TYPES OF FIRM-INITIATED CLAWBACK PROVISIONS AND SHORT- AND LONG-TERM COST OF DEBT

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ABSTRACT

We investigate firm-initiated clawback provisions in compensation contracts by providing empirical evidence on the impact of the different types of clawback adoptions on firms' debt costs. Our focus on clawback provisions informs the current discussion on clawback adoption required by the Dodd-Frank Act. Using a sample of clawback firms between 2005 and 2012, we find a significant decline in debt costs following the adoption of either fraud- or performance-based clawback provisions. In addition, we also find a significant decline in debt costs following the adoption over short and long horizons. Overall, our empirical evidence suggests benefits for clawback firms in the debt market.

1. INTRODUCTION

A compensation recovery policy (clawback) is a contractual arrangement that gives a company the right to reclaim portions of executive compensation when the executive engages in prescribed activities or certain events occur. The overarching objective of a clawback provision is to expand the compensation horizon faced by corporate managers, thereby reducing the misalignment in objectives between managers and investors. Largely in response to the significant number of high-profile instances of reporting misconduct in the early 2000s, the Dodd-Frank Act of 2010 (DFA)[1] requires all publicly traded companies to implement clawback provisions. Although the Securities and Exchange Commission (SEC) has not determined the exact date to implement the DFA, many firms have voluntarily adopted clawback provisions. In 2011, 84% of Fortune 100 companies had clawback provisions compared to 18% in 2006 (Bussey, 2012).

[1] The Sarbanes-Oxley Act of 2002 requires that the SEC reclaim (i.e., clawback) portions of previous executive compensation in cases of fraud. The DFA requires that all public companies adopt clawback provisions, thus giving the corporation the contractual right to reclaim executive compensation.

Several studies suggest that the adoption of a clawback provision is associated with improved financial reporting quality (Chan et al., 2012; DeHaan et al., 2013) and improved stock market performance after adoption (Iskandar-Datta and Jia, 2013). For example, Chan et al. (2013) find that the loan rates offered by banks are reduced after the borrower adopts a clawback provision, suggesting that banks attribute greater reliability to financial reporting where a clawback provision is in place. However, previous research has not examined the effect of the different types of clawback provisions on the debt market. We extend the current literature on clawback provisions by studying the different types of clawback provisions on the firm's costs of debt.

In addition, we assert that banks are in a unique and non-generalizable position to evaluate the impact of clawback adoption on a firm's financial reporting quality, because banks have access to private information about borrowing firms not typically available to other debt holders (Rajan, 1992). Thus, the association between clawback adoption and debt pricing where creditors rely on publicly available information is unresolved. We extend Chan et al. (2013) by examining the effect of clawback adoption from the point of view of all creditors over both the short and long horizon.

We use a difference-in-differences methodology to examine the different types of clawback provisions on the firms' cost of debt. We find a significant decline in cost of debt after the adoption of either fraud or performance based clawback provisions. Our results suggest that the threat of clawing back CEO compensation for fraud and performance plays an important role in the firm's borrowing costs. In particular, we find that for both fraud- and performance-based clawback provisions, the realized debt costs are 0.3% lower on average after clawback initiation relative to the change in debt costs experienced by control firms. Using an average (median) debt of $6,691 ($1,729) million for the clawback firms in our sample, we find an economically significant $26.8 ($6.9) million decrease in the cost of debt capital. This is similar to Chan et al. (2013) findings that interest rates are 33 basis points lower on average after

clawback adoption. Thus, our study provides additional evidence that creditors view clawback adoption as a signal for higher financial reporting integrity.

Next, we examine the realized debt costs of a sample of 804 pairs of firms with clawback provisions and firms without clawback provisions over a 3-year and a 5-year period. Specifically, we investigate whether debtholders respond positively to voluntary clawbacks adoptions by lowering the firms' costs of debt over the long horizon. Consistent with Chan et al. (2013), our empirical results document that compared to firms without clawback provisions, firms with the clawback provisions experience reduced realized debt costs over the long horizon after the adoption during our sample period.

Our study contributes to the existing literature in three primary ways. Our research contributes to the literature on financial reporting quality. The corporate cost incurred for misreporting is substantial, with a subsequent decline in investor confidence regarding financial reporting (Wilson, 2008), negative abnormal equity returns (Palmrose et al., 2004), and an increase in the cost of capital (Hribar and Jenkins, 2004). Our analysis contributes to this literature by providing evidence that the clawback adoption mechanism enhances financial accounting quality, and ultimately provides an economic benefit to the firm in the form of reduced borrowing costs.

This study also contributes to our understanding of the market consequences of clawback adoption. Although prior studies examine the stock market consequence of clawback adoption (Iskanda-Data and Jia, 2013), and the effect of adoption on bank loans contracts (Chan et al., 2013), there is no existing research of which we are aware focusing on the effect of the *types* of clawback adoption on lending decisions for all debtholders. Due to the important role that the debt market plays in financing decisions, understanding the types of clawback provisions on conditions associated with lending decisions is likely to be of great importance to firms. Overall, this study enhances our understanding of the usefulness of clawback provision types in lending decisions through reduced reporting risk.

Finally, this study contributes to the executive compensation literature. Current research suggests that gains are positively associated with CEO compensation (Gaver and Gaver, 1998), while losses in restructuring charges and above the line losses are not associated with compensation (Dechow et al., 1994; Gaver and Gaver, 1998). We extend the management compensation literature by investigating whether firms are rewarded for adopting provisions that allow the firms to clawback wrongful compensation from the executives.

The remainder of this study is organized as follows. In Section 2 we present related research and our hypotheses development. Our research design and sample description are presented in Section 3, followed by a discussion of the empirical results in Section 4. In Section 5 we provide a summary and concluding comments.

2. RELATED RESEARCH AND HYPOTHESIS DEVELOPMENT

(i) Institutional Background

A compensation recovery (clawback) policy is a contractual arrangement that permits a company to recover compensation previously paid or owed to an employee in the event that the employee engages in certain prescribed behavior or a specified event occurs. Clawback provisions are typically associated with executive compensation and are triggered by events such as a financial restatement that renders a previously-earned or paid amount of compensation to be erroneous.

The legislative framework requiring the inclusion of clawback provisions in compensation contracts is provided by three acts of Congress: (1) The Sarbanes-Oxley Act of 2002 (SOX), (2) American Recovery and Reinvestment Act of 2009 (ARRA)[2], and (3) the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (DFA).

[2] Also referred to as the Emergency Economic Stabilization Act of 2008.

The SOX bill was enacted in response to a number of major corporate accounting scandals. Section 304 of SOX requires a clawback provision in the compensation contract for the chief executive and chief financial officer of any public reporting company. The section authorizes the SEC to require the forfeiture of any bonus, incentive compensation, or profits from the sale of the company's securities, in the event that the company is required to restate its financial statements due to material noncompliance with any financial reporting requirement, as a result of managerial misconduct. However, since the SEC brought its first case under Section 304 in 2007, the SEC has filed few cases demanding executives to return their pay (Morgenson, 2011).

In 2009, Congress enacted ARRA as an economic stimulus package in response to the Great Recession. The clawback requirement under Section 111 of ARRA applied to any firm during its participation in the federal governments Troubled Asset Relief Program (TARP), and subjected all incentive-based compensation to recovery in the case of accounting restatement due to material noncompliance, even where misconduct is not present.

More recently, Congress passed the DFA in an attempt to prevent a repeat of the conditions that brought about the 2008 financial crisis. Section 954 of DFA allows board of directors to clawback certain incentive-based compensation and profits from its executive officers in the event the company is required to restate its financials as a result of material reporting requirement noncompliance, even where managerial misconduct is not present. Compared to SOX 304, where the enforcement authority is the SEC, DFA 954 authorizes corporate boards to clawback erroneous pay from executives. It is still not certain when the clawback provisions will become mandatory since the specific implementation of Section 954 has yet to be determined by the SEC.

(ii) Clawback Provision and Financial Reporting Quality

Chen et al. (2014) show that conservatism in financial reporting increases sharply following financial restatement. They conclude that the required restatement constitutes a financial credibility crisis in that it is a signal that prior financial information was of inferior quality.

Adoption of a clawback, particularly in the case of fraud and performance based provisions, may be a preemptive signal of reporting quality. That is, where a clawback provision is triggered on restatement, the willingness of management to engage in behaviors that potentially lead to restatement is reduced. Adoption of a clawback provision, therefore, may be assimilated by the credit market as a signal of reporting quality.

A few studies investigate the determinants of clawback adoption policies. For example, Addy et al. (2009) find that firms with recent restatements are positively associated with the likelihood of adopting clawback provisions, while firms with management entrenchment and high level of accruals are less likely to adopt. Additionally, the likelihood that a firm will adopt a clawback provision is higher when the tenor of corporate governance favors a monitoring orientation over management entrenchment (Addy et al., 2014). Brown et al. (2013) show that the frequency of M&A activity, firm size, and goodwill impairments are positively associated with a firm's propensity to adopt a clawback provision, while CEO tenure and CEO bonus to cash compensation are negatively associated with the likelihood to adopt. In addition, their analysis of M&A announcement returns shows that clawback provisions improve investors' perception of the quality of M&A transactions. In addition, Chen et al. (2013) suggest that the likelihood of voluntary clawback adoption is positively associated with firm size, firm age, while negatively associated with having a new CEO, sales growth, CEO ownership, CEO age, and volatility of ROA. Moreover, Babenko et al. (2012) demonstrate that the likelihood of clawback adoption is associated with executive malfeasance.

Current empirical literature provides mixed evidence on whether the consequences of firm-initiated clawback provisions are associated with improved financial reporting quality (Chan et al., 2012; DeHaan et al., 2013; Chen et al., 2013). Chan et al. (2012) posit that the incidence of accounting restatements decreases after the adoption of clawback provisions. In addition, they suggest that clawback provisions are associated with increased accounting quality and lower audit risk. Specifically, they find a positive association between firms' earnings response coefficients and clawback adoptions. Moreover, they provide evidence that auditors 1) are less

likely to report material internal control weaknesses, 2) charge lower audit fees, and 3) issue audit reports with a shorter lag for firms with clawback provisions. Their rationale is that clawback initiation causes a change in managerial behavior (causal effect) leading to improved financial reporting quality. Another explanation is that the clawback adoption may be a signal that the adopting firm has high quality in financial reporting (Chan et al., 2012). Using data from 2007 to 2009, DeHaan et al. (2013) find clawback firms experience significant improvements in actual and perceived financial reporting quality. As well, Chen et al. (2013) document that the absolute value of abnormal accruals is smaller for firms with clawback provisions. Their interpretation is that the adoption of a clawback provision supports improved financial reporting quality.

However, clawback adoption may not improve financial reporting integrity. Denis (2012) offers another potential explanation for the reason firms with clawback provisions pay lower audit fees, have shorter audit report lags, and are less likely to have accounting restatements as shown in Chan et al. (2012). He suggests that auditors may put less effort in auditing clawback firms due to the erroneous belief that these firms have higher financial reporting quality, thus reducing the likelihood of finding material misstatement. In addition, Babenko et al. (2012) fail to find that clawback adoption reduces the likelihood of financial restatements or reduces shareholder litigation or discretionary accruals. Thus, the assertion that voluntary clawback adoption leads to higher financial reporting integrity remains an empirical question.

(iii) Hypotheses Development

The stockholder-bondholder agency trade-offs for levered firms is well established (e.g., Bryan et al., 2006; Hirth and Uhrig-Homburg, 2010). External monitoring of managerial choices may provide some mitigation. As an example, Meneghetti (2012) examines the association between managerial compensation and the choice to access public or private debt. She asserts that where compensation is tied to stock performance, managerial preferences may be aligned with equity holders at the expense of debt holders encouraging managers to substitute safe assets with risky ones. Lenders anticipate and price the asset substitution incentives and impose

higher borrowing costs. Managers mitigate this effect by submitting to external monitoring through the use of bank (i.e., private) borrowing. The associated monitoring limits the manager's incentives ex-ante. Where Meneghetti (2012) explores the effect of external monitoring, we investigate the effect of an internally imposed ex-ante monitoring structure.

Current research suggests differential effects for the different clawback types. DeHaan et al. (2013) identify a *robust* clawback as one where compensation will be repaid in the event of any restatement, and a *misconduct-only* clawback as one that requires repayment only where the restatement involves intentional misconduct. They provide evidence that adopting a robust clawback provides incremental benefits compared to adopting a misconduct-only clawback.

Thus, we separately examine the effect of clawback provision type on realized debt costs. Based on the Corporate Library data set, fraud- and performance- based provisions are the most common clawback types among adopters. We separately examine the association between debt costs and the different types of voluntary clawback adoptions: fraud, performance, and other. Fraud-based clawback provisions allow the firm to clawback compensation paid to managers in the event of a restatement resulting from fraud/managerial misconduct, while performance-based clawback provisions do not hinge on managerial misconduct.

Based on a classification code provided in the Corporate Library's clawbacks dataset, we distinguish between clawback provisions based on fraud and performance clawback provisions. Fraud-based clawbacks apply only if the manager intentionally engages in fraudulent/misconduct activities that lead to a restatement. Performance-based clawbacks apply to managers who received excessive compensation relative to contractually specified outcomes. In our sample period, most of our sample firms adopted fraud- or performance-based clawback provisions.

It is not straightforward whether firms that adopt fraud- or performance-based clawback provisions will experience lower debt costs. If lenders are concerned about fraud rather than other types of misstatement, then it is possible that the clawback provisions for fraud will have an effect on lending decisions. Alternatively, the risk of performance based but unintentional misstatements might also be important in lending decisions.

Performance-based pay can better align agent and investor interests. However, it is also possible that performance based clawback provisions may render greater costs to firms for hiring and retaining managers, because managers may demand greater pay to compensate for the additional risk (Levine and Smith, 2011). That is, the benefit of clawback provisions in the form of lower borrowing costs may be partially, or fully, offset by increases in compensation costs.

Thus, our hypotheses, stated in the null, are as follows.

H1: A firm's debt costs do not change after the adoption of fraud-based clawback provisions.

H2: A firm's debt costs do not change after the adoption of performance-based clawback provisions.

(iv) Long Horizon

Debtholders depend on the quality of financial reports to evaluate the firms' credit risk. Current studies show financial misreporting is associated with increases in the cost of equity capital (Hribar and Jenkins, 2004) and higher debt costs (Graham et al., 2008). Examining the effect of financial restatement on bank loan contracting, Graham et al. (2008) find that compared with loans originated prior to restatement, loans originated after restatement have greater spreads. As well, Sengupta (1998) finds that the cost of capital is negatively associated with disclosure

quality, and suggests that firms with higher disclosure quality ratings from financial analysts are associated with a lower effective interest cost.

Current research suggests that investors react positively to firm-initiated clawback adoptions since clawback adoption signals high financial reporting quality (Iskandar-Datta et al., 2011; Babenko et al., 2012; Iskandar-Datta and Jia, 2013). For example, Iskandar-Datta and Jia (2013) demonstrate that firms experience positive stock-valuation consequences after the adoption of clawback provisions. Using hand-collected data for 246 firms from 2005 to 2009, they find that compared to control firms, clawback firms experience statistically significant increases in shareholder value after clawback adoption. In addition, they also show that firms with prior restatements had the largest economic gains. DeHaan et al. (2013) illustrate that, relative to control firms, firms following clawback adoption display significant improvements in both actual and perceived financial reporting quality.

Chan et al. (2013) provide evidence that banks reduce interest rates and use more financial covenants and performance pricing provisions in bank loans after clawback adoption. Overall, they conclude that clawback provisions enhance financial reporting, thus reducing banks' risk based on information uncertainty. If creditors perceive clawback adoption as an effective tool to improve financial reporting quality or to signal high financial reporting quality, then we should see lenders face less information risk after clawback adoption over the long-run. Thus, we posit that voluntary clawback adoption firms have lower debt costs after adoption compared to non-adoption firms over the long horizon.

On the other hand, theory suggests clawback provisions can be costly for the firms since the managers may require a much larger bonus payment for bearing more risk compared to firms without clawback provisions (Levine and Smith, 2011). Theory on clawback adoptions suggests that clawbacks are not always efficient for the firm. Specifically, clawbacks are inefficient if cash realizations are relatively noisy, earnings management is difficult and the manager operates with a short term focus (Levine and Smith, 2011).

Empirical results also suggest greater compensation after clawback adoption (Babenko et al., 2012; DeHaan et al., 2013). For example, DeHaan et al. (2013) find that managers' total compensation in firms with clawback provisions is higher compared to total compensation in their controls firms. They show that the increase is mainly caused by higher base salary for the managers rather than increases in incentive pay. Babenko et al. (2012) suggest the adoption of clawback provisions is related to changes in manager compensation levels as well as compensation structure. They find that manager compensation increases by $1.4 million after adoption. Moreover, their evidence shows that adoption is followed by higher proportions of equity-based pay and long-term pay.

Thus, clawback provisions can be positively associated with costs of debt if debtholders anticipate the potential costs in the long run that firms may face by adopting clawback provisions. We state our hypothesis as follows:

H3: A firm's debt costs do not change after the adoption of performance-based clawback provisions in the long run.

H4: A firm's debt costs do not change after the adoption of fraud-based clawback provisions in the long run.

3. RESEARCH DESIGN AND SAMPLE DESCRIPTION

(i) Sample Selection

Table 1 shows the sample selection procedure for this study. We obtain financial data from Compustat database and clawback provision data from the Corporate Library database. Our initial clawback sample consists of 1,451 firms that have the clawback provision in the Corporate Library database. We exclude financial firms from our sample as these firms are subject to mandatory clawbacks enforced by the Department of Treasury. Our final sample consists of 804 firms after excluding firms with no financial data in Compustat and firms with an adoption year after passage of the DFA. We create the control sample by matching on industry,

size and year. Specifically, for each firm-year observation where the firm adopts the clawback provision during our sample period, we identify a control firm in the same year for a firm closest in size (total assets) within the same industry that did not adopt the clawback provision during the sample period. This procedure yields 1,691 matched pairs. We have 828 pairs for the fraud sample and 619 pairs for the performance sample. These matched pairs are used to estimate models 1 and 2 below.

The remaining 244 pairs are other types of clawback provisions based on a classification code provided in the Corporate Library's clawback dataset. These types of clawback provisions are neither performance- nor fraud-based provisions. They include noncompete and other types of clawback provisions that are unspecified in the Corporate Library dataset.

[Insert Table 1 about here]

(ii) Regression Models

We use the difference-in-differences method to test our hypotheses. Specifically, we propose the following model for our primary test:

$$DebtCosts\ difference = \lambda_0 + \lambda_1\ (Post\text{-}Clawback) + difference\ controls, \quad (1)$$

where the dependent variable *DebtCosts difference* is *DebtCosts* for the clawback firms minus the *DebtCosts* for non-clawback firms. Similar to Pittman and Fortin (2004) and Francis et al. (2005), *DebtCosts* is defined as interest expense over total liabilities. We examine *DebtCosts* one year before and one year after the initial adoption year. *Post-Clawback* is an indicator variable that equals 1 for matched observations after the clawback adoption. We separately examine Model 1 for the fraud, performance, and other subsamples.

Firms with greater default risk have lower bond ratings and higher yields (Ogden, 1987; Kaplan and Urwitz, 1979). Following Francis et al. (2005), we use a series of firm specific control variables to capture the variation in debt pricing attributable to the differences in characteristics that proxy for default risk. Consistent with previous research, we also predict

riskier firms pay greater debt costs. First, *Lev* is the total long term liabilities divided by total assets. Prior studies show a positive association between leverage and the cost of debt (Ziebart and Reiter, 1992; Sengupta, 1998; Francis et al., 2005). For example, using data from 1970 to 2001, Francis et al. (2005) show that debt costs measured as interest expense in year t+1 divided by average interest bearing debt in years t and t+1 is positively associated with leverage, measured by total interest bearing debt to total assets. Similarly, we predict that firms with greater leverage are more risky, hence more likely to experience greater debt costs.

Next, we consider the role of profitability. Ziebart and Reiter (1992) show that ROA is negatively associated with yield and positively associated with bond ratings. We include *ROA*, which is defined as net income over total assets. We predict more profitable firms are less risky, thus are likely to experience lower debt costs since firms that can generate more profits are in better positions to pay their debts. Another profitability ratio we employ is *IntCovg,* which is defined as operating income over interest expense. We predict a negative relation between costs of debt and *IntCovg.*

Finally, based on Ogden's (1987) model, we include deviation of returns in our analysis. We posit a positive association between debt costs and *Volatility*, which is measured as the standard deviation of net income before extraordinary items from 2000 to 2005. We predict that firms with greater volatility are likely to experience greater interest costs since creditors may perceive greater risk associated with firms with greater earnings volatility. See the Appendix for variable descriptions. All continuous variables are winsorized at the 1% level. We report robust standard errors clustered by firm.

We are interested in the estimate λ_1 in Model 1. In particular, a positive λ_1 indicates that the *DebtCosts* difference is greater for clawback firms after than before the clawback adoption for fraud (performance), while a negative λ_1 indicates that the *DebtCosts* difference is less for clawback firms after rather than before the clawback adoption for fraud (performance). We anticipate a negative coefficient.

4. EMPIRICAL RESULTS

In Panel A of Table 2, we present the industry distribution of the clawback firms in our sample period from 2007 to 2010. The industry distribution presented in this panel is grouped by the SIC 2-digit code. Consistent with Chan et al. (2012) most of the clawback firms in our sample are primarily from the manufacturing industry.

[Insert Table 2 about here]

Panel B of Table 2 shows the descriptive statistics for our sample of 1,691 matched pairs of clawback and non-clawback firm-year data. We find that, compared to the control firms, clawback firms pay lower debt costs. Thus, the result from our univariate test is consistent with findings that creditors respond favorably to clawback adoption (Chan et al., 2013). In addition, we find that relative to non-adopters, clawback adopters are larger (*Size*) and have higher leverage (*Lev*), a finding also consistent with Chan et al. (2012). Our results also show that, compared to the control firms, clawback firms are more profitable (*ROA*).

(i) Clawback Provision Type and Cost of Debt

In Table 3 we examine hypotheses 1 and 2. In columns 1 and 2, we provide the parameter estimates for the full sample. We provide the parameter estimates for the controls only model in column 1, while we show the results for the full model in column 2. Consistent with prior research, we find that firms experience lower debt costs after clawback adoption. Next, we separately examine Model 1 for the fraud and performance subsamples in columns 3 and 4. In column 3, our empirical results show a negative association between costs of debt and *Post-Clawback,* indicating cost of debt for firms with fraud-based clawback provision is significantly lower subsequent to the firm initiated clawback adoption, after controlling for the change over the same sample period for non-adopters. These specifications indicate that test-versus-control differences in debt costs are about 0.4% following the clawback adoption for the sample matched according to industry, size, and year.

Consistent with previous findings that debt costs are directly associated with higher yields, we also find that firms with greater default risk are associated with higher realized debt costs. Specifically, our results show a positive and significant association between the differences in leverage (*Lev*) and the differences in cost of debt. Consistent with current literature, our analysis also shows that our proxy for profitability (*ROA*) is associated with lower realized debt costs.

In column 4, our empirical results show that a significant negative coefficient on *Post-Clawback*. This suggests that cost of debt for firms with performance-based clawback provisions is also significantly lower subsequent to the firm initiated clawback adoption, after controlling for the change over the same sample period for non-adopters. Similar to the fraud-based clawback provisions, these specifications indicate that test-versus-control differences in debt costs are also about 0.4% following the clawback adoption. We find the parameter estimates for the control variables are consistent with our predictions. Hence, our analysis in Table 3 suggests firms experience lower debt costs after adopting fraud- and performance-based clawback provisions.

We also examine “other" types of clawback provisions and cost of debt. However, the parameter estimate for the “other” clawback type is not significant. This suggests firms do not experience reduced debt costs after adopting clawback provisions that are other than fraud- or performance-based. However, due to the relatively small number of clawback provisions in this category, the lack of significance may be due to insufficient power.

Thus, our results suggest firms with clawback provisions experience lower realized debt costs. Our evidence is consistent with Chan et al. (2013) showing banks offer lower interest rates after clawback adoption. Our finding is also consistent with the current literature on the benefits of clawback provisions. In sum, the evidence in Table 3 indicates nontrivial benefits to clawback adopters in the debt market.

[Insert Table 3 about here]

We examine the effect of clawback adoption over a longer horizon in Table 4. In this table, we employ a sample period of 5 years (-2, 0, +2), and find the results are similar to Table 3. Specifically, we find that the coefficient on *Post-Clawback* is still significantly negative for both the fraud and performance subsamples. In addition, the parameter estimates for the control variables are consistent with those in Table 3. Our evidence shows that test-vs.-control differences in debt costs are about 0.2% for the fraud subsample and around 0.3% for the performance subsample.

[Insert Table 4 about here]

(ii) Robustness Tests

We conduct additional tests to verify the robustness of our results. One possible driver of our empirical findings involves the definition of the debt costs. Therefore, we employ average debt instead of debt for our dependent variable and perform our primary tests. The results (not tabulated) are consistent with those presented in Tables 3 and 4. Moreover, results are similar if we use average total long term liabilities and average total assets when calculating the independent variables *Lev* and *ROA*.

Because the SEC is still considering the actual implementation date of DFA 954, we expand our sample period for clawback adoption from 2007 to 2011. The results are similar to those reported in Tables 3 and 4.

5. SUMMARY AND CONCLUSION

Although the SEC has not determined the exact date to implement the DFA mandated restatement-triggered clawback provisions, many firms have already adopted clawback provisions since 2006. The primary objective of the study is to document the consequences of the adoption of different types of clawback provisions in the context of realized debt costs.

Specifically, we examine whether firms experience lower realized debt costs after the adoption of fraud- and performance-based voluntary clawback provisions. Using data from 2005 to 2012, we find companies experience reduced debt costs after adopting fraud- and performance-based clawback provisions, while the results for other types of clawback provisions are not significant. In addition, we document that relative to firms without clawbacks, adopting firms experience a significant reduction in realized debt costs in the long run after the initial adoption. Thus, our empirical analysis suggests that clawback initiation leads to monetary benefits to the adopting firms. Overall, this study enhances our understanding of the usefulness of clawback provisions as a signal to market participants of reporting quality.

We provide timely results for regulators, organizations, and academics who desire to better understand the benefits of clawback adoption. Our analysis contributes to the current literature on financial reporting quality, market consequences of clawback adoption, and the executive compensation literature. Specifically, our results are consistent with the current empirical evidence regarding the benefits of clawback adoption (Chen et al., 2012; DeHaan et al., 2013; Iskandar-Datta and Jia, 2013). Moreover, our study extends current research on the effect of clawback adoption on bank loan contracting (Chan et al., 2013) to all debtholders. In addition, we examine the effect of different types of clawback provisions on realized debt costs. Results of our study inform the discussion about the implications of DFA mandated clawbacks and the associated signal of financial reporting quality. Future research could employ a longer sample period and test whether the effect of clawback provisions on costs of debt diminishes over longer horizons. Furthermore, future researchers could also examine whether certain firm characteristic change the association between debt costs and clawback adoption.

REFERENCES

Addy, N. D., X. Chu and T. R. Yoder, 2009. Recovering bonuses after restated financials: Adopting clawback provisions, http://dx.doi.org/10.2139/ssrn.1463992.

_____, _____ and _____, 2014. Voluntary adoption of clawback provisions, corporate governance, and interlock effects, *Journal of Accounting and Public Policy* 33, 167-189.

Babenko, I., B. Bennett, J. M. Bizjak and J. L. Coles, 2012. Clawback provisions, http://dx.doi.org/10.2139/ssrn.2023292.

Brown, A. B., P. Y. Davis-Friday, L. Guler and C. Marquardt, 2015. M&A decisions and US firms' voluntary adoption of clawback provisions in executive compensation contracts, *Journal of Business Finance & Accounting* 42, 237-271.

Bussey, J., 2012. An Employee Messes Up. Time to Unleash the Claw? Wall Street Journal. May 24, 2012. http://online.wsj.com/article/SB10001424052702304065704577424500434720874.html.

Bryan, S., R. Nash and A. Patel, 2006. Can the agency costs of debt and equity explain the changes in executive compensation during the 1990s? *Journal of Corporate Finance* 12, 516-535.

Chan, L. H., K. C. W. Chen, T-Y. Chen and Y. Yu, 2012. The effects of firm-initiated clawback provisions on earnings quality and auditor behavior, *Journal of Accounting and Economics* 54, 180-196.

_____, _____ and _____, 2013. The effects of firm-initiated clawback provisions on bank loan contracting, *Journal of Financial Economics* 110, 659-679.

Chen, K. Y., R. J. Elder and S. Hung, 2014. Do post-restatement firms care about financial credibility? Evidence from the pre- and post-SOX eras, *Journal of Accounting and Public Policy* 33, 107-126.

Chen, M. A., D. Greene and J. E. Owers, 2013. The costs and benefits of CEO clawback provisions in CEO Compensation, *Review of Corporate Finance Studies*, 4, 108-154.

Dechow, P., M. Huson and R. Sloan, 1994. The effect of restructuring charges on executives' cash compensation, *Accounting Review* 69, 138-156.

DeHaan, E., F. Hodge and T. Shevlin, 2013. Does voluntary adoption of a clawback provision improve financial reporting quality? *Contemporary Accounting Research* 30, 1027-1062.

Denis, D. K., 2012. Mandatory clawback provisions, information disclosure, and the regulation of securities markets, *Journal of Accounting and Economics* 54, 197-200.

Francis, J., R. LaFond, P. Olsson and K. Schipper, 2005. The market pricing of accruals quality, *Journal of Accounting and Economics* 39, 295-327.

Gaver, J. J. and K. M. Gaver, 1998. The relation between nonrecurring accounting transactions and CEO cash compensation, *Accounting Review* 73, 235-253.

Graham, J., S. Li and J. Qiu, 2008. Corporate misreporting and bank loan contracting, *Journal of Financial Economics* 89, 44-61.

Hirth, S. and M. Uhrig-Homburg, 2010. Investment timing, liquidity, and agency costs of debt, *Journal of Corporate Finance* 16, 243-258.

Hribar, P. and N. T. Jenkens, 2004. The effect of accounting restatements on earnings revisions and the estimated cost of capital, *Review of Accounting Studies* 9, 337-356.

Iskandar-Datta, M. and Y. Jia, 2013. Valuation consequences of clawback provisions, *Accounting Review* 88, 171-198.

_____, _____ and X. Gao, 2011. Piercing the corporate veil: The case for clawback provisions. Wayne State University working paper.

Kaplan, R.S. and G. Urwitz, 1979. Statistical models of bond ratings: A methodological inquiry, *Journal of Business* 52, 231-261.

Levine, C. B. and M. J. Smith, 2011. The relative efficiency of clawback provisions in compensation contracts, *Finance and Corporate Governance Conference 2011 Paper*, http://ssrn.com/abstract=1531203.

Meneghetti, C., 2012. Managerial incentives and the choice between public and bank debt, *Journal of Corporate Finance* 18, 65-91.

Morgenson, G., 2011. Clawbacks without claws, *The New York Times*, September 10, 2011.

Ogden, J. P., 1987. Determinants of the ratings and yields on corporate bonds: Tests of the contingent claims model, *Journal of Financial Research* 10, 329-339.

Palmrose, Z-V., V. J. Richardson and S. Scholz, 2004. Determinants of market reactions to restatement announcements, *Journal of Accounting and Economics* 37, 59-89.

Pittman, J. and S. Fortin, 2004. Auditor choice and the cost of debt capital for newly public firms, *Journal of Accounting and Economics* 37, 113-136.

Rajan, R. F., 1992. Insiders and outsiders: the choice between informed and arm's length debt, *Journal of Finance* 47, 1367-1400.

Sengupta, P., 1998. Corporate disclosure quality and the cost of debt, *Accounting Review* 73, 459-474.

U.S. Congress, 2009. American Reinvestment and Recovery Act of 2009: Public Law No. 111-5 [H.R. 1], (Washington, DC: Government Printing Office).

_____, 2010. Dodd–Frank Wall Street Reform and Consumer Protection Act: Public Law No. 111-203 [H.R. 4173], (Washington, DC: Government Printing Office).

_____, 2002. The Sarbanes-Oxley Act of 2002: Public Law No. 107-204 [H.R. 3763], (Washington, DC: Government Printing Office).

U.S. Department of the Treasury, 2009. Treasury announces new restrictions on executive compensation, Press Release, February 4, 2009.

Wilson, W.M., 2008. An empirical analysis of the decline in the information content of earnings following restatements, *Accounting Review* 83, 519-548.

Ziebart, D. and S. Reiter, 1992. Bond ratings, bond yields and financial information, *Contemporary Accounting Research* 9, 252–282.

Table 1
Sample Selection

	Clawback Firms (2007 – 2010)
Total firms in Corporate Library sample	1,451
Less: Firms with missing financial information/financial firms	(506)
Less: firms with adoption year after 2010	(141)
Final Sample	**804**

Table 2
Descriptive Statistics

Panel A: Industry distribution

Industry (SIC two-digit code)	Clawback Firms
Agriculture, forestry, and fishing (01-09)	3
Mining (10-14)	36
Construction (15-17)	14
Manufacturing (20-39)	396
Transportation, communications, & utilities (40-49)	111
Wholesale trade (50 -51)	35
Retail trade (52-59)	77
Services (70-88)	132
Total	804

Panel B: Summary statistics

Variables	Clawback Firms	Control firms	Difference t-statistics
DebtCosts	0.025 (0.023)	0.031 (0.028)	-7.65***
logAsset	8.070 (8.006)	7.196 (7.081)	27.83***
ROA	0.036 (0.049)	0.015 (0.036)	5.25***
IntCovg	63.402 (9.224)	100.272 (7.063)	-0.76
Volatility	0.081 (0.027)	0.106 (0.033)	-1.50
Lev	0.213 (0.191)	0.264 (0.215)	-6.03***
No. of Obs.	1691	1691	

This table presents mean (median) values for the variables used in our analysis. *, **, *** indicate significance at p < 0.10, 0.05, and 0.01 in tests of differences between the clawback firms and control firms.

Table 3
Types of Clawback Provision on Debt Costs (Three year sample period)

Variables	Predicted Signs	Controls Only	Full Model	Fraud	Performance
		1	2	3	4
Post-Clawback	-		-0.003*** (-2.70)	-0.004** (-2.51)	-0.004* (-1.70)
DiffLev	+	0.046*** (4.12)	0.046*** (4.14)	0.037** (4.14)	0.049*** (5.11)
DiffROA	-	-0.019*** (-3.37)	-0.019*** (-3.37)	-0.016** (-2.21)	-0.018* (-1.69)
DiffIntCovg	-	-0.000* (-1.71)	-0.000* (-1.66)	-0.000 (-1.37)	-0.000** (-2.01)
DiffVolatility	+	0.000 (0.06)	0.000 (0.05)	0.001 (0.47)	0.000 (0.13)
Intercept		-0.002*** (-3.75)	-0.015** (-2.22)	-0.003*** (-2.79)	-0.001 (-0.75)
Adj.R-squared		0.3595	0.3616	0.3129	0.3710
Number of Obs.		1,691	1,691	828	619

*, **, *** indicate significance at p < 0.10, 0.05, and 0.01; based on two-tailed tests. T-statistics are computed using robust standard errors clustered on firm.

Table 4
Effect of Clawback Provisions on Long-term Debt Costs (five year sample period)

Variables	Predicted Signs	Controls Only	Full Model	Fraud	Performance
		1	2	3	4
Post-Clawback	-		-0.002** (-2.46)	-0.002* (-1.89)	-0.003* (-1.79)
DiffLev	+	0.045*** (4.44)	0.045*** (4.45)	0.038** (2.50)	0.046*** (6.35)
DiffROA	-	-0.019*** (-3.86)	-0.019*** (-3.88)	-0.014** (-2.35)	-0.021** (-2.55)
DiffIntCovg	-	-0.000*** (-2.88)	-0.000*** (-2.85)	-0.000** (-2.28)	-0.000* (-1.89)
DiffVolatility	+	0.001 (0.83)	0.001 (0.84)	0.002 (1.27)	0.001 (0.66)
Intercept		-0.002*** (-3.89)	-0.001** (-2.37)	-0.002** (-2.15)	-0.001 (-1.48)
Adj.R-squared		0.3532	0.3542	0.3191	0.3406
Number of Obs.		2,812	2,812	1,381	1,019

*, **, *** indicate significance at p < 0.10, 0.05, and 0.01; based on two-tailed tests. T-statistics are computed using robust standard errors clustered on firm.

Appendix
Variable Descriptions

Variable	Definition
DebtCosts	Interest expense over total liabilities.
Post-Clawback	Indicator variable equal to 1 for firm-years in which clawback adopters have clawback provisions in place, and zero otherwise.
LogAsset	Natural log of total assets.
Lev	Total long term liabilities divided by total assets.
ROA	Net income over total assets.
IntCovg	Operating income over interest expense.
Volatility	Standard deviation of net income before extraordinary items from 2000 to 2005.