ERASMUS UNIVERSITEIT ROTTERDAM

Consequences of 'Clawback Provision':

"An empirical research of the effectiveness of corporate governance mechanism 'clawback provision' in executive compensation contracts on the quality of the financial statements."

Master thesis

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Abstract

This thesis examines the effect of clawback provision on the reporting quality of U.S. S&P 1500 firms. It is of importance for the users of the financial statements that the financial statements are of high quality and fairly presents the economic reality. This is to increase the effective functioning of capital markets and to take informed decisions based on the financial numbers of the firm. Unfortunately, recent accounting scandals indicate that the reporting qualities of firms are not on the desired level. Therefore, this study examines whether the adoption of clawback provision in executive compensation contracts increased the reporting quality of firm's financial statements. The sample size of this study consists of 991 firm-year observations and ranges from 2007-2016. Using financial restatements and audit fees as proxies to measure the reporting quality of firms, the univariate and multivariate results for financial restatements show that there is a negative significant association between clawback and financial restatements. This implies that the degree of financial restatements in firms are lower for firms that implemented clawbacks, which results in a higher quality of the reports in firms. The results for audit fees indicate that there is a positive significant relation between the adoption of clawbacks and the extent of audit fees in an audit engagement. Relying on the financial restatements as the main proxy of this research, the reporting quality of firms increased following from a clawback adoption.

Keywords: clawback provision; reporting quality; corporate governance; executive compensation contracts; audit fees; financial restatements

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Content

Chapter 1 Introduction

1.1. Problem statement

Financial reporting failures and scandals prior to the turn of the century have caused a continuous discussion among criticisms about the effectiveness of corporate governance mechanism regarding performance based contracting on the reliability, accountability and quality of financial reports. Many have scrutinized the effectiveness of corporate governance mechanisms on how executives should be compensated. The importance of designing such performance based contracting arises from the objective to align the goals of management with their shareowners by offering them bonus payouts to increase shareholder wealth and firm value and in order to let them take the best decisions in favor of the firm. However, these contracts could introduce problems. To understand the implications of performance based contracting, one must consider the design of these compensation contracts. While incentive based rewards could increase management effort, such compensation can also encourage management to misstate financial reports in order to increase their payouts (Eisenhardt, 1989), which can be costly to principals (Palmrose, V.J., & Scholz, 2004). This implies that executive performance based contracts gives incentives to manipulate earnings to achieve certain goals (Burns & Kedia, 2006), which affects the reporting quality in firms.

Following the accounting scandals and the debate about the effectiveness of performance compensation contracts, the Security and Exchange Commission (SEC) was enforced to reinstate the public trust and reporting quality in capital markets. Consequently, the SEC enforced clawback provisions and was firstly introduced in Sarbanes-Oxley Act of 2002 in section 304. This act[1] indicates that executives should return any incentive based rewards following from misconduct and financial restatements. However, the recoupment of compensation is only subject to CEO and CFO and can only take place within one year. Perhaps due to the limited scope and ambiguity in the act in section 304 of SOX, the number of clawbacks pursued by SEC are relatively small (Chen, Greene, & Owers, 2014). Consequently, to improve the amount of implementation of clawbacks in firms, the commission suggested an adjustment, which is applicable to the Dodd- Frank Act on July 2010. The adjustment of the act is applicable to section 954. The main reason to suggest an

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[1] Sarbanes-Oxley Act of 2002, H. R. 3763, section 304, P. 34

adjustment to this section of the act is required to ensure the implementation of clawbacks in firms. The suggested adjustment in section 954 covers a broader scope and applies to all current and former executives with a broader time range (3 years) of recoupment of compensation. Although, the mandatory clawback in section 954 has not formally passed, many firms reported a voluntary adoption of clawback. The observed phenomenon could be possible due to the broader scope and coverage of the Dodd-Frank Act. The results show that there is an increasing emphasis on the adoption of clawbacks. In 2016, 92% of S&P 500 firms disclosed that they have clawback provisions in place (Prescott & Vann, 2018). The rapid increase in adopting clawbacks in firms makes this subject interesting to research.

Clawback provision in compensation contracts can be described as preventing executives from fraudulent behavior and became an increasingly popular governance mechanism. The provision is based on executives (agents) which retained bonuses, which initially should not have been paid out due to misreporting, fraudulent behavior and errors in the financial statements (Security and Exchange Commission, 2015). It implies that clawback provision is considered as a corporate governance mechanism in executive compensation contracts to determine financial misstatements and fraudulent behavior (ex ante) and to penalize executives who misstated financial statements (ex post), which creates a direct link between the compensation and the actions taken by management. In this thesis, misreporting, fraudulent behavior, errors and restatements are considered as trigger events of clawbacks. Considering that clawbacks have various triggers, the main focus of this study relies on financial restatements, because this is the most common type of a trigger event. The chair of SEC Mary Jo White argues to implement a clawback provision in order to take the best advantage to increase the reporting quality of the financial statements (U.S. Security and Exchange Commission, 2015).

The increase in popularity in clawbacks triggered academic researchers to examine the consequences and determinants of clawbacks. Recent studies Chan & Chen & Chen & Yu (2012), Brown & Davis-Friday & Guler (2011) and Babenko & Bennet & Bizjak & Coles (2012) study the implementation of clawbacks based on determinants of clawbacks such as firms governance characteristics, prior occurrence of restatements and firm size. Bakke & Mahmudi & Virani (2017) examines the value implications of clawback provisions on stock market reaction. However, metrics on examining the determinants and value implications of

clawbacks do not necessarily imply the effect of clawbacks on accounting quality. More closely related accounting papers to this study are from Chan & Chen & Chen & Yu (2012) and DeHaan & Hodge & Shevlin (2011). Both research papers analyze the quality of financial reports following from the implementation of clawbacks using financial restatements and audit fees as proxies to determine the extent of accounting quality. However, both working papers use a relatively short post-adoption period on examining the accounting quality after adopting a clawback and state that the results could be biased due to signaling effects[2]. This is consistent with prior research, which implies that the adoption of clawbacks started at 2005, but the implementation stayed low until 2007 (Iskandar Datta & Jia, 2012). This thesis will try out to provide additional evidence to the academic papers related to this subject and analyzes the quality of the firm's financial reports after the adoption of clawbacks in performance based compensation contracts by using an extended data sample.

1.2.   Research question and objective

As stated in the problem statement in the previous section, firms face incentives to structure performance based payouts in order to increase the reporting quality. Although executive compensation contracts are a powerful tool to influence the behavior of executive officers in firms (Salah, 2016), many studies have found contradictory findings and state that performance based payouts are strongly related to management incentives to manipulate earnings (Burns & Kedia, 2006). Therefore, the objective of this study is to provide an answer whether clawbacks are effective in executive compensation contracts by examining the accounting quality of firms.

 Thus, the main question this thesis try to answer is formulated as follow:

'Did the adoption of corporate governance mechanism "clawback provision" in executive compensation contracts increase the accounting quality of firms?'

To provide an answer to the research question I formulated the following sub questions:

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[2] Signaling effects occur when management want to communicate with firm initiated clawbacks, that the financial statements are already free from error and bias.

1. What are the main theoretical concepts underlying clawbacks in executive compensation contracts and accounting quality?
2. What are the results of prior literature regarding the interaction derived from the theoretical framework considering clawbacks and the quality of the firm's financial reports and which hypothesis should be formulated?
3. What are the empirical results regarding the quality of financial statements following a clawback adoption?

The emphasis to study the main formulated question is on whether the adoption of clawbacks in executive compensation contracts increased the reporting quality of financial statements in firms. Additionally, this topic gains relevance, while mandatory adoption of a clawback is forthcoming (Chan L. H., Chen, Chen, & Yu, 2012).

1.3. Relevance

The study I conduct makes important contribution and extents the academic papers related to this subject and provides further insights of the impacts of the implementation of clawbacks on the quality of the firm's financial reports. First, this study can contribute to prior study which considered the same problem for voluntary adoption of clawbacks over the sampling period 2000-2009 (Chan L. H., Chen, Chen, & Yu, 2012). The results provide a positive correlation between clawbacks and accounting quality. However, the results are based on a short sampling period, while clawback become common since 2005 (Chan L. H., Chen, Chen, & Yu, 2012) and stayed low until 2007 (Iskandar Datta & Jia, 2012). My study differs from them as this study extends prior literature and provides important new insights on the effectiveness of clawbacks on the quality of financial statements by using an extended sample. My paper studies the effectiveness of clawback implementation on the firm's quality of the financial reports. Furthermore, this thesis provides additional evidence to the academic papers regarding the interaction of the implementation of clawbacks on the quality of the firm's financial reports. Moreover, I provide additional insights to organizations and stakeholders about the relevance and the need to implement clawbacks. Furthermore, this study contributes to the growing literature on executive compensation

contracts. Since many have scrutinized the effectiveness of these performance based payouts, it is necessary in providing evidence and insights to stakeholders with regard to the effectiveness of clawbacks in executive compensation contracts on management reporting behavior. In other words the finding of this study will provide additional insights about the quality of the financial statements on: (i) executives ability of misstating financial reports, and (ii) the extent of material misstatements in reports. Finally, the interdependency between clawbacks and accounting quality should be of interest for the governance of organizations, stakeholders, shareholders, standard setters and regulators to make informed decisions. Since misstatements are costly, this thesis will provide results in better understanding the consequences of clawbacks on the financial statements. The results of this study could be of interest for the Security and Exchange Commission considering the development of laws on clawbacks.

1.4.   Structure of the thesis

The remainder of the thesis is organized as follows. Chapter 2 contains the theoretical framework in which the main concepts are defined. In chapter 3 I discuss the relevant literature related to clawbacks in executive compensation contracts and predict the relation between the concepts to develop relevant hypotheses, which is derived from the relation found in theories and previous literature. In chapter 4 I discuss the research method, the construction of the sample data, Libby boxes and the statistical methods used to test the hypotheses. Empirical findings are provided and discussed in chapter 5. Finally, in chapter 6 I provide a conclusion of the key findings, limitations and recommendations to do further research.

Chapter 2 Theoretical framework

2.1. Introduction

In this chapter I provide the theoretical framework of my thesis. First, the relevant concept accounting quality is discussed. Second, agency theory will be elaborated, which is the underlying theory of the relation examined. Subsequently, relevant corporate governance mechanisms are provided which is fundamental in solving agency problems. The focus will be on executive compensation contracts and clawbacks. Finally, the interrelationship between the concepts accounting quality and clawbacks in executive contracts will be illustrated in a conceptual framework in figure 2.7.1. Therefore, this section provides an answer to the first sub question: _What are the main theoretical concepts underlying clawbacks in executive compensation contracts and accounting quality?_

2.2. Accounting quality

This thesis focuses on how organization can enhance their reporting quality. The demand for a higher accountability and quality arises from stakeholders. They are dependent and have to rely on the information provided in the financial statements by executives of the organization regarding the financial performance of the firm (Financial Accounting Standards Board, 2010). The usefulness of financial statements are important to stakeholders, shareholders and creditors to make informed decisions to increase the effective operations in markets and to correctly allocate the resources in firms. The main reason to do so is that stakeholders do not have direct access to management information regarding the financial statements. The usefulness of financial numbers could also be defined as the financial reporting quality of the firm. To increase the usefulness of accounting numbers, the FASB provided a framework which determines the two key qualitative characteristics in determining the usefulness of accounting information. The first characteristic is the relevance of accounting numbers. This is related to accounting information, which should provide useful information in financial statements to provide useful decision making to shareholders in accurately forecasting future performance of firms (Joffe, 2011). The second

aspect is the reliability of financial statements. The reliability of accounting numbers is related to the degree of fairly and accurately represented accounting numbers related to the operating performance of firms (Pounder, 2013). In other words, the information in financial statements should be free from errors and bias (Joffe, 2011). The decision making of shareholders and stakeholders depends on the reliability and relevance of financial numbers in financial statements[3]. Therefore, accounting quality in this thesis will be defined as:

"The extent of financial numbers in financial statements which are free from error and bias, which will not result in material misstatements in the financial statements."

According to Achim & Chiş (2014), Nobes & Stadler (2015), and Pounder (2013), accounting quality is of great interest for the users of the financial statements including: investors, stakeholders and debt holders for an efficient functioning of the market. Furthermore, the authors refer to the relevance and reliability of financial statements to evaluate the usefulness and quality of accounting numbers. However, according to a report from the FASB, there is a tradeoff between the relevance and reliability of financial statements in which the preference of stakeholders and shareholders vary regarding what information is useful and qualitative in financial statements (Johnson, 2005). Therefore, the tradeoff and the context make the measurements of reliability and relevance subjective.

2.2.1 Measurements of accounting quality

As stated from the previous section, the reporting quality of organizations cannot be easily quantified due to the tradeoff between reliability and relevance. Prior academic research in accounting and economics used different approaches and measurements to operationalize and capture the concept reporting quality (Achim & Chiş, 2014). The following proxies are commonly used to operationalize reporting quality; discretionary accruals, audit fees and financial restatements. I will briefly summarize and consider the use of each proxy.

Discretionary accruals
First of all, a popular proxy used to calculate the accounting quality of firms is discretionary

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[3] Note: that in this thesis reporting quality does not necessarily imply that the accounting information should be predictive in decision making, but that the financial statements are free from error and bias.

accruals. Dechow, Sloan & Sweeney (1995), Bergstresser & Philippon (2006) and Ghosh & Olsen (2009) use discretionary accruals as a proxy to calculate earnings management in firms. Earnings management is seen as the ability of executives in manipulating earnings to achieve certain goals and objectives (Burns & Kedia, 2006). Manipulation of financial numbers misleads stakeholders and decreases the reliability of the financial numbers, which results in a low financial reporting quality. Dechow & Sloan & Sweeney (1995) distinguishes five models in calculating earnings management by using discretionary accruals as a proxy. The most common model in calculating earnings management is the Modified Jones Model (Dechow, Sloan, & Sweeney, 1995). However, analyzing discretionary accruals is problematic for the following reason; it is hard to distinguish non-discretionary accruals with discretionary accruals (Healy & Wahlen, 1999), which could lead to bias of the results. Due to this limitation I will exclude discretionally accruals as a proxy to determine the accounting quality of firms.

Audit fees

A second proxy used to determine the accounting quality is the extent of audit fees in an audit engagement. Chan & Chen & Chen & Yu (2012), DeHaan & Hodge & Shevlin (2013), Franke, Johnson & Nelson (2002), Hoitash, Markelevich & Barragato (2007) and Mitra, Deis & Hossain (2009) use audit fees to determine the reporting quality in firms. The authors state that the increase in audit fees is explained by the increase in effort and audit coverage for firms with low accounting quality. The underlying theory is that the auditor perceives a higher audit risk for firms with low accounting quality, which results in higher effort and audit fees to enhance the relevance and reliableness of financial numbers (Hogan & Wilkins, 2008). However, the extent of audit fees in an audit engagement is not only dependent on expertise and coverage. The size of the firm, the growth and foreign sale activities wherein the firm operates also determines the extent of the audit fee. Therefore, I will include market-wide control variables in the model, which possibly could affect the dependent variable 'audit fees'.

Restatements

The third proxy used to capture and determine the reliability and relevance of accounting numbers in determining the quality of the firm's financial reports is the degree of restatements in financial books. Prior academic researchers extensively used this measure to

capture the reliableness and relevance of accounting numbers in determining the reporting quality within firms. Armstrong, Jagolinzer & Larcker (2010), Abbott, Parker & Presley (2012) and Christensen, Glover, Omer & Shelley (2016) use restatements to determine errors, fraud and misstatements in financial statements. Financial restatements are the most direct link in determining a low quality of reporting (Christensen, Glover, Omer, & Shelley, 2016). As stated in the introduction, accounting restatements are the most common type of a trigger event of clawbacks, which makes this the main proxy used in this thesis to operationalize accounting quality. An archival study conducted on financial restatements indicate that there are four conditions which have to met to restate the financial statements (Eilifsen & Messier, 2000). The first condition of restatements occurs when inherent risk is present, indicating fraud or error. The second condition indicates that internal controls do not prevent or detect the errors, misstatements and fraud within the firm. The third condition relates to the independent auditors, which does not detect the misstatement. Lastly, the misstatement is discovered after the financial statements have been issued (Eilifsen & Messier, 2000). Therefore, financial restatements indicate errors and bias, which can be associated with low reporting quality in firms. The biggest advantage of restatements is that they occur when external auditors have detected an error or bias, which makes it more reliable (Christensen, Glover, Omer, & Shelley, 2016). However, there is potential drawback of financial restatements. A study concluded that smaller companies which are less profitable are more likely to restate their financial statements (Kinney Jr & McDaniel, 1989). Therefore, I will include market-wide control variables in the model, which could possibly affect the dependent variable 'financial restatements' and include clawbacks to avoid sample selection bias.

2.2.2   Importance of reporting quality

As stated in paragraph 2.1, financial statements are important for stakeholders and shareholders to take informed decisions based on the content of the financial statements. Transparency and accuracy in financial statements provides shareholders with information for structuring efficient debt contracts (Armstrong, Guay, & Weber, 2010). On the other hand, debt holders rely on the financial statements whether the organization is close to

violation of debt covenants (Palepu, Healy, & Peek, 2013). According to Costello & Wittenberg-Moerman (2011) debt holders decrease the use of debt covenants for firms with a low accounting quality. Furthermore, debt holders use accounting numbers derived from the financial statements of the concerned organization for valuation purposes and the return of bonds (Givoly, Hayn, & Katz, 2017). From the investors perspective, a higher reporting quality provides investors the opportunity to value the future profitability of the organization, which is reflected in the stock price (Nicholas & Wahlen, 2004). Additionally, there is a positive correlation between investors valuation of stock prices and the usefulness of accounting information (Francis, Lafond, Olsson, & Schipper, 2005). Overall, the results indicate that the accounting quality is crucial for various stakeholders to make informed decisions based on the financial statements and the effective allocation of resources in capital markets.

2.3. Agency theory

As stated in the previous paragraph, the quality of the financial reports are essential within organizations to increase the effectiveness of operations in markets and optimally allocate the resources in firms. However, the reporting failures and scandals prior to the turn of the century show the ability of management to misreport and misbehave by manipulating numbers especially for earnings to fulfill certain goals and objectives, which lead to a low accounting quality and inefficiencies in capital markets. Two aspects should be considered to understand why problems could happen in the first place. First, reporting standards leave room for management judgments and estimates to influence financial reports (Palepu, Healy, & Peek, 2013). Second, because of the separation of ownership and control in firms, the principal should delegate the decision making authority to management, which leads to actions taken by management that are not always observable by the principal (Jensen & Meckling, 1976). The problems arising from the separation of ownership and control is also referred to as agency problems. Jensen & Meckling (1976) clarified these problems by developing the agency theory, which explains and captures the behavior and decision making of management within an organization. There are different interpretations of an

organization. According to Jensen & Meckling (1976) an organization as a whole is a legal[4] contractual interrelationship between 'agents' and 'principals' to achieve a common goal. Most objectives and goals of an organization are determined through profit or value maximization of the firm (Eisenhardt, 1989). The principal engages an agent to perform organizational tasks on behalf of the principal (Jensen & Meckling, 1976). When we assume that both parties want to maximize their utility, concerning that principals are motivated to receive return on investment (profit) and agents are motivated to receive variable pay (bonus), agents will act on behalf of their own interests (Eisenhardt, 1989). Therefore, the goal incongruence lead to agency costs (Kaplan & Atkinson, 1998), which also could be referred as contradictory interests in a principal agency relationship. A second phenomenon which is observable from an agency relationship concerns the divergence of risk appetite between agents and principals (Eisenhardt, 1989). Principals are less risk averse than agents, which results in decisions taken by agents that are not always in the best interest of both parties (Eisenhardt, 1989). The third problem consists of the gap in information between both parties. Assuming that shares are widely distributed among shareholders, principals are not directly involved in the operation of the business, whereas agents know more about the operation of the business and have private information. Assuming that the actions and decisions made by agents could be unfavorable to the principals, agents could use their knowledge and advantage of knowing certain information to maximize their utility, which leads to agency costs (Jensen & Meckling, 1976).

The agency problems as previously mentioned could be captured in two concepts; 'moral hazard' and 'adverse selection'. Akerlof (1970) explained adverse selection with the market for the 'lemons'. In capital markets were investors could not analyze and distinguish good ideas from bad ideas, bad ideas will crowd out good ideas. This will result in loss of confidence in capital markets (Akerlof, 1970).

The second concept which captures the problems arising from agency relationship is moral hazard. The difference in risk-appetite and information asymmetry between agents and principals will not result in optimal outcomes for the organization when decisions of agents are not directly observable by principals (Hölmstrom, 1979). Therefore, providing agents insurance that bad decisions will not influence their own interests.

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[4] By legal I mean by law.

To mitigate these agency costs in a principal agency relationship Jensen & Meckling (1976) mention to settle optimal compensation contracts. This is a fundament of corporate governance. Optimal compensation contracts reduce the incongruence in interests and align the goals and objectives of both parties (Jensen & Meckling, 1976). Another fundament of corporate governance is; monitoring actions taken by management to reduce the extent of problems. This allows principals in detecting certain actions and behavior of agents, which is not in line with the interests of the principal (Anthony, Govindarajan, Hartman, Kraus, & Nilsson, 2014). Dey (2008) finds a positive correlation between firms facing higher agency problems and the incorporation of better governance mechanisms. These solutions to agency problems are also referred as corporate governance mechanisms.

2.4. Corporate governance

Because of the problems arising from the separation of ownership and control, stakeholders demand corporate governance mechanisms in order to increase the reliability and relevance of accounting numbers. In the absence of agency problems there is no need to structure corporate governance in such a way to motivate agents with incentives, since agents will be prepared to carry out the objectives and goals of the organization. In this optimal situation there is no need for corporate governance for disagreements between agents and principals, since agency problems do not exists (Hart, 1995). However, the situation described above is applicable in the neoclassical theory of the firm when the process of input and output in an organization is not taken into account (Hart, 1995).

The Security and Exchanges Commission describes corporate governance in their code of corporate governance for publicly-listed companies as following:

"Corporate Governance is the system of stewardship and control to guide organizations in fulfilling their long-term economic, moral, legal and social obligations towards their stakeholders."

Derived from the statement above the definition of corporate governance could be captured as laws and regulations, processes, obligations and guidance applicable in an organization in

which a firm is controlled. The aim is to secure the continuity and aligning the interests of the company with their stakeholders (Vaassen, Meuwissen, & Schelleman, 2009). Problems arising from a principal-agent relationship can be mitigated with appropriate corporate governance mechanisms (Hart, 1995). To determine the effectiveness of governance mechanisms one should determine the alignment of interests of both parties and the increase in value of the organization (Denis, 2001).

Corporate governance mechanisms can be classified in two categories: Internal control mechanisms and external control mechanisms (Walsh & Seward, 1990). Both corporate governance mechanisms are important within the context of accounting research. According to Dechow, Sloan & Sweeney (1996) effective governance mechanisms increase the quality of financial statements. In this research the emphasis will be on internal control mechanisms. The next section starts with a brief discussion of external control.

2.4.1. External control

External control mechanisms originate from external factors and are controlled from outside the company. Within empirical research, the taxonomy of external control mechanisms varied widely. In accounting research the commonly used framework for external mechanisms is the framework which is provided by Jensen (1993). This framework distinguishes external factors in three categories. The first category is the market for control. This category refers to markets which are undervalued or where agency problems are addressed. These conditions ensure that undervalued firms with agency problems are attractive for takeovers. Potential buyers might acquire the shares of the organization to replace top management to optimize the use of the acquired assets of a company (Walsh & Seward, 1990). The second category is the legal and regulatory mechanisms. These mechanisms refer to regulatory organizations, which provide laws and regulations in providing codes of conduct regarding the governance of the concerned organization (Denis, 2001). Various institutions have influence on the governance characteristics of an organization. However, the most applicable law and regulation for corporate governance is determined by the Sarbanes Oxley Act of 2002. The third category is the product and factor markets. The competition in product markets is an incentive for current management to avoid inefficiencies and waste of resources (Jensen M. C., 1993). However, when

inefficiencies and waste of resources are detected it is often too late to save companies from financial distress and even bankruptcy (Jensen M. C., 1993).

2.4.2. Internal control

Internal control mechanisms are designed to align the interests of agents and principals (Walsh & Seward, 1990). The importance of internal control dates back to 1992 when cooperation of five US regulatory institutes resulted in a report Committee of Sponsoring Organizations of the Treadway Commission, also known as COSO (Vaassen, Meuwissen, & Schelleman, 2009). There are different interpretations of the definition of internal control. The majority of firms use the definition of COSO and it describes internal control as follows:

"Internal control is a process, affected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: Efficiency and effectiveness of operations, reliability of financial reporting and compliance with laws and regulations."

The first category is subject to the efficiency and effectiveness of organizations' operations with regard to objectives and goals. Objectives and goals within organizations in this category are determined by performance goals, profitability goals and safeguarding of assets (The Institute of Internal Auditors, 2008). The second category is related to the preparation of reliable and accountable financial statements. Preparation of the financial statement of a company relates to interim reports, condensed financial statements and data derived from these financial statements. The third category is subject to the entity's business operation and the financial statements which should comply with applicable laws and regulation (The Institute of Internal Auditors, 2008).

Gilian (2006) distinguishes five internal governance mechanisms; internal control systems, bylaw & charter provisions, capital structure, managerial incentives and board of directors. Internal control mechanisms are crucial in aligning the interests of stakeholders with shareholders and safeguarding the continuity and functionality of operations (Vaassen, Meuwissen, & Schelleman, 2009). These control mechanisms are aimed to assess and control the risks of material misstatements and errors in the financial statements and to mitigate the costs arising from a principal agency relation. Therefore, there is a lot of

emphasis from the stakeholder perspective on the need of appropriate internal control mechanisms.

2.5. Executive compensation contracts

As distinguished in the previous section there are five main internal control mechanisms. This thesis focuses on managerial incentives provided by Gilian (2006). The need for appropriate performance based contracting arises from problems discussed earlier in the theory of agency. Problems arise due to separation of ownership and control and the delegation of decision making authority to the agent (Jensen & Meckling, 1976). Assuming that both parties want to maximize their utility, agents will act on behalf of their own interests (Eisenhardt, 1989). Therefore, the goal incongruence of both parties causes unintended costs arising from a principal-agency relation (Kaplan & Atkinson, 1998). There are two measures to mitigate these unintended costs. First of all, the principals of the organization could monitor certain decisions and behavior of management. Secondly, the principal could provide performance based payouts to reduce the degree of these unintended costs and to remove the gap between the contradictory interests of the parties. (Jensen & Meckling, 1976).

Executive compensation contracts are one of the internal control mechanisms to motivate management to act in the best interest of the organization and link the performance of a company with management effort (Jensen & Meckling, 1976). The task for board of directors consists of determining and structuring executive compensation contracts (Denis, 2001). These contracts consist of a short-term and a long-term component as it consists of a base salary, an annual bonus payment, an option to purchase stock option for a fixed price in the future and other compensation forms (Conyon, Peck, Read, & Sadler, 2000). Performance based payouts such as bonuses and stock options are classified as a short-term component of executive compensation and rewards management based on agreed performance indicators of a firm during the year. These performance indicators are determined by the board of directors. Usually, performance indicators consist of metrics in determining firm performance based on output, profit and financial ratios (Eisenhardt, 1989). As derived from above, the agent will benefit more from performance based rewards when he is able to improve the firm's financial outcomes with favorable actions. According to Denis (2001) the

level of compensation is a certain factor in determining the effectiveness of aligning the interest with shareholders. This is motivated by the prediction of the agency theory that an agent will be less likely to lose a job when the level of compensation is higher (Denis, 2001). Additionally, agents' incentives to improve financial ratios will increase when rewards are more dependent on performance metrics (Anthony, Govindarajan, Hartman, Kraus, & Nilsson, 2014). Therefore, the board of directors should choose the best indicator, which captures the behavior and decisions taken by management that increases the wealth of shareowners together with firm value (Smith & Watts, 1982). Stock performance as well as earnings are commonly used and considered as performance measures to determine the extent of bonus payouts in firms. The presence of earnings in nearly every firm makes this the most commonly used measurement of performance. Following agency theory, stock based compensation will better suit in order to align the goals and interests of agents with principals in increasing firm value. Derived from academic literature of finance, the net present value of a firm's stock is determined by the future cash flows of the company (Myers, 1984). From this point of view management will benefit more from these stock options, ceteris paribus, when their actions and investment decisions increase future cash flows of the company. It increases the net present value of the firm, which is reflected in the stock performance of the company (Myers, 1984). Rewards based on stock options are a fair performance measure, however the use of this metric is not without danger. There is more risk involved regarding the payouts based on stock options. Stock returns are depended on the stock market performance, which also could be affected by external factors outside the contribution of management. This phenomenon lead to volatility of the market and therefore makes it hard to distinguishes management contribution on the stock price. The phenomenon makes it difficult for principals to determine the actual extent of management action and contribution on the outcome of stock returns. To overcome the noise as a result of market volatility, the use of earnings as a metric is more common in determining agents' actions on firm's performance and is said to better predict the link between management action and contribution on firm performance (Kaplan & Atkinson, 1998). Furthermore, a study conducted by Sloan (1996) indicates that incentive rewards based on earnings are more sensitive when stock performance is associated to a higher volatility of the stock market.

However, many have criticized the effectiveness of short-term incentive and earnings based rewards in executive compensation contracts, as they create opportunistic behavior of management in manipulating earnings to increase their own returns instead of increasing the value of the firm. This negatively affects accounting quality (Sloan, 1996). According to a study conducted by Healy (1985) short-term bonus plans indeed encourage the opportunistic behavior of management in manipulating accruals and procedures to achieve certain goals. A further constraint of a short-term bonus plan is the difference in time-horizon of the firm and management in valuating firm performance, which can negatively affect the decisions made on investments (Smith & Watts, 1982). Because management decisions to make investments are at the expense of the firms income increasing numbers, therefore management has incentives in maximizing short-term profit for the current year instead of achieving long term value for the firm. This could discourage management to perform certain value increasing investments for the long term, which will be at the expense of firm value. Graham & Harvey & Rajgopal (2004) and Dechow & Sloan (1991) shows that executive officers would decrease R&D expenses, advertising and maintenance costs to increase short-term performance in a firm. Furthermore, the results indicate that the decrease is more aggressive when it is the last year (short time-horizon) of the manager in the firm (Dechow & Sloan, 1991). Additionally, Burns & Kedia (2006) and Fuller & Jensen (2010) indicate that equity incentives are a significant part of executive compensation and suggest that an increase in executive compensation leads to more aggressive accounting and irregularities, which results in financial restatements and in turn decreases financial reporting quality.

Manipulation of earnings is severe, since it could lead to high costs and a decrease in reporting quality. Inflating income lead to unjustified rewards obtained by management which weakens the association between performance and bonuses. Additionally, occurrence of financial restatements due to opportunistic behavior of management could lead to reputational damage and induce higher costs for firms, since investors' perception about the quality of financial statements of the reporting firm are damaged. Furthermore, the time spent on manipulating earnings is at the cost of increasing firm value, which also results in higher costs. Shareholders therefore demand to decrease the opportunistic behavior of managers in order to increase firm value and to avoid agency costs (Iskandar Datta & Jia,

2012). Additionally, reporting scandals of the late 1990's and 2000's strengthened the demand for higher accountability and an increase in accounting quality (Iskandar Datta & Jia, 2012). Consequently, the SEC was enforced to reinstate the public trust and reporting quality in firms. Therefore, the SEC recently adopted a corporate governance mechanism of clawbacks in executive compensation contracts. It is said that clawbacks could mitigate the conflict of interests between management and shareholders in order to increase shareholder value, and simultaneously accounting quality. Consequently, it is necessary to study the impact regarding clawbacks in performance contracting on the quality of the firm's financial reports.

2.6.   Clawback provisions

As stated in paragraph 2.5 the separation of ownership and control and the delegation of decision making is associated with concerns that could occur from the relation as discussed in the theory of agency. These concerns arising from this relation could be mitigated through appropriate incentive based rewards. However, incentive contracts could also introduce problems. Incentive based rewards create opportunistic behavior of management at the expense of shareholder wealth to maximize their own utility. Due to reporting scandals such as Enron and WorldCom, stakeholders criticized the effectiveness of compensation contracts. The counterproductive effect of compensation contracts enforced the SEC to reinstate the public trust and reporting quality in firms. Consequently, the SEC enforced clawback provisions and was firstly introduced in Sarbanes-Oxley Act of 2002 in section 304. Section 304 of the Sarbanes-Oxley Act[5] indicates that executives should return any incentive based rewards following from misconduct and financial restatements. However, the recoupment of compensation is only subject to CEO and CFO and can only take place within one year. Perhaps due to the limited scope and ambiguity in the act in section 304 of SOX, the number of clawbacks pursued by SEC are relatively small (Chen, Greene, & Owers, 2014). Consequently, to strengthen the adoption of clawbacks the SEC proposed section 954 of the Dodd-Frank Act on July 2010. Section 954 requires firms to mandate and enforce clawbacks. The proposed section 954 covers a broader scope and applies to all current and former

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[5] Sarbanes-Oxley Act of 2002, H. R. 3763, section 304, P. 34

executives with a broader time range (3 years) of recoupment of compensation. Even though the mandatory clawback in section 954 has not formally passed, many firms reported a voluntary adoption of clawbacks. The observed phenomenon could be possible due to the broader scope and coverage of the Dodd-Frank Act. The results show that there is an increasing emphasis on the adoption of clawbacks. In 2016, 92% of S&P 500 firms disclosed that they have clawback provisions in place (Prescott & Vann, 2018).

Clawback provision in compensation contracts can be described as preventing executives from fraudulent behavior and became an increasingly popular governance mechanism. The provision is based on executives (agents) which retained bonuses, which initially should not have been paid out due to misreporting, fraudulent behavior or errors in the financial statements (Security and Exchange Commission, 2015). Clawbacks allow companies to recoup unjustified excess pay of management. The amount which is restated is the difference in compensation rewards which are based on the misstated financial statement and what the agent should have received assuming that there are no biases nor errors in the financial books (Prescott & Vann, 2018). It implies that clawback provision is considered as a corporate governance mechanism in executive compensation contracts to determine financial misstatements and fraudulent behavior (ex ante) and to penalize executives who misstated financial statements (ex post). This creates a direct link between the compensation and the actions taken by management. Two aspects should be considered why clawbacks could mitigate the opportunistic behavior of agents, and subsequently increase the reporting quality. First, clawbacks should discourage management (ex ante) to misstate financial statements, which prevents bias and errors in the financial statements. Second, penalizing management increases the cost for management to manipulate earnings (Dehaan, Hodge, & Shevlin, 2013). The latter emphasizes that the cost of being caught could outweigh the incentive to manipulate financial statements, and subsequently increases the accounting quality. According to Desai & Hogan & Wilkins (2006) reputational and monetary penalties could mitigate incentive problems arising from executive compensation contracts. Penalties arising from misstatements (ex post) could discourage management from earnings manipulation. Therefore, this paper will try to study the direct interaction whether the implementation of clawbacks in pay for performance contracts have an impact on the quality of the firm's reports.

2.7. Theoretical construct & the relation between concepts

To answer the first formulated sub-question, the focus of this paragraph relies on the interrelation regarding the concepts discussed in the previous paragraphs. The relation is illustrated in a conceptual model in figure 2.7.1.

When an organization would like to improve the financial reporting quality the main goal is to align the interest of management with investors and that all employees and management act in the best interest of the company. Therefore, the design of a good internal corporate governance mechanism is crucial to ensure that organizational goals will be achieved. This study focuses on internal control mechanisms of clawbacks in executive compensation contracts. Improving reporting quality is the objective of this study.

Creating the right incentives to increase reporting quality is crucial, because of the conflicting interests between principals and agents. The relationship between principal and agent is the foundation of agency theory. Agents prefer short-term value, whereas principals demand long-term value. Agents' preference on creating short-term value will be at the cost of firm value, and subsequently reporting quality. Executive compensation contracts could provide goal alignment between agents and principals. However, it could affect agents' perception to manipulate earnings to maximize their utility.

Clawbacks in executive compensation contracts are a part of internal control mechanisms. The use of clawbacks could be effective in enhancing the quality of the reports and the alignment of contradictory interests. More specifically, penalizing agents for unjustified payments could discourage agents' perception of manipulating earnings at the cost of shareholders, thus increasing the reporting quality.

This research focuses on clawbacks in compensation contracts to enhance the reporting quality in firms. This direct interaction is also the emphasize and the focus of this paper, which will be further elaborated with prior literature concerning this relation in chapter 3. The expected link of the effect of clawbacks in executive compensation contracts on accounting quality is exhibited in figure 2.7.1. As illustrated, I expect a positive direct effect between the independent variable clawback adoption in executive compensation contracts and the dependent variable accounting quality.

Accounting quality (2.2)   Y

[3.2]
&
[3.3]

+

[2.5]

Executive compensation contracts (2.5)

Clawback adoption in executive compensation contracts (2.6)   X

Building blocks to accounting quality

Internal control mechanisms (2.4.2)

Agency theory (2.3)

Corporate governance mechanisms (2.4)

External control mechanisms (2.4.1)

Related theory (theoretical explanation)

━━ Direct link of the relation of interest examined
━━ Indirect link of concepts (theoretical explanation)
▬ Building blocks to reduce agency problems and enhance reporting quality
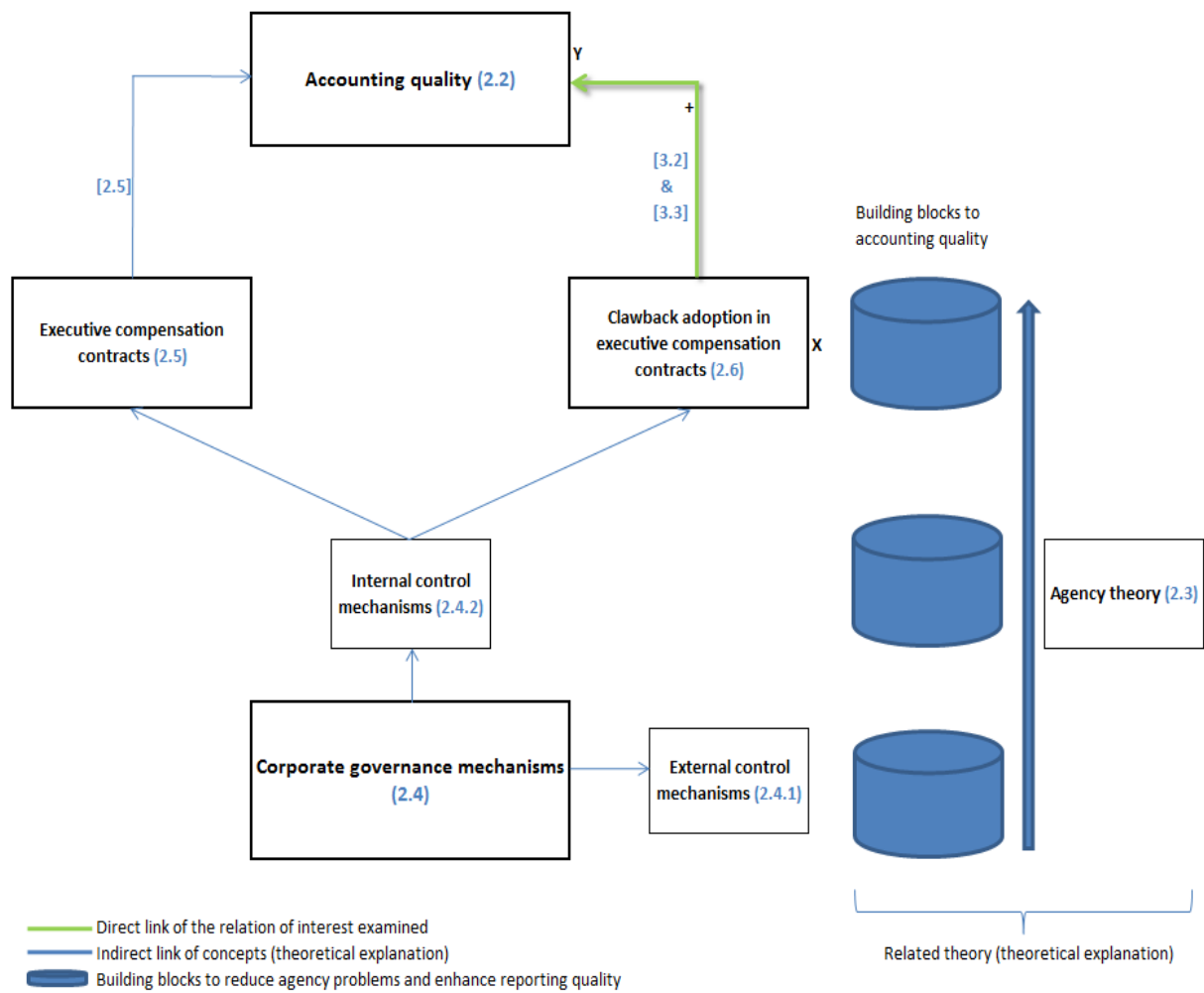
Figure 2.7.1: Conceptual model belonging to clawback adoption in executive compensation contracts and accounting quality. The green bold line illustrates the direct interaction and the focus of this research.

Chapter 3 Literature review & hypothesis development

3.1. Introduction

This section provides insights of previous literature conducted about clawbacks in executive compensation contracts regarding the relation found in the theoretical framework. The discussion of previous literature is necessary to predict the relation between clawbacks in executive compensation contracts and accounting quality. Therefore, this section will provide an answer to the second sub question: *What are the results of prior literature regarding the interaction derived from the theoretical framework considering clawbacks and the quality of the firm's financial reports and which hypotheses should be formulated?*

The remainder of this chapter is structured as follow: first, prior literature with regard to investors' perception about reporting quality after clawback adoption is provided in section 3.2. In section 3.3 the consequences of clawbacks on reporting quality is elaborated. After the literature review is conducted, a summary of related literature will be provided in section 3.4. Lastly, in section 3.5 I will derive the relevant hypotheses.

3.2. Investors' perception about accounting quality after clawback adoption

The first relevant study is of DeHaan & Hodge & Shevlin (2013). They test the relation between clawback adoption and investors' perception about the quality of financial statements. The authors expect that the market participants perceive financial statements of higher quality following from a clawback adoption. They use earnings response coefficient and analyst forecast dispersion as a proxy to test their hypothesis. A higher (ERC) is interpreted from investors' perception that the financial statements contain less error and bias (Dehaan, Hodge, & Shevlin, 2013). Additionally, they suggest that a decrease in analyst forecast dispersion is associated with higher quality of the financial statements. They use quarterly available data from corporate library, which consists of 1,918 firms from 2007-2009. As they expected, the results indicate that the ERC is significantly higher for firms

following a clawback adoption and that the analyst forecast dispersion for firms has a significant decrease. Moreover, the outcomes are in line with the survey of Iskandar-Data & Jia (2013) which examines 486 firms and found that investors view about the credibility of the financial reports has improved for firms that implemented clawbacks in their performance compensation contracts. Similar results are from Chan & Chen & Chen & Yu (2012) who examine quarterly data from 2,183 firms in Russell 3000 index from 2000-2009. Their results indicate that the firms ERC is significantly positive compared to the control firms. Moreover, Bakke & Mahmudi & Virani (2017) examine the value implications of clawbacks by examining stock market reaction and found evidence that: (i) the market participants reacted positively to the adoption of clawbacks, and (ii) the strength of market reaction is higher in firms with higher power of CEO over the board of directors. Overall, the results of the studies indicate that the investors perceive the financial statements of higher quality. However, Chan & Chen & Chen & Yu (2012) noticed a potential drawback of clawback adoption. They suggest that the results could be biased, while firm initiated clawbacks could give a signal to market participants that the financial statements of the company are already free from error and bias. Therefore, investors' perceptions do not necessarily imply that the quality of the financial statements increased. Investors may perceive the adoption of a clawback as a signal that the financial statements are already free from error and bias (Connelly, Certo, Ireland, & Reutzel, 2011). Additionally, under the signaling argument they suggest that only firms with lower likelihood of restatements are more likely to adopt a clawback provision. However, a study conducted by Babenko & Bennet & Bizjak & Coles (2012) examines data from S&P 1500 firms and finds evidence that firms are more likely to adopt a clawback when: (i) firms face prior misbehavior, (ii) when firms face fraudulent behavior and earnings management, (iii) rent extraction is higher, (iv) corporate governance mechanism 'external monitoring' is higher, (V) and when complexity within firms are higher. Similar results are from Brown & Davis-Friday & Guler (2011). They examine 252 organizations that implemented clawbacks ranging from 2005-2009 from the S&P 1500 index and found that firm size, increase in bonuses, goodwill impairments, merger & acquisition, prior restatements and extraordinary merger & acquistion bonuses have a positive influence on the likelihood of adopting a clawback provision. Using a logistic regression model the results indicate that the size of the firm is the strongest determinant in adopting a clawback. Additionally, Addy & Chu & Yoder (2011) find that firms with more

independent governance are more likely to adopt a clawback. Overall, the results of these studies indicate that firms with higher corporate failures are also likely to adopt a clawback provision. Concluding from these studies, investors' perception about the quality of the financial statements could be biased. Therefore, additional evidence is needed to derive conclusions about the quality of the financial statements using different proxies to determine the reporting quality in firms.

3.3. Consequences of clawbacks on accounting quality

Prior academic literature finds evidence that the likelihood of material misstatements in financial statements declines following from a clawback adoption (Chan L. H., Chen, Chen, & Yu, 2012). Chan & Chen & Chen & Yu (2012) examines firm initiated clawbacks using a sample from Russell 3000 companies over the years 2000 to 2009 that adopted a clawback. They test the relation between clawback adoption and reporting quality. The authors expect that the accounting quality will increase after the adoption of clawbacks. As they expected they find evidence that audit fees are significantly negative following a clawback adoption. The result indicates that clawbacks reduce the overall audit risk perceived by auditors. As previously mentioned audit fees are determined by the extent of the quality of the financial statements. Higher audit fees are associated with low reporting quality of firms. Additionally, the authors find evidence that the audit report lag is significantly negative following a clawback adoption. This indicates that clawbacks reduce the audit effort due to the reduction in the audit risk model. Furthermore, they provide evidence that firms following a clawback adoption experience a lower likelihood of financial restatements. Lower restatements indicate that the financial statements do not contain material misstatements due to error or fraud, subsequently indicating higher reporting quality. Similar results are from DeHaan & Hodge & Shevlin (2013) who examine reporting quality using financial restatements as a proxy. They find that firms following a clawback adoption experience a lower likelihood of restatements compared to the control firms. Overall, the results of these studies indicate that the reporting quality in firms following from a clawback adoption increased. However, a potential drawback and limitation of these studies is that the results

are based on a small post adoption period, while clawbacks became common since 2005 and stayed low until 2007 (Iskandar Datta & Jia, 2012).

In contrary to these studies, adopting a clawback may result in opportunistic behavior of executive officers. A general study conducted on the behavior of executive officers on beating earnings targets show that 80% of executive officers would decrease their R&D expenses, advertising costs and maintenance expenses to meet or beat earnings targets (Graham, Harvey, & Rajgopal, 2004). To determine whether this behavior is present for firms adopting a clawback provision, Chan & Chen & Chen & Yu (2014) examined whether voluntary adoption of clawbacks indicate the same behavior of management 'influencing the accounting choice', and found evidence that the adoption of clawbacks substituted accrual accounting with real transaction based accounting. However, change in accounting policy does not necessarily indicate a low accounting quality. Additionally, these results could be motivated by different accounting standards. To conclude from these studies, prior literature use a relatively short post adoption period to draw their conclusions about the reporting quality in firms. Therefore, additional evidence is needed to examine the reporting quality of firms following a clawback adoption using a larger post adoption period.

3.4. Summary of related literature

This section contains a summary of related literature discussed in the previous section. The summary consists of a table, which includes the name of the authors, the study performed, sample selection and the relevant results found.

Author(s) and year	Study	Sample	Relations/Results
Lilian H. Chan, Kevin C.W. Chen, Tai-Yuan Chen, Yangxin Yu (2012)	Study on financial reporting quality after clawback provision.	343 clawbacks/ 1,840 non-clawbacks/ 2,183 total from Russell 3000	Significantly lower likelihood of accounting restatements/ positive market reaction/ reduction in audit fees and audit lag/ higher earnings response coefficient
Ed Dehaan, Frank Hodge and Terry Shevlin (2013)	Study conducted on the direct effect of clawbacks regarding the quality of the reports.	580 clawback adopters / 1,746 non- adopters	Positive correlation of clawback regarding the quality of the reports/ market participants perceived the quality as more credible for firms that have a clawback in their contracts.
Tor-Erik Bakke, Hamed Mahmudi and Aazam Virani (2017)	Value implications of clawback provision.	1,123 clawback adopters/ 352 non-clawback adopters/ 1,475 total	Market participants reacted positively to announcement of clawback/ Market reaction is higher in firms were CEO have significant power.
M. Iskandar Datta, Y, Jia (2012)	Literature review of effects clawback provision on CEO pay for performance.	486 clawback firms	Market reacted positively on the adoption of clawback provision.
LH Chan, KCW Chen, TY Chen and Y Yu (2014)	Substitution in accounting policy after adopting a clawback provision.	444 clawbacks/ 1,918 non-clawback adopters/ 2,362 total	Clawback adoption decrease accrual accounting and increase real transaction based accounting.
Anna Bergman Brown, Paquita Y. Davis-Friday and Lale Guler (2011)	Study conducted on determinants of firm characteristics in adopting a clawback provision: firm size, increase of bonuses, goodwill impairments, prior restatements and CEO power over the board of directors.	252 clawback firms from S&P 1500/ 1,071 non-clawbacks/ 1,323 total firms	Adoption of clawbacks are positively correlated with prior restatements/ firms size/ goodwill impairments/ and an increase in bonuses. The size of the firm is the strongest determinant in adopting a clawback. Adoption is less likely in firms with higher CEO power.
Ilona Babenko, Benjamin Bennet, John M. Bizjak and Jeffrey L. Coles (2012)	Study conducted on determinants of firm characteristics in adopting a clawback provision when prior corporate failures are present/ compensation structure after adoption of clawback.	342 clawback firms from S&P 500 firms/ 1,085 total firms. 723 clawback firms from S&P 1500 firms/ total 2,115 firms	Positive correlation of clawback adoption: with prior misbehavior/ fraudulent behavior and earnings management/ when rent extraction is high/ when monitoring activities are present and incentive based rewards are in place.
N. Addy, X. Chu and T. Yoder (2011)	Companies with better corporate governance mechanisms are more likely to adopt a clawback provision.	170 clawback adopters/ 326 non-clawback adopters/ 496 total	Independent governance increases the likelihood of adopting a clawback provision.

Table 3.4.1: summary literature review.

3.5. Hypothesis development

The relation examined in this paper relies on the fundament of the agency theory elaborated in the theoretical framework in section 2.3, which focuses on the alignment of conflicting interests between principals and agents (Jensen & Meckling, 1976). The preference of agents to create short-term value instead of long-term value leads to conflicts. Therefore, it is essential to provide governance mechanisms to solve these problems arising from a principal agency relation.

Theoretically, appropriate incentive based rewards could provide goal alignment between agents and principals (Jensen & Meckling, 1976). These executive compensation packages create incentives to reduce goal incongruence between agents and principals. However, existing incentive based rewards are linked to performance indicators, which often fail to decrease the gap in goal incongruence (Burns & Kedia, 2006). Based on the reasoning of Healy (1985), performance indicators create opportunistic behavior of management in manipulating earnings to achieve certain goals.

Although incentive contracts bring problems on their own, one possibility to change the ineffective compensation structure is through implementing clawbacks in executive compensation contracts. It is said that clawbacks could discourage management to misstate financial statements (ex ante) due to potential penalties and reputational damage (ex post) (Dehaan, Hodge, & Shevlin, 2013). The cost of being caught could outweigh the incentive to manipulate financial statements. Based on the reasoning of Desai & Hogan & Wilkins (2006) reputational and monetary penalties could mitigate incentive problems arising from incentive based rewards.

According to Chan & Chen & Chen & Yu (2012) and DeHaan & Hodge & Shevlin (2013) clawback adoption reduces the likelihood of material misstatements in the financial statements. However, the results of these studies are based on a relatively short adoption period and could be biased. Therefore, additional evidence is needed to examine the reporting quality of firms following a clawback adoption.

I assume that clawbacks in executive compensation contracts will be an effective tool to enhance the goal incongruence between shareholders and stakeholders. I expect that the cost of being caught will outweigh the cost of manipulating earnings. More specifically, I expect that clawback adoption will change the opportunistic behavior of management, which leads to goal alignment and an increase in reporting quality. However, as stated previously the reporting quality of firms cannot be easily quantified. The dependent variable accounting quality in this thesis is operationalized using audit fees and financial restatements as proxies, which results in two hypotheses. Therefore, in order to provide an answer to the research question I develop two hypotheses to examine the reporting quality, respectively auditors' perception of reporting quality in firms. This results in the following two hypotheses:

H1A: Firms adopting a clawback provision experience a lower likelihood of financial restatements.

H1B: Audit fees decreases for firms following from a clawback adoption.

Chapter 4 Methodology

4.1. Introduction

This section provides the methodology used to test the hypotheses prepared in the previous section. First, section 4.2 contains the design of the research, which I use in this paper to test the interaction between the dependent construct (accounting quality) and independent construct (clawback), including the regression model and the definitions of the variables. Secondly, section 4.3 includes the operationalization of the constructs, which I present in a Libby box. Lastly, section 4.4 includes the selection of the sample, the source of the data and the preparation of the data.

4.2. Research design

4.2.1. Regression models

This section contains the regression models used to test the formulated research question in chapter 1. The design of the models in this thesis consists of an ordinary least square and a logistic regression analysis. These are necessary in providing an answer whether the independent construct clawback is interacted with the dependent construct quality of the financial reports. Therefore, I will perform a regression of the obtained sample based on the clawback adopters group against the non-adopters group and compare the outcomes to provide an answer, whether the implementation of the clawback provision has a positive impact on the quality of the financial reporting. Therefore, an operationalization of the independent and dependent construct is necessary to perform the statistical tests regarding the interaction between the two constructs. The dependent construct quality of the financial report is operationalized by using the extent of the log of audit fees and the degree of financial restatements. This results in two hypotheses to test. The main proxy of this thesis is financial restatements, since they directly measure the reporting quality in firms (Christensen, Glover, Omer, & Shelley, 2016). The operationalization of accounting quality

will be presented in section 4.3 of this chapter. I use the following general regression to examine the impact of clawbacks on reporting quality:

$$\gamma_{i,t} = \alpha + \beta_1 CLAWBACK_{i,t} + \beta_n CONTROLS_{i,t} + \beta_k IND_i + \beta_m Year_t$$

where Y denotes the dependent variable of interest, consisting of financial restatements and audit fees. The independent variable (CLAWBACK) is a dummy variable and equals one for firms adopting clawbacks and zero for non-adopters. In the regression model, β_1 is the coefficient in clawbacks and reflects the association between clawbacks and financial restatements, and respectively on audit fees. For financial restatements I expect a negative coefficient, which suggests that clawback adopters are less likely to experience a financial restatement compared to the control group. For audit fees I expect a negative coefficient, which suggests that firms having a clawback pay lower audit fees compared to the control group. Dependent on each proxy certain control variables (CONTROLS) are included in the model, which could possibly affect the dependent variable. Furthermore, (IND) and (Year) are industry-fixed and year-fixed effects to control for macroeconomic and governmental regulation effects for specific industries and variations over time.

The following models are the complete models including all control variables for each proxy. After the models are presented the use of each variable will be justified and defined in detail.

$$RESTATEMENTS_{i,t}$$
$$= \beta_0 + \beta_1 CLAWBACK_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA + \beta_4 LOSS_{i,t}$$
$$+ \beta_5 TOBINS\_Q_{i,t} + \beta_6 LEV_{i,t} + \beta_7 BIG4_{i,t} + \beta_8 RESTRUCTURE_{i,t}$$
$$+ \beta_9 M\&A_{i,t} + \beta_{10} FOREIGN_{i,t} + \beta_{11} CEO\_CHAIR_{i,t} + \beta_{12} BOARDSIZE_{i,t}$$
$$+ \beta_{13} FIN\_EXP + \beta_k IND_i$$
$$+ \beta_m Year_t \qquad\qquad (1)$$

$$Ln(Audit\ Fees)_{i,t}$$
$$= \beta_0 + \beta_1\ CLAWBACK_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA + \beta_4 LOSS_{i,t}$$
$$+ \beta_5 TOBINS\_Q_{i,t} + \beta_6 LEV_{i,t} + \beta_7 BIG4_{i,t} + \beta_8 RESTRUCTURE_{i,t}$$
$$+ \beta_9 M\&A_{i,t} + \beta_{10} FOREIGN_{i,t} + \beta_{11} GROWTH_{i,t}$$
$$+ \beta_{12} DISCRETIONARY\_ACCRUALS_{i,t} + \beta_{13} INVENTORY_{i,t}$$
$$+ \beta_{14} CEO\_CHAIR_{i,t} + \beta_{15} BOARDSIZE_{i,t} + \beta_{16} FIN\_EXP_{i,t} + \beta_k IND_i$$
$$+ \beta_m Year_t \qquad\qquad (2)$$

4.2.2. Dependent variables & independent variable

The dependent construct is accounting quality, which will be operationalized using two proxies. First, Armstrong & Jagolinzer & Larcker (2010), Abbott & Parker & Presley (2012) and Christensen & Glover & Omer & Shelley (2016) use the proxy restatements to measure the extent of the quality of the reporting. Therefore, following prior academic papers and research I considered the main proxy in this paper as the degree of restatements in determining the quality of the reports to provide an answer to the first hypothesis. Financial restatements in firms indicate a reporting failure, which could be detected by the firm, external auditor or the SEC. According to Christensen & Glover & Omer & Shelley (2016) restatements that occur in the financial books of an organization are a good measure to determine the quality of the reports. This indicates that a financial restatement occurs when errors and bias in financial statements could affect the decision making of stakeholders (Hayes, Wallage, & Gortemaker, 2014). Furthermore, the use of restatements as a measure to determine the quality of the financial numbers in an organization has certain benefits, while restatements that occur are detected by external auditors or third parties, which makes reporting failures more reliable and therefore makes restatements more suitable as a proxy to determine the reporting quality in firms. (Christensen, Glover, Omer, & Shelley, 2016). The dependent variable (RESTATEMENTS) is a binary variable and equals one for firms where a restatement is issued as a result of a material misstatement and zero otherwise. However, there is a potential disadvantage of restatements. Smaller companies incline to

restate their statements more often compared to larger organizations. (Kinney Jr & McDaniel, 1989). In the next section, I will elaborate on the control variables used to control for these confounding factors in more detail which could possibly affect the dependent variable restatements. Secondly, following Chan & Chen & Chen & Yu (2012) I use the natural logarithm of audit fees (LN_AUDITFEES) as a proxy to operationalize and measure accounting quality and to provide an answer to the second hypothesis. It is assumed that the extent of audit fees is determined by the auditors' perception on the reporting quality of firms, which is related to the audit risk model (Hogan & Wilkins, 2008). Similar results are from Engel & Hayes & Wang (2010). The authors suggest that the extent of audit fees is related to the auditors' perception about the reporting quality of the firm. However, according to Pong & Whittington (1994) certain firm characteristics such as; the size of the firm, complexity of the business and debt affects the extent of audit fees in an audit engagement. Therefore, in the next section I will elaborate on the control variables used to control for these confounding factors in more detail, which could possibly affect the dependent variable audit fees. The independent construct of both hypotheses is clawback provision and is a binary variable. The independent construct clawback is used in both models to measure the effectiveness of clawbacks on the dependent variables. Clawback equals one for firms adopting a clawback provision and zero otherwise. The complete overview of the operationalization of the dependent variables and the independent variable are provided in section 4.3 in a Libby box.

4.2.3. Control variables

Despite the fact that clawback adoption could have a significant effect on the reporting quality of the firms, there could be a concern that certain confounding factors could influence the interaction regarding clawbacks and the proxies used in this thesis for measuring the quality of the financial reports applicable to both regression models. This could lead to bias of the results. Therefore, in both regression models I include control variables based on prior findings of empirical research, which possibly could influence the association between the independent and dependent variables. The control variables are divided in firm-level characteristics and governance characteristics.

Firm-level characteristics

A possible concern of both models is that certain firm characteristics could influence the relation between clawbacks and proxies of reporting quality. Not controlling for certain firm characteristics could lead to biased results. Kinney & McDaniel (1989) for example find that smaller firms, which are less profitable and have more debt, are more likely to restate their financial statements. Additionally, Babenko & Bennet & Bizjak & Coles (2012) and Brown & Davis-Friday & Guler (2011) find that larger firms are more likely to adopt a clawback provision, due to complexity. To control for the size of the firm I include (SIZE) as a control variable to control for size differences in the selected sample. Size differences are controlled by taking the log of the sum of assets derived from the financial books of the organization. Furthermore, the profitability of an organization is controlled by taking the net income after depreciation in the numerator divided by the sum of the assets in the denominator, which is the general function and ratio of (ROA) *return on assets.* For firms reporting a loss I include a binary variable (LOSS), which equals one for firms reporting a negative income and zero otherwise. Furthermore, I include (TOBINS_Q) as a variable to control for firm performance and is computed as the market value of equity divided by the book value of equity. According to Kinney & McDaniel (1989) the probability of firms misstating their financial statements are higher when firms have higher debt. Consistent with this I use leverage (LEV) as a control variable, which is computed as total liabilities divided by total assets. Furthermore, Becker & DeFond & Jiambalvo & Subramanyam (1998) found that firms audited by a Big Four company tend to have higher reporting quality. I include (BIG4) as a binary variable to control for this effect and equals one if the firm is audited by a Big Four company and zero otherwise. As discussed previously, firms with more complexity are more likely to implement a clawback provision (Brown, Davis-Friday, & Guler, 2011). Therefore, following Chan & Chen & Chen & Yu (2012) I use foreign activities, restructure and merger & acquisition to control for complexity within firms. Restructure (RESTRUCTURE) is a binary variable and equals one for firms that undergone restructuring activities and zero otherwise. Merger & acquisition (M&A) is a binary variable and equals one for firms who have undergone a merger & acquisition and zero otherwise. Foreign activities (FOREIGN) is a binary variable and equals one for firms having an activity in foreign countries and zero

otherwise. Additionally, for the second model on audit fees I extend the use of control variables. According to Tsui & Jaggi & Gul (2001) growth in firms are associated with higher audit fees. To control for these effects I use (GROWTH) as a control variable, which is the growth within a firm compared to previous year. Alali (2010) found a positive relation between discretionary accruals and the extent of audit fees. To remove this effect I add (DISCRETIONARY ACCRUALS) as a control variable, which is the value of abnormal accruals in firms. Furthermore, Hay & Knechel & Wong (2006) found a significant association between the extent of inventory and the pricing of audit fees. Therefore, I include (INVENTORY) as a control variable, which is the ratio of inventory to total assets. Lastly, effects regarding specific industries (IND) which are necessary to have specific regulations are included in the models, which could bias the results if it is not controlled. Furthermore, including year (Year) in the models controls for certain variations related to years in the models.

Governance characteristics

Next to the firm-level characteristics there is also a need to control for governance characteristics within a firm for possible confounding factors. Babenko & Bennet & Bizjak & Coles (2012) for example find that the strength of governance characteristics is associated with the adoption of clawback provision within a firm. Additionally, Addy & Chu & Yoder (2011) find that firms with more independent governance are more likely to adopt a clawback. Moreover, according to Jensen (1993) when the CEO of a company is also the chairman of the board, the independency of the board will be limited because of the greater influence of the CEO on the board of directors. To control for the independency of the board I include a binary variable of (CEO_CHAIR) and it equals one if the CEO of the firms is also the chairman, and zero otherwise. Furthermore, to control for the strength of governance characteristics I add (BOARDSIZE) and (FIN_EXP) to control for certain confounding factors. According to Abbott & Parker & Peters (2004) firms face lower restatements when at least one member in the board of directors has financial expertise. The control variable (FIN_EXP) equals one for firms with at least one member that has financial expertise in the board and zero otherwise. Lastly, according to Kao & Chen (2004) larger boards face more earnings management due to ineffective functioning of the monitoring process, which results in a

lower reporting quality. Therefore, adding (BOARDSIZE) will control for the confounding factor that larger boards face more earnings management. The variable is calculated by counting the number of directors that are active in the board. All of the variables mentioned above are separately included in table 1 with a thorough descriptions of each variable.

Table 1: Variable descriptions & definitions

All Variables	Description & Definitions	Data source	Binary /Continuous
Dependent variables			
RESTATEMENT	RESTATEMENT is a binary variable that equals one if firms have a requirement to restate their financial statements, and equals zero if a restatement is not required	Audit Analytics	Binary
LN_AUDITFEES	LN_AUDITFEES is a continuous variable and is the natural (log) of the extent of audit fees within a firm.	Audit Analytics	Continuous
Independent Variable			
CLAWBACK	CLAWBACK is a binary variable that equals one if firms have a clawback provision in place, and zero if the firm does not have the provision	Michael Erkens	Binary
Control variables *firm-level characteristics*			
SIZE	SIZE is a continuous variable and is the Natural (log) of market value	Compustat	Continuous
ROA	ROA is a continuous variable and is calculated as the net operating income after depreciation scaled to the sum of the assets in a firm	Compustat	Continuous
LOSS	LOSS is a binary variable and equals one for firms reporting a loss, and zero if the firm did not reported a loss	Compustat	Binary
TOBINS_Q	TOBINS_Q is a continuous variable which includes the market value of equity in the numerator divided	Compustat	Continuous

	by the book value of equity in the denominator.		
LEV	LEV is a continuous variable and is calculated as the sum of the liabilities scaled to the sum of the assets in a firm	Compustat	Continuous
BIG4	BIG4 is a binary variable and equals one for firms having a BIG4 auditor, and zero if not	Compustat	Binary
RESTRUCTURE	RESTRUCTURE is a binary variable that equals one if a firm have undergone restructuring activities, and zero if the firm did not have such activities	Compustat	Binary
M&A	M&A is a binary variable equals one for firms undergone a merger & acquisition, and zero if the firm did not have undergone a merger & acquisition	Compustat	Binary
FOREIGN	FOREIGN is a binary variable that equals one if a firm have activities in foreign countries, and zero if the firm does not have foreign activities	Compustat	Binary
GROWTH	GROWTH is a continuous variable and is the sales of a firm compared to previous year	Compustat	Continuous
INVENTORY	INVENTORY is a continuous variable and is calculated as the amount of inventory scaled to the sum of the assets in a firm.	Compustat	Continuous
DA	DA is the absolute value of abnormal accruals	Compustat	Continuous

Control variables

Governance characteristics

CEO_CHAIR	CEO_CHAIR is a binary variable and equals one if the CEO of the firm is also the chair, and zero otherwise	ISS	Binary
BOARDSIZE	BOARDSIZE is the number of directors in the board	ISS	Continuous
FIN_EXP	FIN_EXP is a binary variable and equals one if at least one person on the board has financial expertise, and zero otherwise	ISS	Binary

4.3. Libby boxes & validity framework

Libby boxes are necessary to illustrate the interaction and the prediction of the validity concerns related to the operationalization of the dependent and independent concepts. The Libby boxes are illustrated in figure 4.3.1 and respectively 4.3.2. As shown in the figures, the dependent concept accounting quality is operationalized and measured by the extent of the natural log of audit fees and respectively the degree of restatements in the financial books. Furthermore, the framework consists of five relations, which are enlightened with arrows. The dependent construct, independent construct, operationalization of the constructs and control variables are presented in the boxes.

The first link indicates the relation between the independent construct (clawback provision) and dependent construct (accounting quality), which will be examined in this thesis. As mentioned earlier, I expect a positive effect of clawback provision on the accounting quality in firms.

The second and third link capture the operationalization of both constructs, which already have been described in section 4.2.2. Regarding the operationalization of clawbacks, there will be no construct validity concerns since clawback provision is measured directly. As illustrated in the box the provision is a dummy variable and takes the value of one if the firm have implemented a clawback provision. On the other hand it takes the value of zero if the organization did not implemented a clawback provision. Regarding the reporting quality, there should not be a construct concern since the proxies I use are derived from prior academic literature regarding the operationalization of accounting quality. In this thesis I use audit fees and financial restatements to operationalize the reporting quality. Financial restatements equal one for firms issuing a restatement and zero otherwise. Audit fees is operationalized by using the natural logarithm of audit fees.

The fourth link is empirically tested using Stata. As previously mentioned, the reporting quality in firms could be affected due to confounding factors. Therefore, I add certain controls to mitigate these confounding factors, which is presented in link five in the Libby boxes. The underlying meaning to do so is to enhance the internal validity related to this research. This validity concern relates to how good this research controls for certain

confounding factors. Therefore, I include certain control variables derived from previous literature to address the internal validity concern. Furthermore, I include industry and year fixed effects to control for the difference in macroeconomics and industries between the firms.

To continue with concerns related to the validity of this research, I anticipate an external validity concern. The focus of this study is only on clawback adopters from listed firms in the U.S. Therefore, the findings of this study could not be generalized for firms listed in other nations.
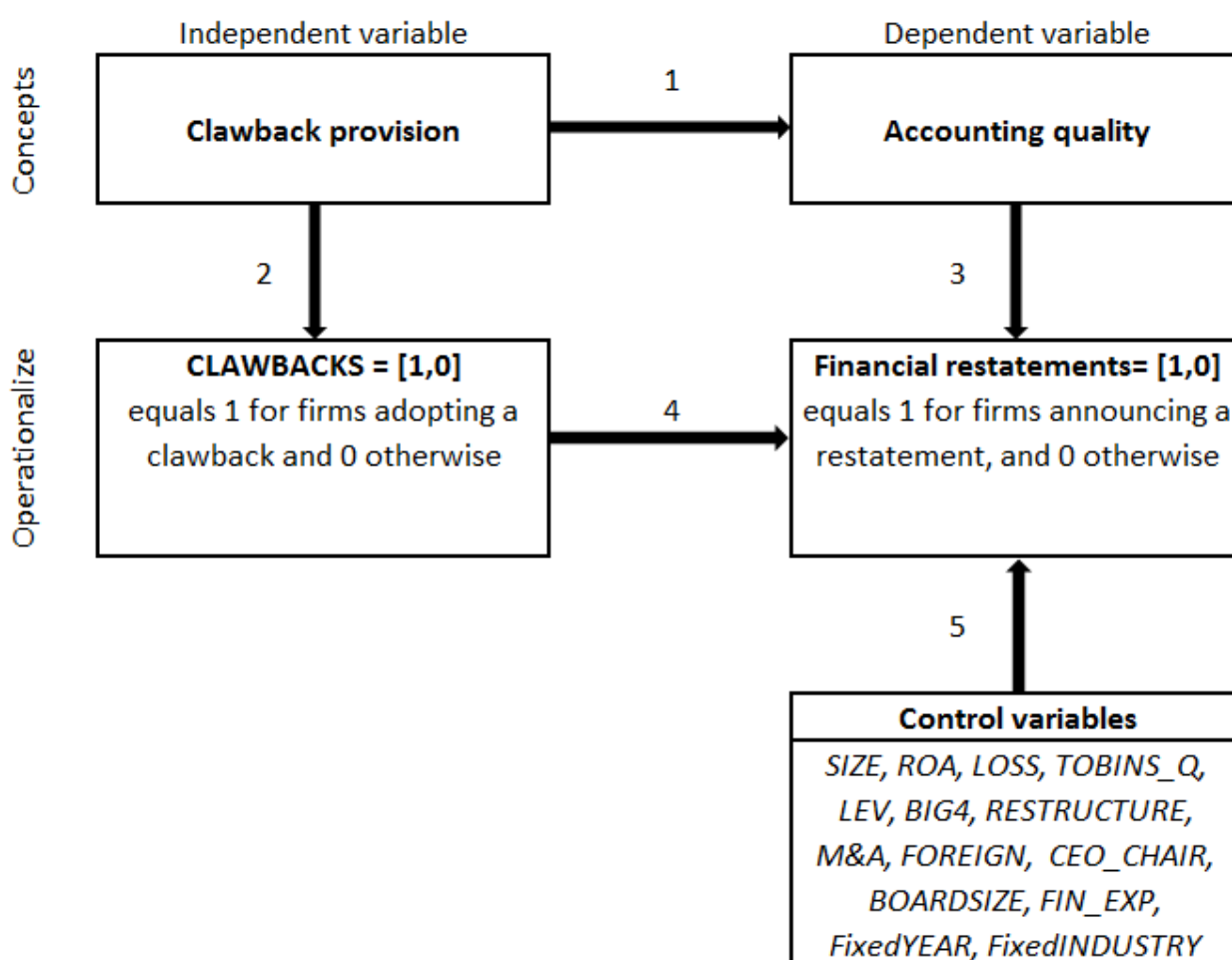

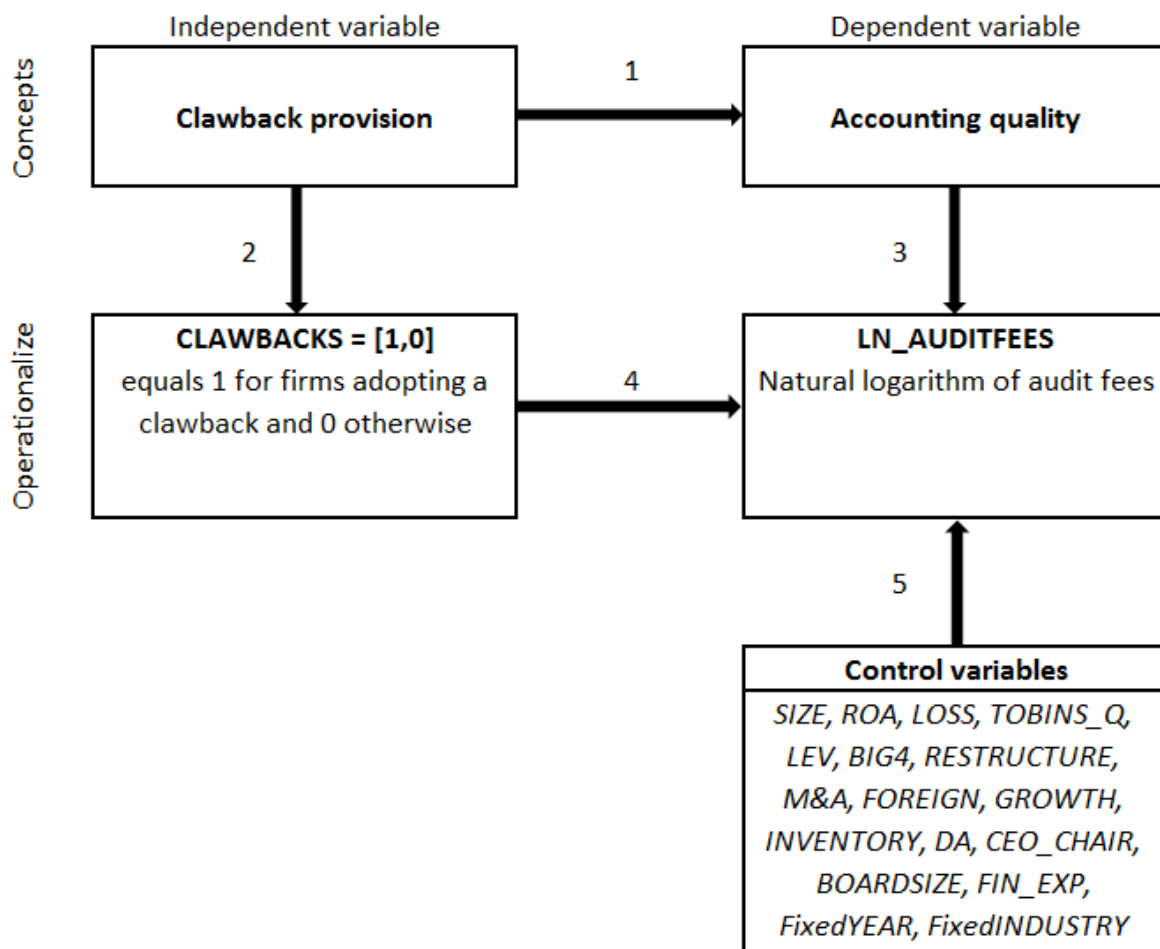Figure 4.3.1: Libby boxes belonging to financial restatements

Figure 4.3.2: Libby boxes belonging to audit fees

4.4. Sample selection

The datasets in this thesis are obtained from various sources. Data about clawbacks is obtained from Dr. Michael Erkens, who is an assistant professor at the Erasmus School of Economics. I collect data regarding firm-level characteristics from Compustat. This database contains all firm-specific financial information, which is used to calculate certain control variables. Data regarding financial restatements and audit fees are obtained from Audit Analytics. Data about the governance characteristics of firms are obtained from Institutional Shareholder Services. The datasets mentioned above are obtained from the database of Wharton Research. After obtaining the relevant datasets, the company identifier key (CIK), fiscal year and the (CUSIP) code are used to merge the relevant datasets. Before merging the datasets, each dataset is cleaned from information containing duplicates. After the merging process is done certain firms should be removed to avoid sample selection bias. Certain firms such as; governmental organizations, financial institutions and regulated industries follow specific regulations regarding the content of financial reporting (Bedard, Chtourou, & Courteau, 2004). These specific regulations could bias the results regarding clawbacks in executive compensation contracts. Therefore, it is necessary to drop these firms from the data sample. To account for sample selection bias I remove firms in the clawback adopters group without sufficient data before the date of implementation. Additionally, organizations without a clawback provision following after an adoption year could bias the results, while these firms are no 'hard adopters' of a clawback provision. Therefore, it is necessary to remove these observations from the sample data. Additionally, it is common for continuous variables that it could contain outliers in the selected sample. The outliers could affect the results. Therefore, it is necessary to account for these outliers by winsorizing these at one percent on the left and respectively right side of the distribution. Finally, these adjustments result in the matched clawback dataset of S&P 1500 firms consisting of 991 firms over the sample period 2007-2016. The number of clawback adopters available for my analysis consists of 355 clawback adopters respectively 636 non-clawback adopter firms. A more detailed overview is presented in table 2.

Table 2: Detailed Sample Selection Overview

Selection From <u>Clawback</u> Dataset (2007-2016)	
Amount of observations available from clawback dataset	4.085
Selection From <u>Compustat</u> Dataset (Variables)	
Amount of observations available from compustat dataset	194.034
Drop: dropping observations which are missing	(81.910)
Drop: dropping observations which contain duplicates	(145)
Total unique observations available from Compustat dataset	111.979
Selection From <u>Compustat</u> Dataset (Discretionary Accruals)	
Amount of observations available from compustat dataset	194.034
Drop: dropping observations which are missing	(110.208)
Total unique observations available from Compustat dataset	83.826
Selection From <u>Audit Analytics</u> Dataset (Audit Fees)	
Amount of observations for audit fees available from Audit Analytics dataset	192.449
Drop: dropping observations which contain duplicates	(8.373)
Total unique observations available from Audit Analytics dataset	184.076
Selection From <u>Audit Analytics</u> Dataset (Restatements)	
Amount of observations for restatements available from Audit Analytics dataset	15.675
Drop: dropping observations which contain duplicates	(1.375)
Total unique observations available from Audit Analytics dataset	14.300
Selection from <u>ISS</u> Dataset (Board)	
Amount of observations for board available from ISS dataset	167.400
Drop: dropping observations without a (CUSIP) code	(8)
Drop: dropping observations which contain duplicates	(149.530)
Total unique observations available from ISS dataset	17.862

Merging Process of the Samples

Amount of observations available after the merging process between the obtained unique Compustat observations and Audit Analytics observations	120.113
Drop: dropping restatements without information in Compustat	(8.134)
Drop: dropping data if it is not possible to merge with Compustat (Discretionary Accruals)	(36.147)
Drop: dropping data if it is not possible to merge with Audit Analytics (Audit Fees)	(9.063)
Drop: dropping data if it is not possible to merge with ISS (Board)	(54.696)
Drop: dropping data if it is not possible to merge with Clawback	(10.480)
Drop: deleting governmental, financial and regulated firms	(271)
Total observations available after merging the datasets	1.322

Obtained Main Sample

Total number of observations after merging datasets	1.322
Drop: dropping missing values	(16)
Drop: dropping accounting inconsistencies	(8)
Drop: dropping firms without clawbacks prior to clawback adoption year	(278)
Drop: dropping firms with no clawback adoption after an adoption year	(29)
Total observations available after cleaning the merged data sample	991

Categorized Sample

Total of clawback adopters	355
Total of non-clawback adopters	636
Total sample of clawback and non-clawback adopters	991

Additionally, table 3A and 3B presents the number of clawback adopters per industry respectively the number of clawbacks per year in the total sample of the clawback dataset.

Table 3A: Number of Clawbacks by industry

		Total Sample		Clawback Adopters	Non-Adopters
SIC No:	Industry:	Frequency:	Percentage:	Frequency:	Frequency:
1000-2000	Mining/Construction	65	6.56	17	48
2000-3000	Manufacturing	159	16.04	65	94
3000-4000	Manufacturing	415	41.88	133	282
5000-6000	Wholesale/Retail	179	18.06	75	104
7000-9000	Services	173	17.46	65	108
Total		991	100.00	355	636

Table 3B: Number of Clawbacks by year

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Non-adopters	71	98	86	83	74	64	47	46	31	36	636
Clawback adopters	2	7	17	27	36	44	52	56	56	58	355
Total	73	105	103	110	110	108	99	102	87	94	991

Chapter 5 Empirical results

5.1.   Introduction

In this chapter the results regarding the empirical tests are discussed. First of all, in section 5.2 I provide the descriptive statistics. The correlation between the dependent and independent variables are provided in section 5.3. Furthermore, in section 5.4 I provide the results related to the univariate and multivariate regression analysis performed for the effect of clawbacks on the degree of restatements, respectively on the extent of audit fees. Therefore, this section provides an answer to the last sub question: *What are the empirical results regarding the quality of financial statements following a clawback adoption?*

5.2.   Descriptive statistics

Table 4A presents the descriptive statistics of the entire population regarding clawback adoption. The total sample consist of firms, which can be classified as a clawback and non-clawback adopter. Derived from table 4A, 35.8% firm-year observations have a clawback provision in place. Regarding firm-level characteristics, table 4A presents that on average 19.6% of the firms reported a loss during the fiscal year. In contrary, by looking at the mean of the leverage the minority of the entire sample has a low debt/equity ratio. Regarding the assumptions related to the complexity of accounting standards, 58.3% of the firms had undergone restructuring activities, 45.4% of the firms had undergone a merger & acquisition and 42.7% had activities in foreign countries. This indicates that approximately half of the observed firms in the total sample have complex accounting practices. Furthermore, the variable BIG4 indicates that 92.7% of the auditors of the entire sample are from a Big Four company. With regard to the proxies of reporting quality, it is observable from table 4A that

approximately 7.4% of the total obtained sample has undergone a financial restatement during the fiscal year. The average natural logarithm of audit fees is 14.43. Regarding the governance characteristics, the average board size consists of 8.77 board members, where 18.9% of the members has a financial background and 45.1% of the observations indicate that the CEO of the company is also functioning as a chairman of the board.

Table 4B presents the descriptive statistics by dividing the total sample in clawback adopters and non-clawback adopters to analyze the mean differences of both samples including; dependent variables, firm-level control variables and governance level control variables.

Table 4A: Descriptives of the obtained sample (N=991)

	Obs	Mean	Median	St. Dv.	Minimum	Maximum
Dependent variables						
RESTATEMENT	991	0.074	0.000	0.261	0.000	1.000
LN_AUDITFEES	991	14.426	14.449	0.915	12.496	17.081
Independent variable						
CLAWBACK	991	0.358	0.000	0.480	0.000	1.000
Firm-level control variables						
SIZE	991	7.622	7.436	1.354	3.752	11.639
ROA	991	0.091	0.088	0.086	-0.142	0.377
LOSS	991	0.196	0.000	0.397	0.000	1.000
TOBINS_Q	991	1.661	1.334	1.118	0.423	7.040
LEV	991	0.456	0.449	0.179	0.112	0.933
BIG4	991	0.927	1.000	0.260	0.000	1.000
RESTRUCTURE	991	0.583	1.000	0.493	0.000	1.000
MERGER	991	0.454	0.000	0.498	0.000	1.000
FOREIGN	991	0.427	0.000	0.495	0.000	1.000
GROWTH	991	0.077	0.059	0.215	-0.437	1.025
DA	991	0.069	0.052	0.142	-0.280	0.507
INVENTORY	991	0.127	0.094	0.124	0.000	0.718
Governance level control variables						
BOARDSIZE	991	8.767	9.000	2.041	4.000	16.000
FIN_EXP	991	0.189	0.000	0.391	0.000	1.000
CEO_CHAIR	991	0.451	0.000	0.498	0.000	1.000

Table 4B: Descriptive statistics by Clawback adoption

	Non-Clawback adopters sample (N=636)			Clawback adopters Sample (N=355)			T-statistic	P-value	
	Mean	Median	St. Dv	Mean	Median	St. Dv			
Dependent variables									
RESTATEMENT	0.091	0.000	0.288	0.042	0.000	0.201	3,128	0,002	**
LN_AUDITFEES	14.215	14.176	0.899	14.806	14.771	0.817	-10,532	0,000	***
Firm-level control variables									
SIZE	7.312	7.148	1.291	8.176	8.208	1.289	-10,112	0,000	***
ROA	0.090	0.083	0.090	0.093	0.095	0.076	-0,558	0,577	
LOSS	0.204	0.000	0.404	0.180	0.000	0.385	0,929	0,353	
TOBINS_Q	1.648	1.321	1.126	1.685	1.370	1.094	-0,504	0,614	
LEV	0.429	0.422	0.170	0.504	0.504	0.185	-6,319	0,000	***
BIG4	0.912	1.000	0.284	0.955	1.000	0.208	-2,729	0,006	**
RESTRUCTURE	0.538	1.000	0.499	0.665	1.000	0.473	-3,976	0,000	***
MERGER	0.418	0.000	0.494	0.518	1.000	0.500	-3,033	0,003	**
FOREIGN	0.371	0.000	0.483	0.527	1.000	0.500	-4,756	0,000	***
GROWTH	0.089	0.069	0.221	0.056	0.042	0.191	2,386	0,017	*
DA	0.062	0.045	0.136	0.083	0.061	0.151	-2,182	0,029	*
INVENTORY	0.126	0.084	0.129	0.129	0.104	0.114	-0,339	0,735	
Governance level control variables									
BOARDSIZE	8.399	8.000	1.950	9.425	9.000	2.037	-7,719	0,000	***
FIN_EXP	0.167	0.000	0.373	0.228	0.000	0.420	-2,298	0,022	*
CEO_CHAIR	0.467	0.000	0.499	0.423	0.000	0.495	1,352	0,177	

*** p<0.001, ** p<0.01, *p<0.05

First of all, derived from table 4B the p-values between the means of the dependent variables regarding financial restatements and the log of audit fees in the adopters and non-adopters group differs significantly from each other. In the control sample of non-clawback adopters, 9.1% of firms experience a financial restatement, which is significantly larger at 0.01% significance level compared to the mean of the sample of clawback adopters. On the other hand, for the natural logarithm of audit fees, the mean of the control sample is significantly smaller at 0.01% than the mean of clawback adopters, which indicates that on average clawback adopters pay higher audit fees compared to non-clawback adopters.

Secondly, with regard to the firm-level control variables it is noticed that on average the size of the firms are larger for clawback adopters compared to the control group at 0.01% significance level. This indicates that larger firms are more likely to have a clawback provision in place. Furthermore, clawback adopters have on average a larger debt to equity ratio compared to the control sample and are more likely to be audited by a Big Four firm. Regarding the complexity of accounting practices it is noticeable that the means of clawback adopters compared to the control group significantly differs at 0.01% significance level for (FOREIGN) & (RESTRUCTURE) and 1% significance level for (MERGER). This indicates that clawback adopters have on average more complex accounting practices, thus are more subject to restructuring, merger & acquisition and foreign activities than non- adopters. Furthermore, firms that implemented a clawback experience a lower growth rate and more discretionary accruals compared to the control group at 5% significance level. Lastly, with regard to the governance characteristics it is noticeable that the board size is significantly larger for clawback adopters at 0.01% significance level compared to the control group and that clawback adopters have more financial experts in the board compared to the control group at 5% significance level.

5.3.   Correlation matrixes

Table 5A and 5B provide the correlation matrixes between the dependent variables and independent variables to examine the strength of the correlations between clawback provision and restatement, and respectively audit fees. From table 5A it is observable that clawback provision is significant at 1% significance level and is negatively correlated with financial restatement considering a value of -0.0898. Furthermore, looking at table 5B, a significant positive correlation at 0.01% significance level is observable from the interaction of the variable CLAWBACK and LN_AUDITFEES considering a value of 0.310.

Table 5A: Correlation table restatement

	RESTATEMENT	CLAWBACK	SIZE	ROA	LOSS	TOBINS_Q	LEV	BIG4	RESTRUCTURE	MERGER	FOREIGN	BoardSize	FIN_EXP	CEO_CHAIR
RESTATEMENT	1													
CLAWBACK	-0.0898**	1												
SIZE	-0.0745*	0.306***	1											
ROA	-0.0639*	0.0168	0.226***	1										
LOSS	0.0361	-0.0291	-0.172***	-0.570***	1									
TOBINS_Q	-0.0609	0.0159	0.282***	0.559***	-0.269***	1								
LEV	0.0188	0.202***	0.228***	-0.145***	0.185***	-0.290***	1							
BIG4	0.0343	0.0794*	0.206***	-0.121***	0.0499	-0.243***	0.227***	1						
RESTRUCTURE	0.0190	0.124***	0.127***	-0.175***	0.154***	-0.160***	0.159***	0.126***	1					
MERGER	0.00661	0.0964**	0.0809*	-0.0610	-0.000474	-0.0216	0.0552	0.0601	0.204***	1				
FOREIGN	0.0456	0.151***	0.0977**	-0.0804*	0.0884**	-0.0235	0.0164	0.0215	0.233***	0.139***	1			
BoardSize	-0.0208	0.241***	0.565***	0.0272	0.0202	-0.0678*	0.373***	0.300***	0.180***	-0.0190	0.0286	1		
FIN_EXP	0.0220	0.0754	-0.197***	-0.0702*	-0.00395	-0.0612	-0.0813*	-0.233***	-0.105***	-0.0721*	-0.0356	-0.185***	1	
CEO_CHAIR	0.0704*	-0.0428	0.0280	0.0434	-0.0281	-0.0898**	0.0565	0.0115	-0.0482	-0.0732*	0.0336	-0.0386	-0.00699	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5B: Correlation table auditfees

	LN_AUDITFEES	CLAWBACK	SIZE	ROA	LOSS	TOBINS_Q	LEV	BIG4	RESTRUCTURE	MERGER	FOREIGN	GROWTH	DA	INVENTORY	BoardSize	FIN_EXP	CEO_CHAIR
LN_AUDITFEES	1																
CLAWBACK	0.310***	1															
SIZE	0.668***	0.306***	1														
ROA	-0.122***	0.0168	0.226***	1													
LOSS	0.113***	-0.0291	-0.172***	-0.570***	1												
TOBINS_Q	-0.205***	0.0159	0.282***	0.559***	-0.269***	1											
LEV	0.454***	0.202***	0.228***	-0.145***	0.185***	-0.290***	1										
BIG4	0.279***	0.0794*	0.206***	-0.121***	0.0499	-0.243***	0.227***	1									
RESTRUCTURE	0.383***	0.124***	0.127***	-0.175***	0.154***	-0.160***	0.159***	0.126***	1								
MERGER	0.173***	0.0964**	0.0809*	-0.0610	-0.000474	-0.0216	0.0552	0.0601	0.204***	1							
FOREIGN	0.334***	0.151***	0.0977**	-0.0804*	0.0884**	-0.0235	0.0164	0.0215	0.233***	0.139***	1						
GROWTH	-0.0718*	-0.0725*	0.0934**	0.318***	-0.201***	0.283***	-0.0756*	-0.0862**	-0.124*	0.0809*	-0.0451	1					
DA	0.0433	0.0713*	0.154***	0.201***	-0.210***	0.308***	-0.125***	-0.123***	0.0344	0.0833**	0.0927**	0.180***	1				
INVENTORY	-0.000720	0.0104	-0.0325	0.128***	-0.110***	-0.0867*	0.0467	-0.0299	-0.0437	-0.0769*	0.0646*	-0.0550	-0.0568	1			
BoardSize	0.546***	0.241***	0.565***	0.0272	0.0202	-0.0678	0.373***	0.300***	0.180***	-0.0190	0.0286	-0.0879**	0.0298	0.0944**	1		
FIN_EXP	-0.154***	0.0754*	-0.197***	-0.0702*	-0.00395	-0.0612	-0.0813*	-0.233***	-0.105***	-0.0721*	-0.0356	0.0315	-0.0375	0.0385	-0.185***	1	
CEO_CHAIR	0.0365	-0.0428	0.0280	0.0434	-0.0281	-0.0898*	0.0565	0.0115	-0.0482	-0.0732*	0.0336	-0.0223	-0.0244	-0.0162	-0.0386	-0.00699	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.4. Regression analysis

In order to test the prepared hypotheses I perform an ordinary least square and a logistic regression. For both hypotheses I perform a univariate and multivariate analysis. The difference between these is that univariate analysis examines the association between the independent variable and the dependent variable without including control variables, whereas the multivariate analysis examines the association between the dependent and independent variables including certain control variables. A logistic regression is more suitable for examining the association of clawback on restatement, since it is a binary variable. In contrary, an OLS-regression is more suitable for examining the association of clawback on audit fees, since it is a continuous variable. The outcomes related to the univariate regression analysis are presented in table 6A. The outcomes related to the multivariate regression analysis are presented in table 6B.

Table 6A: Outcomes of univariate test of regression. The impact of clawbacks on financial restatements (i), and respectively the impact of clawbacks on audit fees (ii)

RESTATEMENT (i)		LN_AUDITFEES (ii)	
CLAWBACK	-0.822***	CLAWBACK	0.591***
	(-2.760)		(10.533)
Constant	-2.299***	Constant	0.399***
	(-16.684)		(11.187)
Observations	991	Observations	991
Pseudo R-sq	0,0166	R-squared	0.096

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05,
* p<0.1

Robust t-statistics in parentheses

*** p<0.01, ** p<0.05, *p<0.1

Table 6B: Outcomes of multivariate test of regression. The impact of clawbacks on financial restatements (i), and respectively the impact of clawbacks on audit fees (ii)

	(i) RESTATEMENT	(ii) LN_AUDITFEES
CLAWBACK	-0.836**	0.109*
	(-2.394)	(1.837)
SIZE	-0.179	0.467***
	(-1.149)	(13.951)
ROA	-3.576*	-0.093
	(-1.854)	(-0.231)
LOSS	-0.296	0.188***
	(-0.798)	(2.994)
TOBINS_Q	0.050	-0.249***
	(0.250)	(-7.098)
LEV	1.122	0.893***
	(1.523)	(4.324)
BIG4	0.708	-0.077
	(1.182)	(-0.613)
RESTRUCTURE	0.014	0.166***
	(0.051)	(2.739)
MERGER	-0.042	0.068
	(-0.151)	(1.468)
FOREIGN	0.413	0.294***
	(1.584)	(4.692)
GROWTH		0.040
		(0.494)
DA		0.349**
		(2.462)
INVENTORY		0.412
		(1.520)
BOARDSIZE	0.049	0.031*
	(0.659)	(1.826)
FIN_EXP	0.268	-0.036
	(0.790)	(-0.497)
CEO_CHAIR	0.603**	-0.022
	(2.191)	(-0.414)
Constant	-3.761***	-3.731***
	(-3.032)	(-13.297)
Includes Year-effects	(Yes)	(Yes)
Includes industry-effects	(Yes)	(Yes)
Chi-sq test/F-test	0.0036***	0,000***
Observations (N)	991	991
Pseudo R-squared /R-squared	0,0798	0.798

Robust z-statistics in parentheses   Robust t-statistics in parentheses
*** p<0.01, ** p<0.05,   *** p<0.01, ** p<0.05,
* p<0.1   * p<0.1

First of all, the association between clawback and restatement is examined. Looking at table 6A it is observable that clawback provision is negatively associated with financial restatements and is significant at 1% significance level. Furthermore, adding control variables to the regression model in table 6B changes the negative association between clawback and restatement slightly in a negative direction. Furthermore, from table 6B it is observable that the association between clawback and restatement is significant at 5% significance level. The results of both multivariate and univariate analyses between the association of clawback and restatement indicate that on average when a firm implements a clawback provision, firms experience a lower likelihood of financial restatements. The findings are consistent with the prediction of hypothesis 1A. Therefore, the formulated hypothesis 1A, which is firms adopting a clawback provision experience a lower likelihood of financial restatements is accepted at 5% significance level. The results indicate that the reporting quality of firms increased following from a clawback adoption.

Secondly, to further explore whether auditors perceive the financial statement as higher quality, the association between clawback and audit fees is examined. Looking at table 6A it is observable that clawback provision is positively associated with the natural logarithm of audit fees and is significant at 1% significance level. The addition of certain controls into the multivariate model influences the results in table 6B for audit fees slightly in a negative direction to 0.109. More specifically, this implies that clawback adopters on average pay 10.9% more audit fees compared to the firms in the control sample. Furthermore, from table 6B it is observable that the association between clawback and audit fees is significant at the 10% significance level. The results of both univariate and multivariate analyses between the association of clawback and audit fees indicate that on average when a firm implements a clawback provision, firms experience an increase in audit fees. Therefore, using the natural logarithm of audit fees as a proxy to determine the perception of auditors about the reporting quality of firms, the formulated hypothesis 1B is rejected. Thus, there is no evidence found which supports the notion of audit fees decreasing for firms following a clawback provision. Comparing the results from clawback adopters group and non- adopters group, the results indicate that the auditors' perception about the quality of the financial statements did not change for firms following from the implementation of clawbacks. However, this result can be explained by firms that have a weak monitoring and internal

control process which are more likely to adopt a clawback provision (Dehaan, Hodge, & Shevlin, 2013). This is related to a lower overall transparency, monitoring and internal control processes of firms adopting a clawback, causing that auditors already charged higher fees for these firms prior to the clawback adoption period. Since, audit fees are related to the audit risk model, auditors will charge higher risk premium for firms with a weak monitoring and internal control process in order to reduce the overall audit risk perceived by the auditor (Hogan & Wilkins, 2008).

Relying on prior literature no conclusions can be drawn regarding auditors perception about the reporting quality of firms, since firms with a weak monitoring and internal control process and lower transparency are more likely to adopt a clawback provision. Regarding financial restatements, organizations that implemented clawbacks are less subject to restatements in their financial reports. Since restatements are a direct indicator of reporting quality, the research question could be answered relying on financial restatements as the main proxy. The results indicate that clawback provision reduces the likelihood of financial restatements, thus increases the reporting quality in firms.

To conclude, regarding to the first hypothesis 1A, which is firms adopting a clawback provision experience a lower likelihood of financial restatements, is accepted at 5% significance level. Relying on the operationalization of reporting quality by determining the degree of financial restatements in firm's financial reports, an answer can be given to the research question that the reporting quality increased for firms following from a clawback adoption. Furthermore, using audit fees as a proxy to determine auditors' perception about the quality of financial restatements, the formulated hypothesis 1B, which is firms adopting a clawback provision experience a decrease in audit fees, is rejected.

Chapter 6 Conclusion, limitations and recommendation

The aim of this research is to provide evidence and insights for the impacts of governance mechanism clawbacks on the quality of the firm's financial reports , by studying an extended data sample. Moreover, this thesis provides additional evidence whether implementing clawbacks in performance compensation contracts decrease the likelihood of financial restatements and influence the perception of auditors regarding the reporting quality of firms. Therefore, I try to provide an answer to the main question formulated in chapter 1:

'Did the adoption of corporate governance mechanism "clawback provision" in executive compensation contracts increase the accounting quality of firms?

The main objective to provide an answer to the question is that the quality of the financial statements are important for various stakeholders to make informed decisions, which are based on the numbers in the financial statements. Prior studies related to this topic examined clawbacks using a short time period and noticed that their findings could be biased due to the short adoption date. This study extends prior literature on this field by using an extended sample period, which was recommended by prior literature. The extended sample in this research ranges from 2007 to 2016 and provides important new insights related to the effects of clawbacks on the reporting quality of firms.

To examine the association between clawback provision and the quality of the firm's financial reports, I perform an ordinary least square and a logistic regression with industry and year-fixed effects to control for macroeconomic and governmental regulations over time. The reporting quality in this thesis is operationalized using audit fees and financial restatements as proxies. The main proxy this research relies on is financial restatements, since financial restatements are a direct indicator of a low reporting quality (Christensen, Glover, Omer, & Shelley, 2016). The sample of the regression models consist of S&P 1500 firms with 991 firm-year observations from 2007 to 2016. The total sample is divided into 355 clawback and 636 non-clawback adopters.

Concluding, this study provides new insights regarding the association between clawback provisions and reporting quality in firms. Results from the logistic regression regarding financial restatements indicate that firms following a clawback provision experience a

decrease in financial restatement, which indicates that the reporting quality of firms following a clawback provision increased. In other words, this resulted in the acceptance of hypothesis 1A. In contrary, the findings regarding audit fees indicate that auditors charge higher audit fees to firms following from a clawback provision compared to the control group. There is an explanation as to why this finding is significantly positive and not consistent with my expectation. Relying on findings of prior literature firms with weak monitoring and low transparency are more likely to adopt a clawback provision, which results in that auditors already charged a risk premium for firms with a weak monitoring and internal control processes prior to the adoption of clawbacks. Therefore, no conclusions can be drawn regarding the auditors' perception of the reporting quality in firms. Relying on the financial restatement as the main proxy, an answer can be given to the research question that firms following from a clawback provision experience an increase in the quality of their financial reports.

Throughout the writing of my thesis I noticed some limitations. First of all, certain control variables are included based on prior academic research and theories. There could be other confounding factors, which could influence the dependent variables in this research. Therefore, to increase the internal validity a possible idea for future academic research related to this subject is to control for more confounding factors. Secondly, there is an external validity concern regarding this research. It only focuses on clawback adopters in U.S. listed firms. Therefore, the results could not be generalized for other countries. Lastly, this thesis focuses on firms that voluntary adopted a clawback provision. There could be a concern that mandatory adoption of clawbacks could result in different outcomes regarding the reporting quality in firms. Therefore, an idea to do further research on this topic is to examine whether the findings are consistent for firms following a mandatory adoption of clawbacks.

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