



The Impact of Audit Partner Identification on Restatements as Audit Quality

Master thesis Accounting, Auditing & Control
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05-07-2021

Abstract

This paper examines the influence of the newly implemented audit partner identity disclosure rule implemented by the PCAOB on audit quality. The research has been performed using data of U.S. firms audited by PCAOB registered firms from 2014 to 2018. The proxy restatement is used for audit quality in this paper. In this research, the results show that after the implementation of rule 3211, there has not been a significant decrease in restatements.

However, I also examine the influence of firms audited by Big-Four firms. The results show that firms audited by Big-Four firms tend to have a significant decrease in restatements after the implementation of rule 3211. Therefore, this paper provides evidence that the implementation of rule 3211 does not result in a decrease in restatements. However, using a smaller sample and firms audited by a Big-Four company does result in a significant decrease of restatements and therefore, as implicitly argued by the PCAOB, increased the audit quality.

Keywords: Restatements, Audit Partner Identity Disclosure, Big-Four Reputation, PCAOB, Form AP

Data availability: Data are available from the sources as mentioned in the text and appendixes

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1. Introduction

The cradle of the financial world is based on the reliability of the financial statements, and as proven several times, the Public Company Accounting Oversight Board (hereafter “PCAOB”) implemented a rule to amplify the audit quality to enhance the reliability of the financial statements in the United States (U.S.). The PCAOB is an independent board that oversees the audits of public companies in the U.S. The PCAOB is created by the Sarbanes-Oxley act of 2002 to oversee the audit firms and their audits on public companies. The main goal of the PCAOB is to protect investors and other public that is interested in the financial statements by assuring informative, accurate and independent audit reports (pcabus.org, 2021) After the Sarbanes-Oxley act in 2002, the PCAOB implemented several rules to improve the quality of the audits of the financial statements. On the 31st of January 2017, the PCAOB implements rule 3211 to improve the transparency and accountability of the audit process and thereby the quality of the audit. However, the Center of Audit Quality (2012) argue that the audit partners are exposed to an unreasonable litigation risk due to the implementation of rule 3211. One of the proxies to measure audit quality is the proxy restatements. Restatements occur when a material misstatement is found after the publication financial statement. Therefore, when no restatement occurs, the audit quality can be interpreted as sufficient. Restatements can occur through the failure of the auditor or by reporting failure of the firm (Stanley and DeZoort, 2007).

This paper provides empirical evidence on the relation between the implementation of rule 3211 by the PCAOB and restatements of financial statements for firms in the U.S. More specifically, I examine if the implementation of rule 3211 influences the audit quality measured by restatements. Therefore, the research question that will be empirically tested in my thesis is defined as:

How did the implementation of rule 3211 by the PCAOB affect the audit quality measured by the proxy restatements?

Providing an answer to this research question is important since prior research on the relationship between the implementation of rule 3211 and restatements does not provide a demarcated conclusion.

2. Literature review

Prior literature on the research topic shows divergent results. Since this research examines the effect of the implementation of rule 3211 on restatements, a literature review is conducted on three different areas.

First, prior literature on rule 3211 is addressed. Rule 3211 is a newly implemented rule by the PCAOB. However, there is already a lot of research published about the effects of the implementation. Next, an overview of prior literature about the effect of the implementation on audit quality is provided. Lastly, an overview of prior literature on restatements is given.

2.1. Rule 3211

On December 15th 2015, the PCAOB adopted new rules regarding the identification of the audit participants in the so-called Form Audit Participators ('Form AP'). The implementation of this rule, rule 3211, came into effect on 31-01-2017. Since the implementation of the new rule, audit firms are obligated to report the names of the engagement partners and other accounting firms that participated in the audits of public companies in the Form AP. When an audit firm participates in more than 5% of the total audit, the main audit firm has to disclose the restricted information of the participating audit firm in the Form AP filed within 35 days after the submission of the audited company's 10-K filing (PCAOB, 2017). Also, the percentage of the total hours contributed to the audit by the other audit firms must be disclosed by the main audit firm. When an audit firm participates in less than 5% of the total audit, the main audit firm only must disclose the number of firms that participated and their percentage of hours.

The Form AP is a restricted form for U.S firms to improve transparency regarding the audit partner and other accounting firms that participate in the audit (PCAOB, 2017). Rule 3211 is restricted to all audit firms under the PCAOB. Only audits of brokers and companies under Exchange Act Rule 17a-5 are exempted.

The main goal of the implementation of rule 3211 is to improve the audit quality of the firms in the U.S. by increasing the audit participants' sense of accountability and audit process transparency about who is responsible (PCAOB, 2015). James Doty, former chairman of the PCAOB, said the following about the implementation of rule 3211: "Auditing is a profession built on reputation, and one important way investors can assess the quality of an audit is to know who conducted that audit."

2.2. Audit quality

Along the possible increase in transparency with implementing rule 3211 by the PCAOB, the goal is to improve the audit quality by affecting the auditors' behavior. Audit quality is defined by DeAngelo (1981) as the joint probability of detecting and reporting material financial statement errors. However, Francis (2004) argues that no definition of audit quality is possible due to its complexity. Audit quality is seen as a service, and the amount of service conducted at an audit is not observable since all sorts of companies need different kinds of services.

Cunningham, Li, Stein and Wright (2019) argue that there are two main reasons why the implementation of rule 3211 will lead to higher audit quality. First, they state that transparency provides more information about the audit to investors. This results in a better understanding of the thoroughness of the audit process. Also, this helps the audit committee to choose an auditor with firm characteristic specific audit experience. Secondly, Cunningham et al. (2019) argue that accountability refers partly to identifiability. Therefore, the researchers suggest that, if the partners feel more responsible since they are personally linked to the audit process, the audit quality will increase.

Already a lot of research is conducted on the impact of the implementation of rule 3211 and audit quality. Carcello and Santore (2015) argue that after the implementation of the partner disclosure, more conservative accounting and more evidence gathering by the auditors occur. Also, they expect that partners of big four firms are more affected by the implementation of the rule due to reputational risks. Nevertheless, the research of Carcello and Santore (2015) is conducted before the implementation of rule 3211.

Prior research from Burke, Hoitash and Hoitash (2018) show that audit quality, based on the proxy discretionary accruals, increases after the implementation of Rule 3211. Also, the researchers find that there is an increase in audit fees and a decrease in the delay of an audit.

Brown, Gissel and Vitalis (2019) find that the documentation of the Form AP results in higher reporting quality since the audit partners tend to influence their reputation on audit quality. Also, the researchers find that the audit partners think that increasing accountability will lead to adverse outcomes.

Therefore, Burke et al. (2018) and Brown et al. (2019) conclude that the implementation of rule 3211 has a positive influence on audit quality. However, research from Cunningham et al. (2019) find that the implementation of rule 3211 does not result in significant improvements

in audit quality based on discretionary accruals, propensity score to misstatements and the likelihood of issuing an incorrect material weakness opinion.

Lee and Levine (2020) find that while Form AP disclosure increases individual partners' incentives to provide high-quality audits for a given level of internal quality control within the client, it may simultaneously decrease the client's incentives to maintain good internal quality control systems, leading to a net degradation in audit quality. Therefore, Lee and Levine (2020) argue that the implementation of rule 3211 does not result in a significant change in audit quality.

Francis (2004) relates low audit quality to audit failure. Francis (2004) argues that audit failure occurs in two circumstances: When Generally Accepted Accounting Principles failures are not enforced by the auditor and when an auditor fails to issue a modified or qualified audit report in appropriate circumstances (audit report failure). In both cases, the financial statements are misleading to the stakeholders. Therefore, Francis (2004) argues that audit quality can be measured by the failure of audits resulting in restatements. Also, the PCAOB expects that the implementation of rule 3211 motivates partners to increase audit effort and ties to mitigate restatements (Cunningham et al, 2017).

Since audit quality is not directly observable but can be related from several proxies such as going concern opinions, discretionary accruals and restatements, the measurement will be conducted by one of these proxies. In this research, I follow Francis (2004) using the proxy restatements to estimate the change in audit quality after implementing rule 3211.

2.3. Restatements

Restatements occur when a material error or misstatement in a previous financial statement has been detected afterwards. This error must be corrected to enhance the accuracy of the financial statements. All the stakeholders of a company rely on the financial statements. Therefore, the financial statements should be free from material misstatements. When a material misstatement is discovered after the presentation of the quarterly or annual report, a company's management needs to correct the report with a correction in the form of a restatement (Flanagan, Muse and O'Shaughnessy, 2008).

These misstated financial statements can be caused by management's decision of committing fraud. However, this is not always the case. Palmrose, Richardson and Scholz (2004) argue that it is often hard to determine the underlying cause that led a financial statement

to be restated. Plumlee and Yohn (2009) argue that non-fraudulent misstatements can be attributed to misunderstanding the interpretation of certain accounting standards.

When a company restates their financial statement, this has a lot of influence on its business. Anderson and Yohn (2002) find that a restated financial statement leads to a lower market value of the company. Also, the research of Palmrose et al. (2004) find a negative stock price reaction after the restatement of a financial statement. Based on these two researches, I conclude that the restatement of a financial statement has a negative influence on a company's financial performance.

Restatements do not only have a bad influence on the financial performance of a company. Lambert, Luippold and Stefaniak (2018) find that investors are less likely to invest in a company when the associated audit partner is also the audit partner of a company with a restated financial statement.

As mentioned before, Cunningham et al. (2017) and Burke et al. (2018) do not use the restatements as a proxy for audit quality. However, they refer in the recommendations for future research on the possible impact of rule 3211 and the audit quality measured by restatements. Also, Cunningham et al. (2017) do not use the restatements since restatements were not feasible at the time of the research. Restatements are not available in such a short period since, after some years, restatements still can occur. Lastly, Francis (2014) argues that restatements are the only way to measure audit quality.

Prior research from Rajgopal, Srinivasan & Zheng (2021) find that restatements consistently predicted all the top six audit deficiencies¹. Therefore, when no restatement of a financial statement occurs, restatements can be derived as the best proxy for audit quality. Therefore, in this research, the variable Restatements is used as the proxy for audit quality.

As mentioned before, Both Burke et al. (2018) and Cunningham et al. (2017) suggest in their possibilities for future research the relation between the implementation of rule 3211 and restatements. Therefore, investigating the relation between the implementation of rule 3211 and restatements will be an addition to current financial accounting research.

3. Hypothesis development

As mentioned before, several researchers suggest possible future research on the impact of rule 3211 on restatements as audit quality. To answer the research question provided in this

¹ Six top audit deficiencies: Evidence, DueCare, Opinion, Plan, Independence & Internal control.

paper, two hypotheses will be tested. As discussed in the literature review, prior literature finds different results on the implementation of rule 3211 and audit quality. The related literature shows that the implementation of rule 3211 has a positive influence on the audit quality (Cunningham et al. 2019; Brown et al. 2019; Burke et al. 2018; Carcello et al. 2015).

Lee and Levine (2020) argue that the net effect of the implementation of rule 3211 is minimal since the quality of the internal control decreased while the implementation increased high-quality audits by the audit partners. Therefore, the goal of rule 3211 is in line with the prior literature.

The measurement of audit quality can be conducted by several proxies. Francis (2014) argues that audit quality can be measured by the failure of audits resulting in restatements. Also, Rajgopal et al. (2021) argue that restatements consistently predicted all the top six audit deficiencies.

As mentioned before, the goal of the PCAOB is to improve the audit quality by implementing rule 3211. As mentioned before, the intention of rule 3211 from the PCAOB, and the fact that fewer restatements can be seen as audit quality, the first hypothesis for my research is specified as follows:

H₁: The implementation of rule 3211 does result in a decline of restatements.

The second hypothesis will investigate whether there is a different reaction for Big-Four and non-Big Four firms when measuring audit quality through restatements. In an early stage of research, DeAngelo (1981) argues that larger audit firms (Big-Four firms) tend to deliver higher audit quality since Big-Four firms have ‘more to lose’. Big-Four firms have more reputation risk and deliver more audit quality. Also, Big-Four firms are in the capability of using more and specific resources within the organization. However, Big-Four and non-Big-Four firms are held to the same regulatory and professional standards and need to deliver the same amount of quality.

The second hypothesis of this paper aims at finding evidence on whether Big-Four firms tend to deliver higher audit quality after the implementation of rule 3211 measured by restatements. Therefore, the second hypothesis is specified as follows:

H₂: The implementation of rule 3211 results in a difference in restatements for companies audited by Big-Four firms and non-Big-Four firms.

4. Sample selection and Data

To test the hypothesis, data is obtained from Audit Analytics for the variable restatements. The data of Audit Analytics is merged with the data from Compustat for company-level accounting data for firms in the U.S. The sample period starts 2 year prior ($t = -2$) and two year after ($t = +2$) the implementation ($t = 0$) of rule 3211 by the PCAOB. Therefore, the sample consists of firm-year observations from 2014 till 2018. Table 1 gives an overview of the sample selection procedure.

Table 1: Sample Selection and Sample Distribution	
Panel A: Sample selection procedure of the Restatement sample	
Sampling procedure	N
Firm year observations for firms in the US from 2014-2018 with Company Fkey from Audit Analytics	52.071
<i>Less:</i> Observations with critical missing values after merging with Compustat and Board_Ex	-33.680
<i>Less:</i> Auditor firms that are not PCAOB registrant	-1.142
<i>Less:</i> Financial companies with SIC Codes 6000-6999	-3.905
Final sample for testing the hypotheses	13.344

Table 1 presents the sample selection used for this paper.

First, I start with the total sample of Audit Analytics from January 1, 2014 till January 1, 2018 resulting in a sample of 52.071 firm-year observations. Next, I use data from Compustat and BoardEx for the control variables. I merge the data using the CIK code, combined with the fiscal year. With this newly-created variable, firm-year variables were made unique and data from different datasets could be merged. After the merging and the data loading, I delete 33.680 firm-year observations that contain missing values which are critical for my research. To assure all the audit companies are obligated to fill in the Form AP, I add the variable: Auditor_pcaob. This variable indicates whether the auditor is PCAOB registered and therefore, should fill in the Form AP. This results in deleting 1.142 more firm-year variables observations.

Finally, I delete firms operating in the financial services industry (SIC Code 6000-6999) resulting in deleting 3.905 firm-year observations. After deleting the mentioned observations, the final sample for this research consists of 13.344 firm-year observations for both my hypotheses.

Lastly, I apply winsorization to the following variables: Audit-fees, Non-Audit_fees, ROE, ROA, Leverage and Total_assets. I use winsorization on the level of 99 percent to reduce the effect of outliers to enhance the robustness of the sample.

5. Research design

To test the hypothesis, the predictive validity framework is given in Appendix B. The predictive validity framework shows how the conceptual relation will be operationalized in this thesis. For my research, a regression test is conducted. The regression will be conducted through a multivariate regression analysis. The multivariate regression analysis formula is given below:

$$P(\text{Restatement } it = 1) = \alpha + \beta_1 * \text{Post}_{it} + \text{CONTROLS } it + \varepsilon (1)$$

The binary variable Restatement is equal to 1 if the corresponding financial statement of the company has been restated due to a material misstatement. For this research, the initial year of the financial statement is used and not the year of the restatement, since the filling of the AP is based on the audit of the initial fiscal year. Therefore, the implementation of rule 3211 can be measured without any sample selection concerns.

The variable Post is the variable of interest. This variable is equal to 1 if the Form AP is filled in after the implementation of rule 3211, being the 31st of January 2017. Therefore, most of the auditor reports regarding the financial statements of the financial year 2016 already consist of a filled-in Form AP. If the variable Post is negative and statistically significant, this will mean that my null hypothesis will be rejected.

As shown in formula 1, the regression also contains control variables (CONTROLS). I follow Dechow, Sloan and Sweeney (1996) with using board size as a control variable since they argue that larger boards result in more restatements. Furthermore, Beasley (1996) argues that the growth of a firm can negatively influence the internal control system. Therefore, I include the growth of total assets as another control variable. Furthermore, I add audit-related control variables as non-Audit fees, Big 4 and audit fees since a more extended audit results in fewer restatements. Lastly, I control for financial health using the ratio's leverage, return on assets and return on equity.

For the second hypothesis, the same sample is used as for the first hypothesis. The hypothesis is tested using a multivariate regression analysis. For the second hypothesis, the multivariate regression analysis formula is as following:

$$\begin{aligned}
 P(\text{Restatement } it = 1) \\
 = \alpha + \beta_1 * \text{Big_4} + \beta_2 * \text{Post} + \beta_3 * \text{Big_4} * \text{POST} + \text{CONTROLS } it + \varepsilon
 \end{aligned}
 \tag{2}$$

The variable Big_4 is 1 if a company is audited by a Big-Four company, and 0 for companies that are not audited by a Big-Four company. For the second hypothesis, the variable Post has the same meaning as for hypothesis one. Big_4*Post (POSTXBIG4) is the interaction term for the second hypothesis. If this variable is negative and statistically significant, the null hypothesis will be rejected. As argued in the literature review, the implementation of rule 3211 has a higher influence on the quality of the audit, since Big-Four auditors have a higher reputation risk. Therefore, I expect that there is a difference in the number of restatements between firms audited by Big-Four and non-Big-Four firms. Lastly, both models include industry fixed effects using the SIC code to hold account for financial industry inequalities. I do not include time-fixed effects, since adding time-fixed effects could cause multicollinearity issues with the variable Post.

In the research, two additional tests are performed. First, a joint significance test is conducted to ensure the variables of interest are also individually significant. Lastly, to find more significant results, an additional test is conducted with a smaller sample. The sample consists of one year prior and one year past the implementation of rule 3211.

6. Empirical results

In this section, the empirical results are presented. First, the univariate results as the correlation matrix and descriptive statistics are discussed. In the second section, the results of the regressions are discussed. Lastly, a robustness test is conducted on a smaller sample.

6.1 Univariate results

The descriptive statistics are presented in table 2. As can be derived from table 2, ten variables are used for testing the hypothesis. The first three variables: Restatement, Post and Big_4 are binary variables. The remaining variables are all numerical variables. For these ten variables, the number of observations (N), the mean, the standard deviation, the median, pctl 25 and pctl 75 are presented. Also, the data before and after the implementation of rule 3211 is split into two different samples with their corresponding descriptive statistics. As can be conducted from table 2, the mean of restatements is lower in the period before the implementation of rule 3211 than in the period after the implementation. This is not in line with the expectations since, as argued in the literature review, I expect restatements to decline since audit quality would rise. Also, the variables Audit_fees and Non-audit_fees both increase after the implementation of rule 3211. This means that audit partners extended the audit procedures to assure that fewer material misstatements in the financial statement occur. Lastly, the number of audits performed by a Big-Four company does not change significantly. Arguably, companies prefer non Big-Four auditors since, as argued in the literature review, Big-Four companies will perform a more thorough audit after the implementation. However, this cannot be derived from the descriptive statistics.

In table 3 the Pearson correlation matrix with the corresponding levels of significance is presented. As can be derived from table 3, there are several significant moderate correlations, however, no high correlations exist in the dataset. Only the variables POSTXBIG4 is highly correlated with the variable POST and Big4. This makes sense since the variable POSTXBIG4 is derived from these two variables. Considering these observations, it is not likely that any multicollinearity problems will arise. Another concern when computing the first correlation matrix, was that the correlation of the variables Audit_fees, Non_Audit_fees and Total_assets is extremely low correlated with the variable Restatement. Therefore, I compute the natural logarithm of the three variables, resulting in a higher and more reasonable correlation. Also, looking at the research of Blankley, Hurtt and MacGregor (2012), the correlation between the variable Restatement and the natural logarithm Audit_fees, Non_Audit_fees and Total_assets

seems corresponding to their research. Therefore, I replace these variables with their natural logarithm being the variables: A_FeesLOG, NA_FeesLOG and Total_AssetsLOG. Lastly, I find that the variable Restatement, the dependent variable in both my hypotheses, only significantly correlates with the variables Big_4, Leverage, Post, Total_assetsLOG and POSTXBIG4. As I argue in the literature review, the implementation of Rule 3211 should decrease restatements as the audit quality increases. However, as can be derived from the correlation matrix, the correlation between post and Restatement is significantly positively correlated. This does not correspond with the first hypothesis in this paper, since this result implies that the post-period correlates with a restatement of a financial statement. The variable POSTXBIG4 is also negatively correlated with the variable Restatement indicating that a firm audited by a Big-Four firm has fewer restated financial statements.

Table 2: Descriptive statistics of different samples
Descriptive Statistics Total Sample

Statistic	N	Mean	St. Dev.	Median	Pctl(25)	Pctl(75)
Restatement	13,344	0.07	0.26	0	0	0
Big_4	13,344	0.63	0.48	1	0	1
Audit_fees	13,344	1,171,328.00	1,079,362.00	800,000	180,000	2,123,481.0
Non_audit_fees	13,344	83,476.35	82,812.26	48,000	0	190,329.6
ROA	13,344	-0.02	0.10	0.00	-0.11	0.05
ROE	13,344	0.01	0.23	0.01	-0.11	0.14
Leverage	13,344	0.18	0.26	0.05	0.00	0.48
Total_Assets	13,344	1,189,522.00	1,134,243.00	706,855.5	105,761.2	2,745,991.0
Post	13,344	0.63	0.48	1	0	1
Numb_dir	13,344	7.99	2.60	8	6	10

Descriptive Statistics before implementation of rule 3211

Statistic	N	Mean	St. Dev.	Median	Pctl(25)	Pctl(75)
Restatement	4,939	0.07	0.25	0	0	0
Big_4	4,939	0.62	0.49	1	0	1
Audit_fees	4,939	1,071,605.00	1,055,528.00	683,521	132,239	1,856,153
Non_audit_fees	4,939	79,745.17	82,257.63	40,000	0	190,329.6
ROA	4,939	-0.02	0.10	0.00	-0.09	0.04
ROE	4,939	0.01	0.22	0.00	-0.09	0.13
Leverage	4,939	0.16	0.25	0.004	0.00	0.48
Total_Assets	4,939	1,170,878.00	1,120,864.00	671,070	121,101	2,745,991.0
Post	4,939	0.00	0.00	0	0	0
Numb_dir	4,939	7.98	2.63	8	6	9

Descriptive Statistics after implementation of rule 3211

Statistic	N	Mean	St. Dev.	Median	Pctl(25)	Pctl(75)
Restatement	8,405	0.08	0.27	0	0	0
Big_4	8,405	0.64	0.48	1	0	1
Audit_fees	8,405	1,229,928.00	1,088,935.00	879,000.00	215,000.00	2,299,810.00
Non_audit_fees	8,405	85,668.90	83,063.18	53,000.00	0.00	190,329.60
ROA	8,405	-0.02	0.10	0.00	-0.12	0.05
ROE	8,405	0.01	0.23	0.02	-0.13	0.15
Leverage	8,405	0.18	0.26	0.10	0.00	0.48
Total_Assets	8,405	1,200,477.00	1,141,956.00	728,282.00	97,927.00	2,745,991.00
Post	8,405	1.00	0.00	1	1	1
Numb_dir	8,405	7.99	2.58	8	6	10

Table 2 reports the descriptive statistics of the total sample, the sample before implementation and the sample after implementation

Table 3: Correlation Matrix

	Restatement	Big_4	ROA	ROE	Leverage	Post	Numb_dir	A_fees LOG	Total_ Assets LOG	NA_fees LOG	POSTXBIG4
Restatement	1.00										
Big_4	-0.04***	1.00									
ROA	0.01	0.22***	1.00								
ROE	0.01	0.07***	0.57***	1.00							
Leverage	0.02**	0.22***	0.22***	0.01	1.00						
Post	0.02***	0.02***	0.01	0.01	0.05***	1.00					
Numb_dir	0.01	0.35***	0.31***	0.12**	0.19***	0.00	1.00				
A_feesLOG	0.01	0.61***	0.16***	0.06**	0.19***	0.07***	0.26***	1.00			
Total_AssetsLOG	-0.02**	0.52***	0.51***	0.15**	0.34***	-0.00	0.63***	0.39***	1.00		
NA_feesLOG	0.00	0.45***	0.13***	0.05**	0.15***	0.03***	0.20***	0.45***	0.30***	1.00	
POSTXBIG4	-0.03***	0.63***	0.16***	0.06***	0.17***	0.63***	0.23***	0.40***	0.35***	0.29***	1.00

Table 3 reports the Pearson correlation between the key variables. The significance levels are shown by: *p<0.1;**p<0.05;***p<0,001

6.2 Multivariate results

Table 4 column 1 presents the results of the regression formula as presented in the research design for the first hypothesis. Looking at the R^2 of 0.06, which can be seen as a low R^2 , I conclude that the portion of variance for the dependent explained by the independent variable is low.

The first hypothesis examines the impact of the implementation of rule 3211 on restatements. Since the variable Post indicates whether a financial statement corresponds to the financial year before or after the implementation of rule 3211, this is the variable of interest. As can be derived from table 4 column 1, the variable Post has a positive coefficient of 0.010 with a significance level of 0.05. With this result, I accept the null hypothesis and reject the alternative hypothesis. Therefore, I conclude that the implementation of rule 3211 does not result in a decline in restatements. Furthermore, looking at the other variables, I conclude that the coefficients of the variables Big_4 and Total_AssetsLOG are significantly negatively related to restatements. Therefore, being audited by a Big-Four firm has a positive relation with the audit quality of the corresponding financial statement. The total assets, also commonly used to compute the firm size, is also negatively related to the variable restatement as mentioned. Therefore, the bigger the firm, the less likely the financial statement will be restated. The variables Audit fees, Leverage and Number of directors are significantly positively related to restatements, which is not in line with my expectations. Higher audit fees should reflect the amount of time spent on an audit. However, it is also arguable that a higher audit fee could reflect a lower internal control. As the coefficient is not high, the effect is deemed very low.

The results for the regression for the second hypothesis are presented in table 4 column 2. As can be derived from the results, I add the variable POSTXBIG4 compared to the first model to examine the influence of being audited by a Big-Four company on the number of restatements. The R^2 for the second model is 0.008. Although the R^2 of the second model is slightly higher, it is still low. As can be derived from table 4 column 2, the variable POSTXBIG4 is negatively significant. Therefore, firms audited by a Big-Four firm, tend to have a lower probability for a restatement of their financial statement after the implementation of rule 3211. The second null hypothesis can be rejected. I conclude that firms audited by a Big-Four firm have fewer restatements after the implementation of rule 3211.

Table 4: Regression tables

	<i>Dependent variable:</i>	
	Restatement	
	(1)	(2)
Post	0.010** (0.005)	0.037*** (0.008)
Big_4	-0.046*** (0.007)	-0.018** (0.009)
POSTXBIG4		-0.044*** (0.010)
A_feesLOG	0.007*** (0.002)	0.006*** (0.002)
NA_feesLOG	0.001 (0.001)	0.001 (0.001)
ROA	0.030 (0.032)	0.032 (0.032)
ROE	0.011 (0.012)	0.012 (0.012)
Leverage	0.027*** (0.009)	0.027*** (0.009)
Total_AssetsLOG	-0.005*** (0.002)	-0.004** (0.002)
Numb_dir	0.004*** (0.001)	0.004*** (0.001)
Industry-fixed effects	Yes	Yes
Year-fixed effects	No	No
Observations	13,344	13,344
R ²	0.006	0.008
Adjusted R ²	0.001	0.002
F Statistic	9.314*** (df = 9; 13271)	10.463*** (df = 10; 13270)

Table 4 presents the results from the OLS regressions as presented in the research design. The variable of interest for the first hypothesis is the variable Post. The variable of interest for the second hypothesis is the interaction term POSTXBIG4. The significance levels are shown by: *p<0.1; **p<0.05; ***p<0,001

As stated in the hypotheses development, I argue that audit partners of Big-Four companies are more affected by the audit partner disclosure. Therefore, I add the variable PostXBig4 as being the interaction term in the second hypothesis. Since this variable is calculated by multiplying the variables Post and Big_4, joint significance concerns could arise. To enhance that, I follow Cao, Myers and Zhang (2019) with a joint significance test to validate whether the variables are also individually significant. To test this, I conduct a joint significance test. In the joint significance test, the null hypothesis is that all the coefficients together are equal to zero.

As can be derived from table 5, the output of the first joint significance test gives an F-statistic of 13.061 with a corresponding p-value smaller than 0.000. I can conclude that the different variables are also significant. The second joint significance test gives an F-statistic of 33.455 and also a p-value smaller than 0.000. Therefore, I conclude that the joint significance tests show that the combined effect is significantly greater than zero.

Table 5: Joint significance test

Null hypothesis	F	P value
$\beta_1 + \beta_3 = 0$	13.061	<0.000
$\beta_2 + \beta_3 = 0$	33.455	<0.000

Table 5 presents the joint significance test. Coefficients β_1 , β_2 & β_3 show respectively the variables Post, Big_4 and POSTXBIG4.

6.3 Robustness Tests

As Robustness test, the descriptive statistics and the regression have been conducted using a smaller sample. The sample only consists of the fiscal years 2015 and 2017 being respectively Pre- and Post-implementation.

As shown in table 6, the mean of restatements is higher for the period before the implementation of rule 3211 than for the period after the implementation. This is in line with the expectations since, as argued in the literature review, I expect restatements to decrease because audit quality would rise. This differs from the total sample as presented in table 2. In the total sample, the mean of the restatements increases after the implementation of rule 3211. Equal to the normal sample, the audit fees and total assets increase after the implementation of rule 3211.

As can be derived from table 7, the variable Post is negatively significant at a 10% level. Remarkably, the results flipped from positive to negative. Therefore, for the smaller sample, I reject the null hypothesis and conclude that the implementation of rule 3211 results in a decrease in restatements. The variable post is significant at a significance level of 10% in contrast to the original sample where the variable post was significant at a 5% level. It is not remarkable that the significance level is smaller for the smaller sample. When the sample size N decreases, it is normal that the power of the test decreases. Nevertheless, it even strengthens the test since the variable is still significant.

For the second hypothesis, the variable POSTXBIG4 is again significant at the 1% level. Although the coefficient decreases a bit, it is not remarkable. However, as mentioned before, the power of the test increases since the variable POSTXBIG4 is still significant when the sample size N decreases.

Table 6: Descriptive statistics smaller sample robustness test
Descriptive Statistics Total Sample

Statistic	N	Mean	St. Dev.	Median	Pctl(25)	Pctl(75)
Restatement	5,021	0.06	0.24	0	0	0
Big_4	5,021	0.62	0.49	1	0	1
Audit_fees	5,021	1,066,720.00	1,004,930.00	711,850	130,000	1,992,525
Non_audit_fees	5,021	69,874.36	69,614.91	39,680	0	157,339.1
ROA	5,021	-0.01	0.09	0.00	-0.09	0.05
ROE	5,021	0.01	0.21	0.00	-0.08	0.13
Leverage	5,021	0.13	0.21	0.01	0.00	0.37
Total_Assets	5,021	1,238,616.00	1,180,827.00	732,398	107,759	2,849,373.0
Post	5,021	0.51	0.50	1	0	1
Numb_dir	5,021	8.00	2.65	8	6	10
Descriptive Statistics before implementation of rule 3211						
Statistic	N	Mean	St. Dev.	Median	Pctl(25)	Pctl(75)
Restatement	2,442	0.07	0.25	0	0	0
Big_4	2,442	0.61	0.49	1	0	1
Audit_fees	2,442	1,041,736.00	992,091.80	700,037.5	126,715	1,892,483
Non_audit_fees	2,442	69,836.87	69,238.20	40,000	0	157,339.1
ROA	2,442	-0.02	0.09	0.00	-0.09	0.05
ROE	2,442	0.01	0.21	0.00	-0.08	0.13
Leverage	2,442	0.12	0.20	0.002	0.00	0.37
Total_Assets	2,442	1,185,664.00	1,164,584.00	645,996	111,119	2,849,373.0
Post	2,442	0.00	0.00	0	0	0
Numb_dir	2,442	7.95	2.64	8	6	9
Descriptive Statistics after implementation of rule 3211						
Statistic	N	Mean	St. Dev.	Median	Pctl(25)	Pctl(75)
Restatement	2,579	0.06	0.23	0	0	0
Big_4	2,579	0.62	0.49	1	0	1
Audit_fees	2,579	1,090,378.00	1,016,563.00	728,395.00	131,698.00	2,076,274.00
Non_audit_fees	2,579	69,909.86	69,983.15	38,847.00	0.00	157,339.10
ROA	2,579	-0.01	0.10	0.00	-0.08	0.05
ROE	2,579	0.01	0.22	0.003	-0.08	0.14
Leverage	2,579	0.14	0.21	0.03	0.00	0.37
Total_Assets	2,579	1,288,755.00	1,194,066.00	841,686	105,735.5	2,849,373.0
Post	2,579	1.00	0.00	1	1	1
Numb_dir	2,579	8.04	2.67	8	6	10

Table 6 reports the descriptive statistics robustness test sample. Presented is the total sample, the sample before implementation and the sample after implementation

Table 7: Robustness test OLS Regression

	<i>Dependent variable:</i>	
	Restatement	
	(1)	(2)
Post	-0.012* (0.007)	0.013 (0.011)
Big_4	-0.044*** (0.011)	-0.023* (0.013)
POSTXBIG4		-0.042*** (0.014)
A_feesLOG	0.005* (0.002)	0.005* (0.002)
NA_feesLOG	0.001 (0.001)	0.001 (0.001)
ROA	0.0001 (0.054)	-0.002 (0.054)
ROE	0.054*** (0.021)	0.055*** (0.021)
Leverage	0.013 (0.018)	0.012 (0.018)
Total_AssetsLOG	-0.004* (0.002)	-0.004 (0.002)
Numb_dir	0.006*** (0.002)	0.006*** (0.002)
Industry-fixed effects	Yes	Yes
Year-fixed effects	No	No
Observations	5,021	5,021
R ²	0.009	0.011
Adjusted R ²	-0.005	-0.004
F Statistic	5.066*** (df = 9; 4948) 5.428*** (df = 10; 4947)	

Table 7 presents the results from the OLS regressions from a sample from only the years 2015 and 2017. The variable of interest for the first hypothesis is the variable Post. The variable of interest for the second hypothesis is the interaction term POSTXBIG4. The significance levels are shown by: *p<0.1; **p<0.05; ***p<0,001

7. Conclusion

The introduction of audit partner identification in the AP form by the PCAOB is implemented since the 31st of January 2017. The goal of the PCAOB is to improve the transparency and accountability of the audit partner and thereby improve the quality of the audit. However, the audit firms are concerned about the litigation risk and the increasing privacy risks involving the implementation.

The quality of the audit can be measured by several proxies. Already, a lot of research is conducted on audit quality proxies such as going concern opinions and discretionary accruals. However, the relation between the implementation of rule 3211 and restatements is not conducted yet due to the time in which a restatement still can occur. Also, several researchers recommend examining the relationship between audit partner identification and the number of restatements in their recommendations for future research. Thereby, this research examines whether the implementation of rule 3211 affects the audit quality measured by restatements. First, I investigate whether there is a significant decrease in restatements after the implementation of rule 3211.

The descriptive statistics show that the mean of the restatements increases between the Pre- and Post-sample. Next, the regression shows that the variable Post is positively significant. Therefore, I can conclude that the restatements significantly increase after the implementation of the audit partner identification rule. This result is contradictory to the expectations since I argue that the audit quality should improve after the implementation of rule 3211. Thereby, the initial motivation to implement this rule, increasing accountability and transparency, does not succeed based on the proxy restatements.

However, as a robustness test, I reduce the sample to one year prior and one year after the implementation. The results of the robustness test were contradictory compared to the original sample. For the smaller sample, the variable post was negatively significant. Therefore, the null hypothesis is rejected and I conclude that for this sample there is a decrease in restatements after the implementation of rule 3211.

In the second hypothesis, the impact on whether a firm audited by a Big Four firm is measured. The results indicate that firms audited by a Big Four firm have significant fewer restated financial statements than firms audited by non-Big Four firms. For the smaller sample, the results were comparable with the original sample.

The results of the first hypothesis for the original and smaller sample are contradictory. Two possible reasons are conceivable. The audit partner identification makes audit processes more extensive as could be derived from the increase in audit fees. Therefore in the first years after the implementation, audit partners are more sceptical which results in more restatements. Another possible explanation is that the fiscal year 2016 and 2018 has more restatements than the fiscal year 2017 which resulted in these unexpected outcomes.

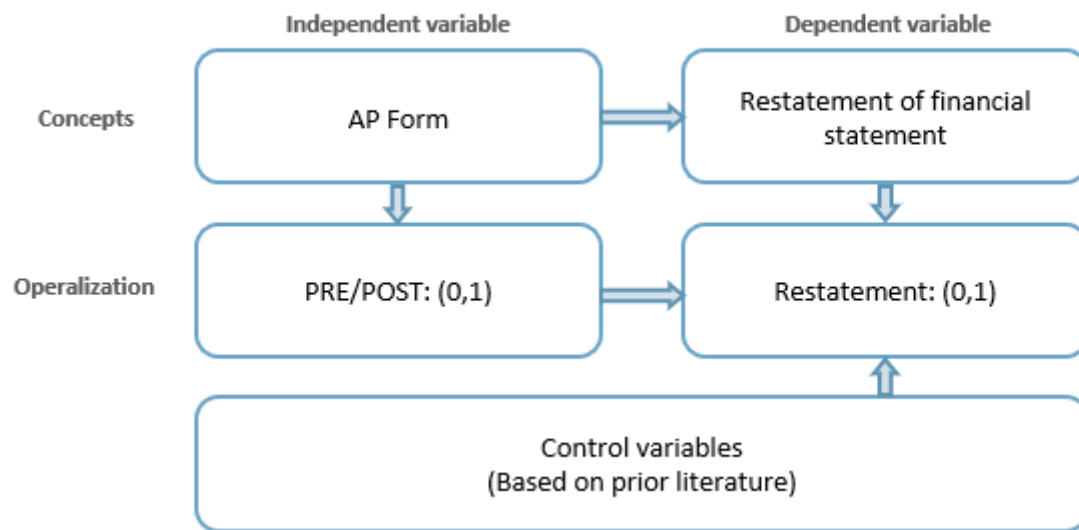
This research contributes to current accounting research since no prior research has been conducted on the impact of rule 3211 on audit quality measured by restatements. Since the results in this paper do not completely suggest that the audit quality raises after the implementation of rule 3211, the impact of rule 3211 is not proven yet. Therefore, additional research should be conducted to state a demarcated conclusion. Also, this research is conducted only for U.S. firms, since the PCAOB rules are only applicable for U.S. firms. Therefore, the external validity of this research is low since the results cannot be generalized to other countries.

Lastly, every year the reliability of the restatement sample increases since financial statements could still get restated and extending the dataset will increase the reliability. Therefore, I suggest that in the future this research should be conducted again with an extended sample.

8. Appendix

Appendix A. Variable Definitions	
Variable	Definition
<i>Variables used in the main analysis</i>	
Restatement	Binary variable that is equal to 1 if the corresponding financial statement has been restated in the subsequent year. (Source: Audit Analytics)
Post	Binary variable that is equal to 1 for firm-year observations where the Form AP has been filled in after the implementation of rule 3211, being 31st of January 2017. (Source: Audit Analytics)
Big_4	Binary variable that is equal to 1 if a company has been audited by a big four company (EY, KPMG, Deloitte or PWC) and equal to 0 if not. (Source: Audit Analytics)
Auditor PCAOB	Binary variable that is equal to 1 if the auditor is registered with the PCAOB at the time of the audit. (Source: Audit Analytics)
Audit fees	Consists of all fees necessary to perform the audit or review in accordance with GAAS. This category also may include services that generally only the independent accountant reasonably can provide, such as comfort letters, statutory audits, attest services, consents and assistance with and review of documents filed with the SEC. (Source: Audit Analytics)
Non audit fees	The sum of Audit Related Fees, Benefit Plan Related Fees, FISDI Fees, Tax Related Fees and Other/Misc Fees. (Source: Audit Analytics)
Number of directors	Number of directors of the board's company (Source: Board_ex)
ROE	Net income over total equity (Source: Compustat)
ROA	Net income over total assets (Source: Compustat)
Leverage	Total debt over total equity (Source: Compustat)
Total assets	Total debt of the company (Source: Compustat)

Appendix B: Predictive validity framework



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