that firms experience. The pressure may stem from different players including regulators, analysts, creditors, and different types of shareholders.

A first set of studies are concerned with *pressure from regulators and the government*. Brown et al. (2011) draw on Watts and Zimmerman's (1986) political cost theory, which predicts that firms try to reduce the risk of a governmental intervention because it might negatively affect firm value. Highly visible firms are more exposed to such interventions by the regulator. Brown et al. (2011) therefore expect highly visible firms to adopt clawbacks voluntarily. By doing so, they can take actions in the event of managerial misbehavior which reduces the likelihood that the SEC steps in on the grounds of the SOX-clawback. This is in line with a statement of the SEC made in 2006 in which the SEC announced that it will penalize firms that issue restatements depending on their ways of remediation of such restatements (Addy et al. 2014). Brown et al. (2011) find that the recent issuance of debt as well as firm size as proxies of firm visibility increase the likelihood of clawback adoption significantly. However, recent equity issuance is not associated with clawback adoption. Gao et al. (2011) also find clawback adoption to be associated with firm size. The results hence indicate partial support for the visibility argument. Furthermore, a less documented phenomenon provides additional evidence that clawback adoption is affected by the pressure from regulators and the government. With the introduction of the DFA, firms knew that they will have to adopt clawbacks mandatorily as soon as the regulation is enforced. The debate fueled by the prospective mandate may also have prompted firms to discuss an early adoption in order to already suffice the requirements. Compared to Europe, where compulsory regulations to implement compensation clawbacks are less prevalent, the U.S. has by far a higher voluntary adoption rate. Ernst&Young (2016) find among a sample of European firms (primarily in Germany, Switzerland, and Austria) only 18% to have clawbacks in place in 2015. In contrast, Frederic W. Cook & Co (2015) report that 90% among the largest 250 firms in the S&P 500 had clawbacks in the same year. The high adoption rate in the U.S.,

where mandatory clawbacks are soon to be enforced, suggests that increased pressure from the regulator makes clawback adoption more likely.<sup>17</sup>

Babenko et al. (2017) investigate whether clawback adoption is a function of *shareholder pressure*. They use the support for management compensation in a firm's most recent say-on-pay vote and the presence of a compensation consultant as proxies of shareholder pressure. Both, low agreement with management pay and the presence of external experts for compensation decisions are indicators of increased scrutiny from investors. Babenko et al. (2017) find a significantly higher likelihood of clawback adoption when the two proxies indicate high shareholder pressure.

Results from Cashman et al. (2016) also indicate that voluntary clawbacks are more frequently adopted with increased external monitoring pressures. They report that the presence of *financial analysts* as well as the percentage of *institutional investors* are positively associated with clawback adoption. Opposing to Cashman et al.'s (2016) results, Chen and Vann (2014) find that clawback adoption is negatively associated to monitoring from institutional investors. Chen and Vann (2014) also document that clawbacks are adopted less frequently with increasing supervision from *creditors*. They hold the differing risk preferences of managers and external parties accountable for their findings. Chen and Vann (2014) reason that external parties have higher risk preferences than managers and fear a reduction in risk-taking from clawback adoption (see Babenko et al. 2017). Therefore, external parties prefer other monitoring devices than clawbacks. Gao et al. (2011) also find supporting evidence for the result that clawback adoption is less likely when creditors exert pressure. They claim that creditor monitoring disciplines firms in a way that a clawback is of low additional value. Lastly, Cashman et al. (2016) find a significantly negative association between clawback adoption and the percentage of *blockholders*, supporting the argument that when good external monitoring is in place, the additional value of clawbacks may be low.

In sum, there is a wide array of external parties that exert pressure on firms with respect to the adoption of governance instruments. The findings suggest that clawbacks are likely to be adopted when firms have high political costs from regulators or when there is pressure from

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<sup>17</sup> However, two studies indicate that the DFA-clawback is not the most important reason for early adoption. In Babenko et al. (2017), only 10.2% of respondents agreed that the DFA-clawback was the main reason for voluntary clawback adoption. Also, Addy et al. (2014) find that only 17 out of 114 clawback provisions they examined were similar to the DFA-clawback.

analysts or shareholder initiatives. The results indicate that clawbacks decrease monitoring costs and provide external parties some assurance when they have high interests at stake. Thus, the clawback seems to better protect stakeholders from the risks that they bear when interacting with the firm. The result that firms only adopt clawbacks in environments where they are highly monitored could indicate that clawbacks work but firms resist adoption unless there is sufficient external pressure. The argument is in line with the managerial power view because managers only agree to adopt clawbacks in presence of pressure from outside parties. A mandatory clawback may therefore facilitate interactions with stakeholders. However, Cheng et al. (2017) argue that if external parties can at low cost require firms to adopt clawbacks, a mandatory clawback may not be effective because not all firms need clawback provisions. Also, there is indication of some stakeholders (e.g. creditors and blockholders) having a preference not to adopt clawbacks. The motivation not to enforce a clawback may be because the instrument decreases managerial risk-taking or because the external monitoring is sufficient such that clawback provisions are not necessary.

#### **5.4 Spillover Effects**

So far, the determinants discussed with regard to voluntary clawback adoption depend on the firm's characteristics or on internal and external players who try to enforce their interest with regards to clawback adoption. A last category examines potential spillover effects from other firms. Previous research suggests the existence of different types of spillovers of governance instruments across firms (e.g. see Kalodimos 2017). The studies discussed in this chapter analyze whether such effects also apply to the adoption of clawbacks.

Addy et al. (2014) investigate whether *director interlocks* are related with the frequency of clawback adoption. Directors are interlocked when they serve on boards of other firms that already have clawback provisions in place. Previous literature has shown that other aspects of management compensation are significantly determined by such director interlocks (Cochran et al. 1985; Reppenhagen 2010; Singh and Harianto 1989). Addy et al.'s (2014) results show a significant relationship between interlocks of compensation committee members and the likelihood of clawback adoption. The findings indicate that directors who work for clawback firms can reduce the uncertainty associated with the adoption of a clawback by sharing their experience. Similar to Addy et al. (2014), Cheng et al. (2017) also find that director interlocks are a driver of the adoption of clawback provisions.

Remesal (2018) assumes that a firm's decision to adopt clawback provisions is dominated by *peer firm adoption* within the same industry. The cost to set up governance, legal, and accounting structures for efficient clawbacks may be lower if clawbacks are common among peer firms. He argues that clawback adoption of a firm benefits other firms within the same industry by facilitating the process and reducing the cost of implementation. Remesal (2018) finds individual adoption of clawbacks to be positively correlated with industry adoption and negatively correlated with the trend of adoption in the remaining industries.

Cheng et al. (2017) document that clawbacks spread across firms by *common institutional activist blockholders*. Institutional activist blockholders are institutional shareholders that own a minimum of 5% of shares of the firm and who engaged in at least one activist activity. Cheng et al. (2017) find that clawbacks are more likely to be adopted by a firm if another firm in the portfolio of the activist blockholder has already adopted clawbacks. They argue that blockholders play an important role at propagating clawback adoption across firms in their portfolios. Cheng et al. (2017) demonstrate that the effect is not driven by selective investments of blockholders into clawback firms. They show that a firm's likelihood to adopt clawbacks similarly increases if a firm in the portfolio of the blockholder is forced to adopt mandatory clawbacks of the TARP program. Also, Cheng et al. (2017) provide evidence that the activist blockholder effect is independent of director interlocks and does not depend on industry affiliation or location. The "traveling governance effect", as Cheng et al. (2017) call it, is more pronounced if firms had a previous restatement, have a weak governance or operate in a highly competitive market (Admati and Pfleiderer 2009).

A less discussed spillover effect that could be responsible for clawback adoption is mimicry. Mimicry occurs when organizations imitate other organizations that they perceive as successful (DiMaggio and Powell 1983). Instead of conducting a complete cost-benefit analysis, firms adopt the policies of successful others (Ugrin 2009). Such behavior helps alleviate uncertainty and saves time and resources (Ugrin 2009). However, the failure to perform a sound analysis may let the firm adopt policies that do not contribute to the organization's objectives (Cyert and March 1963). Thus, a firm may adopt clawbacks to achieve parity with a successful peer in terms of governance. Rather than actually evaluating the need of clawbacks and the design that suits the firm the best, firms may just copy the provisions of their competitors.

The above results suggest that a firm's decision to adopt clawbacks is influenced by the adoption decision of other firms. Interlocked directors may have superior information about

clawbacks and can reduce the uncertainty that potentially exists with regards to the effects of an adoption. Non-adopters may not have implemented clawbacks because of the uncertainty rather than because the clawback is not beneficial. Spillover effects may also arise because the adoption of clawbacks by peer firms may reduce the cost of adoption for followers. In both cases, the adoption process can be reconciled with the optimal contracting view. Clawback adoption seems to be subject to high uncertainty and is associated with high costs of first movers. However, as soon as uncertainty and costs are reduced by interlocked or peer firms, the firms adopt clawbacks on their own accord. Still, a mandate would address the problem by accelerating the adoption process. However, it is questionable whether the one-fits-all solution of the DFA-clawback is the best way to go.

Other spillover effects include the traveling governance effect and mimicry. Whether these spillover effects of clawback adoption are beneficial is a priori unclear. Previous research has shown that market forces are able to promote good governance practices using spillover effects (Aggarwal et al. 2011). However, when a firm includes clawback mainly because others do so (e.g. in case of mimicry), the adoption is unlikely to result in optimal provisions.

## **5.5 What Determinants Tell us About the Motives to Adopt Compensation Clawbacks**

The analysis of determinants of compensation clawbacks suggests that firms have differing motivations to adopt clawback provisions. A first set of studies shows that firms with a high risk of misreporting are more likely to adopt clawbacks. The result is consistent with the view that firms adopt recoupment provisions as a function of net benefit expectations. This corroborates the argument of proponents of the optimal contracting view who expect the adopters to choose efficient policies. If firms that experience the greatest benefits from voluntary clawbacks have already adopted them, chances are that a mandate will not be a success. Also, since the choice of improving the corporate governance is endogenous, the value-maximizing choice may differ between firms (Larcker et al. 2011). The wide variety of clawbacks that are adopted could indicate that firms have different needs with regards to the characteristics of recoupment provisions. Whether the one-fits-all solution of the DFA-clawback is adequate is highly questionable. The clawback mandate will implement minimum requirements that may be too far-reaching for some of the firms. By imposing a contract that does not fit the firm and its environment, a clawback could be detrimental to shareholders.

However, a second set of studies indicates that clawbacks are less prevalent across firms that suffer from poor corporate governance and have a powerful CEO. Proponents of mandatory clawbacks argue that managerial power prevents the movement toward an optimal regime. The board of directors may not have sufficient incentives or may be too weak to enforce clawbacks despite them being optimal for the firm (Fried and Shilon 2011). The findings suggest the power differential between managers and directors to be responsible for clawback adoption and raises the suspicion that there is room for a government mandate. The reasoning is additionally backed by studies that document that boards have large margins of discretion when it comes to the recoupment decision and hardly ever seek recovery. The low enforcement of voluntary clawback suggests that the provisions may be adopted on paper only. The proposed rule would address these potential pitfalls of voluntary clawbacks by forcing reluctant firms to adopt clawbacks and by minimizing the discretion of seeking recovery available to the board of directors.

Another stream of literature additionally provides evidence for external pressure being responsible for clawback adoption. Parties who are not in charge of the adoption decision try to influence the firm to enforce their own interests. The results may indicate that firms do not adopt optimal contracts of their own accord, but give in if sufficient outside pressure exists. Such frictions may be solved by a clawback mandate. However, there are also arguments that external pressures successfully govern the firm (Cheng et al. 2017). These pressures make firms adopt provisions that are in line with the optimal contracting perspective such that a mandate is not needed.

A fourth type of studies examine the dissemination of voluntary clawbacks and find that the adoption decision is a function of spillover effects. They provide evidence that firms that are somehow connected, influence a firm's adoption decision. Whereas director interlocks and peer firm adoption may be reconciled with optimal contracting behavior because firms adopt clawbacks of their own accord as soon as uncertainty and adoption costs are sufficiently low, other effects are more difficult to clearly attribute to either the optimal contracting or the managerial power view.

Overall, a substantial part of research can be reconciled with clawback adoption being largely influenced by the power of differing parties who try to enforce their own interests. If individual parties such as a powerful managers can prevent clawbacks, it is unlikely that firms adopt socially optimal provisions. In light of the frequent occurrence of restatements, the low enforcement rate of voluntary clawbacks is startling. In sum, there is evidence for

frictions that prevent firms from adopting value maximizing provisions for their managers. Thus, a government regulation can improve the current situation.

## **6. Consequences of Clawback Adoption**

The previous chapter has demonstrated the existence of potential forces that prevent firms from adopting optimal compensation clawbacks. Hence, a regulation can help to alleviate those frictions. However, to be valuable, the new rule needs to be both, effective at mitigating the market failure and efficient in terms that its benefits outweigh the costs. In this chapter, I review the literature on consequences of compensation clawbacks to assess whether the DFA-clawback is likely to be a beneficial corporate governance regulation. Following my framework, I discuss the research on consequences of clawback adoption using three subsections (see Figure 2). I will start out with *capital market effects* of the clawback adoption, namely market response and liquidity. Research on the stock market effects of clawback adoption provides insights into how investors interpret the value of the clawback overall. Secondly, I will review the literature that examines the *financial reporting effects* of clawback adoption. Clawbacks should improve firms' financial reporting by deterring managers from misreporting (SEC 2015). A large part of the literature therefore investigates whether clawbacks increase a firm's reporting quality. I will differentiate between effects on actual and perceived reporting quality. The third subsection is concerned with effects from clawback adoption that are related to *management behavior*. The management is the party most directly affected by the clawback and is likely to show immediate reactions to the policy. The main findings and the direction of influence for each category are synthesized in my causal model (see Figure 3).

For the overview, I include archival, experimental as well as theoretical studies. I use both, literature on voluntary and mandatory clawbacks to gauge the effects of the proposed regulation. It is possible that firms which adopted a policy voluntarily show differing consequences compared to firms that are forced to the treatment (Daske et al. 2008). For simplicity, I make the operational assumption that effects from voluntary clawback adoption do also apply to a government mandate. I will discuss limitations of this assumption at the end of this chapter.

### **6.1 Capital Market Effects**

A first stream of research examines how the securities market reacts to the adoption of compensation clawbacks. I differentiate between two types of market effects. First,

numerous studies are interested in how the stock price reacts when the information that clawbacks have been adopted is communicated to the market. The market reaction is compared to non-adopters and indicates whether clawbacks are viewed as a valuable governance instrument by investors. A second type of capital market effects relate to liquidity. Liquidity changes provide information on how the policy affects the efficiency of price formation because liquidity is a measure of information asymmetry and adverse selection in markets (Copeland and Galai 1983; Golsten and Milgrom 1985).

The *market response* to the communication of a governance change indicates how shareholders interpret the value of the new policy (Bebchuk et al. 2009; Larcker et al. 2011). A positive reaction to a clawback announcement suggests that the clawback policies are considered to be valuable. Most clawbacks are not published in the press, but are instead reported in SEC filings such as the proxy statement, 10K, or 8K (Babenko et al. 2017). Studies that are concerned with the market response to the adoption of clawbacks examine the stock price development around the date when a SEC filing communicates the clawback for the first time.

Iskandar-Datta and Jia (2013) reason that due to its deterrent effect, the clawback improves the quality and integrity of the financial statements which should result in a positive market response. They use a hand-collected sample of 246 voluntary clawback adopters between 2005 and 2009. They employ propensity score matching to find comparable non-adopters. The authors report positive abnormal returns following the announcement of voluntary clawbacks. They interpret the positive stock market reaction as an indication that investors perceive recovery policies as beneficial. Iskandar-Datta and Jia (2013) additionally find that the positive stock market reaction is stronger for firms that issued a restatement in the four years preceding the adoption. They argue that a previous restatement impairs the credibility of the firm and its management. As a consequence, firms with a history of previous misreporting are viewed with increased skepticism. The stronger positive market reaction to firms with an impaired reputation underlines that clawbacks are perceived as a deterrent against future misbehavior.

Chen et al. (2015) examine a three year longer time period than Iskandar-Datta and Jia (2013) and document a positive market reaction to voluntary clawback adoption as well. They find convincing evidence for positive stock market returns following the adoption.

Gao et al. (2011) also report a significant positive stock market reaction to the voluntary adoption of compensation clawbacks. Like Iskandar-Datta and Jia (2013), Gao et al. (2011)

find that the market reaction is more pronounced for firms that issued a restatement in the four years preceding the adoption. Also, they document the stock price reaction to clawback policies to be larger with higher management entrenchment. Entrenched managers are likely to abuse their power which can be restricted by clawbacks. The results are consistent with the view that clawbacks are perceived to be most effective when firms have a high risk of wealth expropriation or poor governance characteristics.

Babenko et al.'s (2017) findings support the positive market response to clawbacks based on a much larger sample of 4,020 filings with clawback policies. They report the abnormal returns to be higher when the clawback-adopting firms have low board independence. The effect suggests that investors are more positively surprised to see poorly governed firms adopt clawbacks voluntarily, supporting the findings of Gao et al. (2011). Babenko et al. (2017) also find that the market response is more positive when a broad clawback is adopted. A broad clawback has more triggers and covers a higher number of employees and compensation categories. The lower reaction to clawbacks with minimal strength suggests that narrow clawbacks are viewed as less effective than broad clawbacks.

Another finding of Babenko et al. (2017) is especially interesting with regards to mandatory clawback policies. They find that the stock market reaction to voluntary clawback adoption is larger in magnitude for firms that adopted clawbacks prior to the DFA. One reason for the stronger market reaction before the legislation could be that firms with the greatest net benefits from clawbacks adopt the provisions earlier. However, more interestingly, the DFA-clawback announcement may have priced-in some of the positive investor response to voluntary clawback adoption because future adoption is expected. Thus, the market reactions to clawbacks after the DFA may be lower because investors already anticipate firms to adopt clawbacks mandatorily. Bakke et al. (2017) provide supporting evidence for the latter argument by using an event study approach. Their research is one of the few archival studies on mandatory clawbacks. Bakke et al. (2017) examine how clawback adopters and non-adopters react to the issuance of the proposed rule of the DFA-clawback on July 1<sup>st</sup> 2015. They document that non-adopters react more positively to the rule than firms that have voluntarily included recoupment provisions. The authors argue that firms should experience negative reactions to a mandate if they chose their corporate governance practices optimally because any prescriptive regulation would destroy value. Since reactions are positive, they attribute the effect to mandatory clawbacks being value enhancing.

Bakke et al. (2017) additionally report that the market response is greater for non-adopters with powerful managers. They use the percentage of board members that was appointed after the CEO (board co-option) and whether the CEO serves as the chair of the board as proxies to measure the power relationship between managers and the board of directors and find support in line with their expectations for both of their measures. They argue that firms with powerful managers are likely to have larger agency problems and that the positive market response shows that the clawback is viewed as an effective deterrent against earnings manipulations. Their interpretation is in agreement with voluntary clawback studies that also report larger market reactions to clawback adoption of poorly governed firms (Babenko et al. 2017; Gao et al. 2011).

The value of Bakke et al.'s (2017) study is somewhat mitigated by the fact that the proposed rule itself did not release the information that clawbacks will be mandatory. Rather, the information about the mandate was already released with the DFA. The publication of the proposed rule primarily issued information on the properties of the clawback. Any market reaction therefore only corrects for the prior expectations about the mandate. The study cannot rule out that a mandatory clawback is value-destroying and the positive reaction occurs because investors expected the clawback mandate to be broader and are pleased to see that the proposed clawback is less stringent than expected. However, the rule proposes clawbacks which are quite strict and far-reaching compared to both, existing voluntary and mandatory clawbacks (Bakke et al. 2017; Beck 2015). The positive stock market reaction is thus likely to provide indication for a mandate to be valuable to investors.

A second event study also investigates effects of mandatory clawbacks. In her dissertation Li (2014) examines the market reaction of U.S.-firms to the compensation recovery of the Jenkins case. Drawing on the SOX-clawback, the SEC brought an enforcement action against Mr. Maynard Jenkins, who was the former CEO and chairman of CSK Auto Corp. The Jenkins case was one of the first SOX-clawback recoveries and drew much media attention in 2011. Before that case, the SEC only pursued a handful of cases with respect to the SOX-clawback because the SEC had to prove that a manager was personally responsible for the accounting restatement of the firm. However, in the Jenkins case, the SEC changed its policy and charged Jenkins for violating clawback provisions without personally accusing him of misconduct. Top executives from then on had to fear clawback recoveries for restatements due to misconduct even if they were not personally responsible for it. Despite the SEC's policy change, the number of enforcement actions remained small compared to the number of restatements. However, the case set precedents for the future enforcement of the SOX-

clawback and thereby reshaped the expectations regarding its enforcement. As such, investors' reaction to the communication of the event can be seen as a reaction to an extension of the SOX-clawback. Li (2014) hypothesizes and finds that firms with a higher likelihood of earnings restatements show a more positive market reaction to the publication of the Jenkins case. She attributes the effect to the SOX-clawback being a higher threat for executives of firms with high control weaknesses. The effect supports the results of Bakke et al. (2017) who also report poorly governed firms to experience a higher market reaction to the announcement event. Unfortunately, Li (2014) does not reveal whether she finds a significant positive market reaction to the Jenkin case using her full sample and whether effects differ between clawback adopters and non-adopters. Still, the study provides insights on how firms react to an increase in the breadth of a mandatory clawback depending on their characteristics. The more positive reaction of firms with a higher likelihood of misreporting suggests that broad clawbacks are viewed as more effective at curbing misbehavior.

Overall, the findings provide consistent evidence that voluntarily adopted clawbacks are viewed as a valuable corporate governance instrument by investors. The reactions are more positive for poorly governed firms, firms with high misreporting risk, or when the adopted clawbacks are broad (i.e. large scope of the clawback in terms of number of triggers, coverage of employees, and compensation categories subject to recovery). The results indicate that recoupment provisions are perceived to work as a deterrent against misreporting. Also, event studies regarding mandatory clawbacks provide some evidence that mandatory clawbacks are beneficial and that they are viewed to improve the governance of firms that have not yet adopted a clawback. Under the presumption that investor reactions are rational, this is good news for the imminent enforcement of the DFA-clawback. They indicate that the regulation is interpreted as being value enhancing.

Besides the stock market reaction, a second measure that is often examined following policy changes is the *liquidity* of the stock market (e.g. Brüggemann et al. 2013; Hirst et al. 2008). It has been well established that information asymmetry among market participants introduces adverse selection into stock markets (Leuz and Verrecchia 2000). Uninformed investors face the risk of trading with better informed market participants. As a result, uninformed investors anticipate the potential informational advantage of their counterparty and buy (sell) at lower (higher) prices. This introduces a bid-ask spread which protects uninformed investors against exploitation by informed traders. Also, uninformed investors decrease the number of shares they are willing to trade which results in lower turnover (Kim and Verrecchia 1994).

Drawing on these mechanisms, Iskandar-Datta and Jia (2013) claim that clawbacks reduce the information asymmetry between shareholders and the management because the management has higher incentives to report truthfully. The lower information asymmetry allows for less private information, on which informed investors can trade. Iskandar-Datta and Jia (2013) therefore hypothesize that a clawback policy reduces bid-ask spreads and increases turnover of a firm's stock. They additionally predict that effects are larger for firms with a previous restatement, as for such firms the information quality increases more. As expected, the bid-ask spread is negatively associated with clawback adoption. However, the difference to non-adopters is only significant for firms with a previous restatement. Conversely, Iskandar-Datta and Jia (2013) find share turnover to be significantly associated with clawback adoption using their full sample, but the effects does not reach significance levels when only examining the restating firms. In sum, the results provide evidence that voluntary clawbacks increase stock market liquidity and suggest that the provisions decrease the information asymmetry between shareholders and managers.

Overall, the adoption of voluntary compensation clawbacks seems to improve capital markets. Investors react positively to clawback adoption and the provisions are likely to increase market liquidity. The findings suggest that benefits of recoupment provisions outweigh their costs and that the instrument increases the efficiency of financial markets. The positive market reaction to voluntary clawbacks could originate because firms that benefit from clawback provisions self-select into clawback structures. As such, results may not necessarily apply to firms that are forced to adopt clawbacks by a mandate. However, event studies find some evidence that investors also react positively when information about mandatory clawbacks is released. There is consistent evidence that market reactions to both voluntary and mandatory clawbacks are stronger when there is evidence of previous misreporting or when governance structures are poor. The results provide support that clawbacks are a functioning corporate governance mechanism and that a mandate may be beneficial.

## **6.2 Financial Reporting Effects**

Next, I analyze the effects of clawback adoption on a firm's financial reporting. Many studies investigate measures of reporting quality. The reporting quality denotes how precise the financial reporting conveys information about a firm's operations (Biddle et al. 2009). Clawbacks that have a restatement trigger should increase managers' incentives to report truthfully because of the risk of compensation recoveries. Also, the SEC mentions in their

proposed rule of the DFA-clawback that financial reporting quality is likely to be affected by the adoption of clawbacks (SEC 2015). High quality accounting information is essential for the functioning of financial markets (Iskandar-Datta and Jia 2013). As such, the quality of a firm's financial reporting is likely to ultimately also affect capital market reactions. The studies that focus on how clawbacks relate to the financial reporting of a firm can be divided in three sub-categories depending on their primary dependent variable. One set of proxies are direct measures of a firms' financial reporting quality. The second set of variables examine alternative means that managers use to influence investors that are not subject to the clawback. A third type of studies use indirect measures which indicate how the reporting quality is perceived by stakeholders.

### **6.2.1 Actual Reporting Quality**

Prior studies suggest that high quality financial reporting reduces the information asymmetry between managers and investors and improve investor decision-making (e.g. Leuz and Verrecchia 2000). The clawback literature assesses reporting quality by identifying incidences of poor reporting quality such as restatements and indication of earnings management.

Similar to the proposed rule of the DFA-clawback, the majority of voluntary clawbacks use a restatement as the trigger event (Babenko et al. 2017). Such clawbacks are likely to decrease the number of *accounting restatements* because they make untruthful reporting more costly to managers. Chan et al. (2012) and Dehaan et al. (2013) examine whether clawback firms and non-adopting firms differ with respect to restatements. They expect that managers covered by clawbacks understand that they will be prosecuted in case a misstatement is detected. This should in turn change their behavior ex-ante such that they engage in less misreporting. Both studies find that the adoption of clawback policies is associated with fewer financial misstatements in the post adoption period compared to non-adopters.

Erkens et al. (2017) also examine whether the adoption of clawbacks influences the likelihood of accounting restatements. They construct a "Clawback Strength Index" similar to the concept of broad clawbacks employed by Babenko et al. (2017). They examine five dimensions (compensation coverage, employee coverage, amount of discretion granted, look-back period, and trigger events) of clawbacks to define the strength of a provision. Erkens et al. (2017) report a decrease in restatements for firms with strong clawbacks but do not find evidence for a decrease in restatements when clawbacks are less stringent. Their

finding provides some evidence that stronger clawbacks are more effective as a deterrent for restatements. However, they do not provide further information on which of the dimensions of their index drives the results. Lin (2013) partitions a sample of clawback adopters into fraud triggers and unintentional error triggers and thereby more closely examines the trigger dimension of Erkens et al.'s (2017) strength index. Lin (2013) documents a reduction in restatements following clawback adoption for fraud-based clawbacks but does not find such an effect for clawbacks that also punish executives for unintentional errors.

Natarajan and Zheng (2017) examine how the SOX-clawback affects firms with previous restatements. They use ex-post restatement data to identify firms that had a high restatement risk around the introduction of the SOX. They find that after the SOX, CEOs' in-the-money option value is less associated with the likelihood of financial misstatements. The effect indicates that after the SOX, CEOs engage less in misstating behavior to maximize their stock option value. However, Natarajan and Zheng's (2017) results may not necessarily be attributed to the SOX-clawback as the SOX implemented a whole series of regulations concurrently. The results could similarly be due to another regulation that was introduced with the SOX.

Despite the persuasive evidence that accounting restatements decrease following clawback adoption, Pyzoha (2015) argues that the effect need not be an indication of improved accounting quality. Pyzoha (2015) uses an experiment to investigate the interaction between managers and auditors when it comes to a restatement recommendation. He finds that managers are less likely to accept a restatement recommendation of a low quality auditor if the incentive-based compensation subject to the clawback is high. The effect suggests that managers try to prevent firms from restating their accounting numbers because doing so reduces their bonus. The decrease in restatements could therefore at least partially be driven by managers' reluctance to issue a restatement. That is, the reduction in accounting restatements could in fact be indicative of decreased instead of increased accounting quality because misrepresentations and errors are not adjusted even when the auditor detects them.

Pyzoha's (2015) concern is somewhat mitigated by the findings of Chen and Deng (2012). They model a setting where a manager can manipulate both, the earnings report based on which she is paid as well as the signal that triggers the clawback. This relates to Pyzoha's (2015) research because managers can influence the trigger event of the clawback to avoid the activation of the provision (e.g. by convincing the auditor to not require an accounting restatement). Chen and Deng (2012) argue that a clawback has two opposing effects. On the

one hand, the provision mitigates a manager's incentive to manipulate the earnings report, but, at the same time, it exacerbates the manager's incentive to influence the trigger signal. That is, a clawback triggered by a restatement will make it less attractive for managers to misreport but will simultaneously increase their willingness to oppose to the issuance of a restatement if a report is misstated. In their setting, Chen and Deng (2012) show that clawbacks can be beneficial even if the manager can distort the trigger signal at no cost. This is because, in their model, the earnings reported in one period determine the manager's target for the next period. Managers' efforts to prevent a restatement from being issued allows managers to avoid clawback recoveries in the current period. However, the next period's target level will be relatively higher because it is based on overstated earnings. Consequently managers must exert more effort in the next period in order to achieve the target. Given that the degree of their misreporting in the current period influences the difficulty of reaching the next period's target, managers will overstate earnings less in the current period. Thus, clawbacks may deter managers' misreporting incentives even when managers can influence the restatement decision.

There are two additional factors that lessen the problem of managers' resistance against the restatement recommendation. First, Pyzoha (2015) finds that executives' reluctance to issue a restatement is lower in the presence of a high quality auditor. Second, Brink et al. (2018) investigate whether auditors anticipate the management's reaction. They suspect that auditors are less willing to propose a restatement when clawbacks are in place because they do not want to upset managers. Drawing on motivated reasoning, Brink et al. (2018) predict that auditors make their judgments consistent with their preferred conclusion. Using three separate experiments Brink et al. (2018) find - contrary to expectations - that a clawback does not affect auditors' likelihood of proposing a restatement. Thus, clawbacks will not influence auditors' ethical decision-making despite potentially great opposition from the management as reported by Pyzoha (2015). That is, auditors are likely to continue to propose restatements as they deem appropriate, rather than constraining themselves to avoid upsetting managers.

Overall, the findings show that clawback provisions are likely to decrease the risk of a restatement. However, recovery policies may create incentives for managers to oppose restatement recommendations (Pyzoha 2015). Research suggests that auditors, on the other hand, are unlikely to be influenced in their decision to propose a restatement (Brink et al. 2018). Pyzoha (2015) also finds that a high quality auditor mitigates the problem of executives' disagreement with the auditor's restatement recommendation. The results

underline the importance of sound control mechanisms complementary to the provisions. Therefore, audit quality should be a focus of regulators after the mandatory adoption of clawback.

A second proxy that the clawback literature uses for reporting quality is the amount of *accrual-based earnings management* that firms engage in. Due to their incentive-based pay which is intended to increase their effort, managers have an incentive to manipulate their earnings in order to maximize their compensation. Research suggests that managers self-interestedly manage earnings using discretionary accruals to increase their bonus (Healy and Wahlen 1999). A clawback with a restatement trigger should curb earnings manipulations because it recovers bonus payments of managers when such behavior is detected. Especially clawbacks with misconduct triggers have the primary intention of penalizing deliberate misreporting. However, also the DFA-clawback sanctions earnings manipulations. It is therefore of interest for the mandate whether voluntary clawbacks are effective in reducing earnings management.

Chan et al. (2015), Chen et al. (2015), and Cheng et al. (2017) all use the modified Jones (1991) model to measure discretionary accruals as a proxy for earnings quality. They argue that, because of the clawback policy, managers have fewer incentives to engage in accrual-based earnings management (AEM). All studies find convincing evidence for a decrease in discretionary accruals indicating less AEM of clawback adopters.

Remesal (2018) proposes a theoretical model which assumes that firms face costs because managers oppose the adoption as well as the activation of clawbacks. Thus, the model integrates the idea that firms may face frictions with regard to the clawback, both ex-ante (e.g. opposition from managers) and ex-post (e.g. resistance to restate earnings). These frictions increase when internal monitoring is weak. Remesal (2018) uses the model to rationalize the clawback adoption decision in presence of such frictions. Using empirical data he documents that clawbacks reduce earnings management and that the effect is lower when monitoring is weak. As such, Remesal (2018) shows that clawbacks have the potential to be effective at reducing earnings management even in presence of high frictions.

Rather than examining the effect of the adoption itself, Beck (2015) investigates how the stringency of clawbacks affects earning manipulations. She develops a metric to measure stringency of the clawbacks similar to Babenko et al. (2017) and Erkens et al. (2017). She finds some evidence that stringency of clawbacks is associated with lower levels of AEM. That is, a strong clawback is more effective at deterring manipulations than a weak clawback.

Dehaan et al. (2013) use an alternative way of measuring earnings management by examining whether a clawback decreases a firm's meet-or-beat behavior. They expect that a clawback will make it riskier for executives to manage earnings upwards in order to meet or beat the consensus analyst forecast. Consistent with their hypothesis Dehaan et al. (2013) find that clawback adopters exhibit lower levels of meet-and-beat behavior.

Dehaan et al. (2013) additionally argue that clawbacks should decrease *accounting quality related audit fees*. As a compensation for their increased risk, auditors generally require a premium from firms with low reporting quality. The premium manifests in unexplained audit fees. Conversely, a clawback should increase a firm's reporting behavior and reduce unexplained audit fees. In line with their expectations, Dehaan et al. (2013) report lower unexplained audit fees of firms that adopt a clawback policy.

A study by Fung et al. (2015) use a probability metric to estimate the *fraud risk* of a firm. They report a negative relation between the clawback adoption and the risk of fraudulent financial reporting. The association is mitigated in presence of insider trading. Neither voluntary clawbacks nor the DFA-clawback allow for the recoupment of the proceeds from the sale of managers' existing equity holdings. Thus, top-executives can manage the share price and use their insider knowledge to trade on stock that they earned in previous years without fearing recoveries. To the extent that managers are prepared to engage in insider trading, incentives to manipulate the share price are likely to persist after clawback adoption. Hence, Fung et al. (2015) suggest that clawback rules need also to address insider sales to be fully effective.

Hodge and Winn (2012) go one step further and experimentally investigate how clawback recoveries affect managers' future reporting decisions. They examine the reporting behavior of managers subject to a clawback and compare it to the behavior of managers covered by an economically equivalent holdback clause. Unlike a clawback, the holdback clause defers the payout of the covered compensation into the future. When the restatement trigger is activated, the holdback clause cancels the promised pay instead of recouping paid-out compensation as is the case under a clawback provision. Hodge and Winn (2012) find that both, under a clawback and a holdback clause, managers make less risky reporting choices following a restatement. However, executives who were relatively conservative in their reporting choices prior to the restatement made riskier reporting decisions following the restatement when covered by a clawback than when covered by a holdback clause. The latter

effect is consistent with executives feeling treated unfairly because they are forced to return their compensation despite not feeling responsible for the restatement.

In sum, the literature on voluntary compensation clawbacks finds widely consistent evidence that clawback provisions reduce misreporting behavior of managers. The studies document that clawbacks decrease the number of accounting restatements, the amount of earnings management, accounting quality related audit fees, and fraud risk. Stringent clawbacks seem to work better than weak clawbacks in increasing reporting quality. The results are in line with the capital market reactions that are more pronounced for firms with high misreporting risks and for broad clawbacks. Whereas Pyzoha (2015) warns that the decrease in restatements could partially stem from managers' reluctance to publish restatements, the reduction in AEM indicates that clawbacks are effective at inducing more truthful reports. Collectively, the results increase the confidence that the stringent DFA-clawback will be effective at improving firms' reporting quality which in turn mitigates the information asymmetry between shareholders and managers. An interesting observation made by experimental research is that non-responsible managers may feel treated unfairly when their compensation is recovered which can lead to adverse reactions. This result is somewhat worrying because the DFA-clawback will trigger independent of responsibility. There is a potential threat that executives covered by the clawback may be demotivated, or worse, terminate their job in response to recoupments when they do not feel responsible for the restatement.

### **6.2.2 Substitution Effects**

Concurrent to the widely consistent results in terms of financial reporting quality, there is evidence that managers try to circumvent clawback policies. To influence investors, they switch to manipulations that are less likely to trigger restatements.

Chan et al. (2015) find a reduction in AEM but simultaneously report an increase in measures for *real earnings management* (REM). REM represents a manager's deviation from optimal plans of action to affect earnings (Ewert and Wagenhofer 2005). Because REM is achieved through operating decisions it is not subject to the clawback. Chan et al.'s (2015) result suggests that AEM is substituted by REM following clawback adoption. Previous research has documented long-term negative effects of REM for firm performance (e.g. Cohen and

Zarowin 2010; Gunny 2005; Vorst 2016).<sup>18</sup> Congruent to those studies, Chan et al. (2015) report that firms that adopted a clawback policy are likely to sacrifice long-term firm value. The substitution between AEM and REM is more pronounced for firms with high growth opportunities and with high institutional ownership. Growth firms (Skinner and Sloan 2002) and firms with institutional ownership (Matsumoto 2002) place a higher focus on earnings targets and therefore have higher incentives to manage earnings to avoid earnings disappointments.

Similar to Chan et al. (2015), two dissertations examine the effect of clawback adoption on AEM and REM. Yu (2015) reports that her measures indicate a decline in AEM as well as REM following the adoption of clawbacks. She attributes the effect to firms adopting clawback policies voluntarily in order to signal their commitment to improve overall financial reporting. Mburu (2015) reports mixed results in terms of REM after the adoption of clawbacks. The differing results are likely to be influenced by the studies employing differing data sets, sample periods, and models to estimate REM.

Instead of investigating the effects of the clawback adoption itself, Ng et al. (2018) examine how shareholder proposals that demand compensation clawbacks affect a firms' AEM and REM. They provide evidence that firms substitute AEM with REM following clawback initiatives of their shareholders. The effect is more pronounced when monitoring from auditors and external parties is low. The results are consistent with the view that managers who are poorly monitored have more room for AEM ex-ante and thus shift more strongly to REM when faced with governance improvements.

Hales et al. (2017) use an experiment to examine how board monitoring as well as mandatory clawback adoption affect managers' use of AEM and REM. Consistent with Chan et al. (2015), they find that when a mandatory clawback is introduced, managers switch from AEM to REM, but total earnings management is unaffected. They also find that managers reduce total manipulations (i.e. AEM and REM) when board scrutiny is high. Lastly, they report that the substitution effect is present under low, but not under high board monitoring. In sum, these effects are in line with economic predictions which assume that clawbacks make AEM more costly to executives and board monitoring makes managers more accountable for both, AEM and REM.

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<sup>18</sup> Contrary to that notion, Gunny (2010) argues that REM is used as a signaling device of long-term earnings and may therefore be beneficial.

Bao et al. (2018) also demonstrate that managers switch to alternative channels to conceal negative information when compensation clawbacks make AEM more costly. Similar to other studies, they report an increase of upward REM, but they additionally find a decrease in *readability of financial reports* subsequent to clawback adoption with a restatement trigger. Bao et al. (2018) show that both, the increase in upward REM and the decrease in readability of 10-K reports following clawback adoption, increase the firms' stock price crash risk. Bao et al. (2018) draw on bad news concealment theory which argues that managers strategically hide bad news to maximize their personal interests. Their theory suggests that the amount of bad news that can be hidden is limited and is released at once when a certain threshold is exceeded. This leads to a stock price crash. Bao et al. (2018) argue that the stock price crash risk increases with REM because real transactions are likely to have negative economic consequences. Investors will react more strongly when managers give up hiding negative information using REM. Similar to REM, making financial reports less readable also allows to conceal negative information (Kim et al. 2018). By decreasing readability, information is less completely reflected in the market price. The market reaction is delayed, thereby increasing the risk of a price crash (Bloomfield 2002). Additional analyses by Bao et al. (2018) reveal that the effect of clawback adoption on stock price crash risk depend on the management, the incentive system, as well as external monitoring. Specifically, results show that stock price crash risk is concentrated in clawback firms with high ex-ante fraud risk, managers of low ability, high CEO equity incentives and low dedicated institutional holdings.

Another substitution effect is reported by Kyung et al. (2016) who find that managers increase the *frequency* and decrease the *quality of non-GAAP disclosures* after clawback adoption. The authors argue that clawbacks constrain managers' discretion over GAAP reporting by making misreporting subject to compensation recovery. Managers therefore switch to alternative methods to influence investors. Kyung et al. (2016) provide evidence of a substitution effect between AEM and non-GAAP earnings. Also, they find that the quality of non-GAAP earnings deteriorates after clawback adoption, consistent with the hypothesis that managers use non-GAAP disclosures opportunistically. The effect is more pronounced the less managers are able to use accruals to manage earnings.

There is, however, indication that clawbacks do not simply produce negative substitution effects. Fung et al. (2017) investigate how the adoption of voluntary clawbacks relates to the *frequency of earnings forecasts*. They find indication of an increase in earnings forecasts following clawback adoption consistent with the view that the two mechanisms work as

complements. The increase in earnings forecasts is independent of the nature (good or bad) of the news. Fung et al. (2017) argue that clawbacks increase reporting quality and thereby induce managers to issue more truthful forecasts. The improved credibility of forecasts in turn increases the demand for forecasts. The increase in earnings forecasts could also be seen as an instrument to opportunistically influence investors with earnings forecasts. However, the authors show that the increase in earnings guidance is mainly driven by the adopters with low levels of abnormal accruals and fraud risk. Fung et al. (2017) also examine the time-horizon of the forecasts. Long-term forecasts are likely to be published to reduce information asymmetry, whereas short-term forecasts are often used to pre-announce period-specific performance and alleviate litigation risk. They report that the increase in earnings guidance primarily applies to long-term forecasts. Collectively, the findings advocate that voluntary clawbacks have positive spillover effects on management earnings forecasts and therefore increase the information environment.

The research underlines that, in addition to direct effects of the clawback adoption, it is also important to examine measures that account for potential secondary effects. Research shows that managers will try to find ways to circumvent the clawbacks using practices that are not subject to the clawback (Bao et al. 2018; Chan et al. 2015; Kyung et al. 2016). The literature provides evidence that firms with clawback provisions increase REM, decrease the readability of their reports, and use lower quality non-GAAP reporting. The results are more pronounced for firms that are subject to strong performance pressure (e.g. from institutional ownership) and for firms that exhibit high managerial incentives or poor governance structures. These unintended secondary effects challenge the usefulness of the clawback policy as an instrument to improve financial reporting. Whereas the results are mostly based on voluntary clawback research, experimental evidence suggests that the substitution effects are likely to persist in a mandatory setting. The consistent evidence of the shift in manipulations is highly concerning with respect to the DFA-clawback. Previous research also indicates that this shift may have adverse effects on long-term firm value. It is therefore vital to carefully consider the implications of clawbacks on earnings management practices before enforcing the new regulation.

### **6.2.3 Perceived Reporting Quality**

In addition to variables that measure the quality of financial reporting in a direct way, researchers use proxies to capture how different stakeholders perceive the information quality of reports. The perception of the reporting quality sheds light on how much the

stakeholders rely on financial statements following clawback adoption. The literature distinguishes between the reliance on accounting information of investors, analysts, auditors, and bondholders.

If clawbacks change managerial actions such that managers report more truthfully, users of financial statements should more heavily rely on the financial information provided by such firms. As a consequence, *investors* will exhibit stronger reactions to financial reports because they perceive the information as more credible (Chan et al. 2012). Chan et al. (2012) use the earnings response coefficient (ERC) to measure the strength of investor reactions to unexpected earnings information. In line with their expectations they report an increase in investors' reliance on reporting information following clawback adoption. Dehaan et al. (2013) find supporting evidence for a positive effect of clawback adoption on ERC. Davis-Friday et al. (2011), on the other hand, report a decline in the ERC following voluntary clawback adoption for both, fraud- and performance-based clawbacks.<sup>19</sup> The reduction in the ERC indicates that investors perceive the financials to be less credible and thus react less strongly to unexpected information. Davis-Friday et al.'s (2011) finding suggests a decline in information quality following clawback adoption. The authors additionally examine a separate sample of firms that was subject to the mandatory TARP-clawback. They document a marginal increase in ERC for mandatory adopters. However, the effect may stem from a selection effect as TARP-firms tended to have bad financials and are likely to be perceived as more credible after accepting government bailouts.

Using a different approach to analyze investor reliance on accounting information, Huang et al. (2016) examine how compensation clawbacks affect investors' valuation of the cash holdings of a firm. They argue that, compared to other assets, cash can be most easily accessed by managers who may use it for private benefits. Clawbacks are expected to improve a firm's reporting quality. In turn, this reduces information asymmetry and the risk that managers use cash holdings of the firm for self-dealing behavior. As a consequence, investors value cash holdings of firms higher. Consistent with their reasoning, Huang et al. (2016) report that cash holdings are more highly valued when a firm has adopted

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<sup>19</sup> Compared to the other studies, they refrained from using a matching procedure. Propensity score matching (PSM) addresses endogeneity concerns when the relation between outcome and explanatory variable is misspecified (Rosenbaum and Rubin 1983). However, a recent study by Shipman et al. (2017) claims that results may strongly be influenced by the design choices of PSM (propensity score matching) such as specification of the prediction model (i.e. choice of the matching variables) and matching rules (e.g. with/without replacement; maximum allowable distance for a match; one-to-one/one-to-many matching). Shipman et al. (2017) recommend showing robustness to alternate design choices.

compensation clawbacks. They additionally demonstrate that the effect is more pronounced for firms with a previous restatement.

Dehaan et al. (2013) examine how *analyst* perceive a firm's reporting quality following clawback adoption. They presume that if analysts rely more on the financial reports, they will provide more similar forecasts. Consistent with their reasoning they find a decrease in analyst forecast dispersion after the adoption of clawbacks.

Chan et al. (2012) investigate how compensation clawbacks are perceived by *auditors* by measuring the perceived audit risk. They find that external auditors of clawback firms report less control weaknesses, charge lower audit fees and issue their audit report more timely. They argue that firms that adopt clawbacks improve their internal controls and, as a consequence, auditors perceive the control risk of such firms to be lower.

Chan et al. (2013) investigate loan contracting terms to learn how *bondholders* react to the adoption of firm-initiated clawback policies. Accounting measures are regularly used as inputs for loan contracts. Debt covenants are based on accounting measures to track the credit quality of the firm and performance-pricing provisions are typically used to adjust interest rates depending on performance. If a clawback improves accounting quality, counterparties are better able to use financial information of clawback firms for contracting. Also, debt contractors face less information risk which allows them to provide loans for better conditions to clawback adopters. Chan et al. (2013) report that, when contracting with clawback adopters, banks increase the use of debt covenants and performance-pricing provisions which both rely on accounting numbers. They also find that clawback adopters benefit from lower interest rates, longer maturities, and fewer collateral requirements compared to non-adopters. In a related study, Zhang et al. (2016) provide supporting evidence that the costs of debt decrease following both, fraud-based and performance-based clawbacks. These results indicate that banks perceive financial information of clawback adopters to be less risky and of higher quality. Chan et al. (2013) additionally examine how the effects differ between firms which had a high vs. low restatement risk. They find that, except for the loan maturity, effects are stronger for firms that had a higher pre-adoption restatement risk. These findings coincide with those of Iskandar-Datta and Jia (2013) who report more positive effects of clawback adoption for firms with a previous restatement. Both studies indicate that firms with poor reporting quality profit the most when introducing clawback provisions. Overall, Chan et al. (2013) provide evidence that bondholders perceive financial information of firms to be less risky and more credible when clawbacks are in place.

They claim that their study provides stronger support for the usefulness of compensation clawbacks than studies that examine shareholders. Banks have better access to private information of firms than shareholders. Thus, their reaction should be more adequate than shareholders' reaction.

The majority of results indicate that stakeholders perceive the financial information of firms to improve following the adoption of compensation clawbacks. Shareholders, analysts, and auditors rely more heavily on financial reports and bondholders use financial information more for contracting purposes. However, Denis (2012) warns that stakeholders may react positively to clawback adoption solely because they erroneously interpret the clawback to be an effective corporate governance instrument. Rather than actually improving the information environment, clawbacks may create an "unwarranted illusion of information quality" (Denis 2012, 199). Gnägi and Kunz (2018) investigate this concern by experimentally testing whether a clawback makes investors less skeptical users of financial statements. They provide some indication that a clawback reduces investor skepticism toward REM to which clawbacks do not apply. However, their results only hold for unsophisticated investors whereas accounting professionals seem not to be affected by the bias. The positive reactions of accounting professionals documented by the empirical literature (Chan et al. 2012; Dehaan et al. 2013) therefore suggest that the "unwarranted illusion of information quality" is not the sole driver of the favorable stakeholder responses.

The results reported by voluntary clawback studies with respect to capital market effects and reporting quality provide consistent evidence of clawbacks being an effective deterrent against accounting manipulation and improving the information environment. Stakeholders echo these effects by putting more weight on financial statement information. The SEC believes that the results also hold for mandatory compensation clawbacks (SEC 2015). However, several authors argue that some of the supposedly positive consequences may in fact originate from phenomena that are harmful to market participants. For example, the reduction in restatements could stem from managers who take actions to prevent the clawback from being activated (Pyzoha 2015; Remesal 2018). Also, the increase in perceived reporting quality could be partially due to an illusion of information quality on the part of investors (Gnägi and Kunz 2018). Still, the consistent findings that clawbacks have positive effects on a wide range of measures of reporting quality and that various stakeholders view the provisions as being valuable increase the confidence that these negative effects are of lower importance. The main concern is, however, that the deterrence effect prompts managers to switch to alternative practices such as REM to influence investors. If clawback

firms substitute AEM with manipulations that are not subject to the recoupment provision, the drawbacks may outweigh the benefits of the policy. The board of directors could mitigate such problems by increasing internal controls, such as making budget variance analyses to detect an increase in REM (SEC 2015). Problematically, research documents that firms with weak governance structures show the strongest switch to alternative manipulations (e.g. Ng et al. 2018; Hales et al. 2017). Poorly governed firms are least likely to take actions to prevent the manager from switching behavior. Thus, the firms that are most prone to be subject to these unintended effects are unlikely to take counteractions. As such, mandatory clawbacks run the risk of being detrimental to shareholders.

### **6.3 Management Reaction**

After having examined how clawback adoption affects markets and the firm's provision of financial information, I assess the reaction of managers who are directly covered by the recoupment policy. A considerable amount of research is concerned with the question of how managers react to clawback policies. One stream of literature examines how clawbacks affect managers' employment conditions such as compensation and tenure. A second literature focuses on managers' operating decisions upon clawback adoption.

#### **6.3.1 Employment Conditions**

The inclusion of clawback provisions into an employment contract is likely to affect the composition of managers' *compensation*. Economic theory predicts that clawback provisions impose additional risk to a manager's incentive compensation because they make executive compensation subject to recovery. Compared to the situation without clawbacks in place, a manager faces the risk of losing part of his compensation. From a contracting perspective, managers therefore require a higher total amount of pay to compensate them for the increased risk introduced by a clawback provision. Alternatively, they may demand a shift in pay towards a higher percentage of fix compensation which cannot be recouped (Spindler 2012).

The theoretical implications of clawbacks on management pay are underlined by Chen et al. (2015) who use an agency model to derive hypotheses for their empirical tests. In their setting, investors hire a manager who exerts effort, privately observes a noisy signal of earnings, and issues a report which he can manipulate using earnings management. The true earnings only become known in the long-run. Investors can either offer an incentive contract with or without clawback policies. In case of a clawback, the compensation of the manager will be adjusted ex-post for any manipulations. Chen et al. (2015) use their model to illustrate

that managers require a higher total pay under a clawback provision because they bear a higher risk than when they are not subject to a clawback. In line with expectations, Chen et al. (2015) find empirical evidence for an increase in total compensation. Dehaan et al. (2013) report that both, total pay and the fixed base salary, increase with firm-initiated clawback introduction. Their results suggest that managers are compensated for the increase in risk by both, an increase in compensation as well as a shift toward pay that is not covered by the clawback. Babenko et al. (2017) corroborate the finding of an increase in total pay and report that it is driven by a rise in variable rather than fixed pay. They provide two explanations that are in line with optimal contracting behavior. First, boards may compensate managers for the increased risk with more incentive-based pay to prevent a reduction in managers' risk-taking behavior as a result of the clawback. Alternatively, the increased incentive alignment of managers and shareholders allows for a higher incentive-based pay.

In contrast, Iskandar-Datta and Jia (2013) and Erkens et al. (2017) do not find a relation between total CEO compensation and clawback adoption. The latter argue that executives may already receive an amount larger than justified under performance-related arguments as they have considerable power to influence their pay. As a consequence there may be no need for an increase. The null results could also stem from two opposing effects that cancel each other out. Core et al. (1999) document that CEOs receive greater compensation when governance structures are weak. An improvement of the corporate governance such as a clawback adoption should decrease compensation because of decreased agency problems. On the other hand, the demand for a higher pay due to increased risk introduced by the clawback may cancel out this effect.

Most of the research that examines compensation development following clawback adoption does not include moderators to examine under which conditions an increase in pay is more likely. One exception are Natarajan and Zheng (2017) who examine how the mandatory SOX-clawback affects management compensation. The authors find that after the SOX, the CEO's fixed base-salary increases significantly when firms have high misreporting risk as well as a powerful CEO. The effect indicates that strong CEOs use their power to enforce their demand for a higher compensation.

In a different study on mandatory clawback policies, Ang et al. (2013) investigate whether potential recoveries under the DFA-clawback constitute a substantial part of executive pay. Specifically, Ang et al. (2013) attempt to find out whether the amounts that could be recovered under the DFA-clawback are economically significant in relation to the total gains

that CEOs earn as a result of the overstated financials. From over 9,300 restatements announced between 2000 and 2010 they calculate the maximum amount of money that could be recovered under the DFA-clawback. Despite the limited look-back period of 3 years, the DFA-clawback covers a large part of excess incentive-based pay earned by CEOs (73.38%). However, Ang et al. (2013) show that CEOs experience large profits from the sale or exercise of previously awarded stock and options due to the overstated financial reports. These indirect gains are not subject to the DFA-clawback. As a consequence, the compensation components which would be subject to recovery constitute only an insignificant portion of a CEO's total gains from misreporting. Ang et al. (2013) conclude that a major problem of the DFA-clawback is that it only recovers excess incentive compensation. As such, the clawback does not cover enough compensation to provide a sufficient threat to management compensation.

In conclusion, the results of studies that examine how the clawback affects managerial pay are somewhat mixed. Whereas, a majority of research documents an increase in management pay, other studies do not find a relation between executive compensation and clawback adoption. Economic theory predicts that managers require a higher pay because clawbacks make compensation more risky. However, even an increase in management compensation may not necessarily mean that the costs of the clawback outweigh its benefits. Rather, the increase in compensation may be offset by the benefits of increased incentive alignment. However, powerful manager may take advantage of the clawback adoption to negotiate excessive pay increases (Natarajan and Zheng 2017). If so, poorly governed firms may face high costs of clawback implementation because their executives have a higher bargaining power. These undue costs may outweigh the benefits of a clawback policy and pose a threat to clawback adoption.

Since clawback policies are viewed as an instrument to improve incentive alignment, another set of studies examines how CEO pay is related to accounting performance following clawback adoption. By tying compensation more strongly to performance, clawbacks should increase the *pay-for-performance sensitivity*. Conversely, if clawbacks induce a shift in management pay toward fixed compensation, this could reduce the pay-for-performance sensitivity. Most academic literature finds evidence for a higher pay-for-performance sensitivity after clawback adoption indicating that managers are compensated more closely according to how well they run their firms (Biddle et al. 2017; Chen et al. 2015; Dehaan et al. 2013). The findings are in line with previous models of Goldman and Slezak (2006) and Laux and Laux (2009) who analytically show that pay-for-performance sensitivity should

increase with better governance. However, according to Dehaan et al. (2013) who measure how sensitive pay reacts to the return on assets (ROA), the evidence only holds for positive but not for negative changes in ROA. The result corroborates previous research that documents that sensitivity is generally lower to negative changes in performance compared to positive changes (Garvey and Milbourn 2006). Overall, the findings are consistent with executive pay being more sensitive to accounting measures which are more indicative of CEO effort due to the clawback. Conversely, the sensitivity of management pay to stock returns is less clear (Biddle et al. 2017; Gao et al. 2011).

Rather than examining CEO pay, Kroos et al. (2017) examine the compensation of CFOs who have the primary responsibility for the preparation of financial reports. Usually, firms face a trade-off between emphasizing the fiduciary duties or decision-making duties when compensating CFOs. By increasing incentive compensation managers may make better decisions to increase the performance of the firm (decision-making duty) but may neglect their responsibility to prepare sound financial information (fiduciary duty). Kroos et al. (2017) argue that clawbacks allow to tie CFOs' pay more closely to firm performance (i.e. increasing the decision-making duty) without compromising their fiduciary responsibilities. They report an increase in sensitivity of CFO performance pay to both, accounting measures and stock market performance following clawback adoption. The increase in the sensitivity of performance pay to accounting information also applies to other executives but is less pronounced compared to CFOs. Kroos et al. (2017) additionally find some evidence that the increase in pay-for-performance sensitivity of the CFO is stronger for performance-based clawbacks. Compared to fraud-based clawbacks, performance-based clawbacks impose additional risk on executives as they punish for behavior that may not be fully in control of the manager (e.g. accounting errors). Conversely, the increase in CFO pay-to-performance sensitivity is less pronounced when the firm is more susceptible to misreporting such as in case of internal control deficiencies, high abnormal accruals, high CEO power, and low audit committee power. The result suggests that clawbacks are less effective at aligning incentives in firms with great susceptibility to misreporting.

Overall, there is a large consensus in archival research that clawbacks increase the pay-for-performance sensitivity (Biddle et al. 2017; Chen et al. 2015; Dehaan et al. 2013). The finding suggests that accounting numbers are more reflective of managerial effort and are therefore increasingly used to incentivize executives. However, the reported effects are lower for firms with high previous misreporting and poor internal controls. The result coincides with the finding that poorly governed firms with powerful CEOs are less able to

prevent an increase in fixed pay following clawback adoption (Natarajan and Zheng 2017). The higher amount of fixed pay is likely to prevent a better pay-for-performance sensitivity. This suggests that, for firms with the highest governance deficiencies, clawbacks are more costly in terms of management pay as well as less effective at improving incentive alignment. Another stream of literature investigates whether the changed compensation contracts following clawback adoption affect executive *turnover*. Clawback policies may reduce executives' employment horizon in two ways (Erkens et al. 2017). First, they explicitly communicate to top-executives that financial restatements are being punished. The threat of punishment is communicated much more clearly than with the implicit threat of dismissal after a restatement. As a consequence, managers may engage in less earnings management and therefore run a lower risk of being terminated. Second, the clawback provides the board with an instrument that allows for more adequate punishment. In absence of clawbacks, the firm can either keep its manager or dismiss her, but has no means of recovering her compensation. Previous research shows that restatements often entail layoffs of managers (Hennes et al. 2008). A clawback introduces a more complete contract and increases the available means of the board to penalize the manager apart from a dismissal. This, too, should decrease the likelihood of CEO turnover. Erkens et al. (2017) report that firms with strong clawbacks have lower turnover following clawback adoption consistent with their expectations. However, the effect does not apply to firms that have adopted a weak clawback. The findings indicate that weak clawbacks seem to insufficiently provide the board with punishment mechanisms that may serve as alternatives to CEO termination.

The study from Ang et al. (2013) takes a different approach to analyze how clawbacks affect turnover. They examine whether the DFA-clawback as proposed by the SEC is strong enough to affect CEO tenure. Ang et al. (2013) claim that a portion of managers manipulate earnings to avoid or delay being fired for underperformance. According to Ang et al. (2013), a stringent clawback could curb such misbehavior by severely penalizing managers for the earnings management. Ang et al. (2013) compare firms that reached earnings benchmarks by manipulating financials that are later restated to firms that did not reach the earnings benchmarks. They show that CEOs face a significantly lower risk of being fired due to underperformance if they engage in upward manipulation that is subsequently restated. Thus, earnings manipulation provides career-related benefits to CEOs. Ang et al. (2013) calculate the benefit of these CEOs from their further employment by estimating their gain from delayed termination. The gains from delayed termination outweigh the threat of the clawbacks to recover excess incentive-based pay. As such, Ang et al. (2013) argue that the

clawback is not strong enough to deter manipulations that are aimed at preventing termination due to underperformance.

In sum, the literature provides some evidence that the effect of clawback adoption on turnover depends on the strength of the adopted provisions. Strong clawbacks are suggested to provide firms with an effective punishment alternative to management dismissal and thus decrease turnover. There is, however, some indication that the proposed DFA-clawback may not be stringent enough to deter misbehavior, as the benefits of earnings manipulations still outweigh the cost. The argument that managers will continue to hide their underperformance to avoid being dismissed is backed by the finding that executives use REM to meet their objectives. Nonetheless, the clawback may still make it more costly for managers to manipulate earnings to prolong their tenure.

The empirical studies that more closely examine the effects of clawbacks on executives' employment conditions indicate that recoupment policies are beneficial in improving the sensitivity of management pay to accounting measures and in providing the board with an instrument to adequately punish managers rather than dismiss them in case of misbehavior. However, the introduction of clawback provisions comes at a cost. Recoupment provisions may increase the total management pay or trigger a shift towards compensation that is not subject to the clawback. How the costs of increased compensation relate to the benefits of the DFA-clawback is difficult to estimate and the net benefit likely varies with firm characteristics. However, a serious concern of the DFA-clawback is that the compensation subject to recovery constitutes only a small portion of the total gains that managers earn from misreporting (Ang et al. 2013). As such, the DFA-clawback may not be stringent enough to deter managerial misbehavior.

### **6.3.2 Managers' Operating Decisions**

Other than having effects on managers' employment conditions, compensation clawbacks are likely to affect managements' operating decisions. By changing properties of executive compensation, clawbacks are likely to have effects on managers' risk-taking behavior. Their risk-taking propensity influences their choice of projects. As such, clawbacks may affect the investment efficiency of a firm. Studies on compensation clawbacks analyze both, managers' risk-taking behavior and investment efficiency following clawback adoption. Another stream of literature additionally investigates how clawback adoption relates to managers' decisions regarding tax planning.

The literature on compensation clawbacks identifies various reasons why compensation clawbacks could reduce *managerial risk-taking*. Clawback provisions that use a restatement trigger allow to recover compensation of managers when the accounting information is incorrect. More risky investment decisions increase the likelihood that a reporting error occurs (Chen and Vann 2017). To avoid recoupments, managers are likely to make less risky investments when a clawback is in place.<sup>20</sup> In addition, prospect theory predicts that managers will avoid recoveries because their perceived loss of repaying compensation exceeds their perceived gain of the initial endowment (Mburu and Tang 2015). Many clawbacks allow to reclaim more than just the excess compensation and cover managers also in absence of responsibility (Dehaan et al. 2013). As such, executives have even larger incentives to reduce their own risk-taking behavior and suppress risky choices of other employees. Also, a considerable number of clawbacks use trigger events that are specifically aimed at mitigating risk-taking behavior, e.g. by activating clawbacks in case of excessive risk-taking (Babenko et al. 2017).<sup>21</sup>

Using stock price volatility, R&D expenditure, capital investments, and number of patents filed as measures of risk taken by managers, Babenko et al. (2017) find indication for less managerial risk-taking after clawback adoption. Consistent with the theoretical argumentation, the effects are strongest for firms that use clawbacks policies with triggers that aim at mitigating excessive risk-taking behavior. However, also accounting-based restatement triggers have significant effects on managerial risk-taking behavior. Babenko et al. (2017) additionally investigate whether the reduction in risk-taking is associated with the strength of the clawback. Consistent with the view that more stringent clawbacks have a greater impact on managerial behavior, they report that stronger clawbacks decrease risk-taking more than weak clawbacks. They further examine the individual dimensions of clawback strength: Employee coverage, number of triggers, responsible party, and compensation coverage. They find that the differences are driven by each of the underlying measures of clawback strength. Babenko et al. (2017) additionally document that risk-taking behavior declines more for clawback adopters with a strong corporate governance. The

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<sup>20</sup> Conversely, clawbacks may increase rather than decrease risk-taking behavior when managers expect a loss (see. Hirsch et al. 2017).

<sup>21</sup> The problem with those triggers, however, is that they are subjective. Whether poor management or excessive risk-taking is present may be hard to determine as it is difficult to find out ex-post whether a bad outcome of a project was due to excessive risk-taking or due to bad luck.

authors explain the results in that a better corporate governance poses a higher threat of actually enforcing the clawback.

Chen and Vann (2017) also find support for a decrease in risky investments using the standard deviation of earnings as a proxy for risk-taking. Similarly, Mburu and Tang (2015) examine whether clawbacks affect the risk-taking behavior of the CEO and the CFO. They find weak evidence for a decrease in executive risk-taking as measured by Vega (sensitivity of CEO wealth to stock volatility) and by unexercised in-the-money stock options following clawback adoption. In a different study, Mburu (2015) reports that the amount of patents filed following clawback adoption decreases significantly suggesting less executive risk-taking. Mariola and Ryan (2013) use firm level proxies to measure whether a firm's risk-taking behavior changes subsequent to the adoption of compensation clawbacks. Contrary to most other studies they find some indication for an increase in risk-taking. However, due to a complete absence of controls, their research suffers from serious endogeneity problems and their sample of less than 70 firms is small and unlikely to produce reliable results.

Taken together, empirical literature supports the hypothesis that clawback adoption induces a reduction in managers' risk-taking behavior. When a clawback is in place, managers face a riskier compensation profile and reduce their risk exposure by changing their operating decisions. The contrasting findings of Mariola and Ryan (2013) lack both, theoretical foundation and sound hypothesis testing, rendering their evidence of an increase in managers' risk-taking less consequential. Reported findings on a decrease in risk-taking are relatively consistent despite the wide variety of individual and firm-level measures that are used as proxies. Also, there is strong indication that the reduction in investment risk taken by executives persists for different trigger events. Congruent with other consequences of voluntary clawback adoption, the effect is more pronounced when stronger clawbacks are adopted.

The reported findings on managerial risk-taking do not tell us whether a reduction in risk-taking behavior is optimal for the firm. Less risky investment decisions are beneficial to the extent that the risk reduction pertains to activities that are undesirable. For example, the increased incentive to produce high quality financial information should increase the informational efficiency of investment opportunities and help managers reduce undesirable projects. However, managers may be tempted to also reduce the firm's risk in ways that are inefficient (Spindler 2012). For example, they may forego value-enhancing projects if doing so would decrease the likelihood of an accounting restatement. A second stream of literature

therefore analyzes how compensation clawbacks affect managers' investment decisions and whether they increase or decrease *investment efficiency*.

The efficiency of a manager's investment decisions is usually tracked by the level of abnormal investments of a firm. Chen and Vann (2017) report a lower amount of abnormal investment subsequent to clawback adoption. They explain the results with the increase in accounting quality reported in previous studies. The improved quality of financial statements allows shareholders to monitor investment decisions more appropriately. The increased shareholder scrutiny in turn leads to more adequate levels of investing. Lin (2017) measures the adequacy of investment decisions by determining the amount of overinvestment. He uses a large sample of 1093 hand-collected clawback adopters and finds that clawbacks reduce overinvestment. His results show that the effects are stronger for firms with overconfident and over-incentivized managers. Liu et al.'s (2018) findings corroborate the reduction in overinvestments following clawback adoption. They document that the relationship is materially weakened when board governance is poor. Liu et al. (2018) thereby show that a good previous corporate governance is vital for the clawback to be effective.

The results of a study by Chen and Vann (2014) support the finding that managers make better investment decisions following clawback adoption. Chen and Vann (2014) examine how the voluntary clawback adoption affects the return on equity (ROE) of S&P 1500 firms. They report that firms exhibit a significantly higher performance subsequent to clawback adoption.

In a study with a Chinese sample, Allen and Li (2011) examine a type of clawback that was introduced in 1998 in the Big 4 banks and made employees responsible for loan defaults and allowed for recovery of their bonuses. Allen and Li (2011) find that subsequent to the clawback, bank lending is based on fundamentals of the borrower rather than on political connections as in the pre-adoption period. The findings indicate that clawbacks may strongly improve the allocation of investments, especially when the previous compensation system did a poor job in aligning interests.

Biddle et al. (2017) provide an exception to the consistent findings of increased investment efficiency following clawback adoption. They argue that managers under clawbacks have an incentive to focus on less-risky investments that pay off in the short-run, such as investments in property, plant and equipment (PP&E) or acquisitions. Conversely, they expect R&D investments which are less predictable and more long-term to decrease. As hypothesized, Biddle et al. (2017) document a shift of investments of clawback adopters from R&D towards

PP&E. They also find an increase in acquisitions made by clawback-adopting firms, but only when there is ample liquidity. Their analyses suggest that the shift in the investment mix is consistent with capital overinvestments. However, the lack of other studies that find evidence in this direction challenges the generalizability of Biddle et al.'s (2017) results, particularly because economic theory predicts that clawbacks should increase - rather than decrease - investment efficiency due to improved incentive alignment.

Kubick et al. (2017) conjecture that clawback adopting firms engage in improved *tax planning* to reduce the *tax rate*. Drawing on Fried (2016), they argue that clawbacks enhance the efficient deployment of capital and provide managers with stronger incentives to increase shareholder wealth. As such, clawbacks encourage managers to better exploit potential avenues for tax savings. Kubick et al. (2017) expect that managers will engage in increased tax planning in order to achieve their objectives. As predicted, they report a significant decrease in firms' effective tax rates after clawback adoption. Kubick et al. (2017) examine the use of three specific tax planning activities in more detail and find evidence that firms use more auditor-provided tax services, increase in the likelihood of using new tax haven subsidiaries, and improve connections to other low-tax firms.

The studies that investigate the manager's operating decisions following clawback adoption show an improvement in managers' investment decisions. Whereas there is evidence of a decrease in risk-taking when clawbacks are in place, results largely suggest that managers make more efficient investments. Research also finds indication that managers use better tax planning to achieve their earnings objectives. In sum, there is evidence that managers allocate capital more efficiently if they are covered by recoupment provisions. The findings indicate that clawbacks motivate managers to make better investment decisions and corroborate the positive stock market reactions to the adoption decision. If the results similarly apply to the DFA-clawback, a mandate has the potential to improve shareholder value.

#### **6.4 What Does Research on Consequences Tell us About Mandatory Clawback Adoption?**

Many of the reviewed studies find positive effects from the adoption of voluntary compensation clawbacks. Research indicates a positive stock market reaction (Iskandar-Datta and Jia 2013), an increase in financial reporting quality (Dehaan et al. 2013), and a higher reliance of stakeholders on financial information for contracting purposes (Chan et

al. 2013). These effects point toward compensation clawbacks being beneficial for users of accounting information. Additionally, the increase in pay-for-performance sensitivity (Kroos et al. 2017) and investment efficiency (Chen and Vann 2017) are indicative of improved incentive alignment between managers and shareholders. These effects suggest that clawbacks are a functioning corporate governance instrument.

However, besides these favorable effects of voluntary clawback adoption, the literature has also detected potential negative and unintended consequences. Archival research provides some indication of an increase in the level of executive compensation following the adoption decision (Babenko et al. 2017). Also, several studies suggest that managers try to circumvent the clawback by opposing restatement recommendations (Pyzoha 2015) or by engaging in alternative practices to influence investors such as REM (Chan et al. 2015), low readability of financial reports (Bao et al. 2018), or non-GAAP reporting (Kyung et al. 2016). Therefore, a potential threat of compensation clawbacks is that firms substitute AEM with malfeasance that is even more harmful to the firm.

Interestingly, stakeholders seem not to fully take these evading strategies into account when assessing firms that adopted compensation clawbacks. Studies that use moderators to examine how the clawback works under different conditions find a discrepancy between the perception of the clawback by stakeholders and actual firm behavior. In particular, the literature finds more favorable stakeholder reactions to the clawback adoption of firms with a previous restatement. Reported effects include a more positive market response (Iskandar-Datta and Jia 2013; Gao et al. 2011), higher liquidity (Iskandar-Datta and Jia 2013), an increased value of a firm's cash holdings (Huang et al. 2016), and better contract conditions from bondholders (Chan et al. 2013). However, studies that concentrate on actual behavior of these misreporting firms show a different picture. Rather than having stronger positive effects, the clawback is less effective and has more negative consequences for firms with prior malfeasance. Following clawback adoption, firms with previous misreporting engage in more bad news concealment (Bao et al. 2018), are less likely to provide earnings forecasts (Fung et al. 2017), demand a higher compensation (Natarajan and Zheng 2017), and have lower increases in CFO pay-to-performance sensitivity (Kroos et al. 2017) compared to their non-restating counterparts. The findings suggest that firms with prior misbehavior have lower actual benefits from clawback adoption but reap the highest stakeholder reactions. One explanation for the discrepancy could be that managers of such firms are unwilling to give up their accounting discretion and thus resist the enforcement or engage in alternative types of misbehavior. Outsiders, on the other hand, may not recognize that clawbacks are less

effective for misreporting firms, but instead presume that clawbacks are most beneficial for such firms as they fix the previous incentive problems. That is, stakeholders may be subject to a bias that makes them overestimate the clawback's effectiveness.

The pattern is repeated for studies that use the previous corporate governance structure as a moderator of clawback adoption. Shareholders show larger positive market reactions for adopters that are poorly governed (Babenko et al. 2017). The stronger shareholder response stands in stark contrast to the increased substitution between AEM and REM (Hales et al. 2017) and the lower increase in CFO pay-for performance sensitivity (Kroos et al. 2017). The findings suggest that analogous to firms with previous misbehavior, also firms with a poor governance show larger stakeholder reactions but less favorable actual effects upon clawback adoption. The reason could again be that shareholders are unable to realize that managers in poorly governed firms have more room for alternative sorts of malfeasance. This potential investor bias together with the other unintended consequences documented in the literature suggest that the costs resulting from the clawback mandate are likely to be substantial.

Nonetheless, how these costs of the clawback mandate relate to the benefits (e.g. increased reporting quality and improved investment efficiency) is difficult to judge. The proposed rule of the DFA-clawback may prevent some of the unintended consequences documented by voluntary clawback research as it allows for little board discretion. In particular, whereas research documents that managers resist clawback enforcement (Pyzoha 2015) and board members almost never seek recovery (Babenko et al. 2017), the mandate would force boards to always litigate managers, thereby posing a more credible threat to misbehavior. Also, the DFA-clawback is likely to benefit from strong positive effects as it is a relatively stringent clawback (Beck 2015). Research documents more favorable consequences of stringent clawbacks compared to weak clawbacks across-the-board. Compared to less stringent recoupment provisions, strong clawbacks are associated with stronger positive market reactions (Babenko et al. 2017), fewer accounting restatements (Erkens et al. 2017), less AEM (Beck 2015), less turnover (Erkens et al. 2017), and less risk-taking behavior (Babenko et al. 2017). As such, there is some indication that the design of the DFA-clawback is suitable to reap high benefits while avoiding some of the unintended consequences documented by voluntary clawback research. Additional support for the conjecture that the DFA-clawback may be beneficial for capital markets is provided by event studies that investigate market reactions to important announcements regarding mandatory clawbacks. The positive stock market reaction to the proposed rule of the DFA-clawback (Bakke et al. 2017) together with

the lower stock market reactions to voluntary clawbacks after the DFA (Babenko et al. 2017) provide some evidence that investors perceive mandatory clawbacks to be value enhancing. Still, it remains an empirical question of whether the DFA-clawback proves effective.

However, even when assuming that the benefits of DFA-clawback outweigh all direct and indirect costs of the regulation, there are still opportunity cost to consider. There may exist government interventions that are more efficient or effective at improving financial reporting than mandatory compensation clawbacks. For example, Edmans et al. (2017) argue that regulations that directly target executive compensation are likely to be problematic because regulators are under-informed. Rather, a regulatory intervention should attempt to affect the objectives of decision makers (e.g. boards and shareholders) such that they implement optimal contracts on their own initiative. For example, governance could be strengthened through board independence requirements to achieve increased incentive alignment between shareholders and directors. The DFA-clawback is therefore unlikely to be the best potential regulation to improve truthful reporting. However, in absence of other promising proposals, it may still be worth implementing it if the benefits of the regulation exceed its cost.

## **6.5 Drawbacks of Evaluating Voluntary Clawbacks for a Mandate**

In absence of sufficient research on mandatory clawbacks, the present review has drawn on studies that analyze consequences of voluntary compensation clawbacks. The review has implicitly assumed that the effects are transferrable to mandatory clawbacks. Denis (2012) warns that results from studies on voluntary clawbacks do not necessarily apply to mandatory recoupment provisions. There are several reasons why findings of voluntary clawback research may produce effects that differ from effects one would find when examining the mandate itself. In the following, I will discuss reasons why findings from voluntary clawback may not be transferrable to a mandate. I will then provide arguments why I consider it unlikely that effects observed in voluntary clawback research do not replicate in a mandatory setting.

### **Signaling**

A first reason why effects from voluntary clawback research may not apply to a mandate is because studies on voluntary clawbacks may report effects that stem from the signaling value of the clawback rather than from its governance effects (Chan et al. 2012). Thus, the compensation clawback itself may not be a functioning governance mechanism. Rather, it may be used by well governed firms as a signal to distinguish themselves from poorly

governed firms. Signaling theory predicts that when there is information asymmetry in markets, above average quality firms may use signals to communicate their superior quality to market participants (Spence 1973). Since the quality of corporate governance of a firm is not easily observable by investors, high quality firms release a costly signal of quality. Compensation clawbacks are likely to be less costly to implement for firms with a high corporate governance than for poorly governed firms. It may therefore be worthwhile to adopt a clawback simply to communicate a good corporate governance to investors even in absence of any actual effects of the clawback. A mandate would take away any signaling value of the clawback and the effects found in voluntary clawback research would not carry over to a mandate (Chan et al. 2012).

Contrary to this argument, studies on consequences of compensation clawbacks find convincing evidence that the amount of AEM (Chan et al. 2015; Chen et al. 2015) and the number of restatements (Chan et al. 2012; Dehaan et al. 2013) decrease following clawback adoption. The results suggest that clawbacks have actual effects on managerial reporting decisions and therefore provide a strong counterargument to the signaling only view.

### **Different Clawback Characteristics**

Even if effects from voluntary adoption stem from the clawback itself rather than from the information content of the clawback as a signal, it does not necessarily mean that results apply to mandated clawback policies. Clawbacks offer a large array of trigger events and voluntary adopters differ in the triggers included into their provisions (see Babenko et al. 2017). Any effects found by voluntary clawback research could originate from clawbacks with other trigger events than the DFA-clawback. The large majority of clawback studies do not distinguish between different trigger events. As a consequence, results may not replicate for mandated clawbacks with a restatement trigger. The same argument can be made with any other characteristic of the clawback. Results from voluntary clawback adoption may not apply to a mandatory setting because results stem from clawbacks with differing look-back periods, compensation components covered, or executives affected.

This reasoning is countered by studies that distinguish between trigger events of clawbacks. They often find similar results for performance-based and fraud-based compensation clawbacks (Davis Friday et al. 2011; Gao et al. 2011; Kroos et al. 2017). Also, preliminary evidence of research that focuses on restatement-triggered clawbacks only (Bao et al. 2018) corroborates findings of literature that does not distinguish between clawback characteristics (Chan et al. 2015). Lastly, the restatement trigger as implemented in the DFA-clawback is

the most widespread trigger event among voluntary clawback adopters (Babenko et al. 2017) and is therefore most likely to be responsible for the results. The proposed rule of the DFA-clawback may in fact even produce stronger results as it constitutes a more stringent recoupment provision than most voluntarily adopted clawbacks (Beck 2015).

### **Optimal Contracting**

Effects from voluntary clawback adoption may not replicate for a mandate to the extent that firms engage in optimal contracting behavior. Under the premise that clawbacks are not equally beneficial to all firms, only firms with positive net benefits from clawbacks will adopt clawbacks when firms engage in optimal contracting behavior. Some firms may assess that clawbacks would harm rather than improve their economic situation. For instance, a firm may operate in an environment that requires little or no incentive compensation to motivate its managers. In this case, the benefit of the clawback may be too low to exceed its costs (e.g. costs of administration and litigation). Also, a firm may have other corporate governance instruments in place that make clawbacks superfluous (Chen and Vann 2014). In both examples, the firms are unlikely to voluntarily adopt compensation clawbacks. Conversely, firms with high expected net benefits from clawback adoption may self-select into clawback structures. Any effects found by voluntary clawback research may therefore not apply to firms that decided against voluntary clawback adoption under optimal contracting. As a consequence, imposing a clawback policy on firms that did not adopt recoupment provisions voluntarily may result in effects that differ from those found by voluntary research.

As discussed in chapter 5, the optimal contracting view is contrasted by both, indication that powerful managers resist the adoption decision (Brown et al. 2011; Gao et al. 2011) and the low enforcement of clawbacks by the board (Babenko et al. 2017). Thus, there is strong indication that firms do not adopt efficient provisions and that effects of voluntary adoption may replicate in a mandatory setting.

### **Confounding Factors**

An additional argument made in the literature is that firms may adopt clawbacks as part of a broader plan to increase the firm's reporting quality (Denis 2012). Rather than stemming from the clawback itself, effects reported by the literature may be due to other corporate governance instruments adopted simultaneous with the recoupment provisions. Thus, the observed effects are due to confounding factors. This argument is difficult to rule out and applies to most archival research. However, to the extent that findings on voluntary

clawbacks are in agreement with the findings on mandatory clawback studies, they increase the confidence that such effects are not driven by factors other than the adoption of clawbacks. For example, stock market reactions to information about both, voluntary and mandatory clawbacks are more positive when there is evidence of previous misreporting or when governance structures are poor (e.g. Bakke et al. 2017, Gao et al. 2011). Also, Hales et al. (2017) experimentally reproduce the substitution effect between AEM and REM reported by Chan et al. (2015) in a mandatory setting. Davis-Friday et al. (2011) report an increase in the ERC following the TARP-clawback in line with Chan et al. (2012) who report the same effect for voluntary adopters.

In conclusion, none of the arguments laid out above seem to reasonably explain why research on voluntary clawbacks cannot be applied to a mandate. Also, prior research largely reports conforming results of voluntary and mandatory clawback introduction, suggesting that results of voluntary clawback research, at least in part, replicate in a mandatory setting (e.g. Chan et al. 2015; Hales et al. 2017). Still, a mandate is likely to have somewhat different implications compared to a voluntary clawback. For instance, the extent to which firms use clawbacks as a signaling device or self-select into clawback structures reduces the potential to make inferences from voluntary clawback research to mandatory settings. Nonetheless, it is worthwhile and important to study research on voluntary clawback adoption to make inferences about potential effects of a clawback mandate (Daske et al. 2008). For example, expectations about consequences of the mandatory adoption of IFRS were not least formed using research based on voluntary early adoption (see e.g. Barth et al. 2008; Daske et al. 2013). Similarly, I argue that also the transfer of effects from voluntary research to the mandate is reasonable. At worst, voluntary clawback research provides an impression of the unintended effects from the adoption which are unlikely to vanish in a mandatory setting.

## **7. Conclusion, Limitations, and Avenues for Future Research**

In this study, I develop a framework to review the literature on voluntary and mandatory clawbacks to examine whether the DFA-clawback has the potential to be valuable for capital markets. In a first step, I analyze determinants of voluntary compensation clawbacks. I find that a large part of the literature indicates that the adoption decision is a function of the power differential between managers and the board of directors. This finding is in line with the managerial power view (Bebchuk et al. 2002) that predicts non-optimal contracting due to managerial rent-extraction. Also, research suggests that clawbacks are only activated in rare cases, posing the risk that clawbacks are merely adopted on paper (Babenko et al. 2017). The

findings imply that firms are unlikely to adopt optimal provisions of their own accord which provides room for a regulatory mandate such as the DFA-clawback. However, the extent to which a regulation is beneficial relies on the mandates' ability to address the non-optimal contracting behavior. I review the research on consequences of compensation clawbacks to gauge potential effects of recoupment provisions. Negative or no effects subsequent to voluntary clawback adoption would allow the reasonable conclusion of a low likelihood for mandatory clawbacks to be beneficial (Denis 2012). However, a majority of studies find a positive stock market reaction to the introduction of firm-initiated compensation clawbacks. The measures also indicate an improvement of the informational environment and increased incentive alignment subsequent to the adoption decision. Still, findings on clawback provisions are not without caveat. Some studies document managers' attempts to circumvent the clauses or to resist their enforcement. Further analyses reveal that there is a mismatch between the stakeholder reaction and the actual firm behavior following clawback adoption for firms with previous misreporting or poor governance. The discrepancy could stem from managers who successfully evade the provision while maintaining the impression of having an effective governance instrument in place. Overall, these potential unintended consequences of clawbacks are likely to put substantial costs on firms. However, the stringent design of the proposed mandate provides some comfort that the costs may not outweigh the benefits of the regulation. The DFA-clawback as proposed by the SEC is based on an objective trigger and allows little board discretion. As such, the rule restricts firms' leeway to abstain from recoupment and potentially solves the problem of the low enforcement of recoveries. Also, prior research documents stronger capital market and financial reporting effects from the adoption stringent clawback policies, suggesting high benefits. The few event studies that examine investor reactions to information about mandatory clawbacks additionally increase the confidence that the regulation may be beneficial. Still, uncertainty remains whether the proposed rule of the DFA-clawback is an adequate instrument to improve the reporting environment and whether a different intervention would be superior.

My review has several limitations with regard to making predictions about the DFA-clawback. First, only a minority of research on clawback provisions examines a mandatory setting. The few studies that examine consequences of mandatory clawbacks are either archival studies that examine the SOX-clawback (Natarajan and Zheng 2017) or the TARP-clawback (Davis-Friday et al. 2011). Alternatively, event studies (Bakke et al. 2017; Li 2014) or experiments (Hales et al. 2017; Hodge and Winn 2012) are used to investigate effects of

mandatory clawbacks. Each of these different types of research has their own drawbacks such as selection effects (TARP-clawback), confounding events (SOX-clawbacks, event studies), or a lack of generalizability (experiments).<sup>22</sup> The potential pitfalls reduce the value of such studies for predicting outcomes of government-initiated clawback adoption. Second, in absence of sufficient research on clawback mandates, I complement the review with research on voluntary clawback adoption. Voluntary clawback research may not be applicable to a mandate because effects may stem from the signaling value of the clawback, from clawbacks with different characteristics, or from confounding factors. Firms may also optimally choose their compensation contracts such that any regulation would be impractical. To the extent that the results of voluntary clawbacks research do not apply to a mandatory clawbacks, the insights provided in this review are of limited value. Lastly, the findings are somewhat diminished by the fact that archival research on voluntary compensation clawbacks relies on hand-collected data. Studies differ in their choice of database, search words, and covered filings used to identify the clawback provisions. For example, from 2005-2009, Chen et al. (2015) find 58 more clawback adopters than Iskandar-Datta and Jia (2013) despite only examining a subset of firms (Fortune 1000 only vs. Fortune 1000, Russel 3000, and S&P 1500) and applying the search words to fewer filings (proxy statements/10-K vs. proxy statements/10-K/8-K/6-K). However, while misclassifications seem possible, they would make it less likely to find any effects from clawback adoption.

Additional research is needed to be able to more reliably judge the effects of the proposed mandate. My review thus provides several avenues for future research. First, Babenko et al. (2017) report only three instances of compensation being recouped following a restatement. This indicates that, in most of the cases, clawbacks are not activated even when the trigger event is met. More research is needed to examine to what extent voluntary clawbacks are enforced and to shed light on the reasons for non-enforcements. Such research would increase our knowledge as to whether clawbacks are adopted on paper only and could more reliably determine the presence of inefficiencies. Second, the previous literature only sparsely considers the trigger event of voluntary clawbacks. Differing trigger events may pursue different aims and are likely to have differing consequences. Future research could more strongly focus on restatement-triggers to shed light on how outcomes differ from clawbacks with other triggers. Such research could provide insights on the applicability of

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<sup>22</sup> However, the use of differing research methods to examine mandatory clawbacks alleviates the weaknesses of each individual method. E.g. the problem of generalizability in Hales et al. (2017) is mitigated as the authors reproduce effects that have already been found in archival research.

voluntary clawback research for the proposed mandate. Third, consequences of clawback adoption are only rarely analyzed with respect to specific firm characteristics (for examples, see Iskandar-Datta and Jia 2013; Chan et al. 2013). Future research on interactions between clawbacks and firm characteristics could help to understand the circumstances under which clawbacks are effective. Lastly, most of the studies covered in the literature review focused on voluntary compensation clawbacks. Despite some countries having clawbacks in place (Apanpa and Ananaba 2016), no research exists to my knowledge on their consequences. Research on effects of such regulations may provide valuable insights for the DFA-clawback.

Whereas the research gaps identified by this study provide opportunities for future investigations, this literature review has also revealed several important patterns in the existing literature. That is, voluntary clawback research provides consistent and convincing evidence that markets react positively to clawback adoption and that the provisions improve reporting quality and increase incentive alignment between owners and managers. The main pitfall is that managers attempt to circumvent the policies using practices that are not subject to the clawback but may harm the firm. Both, voluntary clawback adopters as well as regulators crafting a clawback mandate should be wary of the potentially substantial costs associated with these unintended consequences.

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## **Appendix A: Characteristics of Compensation Clawbacks**

Clawbacks are contractual agreements between a firm and its manager. When they are adopted voluntarily, there is substantial flexibility as to how the provisions are defined. Previous literature has attempted to define dimensions, based on which clawbacks can be characterized. Babenko et al. (2017), Beck (2015), and Gao et al. (2011) each make classifications of major characteristics. They use largely overlapping categories on which I draw to discuss the most important characteristics.

**Trigger event.** The conditions, under which a clawback triggers, can vary widely and range from misstated accounting information over excessive risk-taking to breaking non-compete agreements. Literature often distinguishes between performance-based and fraud-based clawbacks. The former determine trigger events that are based on a performance metric. The latter require executives to repay their compensation if they engage in misconduct, e.g. by intentionally misreporting financial information. The Corporate Library, a corporate governance research company, additionally distinguishes non-compete covenants as a separate type of trigger event and uses a residual category of triggers that serves as a catch-all category (the category captures triggers such as leaving without notice). Gao et al. (2011) report that 79% of firms that adopted clawbacks voluntarily use a performance-based trigger, 63.9% a fraud-based trigger, and 21.1% a non-compete provision. The finding suggests that firms make use of both, performance-based and fraud-based clawbacks. However, using a more detailed categorization, Babenko et al. (2017) identify accounting restatements (76.6%) as the most widely used trigger. This may be because some firms early adopt the restatement-triggered provisions that are likely to be mandated by the DFA-clawback.

**Scope.** Compensation clawbacks are typically directed at (top-) executives of a firm. However, they may extend to all employees. To which extent lower-level employees are covered may depend on the clawbacks' expected deterrence effects on undesirable behavior as well as the firms' cost expectations of recouping compensation from those employees. Babenko et al. (2017) document that almost all provisions cover top executives such as the CEO (99.6%) and named executive officers (NEO's) (91.7%). In far less cases, the clawback is also directed at non-NEO executive officers (56.3%) or other employee groups (12.8%). The low percentage of adopters that make lower level employees subject to the provisions indicates that many firms consider a broad coverage not to be worthwhile.

**Compensation subject to recovery.** Clawbacks can cover any type of performance-based pay including equity and option-based pay. Clawbacks often make the excess bonus received by executives subject to recapture. The excess bonus is that part of the bonus which was additionally earned due to non-compliance. As an example, a clawback may recover the part of the performance-based pay that was earned due to misreporting, error, or excessive risk taking. However, more stringent clawback policies make all bonus pay subject to recovery. In such a case, a manager has to return the total compensation which was based on performance measures (plus interest) as well as equity/option-based pay (plus any gains from such instruments). Excess bonus clawbacks aim at recouping the financial loss that the firm incurred whereas clawbacks that make all bonus pay subject to recovery additionally intend to punish executives for their non-compliance. Addy et al. (2014) report that out of 145 clawback adopters, 26 (18%) specify to cover the excess bonus only. In most cases (72%), voluntary clawbacks make more than the excess bonus subject to recovery. This may indicate that many firms use clawbacks as an instrument to punish non-compliance, rather than to merely recoup compensation that managers are not eligible to. Babenko et al. (2017) document that cash bonus, equity, and option compensation are similarly covered.

**Look-back period.** The length of the period during which compensation can be recovered is commonly referred to as the look-back-period.<sup>23</sup> Starting from short periods such as one year, the look-back-period can cover long time spans, such as up to 10 years in the UK banking industry (Thanassoulis and Tanaka 2018), or even attempt to remain in force indefinitely. Babenko et al. (2017) report that the majority of voluntary clawback adopters in the U.S. does not define a look-back period. Of the firms that do, most choose either the one-year period found in the SOX-clawback or the three-year period from the DFA-clawback.

**Enforcement body.** While the SOX-clawback denotes the SEC to be the sole enforcement institution, firms that voluntarily adopt clawbacks enforce the provisions themselves. Babenko et al. (2017) document the compensation committee to be the primary enforcer in 60.9% of the cases, followed by the entire board in 34.4% of cases. From a theoretical viewpoint it would also be possible to delegate enforcement to an external party as proposed

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<sup>23</sup> Starting from the point in time when the firm establishes (or should reasonably have established) that compensation needs to be recovered, the look-back-period denotes the length of time back that it can recoup compensation. Alternatively, clawback policies with a restatement as a trigger may instead state a period of time after the restatement in which compensation is subject to recovery (forward-looking period), independent of when it is determined that a restatement must be issued.

by Liebman and Kossovsky (2016). However, such clawback policies have not been documented to date.

***Extent of enforcement body's discretion.*** Clawback policies also differ in the extent to which they grant discretion to the enforcement body when it comes to recoveries. When a clawback is triggered, the board of directors or the compensation committee may decide on whether to recover pay from covered executives. Alternatively, the provisions may advise the enforcer to always recoup executive compensation when a clawback is triggered. Fried (2016) finds that of 225 clawback policies that he examined, 81% of the provisions give directors complete discretion to avoid recovery. Another 16% force the board to seek recovery only when misconduct is discovered to have led to the restatement. However, the proof of misconduct also grants board members with substantial discretion such that Fried (2016) concludes that in 97% of firms, board members have substantial discretion when it comes to initiating the clawback. The finding indicates that firms consider it important to leave the final decision about compensation recoveries to the enforcement party.

As documented by prior literature, voluntary adopters make use of the freedom to tailor the provisions to suit their own needs. It is apparent from archival research that many of the voluntarily adopted clawbacks deviate from the characteristics of the DFA-clawback. The choice of what kind of clawbacks are adopted is likely to depend on the objective that shall be achieved with the provision as well as the characteristics of the firms that adopt the clawback.

## Appendix B: Overview of Research Articles on Compensation Clawbacks

Author(s) Year Journal	Method	Antecedents	Moderators & interaction terms	Consequences	Main findings	[1] Clawback type [2] Sample [3] Evaluation period [4] # of adopters
Addy, Chu, Yoder 2014 J. Account Public Policy	Archival	<ul style="list-style-type: none"> <li>• Corporate governance index</li> <li>• Interlocks of directors of the compensation committee with a clawback company</li> <li>• Previous restatement from irregularity</li> <li>• Accruals</li> <li>• Total assets</li> </ul>	n/a	n/a	Firms are more likely to adopt clawbacks when corporate governance is good. Also, when compensation committee members have interlocks with other clawback firms an adoption of recoupment provisions is more likely. Large firms, firms with low accruals, and firms with a previous irregularity restatement increase the likelihood of clawback adoption.	[1] Voluntary clawbacks [2] S&P 500 [3] 2006-2008 [4] 105
Allen, Li 2011 Financial Management	Archival	n/a	<ul style="list-style-type: none"> <li>• Political connectedness</li> <li>• Big4 bank indicator</li> </ul>	<ul style="list-style-type: none"> <li>• Loan availability <ul style="list-style-type: none"> <li>– Loan size</li> <li>– Loan spread</li> <li>– Frequency of repeat lending</li> </ul> </li> </ul>	The study examines a special type of mandatory clawbacks for Chinese banks. Loans were previously given out depending on political connectedness as Big4 banks are all owned by the Chinese government. Most of those loans were not repaid. The authors use data after clawback introduction and find a negative relation between political connections and loan availability at the Big4 banks. Conversely, lending at small banks where the clawback is not effective is more politically motivated.	[1] Voluntary clawbacks [2] n/a [3] 1998-2005 [4] 4
Ang, Cheng, Fulmer 2013 Working Paper	Archival	n/a	n/a	n/a	The study examines restatement firms rather than clawback adopters. The paper documents that the amount of restating companies' CEO compensation that could have been recovered under the DFA-clawback is low compared to total gains that CEOs experience from the overstated financials. The DFA-clawback covers the excess incentive-based compensation but does not target	[1] Mandatory clawbacks [2] n/a [3] 2000-2010 [4] 249 restatement firms

					profits from sale/exercise of stock/options that were awarded in previous years. These indirect gains are much larger than the direct gains. Also, by overstating the performance of the firm, CEOs prolong their tenure. The authors argue that without the upward manipulations, many of the CEOs would have been terminated much earlier due to low performance. The authors show that the gains from delayed termination outweigh the threat of the clawback to recover the excess incentive-based pay.	
Babenko, Bennett, Bizjak, Coles 2017 Working Paper	Archival	<ul style="list-style-type: none"> <li>• Damage from misappropriation of firm resources <ul style="list-style-type: none"> <li>– Log of total assets</li> <li>– Scaled cash flow</li> </ul> </li> <li>• Difficulty of detecting malfeasance <ul style="list-style-type: none"> <li>– Prior stock return volatility</li> <li>– Firm size</li> <li>– R&amp;D intensity</li> </ul> </li> <li>• Compensation related incentives to mispresent performance <ul style="list-style-type: none"> <li>– Percentage equity based pay of NEOs</li> <li>– P-v provisions attached to equity-based pay of NEOs</li> <li>– Golden parachutes</li> </ul> </li> <li>• Enforceability of clawback provisions</li> <li>• Corporate governance <ul style="list-style-type: none"> <li>– Board independence</li> <li>– Institutional ownership</li> </ul> </li> <li>• CEO power</li> <li>• External pressure</li> </ul>	<p><i>Moderators for risk-taking behavior as a consequence:</i></p> <ul style="list-style-type: none"> <li>• Corporate governance <ul style="list-style-type: none"> <li>– Board independence</li> <li>– CEO tenure,</li> <li>– Institutional ownership</li> </ul> </li> <li>• Strength of the clawback <ul style="list-style-type: none"> <li>– Employee coverage</li> <li>– Number of triggers</li> <li>– Responsible party</li> <li>– Compensation coverage</li> </ul> </li> </ul> <p><i>Moderators for market response as a consequence:</i></p> <ul style="list-style-type: none"> <li>• Strength of clawback <ul style="list-style-type: none"> <li>– Employee coverage</li> <li>– Number of triggers</li> <li>– Responsible party</li> <li>– Compensation coverage</li> </ul> </li> <li>• Board independence</li> <li>• Growth opportunities</li> <li>• Expected reduction in risk</li> </ul> <p><i>Moderator for antecedents of clawback adoption</i></p>	<ul style="list-style-type: none"> <li>• Market response</li> <li>• Risk-taking behavior <ul style="list-style-type: none"> <li>– Stock price volatility</li> <li>– Capital investments</li> <li>– R&amp;D expenditures</li> <li>– Patents filed</li> </ul> </li> <li>• Executive turnover <ul style="list-style-type: none"> <li>– CEO tenure</li> <li>– NEO turnover</li> </ul> </li> <li>• Executive compensation <ul style="list-style-type: none"> <li>– Total NEO compensation</li> <li>– NEO equity-based compensation</li> <li>– P-v provisions</li> <li>– New equity grants to NEOs</li> </ul> </li> </ul>	Adoption of clawbacks is related to the scope of executive malfeasance, misreporting incentives, and firm governance. Stock markets react positively to clawback adoption, and firms subsequently exhibit reduced risk-taking behavior. Executive pay, incentive-based pay, as well as turnover increases following clawback adoption. In terms of determinants, firms are more likely to adopt clawbacks (and adopt provisions that are broader in scope) when there is more scope for executive malfeasance, when executives have pay-related reasons to misreport, when corporate governance is better, and when there is strong outside pressure.	[1] Voluntary clawbacks [2] S&P 1500 [3] 2000-2013 [4] 4103 clawback provisions

		<ul style="list-style-type: none"> <li>- Say-on-Pay vote</li> <li>- Presence of a compensation consultant</li> </ul>	<ul style="list-style-type: none"> <li>• Stringency of clawbacks</li> <li>• Characteristics of clawbacks</li> </ul>			
Bakke, Mahmudi, Virani 2017 Working Paper	Event study	n/a	<ul style="list-style-type: none"> <li>• Voluntary clawback adoption previous to the release of the proposed rules</li> <li>• Management power <ul style="list-style-type: none"> <li>- Indicator whether more than 50% of the board was appointed after the CEO</li> <li>- Indicator whether CEO is chair for the board</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Market reaction</li> </ul>	The study examines the stock market reaction to the SEC's announcement of proposed rule 10D-1. Firms without voluntary clawbacks in place experience higher positive stock market reactions than firms with recoupment provisions. The positive market reaction to the publication of the proposed rule is more pronounced for non-adopters with powerful managers.	<ul style="list-style-type: none"> <li>[1] Mandatory clawbacks</li> <li>[2] S&amp;P 1500</li> <li>[3] June 1, 2015</li> <li>[4] 1123</li> </ul>
Bao, Fung, Su 2018 CAR	Archival	n/a	<ul style="list-style-type: none"> <li>• REM</li> <li>• Readability of 10-K reports</li> <li>• Ex ante fraud risk</li> <li>• Management ability</li> <li>• CEO equity incentives</li> <li>• Dedicated institutional ownership</li> </ul>	<ul style="list-style-type: none"> <li>• REM <ul style="list-style-type: none"> <li>- Upward REM</li> <li>- Downward REM</li> <li>- Total REM</li> </ul> </li> <li>• Readability of 10-K reports</li> <li>• Stock price crash risk</li> </ul>	The adoption of clawbacks with a restatement trigger is associated with an increase in upward REM, a decrease in readability of 10-K reports, and an increase in a firm's stock price crash risk. The effect of clawbacks on the risk of stock price crashes is more pronounced among clawback adopters with an increase in upward REM or a decrease in readability of 10-K reports. Also, increased crash risk is concentrated in firms with high ex ante fraud risk, managers of low ability, high CEO equity incentives, or low dedicated institutional holdings.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] Russel 3000</li> <li>[3] 2003-2013</li> <li>[4] 352</li> </ul>
Beck 2015 Dissertation	Archival	<ul style="list-style-type: none"> <li>• CEO duality</li> <li>• Governance index</li> </ul>	<ul style="list-style-type: none"> <li>• Stringency of the clawback</li> <li>• CEO duality</li> </ul>	<ul style="list-style-type: none"> <li>• AEM <ul style="list-style-type: none"> <li>- Abnormal accruals</li> <li>- Percent operating accruals</li> <li>- Total accruals</li> </ul> </li> </ul>	The author develops a summary measure of clawback stringency and finds that increased stringency is associated with lower earnings management. The negative relation between clawback stringency and earnings management is higher when the CEO is also the chairman of the board. Firms with CEO duality adopt less stringent clawbacks but the overall governance of the firm does not affect the stringency of compensation clawbacks.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] n/a</li> <li>[3] up to 2010</li> <li>[4] 375</li> </ul>

Biddle, Chan, Joo 2017 Working Paper	Archival	n/a	<ul style="list-style-type: none"> <li>• Liquidity</li> <li>• Percentage of performance-based pay in total pay</li> </ul>	<ul style="list-style-type: none"> <li>• Capital investment mix <ul style="list-style-type: none"> <li>– Total investments</li> <li>– R&amp;D investments</li> <li>– Capital expenditure in PP&amp;E</li> <li>– Investment into acquisitions</li> </ul> </li> <li>• Executive compensation incentives <ul style="list-style-type: none"> <li>– Pay-for-performance sensitivity of total pay/equity grants/cash pay</li> <li>– % of salary/stock grants/option grants to total pay</li> <li>– Risk tolerance</li> </ul> </li> <li>• Capital investment efficiency</li> </ul>	Following clawback adoption, firms shift away from R&D investments and toward capital expenditures, or - when liquidity allows it – toward acquisitions. The effects are driven by firms that pay high percentages of performance-based pay. The authors find that clawback firms exhibit capital overinvestments, especially when performance-based pay is high.	[1] Voluntary clawbacks [2] n/a [3] 2005-2012 [4] 931
Brink, Greiner, Pyzoha, Reffett 2018 Journal of Business Ethics	Experiment	n/a	<ul style="list-style-type: none"> <li>• Importance of the client to the audit firm</li> </ul>	<ul style="list-style-type: none"> <li>• Likelihood of proposing a restatement</li> <li>• Assessed risk of a material misstatement</li> </ul>	Using three experiments, the study examines whether auditors are less willing to propose restatements when a firm has clawbacks in place. None of the experiments finds an association between the clawback and the likelihood of proposing a restatement.	[1] n/a [2] 100/98/37 auditors [3] n/a [4] n/a
Brink, Rankin 2013 BRIA	Experiment	n/a	<ul style="list-style-type: none"> <li>• Risk aversion</li> <li>• Contract type <ul style="list-style-type: none"> <li>– Bonus-only</li> <li>– Penalty-only</li> <li>– Bonus and penalty</li> <li>– Clawback where bonus&gt;penalty</li> <li>– Clawback where bonus&lt;penalty</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Choice of compensation contract</li> </ul>	The experiment compares five economically equivalent compensation contracts. The contracts differ in their inclusion of bonus, penalty, and clawback features. The experiment shows that people are less willing to accept contracts that include malus clauses or clawback clauses.	[1] n/a [2] 156 students (thereof 102 undergraduate and 54 graduate) [3] n/a [4] n/a
Brown, Davis-Friday, Guler 2011 Working Paper	Archival	<ul style="list-style-type: none"> <li>• Firm visibility <ul style="list-style-type: none"> <li>– Firm size</li> <li>– Recent issuance of debt or equity</li> </ul> </li> <li>• CEO influence <ul style="list-style-type: none"> <li>– CEO tenure</li> <li>– CEO duality</li> <li>– Percentage of inside directors</li> <li>– Board size</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Type of clawback <ul style="list-style-type: none"> <li>– Fraud-based</li> <li>– Performance-based</li> <li>– Non-compete</li> <li>– Other</li> </ul> </li> </ul>	n/a	Firm visibility, previous restatements, extraordinary M&A bonuses, and goodwill impairments increase the likelihood of clawback adoption. Influential CEOs reduce a firm's propensity to adopt a clawback provision.	[1] Voluntary clawbacks [2] S&P 1500 [3] 2005-2009 [4] 252

		<ul style="list-style-type: none"> <li>• M&amp;A bonus size</li> <li>• Previous restatement</li> <li>• Goodwill impairment</li> </ul>				
Brown, Davis-Friday, Guler, Marquardt 2015 JBFA	Archival	<ul style="list-style-type: none"> <li>• M&amp;A announcement returns</li> <li>• Accounting quality of acquired targets</li> </ul>	n/a	<ul style="list-style-type: none"> <li>• Investor perception of M&amp;A quality</li> <li>• Responsiveness of executives to the market when completing M&amp;A deals</li> </ul>	<p>Clawback improve investors' perceived M&amp;A quality and make executives more responsive to the market in case they complete M&amp;A deals.</p> <p>Firms are more likely to adopt compensation clawbacks when they have more negative M&amp;A announcement returns and when they acquire targets with poor accounting quality.</p>	<p>[1] Voluntary clawbacks  [2] n/a  [3] 2001-2010  [4] 577</p>
Cashman, Harrison, Panasian 2016 JFR	Archival	<ul style="list-style-type: none"> <li>• Complexity <ul style="list-style-type: none"> <li>– Firm size</li> <li>– Leverage</li> <li>– Growth options</li> <li>– Prior stock performance</li> </ul> </li> <li>• Creditor relationship <ul style="list-style-type: none"> <li>– Prior malfeasance</li> <li>– Investment grade debt outstanding</li> </ul> </li> <li>• External monitoring <ul style="list-style-type: none"> <li>– Presence of financial analysts</li> <li>– Percent institutional investors</li> <li>– Percent blockholders</li> </ul> </li> <li>• CEO compensation incentives <ul style="list-style-type: none"> <li>– Total compensation</li> <li>– Incentive-based compensation</li> </ul> </li> <li>• Managerial entrenchment <ul style="list-style-type: none"> <li>– State of Maryland incorporation</li> <li>– CEO duality</li> <li>– % owned by insiders</li> <li>– Poison pill indicator</li> </ul> </li> </ul>	n/a	<ul style="list-style-type: none"> <li>• Market response <ul style="list-style-type: none"> <li>– Monthly raw return</li> <li>– Abnormal return</li> </ul> </li> </ul>	<p>Results show a positive market response to clawback adoption by real estate investment trusts (REITs). REITs are more likely to adopt clawback provisions with increasing complexity. The authors find some evidence that clawback adoption is determined by a firm's creditor relationship, the CEO's compensation incentives, and managerial entrenchment.</p>	<p>[1] Voluntary clawbacks  [2] Real Estate Investment Trusts (REITs)  [3] 1994-2011  [4] 48</p>

		<ul style="list-style-type: none"> <li>- Board quality</li> <li>- Board size</li> <li>- Board independence</li> <li>- Staggered board indicator</li> </ul>				
Chan, Chen, Chen 2013 JFE	Archival	n/a	<ul style="list-style-type: none"> <li>• High restatement risk before clawback adoption</li> </ul>	<ul style="list-style-type: none"> <li>• Number of financial covenants per loan contract</li> <li>• Interest rate</li> <li>• Loan maturity</li> <li>• Loan collateral</li> </ul>	Firms use more financial covenants in their loan contracts after clawback adoption. Also, following the clawback adoption, their loans have lower interest rates, higher maturities and fewer collaterals compared to non-adopting firms. Above effects are more pronounced for firms with poor reporting quality prior to clawback adoption.	[1] Voluntary clawbacks [2] Russel 3000 [3] 2005-2009 [4] 147
Chan, Chen, Chen, Yu 2012 JAE	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• Likelihood of accounting restatements</li> <li>• Perceived accounting quality</li> <li>• Auditor's assessment of internal controls</li> <li>• Audit risk <ul style="list-style-type: none"> <li>- Audit fees</li> <li>- Lag of audit report issuance</li> </ul> </li> </ul>	Firms with compensation clawbacks in place are less likely to issue accounting restatements and are perceived to have a higher accounting quality by investors. Also, in case of clawback adoption, auditors report less internal control weaknesses, demand fewer audit fees and make timelier audit reports.	[1] Voluntary clawbacks [2] Russel 3000 [3] 2000-2009 [4] 343
Chan, Chen, Chen, Yu 2015 TAR	Archival	n/a	<ul style="list-style-type: none"> <li>• Institutional ownership</li> <li>• Growth opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• AEM</li> <li>• REM</li> </ul>	Subsequent to the adoption of clawback provisions, AEM decreases and REM increases. The substitution effect is more pronounced for firms with high growth opportunities or high transient institutional ownership.	[1] Voluntary clawbacks [2] Russel 3000 [3] 2000-2009 [4] 236
Chen, Deng 2012 Working Paper	Theoretical	n/a	n/a	n/a	The study models a two-period principal-agent setting in which a manager can manipulate both, the earnings report based on which she is paid as well as the signal based on which the clawback is triggered. When influencing the signal that triggers the clawback is very costly, clawback provisions can completely eliminate the manager's incentive to misreport. However, even if the signal that triggers the clawback can be	[1] n/a [2] n/a [3] n/a [4] n/a

					influenced at no cost, a clawback is still optimal.	
Chen, Greene, Owers 2015 RCFS	Theoretical /Archival	<ul style="list-style-type: none"> <li>• Risk aversion <ul style="list-style-type: none"> <li>– % shares outstanding held by CEO</li> <li>– Closeness of CEO to retirement age</li> </ul> </li> <li>• Fundamental earnings risk</li> <li>• Noisiness of information available to top management <ul style="list-style-type: none"> <li>– Age of the firm</li> <li>– Avg. sales growth over the last 3 years</li> <li>– Occurrence of previous restatement</li> <li>– CEO served for at least 2 years in current position</li> </ul> </li> </ul>	n/a	<ul style="list-style-type: none"> <li>• Aggressiveness of financial reporting <ul style="list-style-type: none"> <li>– Frequency of restatements</li> <li>– AEM</li> </ul> </li> <li>• Total CEO pay</li> <li>• Pay-for-performance sensitivity</li> <li>• Abnormal return</li> </ul>	Clawback adoption reduces aggressiveness of financial reporting and increases both, CEO pay-for-performance sensitivity and total CEO pay. The results are in line with the authors' theoretical predictions of a simple contracting model. Firms are more likely to adopt clawbacks when managerial risk aversion, the noisiness of information available to the firm, and the fundamental earnings risk are low.	[1] Voluntary clawbacks [2] Fortune 1000 [3] 2004-2011 [4] 515
Chen, Vann 2014 Int. J. Corporate Governance	Archival	<ul style="list-style-type: none"> <li>• Internal corporate governance <ul style="list-style-type: none"> <li>– Board independence</li> <li>– Number of board meetings</li> <li>– Board size</li> <li>– CEO-duality</li> <li>– CEO tenure</li> </ul> </li> <li>• External corporate governance <ul style="list-style-type: none"> <li>– Leverage</li> <li>– Percentage of institutional investors</li> </ul> </li> </ul>	n/a	<ul style="list-style-type: none"> <li>• Firm performance <ul style="list-style-type: none"> <li>– ROE</li> <li>– Adjusted ROE</li> <li>– ROA</li> <li>– Adjusted ROA</li> </ul> </li> </ul>	The adoption of compensation clawbacks is positively associated to measures of internal corporate governance and to measures of external corporate governance. Clawback adopters have a significantly higher future performance than non-adopting firms.	[1] Voluntary clawbacks [2] S&P 1500 [3] 2005-2009 [4] n/a
Chen, Vann 2017 JBFA	Archival	<ul style="list-style-type: none"> <li>• Strength of the board <ul style="list-style-type: none"> <li>– Board independence</li> <li>– Board diligence</li> <li>– Board size</li> </ul> </li> <li>• Management entrenchment <ul style="list-style-type: none"> <li>– CEO duality</li> <li>– CEO tenure</li> </ul> </li> </ul>	n/a	<ul style="list-style-type: none"> <li>• Abnormal investment</li> <li>• Corporate risk-taking</li> </ul>	Clawback adoption is more likely when the internal corporate governance is strong. Abnormal investment and corporate risk-taking decrease following the adoption of compensation clawbacks.	[1] Voluntary clawbacks [2] S&P 1500 [3] 2005-2009 [4] 238

		<ul style="list-style-type: none"> <li>- CEO ownership percentage</li> <li>- CEO pay slice</li> </ul>				
Cheng, Hu, Sun, Xie 2017 Working Paper	Archival	<ul style="list-style-type: none"> <li>• Fraction of clawback firms in blockholder portfolios</li> </ul>	<ul style="list-style-type: none"> <li>• Blockholder is activist indicator</li> <li>• Board independence</li> <li>• Previous restatement</li> <li>• Competitiveness of industry</li> </ul>	<ul style="list-style-type: none"> <li>• Earnings quality</li> <li>• Firm value</li> <li>• R&amp;D expenditure</li> </ul>	Clawback adoption is more likely when institutional blockholders of the firm have other firms in their portfolio that already have clawbacks in place. The effect is stronger for activist blockholders than for non-activist blockholders and is more pronounced when the firms have a restatement history, less independent boards, or act in a highly competitive market. Following clawback adoption, earnings quality, firm value, and R&D expenditure increases.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] Russel 3000</li> <li>[3] 2009-2014</li> <li>[4] n/a</li> </ul>
Davis-Friday, Fried, Jenkins 2011 Working Paper	Archival	<ul style="list-style-type: none"> <li>• Previous restatement</li> </ul>	<ul style="list-style-type: none"> <li>• Voluntary vs. TARP-clawback adoption</li> <li>• Clawback type <ul style="list-style-type: none"> <li>- Performance-based</li> <li>- Fraud</li> <li>- Non-compete</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• ERC</li> </ul>	The response to earnings surprises significantly declines following the voluntary adoption of performance-based and fraud clawbacks. Conversely, there is an increase in ERC when mandatory TARP-clawbacks are adopted. Firms are more likely to adopt compensation clawbacks in case they have a previous restatement.	<ul style="list-style-type: none"> <li>[1] Voluntary and mandatory clawbacks</li> <li>[2] n/a</li> <li>[3] 2004-2009</li> <li>[4] 412 voluntary and 97 TARP-clawback adopters</li> </ul>
Dehaan, Hodge, Shevlin 2013 CAR	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• Actual financial reporting quality <ul style="list-style-type: none"> <li>- Meet-or-beat behavior</li> <li>- Unexplained audit fees</li> <li>- # of restatements</li> </ul> </li> <li>• Perceived financial reporting quality <ul style="list-style-type: none"> <li>- Earnings response coefficient</li> <li>- Analyst forecast dispersion</li> </ul> </li> <li>• Pay-for-performance sensitivity</li> <li>• CEO compensation <ul style="list-style-type: none"> <li>- Total compensation</li> <li>- Base pay</li> <li>- Incentive pay</li> </ul> </li> </ul>	Both, actual and perceived financial reporting quality increase following clawback adoption. When a firm has clawback provisions in place, responsiveness of CEO compensation to accounting performance increases. However, CEOs demand a higher base and total compensation when clawbacks are introduced.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] n/a</li> <li>[3] 2005-2010</li> <li>[4] 228 (compensation sample) / 258 (financial reporting sample)</li> </ul>
Erkens, Gan, Yurtoglu	Archival	n/a	<ul style="list-style-type: none"> <li>• Strength of the clawback</li> </ul>	<ul style="list-style-type: none"> <li>• Reporting quality</li> <li>• CEO turnover</li> </ul>	Compared to adopters of a weak clawback policy, adopters of strong	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] Russel 3000</li> </ul>

2017 Working Paper				<ul style="list-style-type: none"> <li>• Total CEO compensation</li> <li>• Non-incentive CEO compensation</li> <li>• Incentive CEO compensation</li> </ul>	clawbacks experience an increase in reporting quality and a decrease in CEO turnover. Conversely, firms with weak clawbacks show higher increases in total and incentive-based CEO pay than adopters of strong clawbacks. Clawback adopters do not differ in the percentage of non-incentive CEO pay depending on the strength of the clawback.	[3] 2007-2013 [4] 1092
Erkens, Gan, Yurtoglu 2014 Working Paper	Archival	<ul style="list-style-type: none"> <li>• Top-executive pay level</li> <li>• CEO power <ul style="list-style-type: none"> <li>– CEO pay slice</li> <li>– CEO tenure</li> <li>– CEO duality</li> </ul> </li> <li>• Corporate governance <ul style="list-style-type: none"> <li>– Board size</li> <li>– Percentage of directors with more than four directorships</li> </ul> </li> <li>• Profitability</li> <li>• Management ownership</li> </ul>	• Deterrence of clawback adoption (used instead of clawback adoption as a dependent variable)	n/a	The authors construct a deterrence index of clawback policies. They provide some evidence that firms are more likely to adopt low deterrent clawbacks when they exhibit increased levels of CEO power, a high executive pay level, or weak corporate governance structures. The deterrent level increases with profitability and management ownership.	[1] Voluntary clawbacks [2] Russel 3000 [3] 2007-2012 [4] n/a
Fung, Raman, Sun, Xu 2015 J. Account. Public Policy	Archival	n/a	• Presence of insider trading	• Fraud risk	Clawback adopters experience a significant decrease in fraud risk following clawback adoption. The effect disappears in presence of insider trading.	[1] Voluntary clawbacks [2] n/a [3] 2003-2012 [4] 414
Fung, Raman, Sun, Xu 2017 Working Paper	Archival	n/a	<ul style="list-style-type: none"> <li>• Financial reporting quality <ul style="list-style-type: none"> <li>– Abnormal accruals</li> <li>– Fraud risk</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Likelihood of a management earnings forecast</li> <li>• Time horizon of management earnings forecast <ul style="list-style-type: none"> <li>– Earnings warning</li> <li>– Short-term forecast</li> <li>– Long-term forecast</li> </ul> </li> <li>• Specificity of the management earnings forecast</li> <li>• Nature of forecast news</li> </ul>	Following clawback adoption, firms are more likely to issue management earnings forecasts. Subsample analyses show that the effect is driven by firms with high financial reporting quality who issue more long-term forecasts. There is some evidence that firms increase the specificity of forecasts following clawback adoption. The increase in forecasts is not biased toward either negative or positive news.	[1] Voluntary clawbacks [2] n/a [3] 2003-2013 [4] 1029
Gao, Iskandar-Datta, Jia	Archival	<ul style="list-style-type: none"> <li>• Firm size</li> <li>• Leverage</li> </ul>	Moderators regarding the stock market reaction:	• Stock market reaction	Firms that adopt clawback policies experience positive stock market	[1] Voluntary clawbacks [2] Russel 3000,

2011 Working Paper		<ul style="list-style-type: none"> <li>• Accounting performance <ul style="list-style-type: none"> <li>– ROA</li> <li>– Negative earnings indicator</li> </ul> </li> <li>• Growth opportunities</li> <li>• Previous restatement</li> <li>• Pay-for-performance sensitivity</li> <li>• Equity incentives</li> <li>• CEO entrenchment <ul style="list-style-type: none"> <li>– CEO turnover</li> <li>– CEO tenure</li> </ul> </li> <li>• Corporate governance climate</li> <li>• Board independence</li> <li>• CEO duality</li> </ul>	<ul style="list-style-type: none"> <li>• Clawback type <ul style="list-style-type: none"> <li>– Performance-based</li> <li>– Misconduct</li> <li>– Non-compete</li> </ul> </li> <li>• Previous restatement</li> <li>• Proportion of CEO equity-based pay</li> <li>• Pay-for-performance sensitivity</li> <li>• CEO entrenchment <ul style="list-style-type: none"> <li>– CEO turnover</li> <li>– CEO turnover</li> </ul> </li> <li>• CEO duality</li> </ul>		<p>reactions. The market reaction is more pronounced for firms with a previous restatement or an entrenched management. The market response is highest for firms with a previous restatements and a tilt toward equity-based incentives.</p> <p>Large firms, firms with a previous restatement, and firms with high board independence are more likely to adopt clawbacks. There is a negative association between clawback adoption and leverage, growth opportunities, and CEO influence.</p>	<p>S&amp;P 1500, Fortune 1000 [3] 2005-2009 [4] 285</p>
Hales, Koka, Venkataraman 2017 Working Paper	Experiment	n/a	<ul style="list-style-type: none"> <li>• Board monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• AEM</li> <li>• REM</li> <li>• Total earnings management</li> </ul>	<p>Managers switch from AEM to REM after clawback adoption. The total amount of earnings management remains unchanged. Under board monitoring, managers reduce AEM, REM, and TEM and the substitution effect of clawback adoption turns insignificant.</p>	<p>[1] Mandatory clawbacks [2] 127 MBA-students [3] n/a [4] n/a</p>
Hodge, Winn 2012 Working Paper	Experiment	n/a	<ul style="list-style-type: none"> <li>• Indicator of previous riskiness of reporting</li> <li>• Compensation arrangement <ul style="list-style-type: none"> <li>– Clawback</li> <li>– Holdback</li> <li>– No recovery</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Change in riskiness of reporting</li> <li>• Perceived responsibility</li> <li>• Anger</li> </ul>	<p>The experiment compares clawbacks, holdbacks, and compensation contracts without recoveries with respect to the risk that managers take in reporting. Managers reduce risky reporting choices after a clawback/holdback clause is triggered by a restatement. The effect is more pronounced for managers who made relatively more risky reporting decisions before the trigger event. When clawbacks are in place, managers with relatively conservative reporting choices prior to the restatement even increase risky reporting decisions. This is mainly because they do not feel responsible</p>	<p>[1] Mandatory clawbacks [2] 65 MBA-students [3] n/a [4] n/a</p>

					for the restatement and therefore get angry.	
Huang, Jacoby, Zeng, Zhang 2016 Working Paper	Archival	n/a	<ul style="list-style-type: none"> <li>• Previous restatement</li> </ul>	<ul style="list-style-type: none"> <li>• Valuation of cash holdings</li> </ul>	Investors value cash of firms with clawback policies more positively. The effect is stronger for firms with a previous restatement.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] Russel 3000</li> <li>[3] n/a</li> <li>[4] 3897</li> </ul>
Huang, Lim, Ng 2018 European Accounting Review	Archival	<ul style="list-style-type: none"> <li>• Percentage of directors appointed after the CEO (co-opted directors)</li> <li>• CEO tenure</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of co-opted directors in the compensation committee</li> <li>• Likelihood of future enforcement of the clawback</li> </ul>	n/a	Clawback adoption is less likely the higher the percentage of co-opted directors. Board tenure mediates the relationship between board co-option and clawback adoption. The negative effect of co-opted directors on clawback adoption is more pronounced when co-opted directors are also part of the compensation committee or when there is a higher likelihood of future enforcement of the clawback.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] n/a</li> <li>[3] 2007-2013</li> <li>[4] n/a</li> </ul>
Iskandar-Datta, Jia 2013 TAR	Archival	<ul style="list-style-type: none"> <li>• Firm size</li> </ul>	<ul style="list-style-type: none"> <li>• Publication of a restatement in the 4 years preceding the adoption of the clawback</li> </ul>	<ul style="list-style-type: none"> <li>• Market response</li> <li>• Information quality <ul style="list-style-type: none"> <li>– Bid-ask spread</li> <li>– Share turnover</li> </ul> </li> <li>• Executive compensation <ul style="list-style-type: none"> <li>– Total CEO compensation</li> <li>– Fixed CEO compensation</li> <li>– Performance-based CEO compensation</li> </ul> </li> </ul>	Firms experience a positive market response and an increase in information quality following clawback adoption. The effects are more pronounced for firms with a previous restatement. There is no evidence of increased CEO compensation after clawback adoption.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] Russel 3000, S&amp;P 1500, Fortune 1000</li> <li>[3] 2005-2009</li> <li>[4] 246</li> </ul>
Kroos, Schabus, Verbeeten 2017 TAR	Archival	n/a	<ul style="list-style-type: none"> <li>• CFO indicator</li> <li>• Type of clawback <ul style="list-style-type: none"> <li>– Performance-based</li> <li>– Fraud-based</li> </ul> </li> <li>• Susceptibility to misreporting <ul style="list-style-type: none"> <li>– Internal control material weakness disclosures</li> <li>– Absolute abnormal accruals</li> <li>– Power differential between CEO and CFO</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• CFO bonus pay-for-performance sensitivity</li> <li>• Bonus pay-for-performance sensitivity of named executive officers</li> <li>• CFO equity pay-for-performance sensitivity</li> <li>• Level of CFO pay <ul style="list-style-type: none"> <li>– CFO total compensation</li> <li>– CFO salary</li> <li>– CFO bonus</li> <li>– CFO option awards</li> </ul> </li> </ul>	CFO bonus incentives increase following clawback adoption. This increase is higher than the increase in bonus incentives of other executives. The relation between accounting performance and CFO bonus is weaker in subsamples that indicate that firms are highly susceptible to misreporting.	<ul style="list-style-type: none"> <li>[1] Voluntary clawbacks</li> <li>[2] Russel 3000</li> <li>[3] 2007-2013</li> <li>[4] n/a</li> </ul>

			– Power differential between audit committee and CFO			
Kubick, Omer Wiebe 2017 Working Paper	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• Effective tax rate</li> <li>• Tax planning activities <ul style="list-style-type: none"> <li>– Tax haven use</li> <li>– Investments in auditor-provided tax-services</li> <li>– Connections to other low-tax companies</li> </ul> </li> <li>• Tax outcome volatility</li> <li>• Tax disclosure <ul style="list-style-type: none"> <li>– Gunning-Fog index</li> <li>– Smog readability index</li> <li>– Length of footnotes</li> <li>– Number of sentences</li> </ul> </li> <li>• Accruals <ul style="list-style-type: none"> <li>– Pre-tax accruals</li> <li>– Tax accruals</li> </ul> </li> </ul>	The effective tax rate declines significantly when clawbacks are adopted. Results suggest that the decrease is due to better tax planning activities of clawback adopting firms.	[1] Voluntary clawbacks [2] n/a [3] 2005-2011 [4] 249
Gnägi, Kunz 2018 Working Paper	Experiment	n/a	<ul style="list-style-type: none"> <li>• Previous restatement</li> </ul>	<ul style="list-style-type: none"> <li>• Investor skepticism toward REM</li> <li>• Investment attractiveness</li> </ul>	Unsophisticated investors become less skeptical toward REM when clawbacks are adopted and the effect is stronger for firms with a previous restatement. Conversely, accounting professionals are not affected in their skepticism when clawbacks are implemented.	[1] Mandatory clawbacks [2] 99 university students and 140 accounting professionals [3] n/a [4] n/a
Kyung, Lee, Marquardt 2016 Working Paper	Archival	n/a	<ul style="list-style-type: none"> <li>• Net operating assets (NOA)</li> <li>• Use of short-term incentive plans</li> </ul>	<ul style="list-style-type: none"> <li>• Frequency of non-GAAP earnings</li> <li>• Quality of non-GAAP earnings</li> <li>• Use of non-GAAP earnings to meet or beat benchmarks</li> <li>• Quality of GAAP earnings <ul style="list-style-type: none"> <li>– ERC</li> <li>– AEM</li> <li>– REM</li> </ul> </li> </ul>	Managers more frequently release non-GAAP earnings disclosures following clawback adoption. In addition, the disclosure quality of non-GAAP earnings deteriorates while meet-and-beat-behavior increases. The increase in non-GAAP earnings works as a substitute for the decrease in AEM.	[1] Voluntary clawbacks [2] Russel 3000 [3] 2005-2009 [4] 297
Levine, Smith 2010 Working Paper	Theoretical	n/a	n/a	n/a	The study sets up a two period principal-agent model to test under which circumstances, clawback contracts are efficient. A no-clawback contract dominates the clawback	[1] n/a [2] n/a [3] n/a [4] n/a

					contract if the cash realization is relatively noisy, earnings management is difficult, or the agent is very impatient. Otherwise clawback contracts are optimal.	
Li 2014 Dissertation	Event study	n/a	<ul style="list-style-type: none"> <li>• Risk of earnings restatement <ul style="list-style-type: none"> <li>– Restatement 3 years prior to event date</li> <li>– Material internal control weakness</li> <li>– Earnings quality</li> </ul> </li> <li>• REM</li> <li>• Managers' risk aversion</li> </ul>	<ul style="list-style-type: none"> <li>• Market reaction</li> </ul>	Clawback enforcement is value-increasing for firms with a higher likelihood of restating earnings and is value-decreasing for firms with more REM and where managers are risk-averse.	[1] Mandatory clawbacks [2] All companies with available data from Audit Analytics, Compustat and CRSP databases. [3] November 15, 2011 [4] No clawback identification
Lin 2013 WASET	Archival	n/a	<ul style="list-style-type: none"> <li>• Type of clawback (fraud clawbacks vs. unintentional error clawbacks)</li> </ul>	<ul style="list-style-type: none"> <li>• Financial reporting quality</li> </ul>	Adoption of voluntary clawbacks increases the likelihood of restatements in case of fraud clawbacks but not in case of error clawbacks.	[1] Voluntary clawbacks [2] n/a [3] 2003-2009 [4] 578
Lin 2017 Corp Govern Int Rev	Archival	n/a	<ul style="list-style-type: none"> <li>• Overconfidence</li> <li>• Option compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Overinvestment</li> </ul>	The adoption of compensation clawbacks mitigates overinvestment. The effect is more pronounced when executives are overconfident or when they have a higher option compensation.	[1] Voluntary clawbacks [2] n/a [3] 2006-2012 [4] 1093
Liu, Gan, Karim 2018 Advances in Accounting	Archival	n/a	<ul style="list-style-type: none"> <li>• Board governance <ul style="list-style-type: none"> <li>– Board independence</li> <li>– Outside directors with accounting/financial expertise</li> <li>– Interlocked directorship</li> <li>– Audit committee size</li> <li>– Board size</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Overinvestment</li> </ul>	Firms decrease their overinvestments following clawback adoption. The reduction in overinvestments is diluted when board governance is weak.	[1] Voluntary clawbacks [2] Russel 3000 [3] 2005-2014 [4] 200 clawback adopters
Mariola, Ryan 2013 JBA	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• Performance</li> <li>• Risk-taking behavior <ul style="list-style-type: none"> <li>– Ration of long-term debt to capitalization</li> <li>– Standard deviation of EBIT</li> </ul> </li> </ul>	Companies exhibit higher operating risk and a decrease in firm performance following clawback adoption.	[1] Voluntary clawbacks [2] Fortune 100 [3] 2002-2012 [4] 72
Mburu 2015 Working Paper	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• REM <ul style="list-style-type: none"> <li>– Abnormal production cost</li> </ul> </li> </ul>	The total measure of REM increases following clawback adoption, but individual measures provide	[1] Voluntary clawbacks [2] n/a

				<ul style="list-style-type: none"> <li>- Abnormal cash flow from operations</li> <li>- Abnormal discretionary expenses</li> <li>• CEO and CFO risk-taking <ul style="list-style-type: none"> <li>- Vega</li> <li>- Proportion unexercised in-the-money options to total compensation</li> <li>- Executive total compensation</li> <li>- Proportion of executive bonuses to total compensation</li> </ul> </li> <li>• Analyst forecast accuracy <ul style="list-style-type: none"> <li>- Analyst forecast errors</li> <li>- Combined measure of forecast accuracy</li> </ul> </li> <li>• Financial analyst following</li> <li>• Innovation output</li> </ul>	<p>inconclusive evidence. The authors find weak evidence of a decrease in managerial risk-taking. Measures of analyst following and analyst forecast accuracy are widely unaffected by the clawback. Clawback adopters significantly reduce their innovation output following the adoption of recoupment policies.</p>	<p>[3] 2010-2013 [4] 209</p>
Mburu, Tang 2015 Working Paper	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• CEO and CFO risk-taking <ul style="list-style-type: none"> <li>- Vega</li> <li>- Proportion of unexercised in-the-money options to total compensation</li> <li>- Executive total compensation</li> <li>- Proportion of executive bonuses to total compensation</li> </ul> </li> </ul>	<p>Following clawback adoption, CEOs' proportion of unexercised in-the-money options to total compensation and CFOs' proportion of bonus to total compensation decreases and provides weak evidence for reduced executive risk-taking behavior. The authors do not find that the CEO and the CFO of clawback firms show lower levels of risk-taking as measured by Vega.</p>	<p>[1] Voluntary clawbacks [2] n/a [3] 2010-2013 [4] 209</p>
Natarajan, Zheng 2017 JAAF	Archival	n/a	<ul style="list-style-type: none"> <li>• CEO in-the-money option value</li> <li>• Likelihood of a restatement</li> <li>• CEO duality</li> </ul>	<ul style="list-style-type: none"> <li>• Likelihood of financial restatements</li> <li>• CEO salary</li> </ul>	<p>The authors examine effects of the SOX-clawback. The relation between CEO in-the money stock options and the likelihood of financial restatements weakens following the SOX. Firms with a high likelihood of an accounting restatement and where the CEO is also the chair of the board experience an increase in CEO salary following the SOX-clawback imposition.</p>	<p>[1] Mandatory clawbacks [2] n/a [3] 1997-2006 [4] n/a</p>
Ng, Wu, Zhai, Zhao	Archival	n/a	<ul style="list-style-type: none"> <li>• Auditor entrenchment</li> <li>• External monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• AEM</li> <li>• REM</li> </ul>	<p>Instead of examining the clawback adoption itself, the authors investigate</p>	<p>[1] Voluntary clawbacks [2] S&amp;P 1500 and 500</p>

2018 Working Paper			<ul style="list-style-type: none"> <li>- Analyst coverage</li> <li>- Institutional investor ownership</li> </ul>		the effects of shareholder proposals. They find that shareholder proposals that demand a clawback decrease AEM and increase REM. The effects are more pronounced when firms have an entrenched auditor or when there is poor external monitoring.	other widely held firms [3] 1997-2014 [4] 46 audit and clawback shareholder proposals
Pyzoha 2015 TAR	Experiment	n/a	<ul style="list-style-type: none"> <li>• Quality of the auditor</li> </ul>	<ul style="list-style-type: none"> <li>• Acceptance of restatement recommendations from the auditor</li> </ul>	Executives are less likely to accept a restatement recommendation from a low quality auditor when their incentive based compensation is high vs. low. In case of high incentive based pay, executives are less likely to accept a restatement recommendation from a low quality auditor than from a high quality auditor.	[1] n/a [2] 112 financial reporting executives [3] n/a [4] n/a
Remesal 2018 Working Paper	Theoretical/ Archival	<ul style="list-style-type: none"> <li>• Firm size</li> <li>• Director independence</li> <li>• Peer adoption</li> </ul>	<ul style="list-style-type: none"> <li>• Pay-for-performance sensitivity of short-term compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Pay-for-performance sensitivity <ul style="list-style-type: none"> <li>- Short-term incentives</li> <li>- Long-term incentives</li> <li>- Total incentives</li> </ul> </li> <li>• Earnings management <ul style="list-style-type: none"> <li>- Frequency of restatements</li> <li>- Announcement of earnings close to the analyst forecast</li> </ul> </li> </ul>	Clawback adoption reduces the frequency of accounting manipulations and the effect is less pronounced when the firm previously relied on short-term incentives. Clawback adoption is significantly positively associated with firm size, director independence and peer adoption.	[1] Voluntary clawbacks [2] n/a [3] 2002-2016 [4] n/a
Yu 2013 Dissertation	Archival	n/a	n/a	<ul style="list-style-type: none"> <li>• AEM</li> <li>• REM</li> </ul>	After the adoption of compensation clawbacks, both, AEM and REM decrease.	[1] Voluntary clawbacks [2] S&P 1500 [3] 2000-2011 [4] 425
Zhang, Dorminey, Wier 2016 JTAR	Archival	n/a	<ul style="list-style-type: none"> <li>• Type of clawback <ul style="list-style-type: none"> <li>- Fraud-based</li> <li>- Performance-based</li> <li>- Other</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Debt costs <ul style="list-style-type: none"> <li>- Long-term</li> <li>- Short-term</li> </ul> </li> </ul>	Costs of debt decrease significantly in the short- and the long-term following the adoption of fraud-based and performance-based clawbacks.	[1] Voluntary clawbacks [2] n/a [3] 2005-2010 [4] 804
Zhang, Zhou 2017 JLFA, forthcoming	Archival	<ul style="list-style-type: none"> <li>• Previous restatement</li> </ul>	<ul style="list-style-type: none"> <li>• Audit committee financial expertise <ul style="list-style-type: none"> <li>- Accounting expertise</li> <li>- Non-accounting expertise</li> </ul> </li> </ul>	n/a	Firms with a restatement history are more likely to adopt clawbacks that are related to misrepresentation of financials. Audit committees with high financial expertise mitigate the effect of the previous restatement on clawback adoption. When no previous restatement exists, high accounting related financial expertise increases clawback adoption.	[1] Voluntary clawbacks [2] n/a [3] 2008 [4] 329

## ESSAY 2

### **Mandatory Compensation Clawbacks: Do Directors Reimburse Managers for Compensation Recoveries that Managers may Perceive as Unfair?**

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#### **Abstract**

I conduct an experiment to examine whether mandatory clawback recoveries affect directors' decisions about the future compensation of managers. I find that, following mandated clawback recoveries, directors use their discretion in setting management compensation to favor executives in two ways. First, directors increase compensation for managers who are not responsible for triggering the clawback compared to managers who are responsible. Results indicate that directors do so to reimburse non-responsible managers as directors anticipate that these managers perceive recoveries to be unfair. Second, directors give responsible managers the benefit of the doubt when the cause for triggering the clawback (error vs. misconduct) is unknown. That is, they pay managers an undue amount of compensation by treating managers as if they triggered the clawback due to unintentional error rather than intentional misconduct. Results suggest that, following clawback recoveries, directors incorporate justice considerations into their compensation decisions, thereby undermining the regulator's intention. Directors' decisions are potentially detrimental to shareholder value because they are likely to induce a deviation of management compensation from true performance. My findings have important policy implications by documenting that, contingent on their design, mandated clawbacks may have unintended side effects.

**Keywords:** clawback provisions; corporate governance; board of directors; accounting restatements

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## **1. Introduction**

Recent regulatory attempts to introduce mandatory clawback provisions have increased academic attention to compensation clawbacks. Clawbacks recover executive compensation when it is based on financial performance that is subsequently invalidated, most typically through an accounting restatement (Kyung et al. 2019). The board of directors is responsible for a firm's compliance with regulatory policies such as a clawback mandate (Cohen et al. 2013). However, playing a key part in the firm's corporate governance, the board has also means available to affect a regulation's effectiveness (Fama and Jensen 1983; Williamson 1984). That is, directors may take actions to negate the clawback policies if they expect the rule to harm the firm (Babenko et al. 2017). Whereas a strict clawback mandate may require the board to comply by always recovering compensation from executives in case the clawback is triggered, directors may use other mechanisms to undermine the proper functioning of the mandate. In this study, I focus on the setting where directors may adjust managers' future compensation to account for mandated clawback recoveries. In particular, I explore how directors set a manager's compensation after a restatement depending on i) whether the manager was responsible for the restatement (responsible vs. not responsible) and ii) the cause for the restatement (error, misconduct, or unknown).

It is important to examine directors' compensation decisions following clawback recovery for several reasons. First, boards have large discretion when it comes to determining management compensation (Bushman et al. 1996; Hall and Murphy 2000; Murphy 2001). Second, how directors react on clawback policies may depend on the design of the mandatory provisions. A current debate exists about whether a clawback mandate should cover managers who are not responsible for the restatement. Regulators and researchers have advocated clawback provisions that make managers subject to clawback recoveries independent of their responsibility for the restatement. Managers should return any compensation they would not have received, had the financial statements been issued correctly (White 2015). Permitting managers to keep excess compensation makes managers' compensation less sensitive to actual performance, thereby weakening the incentive alignment between owners and managers (Fried and Shilon 2011).

Conversely, critics support the view that it is unfair to require managers to forfeit their compensation if managers are not responsible for a restatement (Borges 2015; Donnelly 2015; Francis 2015; Gallagher 2015). Furthermore, recoveries from non-responsible

managers do not help to deter future misconduct and may therefore constitute an overly far-reaching regulatory intervention (Fried 2016; Savarese and Carlin 2009).

Drawing on psychological theory, I predict that following clawback recoveries, directors provide a higher compensation to non-responsible managers than to responsible managers. The basis for this prediction is that directors fear having dissatisfied managers when managers have to pay back compensation despite not being responsible for the restatement (Hodge and Winn 2012). Directors anticipate the perceived unfairness of their managers and therefore pay them a higher compensation (Agell and Lundborg 1995, 2003; Bewley 1999; Bol et al. 2010). Thus, directors' willingness to restore justice drives their compensation decisions.

Additionally, I posit that when a manager is responsible for the restatement, directors' decisions about managers' compensation depend on the cause for the restatement. Generally, restatements can be broadly categorized as either stemming from unintentional error or intentional misconduct (Hennes et al. 2008). I argue that following clawback recoveries, directors provide a lower compensation to responsible managers in case of misconduct than in case of error. In reality, however, the cause of restatements is often unknown (Plumlee and Yohn 2010a). If there is no clear evidence of misconduct, directors may give managers the "benefit of the doubt" (e.g. Erickson et al. 2017; Koonce et al. 2010). Therefore, I hypothesize that board members react to a restatement with unknown cause in a similar manner as to an error restatement. In particular, I predict that following clawback recoveries, directors' compensation decisions about a responsible manager do not differ from an error restatement when the cause of the restatement is unknown.

Using a  $2 \times 3$  between-subjects design, I test how directors compensate managers following clawback recoveries depending on the responsibility (responsible vs. not responsible) and the cause for the restatement (error, misconduct, or unknown). The experiment is self-contained and abstracts away from a firm-context. That is, I model an environment that is abstract but captures the incentives of a director who is required to make a compensation decision about a manager whose previous period compensation was partly recovered due to a clawback. My task environment consists of four players. I assign the subjects to a role analogous to directors. They are informed about three other hypothetical players who represent the owner of the firm (Red) and two division managers (Blue and Green). Red, Green, and Blue engage in a simple production game that captures the main incentives present in a firm-context. Subjects learn that they are hired by Red to set the future

compensation of Blue. To make their decision, they are provided with information about the performance and the compensation of Blue in the previous period. Subjects also learn that Blue's past period compensation was partly recovered due to a clawback. I vary between conditions whether Blue or Green was responsible for triggering the clawback. As a second manipulation, I vary the cause for triggering the clawback (error, misconduct, or unknown cause). After the subjects learn whether Blue was responsible and what led to the restatement, they decide on Blue's compensation for the next period.

Results show that directors favor managers following clawback recoveries in two ways. First, I find that directors pay more compensation to managers who were not responsible for the restatement compared to managers who were responsible. The effect is mediated by directors' willingness to restore justice. Second, I find support for the notion that directors give responsible managers the benefit of the doubt when the cause of the restatement is unknown. That is, directors pay responsible managers a lower compensation if managers intentionally misreported financial information (misconduct) compared to when managers made unintentional errors. But directors' compensation decisions do not differ when the restatement is due to error or of unknown cause.

My findings provide evidence of potential unintended consequences of mandatory compensation clawbacks. First, by making reimbursements to non-responsible managers following clawback recoveries, directors undermine the regulator's intention to return managers' excess compensation to shareholders. A mandate that covers managers irrespective of responsibility therefore runs the risk of becoming partly obsolete. Investors will ultimately bear the administrative cost of covering non-responsible managers, potentially without reaping any benefits. More so, since directors are likely to make reimbursements to managers in periods *after* the clawback recovery, the reimbursements are likely to distort managers' pay-for-performance incentives in these future periods. Regulators should be aware of this potential side effect when deciding about how to implement a clawback mandate. Second, I reveal a behavioral bias by documenting that directors give responsible managers the benefit of the doubt when the cause for the restatement is unknown. That is, directors pay managers who misreport an undue amount of compensation when they are unable to determine the cause of the restatement. The excessive compensation will be paid out of shareholders' pockets and weakens the incentive alignment between owners and managers. This may have detrimental effects on shareholders' investments.

The remainder of the paper is structured as follows. Section 2 provides background information about clawbacks and the current regulatory environment. In section 3, I draw on psychology theory to develop my hypotheses. Section 4 describes the experiment. Section 5 discusses the results and section 6 summarizes the findings and provides avenues for future research.

## **2. Institutional Background and Previous Literature**

Compensation clawbacks constitute a corporate governance mechanism to ex-ante deter managers from releasing incorrect accounting information and ex-post penalize managers who nonetheless do so (Dehaan et al. 2013). In particular, clawback provisions allow to recover compensation paid out to executives who acted in ways that are detrimental to companies and their shareholders (Kapner and Lucchetti 2012). The provisions define preconditions (so-called “trigger events”), based on which compensation can be recovered (Sharp 2012). Most compensation clawbacks tie the trigger event of the provision to the issuance of an accounting restatement (Babenko et al. 2017). That is, managers have to return incentive-based compensation if it is determined that, on the basis of restated financials, they are not entitled to parts of their compensation. As such, the clawback aims to more directly link compensation to managers’ behavior (Hodge and Winn 2012).

The Sarbanes-Oxley Act (SOX) first introduced mandatory clawbacks in 2002. The rule designated the Securities and Exchange Commission (SEC) to recover bonus compensation from the CEO and the CFO when a company issued an accounting restatement due to misconduct (U.S. House of Representatives 2002). However, because of the SEC’s constrained resources and the high difficulty of proving misconduct, the SEC executed the SOX-clawback only in a handful of cases (Fried and Shilon 2011; Iskandar-Datta and Jia 2013).

The Dodd-Frank Act (DFA) of 2010 expanded the scope of the clawbacks considerably, though it is not enforced yet. The DFA introduced mandatory clawback policies for firms that are listed at U.S. stock exchanges (U.S. House of Representatives 2010). To implement the provision, the SEC proposed a rule requiring executive officers to pay back any excess incentive-based compensation paid out due to overstated financials in case of a material accounting restatement (SEC 2015).<sup>1</sup> Notably, the rule proposes to make clawback recoveries

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<sup>1</sup> The term executive officer includes the company’s president, principal financial officer, principal accounting officer, any vice-president in charge of a principal business unit, division, or function, and any other person who performs policy-making functions for the company (SEC 2015, 41152-41153).

from managers independent of the responsibility or the cause of the restatement. That is, the rule requires managers to forfeit compensation even if they are not responsible (Bainbridge 2011). The proposal is consistent with the idea that managers should return any compensation they would not have received, had the financials been issued correctly (White 2015). Such excess compensation is paid out at the expense of shareholders and is thus detrimental to firm value. Furthermore, excess compensation does not reflect managers' true performance, thereby weakening incentive alignment between owners and managers if managers are allowed to keep it (Fried and Shilon 2011).

Conversely, a new bill, the Financial Choice Act, aims at limiting the DFA-clawback to apply only to managers who were responsible for the financial reporting that led to a restatement (U.S. House of Representatives 2017). The underlying motive of this initiative is that a mandate should not cover non-culpable managers because they may perceive recoveries as unfair (Gallagher 2015). Moreover, covering such managers does not deter future misconduct (Savarese and Carlin 2009) and may thus constitute a too far-reaching intervention (Fried 2016). The two proposals for mandatory clawback implementation reflect the current debate about whether managers who are not responsible for a restatement should be subject to clawback recoveries.

Although regulators have been discussing clawbacks for several years, research on the consequences of mandatory clawbacks is relatively scarce. Experimental research provides some initial evidence of potential unintended effects of a clawback mandate. Pyzoha (2015) reports that in the presence of a restatement-triggered clawback, managers will try to resist the issuance of a restatement, and that this tendency is highest when managers face high financial incentives and low quality auditors. Hales et al. (2018) demonstrate that under mandated clawbacks (compared to no clawbacks), managers increase the use of earnings management practices that are less subject to the provision. I extend this stream of research by examining how directors make decisions about the future compensation of managers following mandated clawback recoveries. Board members play an important role for a firm's corporate governance structure and are likely to affect the effectiveness of new regulations, such as clawbacks (Cohen et al. 2013; Fama and Jensen 1983; Williamson 1984). Rather than analyzing the consequences of the adoption of a mandatory clawback, I examine director behavior after clawback recoveries. In particular, I investigate whether the board of directors uses its discretion in setting management pay as a response to managers' unfairness perceptions of mandated clawback recoveries. In the next section, I develop hypotheses on

how the clawback recoveries will affect directors' future compensation decisions depending on whether a manager was responsible for triggering the clawback.

### **3. Theory and Hypothesis Development**

#### **3.1 Responsibility and Perceived Fairness**

Fairness perceptions significantly influence employees' job satisfaction and effort motivation (Cohen-Charash and Spector 2001; Colquitt et al. 2001). Perceived unfairness in compensation may give rise to retributive responses such as effort reduction (Hannan 2005), self-dealing behavior (Asay et al. 2018; Chen and Sardino 2012; Houser et al. 2012), or destructive work behavior (Cohen-Charash and Mueller 2007). From a contracting perspective, agents will regard a compensation contract as fair when it is based on objective criteria that agents accepted (Asay et al. 2018). However, individuals may change their perception of fairness after the outcome of the contract is revealed (Trautmann and Van de Kuilen 2016). For instance, when an uncontrollable event negatively affects the outcome of a contract, individuals perceive the compensation as unfair even though they agreed upon the contract and perceived it as being fair ex-ante (Asay et al. 2018). Analogously, managers may consider compensation recoveries based on pre-defined trigger events as fair ex-ante. However, they are likely to view them as unfair ex-post when they have to pay back compensation, especially in absence of their personal responsibility for triggering the clawback.

Hodge and Winn (2012) provide evidence that managers react differently to compensation recoveries depending on the degree to which they feel responsible for the restatement. The authors demonstrate that managers view recoveries as more unfair when they do not feel responsible for them. This causes feelings of anger and frustration on the part of managers who, as a consequence, engage in overly risky behavior (Hodge and Winn 2012). Anecdotal evidence additionally supports the premise that innocent managers perceive recoveries to be unjust. Maynard Jenkins, the former CEO of CSK Auto Corp., argued that any recovery constitutes a punishment in absence of wrongdoing (Villareal et al. 2010). The SEC sued him based on the SOX-clawback to seek recovery in absence of personal responsibility. Jenkins was willing to put up with a costly and lengthy lawsuit to defend himself against the recovery, potentially to protect his reputation.

The endowment effect is likely to reinforce managers' perceived unfairness of clawback recoveries. Psychology theory suggests that individuals value things more when they belong

to them (Kahneman et al. 1990; Thaler 1980). The endowment effect increases the loss felt from the recovery compared to the situation where the manager didn't receive the money in the first place. Brink and Rankin (2013) conduct a set of experiments where they offer subjects various economically equivalent compensation contracts. They find that participants prefer malus clauses over clawback clauses if expected payoffs are equal. Malus clauses penalize participants directly for poor performance and only pay out the net amount of compensation. Conversely, clawbacks allow to later recover paid-out compensation in case of poor performance. The result indicates that individuals suffer more from clawed back amounts compared to not receiving the compensation in the first place.

### **3.2 Directors' Response to Perceived Unfairness of Managers**

Prior research suggests that people are not simply concerned about experiencing fairness themselves but they also care about others being treated fairly (Blader et al. 2013; O'Reilly et al. 2016; Skarlicki and Kulik 2005; Turillo et al. 2002). That is, people try to evade behavior that may be perceived as unfair by others. Weiner (1995) argues that when someone is negatively affected by an event for which one was not responsible, observers feel sympathy and compassion for that individual. Such feelings evoke prosocial behavior, such as offering help (Weiner 1995). Observers are willing to accept a personal cost to make up for the harm done to the victim. By compensating them they intend to restore victims to their pre-transgression state (Darley and Pittman 2003). Such behavior is likely to be founded in reciprocity, a mechanism that allows to sustain cooperation over time (Axelrod 1984).

Prior research documents that compensatory payments reduce injustice in various business settings. In supervisor-employee relationships, several studies provide evidence that supervisors favor employees who feel unfairly treated. Surveys (Agell and Lundborg 1995, 2003; Bewley 1999, Bol et al. 2010) find evidence that employers (i.e. personnel managers) anticipate perceived unfairness of their employees. Bol et al. (2010) report that supervisors make use of their discretion in target setting to address fairness issues. Nadisic (2008) documents that supervisors allocate company-owned resources to unfairly treated employees to mitigate injustice.

Applied to compensation clawbacks, I argue that directors will account for the perceived unfairness of non-responsible managers and therefore increase their future compensation as a compensatory measure. Previous research reports that compensation committees are in most cases responsible for determining management compensation (Hermanson et al. 2012)

and generally have substantial discretion (Bushman et al. 1996). Fairness considerations play an important role for board members when it comes to management compensation (Hermanson et al. 2012). Thus, directors are likely to use their discretion to balance perceived injustice from clawback recoveries.<sup>2</sup> I claim that directors' future compensation decisions differ depending on whether a manager was responsible for triggering the clawback that led to the recovery.

***H1:** After clawback recoveries, directors pay a higher (lower) compensation to managers who were not responsible (were responsible) for triggering the clawback.*

I additionally argue that the differences in compensation decisions are a result of directors' justice considerations. I predict that board members pay non-responsible managers a higher compensation because they intend to make up for managers' perceived unfairness.

***H2:** Directors' willingness to restore justice mediates the effect of managers' responsibility for the trigger event on directors' compensation decision.*

### **3.3 The Benefit of the Doubt**

Next, I consider how directors' make compensation decisions about a manager who was responsible for triggering the clawback. Specifically, I examine how directors' decisions about the future compensation of a responsible manager are affected by the cause of the trigger event. The most commonly used trigger-event for both voluntary and mandatory clawbacks is an accounting restatement (Babenko et al. 2017). Investors, boards, and regulators generally distinguish between error and misconduct as cause for a restatement (Hennes et al. 2008). The two possible causes for a restatement are likely to affect board members differentially when making compensation decisions about a responsible manager. Weiner (1995) suggests that people hold others more accountable for a negative outcome when they perceive the act as being committed intentionally compared to when it is due to negligence. They consider intentional transgressors to assert superiority to the accepted moral system (Miller and Vidmar 1981). The intentional violation of norms upsets people

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<sup>2</sup> The proposed rule prohibits that firms indemnify their managers or pay for insurance that protects managers from reimbursements (SEC 2015, 41168-41169). Whereas mandatory clawbacks may prohibit that firms indemnify managers whose compensation is recovered, directors will likely find ways to camouflage compensatory payments via pension plans, deferred compensation, perks, or consulting contracts (Bebchuk and Fried 2004).

because they place the offender above the normative standards used to govern social life (Folger et al. 2005). They therefore perceive intentional wrongdoing as more severe because it threatens the social order (Heider 1958; Miller and Vidmar 1981). Conversely, in case of negligence, they do not judge the perpetrator as harshly compared to when transgressions occurred intentionally (Weiner 1995).

Prior research provides evidence that observers react more negatively when the transgressor causes damage intentionally (Umphress et al. 2013). The phenomenon reconciles with negative reciprocity (Güth et al. 1982) that constitutes a mechanism to prevent future opportunistic behavior of individuals (Fehr and Gächter 1998). In a firm context, Brown and Moser (2017) find that investors are willing to pay money to litigate managers who engaged in misreporting even if investors do not have a direct financial incentive to do so. Research suggests that whether a restatement is due to error or misconduct is likely to affect board members' behavior (Burks 2010). In absence of clawbacks, boards deny discretionary bonuses to CEO's to punish them in case of a restatement (Burks 2010). Moreover, they fire responsible managers more often after intentional misstatements than after error misstatements (Hennes et al. 2008).<sup>3</sup> In contrast, a clawback recovery forces managers to return the excess compensation regardless of managerial intent. Thus, directors may use their discretion in setting management compensation to additionally account for a manager's intentional misreporting. I posit that when the board is forced to seek recovery of a manager following a misconduct restatement, board members are likely to pay a lower compensation to the manager as compared to when the restatement is due to error.

I argue that directors treat responsible managers differently depending on whether misstatements result from error or misconduct. However, the real reason behind the misstatement is often unknown (Ettredge et al. 2010; Hennes et al. 2008; Palmrose and Scholz 2004; Plumlee and Yohn 2010a). Thus, directors need to use judgment when assessing whether the faulty financial reports result from intentional or unintentional behavior.

Prior research documents that investors as well as auditors are generally trusting of management unless there is evidence that proves otherwise (Erickson et al. 2017; Hirst et al. 2003; Kachelmeier and Van Landuyt 2017; Koonce et al. 2010). This tendency is called the "benefit of the doubt effect". Hirst et al. (2003) find that investors do not punish firms that

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<sup>3</sup> Whereas my experiment does not provide the option of firing the manager, I predict that directors will decrease the compensation of a culpable manager for the next period in order to punish her.

engage in seemingly opportunistic sales estimates. In a related study, Koonce et al. (2010) provide evidence that, unless industry information is provided, investors are likely to attribute managers' estimate inaccuracy to environmental causes rather than opportunistic behavior. Relatedly, Erickson et al. (2017) find evidence for a benefit of the doubt effect by documenting that investors assign low risk to smooth earnings in presence of volatile cash flows. Investors only suspect earnings to be managed when provided with additional data on managers' incentive or opportunity.

Analogously, I expect directors to give responsible managers the benefit of the doubt when the cause for the restatement is unknown, inferring that the restatement is due to error rather than misconduct. As a consequence, I expect that directors' compensation decisions do not differ when the cause for the restatement is unknown compared to when it is due to error.

**H3:** *After clawback recoveries, directors pay a lower compensation to responsible managers in case of **misconduct** than in case of an **error**, but compensation decisions of directors do not differ when the cause for triggering the clawback is **unknown** compared to when it is due to error (the benefit of the doubt).*

I additionally examine the process underlying directors' compensation decision. I expect that directors will assess the extent to which managers acted intentionally when setting the future compensation of a manager. That is, after learning about the cause of the restatement, directors will form beliefs about how opportunistic a manager is. I hypothesize that directors' perception of the manager's opportunism mediates the benefit of the doubt effect.

**H4:** *Directors' perception of the manager's opportunism mediates the relationship between the cause for triggering the clawback and directors' compensation decisions about a responsible manager.*

## **4. Experiment**

I examine how directors set management's future compensation after a clawback recovery triggered by a restatement. I employ a 2 × 3-design that manipulates the manager's responsibility for the restatement (responsible vs. non-responsible) and the cause for the restatement (error, misconduct, or unknown). In absence of sufficient empirical data on clawback recoveries in practice (e.g., Babenko et al. 2017), I conduct an experiment to test

my hypotheses. An experiment allows me to hold all information about the recovery of the excess compensation constant while manipulating the responsibility and the cause for the restatement. I test my predictions in a setting that abstracts away from a firm environment. While being abstract, the setting captures the main incentives that are present in a situation where a director is required to set the future compensation of a manager.

#### **4.1 Participants**

I use participants from Amazon's Mechanical Turk (MTurk) platform. MTurk is increasingly used for experiments in accounting studies (e.g. Asay 2018; Koonce et al. 2015; Rennekamp 2012; Rennekamp et al. 2015). The platform provides relatively low cost and easy access to participants (Brandon et al. 2014) who are reported to be representative of the U.S. population (Buhrmester et al. 2011; Paolacci et al. 2010). I do not rely on actual directors to test my hypotheses because I examine fundamental psychological effects. Experiments that test fundamental psychological processes can inform our understanding of individuals' decision-making without requiring participants to possess specialized knowledge (Bloomfield et al. 2016). Thus, I employ an abstract setting that does not require the use of experienced practitioners (Kachelmeier and King 2002).<sup>4</sup> My experiment only requires participants to be able to read and understand English. As such, the choice of participants matches the demand profile.<sup>5</sup> The experimental design that I employ is a conservative way of testing my hypotheses as participants do not interact with actual individuals. To the extent that my experiment examines participants' fairness considerations, potential effects may be stronger in a real world setting where directors decide about actual individuals to whom they may have social ties.

I pay participants a fixed fee of \$1.20 for the 10 minute experiment. The compensation corresponds to the U.S. national minimum wage of \$7.25 per hour and is well above the reservation wage.<sup>6</sup> On MTurk, I filter for participants that are from the U.S. I additionally require workers to have a minimum of 500 completed surveys and an approval rate of at least

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<sup>4</sup> Previous research similarly uses abstract tasks to test fundamental psychological effects in accounting (Asay 2018; Kachelmeier and Van Landuyt 2017; Libby and Rennekamp 2012).

<sup>5</sup> According to Libby et al. (2002) experimenters should not target participants that are more sophisticated than needed to achieve the research goal.

<sup>6</sup> Horton and Chilton (2010) document a median reservation wage of \$1.38 per hour for workers on MTurk.

95%.<sup>7</sup> The mean participant is 37.45 years old, has 15.93 years of work experience, and has taken 1.54 accounting and finance courses. 46.19% of the participants are female.

## **4.2 Experimental Design**

### **4.2.1 Setting**

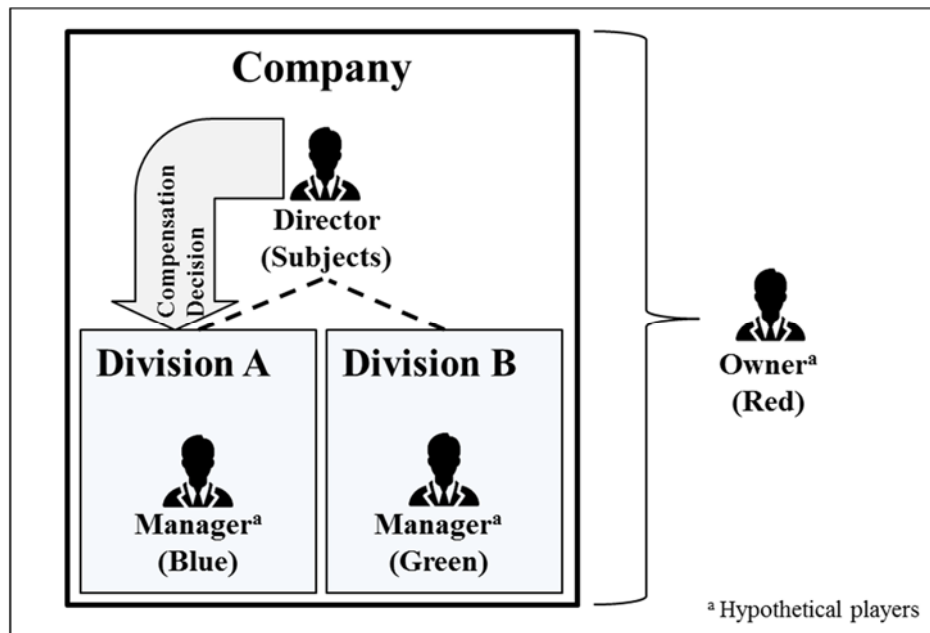
In my experiment, I model a setting that reflects a situation where a director makes a compensation decision about a manager whose previous period compensation was partly recovered due to a clawback. However, I abstract away from a firm environment.<sup>8</sup> I assign participants to a role analogous to a director of a firm. There are three additional hypothetical players in the setting, representing the owner of the firm (Red) and two division managers (Blue and Green). These three players interact in a multi-period production game (described further below). Red asks the participants to set Blue's compensation for the next period. The participants receive information about Blue's past performance and compensation. Blue's previous period compensation was partly recovered due to a clawback. I manipulate the responsibility for triggering the clawback between conditions by varying whether Blue or Green was responsible for the trigger event. I also manipulate the cause for triggering the clawback at three different levels. The cause for triggering the clawback is either i) misconduct, ii) error, or iii) unknown. I measure the amount of compensation that subjects set for Blue's next period compensation as my dependent variable. Figure 1 depicts the basic setting.

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<sup>7</sup> Limiting participation to participants with a 95% acceptance rate is a commonly used method for M-Turk studies in accounting research (e.g. see Asay 2018; Krische 2018). Participants with an acceptance rate of at least 95% have been shown to pay more attention to the task than participants with a lower acceptance rate (Peer et al. 2014).

<sup>8</sup> In contrast, having a scenario setting with high experimental realism is beneficial when drawing on participants' experience. Such experiments are suitable when the theory that is tested involves significant knowledge of accounting, incentives, or institutions that participants acquired in practice settings. In my experiment, MTurkers would need to take on the role of board members though it is unlikely that they have any prior experience acting as board members. Participants may, as a consequence, act in a way they suspect board members to behave. Subjects are likely to make these real world assumptions despite their insufficient knowledge about directors. Bloomfield et al. (2016) describe this phenomenon as bringing "baggage" into the experiment and warn that such studies impose less control over the setting.

**FIGURE 1**  
**Simplified Depiction of the Experimental Setting<sup>9</sup>**



#### 4.2.2 Multi-Period Production Game

Each period, Blue and Green produce units of output for Red who pays them for the total production. The output units can either be of high or low quality. Blue and Green are advised to only produce high quality units that require a higher production effort than low quality units. Red pays Blue and Green for their output independent of the quality. However, Red only profits from high quality units, low quality units do not contribute to Red’s earnings. Consequently, when producing low quality output, Blue and Green increase their compensation at the expense of Red.

The setup of the production game reflects the general financial reporting environment of division managers. In particular, high quality output represents truthfully reported performance that is valuable to companies. Conversely, low quality output mirrors misstatements of performance that benefit division managers, but harm shareholders. In practice, misstatements may stem from unintentional error or intentional misconduct. The

<sup>9</sup> Icons retrieved from <https://icons8.com>.

game also reflects this characteristic. Specifically, low quality output may arise because of two possible reasons. First, low quality output may result from unintentional error when Blue or Green do not work carefully. Second, the players may engage in intentional distortions.<sup>10</sup> That is, they may deliberately inflate the output by producing low quality units to increase their compensation.

Red cannot observe the amount and quality of Blue and Green's individual outputs. Instead, Red only observes the total number of units produced by the team (Blue and Green together) during the current period. Red compensates the two players according to their combined team output, independent of quality. As such, any low quality units in the output will harm Red because such units do not generate earnings, but Red will still have to compensate Blue and Green for all units produced. Thus, Blue and Green benefit from low quality units because their compensation does not depend on output quality. Players' compensation is tied to team performance rather than individual performance, such that both players are affected by clawback recoveries, independent of their responsibility for the low quality output.<sup>11</sup> To make sure that Red is unable to infer the quality of the output from the total earnings obtained, a lottery determines the amount earned by Red for units of high quality output. Red uses the proceeds from the high quality output to cover the compensation costs of Blue and Green.

After each period, a quality control analyzes part of the team output. The quality control examines a sample of total output and identifies the number of low quality units it contains. Since the quality control only inspects a fraction of total output, any low quality units that are not subject to the quality control will not be discovered. For each unit of low quality output detected, the quality control identifies the player who produced it. Red then recovers the compensation paid out to Blue based on those low quality units. Recoveries are made independent of whether low quality output was produced by error or distortion and regardless of whether Blue or Green is responsible for the low quality output. Thus, Blue is required to return to Red all compensation received based on the low quality team output that is discovered by the quality control. Following recoveries, Blue and Green's compensation scheme for the next period is set and then the next production period begins.

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<sup>10</sup> I use contextually abstract terminology, such as "distortion" instead of "misconduct" to reduce role-playing and demand effects (Kachelmeier and Van Landuyt 2017).

<sup>11</sup> Team-based incentive compensation schemes are commonly used in practice to reward worker productivity (Blinder 1990; Brown and Armstrong, 1999; Pizzini 2010).

The quality control is an important feature of the production game because it reflects that misstated financial information may be detected subsequent to the reporting date. Given that not all misstatements are necessarily detected in reality, the quality control only examines a fraction of total output. Moreover, I introduce a clawback by forcing the players to return excess compensation based on low quality output detected. As proposed by regulators, recoveries in the production game are independent of responsibility and cause for the restatement.

#### **4.2.3 Participants' Task**

Participants' task is to set the piece-rate that Blue will earn per unit of team output in the next period. Subjects are instructed to envision the following details about the previous period: i) Blue earned a piece-rate of 10 cents per unit of output produced by the team; ii) Blue and Green produced a total team output of 14 units. Accordingly, Red paid a compensation of \$1.40 to Blue (10 cents x 14 units); iii) After paying out the money, the quality assessment discovered that two units of team output were of low quality; iv) Blue had to pay back 20 cents of the previously received compensation.

#### **4.3 Manipulations and Dependent Variable**

I manipulate the responsibility and the cause for triggering the clawback by varying the information that participants receive about the outcome of the quality control (see Table 1). To manipulate responsibility, subjects either learn that Blue (responsible) or Green (not responsible) respectively produced the low quality output detected by the quality control. Independent of condition, I inform subjects that Blue had to return part of the previously received compensation due to the clawback. This keeps pay-offs constant across conditions. As a second manipulation, I alter the cause for triggering the clawback. To implement the manipulation, I vary whether the low quality units detected by quality control were produced i) by error, ii) by distortion, or iii) whether no information was provided on the cause for the low quality output. For the error conditions, participants read that the errors resulted because the player did not work carefully. To manipulate misconduct, participants learn that the player distorted the output intentionally to increase compensation. The unknown condition does not provide subjects with any information on the cause for the low quality output.

**TABLE 1**  
**Experimental Manipulations**

		Cause for Triggering the Clawback		
		Error	Misconduct	Unknown (Error or Misconduct)
Responsibility of the Manager	Responsible	Responsible / Error	Responsible / Misconduct	Responsible / Unknown
	Not Responsible	Not Responsible / Error	Not Responsible / Misconduct	Not Responsible / Unknown

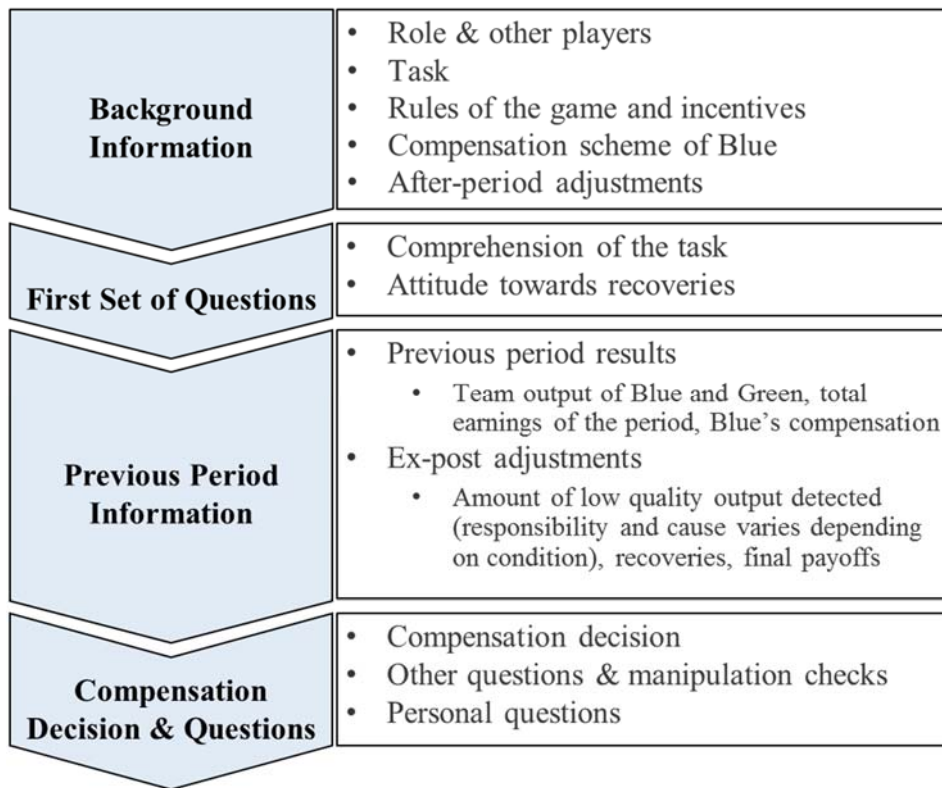
I examine how my manipulations affect participants' compensation decisions about Blue. I ask participants to set the piece-rate that Blue will earn per unit of team output in the next period on a scale from 1 to 19 cents.<sup>12</sup>

#### **4.4 Experimental Procedures**

The experiment consists of four parts. In the first part of the experiment, participants begin by reading background information about their role and task. They learn about the rules and incentives of the game, the compensation scheme of Blue, and the potential after-period recoveries. The second part requires participants to answer three comprehension questions and to indicate their general attitude toward compensation recoveries. A third section of the experiment provides subjects with the results of the previous period. That is, the materials inform participants about the team output (14 units) and the resulting compensation that Blue received (\$1.40). They also learn that the after-period quality check detected two low quality units of output. Depending on the condition, either Blue or Green produced the low quality units. Participants also receive information about the cause (error, distortion, or unknown) for the low quality output.

<sup>12</sup> The endpoints 1 cent and 19 cents are chosen to be symmetric around the previous period piece-rate (10 cents). Also a piece-rate of 0 cents was not allowed as zero compensation would change the incentives of the game such that there is no financial incentive to work anymore. Only seven out of 197 participants chose one of the endpoints. I infer that the large majority of subjects were not constrained by the scale.

**FIGURE 2**  
**Overview of the Experimental Procedure**



In a fourth step, participants make their compensation decision about Blue for the next period. I elicit the reasons behind their decision, manipulation checks, and potential process variables. Finally, subjects provide demographic information. Figure 2 depicts the timeline of the experiment.

## 5. Results

### 5.1 Attention and Manipulation Checks

I collect a total of 310 observations. I remove 12 observations with duplicate IP addresses or duplicate worker IDs to reduce the risk that the same participant completes the task more than once (e.g. Rennekamp 2012). To determine whether subjects read the questions, I include an attention check (Oppenheimer et al. 2009). Specifically, I instruct participants to

place the slider of one question element on a scale from 0-100 on 20. I exclude 49 participants from the sample who did not pass the attention check.<sup>13</sup>

I use manipulation checks to verify whether my manipulations have worked.<sup>14</sup> First, I ask participants to indicate the player (Blue or Green) who produced the units that were found to be of low quality in the previous period. As a second question, I ask subjects about the cause for the low quality units that were detected. The answer choices were that i) the low quality resulted from error, ii) the low quality resulted from distortion, or iii) the reason for the low quality was not revealed. 52 subjects did not correctly answer the two manipulation checks.<sup>15</sup> The correct answer to both manipulation checks is key for my results because a false answer to either one of the questions is likely to lead to behavior that should be observed in a different condition. I exclude participants who did not correctly answer both manipulation checks from the sample.<sup>16</sup> The final sample comprises 197 subjects who passed the attention as well as both manipulation checks. My results stay inferentially identical when including all observations in the analysis.

## **5.2 Hypotheses Test**

### **5.2.1 Test of H1**

I predict that directors are willing to pay managers more following a clawback recovery when they are not responsible for the trigger event compared to when they are responsible.

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<sup>13</sup> For the payment of participants, I allowed for a range between 18 and 22 as correct answers. 13 participants placed the slider not more than two points away from 20. However, further inspection suggests that those participants did not pay attention to the task. They answered significantly fewer comprehension questions correctly than subjects who placed the slider on 20 ( $p < 0.01$ , two-tailed). I therefore exclude these participants for the analysis as well. However, the exclusion of the participants does not inferentially change any of the results.

<sup>14</sup> I conduct a pre-test using 30 participants to verify whether subjects understand the experimental materials and to estimate the amount of time participants use to read and fill out the questionnaire. The subjects answer two out of three comprehension questions correctly and 87% of the workers pass both manipulation checks. The results increase the confidence that most people understand the materials. They use 8 minutes and 19 seconds on average to fill out the study, which is somewhat less than the projected 10 minutes.

<sup>15</sup> The number of participants who do not pass the manipulation checks is relatively high (21%). Previous literature documents that MTurkers are less attentive to experimental materials than participants from traditional samples (Goodman et al. 2013). However, despite the higher rate of inattentive subjects, there is little evidence to suggest that the collected data is of poorer quality (Krantz and Dalal 2000). Prior research documents that a wide range of JDM-findings replicate using participants on MTurk (Mason and Suri 2012).

<sup>16</sup> Supplemental analyses show that both, subjects who did not pass the attention or a manipulation check answered significantly fewer comprehension questions correctly (both  $p < 0.001$ , two-tailed).

I expect the effect to be present independent of the cause for the restatement. Panel A of Table 2 presents descriptive statistics for the compensation for each condition.

**TABLE 2**  
**Descriptive Statistics and Test of H1**

**Panel A: Means, [Standard Deviation], Number of Observations for Compensation<sup>a</sup>**

	No Responsibility	Responsibility	Average
Error	12.16 [2.69] n=32	9.80 [2.60] n=35	10.93 [2.87] n=67
Misconduct	11.75 [3.29] n=32	8.68 [2.06] n=31	10.24 [3.14] n=63
Unknown	11.03 [2.81] n=29	9.74 [2.82] n=38	10.30 [2.87] n=67
Average	11.67 [2.95] n=93	9.44 [2.56] n=104	10.49 [2.96] n=197

**Panel B: Analysis of Variance (ANOVA)**

Source of Variation	SS	df	MS	F-statistic	p-value
Cause	21.10	2	10.55	1.41	0.25
Responsibility	245.73	1	245.73	32.80	<0.001
Cause × Responsibility	25.74	2	12.87	1.72	0.18
Error	1430.93	191	7.49		

**Panel C: Simple Effects**

Comparison	df	F-statistic	p-value
Responsibility vs. No Responsibility (for Error)	1	12.39	<0.001
Responsibility vs. No Responsibility (for Misconduct)	1	19.84	<0.001
Responsibility vs. No Responsibility (for Unknown)	1	3.70	0.056

Panel A shows the means, standard deviations, and number of observations for Blue's compensation. Panel B provides the analysis of variance (ANOVA) and Panel C presents the simple main effects. All p-values are two-tailed.

<sup>a</sup> The question to assess the compensation required participants to set the amount of piece-rate that Blue would earn in the next period from 1 cent to 19 cents.

On average, participants set a compensation for Blue of 11.7 cents when Blue was not responsible for the low quality output and 9.4 cents when the manager was responsible. I use a conventional ANOVA to test my first hypothesis.<sup>17</sup> The results of the ANOVA as reported in Panel B show a significant main effect for responsibility ( $F_{1,191} = 32.8, p < 0.001$ ). Follow-up simple effects reported in Panel C indicate that, independent of the cause, participants provide a lower compensation to Blue when Blue is responsible for the low quality output compared to when Blue is not responsible (error:  $p < 0.001$ , misconduct:  $p < 0.001$ , unknown:  $p = 0.056$ , all two-tailed). The findings are consistent with the notion that following clawback recoveries, directors use their discretion in setting management compensation as a function of a managers' responsibility for the restatement. They are likely to pay a higher compensation to managers who were not responsible compared to managers who were responsible for triggering the clawback.

### **5.2.2 Test of H2 - Mediation Analysis**

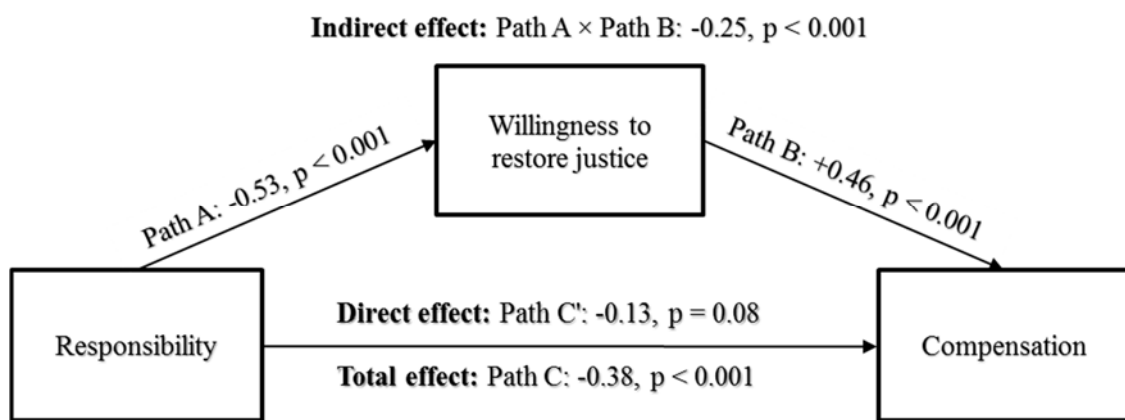
The results presented above suggest that directors pay a higher amount of compensation to non-responsible than responsible managers. My theory predicts that directors find it unfair to recover compensation from managers who are not responsible for triggering the clawback. As a consequence, they increase management compensation to make up for the manager's perceived unfairness. However, other potential explanations may similarly explain the results. An alternative explanation for the difference in compensation is that participants may view the incentive system as inadequate to maintain effective control over responsible managers (Balsam et al. 2014; Burns and Kedia 2006; Hoitash et al. 2012). Thus, they may lower the incentives of responsible managers in order to protect themselves against misstatements. Another potential reason for the difference in compensation is that the information that a manager is responsible for the restatement may be interpreted as a signal for low ability (Demerjian et al. 2013). Studies show that decision makers allocate more compensation to high performers than to low performers (Fodor 1973; Kipnis and Vanderveer 1971). Consequently, directors may pay responsible managers less compared to managers who did not produce any low quality output. These alternative explanations would also predict a difference in compensation between responsible and non-responsible

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<sup>17</sup> The Shapiro-Wilk (1965) test indicates that the normality assumption of the ANOVA is violated for my dependent variable in three of six cells. My sample size of no less than 29 observations per condition suggests that parametric tests are robust to the normality violation (Keppel and Wickens 2004). However, inferences remain the same when I test my hypotheses with non-parametric tests, such as Mann and Whitney (1947) and Kruskal and Wallis (1952).

managers.<sup>18</sup> However, I argue that the higher compensation of non-responsible managers is driven by directors' *willingness to restore justice*. To investigate this construct, I ask participants to rate the extent to which their compensation decision is attributable to their intention to reimburse Blue because Blue had to pay back part of his compensation in the previous period. Subjects indicate their intention on a scale from 0-100. They also rate various other potential intentions to prevent experimenter demand effects.

**FIGURE 3**  
**Mediation of Willingness to Restore Justice**



- |                  |   |
|------------------|---|
| Indirect effect: | The indirect effect represents the mechanism by which responsibility transmits its effect on compensation through willingness to restore justice (Path A × Path B). |
| Direct effect:   | The direct effect is the effect of responsibility on compensation when controlling for the willingness to restore justice (Path C').                                |
| Total effect:    | The total effect of responsibility on compensation (Path C) is the sum of the direct and the indirect effect (Path C' + [Path A × Path B]).                         |

This figure shows bootstrapped structural equation modeling results to test a mediation effect of the willingness to restore justice. The dependent variable is participants' assessment of the piece-rate that Blue would earn in the next period from 1 cent to 19 cents. To measure the willingness to restore justice, participants rate the extent to which their compensation decision is attributable to their intention to reimburse Blue because Blue had to pay back part of his compensation in the previous period. I present the standardized coefficients and corresponding p-values next to each link. All reported p-values are two-tailed.

<sup>18</sup> Other alternative explanations are conceivable as well. The decision to pay responsible and non-responsible managers differently may also be because responsible and non-responsible managers differ in their responsiveness to incentive-based compensation or because responsible managers are additionally punished by directors for their wrongdoing.

I test whether directors' willingness to restore justice mediates the effect of responsibility on compensation. I test the mediation using structural equation modeling (SEM).<sup>19</sup> Since the multivariate normality assumption of the endogenous variables is violated,<sup>20</sup> I use bootstrapping (5,000 replications) to estimate the mediation model (Cheung 2007). Bootstrapping is a nonparametric resampling procedure that does not assume normality of the sampling distribution (Preacher and Hayes 2008). For easier interpretation I show standardized coefficients because the scales of the mediator and the dependent variable differ. Figure 3 depicts the mediation model. The total effect of the independent variable (responsibility) on the dependent variable (compensation) can be divided into a direct and an indirect effect. The indirect effect is the path coefficient for the effect of responsibility on compensation through the intervening variable (willingness to restore justice). The direct effect denotes the effect of responsibility on compensation that is independent of the influence of willingness to restore justice. To test my mediation hypothesis I follow established procedures by examining whether the indirect effect is statistically significant (e.g. MacKinnon et al. 2002; Preacher and Hayes 2004). The mediation analysis shows support for hypothesis 2. It reveals that directors' willingness to restore justice partially mediates the relation between responsibility and compensation. That is, there is a significant indirect effect from responsibility over willingness to restore justice to compensation (coeff: -0.25,  $p < 0.001$ , two-tailed). The 95% confidence interval for the indirect path does not include zero and thus supports mediation (-0.34, -0.15). The result suggests that directors pay a higher compensation to non-responsible managers in order to make up for the loss that managers experience from the recovery. The direct effect from responsibility to compensation is marginally significant ( $p = 0.08$ , two-tailed), suggesting a partial mediation. That is, the effect of responsibility on compensation is at least in part attributable to the willingness to restore justice. The finding that there is no full mediation is not surprising. As mentioned before, other intentions may also have an effect on the difference in compensation.

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<sup>19</sup> I use the maximum likelihood method to estimate the model. The model has perfect fit because it is fully saturated.

<sup>20</sup> Mardia's (1970), Henze and Zirkler's (1990) and Doornik and Hansen's (2008) tests all reject the hypothesis of multivariate normality. Under conditions of severe non-normality, multiple likelihood parameter estimates are likely to be inefficient (Schermelleh-Engel et al. 2003).

### **5.2.3 Supplemental Analysis**

Next, I examine the absolute levels of compensation more closely to provide additional insight into the direction and magnitude of the effects. Specifically, I compare the compensation levels set by directors to the previous period piece-rate of 10 cents. The previous period piece-rate is an arbitrarily chosen amount that may not be relevant for participants' compensation decisions. However, previous research suggests that in absence of other information, individuals heavily rely on points of reference provided to them (Tversky and Kahneman 1974). According to the anchoring heuristic, people use such starting points when making decisions even when they are uninformative (Chapman and Johnson 1999). The following analyses should be interpreted with care, as they depend on the presumption that people used the previous period piece-rate as a point of reference that denotes an adequate compensation for the average worker. Under this assumption, directors may make adjustments to this piece-rate when they believe that it does not correctly reflect what managers deserve.

The mean compensation of Blue in the no responsibility condition is 11.7 cents. Compared to the previous period piece-rate of 10 cents this constitutes a significant increase ( $p < 0.001$ , two-tailed). Thus, the increase in compensation can be viewed as a reimbursement for the recovery that was considered to be unfair. In fact, this compensation increase is likely to entirely offset the amount that managers previously had to return due to the clawback provision. I calculate the increase in Blue's total compensation in the next period using the piece-rate of 11.7 cents, assuming the two players will perform identically as in the previous period. Blue's new piece-rate results in an expected increase in Blue's compensation of 20.4 cents and comes close to the previous recovery of 20 cents. Thus, managers are almost perfectly restored to a situation where they did not have to return any money. The analysis provides some indication that within the experimental setting, people - in expectation - pay back to non-responsible managers the full amount of the recovery. While this finding is unlikely to be generalizable, it provides some additional evidence that directors are willing to reimburse non-responsible managers for clawback recoveries.

### **5.2.4 Test of H3 - The Benefit of the Doubt**

In the third hypothesis I focus on the responsibility conditions only. I presume that directors' compensation decisions about responsible managers depend on the cause of the previous restatement. I hypothesize that, compared to an error restatement, responsible managers are

compensated less in case of misconduct but receive similar amounts of compensation when the cause for the restatement is unknown. That is, I predict that directors give managers the benefit of the doubt by treating managers similarly to those in the error condition when the cause of the restatement is not known. I examine the compensation decisions of participants in conditions where managers are responsible for triggering the clawback. I use planned contrasts in a single factor ANOVA to test the pattern  $Error = Unknown > Misconduct$ , as predicted by H3. In comparison to the conventional ANOVA, contrast coding allows to specify the predicted pattern of relationships among cell means which provides a more powerful test of my hypothesis (Buckless and Ravenscroft 1990). I apply contrast weights of +1 for the error and the unknown condition and -2 for the misconduct condition. I follow the 3-step procedure recommended by Guggenmos et al. (2018) to evaluate the contrast. First, I analyze how well the observed means fit the predicted pattern. The means of the error (9.80 cents) and the unknown (9.74 cents) conditions are similar in their level and higher than the mean of the misconduct condition (8.68), indicating that the contrast weights will fit the results. In a second step, I examine the significance of the contrast test as well as the non-significance of the residual between-cells variance (see Panel A of Table 3). In line with my hypothesis, the contrast is statistically significant ( $F_{1,101}=4.02$ ,  $p<0.05$ ). The insignificant p-value of the residual between-cells variance ( $p=0.95$ ) provides further support that the contrast results are not due to chance. In a third step, I evaluate the Contrast Variance Residual ( $q^2$ ), a measure to quantify the variance related to other potential effects present in the data. The  $q^2$  measure of 0.09% suggests that the unexplained non-random variance constitutes only a small fraction of the total between-cell variance. Overall, these pieces of complementary evidence provide support for my contrast hypothesis.

Follow-up simple effects as presented in Panel B of Table 3 are also in line with the predicted pattern. There is a significant difference between the error and the misconduct condition as well as between the unknown and the misconduct condition (both,  $p<0.05$ , one-tailed). Conversely, the means of the error and the unknown condition do not differ ( $p=0.92$ ). Results suggest that following clawback recoveries, directors compensate responsible managers less when the restatement was triggered due to misconduct compared to when it was triggered due to error. However, directors give managers the benefit of the doubt when the cause for a restatement is not known.

**TABLE 3**  
**Test of H3: The Benefit of the Doubt**

<b>Panel A: Planned Contrasts for Compensation</b>					
<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F-statistic</b>	<b>p-value</b>
Model Contrast (+1, -2, +1) <sup>a</sup>	25.89	1	25.89	4.02	<0.05
Residual between-cells variance <sup>b</sup>	0.02	1	0.02	0.00	0.95
Total between-cells variance	25.91	2	12.96	2.01	0.14
Error	649.74	101	6.43		
Total	675.65	103			
Contrast Variance Residual <sup>c</sup> ( $q^2$ )	0.09%				

<b>Panel B: Simple Effects</b>			
<b>Comparison</b>	<b>df</b>	<b>F-statistic</b>	<b>p-value</b>
Error vs. Misconduct	1	3.22	0.038 <sup>d</sup>
Unknown vs. Misconduct	1	2.98	0.044 <sup>d</sup>
Error vs. Unknown	1	0.01	0.916

Panel A presents the contrast coded test of hypothesis 3, residual between-cells variance test, as well as the contrast variance residual ( $q^2$ ). Panel B presents simple main effects.

<sup>a</sup> +1 for the Responsibility/Error condition;  
-2 for the Responsibility/Misconduct condition;  
+1 for the Responsibility/Unknown condition;

<sup>b</sup> The residual sum of squares is the between-group variance that is unexplained by the model contrast. The model contrast explains the variation in the data well when the residual is insignificant (Buckless and Ravencroft 1990).

<sup>c</sup> The Contrast Variance Residual ( $q^2$ ) is the proportion of between-cells variance that is left unexplained by the contrast.

<sup>d</sup> One-tailed equivalent

Having examined the conditions where managers are responsible for the restatement, I additionally investigate whether directors are influenced by the cause of the restatement when managers are not responsible. I expect that when a manager is not responsible for the restatement, the cause of the restatement will not matter for directors' compensation decisions. A single factor ANOVA of the three levels of cause of the no responsibility manipulation does not reject the hypothesis that the groups have the same means ( $p=0.33$ ). Thus, directors' decisions are unlikely to be influenced by the cause of a restatement when

they are asked to set the compensation of a manager who was not responsible for triggering the clawback.

### **5.2.5 Test of H4 - Mediation Analysis**

Having found evidence for the benefit of the doubt effect in terms of compensation levels for responsible managers, I examine the process that is underlying participants' compensation decisions. I argue that the compensation decisions are driven by directors' *perception about how opportunistic a manager is*. That is, I claim that after learning about the cause of the restatement, directors will form beliefs about the likelihood of the manager's intentional misreporting. I expect that directors assess a responsible manager's opportunism to be higher when the restatement is due to misconduct than when it is due to error. However, directors are unlikely to perceive the manager's opportunism to differ after an error restatement compared to when the cause for the restatement is unknown.

In the experimental instructions, participants learned that only a part of the output is subject to a quality control. As a consequence, there may exist units of low quality output that are not detected by the control mechanism. In the post-experiment questionnaire I ask participants to indicate the likelihood that Blue intentionally distorted the output that was not subject to the quality control on a scale from 0 (very unlikely) to 100 (very likely). The answer to this question reflects participants' expectations about how opportunistically the manager acts. Table 4 presents descriptive statistics by condition (Panel A) along with two-sample t-tests to compare each pair of causes (Panel B). As expected, the mean perception of manager's opportunism is significantly higher in the misconduct condition than in the error ( $p < 0.001$ , two-tailed) and in the unknown ( $p < 0.001$ , two-tailed) condition. However, judgments about managerial opportunism do not differ between the error and the unknown condition ( $p = 0.75$ , two-tailed).

**TABLE 4**  
**Perception of the Manager's Opportunism for Participants in the Responsibility Conditions**

**Panel A: Means, [Standard Deviation], Number of Observations for Perception of the Manager's Opportunism<sup>a</sup>**

Cause (for Responsibility conditions)	Error	Misconduct	Unknown	Average
	30.4	77.1	32.2	45.0
	[24.4]	[23.3]	[23.3]	[31.5]
	n=35	n=31	n=38	n=104

**Panel B: t-tests for Perception of the Manager's Opportunism**

Comparisons (for Responsibility conditions)	Difference	df	t-value	p-value
Error = Unknown	1.8	71	0.32	0.750
Error < Misconduct	46.7	64	-7.93	<0.001
Unknown < Misconduct	44.9	67	-7.98	<0.001

Panel A shows the means, standard deviations, and number of observations for the participants' assessments of perception of the manager's opportunism. Panel B provides the two sample t-tests for each pair of causes. Tests are reported two-tailed.

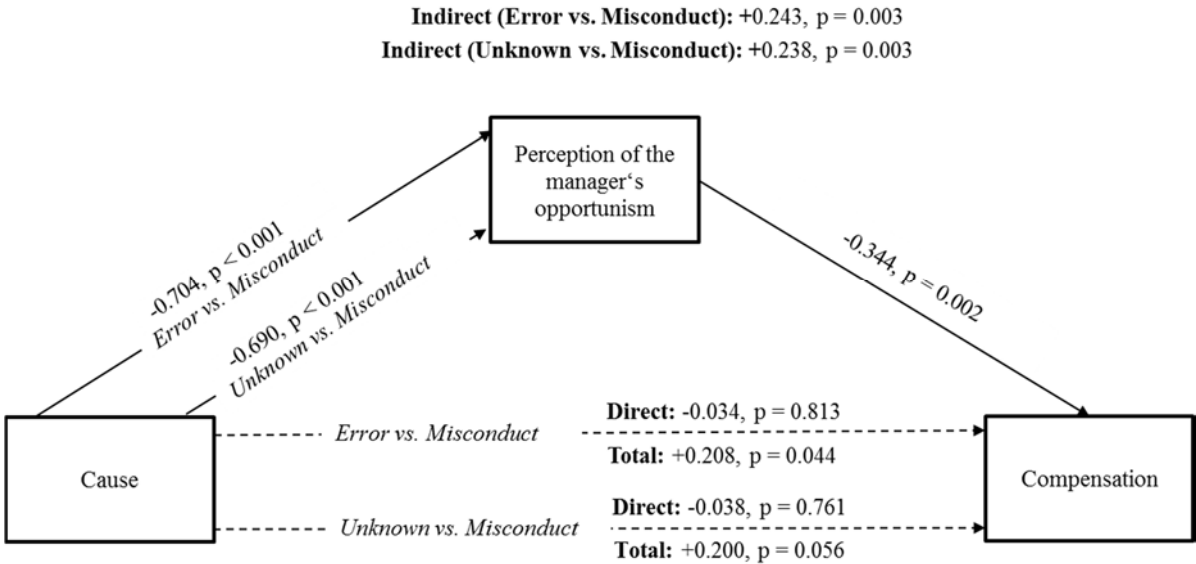
<sup>a</sup> The perception of the manager's opportunism was assessed by asking participants to indicate the likelihood that Blue intentionally distorted the output that was not subject to the quality control on a 101-point likert scale.

I examine whether participants' perceptions of the manager's opportunism mediate the relationship between the cause of the restatement and participants' compensation decisions. I follow the mediation analysis for multicategorical variables as proposed by Hayes and Preacher (2014). I use indicator variables to represent the three levels of my manipulation for cause of the restatement (error, misconduct, or unknown). Specifically, two indicator variables take the value of one if the cause for the low quality output is unknown or due to error respectively, and zero otherwise. Doing so allows me to compare the unknown and the error conditions to the misconduct condition which is used as a baseline. I predict that compared to the misconduct condition, both, the error and the unknown condition are associated with higher levels of compensation and that this effect is mediated by participants' perceptions of manager's opportunism. I also expect that the size of the mediated effect will not differ between the error and unknown conditions.

Based on the terminology of indirect, direct and total effect to describe mediation models, Hayes and Preacher (2014) introduce the terms *relative indirect*, *direct* and *total effect* to

refer to the effects of each indicator variable (unknown, error) with respect to the control group (misconduct). To analyze the mediation, I examine the significance of the relative indirect effects of unknown and error compared to the baseline condition (misconduct).

**FIGURE 4**  
**Mediation of Perception of the Manager's Oppurtunism**



- Relative indirect effects      The relative indirect effect for each indicator variable (error, unknown) relative to the baseline (misconduct) is the effect on compensation that passes through the mediator (perception of the manager's opportunism).
- Relative direct effects:      The relative direct effect of each indicator variable (error, unknown) relative to the baseline (misconduct) is the effect on compensation when controlling for mediator (perception of the manager's opportunism).
- Relative total effects:      The relative total effects represent the sum of the relative direct and the relative indirect effect of each indicator variable (error, unknown) compared to the baseline (misconduct).

This figure shows bootstrapped structural equation modeling results to test a mediation effect of the willingness to restore justice. The dependent variable is participants' assessment of the piece-rate that Blue would earn in the next period from 1 cent to 19 cents. To measure the willingness to restore justice, participants rate the extent to which their compensation decision is attributable to their intention to reimburse Blue because Blue had to pay back part of his compensation in the previous period. I present standardized coefficients and corresponding p-values next to each link. All reported p-values are two-tailed.

I use SEM to analyze the mediation and employ bootstrapping (5,000 replications) due to a violation of the multivariate normality assumption (Cheung 2007). The mediation analysis using standardized coefficients is presented in Figure 4 and provides supporting evidence for the expected relationship. First, I find that participants in the error condition pay a

significantly higher compensation to managers relative to the misconduct condition (relative total effect: +0.208,  $p = 0.044$ ). The effect is mediated by the perception of the manager's opportunism. That is, when comparing error to misconduct, the relative indirect effect over subjects' perception of the manager's opportunism to compensation is highly significant (+0.243,  $p = 0.003$ ) and the 95% confidence interval does not include zero (+0.08, +0.40). Second, I find higher compensation levels in the unknown compared to the misconduct condition (relative total effect: +0.200,  $p = 0.056$ ). The relative indirect effect over participants' perception of manager's opportunism to compensation is also significant (+0.238,  $p = 0.003$ ) and the 95% confidence interval does not include zero (+0.08, +0.39). The results suggest that the compensation levels can be explained by differences in the perception of the manager's opportunism. The insignificant relative direct effects for both, error and unknown compared to misconduct suggest a full mediation. I additionally examine whether the mediated effects of error and unknown are different in size. Untabulated tests reveal that there is no statistically significant difference between coefficient estimates of the relative indirect effects ( $\chi^2(1) = 0.11$ ,  $p = 0.746$ , two-tailed). Furthermore, a likelihood ratio test suggests that the proposed model is not superior to an alternative model where the indicators are pooled into a variable that takes the value of one for misconduct and zero otherwise ( $\chi^2(2) = -113.87$ ,  $p = 1.00$ , two-tailed). The results indicate that, relative to misconduct, the mediation effects of error and unknown do not differ.

### **5.2.6 Supplemental Analysis**

I further examine the levels of compensation that subjects chose for responsible managers. On average, directors set a piece-rate of 8.7 cents when the responsible manager engaged in misconduct. The piece-rate was 9.8 cents in case of error and 9.7 cents when the cause of the restatement was unknown. Compared to Blue's previous period piece-rate of 10 cents, the levels of Blue's compensation in the error and unknown conditions do not significantly differ (both  $p > 0.56$ ). Thus, when the cause of the restatement is an error or is unknown, directors consider the clawback recovery as a remedy for the excess compensation paid out to managers and continue to pay similar levels of compensation to managers as in the previous period. Conversely, following a restatement due to misconduct, directors decrease responsible managers' compensation significantly ( $p = 0.001$ ). This reduction in the piece-rate is likely to constitute a punishment in addition to the recovery.

## **6. Conclusion**

My study demonstrates that after clawback recoveries, directors will favor managers in two distinct ways. First, directors are likely to increase the compensation of non-responsible managers to make up for their clawback-induced recoveries. Regulators should consider this potential consequence when mandating clawback policies. That is, when clawback policies recover compensation independent of the manager's responsibility, directors may use their discretion in setting future management compensation to offset the recoveries of non-responsible managers. Such behavior contradicts the regulator's intention to return excess compensation to shareholders and thus renders the clawback mandate partly obsolete. Additional regulation that restricts the amount of management compensation following recoveries may be necessary to prevent compensatory payments. The finding is especially relevant for the SEC when formulating the final rules on how to implement the DFA-clawback.

Second, directors will give responsible managers the benefit of the doubt when the cause for the restatement is unknown. That is, following clawback recoveries, the board of directors will pay an undue amount of compensation to misreporting managers when the directors do not know the cause for the restatement. This effect may harm investors in two ways. First, managers may receive compensation that actually belongs to shareholders. Second, the non-optimal compensation decision may impair the incentive alignment between managers and shareholders. The payout differential between high performing and poor performing managers is reduced which weakens the pay-for-performance sensitivity (Fried and Shilon 2011). Thus, investors should be aware that a clawback does not necessarily improve managers' reporting incentives. In contrast, managers' incentives for misreporting may even increase following clawback adoption when managers anticipate directors' lenient compensation decisions when the cause of the restatement is unknown. That is, managers may increase intentional misreporting if they are able to conceal information about the cause of the restatement. I leave it to future research to examine whether managers anticipate directors' compensation decisions following clawback recoveries.

My findings also speak to researchers by providing a contribution to the literature on unintended effects of compensation clawbacks. The study suggests that the board of directors may react to clawback initiation in unexpected ways. That is, directors will use their discretion in setting management compensation to avoid that managers feel unfairly treated. This finding provides some indication that directors incorporate justice considerations into

their compensation decisions that may lead to a deviation of managers' total compensation from true performance. As such, the clawback mandate is likely to distort managers' pay-for-performance incentives. In sum, my study shows that director behavior needs to be factored in when mandating governance mechanisms.

The effects found in this study are likely to be reinforced by two phenomena documented in practice. First, directors may be influenced in their compensation decisions by the ties that often exist between board members and managers (Carcello et al. 2011; Rose et al. 2014). Such ties affect board members' social and psychological incentives to favor managers with increased compensation (Bebchuk and Fried 2004). Thus, directors may be even more inclined to reimburse non-responsible managers after a recovery and to give responsible managers the benefit of the doubt. Second, the problem of excessive compensation is exacerbated by the observation that compensation is sticky (Keynes 1964). Wage stickiness theory predicts that compensation increases are likely to persist over time (Gaver and Gaver 1998). As such, directors' compensation decisions that favor managers may carry over to future periods and may harm the firm in the long-run.

A limitation of this study is that the experiment was conducted with participants who are unlikely to have any experience as directors. I argue that the results are due to fundamental psychological effects, and thus independent of the type of subjects. However, to the extent that board members develop skills that allow them to overcome justice considerations in the described situation, the applicability of my results in practice is limited.<sup>21</sup>

Another potential limitation of my study is its abstract setting. The use of an abstract experiment allows me to isolate my variables of interest while controlling for firm and environmental characteristics. However, the incentive structure only captures the most important aspects of a clawback environment. Factors not captured in my design may affect the results in a real world setting. For example, I hold the compensation and the reputation of directors' constant in my experimental setting. Negative reputational consequences for directors from favoring managers after recoveries may weaken my results. Similarly, when board members have strong financial incentives to maximize firm value they may be less lenient when setting management compensation. However, prior research suggests that directors suffer from severe reputational consequences only when their compensation arrangements for managers are outrageous (Bebchuk and Fried 2004). Also, directors'

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<sup>21</sup> Contrary to this argument, Singer (1996) documents that managerial professionals make similar evaluations of moral intensity, fairness, and ethicality as M-Turkers.

incentive-based compensation usually plays a minor role in their compensation schemes (Fried and Shilon 2011). Nonetheless, director compensation or reputation may interact with their compensation decisions about managers and harm the generalizability of my results.

Modifying aspects in my experiment such as increasing directors' financial incentives or allowing for reputational effects may represent interesting areas for future research. Also, an extension of the experiment could investigate differing forms of responsibility that may exist for triggering the restatement in more detail. The Financial Choice Act proposes to limit the scope of the clawback to managers who have both authority and control over the financial reporting that led to the restatement. Future research could shed light on how each of the two dimensions affects directors' justice perceptions about managers following clawback recoveries. Future research could additionally examine how directors' judgments are influenced by differing justifications for the cause of a restatement provided by managers. After a restatement, managers may provide explanations about the reason for the restatement (Files et al. 2009; Gleason et al. 2008; Myers et al. 2010; Plumlee and Yohn 2010b). These explanations may affect board members' attributions of blame and eventually their compensation decisions.

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## ESSAY 3

# Do Compensation Clawbacks Decrease Investor Skepticism Toward Real Earnings Management?

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### Abstract

We examine whether the introduction of a clawback mandate renders non-professional investors less skeptical toward real earnings management (REM). Clawbacks make executive compensation subject to recovery in case of overstated financial statements. We predict that a clawback mandate creates a general feeling of security that impairs investors' skepticism toward REM, although clawbacks do not offer any protection against REM. In particular, we posit that investors fall prey to a judgment error, called halo effect, that lets investors judge the likelihood of REM based on their overall impression of the firm's potential for opportunistic behavior. Results of a controlled experiment suggest that investors are less likely to detect REM when a clawback is mandated, and consequently consider an investment in the firm to be more desirable. We also document that the halo effect is stronger for firms with a prior history of misreporting. Our findings provide a potential explanation for the puzzling results reported in previous research that investors react positively to clawback adoption although a firm's long-term value appears to be negatively affected by the clawback because of increased REM. These seemingly inconsistent findings can be reconciled with investors being misled by the protective nature of the clawback. Interestingly, a supplemental experiment shows that the halo effect does not apply to more sophisticated investors. In view of the imminent enforcement of mandatory clawbacks in the United States, our study has important implications for regulators by informing them about a potential judgment error among less sophisticated investors.

**Keywords:** clawback provisions; real transactions management; accruals management; accounting restatements; the Dodd-Frank Act.

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## 1. Introduction

Executive compensation schemes frequently include incentive compensation to mitigate effort aversion (Jensen and Murphy 1990; Mehran 1995). However, incentive compensation also fosters managers' incentives to manipulate accounting information to maximize their pay (Dehaan et al. 2013). Compensation clawbacks are an instrument to discourage accounting manipulations by making incentive compensation subject to recovery if financial information is overstated. In 2010, the Dodd-Frank Act has mandated compensation clawbacks in the United States but the rule is yet to be implemented.<sup>1</sup>

To date, little is known about potential consequences of clawback mandates. Some indication is provided by the literature that examines the effects of voluntary clawback adoption. Numerous studies report positive market reactions to the voluntary adoption of clawbacks suggesting that investors view clawbacks as a beneficial corporate governance instrument (Babenko et al. 2017; Chen et al. 2015; Gao et al. 2011; Iskandar-Datta and Jia 2013). However, there is no indication that clawback adoption actually decreases managers' opportunistic behavior. In contrast, prior research finds that, while a clawback effectively decreases accrual-based earnings management (AEM), managers continue to manipulate financial reports using increased real earnings management (REM) (Chan et al. 2015; Hales et al. 2018). Given that REM comprises managers' deliberate use of non-optimal operating transactions to influence the financial report (Ewert and Wagenhofer 2005), such manipulations do not violate generally accepted accounting principles (GAAP) and are not subject to clawback recovery (Carcello et al. 2006). In addition, results suggest that the shift from AEM to REM impairs future firm value (Chan et al. 2015). The adverse consequences on firm value reported by Chan et al. (2015) are difficult to reconcile with the positive investor reactions to clawback adoption reported in previous studies. That is, if investors fully anticipate the potential negative effects of clawback adoption on firm value, they should not react positively to clawback adoption. Investigating clawbacks in a mandatory setting, we provide an explanation for these seemingly incompatible results.

Denis (2012) argues that a clawback mandate turns investors into too credulous consumers of financial information. Similarly, we propose that a clawback initiates a general feeling of security that leads investors to worry less about opportunistic behavior. This overall feeling

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<sup>1</sup> Section 954 of the "Dodd-Frank Wall Street Reform and Consumer Protection Act" was signed into law in 2010. To date, the rule has not been enforced by the Securities and Exchange Commission. However, a proposal for the amendment of the clawback mandate is pending in the Senate.

of being protected against opportunistic behavior creates a *halo effect*, rendering investors less wary of any type of earnings manipulations. Therefore, we predict that the introduction of a clawback mandate makes investors *less* skeptical toward REM although the clawback does not inhibit this particular earnings manipulation strategy.

In contrast, rational investors not subject to the halo effect should actually be *more* skeptical toward REM following a clawback mandate. This is because rational investors should anticipate that managers are likely to substitute AEM with REM under a clawback mandate. By deterring AEM, the clawback comparatively increases managers' propensity to use alternative earnings manipulation strategies not subject to the clawback provision, such as REM. A sufficiently skeptical investor should envisage the potential substitution in manipulations and thus should be more skeptical toward REM. Overall, the halo effect may harm investors by making them less skeptical about potential real earnings manipulations, despite managers' incentives to increase REM following a clawback mandate.

Additionally, we expect that investors' reactions to a clawback mandate depend on a firm's prior reporting history. Investors usually view firms that issued a restatement in the past with increased skepticism because they doubt the firm's intent to produce undistorted financials in the future (Anderson and Yohn 2002; Hribar and Jenkins 2004; Nguyen and Puri 2014). Investors are likely to consider a restatement as an indication that the management is willing to also engage in opportunistic behavior in related settings (Chakravarthy et al. 2014). Therefore, we expect investors to be more skeptical toward REM when a firm has previously issued a restatement. However, the implementation of corporate governance instruments, such as a clawback, can restore investor confidence in such firms (Wiedman and Hendricks 2013). Clawbacks are likely to be regarded as a remedy for investors' increased concerns about opportunistic behavior (Iskandar-Datta and Jia 2013). We thus predict the effect of a clawback mandate to be stronger for firms with a previous restatement. That is, following the initiation of clawbacks, we expect the decrease in investor skepticism with regard to REM to be larger for firms that previously had to issue an accounting restatement compared to firms without a previous restatement. Lastly, we posit that the decrease in investor skepticism toward REM initiated by the clawback translates into a higher desirability to invest in the firm.

We test our hypotheses using a laboratory experiment. Students assume the role of non-professional investors and analyze the financial report of a hypothetical firm. The report contains apparent manipulations of real earnings that are likely to have negative future

consequences for the firm. We manipulate the *presence of a clawback* and the *reporting history of the firm*. To capture investor skepticism toward REM we elicit participants' detection of REM in the report. The results are largely in line with our predictions and indicate that clawbacks provoke a decrease in investor skepticism toward REM. Furthermore, investors are more suspicious of REM of firms with a previous restatement. However, the presence of a clawback decreases investor skepticism toward REM more for firms with a previous restatement than for firms with no prior history of misreporting. Finally, our results indicate that the investor bias ultimately affects investors' investment desirability. The presence of a clawback mandate increases investors' perceived desirability to invest in the firm. This effect is mediated by investors' skepticism toward REM.

We additionally test our hypotheses using business professionals to examine whether the halo effect of a clawback mandate persists for more sophisticated investors. However, using a sample of experienced participants from accounting-related professions, we do not find support for any of our hypothesized effects. In particular, participants' skepticism toward REM does not differ between conditions and the presence of a clawback mandate does not affect participants' investment desirability. In sum, the results suggest that sophisticated investors are not subject to the halo effect that we find for less sophisticated investors.

Our research contributes to the body of research on unintended effects of compensation clawbacks by examining potential negative effects of mandatory clawbacks. We detect a clawback-induced bias among non-professional investors that is likely to adversely affect their investment decisions. Prior literature shows that behavioral biases may persist in financial markets (Daniel et al. 2002). The resulting misallocation of capital is likely to deplete shareholder value. More so, a false sense of security with respect to REM leaves investors vulnerable to management's discretion. Investors are more susceptible to the bias when analyzing firms with a previous restatement, providing managers of such firms with a large potential to manipulate their reports using REM without being adequately sanctioned. Non-professional investors are likely to suffer most from the judgment bias. This clearly works against the Securities and Exchange Commission's (SEC) efforts to protect individual investors (White 2014). In view of the imminent enforcement of mandatory compensation clawbacks in the U.S., our study helps to reveal potential adverse effects of clawbacks before their actual implementation.

The remainder of the paper is structured as follows. In section 2, we provide background on clawbacks and review the history and evolution of clawbacks. Section 3 develops our

hypotheses drawing on previous literature and theory. Section 4 describes the experiment and section 5 discusses the results. The paper closes with a conclusion and suggestions for future research.

## **2. Background**

### **2.1 Terminology**

Companies commonly use performance-contingent bonus schemes to motivate managers. However, incentive-based pay may also increase the risk of earnings management. In particular, managers may try to increase short-term compensation instead of following the owners' objective of long-term value maximization. Fama (1980) suggests that future wage revisions serve as an ex-post settling up mechanism to mitigate the problem. Compensation clawbacks constitute one such instrument to address differing time horizons of owners and managers (Babenko et al. 2017).

Clawbacks are contractual agreements between a firm and its executives that specify conditions under which the firm can recover previously paid out compensation (Sharp 2012). The conditions that trigger the clawback may vary widely and can range from misstated accounting information to excessive risk-taking. Thereby, clawbacks provide a means to better link executive compensation to compliance. In practice, the most widely used trigger of clawbacks is the issuance of an accounting restatement (Dehaan et al. 2013). Firms publish accounting restatements to correct previously issued financial statements if they contain a material inaccuracy, i.e. do not provide an accurate description of the firm's financial condition. Material inaccuracies may be due to AEM.<sup>2</sup> Prior research provides evidence that self-dealing executives engage in AEM to increase their performance-based compensation (Burns and Keida 2006; Efendi et al. 2007; Healy 1985). By recovering compensation from managers who publish misstated accounting information, clawbacks work as an effective ex-post settling-up mechanism (Iskandar-Datta and Jia 2013). Moreover, the mere threat of the compensation recovery should lower executive's incentives to engage in AEM in the first place. This argument is further backed as there may be reputational consequences of clawback activation (Iskandar-Datta and Jia 2013). Taken together, by allowing to recover

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<sup>2</sup> Material inaccuracies may also be due to unintentional accounting errors. However, the focus of this study is on intentional manipulations.

incentive-based pay that was based on incorrect financial statements, the clawback more directly links compensation to management's behavior (Hodge and Winn 2012).

In absence of clawback provisions, a firm could still file a lawsuit based on unjust enrichment in the event of managerial misconduct.<sup>3</sup> A lawsuit would allow the firm to reclaim compensation using judicial means. However, the burden of proof in such a case is much larger (Addy and Yoder 2011).<sup>4</sup>

## **2.2 Institutional Background**

Since the first introduction of compensation clawbacks in the U.S in 2002, regulators made several attempts to mandate clawback provisions. Appendix A presents the timeline with the most important events regarding clawback initiation in the U.S. and Appendix B provides an overview of the main features of previous clawback mandates.

Section 304 of the Sarbanes-Oxley Act (SOX) of 2002 initiated mandatory clawbacks in the U.S for stock exchange-listed firms. The regulation rules that any bonus and incentive-based pay of CEOs and CFOs is subject to recovery if the firm has to restate its earnings due to material noncompliance as a result of misconduct (U.S. House of Representatives 2002). The SEC has the sole authority to enforce this provision. However, the SEC has only litigated a handful of cases because of its constrained resources (Iskandar-Datta and Jia 2013) and the difficulty to prove misconduct as cause for a restatement (Fried and Shilon 2011).

During the financial crisis of 2007-2008, U.S. regulators took a second attempt at initiating mandatory clawbacks. The Emergency Economic Stabilization Act (EESA) made all recipients of federal bailout funds under the Troubled Asset Relief Program (TARP) subject to a clawback.<sup>5</sup> The clawback's scope was later extended under the American Recovery and Reinvestment Act (ARRA).<sup>6</sup> To date, the clawback is of decreasing relevance (The Department of the Treasury 2015).<sup>7</sup>

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<sup>3</sup> In the common law, the "faithless servant doctrine" allows to reclaim compensation in the event of breach of fiduciary duty, but only in "egregious" situations (Schneider 2010).

<sup>4</sup> Lawsuits only cover major cases where misconduct can clearly be proven. In contrast, clawbacks can be designed flexibly and apply to small cases as well. Also, clawbacks are more efficient as no costly litigation is needed (Kroos et al. 2018).

<sup>5</sup> See Section 111(b)(2)(B) of the EESA.

<sup>6</sup> See Section 111(b)(3)(B) of the ARRA.

<sup>7</sup> For an overview of the recipients that are still subject to the TARP program see: <https://projects.propublica.org/bailout/list/index>

In 2010, the Dodd-Frank Act (DFA) imposed a restatement-triggered clawback on all firms listed at U.S. securities exchanges. The DFA placed major regulations on the financial industry to improve accountability and transparency in the financial system. Section 954 requires the SEC to instruct U.S. securities exchanges to demand the adoption of clawbacks from their issuers. Importantly, compared to the SOX-clawback, the DFA-clawback regulation abandons the misconduct requirement and requires firms themselves (e.g. the board or the compensation committee) to enforce the recovery provision. Also, the DFA-clawback extends the scope of the provision to all former and current executive officers (SEC 2015).<sup>8</sup> Despite being signed into law, the DFA-clawback is not yet enforced. On July 1, 2015 the SEC issued a proposed rule that is not yet finalized. Currently, a new bill, the Financial Choice Act (FCA), proposes to limit the DFA-clawback's scope to executives who had "control and authority over the financial reporting that resulted in the accounting restatement". The FCA has yet to be voted on by the Senate and is likely to further delay the adoption of final rules by the securities exchanges. Until then, the decision, whether a firm includes a clawback in the compensation contract of their managers remains voluntary.

Voluntary adoption of clawbacks began following the introduction of the SOX in 2002. In 2006, firms with voluntary clawbacks in place were encouraged to disclose them.<sup>9</sup> The number of firms that have adopted clawbacks voluntarily has rapidly increased over the last two decades (Babenko et al. 2017; Rappeport 2008). Firms have great flexibility in how to structure voluntarily adopted clawbacks. Features like clawback triggers, look-back period, employees covered, or compensation components subject to recapture may differ significantly from the DFA-clawback.<sup>10</sup> However, the DFA will set a minimum standard for clawbacks in the U.S., as soon as properly enforced.

### **3. Previous Research, Theory, and Hypothesis Development**

Whereas research on mandatory clawbacks is scarce, most of the empirical literature examines the adoption of voluntary clawbacks in the U.S. Archival research largely finds positive stock market reactions to voluntary clawback announcements (Babenko et al. 2017; Chen et al. 2015; Gao et al. 2011; Iskandar-Datta and Jia 2013). Furthermore, studies report investors' perceived reporting quality to increase (Chan et al. 2012; Dehaan et al. 2013;

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<sup>8</sup> The DFA-clawback additionally differs from the SOX-clawback in that it sets the look-back period to 3 years and only makes the erroneously paid out bonus (excess pay) subject to recovery rather than the total bonus.

<sup>9</sup> See Section 402(b)(2)(viii) of regulation S-K.

<sup>10</sup> Beck (2015) provides an overview of the defining features of voluntary clawback policies.

Huang et al. 2016). Interestingly, investor reactions are strongest for firms with previous reporting problems, i.e. firms that issued a previous restatement (Huang et al. 2016; Iskandar-Datta and Jia 2013). These findings suggest that clawbacks are regarded as a valuable corporate governance instrument by investors who may consider the provisions as a fix for managerial incentive problems.

Research also observes adverse effects of clawback adoption. Because clawbacks aim to deter AEM, one strand of literature focuses on whether managers try to influence investors by using means not subject to the clawback. The literature documents that, following clawback adoption, managers both increase the frequency and decrease the quality of non-GAAP earnings disclosures (Kyung et al. 2019), and publish financial reports that are less readable (Bao et al. 2018). However, potentially the most striking negative consequence of clawback adoption is that managers switch to alternative practices of opportunistically manipulating earnings. In particular, Chan et al. (2015) find that managers substitute AEM with REM. As REM does not violate GAAP, it does not trigger clawback recovery (Commerford et al. 2018). The findings reported by Chan et al. (2015) are supported by experimental evidence from Hales et al. (2018) who also document a substitution effect between AEM and REM when clawbacks are adopted. The substitution of AEM with REM following clawback adoption is particularly problematic because Chan et al. (2015) find that the switch of manipulations harms long-term firm value.<sup>11</sup>

The positive stock market response following clawback announcements (Iskandar-Datta and Jia 2013) is difficult to reconcile with Chan et al.'s (2015) finding of long-term firm value depletion from increased REM. Specifically, if investors anticipate the negative long-term effects of clawback adoption, they should not react positively to the clawback adoption. When analyzing financial statements to examine a potential investment in a firm, investors should take potential opportunistic manipulations of reports into account. Extant research provides indication that financial statements contain earnings manipulations (Burgstahler and Dichev 1997; Healy 1985; Roychowdhury 2006). To the extent that investors do not detect these manipulations, they may be deceived (Dechow and Skinner 2000). That is, when assessing the value of a firm, they may base their evaluation on wrong expectations (Strobl 2013). Conversely, if investors are aware of manipulations, they can discount the financial information and rely less on the published numbers (Healy and Wahlen 1999).

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<sup>11</sup> Extant research reports negative long-term consequences of REM (Cohen and Zarowin 2010; Gunny 2005; Vorst 2016).

The extent to which investors detect potential manipulations is likely to be a function of how skeptically they analyze the reports with respect to earnings management. Investors may be particularly wary of earnings manipulations, when managers have strong incentives to misreport (Cressey 1953; Healy and Wahlen 1999; Mercer 2004). By recouping managerial pay that is based on overstated financial statements, a clawback is likely to weaken managers' incentives to engage in AEM (Chen et al. 2015). Therefore, investors may rely more strongly on financial statements when a firm has adopted a clawback provision (Chan et al. 2012; Dehaan et al. 2013). Importantly however, the clawback does not generally deter managers' propensity to engage in opportunistic behavior. In contrast, a clawback may actually *increase* managers' incentives to engage in REM. That is, because clawbacks make AEM more costly for executives who face increased risk of losing their bonus, managers' relative costs of engaging in REM decrease (Chan et al. 2015). Managers thus have an incentive to substitute AEM with REM (Drymiotes 2011; Ewert and Wagenhofer 2005; Zang 2012).<sup>12</sup>

Considering the likely increase in managers' propensity to engage in REM, a rational investor should assess the financial statements of a firm with a clawback with increased skepticism toward REM. However, investors may not always act rationally, as they are likely to be subject to cognitive limitations that prevent them from fully incorporating all available information (Hirshleifer and Teoh 2003). To reduce processing costs, they rely on simplified heuristics and decision shortcuts that make them prone to biases (DeBondt and Thaler 1995; Hirshleifer 2001; Kahneman and Riepe 1998). The extent to which information initiates effortful cognitive processing seems to be largely driven by situational and social cues (Smith and Semin 2004). We investigate whether the presence of clawback policies serves as a cue that lets investors fall prey to a cognitive bias, called the halo effect.

### **3.1 The Halo Effect**

The halo effect is a simplifying heuristic used by evaluators who rate *specific dimensions* of an entity on the basis of their *global judgment* of the entity, rather than evaluating each dimension independently (Leuthesser et al. 1995; Nathan and Tippins 1990). The halo effect was first observed by Thorndike (1920). He noticed that individuals tend to rate traits of

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<sup>12</sup> The substitution effect between AEM and REM has already been documented for different regulations that restrict managers' potential to engage in AEM, such as the SOX (Bartov and Cohen 2009; Cohen et al. 2008) or the adoption of stricter accounting standards such as IFRS (Ferentinou and Anagnostopoulou 2016; Ho et al. 2015; Ipino and Parbonetti 2016).

another person (*specific dimensions*) according to their overall impression of that person (*global judgment*). An example of the halo effect is that people ascribe more favorable personality traits and more successful life outcomes to attractive people (Eagly et al. 1991). Thus, people are unable to judge the separate qualities of a person without being influenced by their general feeling of the person.<sup>13</sup> The effect occurs because individuals generally adopt a top-down, categorization-based strategy (compared to a bottom-up, data-driven strategy) for processing ratee-related information (Nathan and Lord 1983; Lance et al. 1991). This categorization-based strategy reduces processing effort and use of cognitive resources (Fiske and Neuberg 1990).<sup>14</sup>

Importantly, the halo effect is not solely applicable to evaluating individuals but is much more general. For instance, the halo effect has been shown to be present for evaluations of objects, organizations, or technologies (Soper 2014). In accounting, the halo effect has mainly been studied in the context of auditing. Several studies document that overall impressions of a firm may influence auditors' skepticism when evaluating accounting details. O'Donnell and Schultz (2005) find that that auditors' overall strategic risk assessments determine auditors' ability to recognize inconsistent audit evidence contained in accounting details. Grambling et al. (2013) provide evidence that auditors who are made aware that an unrelated material weakness has been identified by the audit team, are more likely to assess a control deficiency as a material weakness. Hatherly et al. (1991) find that expanded audit reports create an overall impression of well-being, which spills over into dimensions not addressed by the expansion of the report. That is, when the audit report includes expanded wording, auditors perceive financial statements to be more credible and are less wary of fraud risk. The studies in audit research suggest that auditors fall prey to halo effects which may influence their skepticism. The halo effect has been applied to investors as well. Wang and Tuttle (2014) document that investors use CSR-information to form overall impressions of a company. They draw on their general impressions to assess the credibility of financial information as well as the valuation of the company. That is, the halo created by a good CSR-report increases firm value because investors assess the financial information to be more credible.

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<sup>13</sup> The halo effect has also been documented in accounting research. Studies in performance evaluation have shown that supervisors attend to general impressions when evaluating specific performance dimensions of an employee (Bol and Smith 2011; Fox et al. 1983; Nisbett and Wilson 1977; Tan and Jamal 2001).

<sup>14</sup> The tendency to confirm overall judgments in specific dimensions is likely to be due to the need to reduce cognitive dissonance between the global judgment and the judgment of specific dimensions (Beckwith and Lehmann 1975).

We posit that investors fall prey to the halo effect when assessing the risk of REM in financial reports. In particular, we examine whether, following a clawback initiation, investors assess the likelihood of REM on the basis of their overall impression of the likelihood of opportunistic behavior. We posit that the presence of a clawback serves as a cue that investors use to judge the likelihood that financial statements are influenced by opportunistic behavior. Aimed at deterring misreporting, the clawback is likely to be regarded as indication that investors need to worry less about opportunistic behavior. That is, the clawback may generate a general feeling of security on the part of investors, making them less concerned about manipulations of financial statements (Denis 2012). We posit that the general feeling of security induced by the compensation clawback (*global judgment*) creates a halo effect when investors assess specific types of opportunistic behavior such as the likelihood of AEM and REM (*specific dimensions*). Thus, we predict that investors judge the likelihood of REM based on their overall impression of the firm's potential for opportunistic behavior, rather than evaluating the risk of REM independently. As a consequence, they become less skeptical toward REM.

**H1:** *Investors are less skeptical toward REM when a clawback is present than when no clawback is present.*

### **3.2 Previous Restatements**

If a firm has to issue a restatement, investors learn that the report contains misrepresentations and that the published accounting information cannot be relied on (Anderson and Yohn 2002; Palmrose and Scholz 2004; Wu 2002). A restatement also challenges the firm's intent to produce undistorted financials in the future (Anderson and Yohn 2002; Hribar and Jenkins 2004; Nguyen and Puri 2014). Therefore, investors will be more wary of opportunistic behavior when evaluating financial information in subsequent years. Investors are likely to view the restatement as a signal for the willingness of the management to also engage in opportunistic behavior in related settings (Chakravarthy et al. 2014). Thus, restating firms are more suspicious of earnings manipulations of any kind, including REM. We posit that when assessing a firm that had to issue a restatement in the past, investors are more skeptical toward REM.

**H2:** *Investors are more skeptical toward REM when a firm has previously restated its earnings than when a firm has no previous restatement.*

### 3.3 Clawbacks and Previous Restatements

We expect that the incidence of a previous restatement and the presence of a clawback have interactive effects on investor skepticism toward REM. In particular, we posit that a clawback decreases investors' skepticism toward REM more when a firm has issued a previous restatement than when a firm has no prior history of misreporting.

Firms take a variety of measures in order to relief the burden of increased investor skepticism subsequent to a restatement. Investors' concerns about future misbehavior may be mitigated when firms dismiss the management (Desai et al. 2006), increase corporate governance (Wiedman and Hendricks 2013) or use extraordinary communication strategies (Elliot et al. 2012). The enforcement of regulations to increase reporting quality may also alleviate investors' increased concerns about managerial opportunism (Li et al. 2008). We believe that the presence of a mandatory clawback may similarly soothe investors' increased concerns about opportunistic behavior of firms with a restatement.

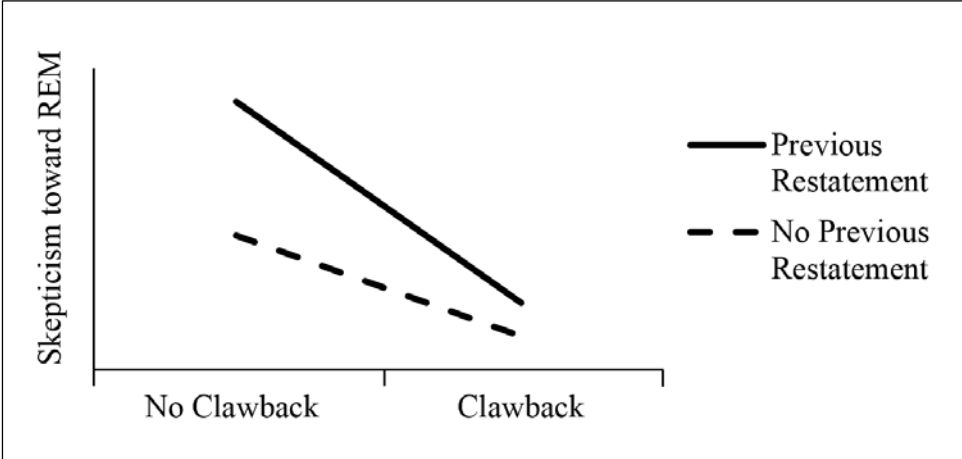
Clawbacks aim at improving the integrity of financial statements by punishing misreporting managers. Investors are likely to perceive the corporate governance instrument as a deterrent to opportunistic behavior. Investors who analyze a firm with a previous restatement may view the clawback as remedy for increased concerns about managerial opportunism. That is, the clawback may restore the confidence in the financial statements of firms with a prior history of misreporting (Iskandar-Datta and Jia 2013). We thus predict that, when a clawback mandate is introduced, investors' perception of the likelihood that the firm engages in opportunistic behavior will decrease more for a firm with a previous restatement than for a firm with no previous restatement.

As in hypothesis 1, we predict that investors who evaluate financial statements are subject to a false sense of security initiated by the clawback. That is, the clawback will give investors a general feeling of being protected against opportunistic behavior. This overall feeling will, in turn, bias them when judging the specific dimensions of earnings management. As a result, they will not incorporate the substitution effect between AEM and REM but will instead be less skeptical toward REM. Because we expect that the presence of a clawback reduces investors' suspicions of managerial opportunism more for firms with a previous restatement, we predict the halo effect to be stronger.

**H3:** *The presence of a clawback reduces investor skepticism toward REM more for a firm that has previously restated its earnings than for a firm with no previous restatement.*

Overall, we posit that, in presence of mandatory clawbacks, investors are less skeptical toward REM. We also expect investors to be more skeptical toward REM of firms with a previous restatement. However, we predict that clawback adoption decreases investor skepticism toward REM more for firms with a previous restatement than for firms with no previous restatement. The pattern predicted by hypotheses 1-3 is depicted in Figure 1.

**FIGURE 1**  
**Predicted Pattern for Hypotheses 1-3**

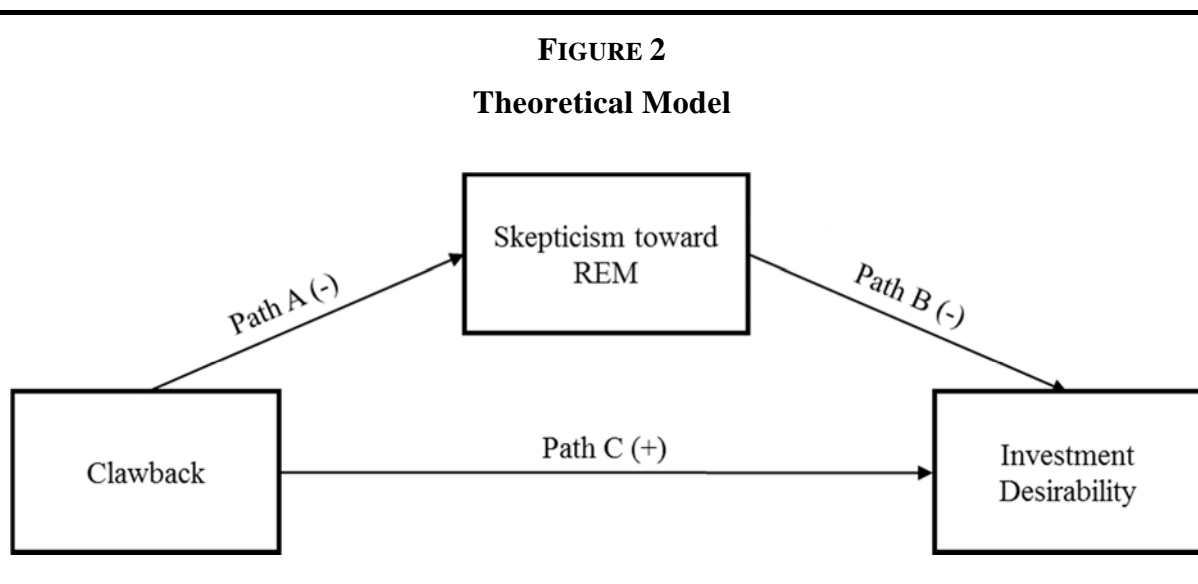


**3.4 Clawbacks and Investment Desirability**

We argue that the presence of a clawback policy decreases investor skepticism toward REM. That is, investors may not sufficiently challenge financial reports regarding the objective of managers’ operating decisions. Investors may thus be unable to determine when a transaction serves the purpose of self-dealing behavior rather than value maximization. When missing non-optimal REM transactions, investors will ceteris paribus judge the firm’s economic prospects more favorably because they do not incorporate the negative long-term effects of REM. Thus, investors will assess a firm to be more desirable as an investment when a clawback is present than in absence of such a policy. We therefore expect that the skepticism toward REM mediates the positive effect of a clawback initiation on investors’ desirability to invest in a firm.

**H4:** *Investors consider the desirability to invest in a firm to be higher when a clawback is present compared to when no clawback is present and the effect is mediated by investors’ skepticism toward REM.*

Figure 2 depicts the presumed mediation model.



This figure illustrates the theoretical model of the causal links between Clawback and Investment Desirability

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## 4. Experiment

To test our hypotheses we conduct a laboratory experiment. We do this for two reasons: First, in real world data, a multitude of effects vary simultaneously, making it difficult to isolate the effect of policy adoptions (Kachelmeier and King 2002). An experiment allows us to hold the financial information constant while being able to manipulate the presence of a clawback policy. Second, using an experiment we are able to examine potential effects of mandatory clawbacks although the DFA-clawback is not yet properly enforced. Thus, insights on potential downsides of the new policy allow for timely amendments of the clawback proposal.

### 4.1 Participants

99 students with a major in business administration participated in the experiment. We recruited 28 master students and 71 bachelor students from two Swiss universities. We invited them into a computer lab where they participated in the study. The experiment took approximately 45 minutes and was conducted in German. We ran 13 sessions with 3-17 participants each. Subjects were compensated with a flat fee of 26 CHF (approx. 27 USD).

We used business students as proxies for nonprofessional investors. Nonprofessional investors own approximately one-third of all U.S. stocks (Bogle 2005) and thus have a

significant influence on the U.S. capital market. Previous research indicates that this class of investors can impact security prices (DeLong et al. 1989; 1991). Elliot et al. (2007) suggest that students may be used as reasonable proxies for nonprofessional investors. Following Libby et al. (2002) we did not use more sophisticated participants than necessary to achieve our research goal.<sup>15</sup> We judged the students' accounting and finance knowledge to be sufficient to master the task. 57% of the students had previously analyzed the financial statements of a firm. Participants had taken 4.2 accounting and finance classes and had 2.5 years of work experience on average. 40% of participants were female. The average age was 24.7. All these characteristics do not differ significantly between conditions (all  $p > 0.10$ ).

## **4.2 Design**

We employ a 2 (presence of clawbacks)  $\times$  2 (incidence of a previous restatement) factorial between-subjects design. Participants assume the role of prospective investors of a hypothetical firm on which they receive background information. They are also provided with the firms' current financial statements. We ask participants to analyze the financial information and to answer questions about the firm and its economic prospects. The firm's financial report contains five manipulations of real earnings. There is strong indication that the manipulations were performed to maximize the CEO's bonus. Our questions elicit participants' skepticism toward REM by measuring the extent to which they detect the REM in the report. To ensure experimental control, we conduct the experiment in laboratories where we are able to restrict internet access and prevent participants from communicating with each other. We implement the study using the "Qualtrics" survey software.

## **4.3 Manipulations**

We manipulate the presence of a clawback and the incidence of a previous restatement (see Table 1). We do so by varying the background information that participants receive on the firm. Participants in the clawback conditions learn that a new regulation makes the firms subject to a mandatory clawback. In case of an accounting restatement, the clawback allows

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<sup>15</sup> Numerous studies (e.g., Elliott et al. 2007; Frederickson and Miller 2004; Hirst et al. 1999; Hirst et al. 2007; Hodge 2001; Hodge et al. 2004; Maines and McDaniel 2000) have used MBA students as nonprofessional investors. We have no reason to believe that our participants' answers differ from those of MBA students or nonprofessional investors in the task at hand.

the firm to recover bonus payments of its CEO.<sup>16</sup> For the control group, the experimental material remains silent about clawbacks. To attenuate potential demand effects, we refrained from explicitly informing participants that no clawback is present.

**TABLE 1**  
**Experimental Manipulations**

		Incidence of a Previous Restatement	
		No Previous Restatement	Previous Restatement
Presence of a Mandated Clawback	Clawback	Clawback / No Previous Restatement	Clawback / Previous Restatement
	No Clawback	No Clawback / No Previous Restatement	No Clawback / Previous Restatement

As a second manipulation, we vary whether the firm issued an accounting restatement in the past. Participants in the previous restatement conditions are informed that the firm had to publish an accounting restatement three years prior to the reported period. Conversely, the control group learns that the firm has never issued any restatement.

To test our hypotheses we investigate whether participants differ in their skepticism toward REM contingent on conditions. The measures to capture subjects’ expectations about REM are explained later on. We also elicit participants’ perceptions of the desirability of the firm as an investment.

**4.4 Materials and Procedure**


The experiment consists of three consecutive stages. Figure 3 summarizes the experimental procedure.

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<sup>16</sup> The clawback covers the total bonus paid out to the CEO. This feature of the clawback moves away from the DFA-clawback which only recovers the excess bonus. The design choice is made to strengthen the manipulation.

**FIGURE 3**  
**Experimental Procedure**

Stage 1	Stage 2	Stage 3
<b>Background Information</b> i) The firm and its strategy ii) The compensation scheme iii) Technical knowledge (Financial reports, AEM, REM, restatements) iv) Manipulations(clawback, previous restatement) v) The business environment (newspaper article) vi) Comprehension questions	<b>Financial Statements</b> i) Income statement ii) Balance sheet iii) Notes iv) Percentage of sales figures with industry comparison	<b>Questions</b> i) Dependent variables - Skepticism toward REM - Investment desirability ii) Other questions - Manipulation checks - Comprehension checks - Questions on the experiment iii) Demographic questions

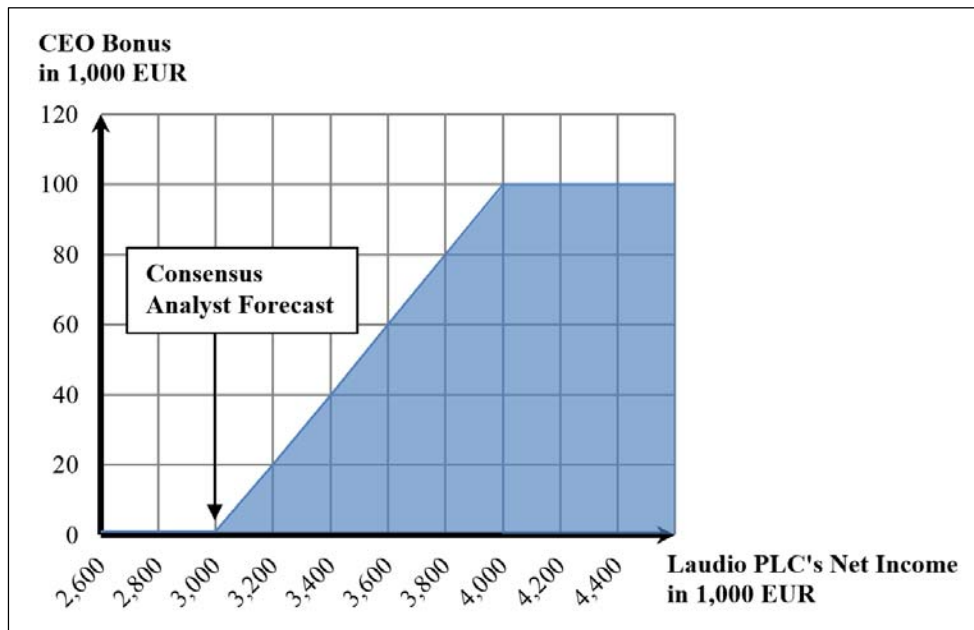


**Stage 1.** In the first stage, we provide participants with information necessary for the experimental task. We inform participants about their role as prospective investors of the hypothetical firm Laudio PLC. To provide some context, we shortly describe the firm and its strategic positioning. Next, we lay out the CEO’s compensation scheme. The information about the CEO’s compensation should make participants aware of the CEO’s bonus system and that the bonus may provide the CEO with incentives to manage earnings. Participants learn that the CEO’s bonus depends on reaching the consensus analyst forecast of net income.<sup>17</sup> The bonus increases linearly the more net income exceeds the analyst forecast and is limited by a cap. Figure 4 presents the bonus compensation of the CEO as a function of the firm’s net income.

<sup>17</sup> We tie the bonus to exceeding analyst forecast because we think that it informs investors that the threshold for reaching a bonus is realistically set and therefore not too easy to achieve.

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**FIGURE 4**  
**CEO Bonus**



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To ensure that participants possess the technical knowledge to solve the experimental task, we provide participants with information about i) the purpose of financial statements, ii) how financial information can be influenced through AEM and REM, iii) the potential negative effects of AEM and REM, and iv) when an accounting restatement is triggered. Depending on the condition, participants then learn about the existence of a government-mandated clawback and about Laudio PLC's reporting history (i.e. incidence of a previous restatement). Next, participants receive a newspaper article that describes the business environment in which Laudio PLC operates. The article highlights the key resources of the firm. At the end of stage 1, participants answer five comprehension questions with regard to the background information. These questions serve as a check to assess whether subjects have thoroughly read and understood the material.

**Stage 2.** After the participants read the background material and answered the comprehension questions, we provide them with Laudio PLC's balance sheet, income statement, notes, and some industry comparison figures. The financial information shows that the net income exceeds the analyst forecast by an amount which makes the CEO eligible

for the maximum bonus.<sup>18</sup> The CEO achieving the maximum bonus should make investors wary of potential manipulations of the report.

We construct the financial statements such that they include five incidences of REM that increase the firm's net income. Each manipulation of real earnings affects a different line item of the income statement. The operating transactions that boost net income are each explained in the notes of the financial statements. Participants should be alert regarding these transactions because they clearly contradict the firm's business strategy and are harmful to the key resources as previously laid out in the newspaper article. Together with the information that the CEO reaches the maximum bonus, the experimental materials provide strong evidence for the presence of real earnings manipulations.

The five incidences of REM that Laudio PLC engages in are common examples of REM mentioned in previous literature (Gunny 2005). The REM-transactions are i) abnormal price discounts granted to customers in the fourth quarter, ii) a discretionary reduction of product development expenditure, iii) a cut-back in advertising expenditure, iv) a cancellation of employee training programs, and v) a timed sale of specialized machines. For instance, the notes of the financial report state that Laudio PLC reduced research and development (R&D) expenditure by decreasing investments in product development. However, subjects learn from the background information that a cut-back in R&D is a major risk in this industry because firms that lack innovation cannot keep up with the rapidly progressing development of technology. A reasonably skeptical investor should be concerned that the reduced spending on R&D may harm the firm in the long-run. Table 2 summarizes for each manipulated item of the income statement, the operating transaction described in the notes and its contradicting piece of information from the background material.

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<sup>18</sup> We designed the experiment such that the CEO earns the maximum bonus by meeting the previous year's net income. The design choice allows us to hold the earnings constant between the current and the comparative period. This simplifies the search for changes across periods and thereby facilitates the detection of manipulations.

**TABLE 2**  
**REM Seeded in the Financial Statements**

<b>Manipulated Item of the Income Statement</b>	<b>Operating Transaction Described in the Notes</b>	<b>Contradicting Piece of Information in the Background Information</b>
Sales	Price discounts at year-end.	The firm has adopted a premium pricing strategy to signal quality.
Research and development expenses	Reduction of product development expenditure.	In the industry in which the firm operates, innovations are a critical factor to stay in business.
Sales and marketing expenses	Cut-back in advertising expenditure.	The firm's distribution strategy requires high advertising expenditure to maintain brand awareness.
Administration expenses	Cancellation of training programs.	Know-how is a key resource to harmonize the individual components of the products in the assembly process.
Other operating income and expenses	Sale of specialized machines.	Specialized machines are a limiting factor in production.

To facilitate the detection of REM, we include two more leads that could help investors discover that the financials might be managed. That is, we show participants the percentage-of-sales figures of the income statement together with industry and prior year comparison figures. As a result of the REM, the percentage-of-sales values of the managed items of the income statement experience an abrupt change compared to both, prior year numbers and industry means. Also, we design the financial statements such that without the REM, the CEO would not have been eligible for any bonus.<sup>19</sup>

**Stage 3.** In a third step, participants fill out the post-experimental questionnaire. In the first set of questions we require them to assess the economic situation of the firm. To measure our main dependent variables we elicit participants' skepticism toward REM and their investment desirability (see next section). Then, participants are required to answer

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<sup>19</sup> We conduct a pre-test of our experimental materials to investigate whether a reasonably attentive and skeptical participant is able to detect that the firm engaged in REM. It is crucial that the detection of REM is neither too easy nor too difficult to have sufficient variation to exploit potential effects of our manipulations. We test our experimental materials with 12 master graduates in business administration. We count how many of the real earnings manipulations participants mention in their justifications when assessing the firm's creation of future value. On average, participants find three out of the five manipulations seeded in the report. The result indicates that the task is adequate in terms of difficulty. The REM is neither too salient nor too unnoticeable for our participants.

manipulation and comprehension checks as well as other questions on the experiment. Finally, participants answer some demographic questions.

#### **4.5 Dependent Measures**

Our primary dependent measures are designed to capture participants' skepticism toward REM when analyzing the financial statements of Laudio PLC as well as their perceived desirability of the firm as an investment. To avoid potential demand effects, we indirectly elicit participants' skepticism toward REM using two questions.

***Expected change in operating cash flow.*** We ask participants how they expect the operating cash flow of the firm to change in the next year compared to the reported year. We use a 101-point response scale with labeled endpoints. 0 corresponds to "cash flow decreases strongly", 100 corresponds to "cash flow increases strongly", and 50 is labeled "cash flow stays the same". The question takes advantage of the negative cash flow effects that REM is likely to have in the future. That is, when a firm uses income increasing REM, the operating cash flow temporarily increases in the year of the manipulations. However, the increase does not persist in future periods and is likely to reverse (Vorst 2016). Also, the non-optimal business decisions are likely to have negative effects on future firm performance (Cohen and Zarowin 2010; Vorst 2016). An investor who detects the manipulations would therefore have lower expectations of future operating cash flows compared to an investor who does not detect the REM.

***Number of real manipulations detected.*** We require participants to distribute 100 points to the items of the income statement depending on how important they considered each item for the assessment of the future value creation of the firm. We then ask them to justify their decisions for important items. Two independent raters analyze participants' justifications to assess how many incidences of REM participants recognize. The number of real earnings manipulations that participants make a reference to (0-5) serves as our second variable of investor skepticism toward REM.

***Investment desirability.*** We request participants to evaluate the desirability of the stock of the Laudio PLC as an investment. Subjects state their investment desirability on a 101-point response scale with endpoints labeled "very low" and "very high".

## **5. Results**

### **5.1 Manipulation Checks**

Participants are required to answer two manipulation check questions. For the clawback manipulation we ask subjects whether, according to the background information, the firm had a mechanism in place that allowed it to recover its CEO's bonus under certain conditions. 91% give the correct answer to the clawback manipulation check. To check the previous restatement manipulation we ask participants whether there was an instance in the past where the firm had to publish an accounting restatement. 89% of all participants correctly answer the manipulation check with regard to the previous restatement. The results indicate that our manipulations are successful. We keep all responses in the analysis because our sample size is rather small. However, the exclusion of participants who did not pass either of the manipulation checks yields inferentially identical results.

We also ask five comprehension questions about the background information to check whether participants read the experimental material thoroughly. On average, subjects answer 91% of the comprehension questions correctly and there are no significant differences across conditions ( $p=0.29$ , two-tailed). The result suggests that participants understood the instructions and that they were sufficiently attentive.

We additionally check whether people understood that i) REM cannot trigger a restatement, and that ii) the clawback is exclusively activated by a restatement.<sup>20</sup> People who believe that REM can trigger the clawback or who do not understand the functioning of the clawback may make judgments that affect the results in favor of our hypotheses. 65% of participants correctly answer that REM cannot trigger a restatement when correctly accounted for. Also, 76% of participants know that a clawback is activated only in case of a restatement. While these percentages seem rather low, all results stay inferentially the same when excluding those participants who incorrectly answer either of the two questions.

### **5.2 Test of H1 and H2**

We separately test hypotheses H1 and H2 with our two measures that capture the skepticism toward REM: The *expected change in operating cash flow* and the *number of real*

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<sup>20</sup> The latter comprehension check is asked to participants in the clawback treatment only.

*manipulations detected*. Descriptive statistics per condition are presented in Panel A of Table 3.

In our first hypothesis, we predict that the presence of mandatory clawbacks reduces investor skepticism toward REM. Panel B of Table 3 reports a conventional ANOVA with the *expected change in operating cash flow* as the dependent variable and the presence of a clawback and the incidence of a previous restatement as independent factors.<sup>21</sup> In line with our first hypothesis, we find that participants in the clawback conditions expect future operating cash flow to be more positive than participants in the no clawback conditions ( $p < 0.01$ , two tailed). The result suggests that participants are less skeptical toward REM in presence of a compensation clawback. They find less indication of REM and are therefore more optimistic about future cash flows. Thus, our findings indicate that investors' general feeling of security due to the introduction of clawbacks spills over to areas where the provisions are not effective. Rather than anticipating the likely increase in REM, investors feel unwarrantedly safe and are less skeptical toward REM.

We additionally find a significant main effect ( $p < 0.05$ , two-tailed) consistent with hypothesis 2. Specifically, when a firm issued a previous restatement, investors expect the future operating cash flow to be lower than when the firm has a no prior misreporting history. This result suggests that investors analyze firms with a previous restatement with increased skepticism toward REM. They are likely to find more indication of REM and thus judge the future cash flows to be lower.

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<sup>21</sup> An assumption of the ANOVA is that the sampling distribution of means must be normal for each level of the independent variable (Rutherford 2011). We test our dependent variable for normality using the Shapiro-Wilk (1965) test. For all conditions and all variables the null hypothesis of normal distribution is not rejected. The results indicate that the scores in each condition are normally distributed. We also test the dependent variable for homogeneity of variances. We use Levene's (1960) test that tests the null hypothesis that the variances of all conditions of the variable are the same. Significant p-values indicate that the variances of the groups are heterogeneous. For our dependent variables, Levene's test statistic yields insignificant results indicating that we do not have any concerns regarding heterogeneity of variances.

**TABLE 3**  
**Descriptive Statistics and Test of H1 and H2**

**Panel A: Means, [Standard Deviation], Number of Observations for Dependent Measures**

	Expected Change in Operating Cash Flow <sup>a</sup>		Number of Real Manipulations Detected <sup>b</sup>	
	No Previous Restatement	Previous Restatement	No Previous Restatement	Previous Restatement
No Clawback	50.50 [11.83] n=24	44.20 [13.03] n=25	1.71 [1.37] n=24	2.00 [1.68] n=25
Clawback	56.65 [13.01] n=26	51.46 [12.61] n=24	1.27 [1.22] n=26	1.83 [1.24] n=24

**Panel B: Analysis of Variance (ANOVA) for Expected Change in Operating Cash Flow<sup>a</sup>**

Source of Variation	SS	df	MS	F-statistic	p-value
Clawback	1111.82	1	1111.82	6.96	<0.01
Restatement	816.76	1	816.76	5.11	0.03
Clawback × Restatement	7.54	1	7.54	0.05	0.83
Error	15181.84	95	159.81		

**Panel C: Poisson Regression for Number of Real Manipulations Detected<sup>b</sup>**

Source of Variation	Coefficient	z-statistic	p-value
Clawback	-0.30	-1.27	0.10 <sup>c</sup>
Restatement	0.16	0.75	0.23 <sup>c</sup>
Clawback × Restatement	0.21	0.67	0.25 <sup>c</sup>

Panel A shows the means, standard deviations, and number of observations for our dependent measures. Panel B provides the results of the analysis of variance (ANOVA) for the *Expected Change in Operating Cash Flow*. Panel C shows the Poisson regression results for *Number of Real Manipulations Detected*.

<sup>a</sup> The question to assess the *Expected Change in Operating Cash Flow* requires participants to judge whether they expect the firm's operating cash flow to increase, decrease, or stay the same in the following year as compared to the reported year.

<sup>b</sup> To measure the *Number of Real Manipulations Detected*, subjects are asked to comment on important items of the income statement when assessing the change in future value creation of the firm. The measure captures the number of REM items mentioned in those comments.

<sup>c</sup> We use one-tailed p-values for directional predictions in the Poisson regression. All other p-values are two-tailed.

We also test our hypotheses using the *number of real manipulations detected* as dependent variable. The variable more directly captures the extent to which investors detect REM, compared to the first variable (*expected change in operating cash flow*) which measures the implications of REM detection.

Two junior assistants who are blind to treatment conditions independently evaluate participants' answers to examine whether they contain references to REM. The inter-rater reliability using Cohen's (1960) kappa is 0.8879 ( $p < 0.0001$ ). The ratings that differ between raters are subsequently reconciled by discussion.

Panel C of Table 3 presents the Poisson regression results of the alternative dependent variable (*number of real manipulations detected*).<sup>22</sup> We find a marginally significant effect for the clawback treatment in line with hypothesis 1 ( $p = 0.10$ , one-tailed). However, while directionally consistent with our prediction, we do not find support for hypothesis 2. That is, the *number of real manipulations detected* does not differ between the previous restatement and the no previous restatement conditions ( $p = 0.23$ , one-tailed).<sup>23</sup>

### 5.3 Test of H3

For our third hypothesis, we examine whether the reduction of investor skepticism toward REM is larger for a firm that has previously issued a restatement relative to a firm with no previous restatement. We use planned contrasts to allow for powerful and efficient tests of the predicted ordinal interaction (Buckless and Ravenscroft 1990). For our *expected change in operating cash flow* measure we use contrast weights of -1 in the no clawback/no previous restatement condition, +3 in the clawback/no previous restatement condition, -4 in the no

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<sup>22</sup> The detected amount of REM-manipulations is counted data. Ordinary linear regression is generally less suitable to analyze such data due to two reasons. The restricted range of counted data biases parameter estimates. Also, the variance of a count commonly increases with its value which introduces heteroscedasticity that biases test statistics (Gardener et al. 1995). A regression model that relies on a Poisson distribution addresses the problems.

<sup>23</sup> There might be two potential explanations as to why the results of our second measure are rather weak. First, as we could not ask participants directly about their suspicions about REM due to experimenter demand effects, we had to elicit participants' thoughts about real manipulations using a less specific question. Consequently, there is naturally much unexplained variation in our dependent measures. Second, about one third of our participants are first-year students. As advanced students are hard to recruit, we were compelled to extend the experiment to first-year students despite their relatively lower level of accounting knowledge. First-year students detected significantly less REM compared to more sophisticated subjects, independent of condition ( $p < 0.01$ , two-tailed). On average, they only found one of five real earnings manipulations. Thus, task complexity might have been too high for our less sophisticated subjects, consequently introducing noise into our dependent variable. However, excluding first-year students or controlling for investment expertise does not increase the significance of our results due to a lack of statistical power.

clawback/previous restatement condition, and +2 in the clawback/previous restatement condition. The applied contrast weights reflect the pattern as predicted in Figure 1 above. However, the weights take into account that the *expected change in operating cash flow* variable is measured on an inverted scale, i.e. higher scores indicate less skepticism toward REM.

**TABLE 4**  
**Test of H3**

**Planned Contrasts for Expected Change in Operating Cash Flow**

Source of Variation	SS	df	MS	F-statistic	p-value
Model contrast (-1, +3, -4, +2) <sup>a</sup>	1739.13	1	1739.13	10.88	<0.01
Residual between-cells variance <sup>b</sup>	253.21	2	126.60	0.79	0.46
Total between-cells variance	1992.34	3	664.11	4.16	<0.01
Error	15181.84	95	159.81		
Total	17174.18	98			
Contrast Variance Residual <sup>c</sup> ( $q^2$ )	12.71%				

This Table presents planned contrasts and residual between-cells variance test results, as well as the contrast variance residual ( $q^2$ ) metric for the *Expected Change in Operating Cash Flow*.

<sup>a</sup> -1 for the No Clawback/No Previous Restatement condition;  
+3 for the Clawback/No Previous Restatement condition;  
-4 for the No Clawback/Previous Restatement condition;  
+2 for the Clawback/Previous Restatement condition.

<sup>b</sup> The between-group variance that is unexplained by the model contrast is the residual sum of squares. An insignificant p-value suggests that the model contrast explains the variation in the data well.

<sup>c</sup> The Contrast Variance Residual ( $q^2$ ) is the proportion of between-cells variance left unexplained by the contrast.

The contrasts allow to simultaneously test for two main effects and a very specific type of interaction effect between the presence of a clawback and the incidence of a previous restatement. The interaction contrast determines whether the difference in mean *expected change in operating cash flow* between the two no previous restatement conditions is less than the difference in mean *expected change in operating cash flow* between the two previous restatement conditions. Table 4 shows the main and interaction effect contrast for our change in operating cash flow variable. In line with hypothesis 2, we find the contrast to be

statistically significant ( $p < 0.01$ , two-tailed).<sup>24</sup> Results indicate that if clawbacks are imposed on a firm, investor skepticism toward REM decreases more when the firm has published a restatement in the past compared to when the firm has no previous restatement.

Guggenmos et al. (2018) warn that the model contrast may be significant even if no interaction exists. A visual inspection of the means per condition suggests a pattern as predicted by Figure 1. The between-cells residual variance<sup>25</sup> is not significant ( $p = 0.46$ ) and the proportion of variance left unexplained by the contrast is low ( $q^2 = 12.71\%$ ). These analyses suggest that our joint main and interaction effect contrast explains the variation in our dependent measure well (Guggenmos et al. 2018).

We also test hypothesis 3 using our second variable, *number of real manipulations detected*. Untabulated results of planned comparisons suggest that the model contrast is not statistically significant for the *number of real manipulations detected*.<sup>26</sup> Whereas our second dependent variable does not produce significant results, the significant contrast of our first dependent variable (*expected change in operating cash flow*) gives us some confidence that the interaction exists.

#### 5.4 Test of H4

Having found supportive evidence for the existence of an investor bias following the initiation of a clawback mandate, we next investigate whether the bias affects participant's *investment desirability*. Specifically, we set up a model that tests whether participants' skepticism toward REM mediates the relationship between the presence of a clawback policy and the investment desirability. We rely on structural equation modeling (SEM) to test the mediation. We treat skepticism toward REM as a latent construct that we capture using the variables *expected change in operating cash flow* and *number of real manipulations detected*. The reason for using skepticism toward REM as a latent construct is that it allows to measure a variable with multiple items (indicators) and thereby reduces random measurement error (Acock 2013). Consequently, latent variable SEM provides more accurate estimates than do

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<sup>24</sup> We test the robustness to alternative coding schemes that assume two main effects as well as the difference in means between the two no previous restatement conditions to be lower than the difference in means between the two previous restatement conditions (all  $p < 0.01$ , two-tailed).

<sup>25</sup> The residual represents the between-group variance unexplained by the model contrast used to test the hypothesis.

<sup>26</sup> We calculate the planned contrast based on an ANOVA model. However, we use Poisson regression for our first two hypotheses because it allows for a more precise and powerful testing.

traditional approaches (Russel et al. 1998). As a dependent measure we use participants' investment desirability.

To test for mediation, we investigate whether the indirect effect from clawback on investment desirability through the intervening variable, skepticism toward REM, is statistically significant. A mediation would indicate that the reduction in investor skepticism toward REM evoked by the clawback affects investors' investment decisions.

The structural equation model uses a two-step estimation procedure. First, the measurement model estimates the factor loadings of the paths from the latent variable to its indicators (as well as the error terms of the indicators). In a second step, the structural model estimates the links and correlations between the theoretical variables. We employ the widely used maximum likelihood (ML) estimation procedure. The main assumption that needs to be satisfied to use ML to estimate the structural model is multivariate normality of the endogenous variables. The Doornik-Hansen (2008) test significantly rejects the hypothesis that the data follows a multivariate normal distribution. We thus apply a robust estimation procedure that uses a Huber-White sandwich estimator (Huber 1967; White 1980). The estimator calculates standard errors that are robust to multivariate normality. The overall goodness of fit of the model is good as indicated by the standardized root mean squared residual (SRMR)<sup>27</sup> of 0.028 that is below a maximum acceptable value of 0.08 (Hu and Bentler 1999).<sup>28</sup>

To test our model, we use standardized parameter estimates because variable units have no particular meaning.<sup>29</sup> We first turn our attention to the measurement model. According to Hair et al. (2010) factor loadings of standardized estimates should be 0.5 or higher for construct validity. The loadings of our two indicator variables are above this threshold. Also, the loadings for the paths which lead to our indicator variables are highly significant (all

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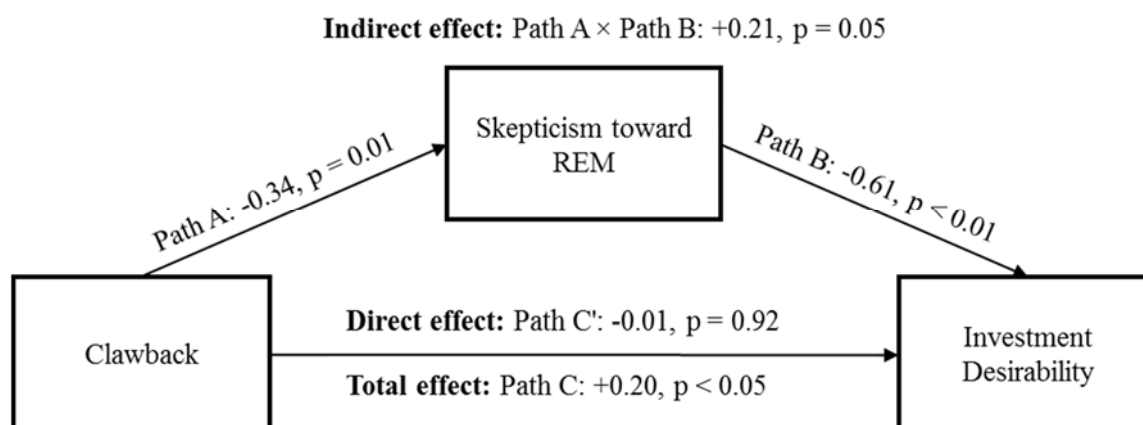
<sup>27</sup> The SRMR measures how close we come to reproducing each correlation of the correlation matrix, on average (Acock 2013).

<sup>28</sup> The robust estimation procedure does not provide a chi-squared test statistic and some of the indices for overall goodness of fit cannot be calculated. We therefore additionally employ the Satorra and Bentler (1994) estimation procedure. Satorra and Bentler (1994) developed a set of corrected test statistics that adjust the goodness-of-fit chi-square for bias due to multivariate non-normality. The results stay qualitatively equivalent to the Huber-White sandwich estimator. The Satorra-Bentler scaled model vs. saturated chi-squared is non-significant which indicates that our model fits the data well. A significant chi-squared would mean that our model fails significantly to reproduce the covariance matrix of our variables.

<sup>29</sup> The standardized solution rescales the observed variables to have a variance of one (Acock 2013). Standardized path coefficients are easier to interpret and allow researchers to compare the size of the effects (O'Rourke and Hatcher 2013).

p<0.01). Results of the measurement model indicate that the latent variable is sufficiently well defined by the indicators *expected change in operating cash flow* and *number of real manipulations detected*.

**FIGURE 5**  
**Mediation of Skepticism toward REM**



**Indirect effect:** The indirect effect is the effect of Clawback on Investment Desirability that is transmitted through the intervening variable, Skepticism toward REM (Path A × Path B).

**Direct effect:** The direct effect is the effect of Clawback on Investment Desirability when controlling for the Skepticism toward REM (Path C').

**Total effect:** The total effect of Clawback on Investment Desirability (Path C) is the sum of the direct and the indirect effect (Path C' + [Path A × Path B]).

This figure shows structural equation modeling results to test a mediation effect of the Skepticism toward REM. Skepticism toward REM is a combined measure of *Expected Change in Operating Cash Flow* and *Number of Real Manipulations Detected*. Investment Desirability measures participants' evaluation of the desirability of the company stock as an investment. All reported p-values are two-tailed.

Figure 5 presents the results of the mediation analysis. Next to the links we provide the standardized coefficients and corresponding p-values (all two-tailed). The total effect of clawback on investment desirability has a positive coefficient (+0.20) and is statistically significant (p<0.05, two-tailed). The result indicates that when a clawback is mandated, participants evaluate the firm to be significantly more desirable as an investment than when no clawback is present. The indirect effect, meaning the effect of clawback presence over skepticism toward REM on investment desirability (+0.21) is significant (p=0.05, two-tailed) and provides supporting evidence for a mediation. The result suggests that the increased desirability to invest in the firm when a clawback is present is likely to be due to decreased

skepticism toward REM. Lastly, the direct effect of clawback on investment desirability is insignificant ( $p=0.92$ , two-tailed) suggesting a full mediation.

Overall, the mediation analysis supports our prediction that clawbacks affect investment desirability through the presence of an investor bias that makes them less skeptical toward REM.

## 5.5 Supplemental Experiment

We further investigate whether the bias that non-professional investors are subject to is likely to also apply to more professional subjects. We use a sample of 140 U.S. business professionals who work in accounting or related fields relying on the online recruiting tool “QualtricsPanels”. We replicate our experiment with the same instrument, having only made minor modifications to our questions to elicit potential process measures.<sup>30</sup>

The great majority of our sample works in accounting (64%). Other fields are financial analysis (11%), auditing (6%), and controlling (4%).<sup>31</sup> The subjects are, on average, 48.5 years old and have 24.67 years of work experience. Compared to our student sample our business professionals have attended more accounting or finance courses (professionals: 13.9, students: 4.2) and a higher percentage of participants has previously analyzed financial statements (professionals: 80%, students 57%).

To ensure sufficient accounting knowledge, we require a minimum score in a pre-qualification questionnaire that assesses their accounting literacy.<sup>32</sup> We test the same hypotheses as examined using the student sample. Research on the halo effect is inconclusive about whether the halo effect is mitigated when subjects have greater task experience (Nathan and Lord 1983). If business professionals are subject to the halo effect, we expect to see a similar pattern as in the student sample.

As in the first experiment, we use the *expected change in operating cash flow* as our first dependent measure. Untabulated results of an ANOVA show that there is no significant difference in participants’ expectations of the change of future operating cash flow between the clawback and the no clawback conditions ( $p=0.66$ , two-tailed). Neither do we find an

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<sup>30</sup> As the first experiment was conducted in German we translated the experimental materials in English.

<sup>31</sup> The remainder has related functions such as in management or tax.

<sup>32</sup> The accounting literacy quiz constitutes of 7 question, 5 of which participants have to answer correctly to be forwarded to the experiment. Four questions are taken from the accounting quiz developed by Elliot et al. (2007), the remainder are own-developed questions.

effect of the restatement treatment on our dependent variable ( $p=0.45$ , two-tailed). Not surprisingly, the contrast to test a potential interaction effect following hypothesis 3 is also insignificant ( $p=0.47$ , two-tailed). Similarly, we also find null effects when using the *number of real manipulations detected* as our main dependent variable. That is, there is neither a significant effect of the clawback treatment ( $p=0.66$ , two-tailed) nor the restatement treatment ( $p>0.47$ , two-tailed) on the *number of real manipulations detected*.<sup>33</sup> We do not find the planned contrast to be significant ( $p=0.62$ , two-tailed). Lastly, the presence of a clawback does not affect business professionals' desirability to invest in the firm.

The results suggest that business professionals are not subject to the bias that the clawback evokes in less sophisticated participants. Interestingly, the manipulation of clawback presence affects professional participants' judgments in the opposite direction compared to student participants. That is, our measures of skepticism toward REM indicate somewhat higher REM-concerns in case of a clawback compared to when no clawback is present. This finding is consistent with the view that business professionals can anticipate the potential increase in REM following clawback initiation.

One reason for the null results could be that the business professionals were too inattentive since they filled out the questionnaire online rather than in a lab. Indeed we find that the business professionals, on average, answered a lower percentage of comprehension questions correctly than our student subjects (professionals: 76.8%, students: 91.1%). However, excluding participants who scored low on our comprehension questions or controlling for other attention measures does not inferentially change the results. Overall, our results indicate that business professionals are not subject to the halo effect when assessing the likelihood of REM of a clawback firm. Rather, they seem to be at least as skeptical toward REM in presence of a clawback.

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<sup>33</sup> Instead of using a Poisson regression to analyze the counted variable *number of real manipulations detected*, we use a negative binomial regression model. A key feature of the Poisson distribution is that the mean is equal to the variance. In case this assumption is violated (overdispersion), a model based on a negative binomial distribution is preferred (Hilbe 2011). A likelihood ratio test of alpha indicates that our data is overdispersed ( $p<0.01$ ).

## **6. Conclusion**

Previous studies on compensation clawbacks largely report positive stock market reactions to clawback adoption. However, these findings stand in contrast to the results of a recent study by Chan et al. (2015) who find that clawback adoption negatively affects long-term firm performance. Their results suggest that the adverse effects on firm value are induced by an increase in REM that is not subject to the clawback. We use an experiment to examine a potential explanation that might explain the puzzling results in prior research covering the consequences of clawback adoption. Specifically, we propose that investors fall prey to the halo effect, a judgment bias which makes investors worry less about manipulations of financial reports. We posit that the clawback evokes a general feeling of security against opportunistic behavior and that this feeling spills over to investors' assessments of specific types of earnings manipulations. As a consequence, investors are less skeptical toward REM despite the likely increase in such manipulations which might hurt long-term firm performance as documented by Chan et al. (2015). We additionally investigate whether the presence of clawbacks interacts with the incidence of a previous restatement and whether the investor bias potentially affects investment desirability.

Overall, our results provide supporting evidence that non-professional investors are subject to the halo effect. That is, in presence of mandatory clawbacks, non-professional investors find less indication of REM in a firm's financial statements. Our findings also indicate that investors are more skeptical toward REM of firms with a prior history of misreporting but that the halo effect of clawback initiation is more pronounced for such firms. Finally, the decrease in skepticism toward REM induced by compensation clawbacks positively affects investors' desirability to invest in the firm. In a supplemental experiment we additionally find that the halo effect does not extend to more sophisticated users of financial statements. That is, business professionals' skepticism toward REM does not differ between conditions and does not translate into differences in investment desirability. Overall, the results suggest that only less sophisticated financial statement users are subject to this specific judgment error.

Our study adds to the ongoing debate about potential unintended consequences of clawbacks and provides valuable insights for research and practice. It shows that the presence of a clawback impairs non-professional investors' skepticism toward REM and thus reveals a judgment error that potentially has adverse consequences for investors' investment decisions. This is particularly relevant as prior research indicates that REM impairs firm

performance in the long-run and is likely to increase following clawback initiation. One may argue that more sophisticated investors who are not subject to the halo effect, will take advantage of the price distortion using arbitrage. However, prior research indicates that non-professional investors can influence stock prices (Hirshleifer 2001; Lee 2001; Shleifer and Vishny 1997). Specifically, if the risk bearing capacity of sophisticated investors is limited, a mispricing effect will persist (Daniel et al. 2002; Hirshleifer and Teoh 2003). As a consequence, the misallocation of capital is likely to deplete shareholder value. More so, non-professional investors' failure to adequately anticipate the change in incentives of the management leaves corporate executives room to manipulate their reports using REM without being adequately sanctioned by the market. Especially managers of firms with a history of misreporting may take advantage of the investor bias as investors of such firms are more likely to fall prey to impaired skepticism.

In sum, our study makes regulators aware that mandatory clawbacks are likely to induce a judgment bias among investors that may introduce mispricing in capital markets and may increase managers' incentives to manipulate financial reports via REM. Regulators need to carefully weigh whether the clawback mandate's intended effects of increased management accountability outweigh its costs, including those of the investor bias. Our results are timely given that the SEC is still in the process of finalizing the implementation rules of the DFA-clawback. As such, our study helps regulators make more informed decisions on whether and how to implement mandatory clawback requirements.

Our study has several limitations. First, our main dependent variable is not a clean measure for investor skepticism toward REM. In particular, participants' *expected change in operating cash flow* does not directly measure the change in cash flow due to REM. It may therefore capture differences in expectations about the future development of the firm's operating cash flow that are independent of suspicions of REM. Thus, the differences between conditions could possibly reflect another concept than the skepticism toward REM, although we have no indication to support this premise.

A second limitation is that our findings may suffer from generalizability due to several reasons. We reduce the amount of information provided to participants to ensure tight experimental control. Results may differ when investors have access to complete financial reports (including cash flow statements and additional notes) and other sources of information. Also, we use strong manipulations to increase the likelihood to find effects. For this purpose we deviate from the properties of the DFA-clawback by making the CEO's total

bonus subject to recapture. As our manipulation does not mirror the actual properties of the proposed clawback mandate, the documented effects may not replicate in the real world. More so, we make the REM-manipulations very salient by making the CEO's actions harm key resources of the firm. To the extent that these design choices do not reflect characteristics of real-world settings, the results may not generalize to practice. Collectively, the above mentioned design choices help us extract the effects that we are after. However, while the design choices are likely to affect the strength of the observed effects, we have no reason to believe that they affect results qualitatively.

Our study suggests a number of directions for future research. For instance, it is likely that the investor bias examined in this paper also applies to voluntary clawback adoption. Compared to mandatory imposition, voluntary adoption of clawbacks provides an even stronger signal for investors that the firm improves its governance. Thus, the halo effect may be even more pronounced in this case. Further, prospective studies could investigate whether the investor bias proposed in our experiment applies to other regulatory changes that are aimed at deterring earnings management. The halo effect may, for example, pertain to initiatives that decrease the flexibility granted by accounting standards or that tighten the oversight over financial reporting (e.g. auditing or stock exchange oversight regulations). In such cases, investors may be misled by their overall perception of security evoked by the new policy and may not accurately anticipate that managers have increased incentives for REM. Lastly, future studies could examine whether the investor bias persists in the long-run and could test potential remedies for the judgment error (e.g. investment recommendations from expert intermediaries such as analysts). We believe that these issues are worthy of additional research to further build our knowledge base about investor reactions to regulatory intervention.

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## Appendix A: Important Events Regarding Clawback Initiation in the U.S.

SOX-clawback	Mandated disclosure of voluntary clawbacks	TARP-clawback	ARRA	DFA-clawback: Passage of the law	DFA-clawback: Proposed Rule	FCA amendment to DFA-clawback
July 30, 2002	December 15, 2006	October 3, 2008	February 17, 2009	July 21, 2010	July 1, 2015	Not yet enacted
Section 304 of the SOX introduces a mandatory clawback in the U.S.	SEC's amendments to Section 402(b)(2)(viii) of the Regulation S-K become effective such that firms with voluntary clawbacks are required to disclose them.	President George W. Bush signs the EESA into law. Section 111(b)(2)(B) requires all financial institutions selling troubled assets to the government pursuant to the TARP to adopt clawbacks.	The ARRA extends the TARP-clawback such that it additionally covers the 20 most highly compensated executives.	Section 954 of the DFA adds the new Section 10D to the Securities Exchange Act of 1934. It requires the SEC to demand U.S. securities exchanges to include the clawback as a listing condition.	The SEC proposes a rule to implement the DFA-clawback.	The FCA limits, if enacted, the DFA-clawback to executives who had both control and authority over the financial statements that led to the accounting restatement.

## Appendix B: Main Features of Clawback Mandates

	<b>Sarbanes Oxley Act, §304</b>	<b>Emergency Economic Stabilization Act, §111(b)(3)(B)</b>	<b>Dodd Frank Act, §954</b>
<b>Introduction</b>	July 30, 2002	October 3, 2008	July 21, 2010
<b>Firms covered</b>	Firms listed at U.S. stock exchanges.	Financial institutions covered by TARP.	Firms listed at U.S. stock exchanges.
<b>Trigger event</b>	Accounting restatement due to the material noncompliance of the issuer, as a result of misconduct.	Statements of earnings, revenues, gains, or other criteria found to be materially inaccurate (accounting restatement and misconduct not required).	Accounting restatement due to the material noncompliance of the issuer (misconduct not required).
<b>Employees covered</b>	CEO and CFO	CEO, CFO and 3 most highly compensated executives. Later amended by ARRA: 5 most highly paid senior executives and any of the next 20 most highly-compensated employees.	Any current or former executive officer (officers who perform policy making functions). FCA proposal: only applicable to executives who had control and authority over the financial reporting.
<b>Look-back period</b>	The year following the issuance of the misstated financial statements.	Open-ended until TARP repayment.	3-year period preceding the date on which the issuer is required to prepare an accounting restatement.
<b>Compensation subject to recovery</b>	All incentive-based and equity-based compensation, plus stock profits.	Any bonus or incentive payment.	Excess incentive-based compensation.
<b>Enforcing institution</b>	SEC	TARP-receptient	Issuer of the report (board of directors)
<b>Current status</b>	The clawback continues to be applicable. However, the SEC only litigates a handful of cases each year.	The clawback continues to be applicable to those financial institutions that are still covered by the TARP.	SEC has proposed a rule to implement the clawback. It is unclear when the rule will be finalized.

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