Material weakness remediation and accounting-related litigation

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ABSTRACT

This paper examines the association between the remediation of previously disclosed material weaknesses and future accounting-related litigation. The link between remediating a material weakness and the likelihood of future accounting litigation remains an unanswered empirical question due to the competing elements of disclosing a material weakness that is positively correlated with future accounting-related lawsuits and the remediating of that previously-disclosed material weakness which can be viewed as a positive for internal control strength. The results show that the most important factor in affecting the likelihood of future litigation of previously disclosed material weaknesses. The author finds a negative association between remediation of core operating account material weaknesses and the likelihood of future accounting-related litigation. This study provides evidence that firms that do remediate its most important material weaknesses lessen the likelihood of the negative monetary and market value effects of being involved in accounting litigation in the future. However, the most important factor is the type of account that is the source of the material weakness that is remediated.

Keywords: material weakness, remediation, accounting litigation

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INTRODUCTION

Today's world of financial information users are pushing for increased financial transparency and it's all to do one thing: mitigate risk. Ever since the financial crisis of 2008, the world of the capital markets has been all about focusing on risk and how to mitigate that risk. In the financial information world, a company's internal controls are designed with the goal of mitigating risk, whether that be the prevention of accounting errors or the fixing of the controls that allowed such errors to occur in the first place. This study focuses on the latter event. This paper examines the association between remediating internal control weaknesses and future accounting litigation by attempting to answer the question of whether firms that remediated previously disclosed material weaknesses in internal controls are more likely to be involved in future litigation compared to firms that did not remediate material weaknesses. Being able to assess the likelihood of future accounting litigation is extremely important for: (1) investors because of the potential negative impact on their personal wealth, (2) creditors because of the litigation's impact on recovering the creditor's funds, (3) C-Level employees because of the potential negative effect on their jobs and personal wealth (assuming they own options or have performance-based compensation) and (4) auditors because of the increased audit risk associated with firms that are involve in accounting litigation. Also, this issue impacts audit pricing and negotiations between the auditor and the company due to litigation's impact on audit work the auditor may require in the future. Therefore, this research question is extremely relevant in today's business environment.

Section 404 of the Sarbanes-Oxley Act of 2002 (SOX) requires that companies report on the company's internal control over financial reporting (ICFR) and the company's external auditor is also required to attest to management's assessment of internal controls being effective or not. Management is precluded from determining that its internal controls are effective if one or more material weaknesses in the ICFR have been identified. A material weakness represents a deficiency "in the design or operation of internal control that could adversely affect a company's ability to record, process, summarize and report financial data consistent with the assertions of management in the company's financial statements." While a significant deficiency and material weakness are similar, a material weakness is more severe because it is used in situations where there is a more than remote likelihood that a material misstatement in the financial statements will not be prevented or detected. A significant deficiency is only required to be reported to the audit committee by the independent auditor. Any material weakness, due to its severity, must be disclosed to investors in the financial statements. Based on the fact that firms must disclose in their financial statements any material weaknesses in internal controls, this paper focuses on the remediation of *material weaknesses* as opposed to the remediation of deficiencies of any magnitude.

There is anecdotal evidence that firms that disclose a material weakness in internal controls are more likely to be subject to litigation and regulatory sanction¹ and there is a wealth of academic research linking internal control deficiencies with smaller firms, business complexity, higher betas, lower earnings quality and negative market returns relative to matched industry peer firms (Bryan and Lilien, 2005; Ge and McVay, 2005; Hammersley et al. 2008). Academic research has also shown that internal control deficiencies are more likely at riskier

¹ On April 6, 2012, it was announced that Groupon was the subject of a shareholder lawsuit alleging fraud by its top executives and under investigation by the SEC for its accounting practices. Both of these events took place less than a week after Groupon disclosed that its auditor found material weakness in its internal controls.

companies and that these riskier companies have a higher likelihood of being involved in litigation, higher cost of equity, and increased auditor resignations (Ashbaugh-Skaife et al. 2007; Ashbaugh-Skaife et al. 2009). Researchers have also found a negative association between material weakness disclosure and corporate governance characteristics such as audit committee expertise (Zhang et al. 2007). Hammersley et al. (2012) also examine non-remediating firms in the context of corporate governance characteristics and find that relative to remediating firms, non-remediating firms are less likely to remediate material weaknesses if the weaknesses are more pervasive, if their operations are more complex and if they use smaller audit firms. In addition their find evidence that non-remediating firms have higher audit fee increases, higher cost of debt capital and are more likely to experience auditor turnover/resignations and receive going concern opinions. Based on this research, it is logical to assume that if a company with a material weakness in its internal controls remediates that weakness ("remediating firm"), then compared to a firm that does not remediate a previous material weakness ("non-remediating firm"), the remediating firm should have stronger internal controls and be less likely to be involved in future accounting-related litigation. However, whether or not the remediation of those previously disclosed material weaknesses makes those firms less likely to be involved in accounting litigation or sanction in future years has yet to be determined in the accounting literature. This could be due to the fact that remediating a previously disclosed material weakness does not necessarily mean that the company's internal controls have a clean bill of health. There could be new problems that arise in the following years or whatever steps were taken to remediate could lead to new weaknesses in unforeseen areas of the accounting system. Also, research has shown that remediating firms still pay an audit fee premium in the years after remediation of a previously disclosed material weakness compared to firms that did not disclose any material weakness (Munsif et al. 2011). This can be perceived as a signal that the remediation of a material weakness does not immediately restore equal footing to the remediating firms and that audit firms may not be ready to reduce its fees to pre-material weakness levels. All of this provides support for the belief that just because a firm remediates a material weakness does not automatically mean that the remediating firm is any less likely than non-remediating firms to be involved in future accounting litigation, and therefore, this likelihood remains an empirical question. This is mostly likely due to the fact that a remediating firm is still a firm that initially disclosed a material weakness. Therefore, that same firm had a weakness in its internal controls, just like a firm that discloses a material weakness but does not remediate it in a future year. It is this similarity between remediators and non-remediators that make the research question interesting and relevant. While existing research has analyzed the firm characteristics of material weakness firms and the effect of remediation on audit fees and certain corporate governance indicators, there has not been any research on the effect that material weaknesses, and more specifically, the remediation of material weaknesses, on the likelihood of future accounting litigation.

This study also incorporates the type of accounts underlying the material weakness that is disclosed. Much of the restatement research (Palmrose and Scholz, 2004; Feldmann et al., 2009; Ettredge et al., 2010) has analyzed whether the type of account (core operating accounts vs. non-core operating accounts) has a significant effect on the restatement's impact on earnings quality, market value and various other variables. The reasoning being that the core earnings accounts play a larger part in earnings quality and financial performance. Therefore, accounting errors in those types of accounts are more serious than non-core account errors. Following this line of research, this paper analyzes whether the likelihood of future accounting-related litigation is

significantly affected by the remediation of material weaknesses involving core versus non-core operating accounts.

The analyses find evidence that the type of account that is involved in the material weakness is the most significant factor in affecting the likelihood being involved in future accounting litigation. Firms that remediate material weaknesses involving core earnings accounts are less likely to deal with future accounting-related litigation compared to firms that remediate material weaknesses involving non-core earnings accounts.

METHODOLOGY

All company financial information comes from Compustat and all audit and legal data used in this study comes from the Audit Analytics database which provides information regarding the different disclosures reported by firms under SOX 404 and any litigation involving the companies in the database. For the purposes of this paper, remediation is defined as a situation where a company's 10-K filing discloses that a company's ICFR are not effective² under SOX 404 and in a future year, that same company receives a "clean" SOX 404 opinion from the auditor (i.e., the firm discloses that internal controls for that fiscal year were deemed "effective"). Since only accelerated filers (domestic firms with a market capitalization greater than \$75 million) are required to comply with SOX 404, this study only uses data for accelerated filers. The observations in this study are limited to firms with fiscal years after 2004 to maintain post-SOX consistency. Remediating firms are firms that reported a material weakness in year t and did not report a clean 404 opinion in the following two-year period (t+1 and t+2). Clean firms are firms that did not report a material weakness for any year during the sample period and are excluded from our sample.

The following logit models are used to test whether remediating firms are less likely to be involved in accounting-related litigation in the years after the remediation year compared to firms that did not remediate a previously disclosed material weakness:

 $LIT_{it} = \alpha_0 + \alpha_1 REMED_{it} + \alpha_2 SIZE_{it} + \alpha_3 INV_{it} + \alpha_4 REC_{it} + \alpha_5 ROA_{it} + \alpha_6 LEV_{it}$ $+ \alpha_7 SALES_GR_{it} + \alpha_8 TECH_{it} + \alpha_9 GC_{it} + \alpha_{10} BIG4_{it} + \alpha_{11} COUNT_WEAK_{it}$ (1) + $\alpha_{12} BTM_{it} + \alpha_{13} LOG_FEES_{it} + \varepsilon$

$$\begin{split} LIT_{it} &= \alpha_0 + \alpha_1 REMED_{it} + \alpha_2 CORE_{it} + \alpha_3 REMED^*CORE_{it} + \alpha_4 SIZE_{it} + \alpha_5 INV_{it} + \\ \alpha_6 REC_{it} + \alpha_7 ROA_{it} + \alpha_8 LEV_{it} + \alpha_9 SALES_GR_{it} + \alpha_{10} TECH_{it} + \alpha_{11} GC_{it} \\ &+ \alpha_{12} BIG4_{it} + \alpha_{13} COUNT_WEAK_{it} + \alpha_{14} BTM_{it} + \alpha_{15} LOG_FEES_{it} + \epsilon \end{split}$$
(2)

LIT is a dichotomous variable set equal to 1 if a firm is involved in accounting-related litigation (as classified and defined in Audit Analytics) in a year after a material weakness has been disclosed and 0 if otherwise. In model 1(2), the coefficient of interest is α_1 (α_3)for the REMED (REMED*CORE) variable. REMED is also an indicator variable set equal to 1 if a firm remediates a previously disclosed material weakness and 0 if otherwise. The other variables in

² The SEC's rules provide a threshold for auditors to opine that a company's ICFR is "effective." According to these rules, management is prohibited from stating that its internal controls are effective if there are one or more material weaknesses present in internal controls. Therefore, an assertion that ICFR is effective is also an assertion that there are no material weaknesses in the ICFR.

the model attempt to control for other determinants that research has shown have an effect on the likelihood of accounting litigation. BTM is total book value divided by market value of the firm in year t. SIZE is the log of total assets, INV is inventory scaled by total assets, REC is receivables is trade receivables scaled by total assets, and ROA is income before extraordinary items scaled by average total assets and controls for variation in economic performance. To control for financial risk, the model includes leverage (LEV is total liabilities scaled by total assets) and annual growth in net sales (SALES_GR is the change in annual net sales scaled by total assets). TECH is an indicator variable set equal to 1 if the firm's SIC code is a technology-related industry code (2830's, 3570's 7370's 8730's and 3825-3839) and controls for the higher litigation rates in the technology industry. The control variables GOING_CONCERN, BIG4 and COUNT_WEAK are different proxies for the possibility of audit failures. GOING_CONCERN is set equal to 1 if the firm 's auditor in year t is a Big 4 public accounting firm, COUNT_WEAK is the number of material weaknesses disclosed in the SOX 404 report. The log of audit fees (LOG_FEES) has also often been used in audit research as a proxy for audit quality and is included in the model.

The author hypothesizes that after controlling for a variety of factors that are associated with the likelihood of future litigation, there is a significant association between remediation of a material weakness and the likelihood of being involved in future accounting-related litigation.

In addition to the first model, the author incorporates a second model in the analysis that examines whether or not the material weakness affected core vs. non-core accounts. Core accounts would be any operating income accounts such as revenue, cost of sales and other operating expenses such as compensation. Non-core accounts would include any non-operating income or expense accounts such as income tax expense or interest expense. Audit Analytics codes each material weakness disclosure with the accounts affected by the disclosure and the author appropriately coded the different firm-year observations using the CORE variable as a dichotomous variable set equal to 1 if the account affected by the material weakness is a core operating income or expense account and zero if otherwise. The CORE variable is included in the general model as a standalone variable and as an interaction variable with REMED. This interaction variable will be the variable of interest in this secondary analysis.

RESULTS

Table 1 (Appendix) shows the summary statistics for the remediating and non-remediating samples. In comparing the remediating and non-remediating observations, a few differences are clear. For example, on average, the non-remediating firms are smaller and worse performing (ROA of -0.02 for remediating and -0.06 for non-remediating firms). Also, on average, there are more going concern opinions for the non-remediating firms and more material weaknesses disclosed compared to remediating firms. However, it should be noted that this is a univariate analysis and no conclusions can be reached from just comparing descriptive statistics between the two samples.

The results of the first logit model (without the CORE variable) are indicated in Table 2 (Appendix) for the entire sample period of 2004-2012. The model as a whole is statistically significant (Likelihood ratio Chi-Square = 65.62, Pr>ChiSq <.0001). As one would expect, the coefficient for COUNT_WEAK is positive and statistically significant. This indicates that the more material weaknesses are disclosed, the more likely of being involved in future accounting litigation. In addition, the coefficient for REMED is negative and statistically significant at the

10% level (coefficient=0.60; Chi-square=3.49). Since the model assumes LIT=1 (meaning the regression models the association between material weakness remediation and the likelihood of being involved in future accounting litigation), the negative coefficient is interpreted as firms that remediate a previously disclosed material weakness are less likely to be involved in future accounting litigation compared to firms that do not remediate a material weakness. This empirical evidence is in line with the logic that remediating material weaknesses is associated with a lower likelihood of being involved in accounting litigation in future years.

While the coefficient for REMED in Model 1 is significant at the 10% level, there has been consistent findings in the internal controls literature that errors or weaknesses in core operating accounts have a more severe negative impact on share price, likelihood of future bankruptcy and earnings quality. Therefore, incorporating the type of account underlying the material weakness disclosed is essential in coming to any conclusions regarding internal control weaknesses. This leads to the results for model 2 which are shown in Table 3 (Appendix). The coefficient of importance is for the interaction variable REMED*CORE. Since core operating accounts such as sales, cost of sales and other operating expenses are seen as better indicators of a firm's financial performance, material weaknesses in internal controls for these core accounts should be seen as more serious weaknesses compared to material weaknesses in non-core accounts. Therefore, the author expects the remediation of core material weaknesses to have a larger impact on the likelihood of future accounting-related litigation and for the association to be negative in reducing the likelihood of future accounting litigation. The coefficient for REMED*CORE is -1.82 and statistically significant at the 5% level (Pr>ChiSq = 0.02). The negative coefficient supports the theory that firms that remediate material weaknesses involving core accounts are less likely to be involved in future accounting-related litigation compared to firms that remediate material weaknesses with non-core accounts. When taking all of the results together, it seems that whether or not a firm remediates a material weakness is not nearly as important as the type of account underlying the material weakness that was remediated in assessing the future likelihood of accounting-related litigation.

CONCLUSION

Litigation can have significant impact on multiple parties associated with firms. The shareholders can be affected by the drop in market value, employees can be affected by job loss, and executives can be negatively impacted by all of those as well as reputational effects from being involved in a lawsuit. There has been extensive research on the association between the quality of financial reporting and various negative future events (e.g., restatements, missing analyst expectations, bankruptcy). This paper adds to the literature by analyzing the effect of fixing past mistakes and how that remediation affects the probability of future litigation. This study looks at the association between remediating previously disclosed material weaknesses, the accounts involved in those material weaknesses and the likelihood of future accounting-related litigation. Overall, the author finds that they type of account that underlies the material weakness is the driving factor as to whether or not remediation reduces the likelihood of future litigation. Looking at a sample of firms between 2004 and 2012 that remediated a past material weakness, the firms that remediated core material weaknesses were less likely to be involved in future accounting-related litigation compared to firms that remediated material weaknesses involving non-core accounts. Implications of these findings are significant for executives and internal audit managers who deal with accounting errors that result in material weaknesses. Ensuring that

material weaknesses in internal controls related to core operating accounts should help mitigate the likelihood of being involved in future accounting litigation and mitigate the risk of incurring significant losses due to that litigation.

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APPENDIX

Table 1A

Descriptive Statistics for Remediating Firms

Shown are descriptive statistics for the sample of remediating companies during the time period 2004-2012. TECH, GOING_CONCERN, BIG4, COUNT_WEAK, REMED are indicator variables. All other variables are scaled by total assets (except for LOG_FEES which is just the log of annual audit fees and BTM which is total book value divided by total market value).

Variable	Mean	Median	Standard	Min	Max
			Deviation		
SIZE	7.55	7.46	2.08	3.77	14.99
INV	0.10	0.06	0.12	0.00	0.79
REC	0.22	0.15	0.20	0.00	0.95
ROA	-0.02	0.01	0.17	-1.16	1.33
LEV	0.63	0.61	0.33	0.04	2.90
SALES_GR	0.89	0.06	19.07	-0.96	474.81
BTM	-42. <mark>49</mark>	0.50	1,060.64	-26,408.58	27.20
TECH	0.22	0.00	0.42	0.00	1.00
GOING_CONCERN	0.0 <mark>3</mark>	0.00	0.18	0.00	1.00
BIG4	0.8 <mark>6</mark>	1.00	0.34	0.00	1.00
COUNT_WEAK	0.7 <mark>9</mark>	0.00	2.19	0.00	18.00
LOG_FEES	14.80	14.73	1.23	11.60	19.12

Table 1B

Descriptive Statistics for Non-Remediating Firms

Shown are descriptive statistics for the sample of non-remediating companies during the time period 2004-2012.

Variable	Mean	Median	Standard	Min	Max
			Deviation		
SIZE	6.73	6.00	2.52	1.84	14.63
INV	0.08	0.05	0.10	0.00	0.40
REC	0.20	0.13	0.19	0.01	0.83
ROA	-0.06	-0.01	0.23	-0.93	0.34
LEV	0.55	0.52	0.24	-1.19	2.97
SALES_GR	0.31	0.16	0.73	-1.19	2.97
BTM	0.53	0.43	0.77	-2.03	3.44
TECH	0.36	000	0.49	0.00	1.00
GOING_CONCERN	0.07	0.00	0.26	0.00	1.00
BIG4	0.73	1.00	0.45	0.00	1.00
COUNT_WEAK	2.75	1.00	4.39	0.00	20.00
LOG_FEES	14.50	14.18	1.49	10.80	17.98

Table 2

Regression Results for Material Weakness Remediation and Future Accounting Litigation

Shown are the results of regressing involvement in future accounting-related litigation on SOX 404 material weakness remediation and other control variables. LIT is an indicator variable set equal to 1 if a firm is involved in accounting-related litigation in a year after a material weakness has been disclosed and 0 if otherwise. REMED is also an indicator variable set equal to 1 if a firm remediates a previously disclosed material weakness and 0 if otherwise. BTM is total book value divided by market value of the firm in year t. SIZE is the log of total assets, INV is inventory scaled by total assets, REC is receivables is trade receivables scaled by total assets, and ROA is income before extraordinary items scaled by average total assets. LEV is total liabilities scaled by total assets and SALES_GR is the change in annual net sales scaled by total assets. TECH is an indicator variable set equal to 1 if the firm's SIC code is a technology-related industry code (2830's, 3570's 7370's 8730's and 3825-3839). GOING_CONCERN is set equal to 1 if the firm received a going concern opinion in year t-1, BIG4 is equal to 1 if the firm's auditor in year t is a Big 4 public accounting firm, COUNT_WEAK is the number of material weaknesses disclosed in the SOX 404 report. LOG_FEES is the log of annual audit fees.

Analysis of Maximum Likelihood Estimates					
Variable	Estimate	Wald Chi-Square	Pr>ChiSq		
Intercept	1.76	1.57	0.2102		
SIZE	0.07	0.83	0.3629		
INV	3.24	17.01	<.0001		
LEV	-0.44	1.95	0.1623		
SALES_GR	0.75	11.15	0.0008		
ROA	-0.72	1.66	0.1975		
REC	1.64	9.78	0.0018		
ТЕСН	0.35	2.71	0.0996		
GOING_CONCERN	0.18	0.14	0.7099		
BIG4	0.16	0.36	0.5473		
COUNT_WEAK	0.12	8.66	0.0033		
LOG_FEES	-0.26	4.62	0.0317		
REMED	-0.60	3.49	0.0619		
# observations	675				

(Coefficients in bold are statistically significant at the 5% or 10% level)

Table 3

Regression Results for Material Weakness Remediation (Core vs. Non-Core) and Future Accounting Litigation

Shown are the results of regressing involvement in future accounting-related litigation on SOX 404 material weakness remediation and other control variables. LIT is an indicator variable set equal to 1 if a firm is involved in accounting-related litigation in a year after a material weakness has been disclosed and 0 if otherwise. REMED is also an indicator variable set equal to 1 if a firm remediates a previously disclosed material weakness and 0 if otherwise. BTM is total book value divided by market value of the firm in year t. SIZE is the log of total assets, INV is inventory scaled by total assets, REC is receivables is trade receivables scaled by total assets, and ROA is income before extraordinary items scaled by average total assets. LEV is total liabilities scaled by total assets and SALES_GR is the change in annual net sales scaled by total assets. TECH is an indicator variable set equal to 1 if the firm's SIC code is a technology-related industry code (2830's, 3570's 7370's 8730's and 3825-3839). GOING_CONCERN is set equal to 1 if the firm received a going concern opinion in year t-1, BIG4 is equal to 1 if the firm's auditor in year t is a Big 4 public accounting firm, COUNT_WEAK is the number of material weaknesses disclosed in the SOX 404 report. LOG_FEES is the log of annual audit fees. CORE is an indicator variable set equal to 1 if the accounts involved in the material weakness disclosure are operating accounts (e.g., revenue recognition, cost of sales, depreciation or other operating account items) and 0 if otherwise.

Analysis of Maximum Likelihood Estimates					
Variable	Estimate	Wald Chi-Square	Pr>ChiSq		
Intercept	0.74	0.06	0.8065		
SIZE	0.10	0.34	0.5597		
INV	-0.30	0.04	0.8499		
LEV	0.76	1.00	0.3169		
SALES_GR	0.41	1.14	0.2865		
ROA	0.48	0.26	0.6091		
REC	0.42	0.14	0.7115		
TECH	-0.02	0.02	0.9628		
GOING_CONCERN	-0.55	0.69	0.4061		
BIG4	-0.50	0.88	0.3477		
COUNT_WEAK	0.01	0.03	0.8692		
LOG_FEES	-0.28	1.29	0.2565		
REMED	3.20	7.80	0.0052		
CORE	2.26	3.60	0.0578		
REMED*CORE	-1.82	2.14	0.02		

(Coefficients in bold are statistically significant at the 5% or 10% level)