Accounting & Finance Review

IJAFR VOL 10 NO 1 (2022) P-ISSN 2576-1285 E-ISSN 2576-1293

Available online at https://www.cribfb.com
Journal homepage: https://www.cribfb.com/journal/index.php/ijafr
Published by CRIBFB, USA

CAN AUDITOR INDUSTRY EXPERTISE REDUCE INCIDENCES OF MISREPORTING?

Jeanne Claire Patin [(a)1] *William G. Jens* [(b)]

[(a)] *Assistant Professor of Accounting, College of Business, McNeese State University, Lake Charles, United States of America; E-mail: jwhite1@mcneese.edu*
[(b)] *Professor of Accounting, College of Business, McNeese State University, Lake Charles, United States of America; E-mail: wjens@mcneese.edu*

ARTICLE INFO

Article History:

Received: 04 January 2022
Accepted: 24 March 2022
Online Publication: 29 March 2022

Keywords:

Auditing, Equity Incentives
Misreporting

JEL Classification Codes:

M12, M41, M42

ABSTRACT

The purpose of this paper is to examine the influence of auditor industry expertise on the relationship between equity incentives and financial misreporting. Previous studies report mixed findings on the relationship between financial misreporting and equity incentives; however, they fail to consider detection mechanisms such as auditor industry expertise. Auditor industry experts have been shown to have better financial reporting quality. This study evaluates the interaction of auditor industry expertise ("specialists") on the relationship between equity incentives as proxied through vega and financial misreporting such as abnormal accruals, likelihood of just meeting or beating analysts' earnings forecasts, and financial restatements. Vega measures the sensitivity of the CEO's portfolio to a .01 change in stock volatility. Results indicate that there does not appear to be statistically significant evidence of a relationship between equity incentives and financial misreporting in firms that are audited by an auditor industry expert. This conclusion provides important information to those concerned with the possibility that senior executives whose compensation are largely tied to performance measures are potentially incented to misreport financial results. While this data may seem counter-intuitive, we conclude that firms do not benefit from auditor industry expertise as it relates to equity incentives and financial misreporting.

© 2022 by the authors. Licensee CRIBFB, USA. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).

INTRODUCTION

In recent years, there has been increased attention in executive compensation by companies, regulators, and shareholders. Are executives incentivized to act in the company's best interest or are executives pressured to misreport to attain certain targets? Prior literature has shown mixed results on the relation between equity incentives and fraudulent reporting. For example, some studies have found positive results between equity incentives and financial misreporting (Armstrong, Larcker, Ormazabal, & Taylor, 2013; Brockman, Martin, & Unlu, 2010; Bergstresser & Philippon, 2006; Burns & Kedia, 2006). Other studies have found no relationship (Armstrong, Jagolinzer, & Larcker, 2010; Hribar & Nichols, 2007; Erickson, Hanlon, & Maydew, 2006).

Two more recent studies revisit the research question on the relationship between equity incentives and financial misreporting; however, these studies argue that previous research has failed to account for a firm's monitoring system intensity (Duellman, Ahmed, & Abdel-Meguid, 2013) and detection mechanisms (Jayaraman & Milbourn, 2015). Duellman et al. (2013) find that as the intensity of monitoring increases the likelihood of misreporting decreases. Jayaraman and Milbourn (2015) find that the relationship between misreporting and equity incentives only is present in a subsample of firms that are not audited by auditor industry experts. The evidence suggests that auditor industry expertise deters managers from misreporting. Additionally, this evidence supports the positive relationship between equity incentives and audit fees (Billings, Gao, & Jia, 2014). Higher audit fees imply better financial statement quality and less financial misreporting.

[1]Corresponding author: ORCID ID: 0000-0003-3710-5271
© 2022 by the authors. Hosting by CRIBFB. Peer review under responsibility of CRIBFB, USA.
https://doi.org/10.46281/ijafr.v10i1.1670

To cite this article: Patin, J. C., & Jens, W. G. (2022). CAN AUDITOR INDUSTRY EXPERTISE REDUCE INCIDENCES OF MISREPORTING?. *International Journal of Accounting & Finance Review*, *10*(1), 83-92. https://doi.org/10.46281/ijafr.v10i1.1670

This study seeks to address several issues. First, regulators such as the Securities and Exchange Commission (SEC) and Public Company Accounting Oversight Board (PCAOB) have recently passed regulations that address executive compensation. The SEC calls for greater transparency in executive compensation disclosures, and the PCAOB emphasizes the need for auditors to exercise greater professional judgment when examining executive compensation. Therefore, it is important to study how these regulations affect the behavior of executives as well as the auditors. Next, there have been several papers that study the relationship between executive compensation and audit fees; however, there has not been any research on the relationship between executive compensation and auditors' impact. The relationship between audit fees and equity incentives provides indirect evidence of financial statement and audit quality because higher fees possibly signal greater audit effort and greater audit quality.

This research seeks to evaluate the correlation between auditor industry expertise and its effect on the relationship between equity incentives and financial misreporting. To accomplish this, we choose to focus on vega instead of delta. Vega measures the sensitivity of an executive's portfolio to a .01 change in stock volatility; whereas delta measures the sensitivity to a 1% change in stock price (Armstrong et al., 2013; Core & Guay, 2002). Previous studies have shown that there is a positive relationship between vega and audit fees (Chen, Jeter, & Yang, 2015; Kim, Li, & Li, 2015; Fargher, Jiang, & Yu, 2014). Given the detection/monitoring role of auditors and the higher fee association with vega, we posit that auditor industry experts mitigate the relationship between equity incentives and financial misreporting. As a proxy for misreporting, we select three measures common in the literature: abnormal accruals, just meeting or beating analysts' earnings forecasts, and financial restatements.

LITERATURE REVIEW

Corporations are interested in how to best compensate their executives for the work and the risks the executives take. Executive compensation is not only how much to pay an executive, but also in what form their compensation should be. Executive compensation frequently includes performance based incentives that are equity-based (Chen et al., 2015). The objective of equity-based compensation is to align the interests of senior executives and shareholders by attributing part of the formers' wealth to firm performance. This is known as the incentive alignment effect (Duellman et al., 2013; Jensen & Meckling, 1976). The problem is there is also an opportunistic financial reporting effect. Equity based incentives conceivably encourage executives to manage earnings or commit fraudulent financial reporting in order to attain certain compensation goals. Therefore, executive compensation is a delicate balance between aligning all parties' interests and incentivizing management to do their job without dishonesty.

Several studies provide support for the link between equity-based compensation and earnings management (Chen et al., 2015; Armstrong et al., 2013; Bergstresser & Philippon, 2006; Burns & Kedia, 2006). Again, one-way equity-based compensation is measured is through vega. Vega is defined as the executive's portfolio sensitivity to a one percent change in stock volatility; in other words, it captures the increase in value of an executive's portfolio due to an increase in firm risk (Chen et al., 2015). Chen et al. (2015) and Armstrong et al. (2013) cite that a higher vega in executive compensation provides managers with incentives to misreport. Armstrong et al. (2013) find that vega is positively related to misreporting as measured by abnormal accruals, Accounting and Auditing Enforcement Releases (AAERs), and financial restatements. These results are due to the fact that stock bonuses based on vega increase managers' tolerance for risk because they are rewarded based on stock volatility (Kannan, Skantz, & Higgs, 2014; Brockman et al., 2010).

Armstrong et al. (2010) recognize that prior research does not consider how misreporting is affected by the works of monitors. Echoing along these lines, Laux and Laux (2009) also stress the importance of monitors. They argue that an increase in CEO equity incentives does not necessarily imply an increase of earnings management. There is also an increase of monitoring through the audit committee. One such increase through the audit committee is the hiring of the auditors. Two streams of research study equity incentives and auditing: pricing of audits and the detection role of auditors.

Previous research studied the relationship between the pricing of audits and equity incentives. Chen et al. (2015) find that there is a positive and significant relationship between vega and audit fees. Additionally, the study shows that this relationship is stronger when there are older CEOs and when the executive has a dual role as CEO and Chairman of the Board. These results are consistent with other studies such as Kim et al. (2015) and Fargher et al. (2014). These studies demonstrate that auditors recognize the risks of misreporting associated with vega incentives and price accordingly. Higher audit fees are often translated into higher audit quality and higher financial statement quality; however, there have not been any studies that directly study the interaction of auditor expertise, misreporting, and equity incentives as proxied by vega.

Other research examines the relationship between monitoring mechanisms, financial misreporting, and equity incentives. Duellman et al. (2013) use a composite measure of monitoring intensity and find that as monitoring intensity increases the measures of misreporting decrease. The measure is based on a combination of corporate governance traits, auditor influence, and institutional ownership measures. Jayaraman and Milbourn (2015) focus specifically on the detection mechanism of auditor industry expertise. Their paper provides evidence that the relationship of equity incentives and misreporting as proxied by lawsuits only occur in the sub-sample of firms that are not audited by auditor industry specialists. Their findings support Armstrong et al. (2010) and Laux and Laux (2009).

In summary, the relationship between equity incentives and financial misreporting is mixed; however, this is not surprising given that there are different measurements and different methods used in these studies. Auditing literature has shown that auditors charge higher fees as equity incentives increase. The positive relationship between misreporting and equity incentives has been shown to be mitigated by monitoring intensity and detection mechanisms such as auditor industry expertise. This study seeks to expand knowledge as to the relationship between auditor industry expertise and its influence on the linkage between financial misreporting and equity incentives as proxied by vega.

Auditors are required "to provide reasonable assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud" (PCAOB, [AS Section 1001]). Therefore, auditors are subject to reputational loss, market share loss, and litigation when there is an audit failure (Skinner & Srinivasan, 2012; Venkataraman, Weber, & Willenborg, 2008; Seetharaman, Gul, & Lynn, 2002).Numerous studies research the association between auditor industry expertise and misreporting. Studies have shown that specialists are associated with firms that are less likely to meet or beat analysts' earnings forecasts (Reichelt & Wang, 2010) and have lower discretionary accruals (Reichelt & Wang, 2010; Balsam, Krishnan, & Yang, 2003). Lastly, specialists have been associated with higher audit fees (Francis, Reichelt, & Wang, 2005; Craswell, Francis, & Taylor, 1995). Due to the impact of auditor industry expertise, we posit the following:

H_1 = Auditor industry expertise mitigates the relationship between financial misreporting and equity incentives.

METHOD

Financial Misreporting

Previous studies have used different measures to capture financial misreporting such as abnormal accruals (Armstrong et al., 2013; Jiang, Petroni, & Wang, 2010; Bergstresser & Philippon, 2006), Accounting and Auditing Enforcement Releases (AAERs) (Armstrong et al., 2013; Armstrong et al., 2010; Erickson et al., 2006), lawsuits (Jayaraman and Milbourn, 2015; Armstrong et al. 2010), meeting or beating analysts' earnings forecasts (Duellman et al., 2013), and financial statement restatements (Armstrong et al., 2013; Cheng & Farber, 2008; Burns & Kedia, 2006). Armstrong et al. (2010) state that one issue with financial misreporting is that the managerial action is unobservable. In this research, we selected abnormal accruals, meeting or beating analysts' earnings forecasts, and financial restatements ("extreme" outcomes of misreporting) as proxies for financial misreporting. Three measures provide a more in-depth understanding of financial misreporting and equity incentives and the role of auditor expertise.

Abnormal Accruals

The first measure of financial misreporting is abnormal accruals (*ABSDACC*). This is defined as the absolute value of discretionary accruals as measured using the performance-adjusted abnormal accruals based on the cross-sectional modified Jones (1991) model (Kothari, Leone, & Wasley, 2005; Jones, 1991). Total accruals (*TA*) is equal to income before extraordinary items less net cash flow from operating activities, scaled by lagged total assets. Expected accruals are based on Equations (1) & (2) below. First, Equation (1) estimates total accruals; then, Equation (2) uses the coefficient measurements from Equation (1) to derive estimated total accruals (*ETA*). The absolute value of the residual in Equation (2) is equal to abnormal accruals.

$$TA = \beta + \beta_1(1/A) + \beta_2(\Delta Sales) + \beta_3 PPE + \beta_4 ROA + \varepsilon \quad (1)$$

$$ETA = \beta + \hat{\beta}_1(1/A) + \hat{\beta}_2(\Delta Sales - \Delta Rec) + \hat{\beta}_3 PPE + \hat{\beta}_4 ROA + \varepsilon \quad (2)$$

Where *A* is lagged total assets, Δ*Sales* is the change in sales for the year scaled by lagged total assets, Δ*Rec* is the change in receivables for the year scaled by lagged total assets, *PPE* is net property, plant, and equipment scaled by lagged total assets, *ROA* is return on assets, and $\hat{\beta}_1$- $\hat{\beta}_4$ are the estimated coefficients from Equation (1). The absolute value of the residual represents abnormal accruals. Lower abnormal accruals suggest less earnings management and less financial misreporting.

Meeting or Beating Analysts' Earnings Forecasts

The second measure of financial misreporting is meeting or beating analysts' earnings forecasts (*MEET*). Matsunaga and Park (2001) find that not meeting earnings forecasts resulted in reduced CEO compensation. Also, Graham, Harvey, and Rajgopal (2005) shows that meeting or beating analysts' earnings forecasts is an important measurement of executives' performance. Additionally, there is an over-representation of companies barely meeting or beating target goals, and there is a disproportionately less amount of companies that do not meet their goals. Therefore, executives are under pressure to achieve their earnings targets and may manage earnings to meet the benchmark in order to avoid the negative backlash of the market. In this study, *MEET* is an indicator variable that is equal to 1 if the firm meets or beats the consensus analysts' forecasts by less than $0.01, and zero otherwise. One criticism of this measure is that a firm that barely meets or beats analysts' forecasts by misreporting cannot be separated from all other firms that do not misreport to achieve the target (Dechow, Ge, & Schrand, 2010).

Financial Restatements

Lastly, we choose financial restatements as a measure of misreporting (*RESTATE*). This is a more direct measure of misreporting because firms that are required to restate previous financial statements usually signals a serious departure from that which should have been reported. *RESTATE* is an indicator variable that takes the value of 1 if a firm has restated their financial statements for that particular fiscal year, and zero otherwise.

CEO Equity Incentives

For this study, we proxy equity incentives using the CEO's portfolio vega. Vega is defined as the dollar change in the CEO's equity portfolio for a one percent change in the firm's stock volatility (Coles, Daniel, & Naveen, 2006; Core & Guay, 2002). *LOG_VEGA* is the natural logarithm of one plus the portfolio vega of the CEO.

Auditor Industry Expertise

Auditor industry expertise is calculated using the audit firm's market share of audit fees within a two-digit SIC industry per year (Jayaraman & Milbourn, 2015; Reichelt & Wang, 2010). We select two definitions of auditor industry expertise: auditor dominance and large market share. Following Jayaraman and Milbourn (2015), auditor industry expertise is based on a national level. *SPECIALIST_1* is equal to 1 if the audit firm has the largest market share in a particular year and if its market share is at least 10% or higher than the second closest audit firm's market share. *SPECIALIST_1* captures auditor dominance. *SPECIALIST_2* centers on having a large market share in a particular year, specifically, if an audit firm's market share is greater than 35% in a 2-digit industry per year. For the multivariate analyses, we use a composite measure of auditor industry specialization. *SPECIALIST* is equal to 1 if either *SPECIALIST_1* or *SPECIALIST_2* is equal to 1 (Jayaraman & Milbourn, 2015).

Sample Construction

We construct two samples covering the years 2006-2014: one sample focusing on abnormal accruals and restatements and one sample focusing on meeting or beating analysts' earnings forecasts. Similar to previous studies, we excluded banking and insurance firms (SIC 6000-6999) because of their differing accruals and governance structures from non-financial firms. Both samples require data from Compustat (firm characteristics and financial statement numbers), Audit Analytics (audit firm information and restatements), ExecuComp (executive compensation measures), and Risk Metrics (board and governance data). In addition, the meeting or beating analysts' earnings forecasts sample also requires I/B/E/S (forecasting data). We started in 2006 because prior to 2006, there were changes to reporting requirements of employee stock options. Previously, companies were not required to recognize stock options granted to employees as an expense on the income statement; however, Financial Accounting Standard Board (FASB) issued *Statement of Financial Accounting Standard No. 123 (revised 2004) Share Based Payments* (SFAS 123R) and beginning June 15, 2005, companies are required to recognize as expense the fair value of equity instruments issued to employees for services provided.

The abnormal accruals and restatement sample has a total of 5,890 firm-year observations after excluding financial firms and firms that lacked sufficient information to construct abnormal accruals and the various control variables. The meeting or beating analysts' earnings forecasts sample has 3,917 firm-year observations after deleting financial firms and firms that did not have analysts' earnings forecasts.

Below is the model used to test our hypothesis of the influence of auditor industry expertise on the relationship between financial misreporting and equity incentives. We regress EM on equity incentives, auditor industry expertise, and control variables based on prior studies (Jayaraman & Milbourn, 2015; Reichelt & Wang, 2010):

$$EM=\beta_1 + \beta_2 LOG\_VEGA + \beta_3 LOG\_DELTA + \beta_4 LOG\_CASH + \beta_5 SIZE + \beta_6 STD\_CFO + \beta_7 CFO + \beta_8 LEV + \beta_9 LOSS + \beta_{10} MB + \beta_{11} LIT + \beta_{12} TENURE + \beta_{13} ABSLTA + \beta_{14} TENURE\_CEO + \beta_{15} DUAL + \beta_{16} BOARDSIZE + \beta_{17} LAF + \beta_{18} SPECIALIST + \beta_{19} INTERACTION + \text{fixed effects} + \varepsilon \quad (3)$$

The dependent variable *EM* is different measures of financial misreporting: *ABSDACC*, *MEET*, and *RESTATE*. The variable of interest is the interaction of *SPECIALIST* and *LOG_VEGA*. Our hypothesis posits that the coefficient should be negative, signaling that as equity incentives increase, firms that are audited by auditor industry experts are associated with lower abnormal accruals, a lower likelihood of barely meeting or beating analysts' earnings forecasts, and a lower likelihood of restatements.

The model also contains variables to control for CEO equity incentives, economic environment, auditor characteristics, and corporate governance. The variables related to CEO equity incentives include *LOG_VEGA*, *LOG_DELTA*, and *LOG_CASH*, following Armstrong et al. (2013). Variables related to economic environment are debt level (*LEV*), bankruptcy risk (*LOSS* and *ZSCORE*), litigation risk (*LIT*), and absolute value of prior year accruals (*ABSALTA*). We control for firm size (*SIZE*) and growth (*MB*) because larger firms are more extensively followed compared to smaller firms and may have less motive to manage earnings. We also control for the volatility of cash flow (Hribar and Nichols 2007). Auditor traits include auditor tenure (*TENURE*) as well as audit fees (*LAF*). Lastly, we control for several corporate governance characteristics such as tenure of CEO (*TENURE_CEO*), board size (*BOARDSIZE*), and dual position of the CEO as Chairman of the Board (*DUAL*). All continuous variables are winsorized at 1st and 99th percentile. All variables are defined in Appendix A.

For the logit regression of barely meeting or beating analysts' earnings forecasts, we include four additional variables to control for firm performance (*ROA*) and volatility of firm performance (*STD_EARN*). We also control for analysts such as the number of analysts making a forecast *(LN_NUMEST*) and volatility of forecast error (*STD_FOR*).

Lastly, we used a logit regression for financial misreporting relating to restatements and include controls for internal control weaknesses (*MATWEAK*) and going concern opinions (*OPINION*).

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 reports the descriptive statistics for the abnormal accruals/restate sample in the first set of columns and the descriptive statistics for the meet/beat sample in the last set of columns. For the abnormal accruals/restate sample, the mean value of *ABSDACC* is 0.063, which is comparable to the value reported in Duellman et al. (2013). The mean value of *RESTATE* is 11.8%. The mean value of *LOG_VEGA* is 4.248 and is slightly higher than Armstrong et al. (2010). In the meeting or beating analysts' earnings forecast sample, the mean value of *MEET* is 0.193, indicating that 19.3% of firms meet or beat analysts' earnings forecast by just $0.01 or less. Lastly, 21.5% of the abnormal accrual/restate sample and 23.3% of the meet sample are audited by an auditor industry specialist under the composite definition of industry specialization.

Table 1. Descriptive Statistics

Descriptive Statistics (N=5,890)				Descriptive Statistics (N=3,917)		
Abnormal Accruals and Restatement Sample				**Meet/Beat Sample**		
Variable	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**
ABSDACC	0.063	0.049	0.055			
RESTATE	0.118	0.000	0.323			
MEET				0.193	0.000	0.395
SPECIALIST_1	0.142	0.000	0.349	0.160	0.000	0.367
SPECIALIST_2	0.199	0.000	0.399	0.217	0.000	0.412
SPECIALIST	0.215	0.000	0.411	0.233	0.000	0.423
LOG_VEGA	4.248	4.385	1.478	4.613	4.823	1.495
LOG_DELTA	5.493	5.495	1.338	5.837	5.822	1.303
LOG_CASH	6.756	6.755	0.470	6.888	6.887	0.475
SIZE	7.738	7.646	1.442	8.366	8.296	1.451
LEV	0.177	0.166	0.151	0.198	0.189	0.150
LOSS	0.134	0.000	0.340	0.109	0.000	0.312
MB	2.986	2.228	2.731	3.132	2.378	2.796
LIT	0.259	0.000	0.438	0.290	0.000	0.454
ZSCORE	2.655	2.449	1.398	2.547	2.335	1.380
TENURE	2.129	2.303	0.560	2.173	2.303	0.526
ABSLTA	0.157	0.065	0.371	0.202	0.067	0.595
TENURE_CEO	9.722	8.000	8.063	9.306	7.000	7.457
BOARDSIZE	9.119	9.000	2.031	9.596	9.000	2.103
DUAL	0.514	1.000	0.500	0.559	1.000	0.497
LAF	14.594	14.511	0.929	14.856	14.804	0.987
STDCFO	0.045	0.036	0.034			
CFO	0.122	0.113	0.078			
MATWEAK	0.025	0.000	0.155			
OPINION	0.001	0.000	0.026			
STDEARN				0.042	0.025	0.056
LN_NUMEST				0.134	0.000	0.322
STDFOR				0.043	0.023	0.058
ROA				0.064	0.064	0.087
TA				-0.063	-0.052	0.063

Table 1 represents the descriptive statistics for our samples. The abnormal accrual and restatement regressions use the same sample, N=5,890. The meet/beat sample is different due to the variable requirements, N=3,917. See Appendix A for variable definitions.

Abnormal Accrual Results

Table 2 presents the results from the OLS regression of absolute value of abnormal accruals on equity incentives (*LOG_VEGA*), auditor industry expertise (*SPECIALIST*), and control variables based on Equation (3). Both regressions include industry and year fixed effects, and both regressions are significant ($p<0.001$) with adjusted R^2 just below 35%. P-values are two-tailed and corrected for heteroskedasticity. The first regression (Model 1) does not include auditor industry expertise or the interaction of specialist and vega. The coefficient on *LOG_VEGA* in Model 1 does not load significantly.

For the interaction model in Table 2, we interact *SPECIALIST* with *LOG_VEGA* to study how auditor industry expertise affects the relationship between equity incentives and abnormal accruals. There are two items of interest: the interaction (*LOG_VEGA*SPECIALIST*) and the joint test of coefficients (*LOG_VEGA +INTERACTION*). The coefficient on the interaction term represents the effect of vega on misreporting in the presence of an auditor industry specialist. The coefficient is positive and significant, suggesting that equity incentives are associated with higher abnormal accruals for firms audited by experts than firms not audited by experts. However, in order to understand the effect of the equity incentives fully in the presence of a specialist, we performed a joint test of coefficients (*LOG_VEGA + INTERACTION*=0). The joint test indicates that *LOG_VEGA +INTERACTION* is not significantly different from zero. In other words, there is no relationship between equity incentives and abnormal accruals for firms audited by an industry specialist.

Table 2. Abnormal Accrual Results

OLS Regression of Abnormal Accruals and Auditor Industry Specialization				
	Model 1		**Interaction Model**	
Variable	**Estimate**	**Pr > |t|**	**Estimate**	**Pr > |t|**
INTERCEPT	0.0677***	<.0001	0.0685***	<.0001
LOG_VEGA	-0.0007	0.226	-0.0010*	0.094
LOG_DELTA	-0.0006	0.497	-0.0006	0.446
LOG_CASH	-0.0056***	0.002	-0.0056***	0.002
SIZE	-0.0011	0.321	-0.0011	0.315
STDCFO	0.2000***	<.0001	0.2006***	<.0001
CFO	0.3146***	<.0001	0.3143***	<.0001
LEV	0.0020	0.751	0.0014	0.830
LOSS	0.0697***	<.0001	0.0696***	<.0001
MB	-0.0012***	<.0001	-0.0012***	<.0001
LIT	0.0060***	0.009	0.0059**	0.011
ZSCORE	-0.0055***	<.0001	-0.0056***	<.0001
TENURE	-0.0007	0.543	-0.0006	0.647
ABSLTA	-0.0017	0.309	-0.0018	0.288
TENURE_CEO	0.0000	0.999	0.0000	0.990
DUAL	-0.0003	0.827	-0.0004	0.775
BOARDSIZE	-0.0002	0.570	-0.0002	0.570
LAF	0.0006	0.682	0.0007	0.622
SPECIALIST	-	-	-0.0109**	0.021
INTERACTION	-	-	0.0017*	0.085
R^2	0.343		0.344	
N=	5,890		5,890	
Year Fixed Effects	Yes		Yes	
Industry Fixed Effects	Yes		Yes	
Joint Test	**p-value**			
***LOG_VEGA+INTERACTION*=0**	0.5024			

Table 2 displays the results from Equation (3), where the dependent variable of earnings management is represented by abnormal accruals. Refer to Appendix A for variable definitions.
***,**,* denote p < 0.01, p < 0.05, and p < 0.10, respectively.

Meeting or Beating Analysts' Earnings Forecast Results

To test if auditor industry expertise has an effect on the relationship between meeting or beating analysts' earnings forecast, we run a logit regression based on Equation (3) with the added control variables mentioned in *Sample Construction*. The results are reported in Table 3. Both models are significant (p <0.001) with pseudo R^2 of approximately 11%. The regressions also contain industry and year fixed effects. Like the abnormal accrual regression, Model 2 demonstrates that the coefficient on *LOG_VEGA* is negative but not significant.

The interaction model in Table 3 captures the effect of auditor industry specialization on meeting or beating analysts' earnings forecasts and equity incentives. The coefficient on *LOG_VEGA* is negative; however, it is insignificant. For the interaction term, the coefficient is positive and significant. The interpretation of this coefficient is that there is a greater likelihood of barely meeting or beating analysts' earnings forecasts when audited by a specialist than when audited by a non-specialist. However, in the joint test of significance of (*LOG_VEGA+INTERACTION*=0), the effect is not significantly different from zero with a p-value of 0.1107. These results are similar to the findings of misreporting as measured by abnormal accruals.

The above results of abnormal accruals and meeting or beating analysts' earnings forecasts are examples of earnings management within the bounds of Generally Accepted Accounting Principles (GAAP). In the next section, we examined the relationship of restatements, equity incentives, and auditor industry expertise. A restatement is different because it is a financial misreporting that is outside the rules of GAAP and is more egregious than abnormal accruals or meeting or beating analysts' earnings forecasts.

Table 3. Meet or Beat Results

Logit Regression of Meeting/Beating Analysts' Earnings Forecasts and Auditor Industry Specialization				
	Model 2		**Interaction Model**	
Variable	**Estimate**	**Pr > ChiSq**	**Estimate**	**Pr > ChiSq**
INTERCEPT	0.5446	0.688	0.8456	0.534
LOG_VEGA	-0.0228	0.597	-0.0621	0.173
LOG_DELTA	0.1172**	0.032	0.1186**	0.031
LOG_CASH	-0.2974**	0.014	-0.2885**	0.018
SIZE	0.1504**	0.043	0.1443*	0.053
STDEARN	0.2469	0.775	0.2760	0.749
LEV	-0.4323	0.251	-0.4357	0.247
LOSS	-0.1639	0.428	-0.1639	0.428
MB	0.0168	0.343	0.0158	0.370
LIT	0.2416	0.113	0.2328	0.128

ZSCORE	-0.0344	0.492	-0.0371	0.459
TENURE	0.1098	0.258	0.1109	0.254
ROA	0.6455	0.445	0.6631	0.436
TA	0.8193	0.366	0.8506	0.349
STDFOR	-11.7333***	<.0001	-11.7249***	<.0001
LN_NUMEST	0.2894**	0.023	0.2923**	0.022
TENURE_CEO	0.0002	0.971	0.0003	0.960
DUAL	0.0132	0.888	0.0133	0.888
BOARDSIZE	0.0170	0.539	0.0204	0.461
LAF	-0.0916	0.338	-0.1066	0.267
SPECIALIST	-	-	-0.6786*	0.066
INTERACTION	-	-	0.1761**	0.013

R^2	0.1096	0.113
N=	3,917	3,917
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Joint Test	**p-value**	
***LOG_VEGA+INTERACTION*=0**	0.1107	

Table 3 displays the results from Equation (3), where the dependent variable of earnings management is represented by just meeting or beating analysts' earnings forecasts. Refer to Appendix A for variable definitions.
***,**,* denote p < 0.01, p < 0.05, and p < 0.10, respectively.

Restatement Results

Table 4 contains the results of the logit regression as modeled by Equation (3) with the additional control variables mentioned in *Sample Construction.* Both models are significant (p <0.001) with pseudo R^2 of around 11%. Also, both models contain industry and year fixed effects. For both models with and without the interaction term, *LOG_VEGA* does not load significantly, and the coefficient's sign is positive.

For the interaction coefficient, the coefficient is negative but insignificant. The evidence suggests that regardless of if a firm is audited by a specialist or non-specialist, there is not a relationship between equity incentives and restatements.

Table 4. Restatement Results

Logit Regression of Restatements and Auditor Industry Specialization				
	Model 3		**Interaction Model**	
Variable	**Estimate**	**Pr > ChiSq**	**Estimate**	**Pr > ChiSq**
INTERCEPT	-2.8373**	0.028	-2.8804**	0.026
LOG_VEGA	0.0012	0.978	0.0074	0.873
LOG_DELTA	-0.0943*	0.084	-0.0888	0.105
LOG_CASH	-0.1816	0.169	-0.1774	0.179
SIZE	-0.0851	0.260	-0.0857	0.257
STDCFO	1.0109	0.464	0.9830	0.477
CFO	-2.2264***	0.003	-2.1965***	0.003
LEV	0.7600**	0.037	0.8220**	0.025
LOSS	-0.1868	0.176	-0.1788	0.196
MB	-0.0119	0.544	-0.0125	0.523
LIT	-0.0748	0.635	-0.0607	0.701
ZSCORE	-0.0482	0.287	-0.0405	0.372
TENURE	-0.1123	0.149	-0.1294*	0.097
ABSLTA	-0.2142	0.126	-0.2053	0.143
TENURE_CEO	0.0044	0.492	0.0042	0.512
DUAL	-0.0787	0.408	-0.0728	0.443
BOARDSIZE	-0.0165	0.556	-0.0170	0.545
LAF	0.2312**	0.016	0.2239**	0.020
MATWEAK	1.8456***	<.0001	1.8477***	<.0001
OPINION	-14.7799	0.989	-14.7522	0.990
SPECIALIST	-	-	0.4961*	0.086
INTERACTION	-	-	-0.0424	0.511

R^2	0.1047	0.1077
N=	5,890	5,890
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes

Table 4 displays the results from Equation (3), where the dependent variable of earnings management is represented by restatements. Refer to Appendix A for variable definitions.
***,**,* denote p < 0.01, p < 0.05, and p < 0.10, respectively.

CONCLUSIONS

The results indicate that there does not appear to be statistically significant evidence of a relationship between equity incentives and financial misreporting in firms that are audited by an auditor industry expert. Specifically, the measures of

misreporting that we use include abnormal accruals, the likelihood of barely meeting or beating analysts' earnings forecasts, and financial restatements. While the interaction of *LOG_VEGA* and *SPECIALIST* load significantly in 2 of the 3 measures, the joint test of significance of the effect of vega and financial misreporting is not significantly different from zero for all of the measures of financial misreporting.

This conclusion does provide important information to those concerned with the possibility that senior executives whose compensation are largely tied to performance measures are potentially incented to misreport financial results. This data may seem counter-intuitive; however, we conclude that firms do not benefit from auditor industry expertise, at least in so far as it relates to equity incentives and financial misreporting. In addition, our results point to some potentially significant cost savings as audit firms offering specific industry expertise are quite likely to charge a significant premium for said expertise.

Author Contributions: Conceptualization, J. C. P. and W. G. J.; Data Curation, J. C. P. and W. G. J.; Methodology, J. C. P. and W. G. J.; Validation, J. C. P. and W. G. J.; Visualization, J. C. P. and W. G. J.; Formal Analysis, J. C. P. and W. G. J.; Investigation, J. C. P. and W. G. J.; Resources, J. C. P. and W. G. J.; Writing – Original Draft: C. P. and W. G. J.; Writing – Review & Editing, C. P. and W. G. J.; Supervision, J. C. P. and W. G. J.; Software, J. C. P.; Project Administration, J. C. P. and W. G. J.; Funding Acquisition, J. C. P. and W. G. J. Authors have read and agreed to the published version of the manuscript.

Institutional Review Board Statement: Ethical review and approval were waived for this study, due to that the research does not deal with vulnerable groups or sensitive issues.

Funding: The authors received no direct funding for this research.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

Armstrong, C. S., Jagolinzer, A. D., & Larcker, D. F. (2010). Chief executive officer equity incentives and accounting irregularities. *Journal of Accounting Research*, *48*(2), 225-271. https://doi.org/10.1111/j.1475-679X.2009.00361.x

Armstrong, C. S., Larcker, D. F., Ormazabal, G., & Taylor, D. J. (2013). The relation between equity incentives and misreporting: The role of risk-taking incentives. *Journal of Financial Economics*, *109*(2), 327-350. https://doi.org/10.1016/j.jfineco.2013.02.019

Balsam, S., Krishnan, J., & Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A Journal of Practice & Theory*, *22*(2), 71-97. https://doi.org/10.2308/aud.2003.22.2.71

Bergstresser, D., & Philippon, T. (2006). CEO incentives and earnings management. *Journal of Financial Economics*, *80*(3), 511-529. https://doi.org/10.1016/j.jfineco.2004.10.011

Billings, B. A., Gao, X., & Jia, Y. (2014). CEO and CFO equity incentives and the pricing of audit services. *Auditing: A Journal of Practice & Theory*, *33*(2), 1-25. https://doi.org/10.2308/ajpt50650

Brockman, P., Martin, X., & Unlu, E. (2010). Executive compensation and the maturity structure of corporate debt. *The Journal of Finance*, *65*(3), 1123-1161. https://doi.org/10.1111/j.1540-6261.2010.01563.x

Burns, N., & Kedia, S. (2006). The impact of performance-based compensation on misreporting. *Journal of Financial Economics*, *79*(1), 35-67. https://doi.org/10.1016/j.jfineco.2004.12.003

Chen, H., Jeter, D., & Yang, Y. W. (2015). Pay-performance sensitivity before and after SOX. *Journal of Accounting and Public Policy*, *34*(1), 52-73. https://doi.org/10.1016/j.jaccpubpol.2014.09.003

Cheng, Q., & Farber, D. B. (2008). Earnings restatements, changes in CEO compensation, and firm performance. *The Accounting Review*, *83*(5), 1217-1250. https://doi.org/10.2308/accr.2008.83.5.1217

Coles, J. L., Daniel, N. D., & Naveen, L. (2006). Managerial incentives and risk-taking. *Journal of Financial Economics*, *79*(2), 431-468. https://doi.org/10.1016/j.jfineco.2004.09.004

Core, J., & Guay, W. (2002). Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. *Journal of Accounting Research*, *40*(3), 613-630. https://doi.org/10.1111/1475-679X.00064

Craswell, A. T., Francis, J. R., & Taylor, S. L. (1995). Auditor brand name reputations and industry specializations. *Journal of Accounting and Economics*, *20*(3), 297-322. https://doi.org/10.1016/0165-4101(95)00403-3

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2-3), 344-401. https://doi.org/10.1016/j.jacceco.2010.09.001

Duellman, S., Ahmed, A. S., & Abdel-Meguid, A. M. (2013). An empirical analysis of the effects of monitoring intensity on the relation between equity incentives and earnings management. *Journal of Accounting and Public Policy*, *32*(6), 495-517. https://doi.org/10.1016/j.jaccpubpol.2013.08.007

Erickson, M., Hanlon, M., & Maydew, E. L. (2006). Is there a link between executive equity incentives and accounting fraud?. *Journal of Accounting Research*, *44*(1), 113-143. https://doi.org/10.1111/j.1475-679X.2006.00194.x

Fargher, N., Jiang, A., & Yu, Y. (2014). How do auditors perceive CEO's risk-taking incentives?. *Accounting & Finance*, *54*(4), 1157-1181. https://doi.org/10.1111/acfi.12044

Financial Accounting Standards Board (FASB). (2004). *Accounting Standards Codification* (SFAS123R). Retrieved from https://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1218220124271&acceptedDisclaimer=true

Francis, J. R., Reichelt, K., & Wang, D. (2005). The pricing of national and city-specific reputations for industry expertise in the US audit market. *The Accounting Review*, *80*(1), 113-136. https://doi.org/10.2308/accr.2005.80.1.113

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, *40*(1-3), 3-73. https://doi.org/10.1016/j.jacceco.2005.01.002

Hribar, P., & Craig Nichols, D. (2007). The use of unsigned earnings quality measures in tests of earnings management. *Journal of Accounting Research*, *45*(5), 1017-1053. https://doi.org/10.1111/j.1475-679X.2007.00259.x

Jayaraman, S., & Milbourn, T. (2015). CEO equity incentives and financial misreporting: The role of auditor expertise. *The Accounting Review*, *90*(1), 321-350. https://doi.org/10.2308/accr50854

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Jiang, J. X., Petroni, K. R., & Wang, I. Y. (2010). CFOs and CEOs: Who have the most influence on earnings management?. *Journal of Financial Economics*, *96*(3), 513-526. https://doi.org/10.1016/j.jfineco.2010.02.007

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, *29*(2), 193-228. https://doi.org/10.2307/2491047

Kannan, Y. H., Skantz, T. R., & Higgs, J. L. (2014). The impact of CEO and CFO equity incentives On audit scope and perceived risks as revealed through audit fees. *Auditing: A Journal of Practice & Theory*, *33*(2), 111-139. https://doi.org/10.2308/ajpt-50666

Kim, Y. Li, H., & Li, S. (2015). CEO equity incentives and audit fees. *Contemporary Accounting Research*, *32*(2), 608-638. https://doi.org/10.1111/1911-3846.12096

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, *39*(1), 163-197. https://doi.org/10.1016/j.jacceco.2004.11.002

Laux, C., & Laux, V. (2009). Board committees, CEO compensation, and earnings management. *The Accounting Review*, *84*(3), 869-891. https://doi.org/10.2308/accr.2009.84.3.869

Matsunaga, S. R., & Park, C. W. (2001). The effect of missing a quarterly earnings benchmark on the CEO's annual bonus. *The Accounting Review*, *76*(3), 313-332. https://doi.org/10.2308/accr.2001.76.3.313

Public Company Accounting Oversight Board (PCAOB). (2016, December 31). *Auditing Standards* (AS 1001.02). Retrieved from https://pcaob-assets.azureedge.net/pcaob dev/docs/defaultsource/standards/archived/documents/auditing-standards-as-of-december-14 2017944330126.pdf?sfvrsn=210de147_2

Reichelt, K. J., & Wang, D. (2010). National and office-specific measures of auditor industry expertise and effects on audit quality. *Journal of Accounting Research*, *48*(3), 647-686. https://doi.org/10.1111/j.1475-679X.2009.00363.x

Seetharaman, A., Gul, F. A., & Lynn, S. G. (2002). Litigation risk and audit fees: Evidence from UK firms cross-listed on US markets. *Journal of Accounting and Economics*, *33*(1), 91-115. https://doi.org/10.1016/S0165-4101(01)00046-5

Skinner, D. J., & Srinivasan, S. (2012). Audit quality and auditor reputation: Evidence from Japan. *The Accounting Review*, *87*(5), 1737-1765. https://doi.org/10.2308/accr-50198

Venkataraman, R., Weber, J. P., & Willenborg, M. (2008). Litigation risk, audit quality, and audit fees: Evidence from initial public offerings. *The Accounting Review*, *83*(5), 1315-1345. https://doi.org/10.2308/accr.2008.83.5.1315

APPENDICES

Appendix A: Variable Definitions

Variable	Definition
ABSDACC	Absolute value of discretionary accruals using Modified Jones (1991).
MEET	Indicator variable that denotes if earnings exactly meet or beat the latest analysts' earnings forecast by one cent per share.
SUFFICIENT	Indicator variable that denotes if a firm has sufficient positive discretionary accruals to meet or beat analysts' earnings forecast.
RESTATE	Indicator variable that denotes if a company has restated their financial statements.
ABSLTA	Absolute value of total accruals scaled by lagged total assets.
CFO	Operating cash flow scaled by lagged total assets.
BOARDSIZE	Number of directors on the board.
DUAL	Indicator variable that denotes that the CEO is also the Chairman of the Board.
INTERACTION	Interaction between *LOG_VEGA* and *SPECIALIST*.
LAF	Natural logarithm of (total audit fees).
LEV	Leverage, defined as long-term debt divided by assets.
LIT	Indicator variable that denotes if the company operates in a high litigation industry (SIC 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370).
LN_NUMEST	The natural logarithm of the number of analysts following the company.
LOG_CASH	Defined as the natural logarithm of (1+ CEO's total cash compensation).
LOG_DELTA	Equity based incentives, defined as the dollar change in executive portfolio for a 1% change in stock price. Defined as the natural logarithm of (1+ CEO's delta).
LOG_VEGA	Equity based incentives, defined as the dollar change in the executive portfolio for a .01 change in stock volatility. Defined as the natural logarithm of (1+ CEO's vega).
LOSS	Indicator variable that denotes if net income < 0.
MATWEAK	Indicator variable that denotes if the company has an internal control weakness.
MB	The market-to-book ratio, defined as market value of equity divided by book value.
OPINION	Indicator variable that denotes if the company received a going-concern audit opinion.

ROA	Return on assets, defined as earnings before extraordinary items divided by total assets.
SIZE	Log of total assets.
SPECIALIST	Indicator variable equal to 1 if a firm is a nat_spec1 or nat_spec2 in a given fiscal year.
SPECIALIST_1	Indicator variable that takes 1 if the auditor has the largest market share in a 2 digit SIC category and if its market share is 10% points or more greater than the second-largest industry leader.
SPECIALIST_2	Indicator variable that takes 1 if the auditor has at least a 30% market share in a 2 digit SIC category per year.
STDCFO	Volatility of operating cash flow (scaled by lagged total assets).
STD_EARN	ROA volatility defined as the standard deviation of five annual observations.
STD_FOR	Analysts' earnings forecasts volatility defined as standard deviation of five annual observations.
TA	Total accruals scaled by lagged total assets.
TENURE	The natural logarithm of (the number of years that the auditor has audited the firm's financial statements).
TENURE_CEO	The natural logarithm of (number of years that the CEO has been in place).
ZSCORE	Altman's score, measures the likelihood of company survival. The lower the score the greater the bankruptcy risk.

Publisher's Note: CRIBFB stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

© 2022 by the authors. Licensee CRIBFB, USA. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).

International Journal of Accounting & Finance Review (*P-ISSN 2576-1285 E-ISSN 2576-1293)* by CRIBFB is licensed under a Creative Commons Attribution 4.0 International License.