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ERASMUS UNIVERSITY ROTTERDAM Erasmus School of Economics Master Thesis – Accounting & Auditing

"Male vs Male: difference in audit quality and audit fee?"

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Abstract

This thesis investigates whether the proportion of female audit partners in an office affects the audit quality of male audit partners within the same office. Due to the recent partner name disclosure requirements, the possibility arises to use specific partner characteristics and combine this with audit outcome at an office level instead of at a national level. The audit quality and audit fees of male audit partners in diverse office are compared to male audit partner in male-dominated offices. Based on higher audit quality and audit fees for female audit partners, the gender diversity in offices is expected to increase the audit quality and audit fee of male audit partners. This thesis finds weak evidence for higher audit quality for male audit partners in diverse offices, but there is no evidence of higher audit fees for those audit partners. In the additional analysis, a higher national gender diversity rate seems to counteract the positive impact on audit quality of male audit partners of the female audit partners at an office level. Concluding, this thesis suggests there is a significant improvement of audit quality of male audit partners.

Keywords: Female audit partners; Audit risk; Audit partner characteristics; Audit quality; Audit fee; Diversity; Audit office characteristics;

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1. Introduction

All Big 4 audit firms are recently committing to diversity and inclusion. For instance, in the USA PWC states: "Our diversity initiatives and strategies are designed to attract, develop, and advance the most talented individuals regardless of their race, sexual orientation, religion, age, gender, disability status or any other dimension of diversity." (PWC, 2018). On the other side, KPMG describes their policy regarding diversity as "to actively seek and encourage qualified diverse businesses, especially minority-, women-, veteran-, and LGBT-owned businesses, to compete for the firm's business." (KPMG, 2018). Similar beliefs, values, and policy exist within the other Big 4 audit firms, Deloitte and EY. Also, smaller audit firms are striving for more diversity, which shows the growing social awareness of diversity.

Diversity, beliefs, values, and policies are fundamental concepts leading to the research question. More specific, the difference between female and male and the interaction between genders is the main focus of this research. As stated in the mentioned diversity policies, audit firms are striving for more females within the audit practice and the firms want to eliminate the so-called "woman-gap". The policies are resulting in more female audit partners, but there is still no equal amount of male and female audit partners.

An audit partner signs the audit report and therefore is responsible for the performed work during the audit. Furthermore, the audit partner is an owner and an agent within the partnership (Huddart and Liang, 2013). In practice, the audit partner makes decisions regarding various tasks at a decentralized level (Liu and Simunic, 2005). The decentralized decision can be at office or partner level. The existence of less female audit partners results in a different combination of partner compositions in offices. There are offices with a few female partners and offices containing only male partners. Prior research shows differences in audit quality and audit fee between female and male audit partners. The same risk attitude is expected and therefore female and male audit partners will put equal effort in the audit engagement. This leads to the following research question:

Do the audit quality and audit fee differ between male partners of all male partners offices and male partners of diverse partners offices?

Recently, the opportunity to investigate individual audit partner characteristics is given due to new requirements. In January 2017 the U.S. Public Accounting Oversight Board (PCAOB) mandated audit partners names to be disclosed in the audit report. As a result, research shifts more towards individual assessment of audit partners regarding audit outcome. Furthermore, there is some prior research that focusses on the difference between male and female. The outcome of this research relates to the individual assessment of the audit partner. Besides the shift towards the individual audit partner, more research is done at office level of audit firms. Audit office competition and the relation between the national level of an audit firm compared to the office level are topics of interest in prior research. By combining the office level and individual assessment of audit partners, this thesis will contribute to the existing literature. Only male partners and their audit outcome will be the focus of this thesis by investigating the impact of the difference in gender diversity in offices.

The audit partners names will be retrieved from the PCAOB Auditor search database. In this database, the offices of audit partners will be available, but the gender will not be available. Therefore, through an online tool gender is determined. For the observations that are missing gender specification, the gender is determined by hand collecting the gender of the audit partner. In the research, only male audit partners will be incorporated, but in order to prepare the data, it is also necessary to determine female audit partners in the audit partner list. The determination of diverse offices is only possible when the gender of all audit partners is available. Before removing all female audit partners data, the proportion of female audit partners in the office is added to the data.

This thesis hypothesizes that the higher the diversity within the office, the higher the audit quality for the male audit partners within that office. Also, this thesis hypothesizes that diversity leads to higher audit fees for male audit partners. Prior research finds mixed results regarding higher audit quality by female audit partners. In those cases, female and male audit partners were compared, but the interaction and the impact of the interaction between audit partners are not considered and could, therefore, lead to inconclusive results. Different circumstances of the male audit partners, more interaction with female audit partners that are more risk-averse, could lead to higher audit quality. So, there are male audit partners that interact with female audit partners and there are male audit partners that do not interact with female audit partners, which should be compared.

The results indicate an effect of female audit partners on the audit quality of male audit partners in the same office. The abnormal accruals, both signed and absolute, are used as a measure of audit quality. For all signed abnormal accrual regression models the rate of diversity within an office has a significant impact on the occurrence of abnormal accruals based on a significance level of at least 0.10. The absolute abnormal accrual regression models provide less evidence for the effect of diversity on audit quality. Especially, when firm fixed effects based on the two digits SIC

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code and only observations in 2016 and 2017 are used, there is no significant impact of the diversity on audit quality. In addition to the hypothesis, the national diversity level and interaction between office diversity and national diversity are considered. The regression models with national diversity as the variable of interest do not provide evidence for an association with audit quality. The interaction between national and office level diversity regression models still provide evidence for an association between the office diversity and audit quality. However, the interaction shows that if the national level of diversity is higher, the impact of diversity in audit offices on audit quality becomes less.

These results imply that hiring more female audit partners will improve the audit quality for the male audit partners. However, if the audit firm already has a high diversity level at a national level, more female audit partners within an office will not necessarily improve the audit quality for the male audit partners. In male-dominated audit firms, the addition of female audit partner leads to an improvement of the audit quality of male audit partners in the same office as the female audit partner.

For the second hypothesis, the results show no association between the audit fee and the proportion of female audit partner in an office. Although there is probably higher audit quality for male audit partners in diverse offices, it does not lead to higher audit fees. In prior research, the higher audit quality for female audit partners seems to be the result of a female partner premium. Client firms are willing to pay an additional fee to have a female audit partner. The male audit partners show no higher audit fee when they deliver higher quality.

In the following section, the related literature to this research will be discussed. After this discussion, in section 3 the hypotheses are developed. Section 4 contains the research design and in section 5 the collection of the data and the used databases are described. The subsequent section provides the result of the analyses performed in this thesis. In the end, section 7 concludes the findings of this thesis.

2. Related literature

This thesis' analysis is based on topics in prior research. First, the basic concepts of audit quality and audit risk are shortly described. These concepts are fundamental to understand this research and the related analyses. Second, the impact of the audit firm culture and office culture are explained. The culture is associated with an impact on the audit quality and therefore considered as an aspect to be taken into account. Third, the effect of female audit partners compared to male

partners is discussed more extensively. It relates to the impact female auditors and female audit partners can have on an audit engagement. Thereafter, the audit partner process is explained, because in this research understanding how new audit partners are selected helps to understand how the composition of audit partners in an office arises. Last, research regarding the review partner is presented, because the review partner is a special type of audit partner, that is very interactive.

2.1. Audit quality and audit risk

The function of auditing is the protection of the investors through external assurance over the financial reports, which is essential for the functioning of the capital market (Watts and Zimmerman, 1986; Kothari, Ramanna, and Skinner, 2010; DeFond and Zhang, 2014).

The end product of an auditor is an audit report, which contains an audit opinion. Quality of this report increases the trustworthiness for the stakeholders relying on the external assurance. Audit quality is the combination of an auditor's competence and independence (Gul, Wu and Yang, 2013). There are several levels, at which audit quality can be analyzed. Currently, the most literature relates to firm level audit quality. DeAngelo (1981) argues that large firms likely have higher audit quality. Due to less economically dependence on one big client the Big 4 audit firm acts more independently.

Recently, the literature shifts more towards the office level and audit quality. For instance, Francis and Yu (2009) compare several Big 4 audit firm offices and conclude that relative bigger Big 4 audit offices are associated with higher audit quality. The explanation is more in-house expertise within bigger Big 4 offices. Furthermore, recent literature begins to investigate audit quality at audit partner level. An individual auditor may differ on independence and competence, both components of audit quality, compared to the office level (DeFond and Francis, 2005). For instance, Chen et al. (2010) investigate the individual auditor in the Chinese audit. The result suggests that the effect of client importance on individual independence, which affects the audit quality, depends on the strength of investor protection.

The audit risk model indicates the relation between risk factors and is stated in Statement on Auditing Standards (SAS) No. 47 as follows (American Institute of Certified Public Accountants, 1983):

Audit risk = Inherent Risk × Control Risk × Detection Risk

The inherent and control risk is determined by the auditor by observing and documented through an assessment of the client. The audit risk should end up at an acceptable low level, therefore auditors must reduce detection risk when inherent risk and/or control risk is high. The acceptable level is not objective and therefore relies on the characteristics of the auditor.

Related to the audit risk, is the litigation risk for the auditor. Litigation risk is the risk of legal consequences of issuing the wrong opinion (Khurana and Raman, 2004). Especially in the United States, investors sue the auditor to attempt to recover some of the losses occurred after financial report errors or bankruptcy through errors in the financial report. The auditor is the third party to give assurance regarding the reliance on the financial statements. Auditors reduce the risk regarding the errors in the financial statement of the client to an acceptable low level. However, there is no hundred percent guarantee the financial statement is presented free from material misstatements. This results in a possible lawsuit for not reporting correctly, which in other words results in litigation risk for the auditors.

2.2 Audit office culture

The governance structure of an audit firm is expected to have an influence on the audit quality. Due to more transparency, an audit firm provides insight into their service quality, which is the incentive to disclose the governance of the audit firm. Deumes et al. (2012) investigated transparency of audit firms in EU countries and show variation in transparency. Big 4 audit firms are more likely to disclose their governance structure. There is also a significant difference between countries as a result of more extensive disclosure guidelines in those countries. Although there is more transparency, it is not associated with higher audit quality. As a possible explanation, Deumes et al. (2012) state that either audit governance does not matter for actual audit quality and/or firms do not provide disclosures reflecting the actual quality of their services. The first explanation seems unlikely and the second explanations is a result of a lack of monitoring of the transparency disclosure. Furthermore, a weak link between lack of internal quality control disclosure and abnormal accruals is found.

At office-level there exist a difference in audit quality between audit offices. Due to changes in audit leadership, the culture can have an impact on the culture. When the office managing partner (OMP) changes to an advisory OMP, the non-audit fees increase, but the audit quality is impaired (Mowchan, 2016). The new leader makes the audit office focus more to sell non-audit services, which will result in a decrease in audit quality. This is in align with the concerns of regulators, that focusing more on advisory services reduces the focus of the auditors on providing high audit quality. The change of tone at the top, the attitude of the OMP, affects the focus of the whole audit office and their culture.

The team communication contributes to the audit office culture. How audit teams are led is found to be impacting the willingness of audit team member to speak up about audit issues (Nelson et al, 2016). When team leaders are more team-oriented, team members are more likely to speak up. It regards speaking up about audit issues, but also relates to speaking up about effectiveness and efficiency of the audit engagement. Nelson et al. (2018) show the reaction of the team leader can differ between 'in the moment' and the performance appraisals. At the moment the team leaders can react irritated, but the team leaders appreciate it that team members are willing to speak up. Speaking up will eventually help to improve the audit engagement and to increase the audit quality.

2.3 Female auditors and female partners

From prior psychology and behavioral economics research, a difference in behavior between women and men is documented. The information processing, diligence, conservatism, overconfidence, cautiousness, and risk tolerance is different for males and females (Levin et al. 1988; Feingold 1994; Johnson and Powell 1994; Byrnes et al. 1999; Costa et al. 2001; Eckel and Grossman 2002; Nettle 2007; Schmitt et al. 2008). In addition, other studies found that women have a more conservative and risk-averse preference compared to men (Powell and Ansic 1997; Jianakoplos and Bernasek 1998; Barber and Odean 2001; Dwyer et al. 2002; Watson and McNaughton 2007). Also, women are more likely to comply with tax rules and regulations and financial decisions related rules and regulations (Baldry 1987; Barnett et al. 1994; Bernardi and Arnold 1997; Fallan 1999; Beu et al. 2003; Pierce and Sweeney 2010). Based on the outcome of these studies, the difference between the audit outcomes of female partners compared to male partners is explored.

The outcome of the research of Chung and Monroe (2001) is that female audit partner have better judgment when it comes to complex audit task. The female partners show more accurate and effective information processing in this situation, but the adjustments suggested by the female audit partners may be less accurate. According to O'Donnell and Johnson (2001), the female auditors are more efficient when judgment is involved in the auditing process. Gold et al. (2009) conclude that female auditors are less likely to be influenced by lack of client explanations and therefore unverifiable. Ittonen et al. (2013) demonstrate in research that there is an association between the gender of the audit partner and the quality of the financial report of the client firm. In the reported earnings of client firms of female audit partners, there are less absolute abnormal accruals. Female auditors constrain the use of income-increasing accruals and income-decreasing accruals.

Not only the audit quality differs between male and female auditors and partners, the audit fee for a female audit partner is also different. Several studies found a female audit fee premium for audit engagements with female audit partners. Research in Belgium shows that the audit fee premium is due to differences in knowledge, skills, abilities, preferences, and behavior between male and female or the premium exist through higher demand for diversity versus lower supply of female audit partners (Hardies, Breesch, and Branson, 2015). In the three Nordic countries, Finland, Denmark, and Sweden, female audit partners have significantly higher audit fees than the male counterpart. Explanations are the differences in risk tolerance or female auditors' diligence or a higher degree of preparation. This theoretical explanation is drawn from other science, i.e. management, psychology, and finance literature, and do not provide high exploratory power (Ittonen and Peni, 2012).

2.4 Audit partner process

In order to become an audit partner, there is a selection process of the leaders. Wilson (2012) describes the process of selecting an audit partner as a struggle, due to the difficulty of defining the selection criteria. There are no universal selection criteria due to the fact new partners can contribute in several areas. If a high potential within the audit firm is specialized in an industry a current partner is also specialized in, this will result in not becoming a partner in that office.

Leadership behavior, client service skills, technical abilities, financial performance, administrative abilities, people development skills and business developments skills are seven elements to be considered as criteria of audit partners group in their selection process. All elements are related to the perceived new partner and the core value of the audit firms. When the behavior, skills, and abilities of the candidate are in align with the core values of the other leaders, the candidate will be asked to become a partner. A specialization is also a potential advantage for ambitious CPA because expertise will help the partner group to see more potential in your skills and abilities (Baysden, 2014).

From a race and gender perspective, audit firms strive for more diversity. However, Carter and Spence (2014) state that audit partners still lack diversity. Commercialization and globalization

should create opportunities for audit professionals with a different family background and social ties. In research is shown, diversity programs are backfired and counterproductive (Kornberger et al., 2010). Although it should be easier to become an audit partner while having a different background, in reality, audit partners are still mostly white males. Nowadays, accounting partners becoming more Darwinian; the firms need to adapt to the surrounding environment. External pressure results in more demand for female audit partners, which leads to an additional advantage for female auditors in the process to become an audit partner. It also applies to auditors with a minority background.

2.5 Audit review partner

Audit partners offer their work to clients and accept clients to be audited by an engagement team of the audit firm. In case of the acceptance of a client, the decision of acceptance contains judgment of the audit partner. In the process of client acceptance, there will also be a risk review by a separate audit partner. The reason of a designated risk reviewer is to protect the audit firm from accepting overly risky clients (Asare et al., 1994). Understanding the client acceptance process helps to understand the impact audit partners can have on the judgment of other partners. More conservative client acceptance of risk review partners is observed compared to the judgment of engagement partner (Ayers and Kaplan, 1998).

The second assessment by a risk reviewer is installed as a control mechanism. Due to less benefit from the client acceptance, the second partner is assumed to be more 'objective'. Furthermore, there is evidence that concludes that the assessment of the contact partner does not involve the biased judgment of the review partner. When the contact partner assesses the client overly favorable, the review partners do not treat these assessments as an unbiased signal or judgment (Ayers and Kaplan, 2003).

The quality review of an audit engagement is recently more regulated by the PCAOB. The aim of the regulation is based on the essential component of audit quality control (PCAOB, 2009). An engagement quality review occurs in several stages of the audit engagement. Emby and Favere-Marchesi (2010) relate the interaction between audit partners to the occurrence of an issue. This issue can be accounting-related or audit-related, but the issue could also be a combination of accounting- and audit-related issues. For the reviewing partner, concerning aspects are the implications of the conclusion, the materiality of the issue or any other specific aspects of the issue (Gibbins and Newton, 1994; Salterio and Denham, 1997). Face-to-face interaction between the

reviewing partner and the engagement partner helps to resolve the issue quickly. The outcome of the interaction leads to a new synergistic solution instead of compromise or concession of one of the partners (Emby and Favere-Marchesi, 2010).

3. Hypotheses development

Diversity in the auditing service occurs more frequently nowadays. There are more female auditors, and this is reflected in more female audit partners recently. Prior research investigates the consequence of female audit partners on audit quality and audit fees. Considering the method to become an audit partner and the existence of review partners, the spillover effects of female audit partners is interesting.

The existing audit partners determine who will join and become an audit partner in their office. In the process of selecting a new audit partner, there are several elements taken into account. One aspect considered is the risk attitude of the potential, which should be in align with the risk attitude of the existing audit partners. In psychology, it is described that females have different risk attitude than males, females are more risk averse than their male counterpart. Female auditors within an audit firm will influence the audit office culture. As a result, the uncertainty avoidance and risk attitude are believed to be reflected in the office culture. Potential audit partners are selected within the office and culture impacts their behavior as well. The potential asked is expected to have the same risk behavior as the existing partners and the office culture. If a female joins the audit partners, it means that the male partners have a similar risk attitude as the female, otherwise, the female auditor would not have joined the existing partners. This process will benefit the audit quality of the whole office. The audit fee will increase similar to how female audit partners have higher audit fees. This research focusses on the male audit partners in offices with only male audit partners and male audit partners in offices with male and female audit partners.

Furthermore, interaction between audit partners occurs through the engagement reviewing process in an audit firm. The proportion of female audit partners indicates the chance of a female review partner. Due to a higher chance for a female audit partner, the male partners are expected to put in more effort. As a result of more effort, the audit outcome is expected to be higher. It relates to higher audit quality and a higher audit fee. Combining the audit partner selection process and the existence of a review partner, the following hypotheses are developed:

H1: Male partners within offices containing female partners have higher audit quality compared to male partners within male-dominated offices.

H2: Male partners within offices containing female partners have higher audit fees compared to male partners within male-dominated offices.

4. Research Design

For the first hypothesis, the relation between male audit partners and audit quality impacted by the composition of the audit partners at office level is investigated. To test the first hypothesis, the following regression model is estimated:

Audit quality = $a_0 + a_1$ DiverseOffice + Controls + ε

The dependent variable in the regression is *audit quality* and measures the provided quality of the audit partner to the client company. This research uses abnormal accruals to proxy outputbased audit quality. The modified Jones model ¹(Jones, 1991) is the operationalized proxy for audit quality. Both the signed abnormal accruals and the absolute abnormal accruals according to the Jones model are incorporated in the regression model.

The variable of interest is *DiverseOffice* and it represents the proportion of female audit partners within an office. The coefficient is expected to be negative, due to the impact of female audit partners. There is some evidence that female audit partners have higher audit quality and due to spillover effects and interaction, higher audit quality is expected for the male partners in diverse offices.

Control variables are included in the OLS regression to reduce the potential endogeneity problems. In order to control for the characteristics of the audit partner related to audit quality, the audit partner characteristics relating to audit quality are added to the regression model. Individual experience is expected to increase the audit quality. As a measurement for experience, the years between the completion of the audit partners' bachelor and fiscal year(*PartnerExperience*) and number of years the audit firm has served as the firm's auditor (LAuditTenure) are added as control variables. Furthermore, the firm size of the audit firm is operationalized by adding a dummy variable that equals 1 if the audit partner is from the Big 4 audit firms (*Big4*). The office size (LAuditFeeOffice) and specialization of the audit firm (*Specialist*) is associated with higher audit quality (Francis and Yu, 2009; Balsam, Krishnan and Yang, 2013). Also, several engagements have multiple engagement partners. Due to more communication between these partners, higher audit

¹ The following model: $Tot_Acc = b0 + b1/AssetLag + b2(SalesChange-RecChange) + b3PPE + b4ROA + \varepsilon$ is estimated for every two digits SIC code with all firms that have available data on Compustat. SalesChange is the change in sales, RecChange is the change in account receivable, PPE is the gross property and ROA is the return on assets. SalesChange, RecChange, PPE and ROAare scaled by the lagged total assets.

quality is expected. Therefore, multiple audit partners (*DualEngagementPartner*) are taken into account.

Besides the control variables related to the audit firm, office-level and partner characteristics, the client firm characteristics should be considered. Audit quality is related to the degree of assurance that the underlying economics' conditions are reflected in the financial statement (DeFond and Zhang, 2014). Therefore, firms' characteristics and operating environment variables are added as control variables. The firm size (LTotalAssets), leverage (Leverage), the incidence of losses (Loss), the growth of sales (SalesGrowth), the book-to-market ratio (BookToMarketRatio), cash flow from operations (CashFlowOperating), external financing (*Financing*) need, the number of business segments (*Segments*) and the percentage of foreign sales based on total sales (*ForeignSales*) are included as the control variables representing the firms' characteristics and operating environment. To control for the client firm's performance, the return on assets (ROA) and total accruals (TotalAccruals) are also included in the regression model. Prior research indicates that internal control systems, especially internal control deficiencies are related to the audit quality (Lee, Nagy and Zimmerman, 2017). As a result, the control variable internal control weakness (InternalControlWeakness) is included in the regression model. When the client firm discloses an internal control weakness, the variable will be equal to 1. To control for the industry environment, industry fixed effects are incorporated in the regression model.

The second hypothesis relates the male partner within offices with female partners to the audit fee instead of the audit quality. To test the second hypothesis, the following regression model is estimated:

Audit fee = $a_0 + a_1$ DiverseOffice + Controls + ε

The dependent variable in this regression model is *Audit fee* and is measured as the summed audit fees of clients of individual male audit partners. The independent variable, the variable of interest, is the same as in the previous regression. *DiverseOffice* still represents the proportion of the audit partners within an office that are women.

Following Lobo and Zhao (2013), audit partner characteristics are incorporated into the regression model as control variables. During the initial audit engagements, audit partners give audit fee discounts. To control for the occasion, the natural logarithm of the number of years the audit firm is the auditor of the client (*LAuditorTenure*) is added as a control variable (Sankaraguruswamy and Whisenant, 2004). Another characteristic to be considered is the specialization of the audit firm (*Specialist*). Adding the specialization of the audit firm controls for

the audit fee premium associated with industry expertise (Choi, Kim, Kim and Zhang, 2010). To control for office size effects, firm size (*Big4*) and audit office size (*LAuditFeeOffice*) are incorporated in the regression model (Francis and Yu, 2009). The occurrence of multiple audit partners (*DualEngagementPartner*) is also incorporated because it will probably lead to higher audit fees.

The client's business complexity is controlled for in the regression model because in those cases the audit fee is expected to be increased. Therefore, the client firm size (*LTotalAssets*), firms with high-growth (*SalesGrowth*), firm operating in more business segments (*Segments*) and firms that have a higher proportion of sales in foreign countries (*ForeignSales*) are incorporated as control variables, because these aspects are more complex and associated with higher audit fees. Furthermore, in the regression model, there is controlled for the risk associated with the client. Proxies for inherent risk and control risk are added as control variables. Highly leveraged firms (*Lev*) and low-profitable companies (*ROA, TotalAccruals*, and *Loss*) are associated with insolvency and liquidity risk. These risks eventually lead to higher audit fees (Lee, Nagy and Zimmerman, 2017). The proxy for business risk is the ratio accounts receivable/inventory (*RectInv*). Inventory can be obsolete and accounts receivable can be uncollectible. A higher ratio between the accounts receivable and the inventory represents a higher degree of business risk, which is associated with a premium audit fee. The risk of material misstatement is also expected to be positively related to audit fees. To control for the risk of material misstatement, the variables going concern issue (*GoingConcern*) and internal control weakness (*InternalControlWeakness*) are included.

In addition, in the regression model, the audit firm busyness is controlled by adding client's fiscal year end(*FYEnd*), which equals one if the firm's fiscal year ends in December. Last, to control for the industry environment, industry fixed effects are incorporated in the regression model.

5. Sample Selection

In order to test the hypotheses, public companies listed on NYSE, AMEX, and NASDAQ are used. The time frame used in the sample is 2014 until the most up-to-date fiscal year information in 2018. It is based on the availability of Form APs and in which year the forms are filled.

There are several database sources used to retrieve the sample for hypotheses testing. First, the PCAOB website, which is publicly available, is used to retrieve the audit partner name disclosure. Second, audit firm and audit report information are needed, and the information is

available in the AuditAnalytics database. Last, Compustat and Compustat segments are used, which contain information regarding the financial position of the client firm. AuditAnalytics, Compustat and Compustat Segments are available through the Erasmus University Rotterdam's subscription on Wharton Research Data Services (WRDS). Information is merged based on the audited companies Central Index Key (CIK) code and it is merged using STATA.

The initial data sample is retrieved from the PCAOB Auditor Search database². The database contains all the collected information from Form APs fillings by registered audit firms. Audit firms are obligated to submit a Form AP for each type of audit report for a public company (PCAOB, 2018). The first step is to identify audit partner names and gender using a list of unique partner names³ provided by the PCAOB database. The list of audit partner names contains national and internal audit partners. Due to the fact this thesis only focusses on the United States, all non-US based audit partners are removed from the list of unique audit partners names. The reasoning behind the hypotheses is based on audit partner interaction and firms with less than three audit firm has less than three audit partners. The list of unique audit partners, where the audit firm has less than three audit partners. The list of unique audit partner names has a total number of 3,375 US audit partners.

The next step is to determine the gender corresponding to the audit partner names. The online database and tool Namsor⁴ is used to identify the likely gender. Based on the online database, Namsor identifies female, male or unknown and provides a scale of likelihood. On a scale of -1 to 1, -1 represent almost certainty the first name and last name are male and 1 means almost complete certainty the audit partner name is female. In case the online tool provides a -0.1, 0, or 0.1, the tool reports unknown for gender. From the unique audit partner names list, the tool can not provide the gender for 56 names. The genders for the names with unknown gender are manually collected via either LinkedIn.com or the audit firm's website. In the end, it results in 3,375 unique US audit partners including gender specification.

The following step in the data construction process is to focus on the audited firm and related information. From the PCAOB database⁵, 24,252 firm observation are retrieved. To be able to merge firm observation with other financial information, the CIK code is used and as a result,

² The PCAOB Auditor Search database is available at https://pcaobus.org/Pages/AuditorSearch.aspx.

³ The PCAOB database is used on 25 April 2018 and contains all filings. Only unique audit partner names within audit firms are kept.

⁴ The Namsor database and tool is available through http://www.namsor.com/

⁵ A new list of Form APs filings is retrieved from the PCAOB website again in May 2018.

missing CIK codes are deleted from the sample. Next, all observations that do not relate to financial statement audit engagements are dropped from the data. Within the data, there are three types of audits reports and two of them are financial statement audit engagements. The other type of report, Employee Benefit Plan, does not relate to a financial statement audit engagement and those firm observations are deleted. This thesis still focusses on the United States only and therefore all international audit engagement observations are dropped. Since audit partners within audit firms with less than three partners were dropped in the gender identification process, firm observations are dropped from the data.

In the process of constructing data for hypotheses testing, the next step is to obtain all information from the AuditAnalytics database. First, the audit fee corresponding with the remaining firm observations within the data is retrieved. The audit fee is used as dependent variable in the second hypothesis and it is used as a measure for audit office size. Missing audit fee information leads to removal of those firm observations from the sample. Available information regarding going concern issues and internal control weaknesses is a condition to keep a firm observation. Therefore, all firm observations missing going concern and internal control disclosure are deleted. The firm's learning curve for an audit engagement is included through adding the year since the audit firm performs audit engagements for that firm. If the auditor since information is not available in AuditAnalytics, the firm observation is dropped from the data.

For the first hypothesis, the modified Jones model is used. This model uses abnormal accruals as a measurement for quality, where the nondiscretionary accruals are estimated by all industry information. In Compustat, this financial information is retrieved using a time frame of fiscal year 2014 till 2018. The two digits SIC code is determined for every observation and when a two digits SIC code contains less than 8 observations, all observations within this SIC code are dropped from the data. All missing information for the variables in the modified Jones Model are removed and the data to estimate ends up with a total number of 27,934. Grouped by the two digits SIC codes, the coefficients of all variables in the Modified Jones Model are determined per two digits SIC code and those coefficients are added to an individual firm observation within that industry. So, every single firm observation has the same coefficient as another firm observation with the same two digits SIC code.

The last step in the data construction process is to obtain the financial information for the firm observations. Several financial statement items are necessary to construct the control

variables⁶ in the regression model for the hypotheses. If one of the financial statement elements is missing in the Compustat database, the corresponding firm observation is dropped from the data. Furthermore, for two of the control variables information from the Compustat Segment database is used. The same conditions regarding missing information apply and this results in a removal of some firm observation. The financial information line items, Compustat Segment elements and calculated industry Jones model coefficients are merged into the data. In the end, the data contains a total number of 3,952.

Some control variables are constructed after merging all information of the databases. Sales equal to zero makes it impossible to construct a sales growth variable. Therefore, these firm observations are dropped from the data. For one observation it is impossible to calculate a natural logarithm of the audit fee and this observation is also dropped from the data. Finally, two digits SIC codes containing than 8 observations are removed from the dataset. In the end, the data contains 3,746 firm observations that are considered in the regression models for the hypothesis testing. The exact numbers of deleted observations in the sample selection process are described in Table 2.

ranci A. Sample Section	
Initial Sample retrieved from PCAOB website	24,254
Less: missing CIK code observations	-307
Less: removal Employee Benefit Plans	-1,101
Less: observations with audit firm located	-2,029
outside the United States	
Less: missing gender information partner	-2,639
Subtotal	18,178
Less: Missing audit fee	-4,442
Less: Same observations	-1,867
Less: Missing going concern information	-7
Less: Missing information internal control	-3,303
disclosure	
Less: Missing audit tenure information	-9
Subtotal	8,550
Less: Missing elements in financial information	-4.598
Compustat	
Total	3,952
Less: No Sales	-152
Less: Extreme values Abnormal Accruals	-17

 Table 2: Sample selection procedure and distribution

 Panel A: Sample Section

⁶ The control variable items are described in the variable definitions available in Table 1 of the Appendix.

Less: Missing value natural logarithm audit fee	-1
Less: Two digit SIC codes containing less than 8	-36
observations	
Final Sample	3,746

Panel B: Distribution sample by fiscal year 2014 8 0.21% 2015 2.16% 81 2016 48.40% 1,813 2017 48.67% 1,823 2018 0.56% 21 Total 100% 3.746

Panel C: Distribution sample by Industry

Mining	6.38%	239	
Construction	1.33%	50	
Manufacturing	44.93%	1,683	
Transportation & Public Utilities	9.82%	368	
Wholesale Trade	3.76%	141	
Retail Trade	4.99%	187	
Finance, Insurance, Real Estate	10.09%	378	
Services	18.42%	690	
Public Administration	0.28%	10	
Total	100%	3,746	

Panel A describes the selection process and which criteria used to select the data. Panel B and C are distributions of the sample by year and industry respectively.

6. Empirical Result

6.1 Descriptive analysis

Table 3 presents the descriptive statistics for all variables in the data and the constructed variables for hypothesis testing. The total number of observations used in the OLS regressions for hypothesis testing is 3,476. In the first regression model audit quality is the focus. The average of abnormal accruals measured according to the Jones model is above zero. There are more increasing abnormal accruals than decreasing abnormal accruals. If the absolute value is considered, the average indicates less occurrence of extreme abnormal accruals. Hence, the average is closer to the minimum value than to the maximum value.

The second hypothesis focusses on the audit fee for the male audit partners. There is a big range between the minimum and maximum audit fee, whereby the average is closer to the minimum value. The distribution of the audit fee is skewed and therefore, the natural logarithm of audit fee is used in the hypothesis testing. The average of *LAuditFee* is still closer to the minimum value, but the distribution is less skewed. Furthermore, the use of the natural logarithm results in less impact of the extreme values in the audit fee.

Furthermore, there are some details noticeable in the data. Approximately 70 percent of the firm observations are audited by Big 4 firms, which means that observations audited by smaller audit firm have less impact in the regression model. The average diverse office rate of the data is 16.59% and male-dominated offices exist. The existence of only male partner offices is a necessary condition in the reasoning behind the hypothesis. Not all audit engagements have one audit partner. In the data, approximately one percent of the firm observations have audit engagement with two or more audit partners. The experience of audit partners is a hand-collected variable and therefore, could be incorrectly measured. In this sample, the average experience of an audit partner is 24.5 years. The minimum experience of an audit partner is six years, which seems too little due to the expected trial to become an audit partner is ten years.

The firm performance is also considered in the regression model and there are several variables representing the firm performance of the firm observations. When the firm has a negative net income, the variable *Loss* is marked as one. 37.96% of the firm observations have a loss in the fiscal year considered in the data. This is relatively high, which means that the negative firm performance could bias the regression model and it should be taken into account in the construction of the model. In the calculation of the return on assets, the net income is divided by the total assets. The return on assets is on average negative and this could also be explained by the fact that there are relatively many losses in the data. On the other hand, the average sales growth is positive. It means that the firms are increasing revenue, which is in align with the book-to-market ratio. Most firms operate in one or two business segments and the maximum number a firm is operating in is 12 business segments.

Panel A					
Variable	Ν	Mean	STD_DEV	Min	Max
ABJonAcc	3,746	0.0834	0.108	0.000	.988
AuditFee	3,746	2,716,768	4,107,192	14,023	4.99e+07
<i>AuditFeeOffice</i>	3,746	7.13e+07	1.02e+08	61,100	6.40e+08

Table 3: Descriptive Statistics

AuditFeeFirm	3,746	2.41e+09	1.58e+09	73,968	4.41e+09
AuditorTenure	3,746	14.487	17.094	1	120
Big4	3,746	0.711	0.453	0	1
DiverseOffice	3,746	0.166	0.136	0	.667
BooktoMarketRatio	3,746	12.725	24.674	-122.66	617.218
DuelEngagmentPartner	3,746	0.016	0.127	0	1
Financing	3,746	0.670	0.470	0	1
ForeignSales	3,746	0.003	0.026	0	0.594
FYEnd	3,746	0.834	0.372	0	1
GoingConcern	3,746	0.056	0.231	0	1
HighExp	3,746	0.545	0.498	0	1
InternalControlWeakness	3,746	0.129	0.335	0	1
JonAcc	3,746	0.018	0.135	-0.988	0.924
Leverage	3,746	0.352	0.808	0	30.195
Loss	3,746	0.380	0.485	0	1
LAuditFee	3,746	14.066	1.287	9.548	17.726
LauditFeeOffice	3,746	16.919	1.863	11.020	20.276
LAuditfeeFirm	3,746	20.501	2.457	11.211	22.207
LAuditortenure	3,746	2.146	1.061	0	4.787
Ltotalassets	3,746	13.622	2.267	1.946	19.074
PartnerExperience	3,746	24.514	6.406	6	44
RecInv	3,746	0.239	0.220	0	3.815
Roa	3,746	-0.077	0.426	-7.999	1.126
SalesGrowth	3,746	0.418	8.102	-0.992	368.455
Segment	3,746	2.166	1.615	1	12
Specialist	3,746	0.169	0.375	0	1
TotalAccruals	3,746	-0.090	0.201	-3.990	0.717
TotalAsset	3,746	5,765,348	1.45e+07	7	1.92e+08
TwoDigitSIC	3,746	45.539	19.983	10	99

Table 3 provides the summary statistics of all variables used in the regression models for hypothesis testing. The definitions of variables can be found in table 1 of the Appendix

Table 4: Pearson/Spearman correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)JonAcc	1.000	0.304	0.002	0.059	0.169	-0.025	-0.021	0.014	-0.014	-0.134	0.019	-0.075	-0.015
(2)ABJonAcc	-0.210	1.000	-0.024	-0.155	-0.211	-0.031	0.024	-0.014	0.012	0.182	-0.035	0.088	-0.076
(3)DiverseOffice	0.009	-0.055	1.000	0.172	0.093	-0.022	0.025	-0.025	0.035	-0.023	0.011	-0.021	0.047
(4)Big4	0.106	-0.200	0.145	1.000	0.338	0.005	0.105	-0.018	0.061	-0.226	0.035	-0.153	0.183
(5)BooktoMarketRatio	0.078	-0.128	0.070	0.186	1.000	0.004	-0.037	0.044	-0.025	-0.318	0.078	-0.162	-0.059
(6)DuelEngagmentPartner	-0.002	-0.027	-0.021	0.005	-0.005	1.000	0.019	0.016	0.025	0.018	0.010	0.054	0.020
(7)Financing	-0.017	0.043	0.025	0.105	-0.052	0.019	1.000	-0.055	0.074	0.063	0.005	-0.004	0.364
(8)ForeignSales	0.017	-0.015	0.007	-0.018	0.013	0.002	-0.054	1.000	-0.108	-0.018	0.033	-0.019	-0.026
(9)FYEnd	0.002	0.015	0.029	0.061	-0.000	0.025	0.074	-0.063	1.000	0.031	-0.009	-0.008	0.078
(10)GoingConcern	-0.205	0.338	-0.011	-0.226	-0.148	0.018	0.063	-0.020	0.031	1.000	-0.044	0.144	0.056
(11)HighExp	0.028	-0.040	0.014	0.035	0.032	0.010	0.004	0.035	-0.009	-0.044	1.000	0.014	0.016
(12)InternalControlWeakness	-0.102	0.131	-0.017	-0.153	-0.070	0.054	-0.004	-0.018	-0.008	0.144	0.014	1.000	0.030
(13)Leverage	0.042	0.170	0.021	-0.006	-0.067	-0.003	0.134	-0.018	0.043	0.163	-0.025	0.027	1.000
(14)Loss	-0.263	0.237	-0.017	-0.237	-0.278	0.009	0.039	-0.021	0.067	0.306	-0.052	0.144	0.037
(15)LauditFeeOffice	0.080	-0.149	0.263	0.729	0.142	-0.012	0.088	-0.032	0.098	-0.184	0.027	-0.089	-0.019
(16)LAuditortenure	0.126	-0.174	0.061	0.464	0.206	-0.056	0.019	0.011	-0.021	-0.150	0.034	-0.165	-0.024
(17)Ltotalassets	0.204	-0.358	0.130	0.602	0.363	0.018	0.124	-0.021	0.059	-0.390	0.144	-0.185	-0.028
(18)PartnerExperience	0.024	-0.048	0.014	0.035	0.030	0.009	-0.004	0.021	-0.028	-0.031	0.807	0.002	-0.031
(19)RecInv	0.078	0.031	-0.034	-0.100	0.021	-0.011	-0.009	0.049	-0.142	-0.092	0.003	0.044	0.021
(20)Roa	0.301	-0.464	0.025	0.216	0.160	-0.004	-0.111	0.027	-0.056	-0.506	0.051	-0.114	-0.389
(21)SalesGrowth	-0.057	0.061	0.037	0.013	-0.017	-0.003	0.029	-0.005	0.018	0.062	-0.006	-0.008	-0.006
(22)Segment	0.081	-0.121	0.021	0.122	0.199	0.032	0.036	0.040	-0.014	-0.126	0.071	-0.003	-0.008
(24)Specialist	0.002	-0.083	0.041	0.299	0.081	-0.036	0.012	-0.003	0.006	-0.067	-0.018	-0.078	-0.002
(25)TotalAccruals	0.622	-0.423	0.038	0.142	0.122	0.011	-0.058	0.022	-0.021	-0.332	0.043	-0.109	-0.301

	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(1)JonAcc	-0.259	0.046	0.097	0.125	0.019	0.065	0.301	0.091	0.078	-0.042	0.698
(2)ABJonAcc	0.219	-0.081	-0.156	-0.276	-0.041	0.012	-0.181	0.055	-0.121	-0.126	0.043
(3)DiverseOffice	-0.026	0.307	0.065	0.146	0.016	-0.033	0.021	0.011	0.014	0.046	0.017
(4)Big4	-0.237	0.711	0.483	0.598	0.048	-0.069	0.236	0.048	0.110	0.299	0.077
(5)BooktoMarketRatio	-0.476	0.241	0.325	0.607	0.092	0.052	0.429	0.063	0.249	0.140	0.307
(6)DuelEngagmentPartner	0.001	-0.012	-0.040	0.015	0.010	0.011	-0.006	-0.006	0.015	-0.036	-0.009
(7)Financing	0.039	0.073	0.013	0.137	0.003	-0.045	-0.071	0.143	0.022	0.012	-0.063
(8)ForeignSales	-0.039	-0.041	0.027	-0.005	0.034	0.099	0.056	-0.044	0.093	0.003	0.037
(9)FYEnd	0.067	0.095	-0.022	0.053	-0.020	-0.175	-0.089	0.034	-0.030	0.006	-0.050
(10)GoingConcern	0.306	-0.172	-0.158	-0.331	-0.043	-0.128	-0.359	-0.041	-0.134	-0.067	-0.211
(11)HighExp	-0.052	0.030	0.038	0.141	0.867	0.010	0.057	0.013	0.066	-0.018	0.044
(12)Internal Control Weakness	0.144	-0.091	-0.160	-0.170	-0.000	0.039	-0.174	-0.019	-0.000	-0.078	-0.064
(13)Leverage	-0.077	0.126	0.053	0.356	0.033	-0.064	0.043	0.057	0.104	0.035	0.012
(14)Loss	1.000	-0.131	-0.262	-0.448	-0.071	-0.163	-0.840	-0.119	-0.212	-0.087	-0.458
(15)LauditFeeOffice	-0.146	1.000	0.317	0.487	0.035	-0.106	0.133	0.056	0.069	0.167	0.027
(16)LAuditortenure	-0.251	0.319	1.000	0.469	0.047	0.048	0.259	-0.030	0.198	0.181	0.123
(17)Ltotalassets	-0.453	0.529	0.447	1.000	0.168	-0.073	0.423	0.053	0.230	0.192	0.225
(18)PartnerExperience	-0.061	0.025	0.030	0.147	1.000	0.026	0.078	0.018	0.064	-0.008	0.054
(19)RecInv	-0.133	-0.120	-0.010	-0.086	0.006	1.000	0.204	0.084	0.152	-0.011	0.182
(20)Roa	-0.442	0.172	0.184	0.448	0.059	0.091	1.000	0.135	0.180	0.074	0.468
(21)SalesGrowth	0.044	-0.022	-0.016	-0.039	0.004	-0.028	-0.108	1.000	-0.0719	-0.027	0.050
(22)Segment	-0.202	0.100	0.196	0.295	0.056	0.068	0.157	-0.027	1.000	0.046	0.147
(23)Specialist	-0.087	0.180	0.175	0.196	-0.002	-0.004	0.048	0.015	0.042	1.000	0.070
(24)TotalAccruals	-0.313	0.113	0.129	0.308	0.045	0.092	0.742	-0.050	0.109	0.056	1.000

Table 4 provides the Pearson/Spearman correlations between all variables considered in the main analysis. For the definitions of the variables, see table 1 of the Appendix. Bold correlations are significant at a 0.05 significance level, two tailed.

In table 4 the Pearson/Spearman correlations are summarized and provides the possibility to make a univariate analysis. For both signed and absolute abnormal accruals, there is found no significant correlation with diverse office, which is the opposite of expectations. Most of control variables are significantly correlated with either the abnormal or the absolute abnormal accruals. Control variables that are not correlated with the abnormal accruals are significantly correlated with the other control variables and therefore, still can have an impact on the signed and absolute abnormal accruals. No control variable is perfectly correlated, which means there will not be any multicollinearity problems.

6.2 Audit quality results

To test the first hypothesis, the OLS regression models reporting in table 5 and table 6 are used. The first hypothesis predicts that the more diverse the composition of audit partner within an office, the higher the audit quality. It is captured by the coefficient of *DiverseOffice* when the variable is significant and negative, it shows higher audit quality. Audit quality is measured as the occurrence of abnormal accruals, the portion of the accruals not expected based on the industry characteristics. Accruals can be negative or positive and not one of them is seen as better or worse. Therefore, besides the abnormal accruals, the absolute value of abnormal accruals is used as dependent variable. This makes it possible to test whether diverse office male audit partners are associated with a decrease in abnormal accruals whereby positive or negative abnormal accruals are not considered.

In table 5 the dependent variable in the OLS regression is abnormal accruals, which can be negative or positive. The first column represents the basic regression result based on the full sample. Column 2 and 3 are regression results conducted to include robustness checks and to control for confounding effects. In column 2 industry fixed effects based on the industry specification of the Department of Labor are included in the regression. Fixed effects are used to control for possible omitted correlated variables bias, that is caused by cross-sectional analysis. The third column includes industry fixed effects and an additional control variable, partner experience (*PartnerExperience*) and high audit partner experience (*HighExp*). These variables are more likely to contain bias and are excluded in the basic regression result. Due to hand collection, the variable could contain incorrect information about information. Although observations with missing partner experience information are dropped, the existing information could contain not most up-to-date information. However, prior research shows that experience is a necessary control

Table 5: OLS Regression hypothesis 1

			Dependent Va	riable: JonAcc		
	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample	Full Sample	Sample	Industry effects	Balanced	Balanced
		including	including	based on 2 digits	sample	sample
		industry fixed	experience of	SIC code		2 digits SIC
		effects	audit partners			code
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Variable	[t-stat]	[t-stat]	[t-stat]	[t-stat]	[t-stat]	[t-stat]
<i>DiverseOffice</i>	-0.026**	-0.024**	-0.027**	-0.023*	-0.026**	-0.023*
	[-2.18]	[-2.06]	[-2.17]	[-1.95]	[-2.04]	[-1.85]
Big4	0.006	-0.002	-0.004	-0.004	-0.003	-0.004
	[1.04]	[-0.31]	[-0.64]	[-0.73]	[-0.55]	[-0.61]
BooktoMarketRatio	-0.000	-0.000	-0.000	0.000	-0.000	0.000
	[-0.54]	[-0.32]	[-0.49]	[0.36]	[-0.56]	[0.27]
CashFlowOperating	-8.52e-11	-1.79e-09	-1.90e-09	-3.80e-09***	-1.91e-09	-3.79e-09**
	[-0.07]	[-1.46]	[-1.29]	[-2.63]	[-1.24]	[-2.52]
DuelEngagmentPartner	-0.016	-0.016	-0.016	-0.004	-0.015	-0.006
	[-1.29]	[-1.37]	[-1.23]	[-0.31]	[-1.05]	[-0.39]
Financing	-0.009**	-0.009***	-0.010***	-0.009***	-0.010***	-0.009**
	[-2.48]	[-2.83]	[-2.70]	[-2.66]	[-2.62]	[-2.58]
ForeignSales	0.029	-0.001	0.007	0.041	0.005	0.040
	[0.49]	[-0.02]	[0.11]	[0.69]	[0.08]	[0.68]
HighExp			-0.002	-0.000	-0.002	-0.000
			[-0.41]	[-0.08]	[-0.42]	[-0.08]
Internal Control Weakness	-0.009*	-0.009*	-0.010**	-0.004	-0.008*	-0.004
	[-1.84]	[-1.92]	[-1.99]	[-0.89]	[-1.66]	[-0.72]
Leverage	0.028***	0.029***	0.029***	0.031***	0.029***	0.030***
	[12.89]	[13.80]	[13.36]	[14.57]	[13.07]	[14.24]
Loss	-0.036***	-0.049***	-0.050***	-0.060***	-0.051***	-0.061***
	[-9.35]	[-12.88]	[-11.97]	[-14.66]	[-11.91]	[-14.46]
LauditFeeOffice	0.000	0.001	0.001	-0.001	0.001	-0.001
	[0.22]	[0.94]	[1.10]	[-0.57]	[1.06]	[-0.56]

D.

LAuditortenure	0.005**	0.004**	0.005**	0.005***	0.005**	0.005***
	[2.59]	[2.51]	[2.46]	[2.64]	[2.51]	[2.71]
Ltotalassets	0.001	0.003**	0.003**	0.005***	0.003**	0.005***
	[1.23]	[2.34]	[2.57]	[3.58]	[2.49]	[3.46]
PartnerExperience			0.000	0.000	0.000	0.000
			[0.33]	[0.36]	[0.41]	[0.42]
Roa	-0.125***	-0.131***	-0.129***	-0.119***	-0.128***	-0.119***
	[-19.50]	[-21.09]	[-19.59]	[-18.38]	[-19.16]	[-18.07]
SalesGrowth	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	[-3.80]	[-3.99]	[-3.53]	[-3.74]	[-3.52]	[-3.72]
Segment	0.000	-0.000	-0.000	0.001	-0.000	0.001
	[0.33]	[-0.20]	[-0.06]	[0.92]	[-0.13]	[0.68]
Specialist	-0.022***	-0.007*	-0.009*	-0.008	-0.010*	-0.007
	[-5.00]	[-1.70]	[-1.88]	[-1.44]	[-1.91]	[-1.39]
TotalAccruals	0.606***	0.623***	0.616***	0.607***	0.609***	0.602***
	[52.17]	[55.46]	[52.02]	[52.49]	[50.54]	[51.07]
Constant	0.043**	0.022	0.007	0.025	0.006	0.025
	[2.02]	[1.04]	[0.30]	[1.05]	[0.25]	[1.01]
Industry fixed effects	No	Yes	Yes	Yes	Yes	Yes
Ν	3,746	3,746	3,340	3,340	3,214	3.214
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.500	0.541	0.542	0.573	0.537	0.568
Adj R-squared	0.498	0.497	0.502	0.495	0.496	0.489

The following regression: $JonAcc = b0 + b1DiverseOffice + b_nControlVariables + \varepsilon$, is shown in table 5. The definitions of variables can be found in table 1 of the appendix. All significance tests are two tailed and '*', '**' and '**'' represent significance at a 0.10, 0.05 and 0.01 respectively.

Table 6: OLS Regression hypothesis 1

			Dependent Var	riable: ABJonAcc		
	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample	Full Sample	Sample	Industry	Balanced	Balanced
		including	including	effects based	sample	sample
		industry fixed	experience of	on 2 digits		2 digits SIC
		effects	audit partners	SIC code		code
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Variable	[t-stat]	[t-stat]	[t-stat]	[t-stat]	[t-stat]	[t-stat]
DiverseOffice	-0.020*	-0.020*	-0.022*	-0.016	-0.018	-0.012
	[-1.68]	[-1.76]	[-1.75]	[-1.29]	[-1.41]	[-0.98]
3ig4	-0.006	-0.006	-0.004	-0.004	-0.004	-0.003
	[-1.14]	[-1.09]	[-0.59]	[-0.63]	[-0.58]	[-0.54]
BooktoMarketRatio	0.000	0.000	0.000	0.000	0.000	0.000
	[1.30]	[0.85]	[0.50]	[0.98]	[0.43]	[0.92]
CashFlowOperating	2.33e-09*	2.31e-09**	2.87e-09*	1.54e-09	2.67e-09*	1.33e-09
	[1.89]	[1.86]	[1.93]	[1.04]	[1.73]	[0.86]
DuelEngagmentPartner	-0.024*	-0.024**	-0.025*	-0.012	-0.023	-0.011
	[-1.95]	[-1.99]	[-1.84]	[-0.94]	[-1.59]	[-0.72]
Financing	0.007**	0.008**	0.008**	0.008**	0.008**	0.008**
	[2.23]	[-2.47]	[2.25]	[2.27]	[2.12]	[2.14]
ForeignSales	-0.024	-0.037	-0.035	-0.009	-0.038	-0.011
-	[-0.40]	[-0.64]	[-0.56]	[-0.14]	[-0.61]	[-0.18]
HighExp			0.003	0.005	0.004	0.006
			[0.59]	[0.90]	[0.74]	[1.02]
nternalControlWeakness	0.015***	0.015***	0.016***	0.021***	0.017***	0.021***
	[3.18]	[3.18]	[3.22]	[4.23]	[3.32]	[4.19]
.everage	0.003	0.003	0.003	0.003	0.003	0.004*
	[1.30]	[1.57]	[1.32]	[1.60]	[1.50]	[1.78]
.OSS	-0.006*	-0.009**	-0.009**	-0.016***	-0.009**	-0.017***
	[-1.71]	[-2.30]	[-2.04]	[-3.91]	[-2.07]	[-3.86]
LauditFeeOffice	0.003**	0.002*	0.002*	0.000	0.003*	0.000
	[2.14]	[1.69]	[1.75]	[0.29]	[1.79]	[0.34]

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LAuditortenure	-0.002	-0.001	-0.002	-0.001	-0.002	-0.001
	[-0.96]	[-0.78]	[-1.10]	[-0.61]	[-0.88]	[-0.43]
Ltotalassets	-0.011***	-0.010***	-0.011***	-0.010***	-0.011***	-0.010***
	[-8.96]	[-8.47]	[-7.97]	[-7.02]	[-7.85]	[-6.93]
PartnerExperience			-0.000	-0.000	-0.000	-0.000
			[-0.47]	[-0.43]	[-0.65]	[-0.62]
Roa	-0.056***	-0.054***	-0.055***	-0.047***	-0.054***	-0.047***
	[-9.01]	[-8.61]	[-8.28]	[-7.03]	[-8.08]	[-6.92]
SalesGrowth	0.000	0.000	0.000	0.000	0.000	0.000
	[1.59]	[1.55]	[1.41]	[1.31]	[1.42]	[1.32]
Segment	-0.001	-0.001	-0.001	0.001	-0.000	0.001
	[-0.69]	[-0.70]	[-0.56]	[0.67]	[-0.51]	[0.60]
Specialist	-0.008*	-0.004	-0.002	-0.002	-0.002	-0.002
	[-1.83]	[-0.80]	[-0.51]	[-0.30]	[-0.48]	[-0.31]
<i>TotalAccruals</i>	-0.097***	-0.098***	-0.097***	-0.110***	-0.093***	-0.105***
	[-8.57]	[-8.61]	[-8.15]	[-9.24]	[7.70]	[-8.71]
Constant	0.175***	0.180***	0.185***	0.197***	0.185***	0.199***
	[8.42]	[8.49]	[7.55]	[8.05]	[7.32]	[7.87]
Industry fixed effects	No	Yes	Yes	Yes	Yes	Yes
Ν	3,746	3,746	3,340	3,340	3,214	3,214
<i>Prob>F</i>	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.262	0.248	0.254	0.233	0.249	0.228
Adj R-squared	0.258	0.261	0.267	0.261	0.262	0.256

The following regression: $ABJonAcc = b0 + b1DiverseOffice + b_nControlVariables + \varepsilon$, is shown in table 6. The definitions of variables can be found in table 1 of the appendix. All significance tests are two tailed and '*', '**' and '***' represent significance at a 0.10, 0.05 and 0.01 respectively.

variable that needs to be included. Therefore, an additional regression model is conducted including experience to reduce endogeneity issues.

The goodness-of-fit for all three regression models are significant at a 0.0001 level. This means that the regressions specifications seem to be adequate. The adjusted R-squared for the first regression model shows an explanatory power of 49.8%. When the industry fixed effects are included, the adjusted R-squared (49.7%) does not increase, meaning there is no more explanatory power of the regression model, when the industry effects are included. To test if there is a systematic effect of industry in the coefficients, the Hausman test is performed. The coefficients based on fixed effects and the coefficients based on not fixed effects are compared. The outcome of the Hausman test shows a chi2 equal to 3,611.55 significant at a 0.0001 level. It means that the null hypothesis, the difference in coefficients is not systematic, is rejected. As a result of the Hausman test, all other regression models include industry fixed effects. The variable *PartnerExperience* and *HighExp* do not increase the adjusted R-squared (50.1%), which indicates no extra explanatory power of experience, the experience is still left in the control variables.

In the first regression model the variable of interest, *DiverseOffice*, has a coefficient of -0.026 and with a T-statistic of -2.18 is significant at a 0.05 significance level. This supports the idea of the first hypothesis, because the more diverse the composition of audit partners within an office, the less abnormal accruals occur. When including the industry fixed effect, the coefficient (-0.024) of *DiverseOffice* is still significant at a significance level of 0.05 (T-statistic -2.06). Although there are systematics within the industry, it does not change the coefficient of the variable of interest. Also, including experience (*PartnerExperience* and *HighExp*) does not change the sign of the independent variable (-0.027) and it is still significant at a 0.05 significance level (T-statistic -2.17). All three regression models show a significant negative coefficient, which means that the more female audit partners within an office, the higher the audit quality of the male audit partner as well. However, this is based on negative and positive abnormal accruals.

A negative coefficient based on absolute abnormal accruals is seen as better evidence for the first hypothesis. In Table 6 column 1, 2 and 3 show the OLS regression models including absolute values of abnormal accruals (*ABJonAcc*). These regression models also test the first hypothesis and therefore follow the same reasoning as the regression models in table 5 column 1, 2 and 3. The first column is the full sample, the second column includes industry fixed effects and the third column includes industry fixed effects as well as the additional control variables for experience (*PartnerExperience* and *HighExp*).

For the regression models, the goodness-of-fit is also checked and are significant at a 0.0001 level. The adjusted R-squared for the first regression model shows an explanatory power of 25.8%. This is significantly lower than the explanatory power of the abnormal accrual regression models. When the industry fixed effects are included, the adjusted R-squared (26.1%) does slightly increase, meaning there is more explanatory power of the regression model, when the industry effects are included. The variable *PartnerExperience* and *HighExp* do also slightly increase the adjusted R-squared (26.7%), which indicates little extra explanatory power by adding the additional control variable for the experience.

The coefficient for *DiverseOffice* is -0.020 and significant at a 0.10 significance level (T-statistic -1.68). There is still a negative impact on abnormal accruals, even if absolute values are used, but the evidence is weak. The coefficient is only significant at 10% significance level and this is not convincing evidence, but there is evidence of a negative association between the diverse office rate and the occurrence of abnormal accruals. If the industry fixed effects are incorporated, the coefficient (-0.021) keeps significant at a 0.10 significance level (T-statistics -1.76). The addition of experience (*PartnerExperience* and *HighExp*) results in a significant coefficient (-0.022 and T-statistic -1.75). All three regression models provide weak evidence of an association between the impact of more female audit partners within an office on audit quality for male audit partners within those offices.

The control variables are providing additional information. *CashFlowOperating* is positively related to absolute abnormal accruals and *Financing* is also positively associated with absolute abnormal accruals. If there are multiple audit partners, it is negatively associated with absolute abnormal accruals. Male audit partners, who collaborate with either other male or female audit partners, have higher audit quality. This is an additional effect that partly helps explaining hypothesis one. If there is more interaction between audit partner, female or male, it positively influences the audit quality. *InternalControlWeakness* is positively related to absolute abnormal accruals are less prevented by internal control systems and auditors cannot detect all missed abnormal accruals.

Audit office size is expected to have a negative effect on absolute abnormal accruals, but in the regression models, the coefficients are positive. Losses and firm size are associated with less absolute abnormal accruals and a higher *ROA* is also negatively related to absolute abnormal accruals. The more total accruals exist within the client firm, the lower the absolute abnormal accruals. All these observations are the opposite of expected and cannot be explained.

6.3 Audit fee results

The second hypothesis states that the male audit partners within more diverse office have higher audit fees. Table 7 provides the result of the OLS regression models that allows testing the second hypothesis. The dependent variable is the natural logarithm of audit fee (*LAuditFee*) and the variable of interest is *DiverseOffice*. The variable is expected to be positive, which would mean that the male audit partners indeed have higher audit fees.

In the first model, column 1, the full sample is considered in the regression. The other two regression models are incorporate due to expected confounding effects. It results in industry fixed effects taken into account in the second column regression. The industry is identified similar to the method for the first hypothesis. In that case, the likelihood of an omitted variables bias caused by cross-sectional analysis is reduced. The third regression model includes the partner experience (*PartnerExperience* and *HighExp*) and the industry fixed effects. Missing experience information results in a total number of 3,340 firm observations used in the third regression model.

0	Dependent Variable: <i>LAuditFee</i>				
	(1)	(2)	(3)		
	Full Sample	Full Sample	Sample including		
		including industry	experience of audit		
		fixed effects	partners		
	Coeff.	Coeff.	Coeff.		
Variable	[t-stat]	[t-stat]	[t-stat]		
DiverseOffice	-0.041	-0.070	-0.043		
	[-0.60]	[-1.09]	[-0.65]		
Big4	0.365***	0.290***	0.287***		
	[11.17]	[9.42]	[8.87]		
DuelEngagmentPartner	0.098	0.037	0.069		
	[1.37]	[0.55]	[0.96]		
ForeignSales	0.223	-0.119	-0.125		
	[0.64]	[-0.36]	[-0.38]		
FYEnd	-0.037	-0.002	-0.016		
	[-1.52]	[-0.11]	[-0.65]		
GoingConcern	0.073	0.107**	0.094**		

Table 7: OLS Regression hypothesis 2

	[1.57]	[2.44]	[2.09]
HighExp			-0.034
			[-1.11]
InternalControlWeakness	0.227***	0.205***	0.200***
	[8.19]	[7.91]	[7.45]
Leverage	-0.026**	-0.007	-0.006
	[-2.07]	[-0.64]	[-0.55]
Loss	0.157***	0.154***	0.157***
	[7.02]	[7.21]	[6.97]
LauditFeeOffice	0.102***	0.105***	0.107***
	[13.89]	[15.07]	[14.51]
LAuditortenure	0.040***	0.024***	0.029***
	[3.98]	[2.56]	[2.86]
Ltotalassets	0.433***	0.461***	0.456***
	[69.78]	[77.15]	[70.64]
PartnerExperience			0.005**
			[2.30]
RecInv	0.492***	0.330***	0.323***
	[11.55]	[7.63]	[7.13]
Roa	-0.174***	-0.099***	-0.106***
	[-4.57]	[-2.73]	[-2.86]
SalesGrowth	0.000	0.000	0.000
ä	[0.16]	[0.01]	[0.20]
Segment	0.054***	0.044***	0.040***
~	[9.03]	[7.96]	[6.58]
Specialist	-0.087***	-0.040*	-0.047*
	[-3.44]	[-1.65]	[-1.78]
TotalAccruals	-0.031	-0.088	-0.068
	[-0.46]	[-1.40]	[-1.05]
Constant	5.812***	5.495***	5.430***
	[47.72]	[47.46]	[41.41]
Industry fixed effects	No	Yes	Yes
N	3,746	3,746	3,340
Prob>F	0.000	0.000	0.000
R-squared	0.819	0.841	0.840
Adj R-squared	0.819	0.817	0.818

The following regression: $LAuditFee = b0 + b1DiverseOffice + b_nControlVariables + \varepsilon$, is shown in table 7. The definitions of variables can be found in table 1 of the appendix. All significance tests are two tailed and '*', '**' and '***' represent significance at a 0.10, 0.05 and 0.01 respectively.

In order to see if the regressions' specifications are adequate, the F-statistic of the regression is checked, which shows significance at a 0.0001 significance level. It applies to all three models' specifications. The adjusted R-squared for the regression model in the first column is 81.9%. There is no difference in explanatory power between the first, second and third model. The second

regression model has an adjusted R-squared of 81.7% and the third regression model has an adjusted R-squared of 81.8%. By adding industry fixed effects and audit partner experience, the explanatory power is not increasing.

DiverseOffice has a negative coefficient (-0.041), which is the opposite of the expected sign. However, the coefficient is not significant due to a T-statistics of -0.60. Based on the first regression model, there is no evidence of an association between male audit partners within diverse offices and the audit fee. When the industry fixed effects and the experience of the audit partner is included, it still results in insignificant coefficient for *DiverseOffice*. This means that in none of the three regression models, there is proof for an association between the diverse office rate and the audit fee. This could also be an explanation for the higher audit fee for female audit partners. Although more audit quality is found for male audit partners within offices with more female audit partners, it does not lead to higher audit fees. Higher audit fees for female seems to be the result of the audit fee premium for the gender of the audit partner.

Other noticeable coefficients in the regression models are *Big4, InternalControlWeakness, LAuditortenure, Loss, RecINV*, and *Segment*. All the control variables have a significant positive association with audit fee. Big 4 audit firms audit bigger firms, which leads to higher audit fee. If there is an internal control weakness disclosed, it leads to a higher audit fee. The longer the audit firm has been the auditor of the client firm, the higher the audit fee and is different from what is expected. A higher audit fee is charged related to the incidence of loss. When a client firm is performing poorly, the auditor puts in more effort to check for misstatements. The higher the ratio between receivables and inventory, the higher the audit fee. This is a result of more chance of obsolete inventory and the auditor must put in more effort. There is a need for more expertise and more effort when a firm operates in more segments. So, if a client firm is operating in more business segments, the audit firm will charge a higher audit fee. If the audit firm is a specialist for the industry (*Specialist*), it is associated with a lower audit fee. Higher expertise and efficiency due to specialization will probably lead to lower audit fees.

PartnerExperience, HighExp, and *GoingConcern* become significant in the second and third regression model. Specialist becomes less significant in those models, but this could be explained by the industry fixed effects incorporated. Audit partner experience is associated with higher audit fees. Only high experience audit partners are associated with lower audit fees. Beginning audit partners charge higher audit fees, due to more effort put in the engagement. More experienced audit partners can put in less effort and this will lead to lower audit fees.

6.4 Additional analyses

In the additional analyses, instead of industry fixed effects based on the division of industry by the Department of Labor, the industry fixed effects are based on the two digits SIC code. Industry can be defined differently and could lead to different results. In column 4 in table 5 and table 6, the regression results are presented within table 5 abnormal accruals as the dependent variable and in table 6 absolute abnormal accruals as the dependent variable. The adjusted Rsquared does not seem to increase for both models, which indicates no additional explanatory power. For the signed abnormal accruals, the variable of interest (*DiverseOffice*) remains negative and significant. However, in this model is significant at a 0.10 significance level instead of a significance level of 0.05. It means that there is still an association, but the evidence is weaker. For the absolute abnormal accruals, the variable of interest (*DiverseOffice*) becomes insignificant. Industry fixed effects based on the two digits SIC codes result in no association between the absolute abnormal accruals and the diversity of the office.

The data distribution is presented in table 2 panel B. It shows an unbalanced sample with most observations in 2016 and 2017. The observations of 2014, 2015 and 2018 are removed from the data to test the first hypothesis with a balanced sample, which is shown in column 5 and 6 in table 5 and 6. In case of signed abnormal accruals as the dependent variable, the outcomes of the regression models still show significant negative coefficients for *DiverseOffice*. In table 5 the variable of interest is significant at a 0.05 significance level and table 6 shows a significance of *DiverseOffice* at a 0.10 level. The two methods of industry fixed effects are still considered because none of the two models is seen as better. For the absolute abnormal accruals regression models, there is a change in significance of the variable of interest. In the balanced sample with industry fixed effect based on the definition of industry of the Department of Labor, *DiverseOffice* is not significant, whereas the variable was significant to efficient for *DiverseOffice*. The evidence for an association between the impact of female audit partners on the male audit partners' audit quality becomes weaker within the balanced sample.

Table 8: OLS Regression Additional Analyses

	Dependent Variable: JonAcc			Dependent Variable: ABJonAcc		
	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample	Full Sample	Balanced Sample	Full Sample	Full Sample	Balanced Sample
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Variable	[t-stat]	[t-stat]	[t-stat]	[t-stat]	[t-stat]	[t-stat]
DiverseOffice		-0.132***	-0.130***		-0.154***	-0.140***
		[-2.99]	[-2.89]		[-3.47]	[-3.10]
NationalDiverseLevel	-0.067	-0.140**	-0.130**	0.004	-0.086	-0.075
	[-1.58]	[-2.46]	[-2.25]	[0.10]	[-1.51]	[-1.29]
DivsereOffice*NationalDiverseLevel		0.532**	0.523**		0.637***	0.584***
		[2.58]	[2.49]		[3.06]	[2.77]
Big4	-0.002	-0.003	-0.002	-0.003	-0.003	-0.003
	[-0.34]	[0.42]	[-0.36]	[-0.47]	[-0.53]	[-0.54]
BooktoMarketRatio	-0.000	-0.000	-0.000	0.000	0.000	0.000
	[-0.55]	[-0.51]	[-0.58]	[0.43]	[0.47]	[0.40]
CashFlowOperating	-1.89e-09	-2.12e-09	-2.12e-09	2.89e-09*	2.62e-09*	2.45e-09
	[-1.28]	[-1.43]	[-1.38]	[1.94]	[1.76]	[1.58]
DuelEngagmentPartner	-0.015	-0.016	-0.016	-0.024*	-0.025*	-0.024
	[-1.17]	[-1.25]	[-1.07]	[-1.81]	[-1.90]	[-1.64]
Financing	-0.010***	-0.009***	-0.009**	0.008**	0.008**	0.008**
-	[-2.65]	[-2.60]	[-2.52]	[2.25]	[2.32]	[2.19]
ForeignSales	0.008	-0.001	-0.003	-0.037	-0.048	-0.050
	[0.13]	[-0.02]	[-0.05]	[-0.60]	[-0.78]	[-0.81]
HighExp	-0.002	-0.003	-0.003	0.003	0.002	0.003
	[-0.30]	[-0.46]	[-0.48]	[0.58]	[0.40]	[0.56]
InternalControlWeakness	-0.010*	-0.010*	-0.009*	0.016***	0.015***	0.016***
	[-1.95]	[-2.12]	[-1.79]	[3.22]	[3.01]	[3.12]
Leverage	0.029***	0.029***	0.029***	0.003	0.003	0.003
~	[13.27]	[13.40]	[13.11]	[1.27]	[1.40]	[1.58]
Loss	-0.050***	-0.049***	-0.050***	-0.009**	-0.008**	-0.009**
	[-11.96]	[-11.90]	[11.85]	[-2.08]	[-2.00]	[-2.03]

LauditFeeOffice	0.001	0.002	0.002	0.002	0.003**	0.003**
	[0.70]	[1.34]	[1.31]	[1.39]	[2.07]	[2.09]
LAuditortenure	0.005**	0.004**	0.005**	-0.002	-0.002	-0.002
	[2.50]	[2.42]	[2.46]	[-1.09]	[-1.19]	[-0.98]
Ltotalassets	0.003**	0.004***	0.004***	-0.011***	-0.010***	-0.010***
	[2.55]	[2.82]	[2.72]	[-8.00]	[-7.65]	[-7.57]
PartnerExperience	0.000	0.000	0.000	-0.000	-0.000	-0.000
	[0.21]	[0.39]	[0.48]	[-0.47]	[-0.25]	[-0.45]
Roa	-0.128***	-0.129***	-0.128***	-0.055***	-0.055***	-0.054***
	[-19.52]	[-19.61]	[-19.19]	[-8.25]	[-8.43]	[-8.14]
SalesGrowth	-0.001***	-0.001***	-0.001***	0.000	0.000	0.000
	[-3.61]	[-3.51]	[-3.50]	[1.33]	[1.43]	[1.44]
Segment	-0.000	-0.000	-0.000	-0.001	-0.001	-0.001
	[-0.03]	[-0.01]	[-0.08]	[-0.55]	[-0.52]	[-0.47]
Specialist	-0.009*	-0.009*	-0.010*	-0.003	-0.003	-0.002
	[-1.91]	[-1.91]	[-1.94]	[-0.53]	[-0.53]	[-0.49]
TotalAccruals	0.616***	0.618***	0.611***	-0.098***	-0.096***	-0.092***
	[51.96]	[52.11]	[50.60]	[-8.19]	[-8.05]	[-7.60]
Constant	0.026	0.023	0.019	0.189***	0.187***	0.186***
	[1.02]	[0.87]	[0.73]	[7.48]	[7.22]	[6.97]
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Ν	3,340	3,340	3,214	3,340	3,340	3.214
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.541	0.543	0.538	0.253	0.256	0.251
Adj R-squared	0.501	0.503	0.497	0.266	0.269	0.264

The following regression: $JonAcc = b0 + b1NationalDiverseLevel + b_nControlVariables + \varepsilon$, is shown in column 1. Column 4 presents the regression model: *ABJonAcc* = b0 + b1NationalDiverseLevel + b_nControlVariables + \varepsilon. In column 2 and 3 the following regression model is shown: $JonAcc = b0 + b1DiverseOffice + b2NationalDiverseLevel + b_nControlVariables + \varepsilon$. The results for the regression model: $JonAcc = b0 + b1DiverseOffice + b2NationalDiverseLevel + b_nControlVariables + \varepsilon$. The results for the regression model: $JonAcc = b0 + b1DiverseOffice + b2NationalDiverseLevel + b3DiverseOffice*NationalDiverseLevel + b_nControlVariables + \varepsilon$, are presented in column 5 and 6. The variables including "*" represent interaction terms. The definitions of variables can be found in table 1 of the appendix. All significance tests are two tailed and "*", "**" and "***" represent significance at a 0.10, 0.05 and 0.01 respectively.

The impact of diversity on audit quality for male audit partner is tested at an office level. It could be influenced by the national level of diversity. The more diverse the audit firm, the better the audit quality for the male audit partner. First, in the additional analysis, the national level of diversity is tested as the variable of interest instead of office-level diversity. The result of the regression models can be found in table 8. In both cases, signed and absolute abnormal accruals as the dependent variable, there is no association between national diversity level and the occurrence of abnormal accruals.

The other regression models incorporate the national diversity level and the interaction between office level diversity and national diversity. Again, there is made use of the full sample and the balanced sample, where observations from 2014, 2015 and 2016 are dropped. In column 2 and 3, the dependent variable in the regression model is signed abnormal accruals, whereas in column 5 and 6 the absolute abnormal accruals are used as dependent variable. It leads to interesting results. The variable of interest in the thesis is *DiverseOffice*, which remains negative and significant, but it is significant at a 0.01 significance level. The interaction term is positive and significant at a 0.05 significance level for signed abnormal accruals and at a 0.01 significance level for the absolute abnormal accruals. When the national level of the audit firm has more female audit partners, the audit quality of male audit partners within more diverse offices will not increase anymore. The female audit partners have less impact on the male audit partners on the audit quality. This could be the result of higher audit quality for the full firm as a result of more female audit partners within the firm.

7. Conclusion

Audit partner disclosure requirements in the United States are effective for SEC issuer's after 31 January 2017. It allows researchers to investigate audit partner characteristics in more detail. This thesis test whether gender diversity at office level has an impact on audit quality and audit fee. Specifically, this thesis investigates if the audit quality of male audit partners is increased through the interaction between male and female audit partners at the office level. As a result of the interaction between audit partners and the higher audit quality, a higher audit fee is also expected.

Based on the conducted analyses, there is weak evidence for the impact of female audit partners on the audit quality of male audit partners within the same office. Furthermore, there is no evidence for the impact of female audit partners on audit fees of male audit partners. The higher the proportion of female audit partners at an office level, the lower the signed abnormal accruals. Including several robustness checks still results in lower signed abnormal accruals for more diverse offices. The absolute abnormal accruals are also lower for male audit partners within offices with more female audit partners. When two digits SIC code industry fixed effects and only firm observations of 2016 and 2017 are used, there is no decrease in absolute abnormal accruals measured. The interaction between the national level and office level diversity still indicates lower abnormal accruals, but the higher the national diversity level, the less impact the office diversity has on the audit quality of the male audit partners within diverse offices, is not rejected. The relation between the audit partners within diverse offices, is not rejected. The relation between the audit fees and diversity at an office level is tested in the second hypothesis. In the analysis, there is no significant association between the natural logarithm of audit fee and the diversity office rate. Therefore, the second hypothesis is rejected. So, this thesis provides weak evidence for audit quality improvement, but no evidence of an increase in audit fees for male audit partner in diverse offices.

The thesis contributes to the existing literature about partner characteristics and the impact of the characteristics on audit quality. This research is the first to compare male audit partner with male audit partner, where the environment of the male audit partner differs. Furthermore, this research is an addition to the existing studies regarding audit quality at an office level. Recently, there is more attention towards the office characteristics and audit quality. The thesis is the first research to combine the audit partner characteristic, gender, and audit quality at an office level. For directors and policymakers in an audit firm, this thesis provides evidence for the ongoing idea that more diversity in audit firms help to improve the audit quality.

This thesis also has certain limitations. The results are not inconclusive, which could lead to wrong conclusions. Especially, the absolute abnormal accruals measurement of audit quality provides mixed results. It makes it difficult to infer findings for the research question. Also, there are only a few observations available to test the research question. Due to the requirement of partner disclosure recently became mandatory, most of the firm observations are from 2016 and 2017. If there is more information available, it would increase the magnitude of the thesis. A later time range will result in more required audit partner disclosure and more firm observations under the same conditions. Furthermore, the regression models can still contain an omitted variable bias. Although most of the known omitted variables are incorporated in the regression models, it still could be the case that some omitted variables are forgotten. Related to the omitted variable bias is

the possible bias in the collection of experience. Due to the hand collected nature of the variable, the variable is more likely to contain errors. Last, audit quality is a difficult concept to measure. In this thesis, the abnormal accruals based on the Jones model are used. However, in prior research, other measures of audit quality exist. A different measure of audit quality can lead to a different result.

In future research, the different methods or a combination of methods can be used as audit quality measurements. This thesis focuses only on audit partner disclosure in the United States. However, in several other countries, there is also mandatory audit partner disclosure. So, conducting the same research for a different country is a recommendation for future researchers. When there are more observations available, the research can be performed again to see if the results still hold over time. The interesting results in the additional analysis related to the interaction between national diversity and office diversity could be investigated in more detail. The results found in the additional analysis are not in align with the result found in the main analysis. However, it is difficult to interpret the outcome of the additional analysis without more research and future research is needed.

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Appendix

Table 1. Variable definitions			
Dependent var.	Definition		
ABJonAcc	The variable represents the absolute value of the calculated		
	abnormal accruals according to the modified Jones Model		
	(Jones, 1991; Kothari et al., 2005);		
AuditFee	The total audit fee for the audit engagement retrieved from		
	AuditAnalytics		
JonAcc	Abnormal accruals calculated based on the modified Jones Model		
	(Jones, 1991; Kothari et al., 2005);		

Table 1: Variable definitions

LAuditFee	The natural logarithm of the Audit fee paid for the audit			
Independent var.	Definition			
DiverseOffice	The percentage of female audit partners per office dividing by the			
Constant and	total audit partners per office retrieved from AuditAnalytics;			
Control var.	Definition			
Big4	A variable that equals one, when the audit partner works for Deloitte, E&Y, KPMG or PwC, and equals zero when the audit partner works for another audit firm;			
BookToMarketRatio	The total equity divided by the shares outstanding times the share price at fiscal year-end retrieved from Compustat;			
CashFlowOperating	The cash flow from operating from the cash flow statement retrieved from Compustat;			
DualEngagementPartner	A dummy variable that equals one if there are more than one engagement partner in the same fiscal year;			
Financing	The variable represents the need for external financing and equals one if the total long-term debt issued and the sale of new shares divided by the total assets exceeds two percent and zero otherwise;			
ForeignSales	The percentage of the total sales that are sold outside the United States;			
FYEnd	If the firm's fiscal year ends on December 31, the variable equals one and zero, if the fiscal year ends another date;			
GoingConcern	The variable equals one if the firm received a going-concern audit opinion retrieved from AuditAnalytics and zero otherwise;			
HighExp	A dummy variable that equals one, if the PartnerExperience exceeds the mean and zero otherwise;			
InternalControlWeakness	If there is a disclosure regarding an internal control weakness retrieved from AuditAnalytics, the variable equals one and zero otherwise;			
Leverage	The long-term debt divided by total asset retrieved from Compustat;			
Loss	Equals one, if the net income is negative retrieved from Compustat;			
LTotalAssets	The natural logarithm of the total assets retrieved from Compustat;			
PartnerExperience	The variable represents the experience of the audit partner by taking the difference between the fiscal year and the year the audit partners finished their bachelor (hand-collected);			
RecInv	The total accounts receivable plus the inventory divided by total assets retrieved from Compustat;			
SalesGrowth	The percentage the sales grew compared to prior year's sales retrieved from Compustat;			
Segment	The amount of firm's business segment retrieved from Compustat Segments;			
Specialist	The indicator variable equals one if the audit firm performs more than 20 percent of total number of firms within a business segment retrieved from Compustat and zero otherwise;			

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