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## **Plenary Paper Session 5**

## **Auditors' Gender Differences and Client Portfolios**

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## Abstract

In this study, we examine whether and how gender of engagement audit partners affects client acceptance decisions. Using a sample of 2,767 firm-year observations of firms listed on the Australian Securities Exchange (ASX) from 2013 to 2014, we empirically investigate and compare the riskiness of clienteles between female and male auditors. The results indicate that on average female auditors have less risky clients in their client portfolios than male auditors. Furthermore, the negative association between female auditor gender and the level of risk in clienteles is more pronounced among the riskiest group of clients. The findings of this study suggest that gender differences between auditors may have important implications for client acceptance decisions and that such differences are more likely driven by high-risk engagement decisions.

**Keywords:** audit client portfolios, client acceptance, gender, audit engagement partner, auditor characteristics

## **1. INTRODUCTION**

Over the past decade, the global financial crisis of 2007–2008, economic volatility and heightened client business risk, when combined with the inherent complexities of financial reporting requirements, impose enormous challenges on auditors (International Auditing and Assurance Standards Board [IAASB], 2014). Accordingly, the importance of implementing and following rigorous client acceptance procedures in audit firms as a quality control system has been highlighted by both external regulators and within the accounting profession (CPA Australia, 2010; ASIC, 2015). The client acceptance decision is vitally important to audit firms and auditors, particularly in today's high-risk environment. A high-risk client could seriously jeopardise an audit firm's viability, as was most famously demonstrated by the collapse of Arthur Andersen in 2002.

The client acceptance decision function is an integral part of the overall audit process, involving evaluation of the total engagement risk associated with a particular client and demanding considerable professional judgement from audit engagement partners (Colbert et al. 1996). Professional standards also require partners to take responsibility for evaluating the overall engagement risk level before accepting an audit engagement (ASA 220, para 8), while acknowledging that "there is not necessarily one correct answer in making a judgement" (International Federation of Accountants [IFAC], 2012, p. 3). Similarly, the Deloitte audit firm notes in its 2015 transparency report that "...every audit engagement is led by a partner, and our engagement partners are fully responsible for the services they provide" (p. 14). Therefore, while audit firms implement a set of formal procedures regarding client acceptance decisions, the actual amount of client-related evidence collected and detailed evaluation of risk factors are determined by the audit partner in charge of the engagement. Despite the significant role of individual auditors, except for a few experimental studies (Johnstone 2000; Johnstone and Bedard 2003; Cohen and Hanno 2000), prior empirical research has focused largely on audit firms' client portfolio management viewed primarily through the lens of trade-offs between expected revenues from engagement and possible engagement losses such as litigation costs and reputation loss (Choi et al. 2004; Jones and Raghunandan 1998; Krishnan and Francis 2002). This study aims to fill this gap by examining the impact of the individual characteristics of auditors in the context of the client acceptance decision.

A growing body of audit literature recognising that auditors should not be assumed to be homogenous within audit firms has called for more attention to be paid to individual auditor characteristics in general (DeFond and Francis 2005; DeFond and Zhang 2014; Francis 2011; Nelson and Tan 2005) and auditor gender specifically (Birnberg 2011). Reflecting this interest and drawing on psychological literature, a number of researchers have provided evidence to suggest that females' relatively lower tolerance of risk and use of more detailed information processing strategy affect audit-related judgement and decisionmaking (e.g., Hardies et al. 2014; Ittonen and Vähämaa 2013; Niskanen et al. 2011). Those reported gender differences in risk tolerance and information processing have significant implications for auditors' judgements in the client acceptance process because they are likely to affect both the amount of evidence considered and the eventual assessment of risk, which may lead to significant variation in engagement decisions between male and female auditors. By recognising the important role of individual auditors in making client acceptance decisions, this study brings one key individual characteristic, gender, into the context of the client acceptance decision process. More specifically, we investigate whether and to what extent the gender of engagement audit partners affect client acceptance decisions. In explaining the causes of gender differences such as risk attitudes and information processing, this study draws on the view that gender as a category depends largely on context and that salient gender structures are likely to lead individuals to behave in a stereotypical manner

(Kramer 2011; Ridgeway and Smith-Lovin 1999). In supporting this view, a number of researchers suggest that when individuals within minority experience stereotypes that are negatively related to their performance, they are likely to focus on monitoring themselves and 'become vigilant to detect the sign of failure or errors', resulting in more cautious and conservative behaviour in decisionmaking (Spencer et al. 2016, 421). Given that female auditors are in the numerical minority and that the auditor stereotype is typically male (Anderson-Gough et al. 2005; Hardies 2011; Kornberger et al. 2010), this study posits that gender-related behaviours are highly likely to manifest themselves in client acceptance decisions. If systematic differences between female and male auditors (such as risk perception and information processing) influence their judgements, female auditors would be expected to be more sensitive to negative evidence and these differences should be reflected in their client portfolios. Therefore, this study examines whether female audit partners' clienteles are on the whole less risky than male audit partners' clienteles by comparing the characteristics of the clients for each group.

We further investigate whether the association between auditor gender and clientele riskiness is more pronounced in the high-risk engagement context. Although a majority of the literature supports differences between females' and males' attitudes to risk and their information processing patterns, some researchers insist that the common assumption that females are more risk-averse than males warrants further and more sophisticated investigation<sup>1</sup> (Hyde 2014; Nelson 2015). Within the auditing context, the level of risk is a significant factor in determining individual auditors' differences. The professional literature (D'Aquila et al. 2010) also suggests that high-risk engagement in particular requires auditors' professional judgement in planning audit procedures that are

<sup>&</sup>lt;sup>1</sup> For instance, Nelson's (2015) meta-analysis of 35 scholarly works examined statistically significant findings to estimate the effect size of gender differences and found that the genders are in fact much more similar in terms of outlook. In conclusion, she suggests that gender difference is apparent only at extreme levels of risk-taking decisions.

highly tailored to that particular client and thus differ from the standardised audit manual and routine engagement assessment undertaken in the context of ordinary levels of risk. In addition to audit firms' formal process of client acceptance decisions, auditors' work is subject to a set of principles and professional requirements. Given recently heightened regulation and its emphasis on auditor independence, auditors are expected to be more conservative when making client acceptance decisions. If auditors' behaviours are mitigated by these trends and professional norms, it is unclear to what extent the effects of gender differences would be discernable in overall decision-making or whether professional standards and firm norms have a more powerful influence than gender differences. This study therefore extends the prior research on gender effects in the audit context (Hardies et al. 2014) by considering situational factors that may motivate individual auditors' differences or drive gender-related behaviours. More specifically, we posit that differences between female and male auditors will be pronounced in the high-risk engagement context, in which a significant amount of professional judgement is inevitable and which are by definition more likely to pose the greatest risk to audit firms.

Using a sample of Australian listed companies from 2013 to 2014, we find that on average female auditors have less risky clients in their client portfolios than male auditors. The results also show that the negative relationship between female auditor gender and the level of risk in clienteles is more pronounced among the riskiest group of clients. These findings may mean that while auditor gender differences influence the evaluation of engagement risk and thus client acceptance decisions, gender effects are more likely to be operative in the high-risk engagement context, where a more significant amount of professional judgement is required and which is likely to pose the greatest risk threat to auditors and firms. The results are robust for the balanced panel data and the 2013 and 2014 financial year subsamples.

This study makes a number of contributions. First, it adds to the limited research on client acceptance decisions at the individual level of analysis. While the current study confirms prior experimental studies showing that individual auditors differ in evaluating or weighting risk factors, it also suggests that individual auditor differences do have a significant implication in acceptance decisions. From the supply-side perspective, understanding that client acceptance decisions are made not only by firms but also by the engagement auditor in charge should provide additional insights into the audit process.

Second, this study provides consistent evidence that gender may affect auditor judgements and decision-making (e.g., Gold et al. 2009; Hardies et al. 2014; Ittonen and Peni 2012) while also extending prior findings by incorporating contextual factors that may drive or exacerbate gender differences. While there has been increasing interest in gender differences in the auditing context, some researchers (Hardies 2011) have noted that merely describing differences based on psychological literature may be problematic in actually understanding gender differences. This study takes into account the important role of context to explain why the gender-related behaviours observed may occur. Furthermore, the current study outlines the potentially important contextual factors that may magnify gender differences, thereby responding to calls by a number of researchers (Hyde 2014; Nelson 2015) to explore situational factors that maximise or minimise gender differences.

Third, understanding how individual differences in cognitive processing and risk perception may influence evaluation of engagement risk level may be of interest to audit practitioners. Many public audit firms have investigated or implemented computer-based audit decision aids (Bell et al. 2001), which have become even more important in the aftermath of major corporate collapses and the global financial crisis. Similarly, in the most recent ASIC inspection report, "client acceptance and continuation" was recommended as one of the areas needing further improvement for the third consecutive year (2012–2014),

suggesting both the importance of engagement management for audit firms and the difficulties they have experienced in addressing engagement pitfalls. If there is an individual difference in terms of risk level and cognitive processing, decision aid tools could take those differences into account and be tailored to assist specific auditors in assessing engagement risk factors. If implicit stereotypes are part of the organizational culture and subtle biases may unconsciously influence auditors' judgement, diversity training and direct intervention such as mentoring programs may be appropriate.

The remainder of the paper is organised as follows. Section 2 reviews the relevant literature and present our hypotheses. Section 3 describes the data and research methodology and Section 4 reports the empirical results. Section 5 summarises and concludes the study.

## 2. BACKGROUND AND HYPOTHESIS DEVELOPMENT

#### **2.1 Client Acceptance Decisions**

Once the potential audit engagement opportunity is identified, auditors gather relevant information about the potential client and evaluate the overall engagement risk in the light of their risk management strategies (e.g., staff assignment, industry expertise, extending the audit efforts) to determine whether any identified risks could be mitigated to an acceptable level<sup>2</sup> (Johnstone and Bedard 2003; Khalil et al. 2011; AUASB, 2013a). If the identified threats and risks are judged to be beyond an acceptable level, Australian audit and ethical standards ASA 200 and ASES 110 require audit partners to decline such an audit engagement, otherwise partners in charge submit a proposal to provide audit

<sup>&</sup>lt;sup>2</sup> Anecdotal evidence and previous studies (e.g., Asare et al. 1994; Johnstone and Bedard 2004) suggest that audit engagement opportunity arises from receiving the client firm's expression of interest (e.g., personal contact via a referral, putting its audit out to tender) or auditors' business networking activities (e.g., charitable, social and business organisation).

services for the prospective clients or retain the relationship with an existing client (APESB, 2010; AUASB, 2011). However, the acceptable level is defined relatively vaguely in the code as "a level at which a reasonable and an informed third party would be likely to conclude, weighing all the specific facts and circumstances available to the member at that time, that compliance with the fundamental principles is not compromised" (APESB, 2010, p. 4).

Various factors can affect an auditor's judgement and decision in accepting audit clients and a similar level of risky clients may be categorised as excessively risky depending on how auditors weigh expected costs/ risks against anticipated revenue.

## 2.2 Factors Affecting Auditors' Client Acceptance Decisions

Prior research has documented a significant role which auditor size (i.e., Big N versus non-Big N) plays in the audit firm's client acceptance and continuance decisions, and overall engagement risk management. However, the results are mixed. In general, the research shows that Big N audit firms are more likely to avoid risky engagements evidenced by resigning from high-risk clients (Catanach, Irving, Williams, & Walker, 2011) or adjusting their client portfolios in response to the increase in litigation risk (Choi, Doogar, & Ganguly, 2004; Jones and Raghunandan 1998). Other research (Zhan Shu, 2000; Krishnan & Francis, 2002) suggests that large audit firms may spread the given client risk over a large client base portfolio. They also have more resources to invest in industry expertise/ technologies, which results the Big N firms being able to serve more risky clients (Catanach, et al., 2011). While most studies have primarily focused on audit firms' purposeful client portfolio management based on trade-offs between engagement profit and expected engagement loss (i.e., litigation cost, reputation loss etc.), little is known about how individual audit partners' characteristics affect the client acceptance and continuance decisions. In addition, agency theory assumes that audit partners are homogeneous within a particular group, so that the largest

auditors are essentially the same in terms of quality, appetite for risk, etc. (Francis, 2011). However, such a narrow assumption is likely to discount potential individual differences.

A limited number of experimental and field studies provide some insights into how individual audit partners make client acceptance decisions. In general, research suggests that auditors' client acceptance decisions are affected by perceived litigation risk (Huss & Jacob, 1991), clients' financial conditions (Johnstone 2000; Pratt & Stice, 1994) and management integrity (Cohen & Hanno, 2000; Johnstone 2001). Research also indicates that while client's business risk and audit risk are inversely related to the likelihood of an auditor's acceptance decision, auditors differ in terms of which risk components are relatively more important for their client acceptance decisions (Eppa and Messier 2007; Gendron 2001; Johnstone 2001) and applying risk adaptation strategies (Johnstone 2000; Johnstone and Bedard 2003). In an experimental study, Johnstone (2000) found that auditors made client acceptance decisions based on clients' financial status and internal control systems but did not accept those considered as high-risk clients. However, a field study by Johnstone and Bedard (2003) found that risk management strategies such as assigning industry experts or increasing audit scopes moderated the negative relation between risky clients and auditors' likelihood of acceptance. While prior research shows that individual auditors differ in evaluating and weighing risk factors, they provide limited insight into the extent to which auditors' individual characteristics are reflected in client acceptance decisions.

In the next section, we develop hypotheses based on gender-based differences in risk attitudes and cognitive information processing, with linking to client portfolio decisions. Further, we will extend the previous research on gender differences in auditing context by leading the focus of analysis to situational factors.

## 2.3 Gender Differences in Risk Assessment and Information Processing

Under the so-called "selectivity hypothesis", research shows that males and females differ in information processing styles (Meyers-Levy 1986); in this view, females are more comprehensive processors than males, so they employ most of the available information in forming their judgement. Males, however, tend to rely on heuristic devices and strongly represented informational cues, and their judgement is marked by simplified strategies that minimize cognitive effort.<sup>3</sup> A number of experimental studies confirm that gender differences in information processing strategies could influence auditors' judgements in various tasks (e.g. Chung and Monroe 2001; O'Donnell and Johnson 2001; Gold et al. 2009). For instance, Chung and Monroe (2001) examined the effect of auditor gender and task complexity on accuracy, finding that female auditors achieved greater accuracy than male auditors in more complex inventory valuation tasks. O'Donnell and Johnson (2001) focused on task efficiency and reported that female auditors spent significantly more time than male auditors in completing an analytical procedure task in the context of a low level of client risk. In their experimental study, Gold et al. (2009) show that females' comparatively lower risk tolerance levels are associated with a need for more detailed information before making judgements. Hence, the different cognitive patterns between males and females also appear to accommodate gender differences in risk-taking behaviours.

It is widely acknowledged stereotype that females are more risk averse than males.<sup>4</sup> Research suggests that, to a large extent, gender differences observed in risk-taking behaviours are driven by differences in perception of risks and whether a decision-maker stresses potential losses or gains in the decision-making

<sup>&</sup>lt;sup>3</sup> Heuristic devices represent an individual's tendency to rely on the probability of occurrence, previous experiences in similar contexts or readily available information when making judgements (Meyers-Levy, 1986).

<sup>&</sup>lt;sup>4</sup> For example, research in psychology (Byrnes et al. 1999), social science (Christman et al. 2007) and gender studies (Lyonette and Crompton 2008) support this contention.

context, a process known as focus framing. Risk and return trade-offs are cognitive processes in which perceived risks and expected benefits are subjectively assessed and valued (Borghans et al. 2009). Using the risk-return framework, females are found to put greater emphasis on potential loss or risk while males are likely to put emphasis on expected benefits (e.g. Christman et al. 2007; Borghans et al. 2009). This predisposition to focus on loss or gain is observed in many domains, but especially in financial decision-making contexts where the task is socially viewed as masculine<sup>5</sup> (e.g. Powell and Ansic 1997; Olsen and Cox 2001; Speelman et al. 2013; Hohnisch et al. 2014). Likewise, Carr and Steele (2010) note that females become more risk-averse in investment decision-making compared to males in a context in which they were exposed to the stereotype that males are better at investment decisions than females.

From this perspective, the audit firm context does appear to trigger gender stereotypes, as female auditors are in a numerical minority and the auditor stereotype is positively linked to males (Anderson-Gough et al. 2005; Kornberger et al. 2010; Hardies 2011). Recent literature notes that the gendered nature of audit firms is perpetuated through informal organisational practices such as largely male-dominated networking practices that are often subtle yet pervasive within an organisation (Anderson-Gough et al. 2006; Lupu 2012). Female and male auditors thus might have meaningfully different experiences within seemingly identical audit contexts; consequently, gender differences are likely to be observed in assessing engagement risk. Prior empirical research reported that companies with female CFOs are less likely to issue debt (Huang and Kisgen 2013), are associated with reduced aggressiveness in the area of taxation (Francis et al. 2015) and have more income-decreasing discretionary accruals (Barua et al. 2010; Peni and Vähämaa 2010), suggesting that female executives are relatively

<sup>&</sup>lt;sup>5</sup> For instance, behavioural economic studies have documented that female investors tend to overestimate small probabilities of losing and are more sensitive to ambiguity, leading to their holding portfolios with less volatile returns than males (Christman et al. 2007; Olsen and Cox 2001; Speelman et al. 2013)

less tolerant of risk and therefore adopt more conservative accounting strategies. Similarly, recent audit research demonstrates that companies audited by female auditors are associated with less opportunistic earnings management (Niskanen et al. 2011), intensive audit efforts (Ittonen and Peni 2012) and receive more GCOs (Hardies et al. 2014).

As discussed above, client acceptance decisions involve the engagement audit partners' evaluations of expected returns and costs. On the one hand, client retention can improve their career advancement and improve their places in partnership or compensation schemes (Knechel et al. 2013; Fu et al. 2015). On the other hand, taking on risky clients could lead to potential litigation, so auditors' personal reputations are at stake (Shu 2000; Bell et al. 2002; Krishnan and Francis 2002); two auditors in very similar situations could thus come to different audit engagement decisions, depending on how each weighs the expected returns and costs or risks associated with a particular client. Females' detailed information processing may lead them to be more aware of the inherent risk implied in clients (O'Donnell and Johnson 2001; Chung and Monroe 2001; Gold et al. 2009). Alternatively, female auditors' greater emphasis on negative outcomes may lead them to evaluate the potential costs as much higher than male auditors. In either case, it is expected that female auditors are less likely to engage with risky clients. Male audit partners, on the other hand, may be more likely to overlook clients' inherent risk because of their tendency to employ simplified information processing. Additionally, male auditors' positively biased risk evaluation may lead them to put greater emphasis on potential revenue than on downside risk with prospective clients. This leads to the following hypothesis:

H1: Client portfolios of female auditors are on average less risky than male auditors.

## 2.4 The Level of Engagement Risk in Client Acceptance Decision Context

Although gender differences are context-specific, the majority of the literature supports differences between females' and males' information processing patterns and their attitudes toward risk. However, some researchers have posited that females' tendency to be more risk-averse than males warrants further, more nuanced investigation. According to Hyde's (2005) meta-analysis, which examines the effect sizes of gender differences, females and males are in fact much more similar in terms of outlook. Hyde's further investigation into potential moderators showed that gender difference in risk perception is not identical across different ethnic groups. Similarly, Nelson (2015) examined statistically significant research in a meta-analysis of 35 scholarly works in economics, finance and decision science. Testing the substantive significance of these studies, she found that results were more mixed and overlapped to a greater extent than first inferred.<sup>6</sup> Nelson (2015) suggests that it is likely that significant gender differences are apparent only at the extremes of risk-taking decisions.

Within the auditing context, the level of risk is a significant factor in determining individual auditors' differences. Auditors' client acceptance decisions not only involve evaluating risk based on the evidence but also require auditors to make professional judgements using risk management strategies to determine whether any identified risks are acceptable (APESB, 2010; AUASB, 2011). The professional literature also suggests that high-risk engagement calls on audit partners' professional judgement to plan or design audit procedures that are tailored to those high-risk clients and thus differ from the standardised audit manual and process (D'Aquila et al. 2010). Therefore, a high level of engagement risk is an important situational factor that may magnify the differences in client portfolios between female and male audit partners. A survey study of professional investment managers by Olsen and Cox (2001) concludes that while gender

<sup>&</sup>lt;sup>6</sup> Standardized differences in means are less than one standard deviation, and the degree of overlap between male and female distributions generally exceeds 80%.

differences in risk perception give rise to different portfolio recommendations for clients, these differences are most significant for assets and portfolios at risk extremes. Prior research also shows that while large auditors are generally reluctant to associate with financially risky clients as measured by financial distress, accounting ratios or market risk measurements, auditors differ in applying risk management strategies in the high-risk engagement context (Krishnan and Francis 2002; Johnstone and Bedard 2004a; Choi et al. 2004).

Given females' sensitivity to ambiguity and negative outcomes, it is more likely that female auditors evaluate high-risk clients as riskier and judge it more costly to mitigate those risks than males do. In addition, male auditors' tendency to focus on gain may emphasize client retention incentives and lead them to applying risk management strategies. This leads to the second hypothesis:

**H2:** The negative relation between female audit partners and riskiness of the clienteles depends on high-risk engagement.

## **3. RESEARCH METHOD**

#### **3.1 Sample Selection**

The sample for this study consists of the firms listed on the Australian Securities Exchange (ASX) from 2013 to 2014. Data on listed companies with financial information is sourced from the Morningstar database. Data on audit fees and engagement partners are retrieved from the Connect 4 database, and cross-checked with the SIRCA and Morningstar databases for confirmation.

Australian listed companies are required to disclose auditor remuneration in the financial statements as stipulated by Australian Accounting Standards AASB 1054 (AASB, 2011). The disclosure should include nature of all services (audit and non-audit services) and amounts for each type of services performed by each auditor during the financial reporting period (AASB, 2011). Furthermore,

Australian Auditing Standards ASA700 requires the engagement partner to disclose their name with signature in the audit report (AUASB, 2013). Accordingly, data on audit fees and the engagement auditor name are hand-collected from financial statements and audit reports. Auditors' gender is further identified from the audit firms' websites based on their full name. In cases where auditor gender is not provided on the company's website, auditors' gender is found on social network sites (e.g. LinkedIn) and media releases from audit firms.

The initial sample of 3,797 firm-year observations is obtained from the Morningstar database. Following prior research, companies from the financial sectors (two digit GICS code 40) are excluded from the sample to address their different reporting requirements (Xu et al. 2013). Companies with incomplete financial data are also removed, resulting in a sample of 3,088 observations with financial information. After reviewing the annual reports, companies that provide only preliminary financial reports, foreign registrants, companies with missing audit fee data, and companies whose functional currency is not Australian Dollars are further excluded. Finally, companies with double audit partners, no audit partner names in the audit reports, as well as non-identifiable audit partners' gender are dropped from the sample. This elimination process yielded a final sample of 2,767 firm-year observations representing 1,488 Australian listed companies. The sample selection procedure is outlined in Table 1.

[Insert Table 1]

## 3.2 Research Model

#### **Client Acceptance Model**

The proposed hypotheses were tested by comparing the risk profile of client portfolios between female and male audit partners. Prior research suggests that financially stressed clients are associated with the likelihood of material misstatement occurring in the financial statement (audit risk), as they are more likely to have incentives to manage earnings (Krishnan and Francis 2002;

Gaeremynck et al. 2008; Schroeder and Hogan 2013). Similarly, research on audit firms' client portfolio changes and auditor resignation demonstrates that clients' poor financial condition increases auditor judgements of litigation risk (Simunic and Stein 1990; Krishnan and Krishnan 1997; Johnstone 2000; Krishnan and Francis 2002; Choi et al. 2004), thereby also increasing auditors' perceived engagement risk. Accordingly, the dependent variable, engagement risk (ENGMRISK), reflects indicators of client firms' riskiness. Accordingly, the proposed hypotheses were tested by comparing the financial risk profile of client portfolios between female and male audit partners. As a quality control system, the partner in charge is required to review the relationships with existing clients periodically, typically on an annual basis and accordingly the newly accepted client firms are subject to auditors' retention decisions for the subsequent year (e.g., ASA 220 para 15; ISQC 1). The major difference between two decisions lies in the extent of knowledge/ information which auditors possess about the clients that are being evaluated. Nonetheless the process by which auditors evaluate the engagement risk for the new and existing clients are similar in terms of gathering client-related information and evaluating the overall business risk<sup>7</sup>. Hence, we use the pool of client portfolios (existing and new clients) for each group, female and male auditors. If systematic differences between female and male auditors (e.g. risk perception and information processing) influence their judgements (Ittonen and Peni 2012; Ittonen and Vähämaa 2013; Gul et al. 2013; Hardies et al. 2015), such differences should be reflected in their client portfolios.

First, to test whether average female audit partners' clienteles are less risky than male audit partners' clienteles (H1), the ordinary least squares (OLS) regression model is used. Second, the quantile regression is estimated to test whether auditors' gender-related difference is prominent in the high-risk

<sup>&</sup>lt;sup>7</sup> In terms of regulation, the difference between the two types of decisions for new clients and existing clients is not highlighted and both are considered as a whole; see Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, and Other Assurance Engagements pursuant to section 227B of the Australian Securities and Investments Commission Act 2001.

engagement context (H2) by fitting the  $20^{th}$  quantile lines in the upper or lower tails of the distribution.

In order to test whether average female audit partners' clienteles are less risky than male audit partners' clienteles (H1), the following Ordinary Least Squares (OLS) regression model is estimated based on the pooled sample:

ENGMRISK<sub>i</sub> = 
$$\alpha_0 + \beta_1 \text{ FEMALE}_i + \beta_2 \text{ LnTA}_i + \beta_3 \text{ LnAGE}_i + \beta_4 \text{ BIG4}_i + \beta_5$$
  
LnCLIENT<sub>i</sub> +  $\beta_6 \text{ FEERATIO}_i + \beta_7 \text{ PSPE}_i + \beta_8 \text{ FSPE}_i + \beta_9$   
INDUSTRY\_DUMMY<sub>i</sub> +  $\varepsilon_i$ 
(1)

Table 2 summarizes the dependent variables, variable of interest, and control variables used in the tests.

## [Insert Table 2]

### **Dependent Variables**

Following Choi et al. (2004), a summary measure of financial distress and two financial ratios are used as the proxy variables for client firms' riskiness.<sup>8</sup>

The summary measure of financial distress (PBANK) is the probability of bankruptcy score based on the adjusted Zmijewski (1984) model that includes financial leverage, return on assets, and liquidity ratios as dimensions in prediction of bankruptcy<sup>9</sup>. Accurate prediction of business failure is difficult as

<sup>&</sup>lt;sup>8</sup> Choi et al. (2004) investigate whether Big 6 audit firms purposefully manage their client portfolios in respond to the changing litigation risk (high vs. low) by comparing client riskiness during the sample period. Client risk was measured using three summary measures of financial distress, including Altman Z-score, modified Altman Z-score, and Zmijewski's probability of bankruptcy score. As noted by Stice (1991, p. 521), various financial distress prediction models available in the literature "do not statistically differ in their ability to predict business failure".

<sup>&</sup>lt;sup>9</sup> Auditing research has used the Zmijewski (1984) bankruptcy score as a measure of financial distress of company receiving going-concern opinions (for example, Krishnan and Francis, 2002; Carey and Simnett, 2006; Geiger and Rama, 2006; Carey and Kortum, 2012) or auditors' litigation risk (for example, Jones and Raghunandan, 1998; Krishnan, 1999; Choi et al., 2004).

shown in previous studies on auditors' going concern opinions and default prediction literature (Hopwood et al. 1989; Hay et al. 2014), yet bankruptcy models help to identify those companies in financial difficulty. Hence, a large proportion of financially distressed firms (proxied by PBANK) in an auditor's client portfolio evidently indicates the auditor's greater risk tolerance level in client acceptance. As higher values represent a higher probability of financial distress, a negative association between PBANK and FEMALE is expected.

The proportion of net income in relation to total assets (ROA) indicates the clients' ability to generate profits and is widely used to capture client business risk (e.g. Choi et al. 2004; Johnstone and Bedard 2004a; Hay et al. 2007; Khalil et al. 2011; Hardies et al. 2014). ROA reflects the managements' efficiency in using their assets to generate profits, and accordingly, is closely link to managers' compensation or evaluation of performance (Kothari et al. 2005; Warfield 2005). Low return on assets ratio may create greater pressures on managements, which in turn leads to increased audit risk as reflected in potential misstatement in financial reporting.

The proportion of inventory and receivables to total assets (INVREC) captures audit risk because these accounts require complex measurement and subjective judgement in estimating their values, thereby increasing the likelihood of misstatement in financial reporting (Krishnan and Krishnan 1996; Stice 1991; Shu 2000; Fargher and Jiang 2008; Khalil et al. 2011). As higher values indicate a riskier client firm, a negative coefficient for FEMALE is expected.

## Variable of interest

The main test variable, FEMALE, is a dummy variable coded as 1 if a signing partner is female in year t and 0 otherwise.

## **Control variables**

Following prior literature (e.g. Johnstone and Bedard 2004a; Hardies et al. 2014) characteristics of individual audit partners, audit firms and clients are shown to have potential confounding effects and are included as control variables.

With regard to client-related attributes, the natural logarithm of total assets (LnTA) and the natural logarithm of number of listed years in the Australian Securities Exchange (LnAGE) are included to control for client firms' size and age, respectively. As younger and smaller firms are likely to have more uncertainty and encounter financial distress (Carey and Simnett 2006; Francis and Yu 2009), positive coefficients on LnTA and LnAGE are expected.

The auditor characteristics are controlled at both the firm level and the individual partner level. BIG4 is included to control for the size of auditor. Prior research provides mixed evidence on the risk tolerance of Big 4 audit firms. Big 4 auditors might be able to accept high-risk clients due to more audit resources (Shu 2000; Choi et al. 2004). However, research also shows that public audit firms actively manage their client portfolios to reduce litigation risk and maintain their reputation, which should be associated with low-risk clienteles (Johnstone and Bedard 2003; Krishnan 2003; Schroeder and Hogan 2013). Given the mixed evidence, whether or not Big 4 audit firms take on riskier clients is unclear. Hence, no prediction is made on the direction of the relationship between BIG4 and client riskiness.

LnCLIENT, measured as the natural logarithm of the total number of audit clients in the audit partner's client portfolios, is included as an audit partner level control (Gul et al. 2012; Zerni 2012; Goodwin and Wu 2015; Sundgren and Svanström 2014). It is argued that a large client base may decrease the amount of time and audit efforts the audit partner needs to invest for each assignment, thereby adversely affect audit quality (Fich and Shivdasani 2007; Gul et al. 2012; Sundgren and Svanström 2014). However, using the Australian data, Goodwin and Wu (2015) found no significant relationship between audit partner busyness

and the likelihood to issue a going concern opinion. Accordingly, there is no specific directional expectation between LnCLIENT and clients' riskiness. PSPE and FSPE are used to control for industry specialists at the audit partner and audit firm level, respectively. Extant studies show that client firms audited by industry specialists generally have higher audit quality compared to firms audited by nonspecialist audit firms due to the associated high reputation cost and client-specific knowledge (Balsam et al. 2003; Knechel et al. 2007; Cenker and Nagy 2008; Chi and Chin 2011). In addition, research suggests that auditors are more likely to accept high-risk clients when they believe they have the industry expertise to help mitigate the risks associated with the clients (Johnstone and Bedard 2003; Irving and Walker 2012). Following prior studies (Chi and Chin 2011; Zerni 2012; Hardies et al. 2014), the audit partner is defined as an industry specialist (PSPE) if the audit partner is top-ranked or second-ranked in the industry based on the audit partner's market share using the amount of aggregated audit fees within an industry in year t. Similarly, audit firm industry specialization (FSPE) is based on an audit firm's annual market shares measured by the sum of audit fees within an industry. An auditor firm is defined as an industry specialist if the audit firm is the largest or second-largest audit service supplier in the industry (Ittonen et al. 2010; Zerni 2012; Hardies et al. 2014). Potential to provide non-audit services may affect the auditors' judgement in assessing the engagement risk by increasing their threshold to accept high-risk clients. Accordingly, the ratio of non-audit fees to the total of audit and non-audit fees (FEERATIO) collected from the individual client firms are controlled for in the model (Asare et al. 2005; Carey and Simnett 2006). Finally, an indicator variable for industry (two-digit GICS code) is included in the model to control for the possible industry effect on audit partners' client acceptance decisions due to the different level of riskiness and complexity associated with particular industries (Johnstone and Bedard 2004b).

## Quantile Regression Model

A Quantile Regression (QR) method introduced by Koenker and Bassett (1978) is used to test whether auditors' gender-related difference is prominent in the high-risk engagement context (H2). The QR analysis allows an examination of covariate effects at various cut points along the distribution of the dependent variable. For example, quantiles of each engagement risk measure (DV) for a specific client firm represents its relative level of engagement risk compared to the entire set of firm observations. In other words, the QR estimates the conditioning effect of X on Y at various points of distribution. This is particularly relevant to the test on H2, because my interest resides precisely in the upper tails of a distribution (high-risk engagement context) where auditors' gender differences are expected to be more pronounced. As to the research question, the quantile regression takes the following form:

Quant 
$$_{\theta}$$
 (y<sub>i</sub>) =  $\alpha$  +  $\beta_{\theta}$  FEMALE  $_{i}$  +  $\sum \beta_{\theta}$  Control<sub>i</sub> +  $u_{i}$  (2)

Where  $\alpha$  and  $u_i$  represent the intercept and error term respectively; Quant  $\theta$  (y<sub>i</sub>) is the dependent variable at quantile  $\theta$ . Using the median value of y for the entire sample, where  $\theta = 0.5$ , companies with y greater (less) than y in the 50th quantile can be classified as more (less) risky clients. In their study examining changes in the riskiness of Big Six audit firms' client portfolios, Choi et al. (2004) use the QR with 10th percentile cutoffs of the client risk measures proxy for the riskiest client sup-group. In this study, the 20th percentile cutoff (top 20 percent of the riskiest client subgroup) is used to define the high-risk engagement context.

While the exact definition of the riskiest client group is indefinite, this study finds it appropriate to use 20th percentile cutoffs due to the lack of variability in the main test variable (FEMALE) present across the three different dependent variables at the smallest decile (10th percentile). The 50th quantile (median) is

used as a reference point, which represents the ordinary engagement risk context. The effect of auditors' gender in the high-risk context is estimated by fitting the 20th quantile lines in the upper or lower tails of the distribution. For example, higher values of PBANK and INVREC (upper tail) indicate higher risk whereas lower values of ROA indicate the relatively higher risk clients (lower tail). Accordingly, the 80th quantile for PBANK and INVREC, and 20th quantile for ROA represent the high-risk engagement risk. The variable of interest (FEMALE) and a set of control variables used in quantile regression are the same as for the OLS model. The standard error of the coefficient in the quantile regression model is estimated with the bootstrap method, consistent with prior studies using the quantile regression analysis (e.g. Choi et al. 2004; Li and Hwang 2011; Solakoglu 2013; Lee and Li 2016).

Given the nature of quantile regression, which divides the data sample into defined deciles or percentiles, the bootstrap method enables more robust estimation of the regression effect by making changes in bootstrap sample size relative to the actual data sample size (Koenker 2005). This is a widely used method when conducting quantile regression, as it is useful even when the actual sample distribution is not systematic and is valid under many forms of heterogeneity (Li 2009; Solakoglu 2013; Chi et al. 2015; Lee and Li 2016).

#### **3.3 Descriptive Statistics**

Table 3 presents the descriptive statistics for all variables included in the models as well as the descriptive statistics for the sub-samples of female and male audit partners. The full sample comprises 2,767 firm-year observations for Australian listed companies in 2013 and 2014. The p-values for comparison t-tests between means of the two sub-samples are reported in the last column.

### [Insert Table 3]

The average PBANK is -1.546, which suggests that many companies in the sample exhibit less bankruptcy risk. However, the average ROA is -0.499,

indicating that many sample companies were also subject to the economic downturn during the sample period and thus experienced some financial difficulty. The average (median) ratio of inventory and receivables to total assets is 0.153 (0.062). The number of clients (LnCLIENT) of an auditor varies between 1 and 31, with the average (median) number of clients approximately 8 (5). Of all firm-year observations, 8.46 percent (N = 234) of the companies were audited by female audit partners, which is consistent with previous research using Australian data (Hossain and Chapple 2012)<sup>10</sup> and 37.19 percent (N = 1,029) of the companies were audited by BIG 4 audit firms.

Table 3, Panel B shows that, on average, clients of female auditors are less risky than clients of male auditors; companies audited by female auditors are less likely to be financially distressed (PBANK: -3.190 versus -1.395, p = 0.000), are more profitable (ROA: -0.201 versus -0.526, p = 0.000) with a higher inventory and receivables ratio (INVREC: 0.179 versus 0.151, p = 0.038). Clients of female auditors are significantly larger in size (LnTA: 17.526 versus 16.994, p = 0.000) with greater number of years listed at ASX (LnAGE: 2.484 versus 2.385, p = 0.093) and have a higher percentage of non-audit service fees compared with total audit and non-audit service fees charged from the client (FEERATIO: 0.184 versus 0.138, p = 0.002).

In terms of audit partner characteristics, female auditors are, on average, more likely to work for BIG 4 audit firms (BIG4: 58.97 percent versus 35.18 percent, p = 0.000), industry specialist audit firms (FSPE: 27.78 percent versus 17.73 percent, p = 0.000), and have a significantly smaller client base (LnCLIENT: 0.950 versus 1.711, p = 0.000) compared to male auditors. The percentage of female audit partners who are industry specialists (PSPE) is not statistically different from male audit partners (p = 0.529).

<sup>&</sup>lt;sup>10</sup> Hossain and Chapple (2012) study the impact of audit partners' gender on audit quality using Australian data over the period from 2003 to 2009. They show that female audit engagement increases during their sample period, starting from a low of 3.87 percent in 2003 to 6.75 percent in 2009.

Table 4 reports the Pearson correlation matrix among variables used in the models. The test variable FEMALE is negatively (positively) associated with PBANK (ROA), suggesting that clients with female audit partners are less likely to be risky. The correlation of FEMALE is positive with INVREC, indicating that clients of female auditors have a higher level of inventories and receivables. All control variables are also significantly correlated with the dependent variables, except for LnAGE and PSPE. LnAGE and PSPE are not significantly associated with dependent variables, ROA and PBANK, respectively. The strongest correlations between independent variables are found between BIG4 and LnTA (0.517) and between FSPE and BIG4 (0.602). These correlations indicate that BIG 4 audit firms are more likely to be industry leaders in terms of aggregated audit fees and their client size tends to be larger, consistent with prior studies (Cenker and Nagy 2008). As shown in the last column of collinearity diagnostics, variance inflation factors (VIF) are not greater than 2.97, suggesting that multicollinearity is not an issue for the subsequent analyses.

[Insert Table 4]

## **4. EMPIRICAL RESULTS**

### 4.1 Main Test – OLS and QR

Panel A of Table 5 provides the multivariate results examining whether clients of female audit partners are less risky than clients of male audit partners (H1). Columns (1) - (3) report pooled OLS regression estimates, with PBANK, ROA and INVREC used as the dependent variable, respectively. Following prior research, robust standard errors are computed by using the Huber/White sandwich estimator to address the "mutual dependence of observations from the same individual auditor" (Hardies et al. 2015).

[Insert Table 5]

The coefficients of FEMALE are in the expected direction when Model 1 is estimated on all three individual dependent variables. In Column (1) where PBANK is used as the dependent variable, the coefficient of FEMALE is negative and significant (p = 0.000), indicating that companies with female auditors are on average less risky than companies with male auditors. In Column (2), using ROA as the dependent variable, the coefficient of FEMALE is positive and significant (p = 0.012). The magnitude of the coefficient on FEMALE suggests that companies audited by female audit partners showed significantly higher profitability compared to companies audited by male audit partners (p = 0.012). In the third Column when using INVREC as a dependent variable, the coefficient of FEMALE is negative but not significant (p = 0.600).

With respect to client characteristics, results show that larger and younger firms are less likely to be financially distressed (-1.739, p = 0.000) and show better performance in terms of profitability (0.349, p = 0.000). Companies audited by BIG 4 auditors are more likely to be financially distressed (1.950, p = 0.000) and less profitable in their business (-0.370, p = 0.000) compared to the companies audited by non-BIG 4 auditors. This is consistent with the argument that BIG 4 audit firms have more resources and technology that enable them to serve relatively riskier clients (Shu 2000; Krishnan 2003; Schroeder and Hogan 2013). Likewise, companies with industry specialized audit partners are more likely to be financially distressed and less profitable (2.750, p = 0.000 and -0.448,p = 0.001, respectively), indicating that assigning an audit partner with industry expertise is a typical risk management strategy for high-risk engagement, and therefore clients of industry specialised auditors are more likely to be risky which confers with prior research (Johnstone and Bedard 2004a; Asare et al. 2005; Cenker and Nagy 2008). There is, however, weak evidence at audit firm level that companies audited by industry specialised audit firms differ from companies with non-industry specialised audit firms; significant relation is only found when INVREC is used as a dependent variable (FSPE; -0.033, p = 0.008). In addition,

the coefficient on FEERATIO is not significant across all the columns, suggesting that the potential to provide the non-audit service may not be the main consideration when auditors make the client acceptance decision, consistent with prior research (Asare et al. 2005).

Panel B in Table 5 reports the estimation results of the quantile regressions with PBANK, ROA, and INVREC used as the dependent variable, respectively. In the first column where PBANK is used as the dependent variable, a significant negative association between Female and PBANK is found at both median (p = 0.015) and high-risk level (p = 0.008), indicating clients of female auditors exhibit less financial distress. However, the magnitude of gender difference becomes larger at the 80th quantile when compared to the 50th quantile (-0.358 versus - 0.658). In support of H2, the effect of auditors' gender difference becomes more prominent among the high-risk client group.

Similarly, positive association between Female and ROA are found at both median and high-risk level (p = 0.005). The greater gender difference (coefficient) is also found at the high-risk quantile compared to the median quantile (0.147 versus 0.058). This result suggests that the effect of auditors' gender difference becomes more pronounced among the high-risk client group compared to clients in the ordinary (median) risk context, thereby supporting H2.

In Column 3 when INVREC is used as the dependent variable, the results show a negative association between FEMALE and INVREC, but this effect is only significant at the high-risk quantile (-0.002, p = 0.825 versus -0.040, p = 0.032, respectively). Both coefficient magnitude and statistical significance further support H2, with the effect of auditors' gender difference becoming more prominent among the high-risk client group.

## 4.2 Additional Analysis

To test the robustness of the above results in Table 5, a number of additional tests are conducted. First, the results are examined to be robust for the balanced

panel data. With balanced panel data, those companies that appear only either in 2013 or 2014 are excluded from the sample (N = 209) to reduce the individual heterogeneity across the different firms. We further remove all observations of audit partners (N = 614) that appear only either 2013 or 2014 to reduce the individual audit partners' differences. The results of OLS regression and quantile regression analyses for balanced panel data are reported in Table 6 and Table 7.

#### [Insert Table 6]

#### [Insert Table 7]

Overall, previously reported findings from the pooled sample remain essentially unchanged. Table 6 and Table 7 show that except INVREC (-0.006, p = 0.620), clients of female auditors are less likely to be financially distressed and are likely to be more profitable. Collectively, the results support H1: that female audit partners' client portfolios are, on average, less risky than male audit partners. Consistent with the above quantile regression analysis, the effect of auditors' gender difference becomes more pronounced among the high-risk client group, suggesting that female audit partners' less risky client portfolios depend on a specific high-risk engagement context (H2).

Second, consistent results are observed when the subsample of 2013 and 2014 financial years are separately used as reported in Table 8. Findings of yearly regression analysis primarily confirm those results in Table 5 with minor exception. For instance, Panel A in Table 8 shows that the coefficient for ROA is positive but insignificant in the 2014 subsample (p = 0.325). Other results are comparable to those documented in Table 5.

Third, we compare the risk profile of the sub-portfolio (newly accepted clients vs. continuing clients) between female and male audit partners. Although a similar procedure is conducted by auditors, some researchers believe that acceptable level of overall engagement risk should be different for accepting new clients and retention decision as auditors are more informed about the client

business and internal control systems etc. from conducting the audit in the prior period (e.g., Johnstone and Bedards 2003). Accordingly, we split the sample for the new client and continuing client. There were 1,277 firm-year observations for which we possessed auditor identity data for two consecutive years; 972 companies were audited by the same audit partners in 2013 and 2014 while 305 companies switched their auditors. The results for each sub-portfolio are reported in Table 9. Overall, the results of the sub-group regression analysis are comparable to the main results. Both newly accepted and continuing clients with female auditors are less likely to be financially distressed and are likely to be more profitable but have more risky accounts. Panel B in Table 9 reports the estimation results of the quantile regressions. Both coefficient magnitude and statistical significance indicate that the association between gender of the audit partners and client riskiness is particularly strong in the newly accepted clients group.

Finally, additional analysis yields a number of new insights into the role of the size of audit firms (BIG 4 vs. non-BIG 4) and industry specialized auditors (FEMALE x PSPE).

Table 10 exhibits the results for additional regressions for the subsamples of BIG 4 and non-BIG 4 auditors. Overall, the results of the main tests in the present study are consistent only with the subsample of non-BIG 4 audit firms; there were no significant effects of auditor gender in the BIG 4 subsample. While this finding is somewhat unexpected, one possibility is that the BIG 4 firms differ from other firms in terms of the extent to which the decision context is structured. Large public accounting firms are required to establish appropriate policies and procedures for making client acceptance decisions; research also suggests that large audit firms actively manage their client portfolios as a risk containment strategy (Johnstone et al. 2004; Stimpson 2008). Accordingly, BIG 4 auditors may be subject to more structured client acceptance procedures such as formal criteria, hierarchical review and additional approvals than other auditors, thereby leading

to more standardized decisions. Technology-enabled decision mechanisms for auditors' client acceptance decisions such as KPMG's KRisk (Bell et al. 2002) and the acceptance and retention committees (ARCs) implemented by several BIG 4 audit firms (Stimpson 2008) exemplify these trends.

With regard to the contingent effect of industry-specific auditors measured both at the individual auditor (FEMALE x PSPE) and audit firm levels (FEMALE x FSPE), the results are reported in Table 11 and Table 12 respectively. The results reveal that clients of specialized female auditors measured at the individual auditor level are more likely to be risky relative to those of other auditors and that this phenomenon is exacerbated in the high-risk engagement context. However, clients of female firm-level auditor industry specialists do not differ from those with male firm-level auditor industry specialists.

The relationship between auditor specialists and clientele riskiness is consistent with earlier case studies on client acceptance decisions (Johnstone and Bedard 2004a), demonstrating that assigning industry specialist personnel may mitigate high-risk clients; those clients which might otherwise be unacceptable are accepted by audit firms depending on the availability of specialized personnel (Johnstone and Bedard 2004a). The results in terms of audit-firm level specialists are also consistent with previous research on the effect of auditor industry specialists on audit quality (Chi and Chin 2011), which shows that firm-level auditor specialists alone are not significantly associated with a higher propensity of issuing a going concern opinion (GCO), but that clients at the individual-level of auditor specialists are likely to receive a GCO, thereby suggesting more intensive audit quality. While the study highlights the importance of recognizing individual auditors' differences and confirms that individual auditors are hardly homogeneous even within the same industry-specialized audit firm, the reasons why clients of female specialized auditors are riskier remains unclear. One possible explanation for why clients of female specialized auditors are riskier is offered by the organisational context. The very implicit stereotypes which may

make female auditors concerned about being judged on the basis of their gender rather than their professional identity further inhibit female auditors' confidence in client acceptance decision-making. Therefore, it is plausible that female auditors feel particularly vulnerable if they make mistakes and hence may only accept risky clients when they are highly confident that they have the appropriate skills and competencies to serve those clients. In other words, deep knowledge and technology associated with certain clients' particular industries would drive female specialized auditors to act more like their male counterparts, leading to no gender differences. Supporting this view, while males' risk-taking propensity is well documented, some findings of behavioural finance research suggest that females do take as much risk as males, or even accept more risk than males, as long as they believe that they have superior investment skills (Barber and Odean 2001; Meyers-Levy and Loken 2015).

## **5. CONCLUSIONS**

This paper investigates whether and how auditor gender affects auditors' client acceptance decisions. Building on social identity theory and prior evidence of the potential effects of auditor gender on the audit process and audit quality, in addition to the negative association between client-related risk factors and auditors' client acceptance decisions, this study posits that female and male auditors may differ systematically in gathering client-related information and evaluating any risks identified. Specifically, based on gender differences in cognitive information processing and risk attitudes, we hypothesize that female auditors on average choose less risky clients for their client portfolios than male auditors (H1). Further, we anticipate that such negative association between female auditors and clientele riskiness will be exacerbated in a high-risk engagement context (H2).

Tests based on client financial characteristics - a summary measure of financial distress (PBANK) along with disaggregated accounting ratios such as

profitability (ROA) and the risky account structure (INVREC) - indicate that female auditors have, on average, less risky clients in their client portfolios compared to male auditors, as predicted. Consistent with H2, the negative relation between female auditors and the level of engagement risk are exacerbated in highrisk engagement conditions; companies with female auditors have fewer problems associated with financial distress, profitability and the complex structure of accounts, and these relations are more pronounced among the riskiest group than the median of the sample.

The main results of this study support and extend prior research on auditor gender differences in the audit process and generation of audit reports, and potential effects of gender stereotypes in the decision-making context.

First, consistent with prior research on the effect of gender differences on auditor judgements and audit reports (e.g. Niskanen et al. 2011; Ittonen and Vähämaa 2013; Hardies et al. 2014), this study provides evidence that auditor gender differences do influence the evaluation of engagement risk and thus client acceptance decisions. In addition, we demonstrates the importance of context in examining gender differences, supporting prior research on gender stereotypes in the auditing context (Anderson-Gough et al. 2005; Kornberger et al. 2010; Hardies 2011). Furthermore, this study extends earlier research by adding the important situational factor of a high-risk engagement context, which can magnify gender differences and lead to observable differences within the professional arena. Given the nature of auditors' work, which is subject to a set of professional codes and standards and professional training, it would be naïve to expect auditor gender differences to be clear in every decision-making context. Hence, identifying the factors that may motivate individual auditors' specific behaviours is important for understanding individual differences within the audit context. The findings of this study suggest audit firms should consider gender differences in assigning staff, especially audit partners, to audit groups, in addition to providing training and developing decision aids. Furthermore, if implicit stereotypes are part

of the organisational culture and subtle biases may unconsciously influence auditors' judgement, diversity training and direct intervention such as mentoring programs may be appropriate.

Our study is subject to several limitations. First, this study examines a relatively short, post-GFC period from 2013 to 2014, when there was a greater focus on risk: accordingly, its results could be specific to the time period under examination. Studies that include multiple-year data may offer a better examination of the findings in the present research, which is another important future research opportunity.

Second, while audit engagement partners are fully responsible for the process of making client acceptance decisions, it should be noted that the audit engagement process always involves two parties and that acceptance decisions are jointly made by both the auditor and the prospective or existing client. Therefore, while the results could show an association between auditor gender and clientele riskiness, explanations that focus only on the auditor decision-making process may limit the ability to assign causality to the results. Furthermore, although other auditor characteristics and client-related attributes were controlled in this study, there might be omitted variables and endogeneity issues associated with the reported results. This is an area in which future research can address a more comprehensive inclusion of possible control variables.

Finally, this study uses mainly financial characteristics of client firms as a proxy measure for the riskiness of female and male auditors' clienteles. However, auditors assess engagement risk based on both financial and non-financial information (e.g. management integrity, control environment, etc.), which is unobservable and for which gathering the necessary data within the present study setting is difficult. Future research into how individual auditors incorporate both financial and non-financial information when evaluating client risks may provide further insight into which risk factors affect auditors' decisions and how female and male auditors assess client risk factors differently.

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Table 1: S	ummary of	Sample	Selection
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Description	Total number of observations	2013	2014
Number of listed companies during the financial year	3,797	1,864	1,933
Exclusions			
Companies in the financial sectors (GICS code 40)	352	165	187
Companies with insufficient financial information	357	158	199
Foreign companies	131	64	67
Functional currency is not \$AUD	85	43	42
Non 12-month reporting period	36	5	31
Under Suspension	27	13	14
No audit fee data	25	16	9
No auditor name	6	2	4
Gender cannot be identified	9	7	2
Double auditor signed	2	1	1
Number of Observations in the Final sample	2,767	1,390	1,377

Dependent Variable	s
PBANK	Probability of bankruptcy as measured by adjusted Zmijeswki score
	Estimated using the coefficients obtained from adjusted Zmijeswki model is
	as follow:
	-4.803-3.6(NI/TA) + 5.4(TL/TA)-0.1(CA/CL)
	Where:
	NI = Net income after tax
	TA = Total assets
	TL = Total liabilities
	CA = Current assets
	CL = Current liabilities
ROA	Net income divided by total assets
INVREC	Sum of inventory and receivables divided by total assets
Variable of interest	
FEMALE	1 if an audit engagement partner is a female, 0 otherwise.
<b>Control Variables</b>	
LnTA	Natural logarithm of client total assets at the end of financial year t.
LnAGE	Natural logarithm of number of years since a company was listed in the ASX.
BIG4	1 if the company is audited by Big 4 audit firms, 0 otherwise.
LnCLIENT	Natural logarithm of the number of client firms in the audit partner's portfolio in year <i>t</i> .
FSPE	1 if the audit firm is industry specialist based on amount of aggregated audit
	fees within an industry (two-digit GIC) in year t, 0 otherwise.
PSPE	1 if the audit partner is industry specialist based on amount of aggregated audit fees within an industry (two-digit GIC) in year <i>t</i> , 0 otherwise.
FEERATIO	The ratio of non-audit fees to total fees paid to the auditor.
GICS10	1 if the company is in the energy industry group. 0 otherwise.
GICS15	1 if the company is in the materials industry group, 0 otherwise.
GICS20	1 if the company is in the industrials industry group, 0 otherwise.
GICS25	1 if the company is in the consumer discretionary industry group, 0
	otherwise.
GICS30	1 if the company is in the consumer staples industry group, 0 otherwise.
GICS35	1 if the company is in the healthcare industry group, 0 otherwise.
GICS45	1 if the company is in the information technology industry group, 0
	otherwise.
GICS50	1 if the company is in the telecommunication services industry group, 0 otherwise.

# Table 2: Definition of Variables

Table 3: Descriptive Tables

I allel A. Descriptive	e Statistics for t	ne run Sampie	(11 - 2, 707)	)	
Continuous Variables	Mean	Median	SD	Minimum	Maximum
PBANK	-1.546	-3.100	9.663	-34.245	138.502
ROA	-0.499	-0.121	1.871	-35.168	10.242
INVREC	0.153	0.062	0.196	0.000	0.999
LnTA	17.039	16.736	2.221	10.445	24.488
LnAGE	2.393	2.303	0.743	0.000	4.718
LnCLIENT	1.647	1.609	1.002	0.000	3.434
FEERATIO	0.142	0.031	0.193	0.000	0.954
Dichotomous variables	Coding	Frequen	су	Perce	entage
FEMALE	1	234		8.4	6%
BIG4	1	1,029		37.19%	
FSPE	1	514		18.58%	
PSPE	1	50		1.81%	

#### Panel A $\cdot$ Descriptive Statistics for the Full Sample (N – 2.767)

## Panel B: Descriptive Statistics Comparing Female and Male Auditors

	(1) Fema	(1) Female Auditors (n=234)		(2) Male	(2) Male Auditors (n=2,533)			
Continuous variables	Mean	Median	SD	Mean	Media n	SD	t-test (1) -(2)	P-value
PBANK	-3.190	-3.081	2.720	-1.395	-3.100	10.052	-1.796***	0.000
ROA	-0.201	-0.045	0.944	-0.526	-0.126	1.932	0.326***	0.000
INVREC	0.179	0.120	0.183	0.151	0.059	0.198	0.028**	0.038
LnTA	17.526	17.201	2.091	16.994	16.703	2.228	0.533***	0.000
LnAGE	2.484	2.398	0.866	2.385	2.303	0.730	0.099*	0.093
LnCLIENT	0.950	0.693	0.749	1.711	1.609	0.998	-0.761***	0.000
FEERATIO	0.184	0.125	0.220	0.138	0.023	0.189	0.047***	0.002
Dichotomous	Percenta	age of fema	ile	Percentage	of male	Di	ff I	

variables	auditors sample	auditors sample	Diff.	P-value
FEMALE	100.00%	0%	-	-
BIG4	58.97%	35.18%	0.238	0.000
FSPE	27.78%	17.73%	0.101	0.000
PSPE	1.28%	1.86%	-0.006	0.529

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	VIF
(1)PBANK	1.000											
(2)ROA	-0.796***	1.000										
(3)INVREC	0.067***	0.077***	1.000									
(4)FEMALE	-0.052***	0.048**	0.039**	1.000								1.06
(5)LnTA	-0.277***	0.348***	0.193***	0.067***	1.000							1.65
(6)LnAGE	0.063***	0.009	0.165***	0.037*	0.202**	1.000						1.10
(7)BIG4	-0.059***	0.110***	0.157***	0.137***	0.517**	0.182***	1.000					1.99
(8)LnCLIENT	0.048**	-0.121***	-0.227***	-0.211***	-0.345**	-0.145***	-0.381***	1.000				1.40
(9)FSPE	-0.048**	0.085***	0.087***	0.072***	0.368**	0.131***	0.602***	-0.288***	1.000			1.63
(10)PSPE	-0.009	0.034*	0.064***	-0.012	0.202**	0.058***	0.137***	-0.080***	0.207***	1.000		1.09
(11)FEERATIO	-0.071***	0.113***	0.104***	0.067***	0.345**	-0.064***	0.304***	-0.206***	0.191***	0.063***	1.000	1.22

# **Table 4: Pearson Correlation Matrix of Test Variables**

Panel A: OLS			
	(1)PBANK	(2)ROA	(3)INVREC
Variable	Estimate	Estimate	Estimate
	( <i>p</i> -value)	( <i>p</i> -value)	( <i>p</i> -value)
FEMALE	-1.609***	0.195**	-0.007
	(0.000)	(0.012)	(0.600)
LnTA	-1.739***	0.349***	0.000
	(0.000)	(0.000)	(0.864)
LnAGE	1.521***	-0.163***	0.025***
	(0.000)	(0.004)	(0.000)
BIG4	1.950***	-0.370***	0.020
	(0.000)	(0.000)	(0.118)
LnCLIENT	-0.082	-0.017	-0.008*
	(0.708)	(0.649)	(0.092)
FSPE	-0.131	-0.005	-0.033***
	(0.719)	(0.939)	(0.008)
PSPE	2.750***	-0.448***	0.045
	(0.000)	(0.001)	(0.206)
FEERATIO	1.372	-0.142	-0.006
	(0.116)	(0.189)	(0.738)
Constant	27.906***	-6.351***	0.063
	(0.000)	(0.000)	(0.199)
Industry	Included	Included	Included
Year	Included	Included	Included
Ν	2,767	2,767	2,767
R-squared	0.116	0.138	0.272

## **Table 5: Regression Results for the Client Firm Characteristics**

Panel B: QI	R					
	(1)PE	BANK	(2)F	ROA	(3)IN	VREC
Variable	q50	q80	q50	q20	q50	q80
FEMALE	-0.358**	-0.658***	0.058***	0.147***	-0.002	-0.040**
	(0.015)	(0.008)	(0.005)	(0.005)	(0.825)	(0.032)
LnTA	-0.283***	-0.818***	0.094***	0.191***	0.001	-0.002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.133)	(0.572)
LnAGE	0.225***	0.373***	-0.012*	-0.047**	0.011***	0.036***
	(0.000)	(0.008)	(0.074)	(0.024)	(0.000)	(0.000)
BIG4	0.602***	1.448***	-0.112***	-0.298***	0.012*	0.050**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.078)	(0.009)
LnCLIENT	-0.115**	0.071	-0.003	-0.010	-0.004***	-0.019**
	(0.048)	(0.523)	(0.702)	(0.611)	(0.012)	(0.009)
FSPE	-0.111	0.153	0.014	-0.021	-0.005	-0.040*
	(0.472)	(0.566)	(0.410)	(0.674)	(0.526)	(0.068)
PSPE	1.024***	1.355***	-0.129***	-0.262***	0.053**	-0.007
	(0.000)	(0.002)	(0.002)	(0.002)	(0.014)	(0.794)
FEERATIO	0.273	0.568	-0.034	0.007	0.002	-0.002
	(0.217)	(0.308)	(0.235)	(0.912)	(0.745)	(0.934)
Constant	2.826***	13.988***	-1.707***	-3.692***	0.000	0.214***
	(0.002)	(0.000)	(0.000)	(0.000)	(0.986)	(0.010)
Industry	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included

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2,767 N 2,767 2,767 2,767 2,767 2,767Panel A details pooled OLS regression results of Models (1), with PBANK, ROA and INVREC at the top of the column used as the dependent variable, respectively. Robust t-statistics in parentheses. Panel B reports Quantile Regression results of Model (2), with PBANK, ROA and INVREC at the top of the column used as the dependent variable, respectively. PBANK is probability of bankruptcy as measured by adjusted Zmijeswki score; ROA is net income divided by total assets; INVREC is sum of inventory and receivables divided by total assets; FEMALE is a dummy coded 1 if a signing engagement partner is female and 0 otherwise. LnTA is the natural logarithm of client total assets; LnAGE is the natural logarithm of number of years since a company was listed in the ASX; BIG4 is a dummy coded 1 if the company is audited by BIG 4 audit firms and 0 otherwise; LnCLIENT is the natural logarithm of the number of client firms in the audit partner's portfolio; FSPE is a dummy coded 1 if the audit firm is industry specialist based on amount of aggregated audit fees within an industry (two-digit GIC) and 0 otherwise; PSPE is a dummy coded 1 if the audit partner is industry specialist based on amount of aggregated audit fees within an industry (two-digit GIC) and 0 otherwise; FEERATIO is non-audit fees divided by the total of audit and nonaudit fees paid to the auditor. All reported p-values are two-tailed. Statistical significance based on a two - tailed test at the 1 per cent, 5 per cent, and 10 per cent levels are denoted by \*\*\*, \*\*, and \*, respectively.

	(1)PBANK	(2)ROA	(3)INVREC
Variable	Estimate	Estimate	Estimate
	( <i>p</i> -value)	( <i>p</i> -value)	( <i>p</i> -value)
FEMALE	-1.519***	0.155*	-0.006
	(0.000)	(0.055)	(0.620)
LnTA	-1.435***	0.321***	-0.001
	(0.000)	(0.000)	(0.802)
LnAGE	1.411***	-0.145**	0.025***
	(0.000)	(0.012)	(0.000)
BIG4	1.237***	-0.294***	0.018
	(0.001)	(0.000)	(0.137)
LnCLIENT	-0.089	-0.013	-0.009**
	(0.657)	(0.687)	(0.048)
FSPE	0.250	-0.062	-0.033**
	(0.479)	(0.357)	(0.013)
PSPE	2.172***	-0.340***	0.057
	(0.001)	(0.006)	(0.106)
FEERATIO	1.013	-0.117	0.003
	(0.244)	(0.272)	(0.857)
Constant	23.063***	-6.181***	0.072
	(0.000)	(0.000)	(0.173)
Industry	Included	Included	Included
Year	Included	Included	Included
Ν	2,558	2,558	2,558
R-squared	0.105	0.149	0.287

Table 6: Balanced Panel Data -Client firm controlPanel A: OLS

Panel B: QR						
	(1)PE	BANK	(2)F	ROA	(3)IN	VREC
Variable	q50	q80	q50	q20	q50	q80
FEMALE	-0.456***	-0.697**	0.044**	0.157***	-0.001	-0.041**
	(0.002)	(0.023)	(0.017)	(0.001)	(0.891)	(0.030)
LnTA	-0.232***	-0.787***	0.089***	0.187***	0.002	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.109)	(0.676)
LnAGE	0.243***	0.462***	-0.009	-0.055**	0.011***	0.034***
	(0.000)	(0.006)	(0.202)	(0.015)	(0.000)	(0.000)
BIG4	0.457***	1.359***	-0.099***	-0.287***	0.012	0.049**
	(0.001)	(0.000)	(0.000)	(0.000)	(0.141)	(0.029)
LnCLIENT	-0.120**	0.073	-0.007	-0.014	-0.003**	-0.017**
	(0.025)	(0.538)	(0.297)	(0.394)	(0.033)	(0.023)
FSPE	-0.017	0.123	-0.001	-0.028	-0.004	-0.038*
	(0.907)	(0.635)	(0.949)	(0.520)	(0.624)	(0.075)
PSPE	1.068***	1.262***	-0.114***	-0.267***	0.046*	-0.001
	(0.000)	(0.005)	(0.003)	(0.003)	(0.065)	(0.990)
FEERATIO	0.171	0.211	-0.032	-0.001	0.006	0.012
	(0.477)	(0.714)	(0.264)	(0.984)	(0.459)	(0.752)
Constant	1.554	13.570***	-1.621***	-3.622***	-0.004	0.184**
	(0.120)	(0.000)	(0.000)	(0.000)	(0.834)	(0.024)
Industry	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Observations	2,558	2,558	2,558	2,558	2,558	2,558

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Panel A details pooled OLS regression results of Models (1), with PBANK, ROA and INVREC at the top of the column used as the dependent variable, respectively. Robust t-statistics in parentheses. Panel B reports Quantile Regression results of Model (2), with PBANK, ROA and INVREC at the top of the column used as the dependent variable, respectively. PBANK is probability of bankruptcy as measured by adjusted Zmijeswki score; ROA is net income divided by total assets; INVREC is sum of inventory and receivables divided by total assets; FEMALE is a dummy coded 1 if a signing engagement partner is female and 0 otherwise. LnTA is the natural logarithm of client total assets; LnAGE is the natural logarithm of number of years since a company was listed in the ASX; BIG4 is a dummy coded 1 if the company is audited by BIG 4 audit firms and 0 otherwise; LnCLIENT is the natural logarithm of the number of client firms in the audit partner's portfolio; FSPE is a dummy coded 1 if the audit firm is industry specialist based on amount of aggregated audit fees within an industry (two-digit GIC) and 0 otherwise; FEERATIO is non-audit fees divided by the total of audit and non-audit fees paid to the auditor. All reported p-values are two-tailed.Statistical significance based on a two – tailed test at the 1 per cent, 5 per cent, and 10 per cent levels are denoted by \*\*\*, \*\*, and \*, respectively.

	(1)PBANK	(2)ROA	(3)INVREC
Variable	Estimate	Estimate	Estimate
	( <i>p</i> -value)	( <i>p</i> -value)	( <i>p</i> -value)
FEMALE	-1.505***	0.201**	0.007
	(0.004)	(0.012)	(0.686)
LnTA	-1.334***	0.295***	0.001
	(0.000)	(0.000)	(0.762)
LnAGE	1.329***	-0.112**	0.031***
	(0.000)	(0.014)	(0.000)
BIG4	1.312***	-0.281***	0.014
	(0.008)	(0.003)	(0.375)
LnCLIENT	-0.112	-0.009	-0.005
	(0.635)	(0.814)	(0.405)
FSPE	0.028	-0.053	-0.029*
	(0.946)	(0.550)	(0.055)
PSPE	2.062***	-0.304**	0.060*
	(0.004)	(0.022)	(0.081)
FEERATIO	1.513	-0.147	-0.010
	(0.166)	(0.208)	(0.635)
Constant	21.058***	-5.731***	0.030
	(0.000)	(0.000)	(0.622)
Industry	Included	Included	Included
Year	Included	Included	Included
Ν	1,944	1,944	1,944
R-squared	0.101	0.156	0.275

Table 7: Balanced Panel Data -Audit Partner controlPanel A: OLS

Panel B: QR						
	(1)PE	BANK	(2)R	ROA	(3)IN	VREC
Variable	q50	q80	q50	q20	q50	q80
FEMALE	-0.380**	-0.698**	0.072***	0.185***	0.008	-0.001
	(0.013)	(0.024)	(0.001)	(0.001)	(0.661)	(0.971)
LnTA	-0.180***	-0.749***	0.084***	0.176***	0.002*	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.052)	(0.982)
LnAGE	0.251***	0.601***	-0.009	-0.051*	0.016***	0.043***
	(0.000)	(0.006)	(0.253)	(0.068)	(0.000)	(0.000)
BIG4	0.374***	1.421***	-0.094***	-0.257***	0.009	0.024
	(0.008)	(0.000)	(0.000)	(0.000)	(0.268)	(0.234)
LnCLIENT	-0.132**	0.101	-0.012	-0.016	-0.003*	-0.014
	(0.028)	(0.468)	(0.142)	(0.477)	(0.083)	(0.112)
FSPE	0.095	0.035	0.001	-0.018	-0.002	-0.015
	(0.501)	(0.914)	(0.959)	(0.756)	(0.822)	(0.506)
PSPE	0.775**	1.641***	-0.102*	-0.325***	0.048**	-0.003
	(0.030)	(0.002)	(0.069)	(0.002)	(0.049)	(0.961)
FEERATIO	0.170	0.388	-0.052	-0.102	0.001	-0.027
	(0.526)	(0.502)	(0.142)	(0.288)	(0.882)	(0.424)
Constant	0.512	11.744***	-1.512***	-3.258***	-0.032	0.164*
	(0.605)	(0.000)	(0.000)	(0.000)	(0.292)	(0.075)
Industry	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Observations	1,944	1,944	1,944	1,944	1,944	1,944

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Panel A details pooled OLS regression results of Models (1), with PBANK, ROA and INVREC at the top of the column used as the dependent variable, respectively. Robust t-statistics in parentheses. Panel B reports Quantile Regression results of Model (2), with PBANK, ROA and INVREC at the top of the column used as the dependent variable, respectively. PBANK is probability of bankruptcy as measured by adjusted Zmijeswki score; ROA is net income divided by total assets; INVREC is sum of inventory and receivables divided by total assets; FEMALE is a dummy coded 1 if a signing engagement partner is female and 0 otherwise. LnTA is the natural logarithm of client total assets; LnAGE is the natural logarithm of number of years since a company was listed in the ASX; BIG4 is a dummy coded 1 if the company is audited by BIG 4 audit firms and 0 otherwise; LnCLIENT is the natural logarithm of the number of client firms in the audit partner's portfolio; FSPE is a dummy coded 1 if the audit firm is industry specialist based on amount of aggregated audit fees within an industry (two-digit GIC) and 0 otherwise; FEERATIO is non-audit fees divided by the total of audit and non-audit fees paid to the auditor. All reported p-values are two-tailed.Statistical significance based on a two – tailed test at the 1 per cent, 5 per cent, and 10 per cent levels are denoted by \*\*\*, \*\*, and \*, respectively.

Panel A: OLS						
		2013			2014	
	(1)PBANK	(2)ROA	(3)INVREC	(1)PBANK	(2)ROA	(3)INVREC
Variable	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
	( <i>p</i> -value)					
FEMALE	-1.637***	0.272***	-0.005	-1.680***	0.125	-0.007
	(0.001)	(0.001)	(0.736)	(0.001)	(0.325)	(0.624)
LnTA	-1.689***	0.348***	-0.000	-1.781***	0.351***	0.001
	(0.000)	(0.000)	(0.932)	(0.000)	(0.000)	(0.679)
LnAGE	1.938***	-0.258**	0.023***	1.199***	-0.088*	0.025***
	(0.000)	(0.015)	(0.004)	(0.000)	(0.084)	(0.000)
BIG4	1.767***	-0.373***	0.017	2.040***	-0.362***	0.022
	(0.005)	(0.001)	(0.247)	(0.000)	(0.001)	(0.117)
LnCLIENT	-0.108	-0.047	-0.007	-0.050	0.016	-0.009
	(0.695)	(0.337)	(0.209)	(0.854)	(0.755)	(0.115)
FSPE	-0.232	0.056	-0.033**	0.032	-0.073	-0.035**
	(0.671)	(0.583)	(0.028)	(0.950)	(0.419)	(0.027)
PSPE	1.988**	-0.324*	0.108**	3.273***	-0.530***	-0.019
	(0.031)	(0.052)	(0.018)	(0.001)	(0.004)	(0.566)
FEERATIO	-0.340	-0.063	0.024	3.173**	-0.217	-0.038
	(0.685)	(0.633)	(0.289)	(0.030)	(0.170)	(0.107)
Constant	25.264***	-6.100***	0.073	29.801***	-6.565***	0.056
	(0.000)	(0.000)	(0.199)	(0.000)	(0.000)	(0.308)
Industry	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Ν	1,390	1,390	1,390	1,377	1,377	1,377
R-squared	0.112	0.131	0.284	0.125	0.151	0.266

# Table 8: Yearly Results

Panel	B:	QR
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			201	13			2014						
	(1)PE	BANK	(2)H	ROA	(3)IN	VREC	(1)PE	BANK	(2)	ROA	(3)IN	VREC	
Variable	q50	q80	q50	q20	q50	q80	q50	q80	q50	q20	q50	q80	
FEMALE	-0.436** (0.032)	-0.885** (0.023)	0.079*** (0.006)	0.202*** (0.003)	0.003 (0.821)	- 0.040** (0.043)	-0.252 (0.325)	-0.587** (0.044)	0.037 (0.168)	0.155** (0.029)	-0.006 (0.580)	-0.032 (0.360)	
LnTA	- 0.235***	- 0.771***	0.098***	0.198***	0.002	0.000	0.318***	- 0.853***	0.090***	0.190***	0.001	-0.005	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.234) 0.011**	(0.950)	(0.000)	(0.000)	(0.000)	(0.000)	(0.363) 0.012**	(0.318) 0.036**	
LnAGE	0.315***	0.756***	-0.030**	-0.071**	*	0.032**	0.187**	0.327**	-0.003	-0.047*	*	*	
	(0.005)	(0.007)	(0.029)	(0.038)	(0.003)	(0.017)	(0.026)	(0.043)	(0.714)	(0.090)	(0.001)	(0.004)	
BIG4	0.371*	1.253***	- 0.101***	- 0.374***	0.009	0.033	0.720***	1.436***	- 0.103***	- 0.250***	0.023**	0.068**	
	(0.064)	(0.009)	(0.000)	(0.000)	(0.374)	(0.262)	(0.001)	(0.000)	(0.000)	(0.000)	(0.022)	(0.011)	
LnCLIENT	-0.095	0.022	0.003	-0.038	-0.003	-0.020*	-0.165*	0.109	-0.007	0.009	0.005**	-0.016	
	(0.228)	(0.903)	(0.818)	(0.146)	(0.148)	(0.071)	(0.090)	(0.541)	(0.365)	(0.738)	(0.016)	(0.118)	
FSPE	0.076	-0.074	0.002	0.012	-0.003	-0.033	-0.308	0.373	0.014	-0.038	-0.019*	-0.041	
	(0.707)	(0.835)	(0.938)	(0.873)	(0.787)	(0.249)	(0.141)	(0.343)	(0.525)	(0.566)	(0.097)	(0.139)	
PSPE	0.610	1.291*	-0.033	-0.185	0.084**	0.022	1.301***	1.342**	- 0.186***	-0.317**	-0.015	-0.017	
	(0.182)	(0.081)	(0.588)	(0.136)	(0.021)	(0.863)	(0.000)	(0.020)	(0.001)	(0.010)	(0.696)	(0.685)	
FEERATIO	0.206	-0.418	0.015	0.111	0.006	-0.001	0.399	1.494**	-0.058	-0.119	-0.001	-0.015	
	(0.514)	(0.539)	(0.756)	(0.309)	(0.647)	(0.989)	(0.264)	(0.046)	(0.150)	(0.264)	(0.918)	(0.752)	
		12.542**	-	-				14.649**	-	-			
Constant	1.520	*	1.743***	3.782***	-0.011	0.194**	3.566***	*	1.597***	3.698***	0.024	0.244**	
	(0.229)	(0.000)	(0.000)	(0.000)	(0.783)	(0.049)	(0.001)	(0.000)	(0.000)	(0.000)	(0.485)	(0.024)	

Industry	Included	Included	Included	Included	Include d	Include d	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Include d	Include d	Included	Included	Included	Included	Included	Included
Observation												
S	1,390	1,390	1,390	1,390	1,390	1,390	1,377	1,377	1,377	1,377	1,377	1,377

Panel A: OLS						
		<b>New Client Decision</b>			<b>Retention Decision</b>	
	(1)PBANK	(2)ROA	(3)INVREC	(1)PBANK	(2)ROA	(3)INVREC
Variable	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
	(p-value)	(p-value)	(p-value)	( <i>p</i> -value)	( <i>p</i> -value)	(p-value)
FEMALE	-1.991***	0.129	-0.060**	-1.882***	0.206*	0.005
	(0.008)	(0.130)	(0.037)	(0.005)	(0.093)	(0.771)
LnTA	-1.519**	0.291***	0.000	-1.793***	0.383***	-0.000
	(0.010)	(0.005)	(0.979)	(0.000)	(0.000)	(0.981)
LnAGE	1.367	-0.135	0.014	1.488***	-0.103	0.031***
	(0.132)	(0.367)	(0.373)	(0.001)	(0.121)	(0.000)
BIG4	0.903	-0.310**	0.051*	1.955***	-0.371**	0.012
	(0.273)	(0.017)	(0.080)	(0.009)	(0.019)	(0.453)
LnCLIENT	0.104	0.007	-0.023**	0.038	0.013	-0.004
	(0.798)	(0.865)	(0.045)	(0.909)	(0.857)	(0.564)
FSPE	0.581	-0.063	-0.086***	0.014	-0.120	-0.015
	(0.613)	(0.580)	(0.007)	(0.983)	(0.365)	(0.430)
PSPE	4.764**	-0.699*	-0.037	2.878**	-0.395*	0.016
	(0.032)	(0.065)	(0.506)	(0.014)	(0.089)	(0.687)
FEERATIO	-1.065	-0.013	-0.039	3.003	-0.223	-0.038
	(0.422)	(0.946)	(0.459)	(0.128)	(0.269)	(0.172)
Constant	19.527**	-4.578***	0.081	30.278***	-7.785***	0.038
	(0.017)	(0.001)	(0.484)	(0.000)	(0.000)	(0.559)
Industry	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Ν	305	305	305	972	972	972
R-squared	0.167	0.213	0.391	0.121	0.165	0.165

## Table 9. Auditors' New and Retained Clients

Panel	l B:	QR
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			New Client	Decision		Retention Decision						
	(1)PE	BANK	(2)F	ROA	(3)IN	VREC	(1)PE	BANK	(2)	ROA	(3)IN	VREC
Variable	q50	q80	q50	q20	q50	q80	q50	q80	q50	q20	q50	q80
FEMALE	-1.002*	-1.960**	-0.005	0.223**	-0.011	-0.059*	-0.221	-0.720	0.066*	0.192*	0.001	-0.023
	(0.097)	(0.012)	(0.902)	(0.026)	(0.404)	(0.055)	(0.340)	(0.108)	(0.080)	(0.078)	(0.946)	(0.557)
LnTA	-0.374***	-0.878***	0.093***	0.191***	-0.000	0.002	-0.289***	-0.835***	0.090***	0.186***	0.002	-0.005
	(0.000)	(0.000)	(0.000)	(0.000)	(0.989)	(0.774)	(0.000)	(0.000)	(0.000)	(0.000)	(0.180)	(0.394)
LnAGE	0.134	0.227	0.006	-0.071	0.006	0.011	0.231**	0.424	-0.002	-0.043	0.015***	0.049***
	(0.516)	(0.577)	(0.756)	(0.216)	(0.486)	(0.591)	(0.037)	(0.153)	(0.859)	(0.386)	(0.000)	(0.000)
BIG4	0.524	0.685	-0.110**	-0.226**	0.044**	0.079*	0.707***	1.407***	-0.113***	-0.217***	0.001	0.037
	(0.202)	(0.316)	(0.020)	(0.033)	(0.028)	(0.067)	(0.006)	(0.000)	(0.001)	(0.010)	(0.911)	(0.278)
LnCLIENT	0.035	0.077	-0.014	0.022	-0.003	-0.019	-0.203*	0.075	-0.012	0.022	-0.003	-0.008
	(0.856)	(0.854)	(0.437)	(0.716)	(0.607)	(0.276)	(0.054)	(0.743)	(0.272)	(0.608)	(0.211)	(0.526)
FSPE	-0.485	0.780	-0.016	-0.200	-0.046**	-0.101**	-0.063	0.089	0.024	-0.008	0.006	-0.001
	(0.309)	(0.447)	(0.745)	(0.154)	(0.036)	(0.042)	(0.763)	(0.827)	(0.430)	(0.930)	(0.728)	(0.962)
PSPE	1.591	1.576	-0.202*	-0.394	0.003	-0.023	1.493***	1.658***	-0.207***	-0.364**	0.017	-0.045
	(0.120)	(0.383)	(0.082)	(0.144)	(0.981)	(0.841)	(0.003)	(0.004)	(0.006)	(0.029)	(0.596)	(0.680)
FEERATIO	-0.424	-0.697	-0.037	0.099	0.017	0.021	0.271	1.583	-0.030	-0.257	0.003	-0.047
	(0.550)	(0.656)	(0.606)	(0.605)	(0.634)	(0.749)	(0.549)	(0.144)	(0.534)	(0.146)	(0.827)	(0.320)
Constant	3.354	15.759***	-1.531***	-3.305***	0.028	0.042	2.337	14.011	-1.652***	-3.609	-0.019	0.171
	(0.286)	(0.000)	(0.000)	(0.000)	(0.786)	(0.815)	(0.141)	(0.187)	(0.000)	(0.156)	(0.646)	(0.157)
Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	305	305	305	305	305	305	972	972	972	972	972	972

Statistical significance based on a two – tailed test at the 1 per cent, 5 per cent, and 10 per cent levels are denoted by \*\*\*, \*\*, and \*, respectively.

	(1	1) BIG 4 (N = 1,0	29)	(2)	non-BIG 4 (N $=$	1,738)		
Variable	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median	<i>t</i> -test (1) - (2)	P -value
FEMALE	0.134	0.341	0.000	0.055	0.229	0.000	0.079***	0.000
PBANK	-2.290	5.753	-2.912	-1.106	11.339	-3.255	-1.183***	0.000
ROA	-0.231	1.137	-0.004	-0.657	2.178	-0.185	0.426***	0.000
INVREC	0.193	0.193	0.121	0.129	0.195	0.034	0.064***	0.000
LnTA	18.531	2.271	18.481	16.155	1.644	16.147	2.376***	0.000
LnAGE	2.569	0.777	2.565	2.289	0.702	2.197	0.280***	0.000
LnCLIENT	1.150	0.748	1.099	1.941	1.018	2.079	-0.791***	0.000
FSPE	0.490	0.500	0.000	0.006	0.076	0.000	0.484***	0.000
PSPE	0.042	0.200	0.000	0.004	0.063	0.000	0.038***	0.000
FEERATIO	0.218	0.220	0.157	0.097	0.158	0.000	0.121***	0.000

# Table 10: BIG 4 versus non-BIG 4 Auditors

Panel B: OLS									
		(1)PBANK			(2)ROA			(3)INVREC	
Variable	BIG4	Non BIG4	t-test	BIG4	Non BIG4	t-test	BIG4	Non BIG4	t-test
FEMALE	-0.430	-2.700***	7.60	0.110**	0.275**	1.52	0.013	-0.026	2.56
	(0.169)	(0.006)	(0.110)	(0.043)	(0.026)	(0.217)	(0.422)	(0.161)	(0.110)
LnTA	-0.491***	-2.883***	39.60	0.167***	0.522***	22.69***	0.001	0.001	0.02
	(0.002)	(0.000)	(0.110)	(0.000)	(0.000)	(0.000)	(0.838)	(0.629)	(0.892)
LnAGE	0.441**	2.185***	11.42***	-0.050*	-0.231**	3.26*	0.037***	0.014*	3.64*
	(0.049)	(0.000)	(0.001)	(0.070)	(0.018)	(0.071)	(0.000)	(0.099)	(0.057)
LnCLIENT	0.562***	-0.334	6.01**	-0.087*	0.016	2.35	0.006	-0.012**	3.29*
	(0.004)	(0.284)	(0.014)	(0.059)	(0.750)	(0.125)	(0.455)	(0.031)	(0.070)
FSPE	-0.442	6.205**	5.35**	0.030	-0.185	1.01	-0.031***	-0.007	0.08
	(0.141)	(0.032)	(0.021)	(0.635)	(0.370)	(0.316)	(0.010)	(0.927)	(0.776)
PSPE	0.958**	1.584	0.18	-0.151*	-0.376*	1.11	0.012	0.258***	26.66***
	(0.022)	(0.271)	(0.674)	(0.087)	(0.056)	(0.293)	(0.634)	(0.000)	(0.000)
FEERATIO	1.361	-0.185	0.87	-0.028	-0.034	0.00	0.008	-0.013	0.35
	(0.280)	(0.867)	(0.352)	(0.830)	(0.837)	(0.977)	(0.733)	(0.626)	(0.553)
Constant	6.736**	45.265***		-3.267***	-9.056***		-0.020	0.141**	
	(0.025)	(0.000)		(0.000)	(0.000)		(0.801)	(0.025)	
Industry	Included	Included		Included	Included		Included	Included	
Year	Included	Included		Included	Included		Included	Included	
Observations	1,029	1,738		1,029	1,738		1,029	1,738	
R-squared	0.045	0.185		0.139	0.162		0.285	0.259	

		(1)P	BANK		(2)ROA				(3)INVREC			
	В	IG4	Non	BIG4	BI	G4	Non	BIG4	BIG4		Non I	BIG4
Variable	q50	q80	q50	q80	q50	q20	q50	q20	q50	q80	q50	q80
FEMALE	0.217	-0.038	- 0.971***	- 1.747***	0.014	0.067	0.116***	0.264***	0.006	-0.034	-0.009**	-0.036
	(0.104)	(0.861)	(0.000)	(0.002)	(0.449)	(0.123)	(0.001)	(0.001)	(0.689)	(0.230)	(0.036)	(0.249)
LnTA	0.022	- 0.286***	- 0.662***	- 1.528***	0.051***	0.117***	0.143***	0.289***	0.006**	0.007	-0.000	-0.003
	(0.579)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.012)	(0.315)	(0.632)	(0.426)
LnAGE	0.079	0.098	0.381***	1.023***	0.001	-0.009	-0.016	-0.066*	0.036***	0.036**	0.005***	0.017*
	(0.280)	(0.375)	(0.000)	(0.000)	(0.899)	(0.641)	(0.252)	(0.082)	(0.000)	(0.021)	(0.006)	(0.076)
LnCLIENT	-0.176*	0.062	-0.117	-0.074	0.003	-0.006	-0.010	-0.022	0.003	-0.014	- 0.004***	-0.010
	(0.051)	(0.749)	(0.138)	(0.684)	(0.798)	(0.789)	(0.300)	(0.404)	(0.661)	(0.318)	(0.001)	(0.191)
FSPE	-0.123	-0.019	0.787	1.997	0.005	0.016	-0.034	-0.141	-0.011	- 0.057**	-0.056	0.087
	(0.302)	(0.931)	(0.721)	(0.833)	(0.746)	(0.592)	(0.830)	(0.517)	(0.244)	(0.016)	(0.724)	(0.593)
PSPE	0.223	0.867**	2.231**	-0.040	-0.055	- 0.153***	-0.064	-0.078	0.013	-0.039	0.321	0.448**
	(0.403)	(0.041)	(0.011)	(0.982)	(0.137)	(0.008)	(0.738)	(0.765)	(0.477)	(0.169)	(0.125)	(0.016)
FEERATIO	-0.018	-0.154	0.401	0.629	0.027	0.114*	-0.005	-0.045	0.003	-0.030	-0.004	-0.006
	(0.947)	(0.696)	(0.195)	(0.591)	(0.326)	(0.063)	(0.932)	(0.767)	(0.877)	(0.525)	(0.614)	(0.880)
Constant	_	5.029***	7.926***	23.899**	-	-	-	-	-	-0.016	0.089	0.407**

Panel C: QR

	2.081**			*	1.011***	2.601***	2.458***	5.094***	0.149***			*
	(0.019)	(0.001)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.909)	(0.111)	(0.000)
Industry	Include d	Included	Include d	Included	Included							
Year	Include d	Included	Include d	Included	Included							
Observation s	1,029	1,029	1,738	1,738	1,029	1,029	1,738	1,738	1,029	1,029	1,738	1,738

Panel A: Estimated Coefficients for OLS				
	(1) PBANK	(2)ROA	(3)INVREC	
Variable	Estimate	Estimate	Estimate	
	( <i>p</i> -value)	( <i>p</i> -value)	( <i>p</i> -value)	
FEMALE	-1.694***	0.209***	-0.006	
	(0.000)	(0.006)	(0.650)	
LnTA	-1.746***	0.350***	0.000	
	(0.000)	(0.000)	(0.847)	
LnAGE	1.509***	-0.161***	0.025***	
	(0.000)	(0.004)	(0.000)	
BIG4	1.956***	-0.371***	0.019	
	(0.000)	(0.000)	(0.119)	
LnCLIENT	-0.087	-0.016	-0.008*	
	(0.692)	(0.665)	(0.094)	
FSPE	-0.119	-0.007	-0.034***	
	(0.745)	(0.913)	(0.008)	
PSPE	2.382***	-0.385***	0.048	
	(0.001)	(0.004)	(0.196)	
FEERATIO	1.396	-0.146	-0.006	
	(0.109)	(0.176)	(0.729)	
FEMALExPSPE	6.108***	-1.047***	-0.053	
	(0.000)	(0.000)	(0.251)	
Constant	28.088***	-6.382***	0.062	
	(0.000)	(0.000)	(0.215)	
Industry	Included	Included	Included	
Year	Included	Included	Included	
Ν	2,767	2,767	2,767	
R-squared	0.116	0.139	0.272	

 Table 11: Industry Specialist- Auditor Industry Specialist

Panel B: Estimated Coefficients for Quantile Regressions							
	(1)PBANK		(2)F	(2)ROA		(3)INVREC	
Variable	q50	q80	q50	q20	q50	q80	
FEMALE	-0.429**	-0.762**	0.063***	0.158***	-0.001	-0.038*	
	(0.016)	(0.013)	(0.003)	(0.001)	(0.853)	(0.090)	
LnTA	-	-0.823***	0.094***	0.193***	0.001	-0.002	
	0.284***						
	(0.000)	(0.000)	(0.000)	(0.000)	(0.113)	(0.650)	
LnAGE	0.227***	0.366**	-0.011	-0.043**	0.011***	0.036***	
	(0.000)	(0.011)	(0.131)	(0.034)	(0.000)	(0.000)	
BIG4	0.600***	1.415***	-	-	0.012	0.049**	
			0.112***	0.300***			
	(0.000)	(0.000)	(0.000)	(0.000)	(0.132)	(0.021)	
LnCLIENT	-0.116*	0.065	-0.003	-0.010	-0.004**	-0.018**	
	(0.063)	(0.651)	(0.683)	(0.597)	(0.013)	(0.031)	
FSPE	-0.102	0.190	0.013	-0.025	-0.005	-0.040*	
	(0.508)	(0.407)	(0.448)	(0.569)	(0.648)	(0.093)	
PSPE	1.014***	1.290***	-	-	0.053**	-0.007	
			0.109***	0.247***			
	(0.001)	(0.001)	(0.009)	(0.000)	(0.034)	(0.903)	
FEERATIO	0.269	0.621	-0.034	-0.001	0.003	-0.002	
	(0.246)	(0.240)	(0.247)	(0.994)	(0.729)	(0.940)	
FEMALExPSPE	1.915*	2.099*	-	-0.320**	-0.010	-0.014	
			0.259***				
	(0.070)	(0.092)	(0.000)	(0.011)	(0.758)	(0.862)	
Constant	2.833***	14.159***	-	-	0.000	0.208**	
			1.713***	3.725***			
	(0.002)	(0.000)	(0.000)	(0.000)	(0.990)	(0.014)	
Industry	Included	Included	Included	Included	Included	Included	
Year	Included	Included	Included	Included	Included	Included	
Ν	2,767	2,767	2,767	2,767	2,767	2,767	

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Panel A: Estimate	Panel A: Estimated Coefficients for OLS Regression				
	PBANK ROA		INVREC		
Variable	Estimate	Estimate	Estimate		
	( <i>p</i> -value)	( <i>p</i> -value)	( <i>p</i> -value)		
FEMALE	-2.010***	0.222**	-0.013		
	(0.000)	(0.012)	(0.360)		
LnTA	-1.737***	0.349***	0.000		
	(0.000)	(0.000)	(0.852)		
LnAGE	1.525***	-0.163***	0.025***		
	(0.000)	(0.004)	(0.000)		
BIG4	1.967***	-0.371***	0.020		
	(0.000)	(0.000)	(0.115)		
LnCLIENT	-0.092	-0.016	-0.008*		
	(0.676)	(0.663)	(0.086)		
FSPE	-0.328	0.009	-0.037***		
	(0.400)	(0.906)	(0.007)		
PSPE	2.814***	-0.452***	0.046		
	(0.000)	(0.001)	(0.195)		
FEERATIO	1.376	-0.142	-0.006		
	(0.115)	(0.187)	(0.741)		
FEMALExFSPE	1.473*	-0.102	0.023		
	(0.096)	(0.471)	(0.388)		
Constant	27.905***	-6.351***	0.063		
	(0.000)	(0.000)	(0.198)		
Industry	Included	Included	Included		
Year	Included	Included	Included		
Ν	2,767	2,767	2,767		
R-squared	0.116	0.138	0.272		

 Table 12: Industry Specialist- Audit Firm Industry Specialist

	PBANK		ROA		INVREC	
Variable	q50	q80	q50	q20	q50	q80
FEMALE	-0.569***	-0.832**	0.063***	0.173***	-0.001	-0.046*
	(0.000)	(0.011)	(0.005)	(0.001)	(0.844)	(0.067)
LnTA	-0.281***	-0.814***	0.094***	0.192***	0.001	-0.002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.156)	(0.544)
LnAGE	0.232***	0.427***	-0.011	-0.048**	0.010***	0.036***
	(0.000)	(0.002)	(0.120)	(0.024)	(0.000)	(0.000)
BIG4	0.598***	1.376***	-0.112***	-0.303***	0.012	0.050**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.114)	(0.025)
LnCLIENT	-0.120**	0.068	-0.002	-0.009	-0.004**	-0.019**
	(0.017)	(0.618)	(0.743)	(0.644)	(0.011)	(0.021)
FSPE	-0.212	0.088	0.015	-0.013	-0.005	-0.042*
	(0.151)	(0.789)	(0.414)	(0.787)	(0.618)	(0.077)
PSPE	1.116***	1.353***	-0.133***	-0.265***	0.053**	-0.006
	(0.000)	(0.001)	(0.002)	(0.002)	(0.023)	(0.848)
FEERATIO	0.254	0.532	-0.033	0.013	0.002	-0.004
	(0.260)	(0.335)	(0.218)	(0.841)	(0.764)	(0.914)
FEMALExFSPE	0.550	1.016	-0.018	-0.122	-0.003	0.029
	(0.174)	(0.291)	(0.720)	(0.253)	(0.869)	(0.556)
Constant	2.793***	13.934***	-1.719***	-3.697***	0.000	0.211**
	(0.003)	(0.000)	(0.000)	(0.000)	(0.987)	(0.015)
Industry	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included
Ν	2,767	2,767	2,767	2,767	2,767	2,767

Panel B: Estimated Coeffici	ents for Quantile Regression
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Statistical significance based on a two – tailed test at the 1 per cent, 5 per cent, and 10 per cent levels are denoted by \*\*\*, \*\*, and \*, respectively.