

## **Audit Pricing and Corporate Whistleblower Governance: Evidence from Australian Financial Firms**

### **Abstract**

We investigate the relationship between firm whistleblower governance and audit pricing of Australian listed financial firms over the 2008-2018 period. Consistent with agency and organisational justice theoretical tenets, we find that firms that exhibit stronger whistleblower governance incur lower audit fees. We find that the negative association between strength in whistleblower governance and firms' audit fees is more pronounced for firms that are exposed to increased litigation risk, and for firms having an anti-fraud policy. Our results are robust to endogeneity tests including difference-in-difference (DID), two stage-least square (2SLS) and propensity score matching (PSM) analyses.

**JEL:** M4, M42

**Keywords:** whistleblower; audit fees; Australian financial firms; agency theory; organisational justice theory,

## 1.0 Introduction

Many of the major accounting, financial and political scandals over the past two decades have been exposed by whistleblowers<sup>1</sup> who are internal agents or external stakeholders or interested parties that have informed regulatory bodies of misconduct within a firm. Indeed, whistleblowing is an important governance mechanism that can effectively expose and prevent corporate misconduct (Chiasson, Johnson, & Byington, 1995; Wainberg & Perreault, 2016). In 2017, Jeff Morris's whistleblowing relating to disclosure and advice provided by the Commonwealth Financial Planning division was a major step in initiating the Royal Commission inquiry into the practices of the Australian financial services industry.<sup>2</sup>

An occurrence of whistleblowing is influenced by many factors that include socio-demographics (Andon, Free, Jidin, Monroe, & Turner, 2016), moral reasoning (Gao & Brink, 2017) and the personality traits of the whistleblower (Brink, Cerola, & Menk, 2015). Whistleblowing is considered an element of pro-social behaviour since it involves both altruistic and egoistical motives and, as such, it involves costs and benefits to the whistleblower (Miceli, Near, & Dworkin, 2008).

Prior research has shown that there are large discrepancies across firms when it comes to the development and consequences of whistleblower systems (Calderón-Cuadrado, Álvarez-Arce, Rodríguez-Tejedo, & Salvatierra, 2009). Effective governance controls have been shown to influence audit risk and subsequent audit pricing (Griffin, Lont, & Sun, 2008). Corporate

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<sup>1</sup> A whistleblower (also known as whistle-blower or whistle blower) is a person, "usually an employee play an important role to identify and call out misconduct and breaches of the law, including the laws administered and enforced by Australian Securities and Investments Commission (ASIC). This can be where a company or its managers or employees commit fraud, rip people off or cause harm to others". For more information, please see: <https://asic.gov.au/about-asic/contact-us/how-to-complain/whistleblower-protections/>.

<sup>2</sup> The Royal Commission released their final report in February 2019, which highlighted the need for a fundamental change in the sales-driven culture of that sector. The whistleblowing allegation also acted as the catalyst for the introduction of new legislation, the *Enhancing Whistleblower Protections Act 2019*, which aims to protect whistleblowers in the private sector from 1 July 2019. See: <https://10daily.com.au/news/a190204eba/jeff-morris-blew-the-lid-on-the-banking-industry-now-he-gets-a-thank-you-20190205>

governance measures are significant deterrents of fraudulent behaviour (Hogan, Rezaee, Riley, & Velury, 2008) and concerns have been raised regarding the limitations of existing audit fee models, where auditors should take a more well-rounded approach in their assessment of audit risk of their clients (Hay, Knechel, & Wong, 2006). Australia's financial services industry and, in particular, the banks have faced many scandals over the past decade.<sup>3</sup> However, that industry has historically lagged behind international best practice in developing controls as found by an independent G20 assessment of whistleblowing legislation (The Economist, 2016). In 2014, journalists and financial planner Jeff Morris exposed a sales and profit driven mindset of financial planners in the Commonwealth Bank which later led to exposure, through various government committee inquiries, of impropriety in respect to money laundering, terrorism financing and financial reporting. In 2015, a whistleblower revealed that National Australia Bank had provided incorrect or incomplete financial advice to hundreds of clients. These events acted as a stimulus for the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (Banking Royal Commission) in Australia<sup>4</sup>. Auditors have obligations under the whistleblower provisions in Part 9.4AAA of the Corporations Act 2001 as they constitute an eligible recipient of whistleblowers' disclosure. Qualifying disclosure could relate to misconduct, an improper state of affairs, a breach of law or circumstances that present a danger to the public or financial system.

In this paper, we investigate the effect of firm whistleblower governance on audit pricing in the Australian financial services industry. Firm whistleblower governance refers to the formalisation of policies, procedures and rules that are present in an organisation and outline the rights, responsibilities and protection of employees in respect of reporting alleged misconduct. Using a unique sample of hand-collected data from Australian financial firms over

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<sup>3</sup> See: <https://www.abc.net.au/news/2017-11-30/banking-royal-commission-how-did-we-get-here/9210248>

<sup>4</sup> See: <https://www.abc.net.au/news/2017-11-30/banking-whistleblower-jeff-morris-tells-of-horrific-impact/9212536>

the period 2009-2018, we show that firm whistleblowing governance is negatively associated with audit fees. This result suggests that the implementation of effective whistleblowing controls by firm management is considered by audit firms as an important tool that can lead to reduced audit risk thereby translating into reduced audit effort and fees. We find that the negative association between strength in whistleblower governance and firms' audit fees is more pronounced for firms that are exposed to increased litigation risk. Furthermore, we find that existence of an anti-fraud policy, when combined with strong whistleblower governance, further reduce audit fees. Our results are robust to endogeneity and self-selection bias tests that include difference-in-difference (DID), two stage-least square (2SLS) and propensity score matching (PSM) research designs.

We contribute to the literature in a number of important ways. Our first contribution involves an examination of the direct relationship between whistleblowing governance and audit fees. While there is a significant amount of literature that analyses whistleblowing and audit fees independently, there is limited literature that examines their association (Alleyne, Charles-Soverall, Broome, & Pierce, 2017; Lee & Fargher, 2018; Kuang et al. 2021). Our study differs from that of Lee and Fargher (2018) and Kuang et al. (2021) which concentrates on the relationship between audit fees and actual external whistleblowing allegations. In fact, they find that firms subject to an external whistleblowing allegation incur higher audit fees. In contrast, our study examines internal whistleblowing governance based on the whistleblowing governance framework an entity has in place. We find a negative and significant relationship between strength in whistleblower governance and audit fees. We provide evidence that auditors will likely examine the effectiveness of whistleblower governance systems in place. The effectiveness of such a system will likely impact audit risk of engaging with a client as this will affect the nature and scope of an audit (Kuang et al. 2021), and the auditor's perception of a client's business risk. An effective whistleblower governance system will be informative to

the auditor regarding the control and regulatory environment of the entity and will assist them in the design of the financial audit. In particular, we have provided insights into the relationship between an effective whistleblower governance system and audit fees for firms based on differences in earnings/ROA volatility, existence of an anti-money laundering system, whether the firms employ a Big4 auditor, if firms show evidence of trading misconduct and if they have been issued with a clean audit report or unmodified audit opinion. In doing so, we provide extend and expand on prior literature (See e.g. Bryan et al. 2018; Byran and Mason, 2020) that have examined auditors perception of audit risk and business risk of a client.

Second, we provide a methodological contribution by developing a unique measure of whistleblower governance. Prior whistleblowing studies often rely on experiments to assess employee whistleblowing intentions (Wilde, 2017). However, this does not necessarily translate into actual firm reporting behaviour. Our study focuses on actual firm whistleblowing governance, which is captured through a factor analysis of five elements of an effective whistleblower framework (Lee & Fargher, 2018 ; ASIC 2019). Our measure of whistleblowing differs from that used in recent literature in the area. Lee and Fargher (2018) and Kuang et al. (2021) both use measures of whistleblowing relating to allegations made by external parties pertaining to some form of corporate malfeasance. In contrast, we develop and use a measure of the strength of whistleblower governance given that concurrent research shows that auditors can be involved in a review of early-stage (pre-external) whistleblower allegations (Kuang et al. 2021). We use our measure of whistleblower governance to understand how auditors' assess whistleblowing governance and its consequent effect on audit pricing.

Finally, we contribute to the audit fee and whistleblowing research through an examination of the moderating effect of firm litigation risk and fraud related governance on the association between whistleblowing governance and audit pricing. Hence, we address whether these additional factors impact the level of audit risk reflected by way of variance in the risk of

material misstatements occurring. In fact, we show that the firm-level litigation risk and the adoption of anti-fraud policies moderate the association between whistleblowing governance and audit fees.

The remainder of the paper proceeds as follows. Section 2 provides background on the financial industry and regulations in Australia. Section 3 reviews the related literature and develops our hypotheses. Section 4 explains sample selection and research design. Our results are presented in Section 5 with additional tests and robustness tests in Section 6 and Section 7, respectively. Finally, Section 8 concludes the paper.

## **2.0 Background**

### **2.1 Financial services industry and financial regulation in Australia**

The financial services industry is one of Australia's largest industries, accounting for around 10% of that country's Gross Domestic Product (The Economist, 2019) and accounting for more than 6% of employment across the Australian economy (equivalent to employing over 800,000 people) in 2018.<sup>5</sup> Australia has a well-established financial services system which has been highly profitable and a key driver of economic growth over the last decade (The Economist, 2016).<sup>6</sup> There are four major governing bodies in the sector. The first one is the Reserve Bank of Australia (RBA), which controls the monetary policy and cash rate. The Australian Prudential Regulation Authority (APRA) is the second, and oversees the prudential regulations. The third is the Australian Competition and Consumer Commission (ACCC), which is an industry watchdog and monitors anti-competitive practices. Finally, the Australian Securities and Investments Commission (ASIC) enforces and regulates company and financial service laws.

### **2.2 Misconduct in the financial services industry**

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<sup>5</sup> See: <https://nationalindustryinsights.aisc.net.au/industries/financial-services>

<sup>6</sup> See: <https://treasury.gov.au/publication/backing-australian-fintech/the-strength-of-australias-financial-sector>

The Royal Commission released their final report in February 2019, which exposed multiple counts of malpractice and misconduct, including breaches of responsible lending obligations, fraudulent loan applications, conflict of interest with mortgage brokers and misleading credit card limit increases in the Australian financial services industry.<sup>7</sup> Furthermore, 24 cases of misconduct were referred to regulators for prosecution. The Royal Commission's report discussed the need for a rebalance of power between consumer and financial service providers, as well as a clear flow of information. They highlighted the need for a fundamental change in the sales-driven culture of the financial services industry. Financial services legislation requires auditors, liquidators and others to report any whistleblowing activities to regulatory authorities such as ASIC (Latimer, 2002). From 1 January 2020, it is required, under the Corporations Act, that financial entities such as corporate trustees of APRA-regulated superannuation must have a whistleblower policy.<sup>8</sup>

### **2.3 Whistleblowing and whistleblower protection**

Whistleblowing is crucial to the accounting profession, as auditors and accountants are the first line of defence against corporate misconduct, and are generally in the best position to discover fraud (Lee & Xiao, 2018). Near and Miceli (1985) define whistleblowing as the disclosure of illegal or questionable practices undertaken by their employer or by fellow employees in their organisation. Prior literature shows that there are two main areas influencing whistleblowing intentions: individual characteristics and contextual factors (Curtis & Taylor, 2009; Near & Miceli, 1995). While individual characteristics are related to certain factors which predict the occurrence of whistleblowers and wrongdoing, contextual factors are referred more to organisational characteristics, moral complexity and reporting channels (Curtis & Taylor, 2009). Near and Miceli (1995) define five principal determinants of whistleblowing that are

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<sup>7</sup> See: <https://www.royalcommission.gov.au/sites/default/files/2019-02/fsrc-volume-1-final-report.pdf>

<sup>8</sup> <https://asic.gov.au/about-asic/asic-investigations-and-enforcement/whistleblowing/>

associated to both individual and situational factors: characteristics of the whistleblower, of the complaint recipient, of the wrongdoer, of the misconduct, and of the organization. Furthermore, whistleblowing intentions have been found to be higher when there is organisational support, higher organisational responsiveness and trust for the active investigation of allegations (Keenan, 2000). When the internal environment is conducive to whistleblowing, not only will individuals be more likely to report misconduct internally, but firms will be more effective in managing corporate risks (Curtis & Taylor, 2009).

Whistleblowing is not an entirely altruistic act and there are significant costs to whistleblowing (Miceli et al., 2008). Potential costs to the whistleblower include firm retaliation such as dismissal, bullying and intimidation (Lee & Xiao, 2018). Prior literature documents that reporting intentions are lower when the perceived personal risk is higher (S. Kaplan & Whitecotton, 2001), when the firm is aware of the wrongdoing because it anticipates possible retaliation or has lower whistleblowing benefits such as bonus payments and promotions (Robinson, Robertson, & Curtis, 2011).

Historically, Australia has not formalised regulations to protect whistleblowers from dismissal or other detrimental action taken against them by employers. However, a reasonable level of protection has been provided to whistleblowers by way of legislation, with the key provisions documented in Appendix B. There are substantial discrepancies between different public jurisdictions. For example, disclosures of wrongdoing by the judiciary, ministers, and ministerial staff are not protected under federal law, but disclosures of wrongdoing by all public servants are typically protected under state legislation. In addition, protection is not automatic, and whistleblowers must be able to prove in court that their disclosures are in the public interest and follow a stringent disclosure process, to classify as qualifying disclosures.

The increased importance of whistleblowing to uncover misconduct in recent times has led to the enactment of legislation globally (Miceli et al., 2008). These changes demonstrate



the significance of whistleblowing as an innovation in corporate governance for employees to highlight corporate misconduct safely. Australia recently introduced new legislation,<sup>9</sup> the *Enhancing Whistleblower Protections Act 2019*, to protect whistleblowers in the private sector from 1 July 2019. The combined catalysts for this new law was the Royal Commission into the misconduct of the financial sector and the parliamentary inquiry into whistleblower protection in 2016. Private-sector whistleblowers in Australia now can have, for the first time, greater protection than their public-sector counterparts,<sup>10</sup> and are able to make anonymous protected disclosures.<sup>11</sup>

### **3.0 Hypotheses development**

#### **3.1 Firm whistleblower governance and audit fees**

Internal whistleblowing policies and procedures are an important internal control mechanism within a firm since the presence of internal whistleblowing systems reduce the likelihood of external whistleblowing allegations (Lee & Fargher, 2018). This is beneficial for management, as internal reporting not only allows management to correct the issue but also to avoid potential reputational damage, and to reduce financial and litigation costs to firms and to their auditors (Lee & Fargher, 2018). Previous studies have shown that risky corporate governance attributes influence audit pricing decisions because they are likely to increase audit risk and material misstatements that could lead to increased auditor liability (Bedard & Johnstone, 2004; Bentley, Omer, & Sharp, 2013; Boo & Sharma, 2008; Chan, Liu, & Sun, 2012).

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<sup>9</sup> The new legislation also defines who is eligible to be a whistleblower, extending the definition beyond that of employees and company officers. Protected disclosures can be related to matters beyond criminal breaches, such as conducts that indicate systemic issues. Eligible recipients of whistleblower disclosures have also been expanded to include directors, managers, auditors and tax agents.

<sup>10</sup> Before the *Enhancing Whistleblower Protections Act 2019*, legal protection in the private sector is significantly weaker and whistleblowers are not offered the same protection as their public sector counterparts ([https://treasury.gov.au/sites/default/files/2019-03/c2016-t226331-Maurice\\_Blackburn.pdf](https://treasury.gov.au/sites/default/files/2019-03/c2016-t226331-Maurice_Blackburn.pdf))

<sup>11</sup> See: <http://theconversation.com/its-a-new-era-for-australias-whistleblowers-in-the-private-sector-119596>

Whistleblowing policies within companies allow for the disclosure and correction of various forms of misconduct and mitigate the opportunities for management to engage in agency related opportunistic behaviour (Fama & Jensen, 1983; Jensen & Meckling, 1976). For instance, the existence of whistleblowing policies could potentially deter management from using their position to obtain excessive perquisites or other activities designed to enhance their personal welfare. Therefore, it is expected that firms with strength in whistleblower governance will have lower agency costs.

Agency theory also helps to explain the negative relationship between audit fees and whistleblowing governance. Information asymmetry underpins the relationship between auditors and firms, since auditors operate in an environment of incomplete information and must make a judgement on the validity of a firm's financial statements. There is a need for auditors to understand their clients' business risk and governance structures when planning an audit. Whistleblowing has been widely recognized as an important mechanism in detecting fraud, especially in the financial services industry in Australia.<sup>12</sup> Auditors play a crucial role in providing assurance over financial reports, and may consider whistleblowing actions against their client firms being evidence of heightened risk (Griffin, Lont, & Sun, 2010; Guthrie & Taylor, 2017; Taylor & Thomas, 2013). If the auditors of a financial services firm become aware of "certain matters", they must report these to ASIC immediately (Latimer, 2002). Audit fees have been found to be higher when operational, strategic and financial risk factors are present (Contessotto & Moroney, 2013; Li, Chen, Qi, & Tian, 2020; Yang, Yu, Liu, & Wu, 2018). Kuang et al. (2020) shows that auditors respond to external whistleblowing allegations by pricing audit fees significantly higher. Auditing firms with weaker whistleblower governance could signal higher business risk and audit risk for auditors. Audit effort is

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<sup>12</sup> See: <https://asic.gov.au/about-asic/asic-investigations-and-enforcement/whistleblowing/>

consequently expected to be higher, leading to higher audit fees designed to compensate for the higher risk and to manage agency costs. Variation in audit pricing based on level of whistleblower's governance is determined by a number of drivers that incentivize the audit team to perform more (or less) work during the audit (Hay et al. 2006). "Supply" related variables that may impact the relationship between whistleblower's governance and audit pricing include the business risk of the client which may dictate the level of audit effort required by the audit team. Audit effort is designed to ensure quality of the audit and to reduce litigation risk down to an acceptable level. "Demand" related factors that may impact the relationship between whistleblowers' governance and audit pricing are strength of governance primarily as this will impact audit risk.

The relationship between firm whistleblower governance and audit fees can also be understood based on organisation justice theory. Organisational justice is a multidimensional theory and "refers to people's perceptions of justice in organisations" (Greenberg, 1987, p. p.10). Seifert, Sweeney, Joireman, and Thornton (2010) argue that employees treated fairly are more likely to blow the whistle, since there is a mutual exchange intended to benefit the organisation. They document three dimensions to organisational justice, which are controllable by the firm: interactional fairness, procedural fairness, and distributive fairness. Firms with effective whistleblowing policies could potentially encourage the likelihood of internal reporting intentions. Auditors' perceptions of justice within the firms they audit would alter their perceived level of risk when observing the firms' procedural justice (i.e., whistleblowing procedures) and interactional justice (i.e., the communication of whistleblowing policies and subsequent treatment of whistleblowers). The Australian Bankers' Association has established principles for banks to implement the highest standards of protection for whistleblowers.<sup>13</sup> The

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<sup>13</sup> See: <https://www.ausbanking.org.au/banks-improve-whistleblower-protections/>

high levels of trust and perceived justice in financial services firms would, consequently, indicate the low levels of risk.

Auditors are responsible for the detection and reporting of misconduct uncovered in a firm (Pittman and Zhao 2018). Indeed, misconduct by a firm can impose reputational damage and litigation risk on auditors as they can alter the nature and way in which information can be communicated to stakeholders (Lobo and Zhao 2013). If we observe a negative relationship between strength in whistleblowing governance and audit fees, this would be consistent with the idea that the reduced auditor effort is required where a firm has a well-developed whistleblower policy as this will reduce the level of audit risk and fees (Lobo and Zhao 2013). Thus, the existence of an effective whistleblower policy can signal to the auditor that firm management are committed to compliance and the exposure of possible misconduct. Increased litigation risk and reputational risk to the auditor that could stem from poor internal controls around detection of misconduct in a firm will reinforce the effort auditors will commit to as part of the audit.

Based on the aforementioned arguments, it is expected that a negative relationship exists between audit fees and strength in whistleblowing governance. Our first hypothesis (H1) is stated as follows:

*H1: Firms with strength in whistleblower governance have lower audit fees.*

### **3.2 The moderation effect of lawsuits**

According to Friedman (1989), litigation refers to the risk that legal action might be taken against the company; this involves a claim, a dispute or conflict, and the use of a specific institution, the court, to resolve the conflict or dispute. Litigation risk is a vital governance mechanism that ensures the quality of accounting data and improves the efficiency in capital allocation by strengthening the role of accruals in decisions on investment financing. For instance, Burgstahler, Hail, and Leuz (2006) argue that litigation risk can reduce agency costs,

provides an effective constraint on management, and reduces opportunistic. Firms with litigation risk experience an increase in loan spreads, higher up-front borrowing charges and more financial covenants and collateral requirements (Deng, Willis, & Xu, 2014; Yuan & Zhang, 2015). M. P. Arena (2018) finds that firms with a higher risk of litigation have lower credit ratings, pay higher yields loans and bonds and are less likely to rely on financing. According to McTier and Wald (2011), firms reduce dividends after a lawsuit. Moreover, Humphrey\_Jenner (2012) shows that chief executive officers are affected by litigation risk by way of reduced compensation or by termination. This view is supported by Unsal and Rayfield (2019) who claim that litigation risk leads to executive turnover and reduced compensation. Litigation can trigger investor scepticism leading to an adverse market reaction and a decrease in a firm's value and reputation (M. Arena & Julio, 2015; Joseph, Chelsea, & Alfred, 2015).

Litigation is likely to add another layer of complexity to the audit given its impact on the financial statements of a firm which may magnify the negative relationship between audit fees and whistleblower governance (Minutti-Meza, 2014). It is thus expected that the occurrence of lawsuits moderates the relationship between whistleblower governance and audit fees. Our second hypothesis (H2) is stated as follows:

*H2: The negative association between strength in whistleblower governance and audit fees is more pronounced for firms with a recorded lawsuit.*

### **3.3 The moderating effect of the adoption of an anti-fraud policy**

Firms manage risks through various corporate governance mechanisms that could include existence of an anti-fraud policy (Bedard & Johnstone, 2004; Seifert et al., 2010). Sabau, Sendroiu, and Sgardea (2013) show that anti-fraud strategies have a positive impact on firms, as commitment to anti-fraud mechanisms reduces the occurrence, gravity and detection time of fraud and misconduct. Anti-fraud mechanisms protect firms from significant losses and reputational damage, and assist in the management of business risk. The development of an

anti-fraud strategy involves implementing a framework that includes internal standards and ethics codes (Sabau et al., 2013).

Anti-fraud policies go hand in hand with whistleblowing mechanisms facilitate monitoring. A study by the *Association of Certified Fraud Examiners* in 2014 finds that the main weaknesses in firms that experienced fraud relate to lack of internal controls, an incorrect ethical tone from management and a lack of fraud-related reporting mechanisms.<sup>14</sup> Thus, effective fraud prevention requires an integrated system that develops an ethical culture, effective internal controls and reporting lines (Sabau et al., 2013). While the joint effect of whistleblower governance and adoption of anti-fraud policies is expected to lead to a further decrease in audit fees, it is possible that the implementation of an anti-fraud policy can suppress or substitute for a certain level of whistleblowing activity, since the presence of such policies portrays a commitment to ethical behaviour. Thus, it is expected that the implementation of anti-fraud policies will moderate the relationship between strength in whistleblower governance and audit fees. Our third hypothesis (H3) is stated (in null form) below:

*H3: The relationship between strength of whistleblower governance and external audit fees is moderated by existence of anti-fraud policies.*

## **4.0 Research design**

### **4.1 Data**

Our sample comprises ASX listed Australian financial firms covering the period 2008 to 2018. The sample period<sup>15</sup> corresponds to a period of considerable change in whistleblower governance, legislation and corporate responsibilities in this area in Australia. Whistleblower protection in the Australian public sector commenced in 2008 as part of a broader public integrity framework following incorporation of whistleblower provisions in the Corporations

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<sup>14</sup> See: [https://www.acfe.com/uploadedFiles/ACFE\\_Website/Content/documents/rtn-2010.pdf](https://www.acfe.com/uploadedFiles/ACFE_Website/Content/documents/rtn-2010.pdf)

<sup>15</sup> The sample period of 2008-2018 is also investigated in a prior study of Australian financial firms (Eulaiwi et al. 2021).

Act (2001) in 2004. Whistleblower provisions were also incorporated into the *Banking Act 1959*. From 2019, there were additional amendments to the whistleblower provisions in the Corporations Act (2001). Our original sample (2,310 firm-year observations) is reduced after removal of foreign incorporated firms (79 firm-year observations) and firms with missing financial and governance data (987 firm-year observations). Our final sample comprises 1,244 firm-year observations. Financial data was collected from *Compustat Global – Fundamentals Annual* database. Stock return and earnings volatility data was extracted from *Thomson Reuters Eikon* database. Variables pertaining to corporate governance, whistleblowing, litigation and adaption of anti-fraud policies were collected manually from annual reports. Audit opinion and audit fee data were obtained from *Audit Analytics Global*. Table 1, Panel A provides a summary of the sample selection. The sample distributions by year are presented in Panel B of Table 1.

**[Insert Table 1 Panel A and B here]**

## **4.2 Measurements of variables**

### **4.2.1 Dependent variable**

The dependent variable in this study is audit fees (*AFEE*). Higher audit fees are likely to reflect increased audit effort, attributable to additional time devoted to the audit and use of experienced or specialized personnel in the audit team (Bentley et al., 2013). Morgan and Stocken (1998) acknowledge that auditors are often held responsible by shareholders, even if they are not responsible for shareholder losses directly. Consequently, lower audit fees are expected for firms that exhibit fewer risk characteristics, such as organizational stability, low levels of complexity, profitability, a less risk-orientated focus and effective corporate governance, such as whistleblowing procedures (Davis, Ricchiute, & Trompeter, 1993; Firth, 2003; Ittonen & Peni, 2012; Simunic, 1984). Consistent with previous literature, *AFEE* is measured by the natural logarithm of audit fees.

### **4.2.2 Independent variables**

Our variable of interest is firm whistleblower governance (*WBG*) which is comprised of five attributes that have been discussed extensively in prior whistleblowing literature (Curtis & Taylor, 2009; S. E. Kaplan, Pope, & Samuels, 2015; Lee & Fargher, 2018; Lee & Xiao, 2018). Firm whistleblower governance refers to the formalisation of policies, procedures and rules that are present in an organisation, and which outline the rights, responsibilities and protections of employees. The elements comprising an effective whistleblower framework include: whether the firm has a whistleblowing policy in place; existence of a whistleblowing protection officer; reported whistleblowing cases reported to the auditor or board of directors; the provision of whistleblowing training; and whether a whistleblower hotline for reporting and whistleblower safeguards to facilitate reporting exist (Lee & Fargher, 2018).

We create two measures of *WBG*, i.e. *WBG1* and *WBG2*. *WBG1* is calculated as the sum of the five whistleblower attributes. These attributes include whistleblower protection officer (*WBGO*), reported whistleblowing cases to the auditor or board of directors (*WBCAB*), whistleblower training (*WBTC*) and whistleblower hotline (*WBHL*), scaled by the total expected score of these five variables. Each item is scored as 1 if in existence, otherwise 0. The second measure of firm whistleblower governance (*WBG2*) is captured through a Factor Component Analysis (FCA) of the five whistleblower characteristics that were used to generate *WBG1* (*WBGD*, *WBGO*, *WBCAB*, *WBTC* and *WBHL*). The higher the values of *WBG1* and *WBG2* signify the higher the level of whistleblower governance in a firm.

Table 2 represents the results for the factor analysis of *WBG2* to identify the commonalties or factors that form the measure of *WBG2*. From the five factors mentioned above, factors with an eigenvalue greater than one are retained (Bushman et al., 2004; Eulaiwi et al., 2016). Given that all five components are dichotomous, we apply factor analysis that can be performed using a polychoric correlation matrix. Subsequently, to further clarify the interpretation of the factors, they are rotated using the *promax rotation* technique in Al-Hadi



et al. (2016). The eigenvalue of *WBG2* captures 64.38% of the variation in the *WBG* characteristics, signifying that the *WBG2* factor represents a significant proportion of the characteristics and is an appropriate measure (Al-Hadi et al., 2016). Table 2 shows that the majority of the communalities have a factor loading of greater than 80%, except for *WBTC* (57%) and *WBHL* (77%), indicating that the factor captures substantial commonalities among the *WBG* characteristics and construct validity is achieved.

Our other independent variables are interaction terms included to examine their impact on the relation between whistleblower governance and audit pricing. We use two proxies for lawsuits: litigation lawsuit (*LAWSUIT*), and insurance lawsuit (*INSUR*) (Joseph et al., 2015). They are indicator variables, recorded 1 if there is at least one litigation (or insurance) lawsuit filed against the company during the year, 0 otherwise. We also include *ANTFRD* (a moderation variable measured) as a dummy variable that equals to 1 if the firm adopts an anti-fraud policy, 0 otherwise.

**[Insert Table 2 here]**

#### **4.2.3 Control variables**

We include several variables in our regression models to control for other effects on audit pricing (Ettredge, Fuerherm, & Li, 2014; Ittonen, Miettinen, & Vahamaa, 2010; Mitra, Jaggi, & Al-Hayale, 2019). Firm size (*SIZE*) is measured as the natural logarithm of total assets. *LOSS* is a dummy variable, coded 1 if the corporation has net income less than zero, and 0 otherwise. Return on assets (*ROA*) is measured as net income scaled by total assets. *SECURITIES* is measured as total securities scaled by total assets. *COM\_LOAN* is measured as the sum of commercial and agricultural loans scaled by gross loans. The capital ratio (*CAP\_RATIO*) is measured as the total risk-adjusted capital ratio of the corporation. Intangible assets (*INTANG*) is measured as intangible assets scaled by total assets. Big4 auditor (*BIG4*) is measured as a dummy variable, coded 1 if the corporation is audited by a Big4 audit firm, and 0 otherwise.

Financial experts on the board (*BD\_Exprts*) is to control for business risk, and governance (Gray and Nowland 2017). Board gender diversity (*GNDR\_BD*) is included as a control variable given that prior research demonstrates that gender mix can influence firm strategic direction and business risk (Chen et al. 2019). Audit partner gender (*AUD\_GEND*) may influence audit fee setting and hence is included as a control variable (Ittonen and Peni 2012). Non-audit fees (*NON\_AUD\_FEE*) are also controlled for (Eulaiwi et al. 2021). CEO tenure (*CEO\_TENURE*) is measured as the natural logarithm of the number of years that the CEO has been chief executive of the corporation. Board size (*BD\_SIZE*) is measured as the natural log of the number of members on the board of directors. Board independence (*BD\_IND*) is the proportion of board members that are independent directors. Independence in audit committee (*AUD\_IND*) or risk committee (*RISK\_IND*) is calculated as the proportion of independent directors on the audit committee or the risk committee. Auditor change (*AUD\_CHNG*) is a dummy variable, coded 1 if the corporation has changed the auditor from  $t-1$  to  $t-0$ , and 0 otherwise. Furthermore, we control for changes in the operating environment of the corporation in our regression models. It is measured using a dummy variable for mergers and acquisitions (*M&A*), which is coded 1 if the corporation is engaged in M&A activity, and 0 otherwise. Finally, we control for the total number of subsidiaries (*SUB*) measured as the natural logarithm of total number of subsidiaries. The definitions of variables are provided in Appendix A.

### 4.3 Model specifications

In order to test the our hypotheses, fixed-effects regression models are used to ensure that other unobservable time invariant firm characteristics do not influence audit fees and whistleblowing (Bentley et al., 2013; Yang et al., 2018). The model for testing H1 is estimated as follows:

$$AFEE_{i,t} = \gamma_0 + \gamma_1 WBG1(2)_{i,t} + \gamma_n CONTROLS + Year\ Dummies + \mu_{i,t} + e_{i,t} \quad (1)$$

where  $i$  refers to corporations at year  $t$ ,  $AFEE$  is the natural logarithm of audit fees and  $WBG1$  and  $WBG2$  are our measures of firm whistleblower governance. The list of control variables is provided in Appendix A.

To examine whether the association between whistleblower governance and audit pricing is moderated by the occurrence of litigation lawsuits (H2), we estimate the following fixed-effects panel regression models:

$$AFEE_{i,t} = \gamma_0 + \gamma_1 WBG1(2)_{i,t} + \gamma_2 LAWSUIT_{i,t} + \gamma_3 WBG1(2)_{i,t} * LAWSUIT_{i,t} + \gamma_n CONTROLS + Year Dummies + \mu_{i,t} + e_{i,t} \quad (2)$$

$$AFEE_{i,t} = \gamma_0 + \gamma_1 WBG1(2)_{i,t} + \gamma_2 INSUR_{i,t} + \gamma_3 WBG1(2)_{i,t} * INSUR_{i,t} + \gamma_n CONTROLS + Year Dummies + \mu_{i,t} + e_{i,t} \quad (3)$$

where  $LAWSUIT$  and  $INSUR$  are dummy variables, coded 1 if the corporation has at least one litigation lawsuit (or one insurance lawsuit) filed against the company during the year, and 0 otherwise.

To investigate the moderation effect of the adoption of anti-fraud policy on the association between whistleblower governance and audit fees (H3), the following fixed-effects panel regression models are estimated:

$$AFEE_{i,t} = \gamma_0 + \gamma_1 WBG1(2)_{i,t} + \gamma_2 ANTFRD_{i,t} + \gamma_3 WBG1(2)_{i,t} * ANTFRD_{i,t} + \gamma_n CONTROLS + Year Dummies + \mu_{i,t} + e_{i,t} \quad (4)$$

where  $ANTFRD$  is an indicator variable which is coded as 1 if the firm adopts an anti-fraud policy, 0 otherwise.

#### 4.4 Descriptive statistics

Table 3 Panel A shows the descriptive statistics of our final sample. The mean (median) of  $AFEE$  of financial firms in our sample is 11.85 (11.51), so the Australian financial corporations

in our sample spend, on average, around AUD \$140,084 on audit fees which are similar to that reported in Australian non-financial firms (Aldamen, Hollindale, & Ziegelmayr, 2016). *WPG1* (*WBG2*) has an average value of 0.16 (-0.01) and standard deviation of 0.28 (1.00). The 75<sup>th</sup> percentiles of *WBG1* and *WBG2* are 0.20 and 0.13 respectively, suggesting that a significant majority of firms do not disclose the existence of whistleblowing policies and procedures. This is expected given that mandatory whistleblowing systems have been largely excluded from legislation in the sample period.<sup>16</sup>

In our sample, the proportion of firms having at least one litigation lawsuit or one insurance lawsuit filed against them is on average 13% and 8%, respectively. Firms that adopt an anti-fraud policy represent, on average, 17% of our sample. Finally, the mean and median values of the control variables are generally consistent with those of prior studies (Ettredge et al., 2014; Ittonen et al., 2010; Ittonen & Peni, 2012; Mitra et al., 2019).

We also provide descriptive statistics of the five components of our whistleblower governance measure in Table 3 Panel B. The components of our whistleblower governance measure are whistleblower policy disclosure (*WBGD*), whistleblower protection officer (*WBGO*), whistleblower reported whistleblowing cases to the auditor or board of directors (*WBCAB*), whistleblower training (*WBTC*) and whistleblower hotline (*WBHL*). The mean ranges from 5% for whistleblower training (*WBTC*) to 29% for existence of a whistleblower policy (*WBGD*).

A Pearson correlation matrix (untabulated) shows a negative and significant correlation between audit fees and our whistleblower governance proxies (*WBG1* and *WBG2*). The correlations between audit fees and the control variables are found to be consistent with that evident in prior related research (e.g. Hay et al. 2006; Ettredge et al. 2014; Mitra et al. 2019

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<sup>16</sup> <https://treasury.gov.au/consultation/review-of-tax-and-corporate-whistleblower-protections-in-australia>

and Ittonen et al. 2019). For instance, we find a negative and significant correlation between *AFEE* and our control variables (*SIZE*, *ROA*, *SECURITEIS*, *COM\_LAON*, *CAP\_RATIO*, *NON\_AUD\_FEE*, *BIG4*, *CEO\_TENURE*, *BD\_SIZE*, *BD\_IND*, *AUD\_IND* and *RISK\_IND*). We also observe a positive and significant between the audit fee and *LOSS* and *BD\_Expert*). The VIFs (variance inflation factors) are all less than 3.5 and hence multicollinearity is not a concern in our study (Hair et al. 2006).

**[Insert Table 3 Here]**

## **5.0 Regression results**

### **5.1 The association between firm whistleblower governance and audit pricing**

Table 4 presents the results of fixed-effect regressions for testing the association of audit pricing (*AFEE*) and whistleblower governance (*WBG1* and *WBG2*). In Models (1)-(2), the coefficients for *WBG1* and *WBG2* variables are both negative and significant ( $p$ -value <0.01) at -0.427 and -0.113, respectively. These results suggest that there is a negative association between the adoption of whistleblowing policies and external audit fees, providing evidence to support our first hypothesis (H1). If a firm has a one-unit increase in whistleblower governance represented by *WBG1*, its audit fees are, on average, reduced by nearly AU\$63,515 per firm-year.<sup>17</sup> **We have re-run our regression results without the Big4 banks. In un-tabulated results, the coefficient on our whistleblower governance measures remains negative and significant once we exclude the Big4 banks (Commonwealth Bank, Westpac Bank, National Australia Bank and ANZ Bank) from our sample.**

In order to test the explanatory power of our whistleblower governance measures, we also run Models (3)-(4) without any of the control variables except for year. In these models,

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<sup>17</sup> The economic effect, based on the average effect of a one-unit increase in *WBG1*, is computed as the average audit fee (\$148,746) multiplied by the estimated *WBG1* coefficient of -0.427 which is equal to a decline of \$63,515 in audit fees per firm-year, on average.

we find that the coefficients for *WBG1* and *WBG2* variables are both negative and significant ( $p$ -value  $<0.1$ ) at  $-0.291$  and  $-0.076$ , respectively. The existence of an effective whistleblower is likely to significantly deter corporate misconduct which could have flow-on consequences in terms of improving the quality of financial reporting or internal controls requiring less audit effort and reduced audit risk. Our results are consistent with prior literature (Bentley et al., 2013) that firms with developed whistleblower policies face lower risks, resulting in a decrease in audit effort. Given that audit pricing decisions correspond to the pricing of business risk (Morgan & Stocken, 1998), the significant and negative coefficients of *WBG1* and *WBG2* suggest that they capture an element of corporate risk management that goes beyond that of commonly used proxies for corporate governance, such as independent directors and duality of CEO/Chairman. The coefficients of control variables are consistent with that reported in prior literature (Qu, Yao, & Percy, 2020; Yang et al., 2018) with statistical significance is reported for *SIZE*, *LOSS*, *ROA*, *CAP\_RATIO*, *INTANG*, *BIG4*, *AUD\_GEND*, *NON\_AUD\_FEE*, *AUD\_IND*, *AUD\_CHNG* and *SUB*.

**[Insert Table 4 Here]**

## **5.2 The moderation effect of litigation lawsuits**

We now test whether the positive association between whistleblower governance (*WBG1* and *WBG2*) and audit pricing is moderated by the occurrence of a litigation lawsuit (*LAWSUIT*) and of an insurance lawsuit (*INSUR*). The fixed-effect panel regression results are presented in Table 5. We find that the coefficients of *LAWSUIT* or *INSUR* variables are significantly positive in Models (1) and (3), indicating that firms with litigation or insurance lawsuits have significantly higher audit fees. In addition, the coefficients of the interaction terms between the litigation or insurance lawsuit variables (*LAWSUIT* or *INSUR*) and the whistleblower governance variables (*WBG1* and *WBG2*) are all significantly negative in Models (1), (3) and (4) at  $p < 0.05$  and better. For instance, the interaction coefficient of *WBG1\*LAWSUIT* is  $-0.199$

( $p < 0.1$ ), and of  $WBG1*INSUR$  is  $-0.438$  ( $p < 0.01$ ). This finding suggests that whistleblower governance plays an important role in moderating the effect of litigation risk on audit fees. An effective whistleblower governance system is likely to impact auditors' negative perception of clients' exposure to litigation risk and business risk that may have initiated lawsuits, exposing misconduct and harm to consumers and the community, then suppress the positive relationship between audit fees and firm litigation risk (Minutti-Meza, 2014).

**[Insert Table 5 Here]**

### **5.3 The moderation effect of anti-fraud policies**

Table 6 reports the moderation effect of anti-fraud policies on the relationship between whistleblower governance and audit fees. The coefficient estimate of  $WBG1*ANTFRD$  in Model (1) is negative and insignificant. The coefficient on the interaction term  $WBG2*ANTFRD$  in Model (2) is negative and significant at 5% level. Our results suggest that the joint effect of whistleblower governance and existence of an anti-fraud policy does in fact decrease audit fees, providing supporting evidence for H3. Firms with anti-fraud policies are expected to have commitments to ethical behaviour and to maintain effective internal controls (Sabau et al., 2013). As a result, the implementation of anti-fraud policy and the effectiveness of whistleblower governance are likely to lead to a decrease in audit effort (Bentley et al. 2013).

**[Insert Table 6 Here]**

## **6.0 Additional Tests**

### **6.1 Audit risk and business risk**

The central argument underpinning the relation between whistleblower governance and audit pricing is that stronger levels of whistleblower governance are associated with lower levels of business risk and audit risk. Earnings volatility can arise via economic shocks and in the accounting determination of income (Dichev and Tang 2009). Prior research shows that auditors assess firms' earnings volatility as part of their risk evaluation of a client (Bryan and

Mason 2020). The reason for this is that earnings volatility may affect auditor's perception of a client's inherent risk (Bryan et al. 2018). We expect that firms with an effective whistleblower governance system in place to negate or to minimize the negative perception that auditor's may have when a client has higher levels of earnings volatility.

Stock return volatility is a measure of total business risk (Khan and Bradbury 2014) and earnings volatility is a measure of profitability risk (See e.g. Dichev and Tang 2009; Bryan et al. 2018; Bryan and Mason, 2020). To assess the effect of differing levels of stock return volatility and earnings volatility on the relationship between whistleblower governance and audit pricing, we interact each of our whistleblower governance variables with our measures of business risk proxied by stock return/earnings volatility. To do so, we develop the following model:

$$AFEE_{i,t} = \gamma_0 + \gamma_1 WBG1(2)_{i,t} + \gamma_2 Vol(Stock\ return; Earnings)_{i,t} + \gamma_3 WBG1(2)_{i,t} * Vol(Earnings; ROA)_{i,t} + \gamma_n CONTROLS + Year\ Dummies + \mu_{i,t} + e_{i,t} \quad (5)$$

where  $Vol(Stock\ return)$  is defined as the standard deviation of monthly stock return data over a rolling 5-year period (Alford and Boatsman 1995).  $Vol(Earnings)$  is the firm-specific volatility of earnings calculated as the standard deviation of earnings over a rolling 5 year period (Dechev and Tang 2009; Bryan and Mason 2020).

Table 7 presents the fixed-effect panel regression results for each interaction term  $WBG1 * Vol(Stock\ return; Earnings)$  and  $WBG2 * Vol(Stock\ return; Earnings)$ . We find that the coefficient of  $Vol(Earnings)$  is significantly positive in Models (1)-(2) indicating that firms with volatility in earnings have significantly higher audit fees. Importantly, the coefficients of the interaction terms between  $Vol(Stock\ return)$  and  $Vol(Earnings)$  and our whistleblower governance variables ( $WBG1$  and  $WBG2$ ) are all significantly negative ( $p < 0.10$  and better). These findings indicate that whistleblower governance plays an important role in suppressing



the negative perception that an auditor may have when a client exhibits stock return/earnings volatility.

To further assess the relationship between audit fees and whistleblower governance based on differential audit/business risk, we divide our sample into two groups based on whether they have specific money laundering controls in place (scored as 1) or not (scored as 0). A key business risk for financial firms relates to money laundering compliance, particularly in the wake of the Commonwealth Bank and Westpac Bank money laundering breaches. Audit firms are required to keep abreast of how their clients deal with money laundering risks which will be an important factor in evaluation of audit risk.

We expect that firms with specific money laundering controls in place will reduce business risk and audit risk, which should translate into more favourable audit pricing. Hence, one would expect the negative relationship between whistleblower governance and audit pricing to be more pronounced in the absence of a specific money laundering control system. In untabulated results, we find that the coefficients of our whistleblower governance variables (*WBG1* and *WBG2*) are negative and significant in the subsample of firms without specific money laundering controls, and non-significant in the subsample with a specific money laundering control system. Overall, our findings confirm the business risk and audit risk based argument for a negative relationship between whistleblower governance and audit pricing.

**[Insert Table 7 Here]**

## **6.2 The effect of Big4 vs non-Big4 auditors**

Given that Big4 auditors are used a proxy for audit quality, we now re-run our regression results for subsamples that involve employment of a Big4 auditor and compare these results for the subsample that does not involve employment of a Big4 auditor. We conjecture that Big4 audit firms are more likely to have resources and expertise to adequately assess whether existence of

an effective whistleblower governance system will assist in diminishing audit risk and business risk. The results presented in Table 8 show ~~We find~~ that the coefficient of both whistleblower governance variable (*WBG1* and *WBG2*) are significant and negative for both subsamples with higher magnitude for firms with employment of a Big4 auditor. Whistleblower governance systems appears to be more effective in reducing audit fees in firms employs a Big4 auditor as compared to those that do not employ a Big4 auditor.

**[Insert Table 8 Here]**

### **6.3 The effect of trading misconduct and existence of a modified audit report**

As an additional test, we assess the relationship between strength in whistleblower governance and audit fees for firms that have a lawsuit in respect to trading of their securities, scored as 1 if a disclosure to that effect has been made in that firm's annual report, and 0 otherwise. Data on the occurrence of a trading misconduct was hand collected from firms' annual reports. The existence of a trading related misconduct is likely to reflect a higher level of litigation risk and business risk in a firm. In Table 9, Models (1)-(4), we observe that the coefficients on our two whistleblower governance proxies *WBG1* and *WBG2* are significant and negative for the subsample of firms that do not have a recorded trading related misconduct. However, the coefficients on *WBG1* and *WBG2* are non-significant in the subsample of firms with a recorded trading relating misconduct. This result suggests that the existence of litigation concerning trading misconduct is reflective of an overall weaker control and regulatory environment and hence the perceived effectiveness of whistleblowing governance by auditors may be somewhat diminished, particularly in the face of actual securities litigation. Securities trading misconduct is likely to reflect underlying conditions that could increase business risk, audit risk and litigation risk which may reduce the effectiveness of whistleblowing governance systems (Bryan and Mason 2020).

Finally, we test the relationship between strength in whistleblower governance and audit fees for firms that either have a clean audit report or unmodified opinion (scored as 1), or a modified audit opinion (scored as 0). Data on audit opinion was obtained from *Audit Analytics Global* database. We find that strength in whistleblower governance is effective in reducing audit fees (as reflected by the negative and significant coefficients of *WBG1* and *WBG2*) for firms issued with an unmodified audit report but not for firms that have not been issued with a modified audit report. Our results are presented in Table 9, Models (5)-(8). These results suggest that whistleblower governance systems are effective in reducing audit fees in firms issued with an unmodified audit report auditors are likely to perceive such a system to be effective in contributing to the quality of the firm's financial and regulatory reporting environment when supported by a clean audit report (Hay et al. 2006).

**[Insert Table 9 Here]**

## **7.0 Endogeneity and Self-Selection Tests**

### **7.1 Difference-In-difference (DID) analysis**

Although our main regression model in Table 4 uses firm's fixed effect to provide evidence about association of audit fees and whistleblower governance, this result can be endogenous due to regulation changes during the sample period (Conley & Taber, 2011). Thus, we employ a difference-in-difference (DID) analysis using the introduction of the *Public Interest Disclosure Act 2013*, the first national legislation dedicated to whistleblowing, as an exogenous shock for our robustness check. Although this legislation is enforceable for the public sector only, it represents a significant signal of whistleblowing best practice to the corporate sector. Since the Act was implemented in 2014, we create a binary variable, *DID*, which equals to 1 for years in the period from 2014 to 2018, and 0 otherwise. The interaction variables *WBG1\*DID* and *WBG2\*DID* are also generated to measure the impact of the *Public Interest Disclosure Act 2013* on the relationship of firm whistleblower governance and audit fees. Table

10 shows that the coefficient estimates of  $WBG1* DID$  (-0.331) and  $WBG2* DID$  (-0.084) are negatively significant at the 10% level, implying that our results are not influenced by introduction of the regulation, and add to the main findings in Table 4.

**[Insert Table 10 Here]**

## **7.2 Instrumental variable (IV) two stage least squares (2SLS) regression analysis**

Endogeneity could potentially impact the baseline OLS regression results provided in Table 4 because a firm may choose to develop a whistleblower governance system and employ external auditors that may lead to some degree of reverse causality. We therefore conduct 2SLS regression testing to validate our baseline regression results (Wooldridge 2010). The instrumental variable (IV) we use in the study is the employment of a money laundering compliance officer (*AMLCO*). A money laundering compliance officer is generally responsible for ensuring that the entity complies with anti-money laundering legislation and regulations and for informing the board and senior management about how the entity is meeting its anti-money laundering (AML) obligations and to highlight areas of deficiency (Gurung et al. 2010). An AML compliance officer can also act as a contact point for AUSTRAC relating to general business dealings<sup>18</sup>. Hence, given that an AML compliance officer involves reporting internally and externally, the employment of such an officer will likely be correlated with the development of an effective whistleblower governance system. However, the employment of an AML compliance officer is theoretically not related to the level of audit fees, and this makes *AMLCO* being a valid IV.

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<sup>18</sup> For more information regarding the responsibilities of an AML compliance officer, refer to: <https://www.austrac.gov.au/business/how-comply-guidance-and-resources/amlctf-programs/compliance-officers>

The first-stage regression model tests the relationship between the existence of an AML compliance officer (*AMLCO*) and firm whistleblower governance (*WBG1* and *WBG2*). The second-stage regression model is estimated as follows:

$$AFEE_{it} = \gamma_{it} + \gamma_2 AMLCO_{it} + \gamma_{2-2l} CONTROLS_{it} + YEAR\_FE + \varepsilon_{it}, \quad (6)$$

Panel A Table 11, shows that our IV (*AMLCO*) is, as expected, positively and significantly correlated with *WBG1* and *WBG2* at  $p < 0.01$ . Post-estimation tests such as the under-identification test, weak identification test, over-identification test and endogeneity test all reveal the suitability of our IV (Table 11, Panel B). We find that the coefficients of *WBG1* and *WBG2* in the second-stage regression model (Table 11, Panel C) are significantly negatively related to *AFEE* ( $p < 0.05$ ). Therefore, H1 is further supported by our 2SLS regression results.

**[Insert Table 10 Here]**

### 7.3 Propensity Score Matching (PSM) analysis

Following prior research (Armstrong et al. 2012, Lennox et al. 2013), we conduct propensity score (PSM) matching analysis to mitigate concerns that our regression coefficients could be biased owing to self-selection bias. In line with Shipman et al. (2017), we include all control variables in the logit regression in order to compute a propensity score or predicted value for each firm-year observation. Our dependent variable *WBG\_Dum* is coded 1 if a firm exhibits strength in whistleblower governance greater than the median, and 0 otherwise. The propensity scores are then matched across the treatment (firm-year observations with *WBG\_Dum* equal to 1) and the control groups (firm-year observations with *WBG\_Dum* equal to 0). Based on the nearest-neighbour (without replacement) matching process (e.g. Austin 2011), the treatment and control firm-year observations are matched based on comparable propensity scores.<sup>19</sup> One of the advantages of PSM is that this technique can be used to assess if the covariate

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<sup>19</sup> In additional tests, we also undertake kernel and radius matching and our findings remain consistent to our nearest neighbour matched sample and baseline results. These additional tests are untabulated for the sake of brevity.

distributions between the treatment group and control group are comparable following matching (Ho et al. 2007; Hainmueller 2012). Table 12, Panel A show that the covariates between the treatment and control groups following the matching process are non-significant except for *NON\_AUD\_FEE*. Following Shipman et al. (2017), we include this variable in our second stage regression.<sup>20</sup> It is found that the coefficients of *WBG1* and *WBG2* are significantly negatively related to *AFEE* ( $p < 0.1$ ), indicating that a firm with strength in whistleblower governance tends to have lower audit fees (Table 12, Panel B). These empirical findings further support H1. We also find consistent results in terms of direction and significance with our control variables to that in our baseline regression results (Table 4).

**[Insert Table 12 Here]**

## **8.0 Conclusions**

Firm whistleblower governance has emerged as one of the most effective ways of exposing fraud and other forms of misconduct within firms, making it an innovation in corporate governance control. Using a sample of Australian publically financial listed firms, we find that firms exhibiting strong whistleblower governance incur significantly lower audit fees, indicating that whistleblower governance is an element of corporate risk management. This research provides evidence that auditors assess the effectiveness of whistleblower governance systems in place to assess the audit risk and business risk of engaging with a client as these factors would likely alter the nature and scope of an audit (Kuang et al. 2021). In particular, we have provided insights into the relationship between an effective whistleblower system and audit fees for firms based on audit risk and business risk, existence of an anti-money laundering system in place, whether the firms are audited by a Big4 auditor, whether they show evidence of a trading misconduct and if they have been issued with a clean audit report. In doing so, we

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<sup>20</sup> In a separate test, we omitted *NON\_AUD\_FEE* from the logit regression. We find consistent evidence that audit fees and strength in whistleblower governance are significantly and negatively related.

provide a more nuanced study of the factors that could impact auditors perception of audit risk and business risk.

Our results are consistent with the predictions of agency theory and organisational justice theory, in that auditors charge fees based on their clients' policies and procedures for transparency and anti-fraud. Moreover, following litigation or insurance lawsuits, increased audit fees by auditors is not accompanied by a corresponding increase in litigation risk for firms with strong whistleblower governance. This evidence indicates that reputational concerns may not prevent auditors from accepting audits of firms that have been sued. We also find that better corporate governance structures, such as the existence of anti-fraud policies magnify the negative association of audit fees and whistleblower governance. The findings of this paper give rise to significant policy implications. The DID, 2SLS and PSM tests confirm the robustness of our findings.

## Appendix A: Variable Definitions

Variables	Variable Description
<b>Independent Variables</b>	
<i>WBG1</i>	The sum of the five whistleblower characteristics that were used to generate <i>WBG1</i> ( <i>WBGD</i> , <i>WBGO</i> , <i>WBCAB</i> , <i>WBTC</i> and <i>WBHL</i> ), scaled by the total expected score of these five variables.
<i>WBG2</i>	Factor Analysis of whistleblower governance, an eigenvalue obtained from five <i>WBGD</i> characteristics: whistleblower policy disclosure ( <i>WBGD</i> ), whistleblower protection officer ( <i>WBGO</i> ), whistleblower reported whistleblowing cases to the auditor or board of directors ( <i>WBCAB</i> ), whistleblower training ( <i>WBTC</i> ) and whistleblower hotline ( <i>WBHL</i> ).
<b>Dependent Variables</b>	
<i>AFEE</i>	The natural logarithm of audit fees
<b>Moderator Variables (used in the main analyses)</b>	
<i>LAWSUIT</i>	A dummy variable assigned a value of one if there is at least one litigation lawsuit filed against the company during the year <i>t</i> period, and zero otherwise.
<i>INSUR</i>	A dummy variable assigned a value of one if there is at least one insurance lawsuit filed against the company during the year <i>t</i> period, and zero otherwise.
<i>ANTFRD</i>	An indicator variable that equals one if the firm adopts an anti-fraud policy, zero otherwise.
<b>Control Variables</b>	
<i>SIZE</i>	The natural logarithm of total assets.
<i>LOSS</i>	A dummy variable, coded 1 if the corporation has net income less than zero, and 0 otherwise.
<i>ROA</i>	Return on assets, measured as net income scaled by total assets.
<i>SECURITIES</i>	Total securities scaled by total assets.
<i>COM_LOAN</i>	The sum of commercial and agricultural loans scaled by gross loans.
<i>CAP_RATIO</i>	Total risk-adjusted capital ratio.
<i>INTANG</i>	Intangible assets scaled by total assets.
<i>BIG4</i>	A dummy variable, coded 1 if the corporation is audited by a Big4 audit firm, and 0 otherwise.
<i>CEO_TENURE</i>	The natural logarithm of the number of years that the CEO has been chief executive officer of the corporation.
<i>BD_Exprts</i>	The proportion of financial experts on the board scaled by total board members.
<i>GNDR_BD</i>	The proportion of female directors on the board scaled by total board members.
<i>AUD_GEND</i>	A dummy variable, coded 1 if auditor is female, and 0 otherwise.
<i>NON_AUD_FEE</i>	The natural logarithm of non-audit fees.
<i>BD_SIZE</i>	The natural logarithm of the number of members on the board of directors.
<i>BD_IND</i>	The proportion of board members that are independent directors.
<i>AUD_IND</i>	The proportion of independent members on audit committee.
<i>RISK_IND</i>	The proportion of independent members on risk committee.
<i>AUD_CHNG</i>	A dummy variable, coded 1 if the corporation has changed its audit firm from <i>t-1</i> to <i>t-0</i> , and 0 otherwise.
<i>M&amp;A</i>	A dummy variable coded 1 if the corporation is engaged in a merger or acquisition, and 0 otherwise.
<i>SUB</i>	The natural logarithm of total number of subsidiaries.



## Appendix B: Australia regulations to protect whistleblowers

<i>Law</i>	<i>Description</i>
The Corporations Act 2001	<ul style="list-style-type: none"> <li>• For the private sector</li> <li>• A person is protected if they are an officer, employee, or contractor of the company who reports breaches of corporation legislation in good faith</li> </ul>
Public Interest Disclosure Act 2013	<ul style="list-style-type: none"> <li>• Commonwealth law which come into effect in 2014</li> <li>• Protects against reprisals and outlines procedures for whistleblowers reporting misconduct and wrongdoing in the federal public sector</li> </ul>
Fair Work Act 2009/ Fair Work (Registered Organisations) Act 2009	<ul style="list-style-type: none"> <li>• Protections are offered to employees who make an inquiry, complaint or other “workplace right” against retaliation from their employer</li> </ul>
Occupational Health and Safety Acts	<ul style="list-style-type: none"> <li>• State legislation that protects employees against retaliatory actions when concerns are raised regarding workplace safety</li> </ul>
State and Territory legislation provides protections for whistleblowers in the public	<ul style="list-style-type: none"> <li>• The Protected Disclosures Act 1994 (NSW)</li> <li>• Whistleblowers Protection Act 2001 and the Protected Disclosure Act 2012 (Victoria)</li> <li>• Public Interest Disclosures Act 2002 (Tasmania)</li> <li>• Public Interest Disclosure Act 2008 (Northern Territory)</li> <li>• Public Interest Disclosure Act 2010 (Queensland)</li> <li>• Whistleblowers Protection Act 1993 and the Public Interest Disclosure Act 2018 (South Australia)</li> <li>• Public Interest Disclosure Act 2012 (Australian Capital Territory)</li> <li>• Public Interest Disclosure Act 2003 (Western Australia)</li> </ul>
Whistleblowers in industry specific legislation	<ul style="list-style-type: none"> <li>• Insurance Act 1973,</li> <li>• The Banking Act 1959,</li> <li>• The Superannuation Industry Act 1993,</li> <li>• The Life Insurance Act 1995</li> </ul>
Enhancing Whistleblower Protections Act 2019	<ul style="list-style-type: none"> <li>• To protect whistleblowers in the private sector</li> <li>• Whistleblowers are able to make anonymous protected disclosures</li> </ul>

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**Table 1 Panel A: Sample Selection**

Number of firm-year observations over the 2008-2018 period	2,310
<i>Exclusions:</i>	
- Foreign incorporated firms	(79)
- Missing corporate governance & control data	(987)
Total sample	1,244

**Table 1 Panel B: Sample Distribution by year**

Year	Freq.	Percent	Cum.
2008	93	7.48	7.48
2009	96	7.72	15.19
2010	101	8.12	23.31
2011	99	7.96	31.27
2012	99	7.96	39.23
2013	103	8.28	47.51
2014	114	9.16	56.67
2015	129	10.37	67.04
2016	132	10.61	77.65
2017	139	11.17	88.83
2018	139	11.17	100
Total	1,244	100	

**Table 2: Factor Analysis**

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor analysis for whistleblowing governance				
WBGD	3.219	2.370	0.644	0.644
WBGO	0.849	0.308	0.170	0.814
WBCAB	0.541	0.275	0.108	0.922
WBTC	0.266	0.142	0.053	0.975
WBHL	0.124	.	0.025	1.000

Variable	Factor1	Uniqueness
WBGD	0.8745	0.2352
WBGO	0.8898	0.2083
WBCAB	0.8548	0.2693
WBTC	0.5732	0.6715
WBHL	0.7767	0.3967

Factor rotation matrix

	Factor1
Factor1	1

**Table 3 Panel A: Descriptive Statistics**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>S.D.</b>	<b>Min</b>	<b>0.25</b>	<b>0.5</b>	<b>0.75</b>	<b>Max</b>
<i>AFEE</i>	1244	11.91	1.83	0.00	10.71	11.56	12.59	18.30
<i>WBG1</i>	1244	0.17	0.29	0.00	0.00	0.00	0.20	1.00
<i>WBG2</i>	1244	0.03	1.02	-0.56	-0.56	-0.56	0.14	3.22
<i>LAWSUIT</i>	1244	0.13	0.34	0.00	0.00	0.00	0.00	1.00
<i>INSUR</i>	1244	0.08	0.28	0.00	0.00	0.00	0.00	1.00
<i>ANTFRD</i>	1244	0.18	0.39	0.00	0.00	0.00	0.00	1.00
<i>SIZE</i>	1244	18.95	3.05	9.84	17.02	18.76	20.33	27.61
<i>LOSS</i>	1244	0.23	0.42	0.00	0.00	0.00	0.00	1.00
<i>ROA</i>	1244	-0.53	11.64	-405.12	-0.04	0.02	0.06	1.31
<i>SECURITIES</i>	1244	0.49	0.50	0.00	0.00	0.00	1.00	1.00
<i>COM_LOAN</i>	1244	0.08	0.22	0.00	0.00	0.00	0.00	0.97
<i>CAP_RATIO</i>	1244	12.70	36.03	-4.61	0.00	1.39	7.91	352.88
<i>INTANG</i>	1244	0.08	0.16	0.00	0.00	0.00	0.06	0.71
<i>BIG4</i>	1244	0.54	0.50	0.00	0.00	1.00	1.00	1.00
<i>CEO_TENURE</i>	1244	1.13	0.92	0.00	0.00	1.10	1.79	3.37
<i>BD_Exprts</i>	1244	0.23	0.24	0.00	0.00	0.20	0.33	2.00
<i>GNDR_BD</i>	1244	0.08	0.14	0.00	0.00	0.00	0.17	1.50
<i>AUD_GEND</i>	1244	0.85	0.35	0.00	1.00	1.00	1.00	1.00
<i>NON_AUD_FEE</i>	1244	8.56	4.93	0.00	8.01	9.99	11.69	15.85
<i>BD_SIZE</i>	1244	1.57	0.39	0.00	1.39	1.61	1.79	3.18
<i>BD_IND</i>	1244	0.74	0.28	0.00	0.60	0.80	1.00	1.33
<i>AUD_IND</i>	1244	0.61	0.49	0.00	0.00	1.00	1.00	1.00
<i>RISK_IND</i>	1244	0.53	0.50	0.00	0.00	1.00	1.00	1.00
<i>AUD_CHNG</i>	1244	0.08	0.27	0.00	0.00	0.00	0.00	1.00
<i>M&amp;A</i>	1244	0.10	0.30	0.00	0.00	0.00	0.00	1.00
<i>SUB</i>	1244	0.81	1.18	0.00	0.00	0.00	1.39	5.11

All variables are defined in Appendix A.

**Table 3 Panel B: Whistleblower Governance items - descriptive statistics**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>S.D.</b>	<b>Min</b>	<b>0.25</b>	<b>0.5</b>	<b>0.75</b>	<b>Max</b>
<i>WBGD</i>	1244	0.29	0.45	0.00	0.00	0.00	1.00	1.00
<i>WBGO</i>	1244	0.23	0.42	0.00	0.00	0.00	0.00	1.00
<i>WBCAB</i>	1244	0.19	0.39	0.00	0.00	0.00	0.00	1.00
<i>WBTC</i>	1244	0.05	0.22	0.00	0.00	0.00	0.00	1.00
<i>WBHL</i>	1244	0.09	0.29	0.00	0.00	0.00	0.00	1.00

**Table 4: The association between whistleblower governance and audit fees**

VARIABLES	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
	<i>AFEE</i>		<i>AFEE</i>	
<i>Constant</i>	8.157*** (15.53)	8.083*** (15.33)	12.009*** (101.36)	11.961*** (112.40)
<b><i>WBG1</i></b>	<b>-0.427*** (-3.45)</b>		<b>-0.291* (-1.81)</b>	
<b><i>WBG2</i></b>		<b>-0.113*** (-3.44)</b>		<b>-0.076* (-1.79)</b>
<i>SIZE</i>	0.179*** (7.29)	0.179*** (7.27)		
<i>LOSS</i>	0.085** (2.11)	0.086** (2.14)		
<i>ROA</i>	-0.001*** (-2.59)	-0.001** (-2.54)		
<i>SECURITIES</i>	-0.129 (-1.18)	-0.129 (-1.17)		
<i>COM_LOAN</i>	-0.194 (-1.06)	-0.191 (-1.05)		
<i>CAP_RATIO</i>	-0.001* (-1.67)	-0.001* (-1.67)		
<i>INTANG</i>	0.555*** (3.37)	0.553*** (3.35)		
<i>BIG4</i>	0.186** (2.56)	0.187** (2.57)		
<i>CEO_TENURE</i>	-0.016 (-0.37)	-0.017 (-0.37)		
<i>BD_Exprts</i>	-0.152 (-1.24)	-0.150 (-1.23)		
<i>GNDR_BD</i>	0.011 (0.05)	0.008 (0.03)		
<i>AUD_GEND</i>	0.108** (2.05)	0.108** (2.05)		
<i>NON_AUD_FEE</i>	0.032** (2.12)	0.032** (2.13)		
<i>BD_SIZE</i>	-0.037 (-0.33)	-0.036 (-0.31)		
<i>BD_IND</i>	0.130 (0.76)	0.136 (0.78)		
<i>AUD_IND</i>	0.096* (1.68)	0.095* (1.66)		
<i>RISK_IND</i>	-0.062 (-0.98)	-0.063 (-1.00)		
<i>AUD_CHNG</i>	-0.123** (-2.50)	-0.124** (-2.52)		
<i>M&amp;A</i>	0.019 (0.35)	0.018 (0.34)		
<i>SUB</i>	0.168*** (4.77)	0.165*** (4.67)		
<i>YEAR FE</i>	YES	YES	YES	YES
<i>N</i>	1,244	1,244	1,388	1,388
<i>Adj. R-sq</i>	0.916	0.916	0.770	0.770

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 5: The moderation effects of litigation lawsuits and insurance lawsuits on the association between whistleblower governance and audit fees**

VARIABLES	Model 1	Model 2	Model 3	Model 4
	<i>AFEE</i>		<i>AFEE</i>	
<i>Constant</i>	8.084*** (16.92)	8.019*** (16.73)	8.070*** (16.79)	8.015*** (16.60)
<b><i>WBG1</i></b>	<b>-0.390***</b> <b>(-3.02)</b>		<b>-0.347***</b> <b>(-2.70)</b>	
<b><i>WBG2</i></b>		<b>-0.103***</b> <b>(-3.01)</b>		<b>-0.091***</b> <b>(-2.67)</b>
<i>LAWSUIT</i>	0.099* (1.80)	0.062 (1.39)		
<i>INSUR</i>			0.164** (1.99)	0.085 (1.05)
<b><i>WBG1*LAWSUIT</i></b>	<b>-0.199*</b> <b>(-1.71)</b>			
<b><i>WBG2*LAWSUIT</i></b>		<b>-0.046</b> <b>(-1.48)</b>		
<b><i>WBG1*INSUR</i></b>			<b>-0.438***</b> <b>(-2.64)</b>	
<b><i>WBG2*INSUR</i></b>				<b>-0.102**</b> <b>(-2.44)</b>
<i>SIZE</i>	0.182*** (8.01)	0.182*** (7.97)	0.182*** (7.95)	0.181*** (7.91)
<i>LOSS</i>	0.080** (2.08)	0.081** (2.11)	0.079** (2.07)	0.081** (2.10)
<i>ROA</i>	-0.001*** (-2.59)	-0.001** (-2.55)	-0.001** (-2.55)	-0.001** (-2.50)
<i>SECURITIES</i>	-0.050 (-0.97)	-0.049 (-0.96)	-0.043 (-0.87)	-0.043 (-0.87)
<i>COM_LOAN</i>	-0.176 (-1.02)	-0.176 (-1.02)	-0.168 (-0.99)	-0.169 (-1.00)
<i>CAP_RATIO</i>	-0.002** (-2.06)	-0.002** (-2.06)	-0.002** (-2.09)	-0.002** (-2.10)
<i>INTANG</i>	0.556*** (3.48)	0.555*** (3.47)	0.556*** (3.48)	0.556*** (3.48)
<i>BIG4</i>	0.196*** (2.80)	0.197*** (2.81)	0.195*** (2.79)	0.197*** (2.81)
<i>CEO_TENURE</i>	0.019 (0.82)	0.019 (0.79)	0.018 (0.77)	0.017 (0.74)
<i>BD_Exprts</i>	-0.097 (-1.00)	-0.096 (-0.99)	-0.082 (-0.85)	-0.084 (-0.86)
<i>GNDR_BD</i>	-0.034 (-0.23)	-0.038 (-0.26)	-0.023 (-0.15)	-0.028 (-0.19)
<i>AUD_GEND</i>	0.078* (1.76)	0.079* (1.79)	0.077* (1.77)	0.078* (1.78)
<i>NON_AUD_FEE</i>	0.019** (2.28)	0.019** (2.29)	0.019** (2.34)	0.019** (2.34)
<i>BD_SIZE</i>	0.048 (0.65)	0.049 (0.67)	0.052 (0.71)	0.053 (0.72)
<i>BD_IND</i>	0.017 (0.13)	0.023 (0.18)	0.022 (0.17)	0.028 (0.22)
<i>AUD_IND</i>	0.081 (1.52)	0.080 (1.50)	0.082 (1.53)	0.080 (1.50)
<i>RISK_IND</i>	-0.043 (-0.74)	-0.045 (-0.76)	-0.039 (-0.68)	-0.041 (-0.70)
<i>AUD_CHNG</i>	-0.132*** (-2.77)	-0.133*** (-2.78)	-0.133*** (-2.80)	-0.133*** (-2.80)



<i>M&amp;A</i>	0.025 (0.50)	0.025 (0.50)	0.021 (0.42)	0.021 (0.42)
<i>SUB</i>	0.159*** (4.64)	0.157*** (4.56)	0.162*** (4.72)	0.159*** (4.62)
<i>YEAR FE</i>	YES	YES	YES	YES
<i>N</i>	1,244	1,244	1,244	1,244
<i>Adj. R-sq</i>	0.946	0.946	0.946	0.946

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 6: The moderation effect of anti-fraud policy disclosure on the association between whistleblower governance and audit fees**

VARIABLES	<i>Model 1</i>		<i>Model 2</i>	
	<i>AFEE</i>		<i>AFEE</i>	
<i>Constant</i>	7.985*** (16.70)		7.900*** (16.47)	
<b><i>WBG1</i></b>	<b>-0.460** (-2.49)</b>			
<b><i>WBG2</i></b>			<b>-0.091** (-2.04)</b>	
<i>ANTFRD</i>	0.378*** (3.02)		0.414*** (3.31)	
<b><i>WBG1*ANTFRD</i></b>	<b>-0.156 (-0.79)</b>			
<b><i>WBG2*ANTFRD</i></b>			<b>-0.101** (-2.27)</b>	
<i>SIZE</i>	0.187*** (8.20)		0.187*** (8.16)	
<i>LOSS</i>	0.074* (1.87)		0.078** (1.97)	
<i>ROA</i>	-0.046* (-1.73)		-0.044* (-1.69)	
<i>SECURITIES</i>	-0.033 (-0.69)		-0.032 (-0.68)	
<i>COM_LOAN</i>	-0.262 (-1.48)		-0.257 (-1.45)	
<i>CAP_RATIO</i>	-0.001* (-1.83)		-0.001* (-1.76)	
<i>INTANG</i>	0.523*** (3.42)		0.522*** (3.43)	
<i>BIG4</i>	0.189*** (2.78)		0.192*** (2.83)	
<i>CEO_TENURE</i>	0.019 (0.82)		0.020 (0.89)	
<i>BD_Exprts</i>	-0.096 (-1.01)		-0.090 (-0.95)	
<i>GNDR_BD</i>	-0.049 (-0.33)		-0.053 (-0.36)	
<i>AUD_GEND</i>	0.082* (1.89)		0.085** (1.98)	
<i>NON_AUD_FEE</i>	0.018** (2.26)		0.019** (2.28)	
<i>BD_SIZE</i>	0.022 (0.30)		0.030 (0.39)	
<i>BD_IND</i>	0.000 (0.00)		0.004 (0.03)	

<i>AUD_IND</i>	0.096*	0.088
	(1.79)	(1.64)
<i>RISK_IND</i>	-0.045	-0.043
	(-0.80)	(-0.77)
<i>AUD_CHNG</i>	-0.119**	-0.121**
	(-2.50)	(-2.53)
<i>M&amp;A</i>	0.026	0.019
	(0.51)	(0.37)
<i>SUB</i>	0.160***	0.150***
	(4.69)	(4.35)
<i>YEAR FE</i>	YES	YES
<i>N</i>	1,244	1,244
<i>Adj. R-sq</i>	0.947	0.947

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 7: The effect of Earnings/ROA Volatility**

VARIABLES	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
	<i>AFEE</i>		<i>AFEE</i>	
<i>Constant</i>	8.838***	8.809***	7.060***	6.742***
	(12.40)	(12.28)	(10.59)	(10.99)
<b><i>WBG1</i></b>	<b>-0.227*</b>		<b>-0.352***</b>	
	<b>(-1.81)</b>		<b>(-2.67)</b>	
<b><i>WBG2</i></b>		<b>-0.057*</b>		<b>-0.106***</b>
		<b>(-1.72)</b>		<b>(-3.18)</b>
<b>Vol(Earnings)</b>	0.022***	0.019***		
	(3.04)	(2.80)		
<b>Vol(ROA)</b>			0.116	-0.000
			(1.59)	(-1.28)
<b><i>WBG1_Vol(Stock return)</i></b>	<b>-0.025*</b>			
	<b>(-1.74)</b>			
<b><i>WBG2_Vol(Stock return)</i></b>		<b>-0.007*</b>		
		<b>(-1.84)</b>		
<b><i>WBG1_Vol(Earnings)</i></b>			<b>-2.287***</b>	
			<b>(-3.38)</b>	
<b><i>WBG2_Vol(Earnings)</i></b>				<b>-0.258**</b>
				<b>(-2.14)</b>
<i>SIZE</i>	0.110***	0.110***	0.224***	0.237***
	(3.21)	(3.19)	(7.12)	(8.21)
<i>LOSS</i>	0.080*	0.080*	0.079*	0.083*
	(1.86)	(1.87)	(1.83)	(1.92)
<i>ROA</i>	-0.001**	-0.001*	-0.001**	-0.001**
	(-2.01)	(-1.96)	(-2.20)	(-2.17)
<i>SECURITIES</i>	-0.046	-0.045	-0.023	-0.026
	(-0.99)	(-0.97)	(-0.51)	(-0.56)
<i>COM_LOAN</i>	-0.189	-0.185	-0.306*	-0.322*
	(-1.17)	(-1.14)	(-1.73)	(-1.80)
<i>CAP_RATIO</i>	-0.001	-0.001	-0.001	-0.001
	(-1.54)	(-1.52)	(-1.56)	(-1.43)
<i>INTANG</i>	0.837***	0.836***	0.644***	0.669***
	(3.26)	(3.26)	(3.69)	(3.83)
<i>BIG4</i>	0.185**	0.185**	0.172**	0.197**
	(2.23)	(2.24)	(2.19)	(2.52)
<i>CEO_TENURE</i>	0.010	0.010	0.020	0.020
	(0.47)	(0.46)	(0.95)	(0.95)
<i>BD_Exprts</i>	0.024	0.026	-0.076	-0.089
	(0.21)	(0.22)	(-0.72)	(-0.84)

<i>GNDR_BD</i>	0.035 (0.22)	0.033 (0.21)	-0.090 (-0.59)	-0.116 (-0.75)
<i>AUD_GEND</i>	0.062 (1.39)	0.062 (1.40)	0.043 (1.00)	0.045 (1.05)
<i>NON_AUD_FEE</i>	0.018* (1.77)	0.018* (1.78)	0.009 (0.94)	0.009 (0.95)
<i>BD_SIZE</i>	0.136* (1.92)	0.137* (1.94)	0.020 (0.29)	0.011 (0.17)
<i>BD_IND</i>	0.271* (1.91)	0.275* (1.94)	0.149 (1.07)	0.146 (1.07)
<i>AUD_IND</i>	0.045 (0.73)	0.044 (0.71)	0.067 (1.15)	0.066 (1.13)
<i>RISK_IND</i>	-0.076 (-1.09)	-0.076 (-1.09)	-0.054 (-0.74)	-0.047 (-0.64)
<i>AUD_CHNG</i>	-0.129** (-2.32)	-0.129** (-2.32)	-0.133** (-2.57)	-0.151*** (-2.96)
<i>M&amp;A</i>	0.035 (0.59)	0.035 (0.59)	0.060 (1.04)	0.062 (1.06)
<i>SUB</i>	0.148*** (4.37)	0.146*** (4.27)	0.165*** (4.54)	0.165*** (4.46)
<i>YEAR FE</i>	YES	YES	YES	YES
<i>N</i>	938	938	1,043	1,043
<i>Adj. R-sq</i>	0.956	0.956	0.954	0.954

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 8: The effect of Big4 vs non-Big4 Auditor**

VARIABLES	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
	<i>AFEE</i>		<i>AFEE</i>	
	<i>BIG4=1</i>	<i>BIG4=0</i>	<i>BIG4=1</i>	<i>BIG4=0</i>
<i>Constant</i>	9.395*** (8.44)	7.277*** (10.80)	9.311*** (8.33)	7.217*** (10.67)
<b><i>WBG1</i></b>	<b>-0.436** (-2.42)</b>	<b>-0.351* (-1.88)</b>		
<b><i>WBG2</i></b>			<b>-0.123** (-2.57)</b>	<b>-0.082* (-1.73)</b>
<i>SIZE</i>	0.115* (1.91)	0.197*** (6.52)	0.115* (1.91)	0.198*** (6.51)
<i>LOSS</i>	0.086 (1.29)	0.041 (0.86)	0.088 (1.32)	0.041 (0.87)
<i>ROA</i>	-0.001 (-1.12)	-0.006 (-1.13)	-0.001 (-1.07)	-0.006 (-1.13)
<i>SECURITIES</i>	-0.222 (-1.23)	0.012 (0.17)	-0.219 (-1.21)	0.009 (0.12)
<i>COM_LOAN</i>	-0.067 (-0.19)	-0.217 (-0.86)	-0.064 (-0.18)	-0.209 (-0.84)
<i>CAP_RATIO</i>	-0.000 (-0.19)	-0.003** (-2.52)	-0.000 (-0.18)	-0.003** (-2.52)
<i>INTANG</i>	0.390 (1.10)	0.497** (2.19)	0.392 (1.11)	0.499** (2.19)
<i>CEO_TENURE</i>	-0.056	0.049	-0.056	0.048

	(-0.69)	(1.56)	(-0.69)	(1.53)
<i>BD_Exprts</i>	-0.226	-0.019	-0.224	-0.019
	(-1.09)	(-0.12)	(-1.07)	(-0.12)
<i>GNDR_BD</i>	0.005	-0.053	0.007	-0.049
	(0.01)	(-0.23)	(0.02)	(-0.21)
<i>AUD_GEND</i>	0.079	0.138**	0.079	0.137**
	(0.87)	(2.08)	(0.87)	(2.07)
<i>NON_AUD_FEE</i>	0.064	0.026**	0.064	0.026**
	(1.38)	(2.03)	(1.38)	(2.03)
<i>BD_SIZE</i>	-0.019	0.108	-0.014	0.108
	(-0.10)	(1.17)	(-0.07)	(1.17)
<i>BD_IND</i>	0.638	-0.118	0.646	-0.117
	(1.55)	(-0.72)	(1.57)	(-0.72)
<i>AUD_IND</i>	0.127	0.063	0.126	0.062
	(1.10)	(1.01)	(1.09)	(0.98)
<i>RISK_IND</i>	-0.204*	0.051	-0.204*	0.051
	(-1.88)	(0.55)	(-1.89)	(0.56)
<i>AUD_CHNG</i>	-0.128	-0.110**	-0.128	-0.111**
	(-0.90)	(-2.07)	(-0.89)	(-2.09)
<i>M&amp;A</i>	0.157*	-0.081	0.157*	-0.084
	(1.68)	(-1.11)	(1.68)	(-1.14)
<i>SUB</i>	0.119**	0.182***	0.115**	0.184***
	(2.18)	(3.60)	(2.12)	(3.64)
<i>YEAR FE</i>	YES	YES	YES	YES
<i>N</i>	647	597	647	597
<i>Adj. R-sq</i>	0.905	0.913	0.905	0.913

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 9: Effect of trading misconduct and a clean audit report**

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Trading misconduct				Modified/unmodified (Mod/Unmod) audit opinion			
	<i>TrdMis=1</i>	<i>TrdMis=0</i>	<i>TrdMis=1</i>	<i>TrdMis=0</i>	<i>Unmod</i>	<i>Mod</i>	<i>Unmod</i>	<i>Mod</i>
<i>Constant</i>	8.776 (0.61)	7.880*** (15.30)	8.145 (0.58)	7.805*** (15.06)	8.553*** (7.92)	15.659*** (5.03)	8.441*** (7.79)	15.191*** (5.01)
<i>WBG1</i>	-4.358 (-1.38)	-0.446*** (-3.61)			-0.641*** (-4.46)	-3.428 (-0.90)		
<i>WBG2</i>			-1.049 (-1.35)	-0.119*** (-3.63)			-0.173*** (-4.50)	-0.761 (-0.90)
<i>SIZE</i>	-0.139 (-0.23)	0.187*** (7.85)	-0.154 (-0.26)	0.186*** (7.81)	0.120** (2.16)	-0.278 (-1.39)	0.120** (2.16)	-0.278 (-1.39)
<i>LOSS</i>	-0.762 (-1.29)	0.083** (2.12)	-0.779 (-1.30)	0.085** (2.15)	0.153* (1.96)	-1.035 (-1.49)	0.156** (1.98)	-1.035 (-1.49)
<i>ROA</i>	-0.350 (-1.44)	-0.001*** (-2.78)	-0.339 (-1.41)	-0.001*** (-2.72)	-0.002** (-2.35)	0.032 (1.05)	-0.001** (-2.30)	0.032 (1.05)
<i>SECURITIES</i>	-3.151** (-2.44)	0.016 (0.34)	-3.075** (-2.45)	0.016 (0.33)	-0.004 (-0.03)	-1.325* (-1.99)	-0.003 (-0.03)	-1.325* (-1.99)
<i>COM_LOAN</i>	3.235 (0.54)	-0.221 (-1.22)	3.231 (0.53)	-0.219 (-1.21)	-0.223 (-1.01)	-0.518 (-0.19)	-0.219 (-0.99)	-0.518 (-0.19)
<i>CAP_RATIO</i>	-0.027	-0.002**	-0.028	-0.002**	-0.001	-0.085	-0.001	-0.085

<i>INTANG</i>	(-1.25) -0.816 (-0.71)	(-2.37) 0.593*** (3.29)	(-1.24) -0.851 (-0.74)	(-2.37) 0.591*** (3.27)	(-1.40) 0.631*** (3.26)	(-1.73) -2.105 (-0.54)	(-1.40) 0.626*** (3.24)	(-1.73) -2.105 (-0.54)
<i>BIG4</i>	1.305 (1.65)	0.163** (2.23)	1.297 (1.61)	0.164** (2.23)	0.094 (0.58)	0.302 (0.61)	0.095 (0.58)	0.302 (0.61)
<i>CEO_TENURE</i>	-0.545* (-1.76)	0.040* (1.82)	-0.528* (-1.75)	0.039* (1.80)	-0.004 (-0.07)	-0.100 (-0.36)	-0.004 (-0.08)	-0.100 (-0.36)
<i>BD_Experts</i>	0.560 (0.75)	-0.079 (-0.81)	0.539 (0.71)	-0.078 (-0.79)	-0.121 (-0.76)	1.341 (0.69)	-0.118 (-0.74)	1.341 (0.69)
<i>GNDR_BD</i>	0.307 (0.32)	-0.130 (-0.84)	0.313 (0.32)	-0.135 (-0.87)	0.440 (1.37)	-2.148 (-0.75)	0.436 (1.36)	-2.148 (-0.75)
<i>AUD_GEND</i>	0.625 (1.06)	0.082* (1.81)	0.654 (1.10)	0.083* (1.82)	0.191*** (3.14)	0.020 (0.04)	0.191*** (3.15)	0.020 (0.04)
<i>NON_AUD_FEE</i>	0.178* (2.04)	0.018** (1.97)	0.180** (2.07)	0.019** (1.98)	0.044*** (2.64)	0.121** (2.41)	0.044*** (2.65)	0.121** (2.41)
<i>BD_SIZE</i>	-0.223 (-0.25)	0.060 (0.82)	-0.202 (-0.23)	0.062 (0.84)	-0.118 (-0.93)	-0.095 (-0.17)	-0.116 (-0.91)	-0.095 (-0.17)
<i>BD_IND</i>	11.169*** (2.92)	-0.015 (-0.11)	11.294*** (2.95)	-0.010 (-0.08)	1.031*** (2.98)	2.991 (1.72)	1.038*** (3.00)	2.991 (1.72)
<i>AUD_IND</i>	0.091 (0.11)	0.084 (1.52)	-0.002 (-0.00)	0.084 (1.51)	0.164** (2.31)	-1.146 (-0.96)	0.163** (2.29)	-1.146 (-0.96)
<i>RISK_IND</i>	-0.781 (-0.94)	-0.048 (-0.81)	-0.753 (-0.91)	-0.050 (-0.84)	-0.158** (-2.00)	-0.827 (-0.92)	-0.160** (-2.01)	-0.827 (-0.92)
<i>AUD_CHNG</i>	0.300 (0.40)	-0.132*** (-2.73)	0.309 (0.41)	-0.134*** (-2.75)	-0.036 (-0.32)	0.395 (1.34)	-0.038 (-0.34)	0.395 (1.34)
<i>M&amp;A</i>	0.008 (0.02)	0.017 (0.30)	0.014 (0.03)	0.016 (0.29)	0.006 (0.09)	0.457 (0.95)	0.006 (0.09)	0.457 (0.95)
<i>SUB</i>	0.232 (0.88)	0.192*** (4.75)	0.221 (0.83)	0.189*** (4.67)	0.182*** (4.42)	2.364* (2.08)	0.178*** (4.30)	2.364* (2.08)
<i>YEAR FE</i>	YES	YES	YES	YES	YES	YES	YES	YES
<i>N</i>	76	1,167	76	1,167	1,233	86	1,233	86
<i>Adj. R-sq</i>	0.924	0.932	0.925	0.932	0.864	0.927	0.864	0.927

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 10: Difference-in-difference (DID) analysis**

VARIABLES	<i>Model 1</i>	<i>Model 2</i>
	<i>AFEE</i>	
<i>Constant</i>	8.164*** (16.06)	8.098*** (15.87)
<i>WBG1</i>	<b>-0.388**</b> (-2.57)	
<i>WBG2</i>		<b>-0.103**</b> (-2.49)
<i>DID</i>	-0.135* (-1.67)	-0.190*** (-2.66)
<i>WBG1*DID</i>	<b>-0.331*</b> (-1.93)	
<i>WBG2*DID</i>		<b>-0.084*</b> (-1.75)
<i>SIZE</i>	0.179*** (7.34)	0.179*** (7.33)
<i>LOSS</i>	0.089 (1.61)	0.090 (1.63)
<i>ROA</i>	-0.001 (-0.76)	-0.001 (-0.75)

<i>SECURITIES</i>	-0.128**	-0.128**
	(-2.16)	(-2.16)
<i>COM_LOAN</i>	-0.206	-0.204
	(-0.77)	(-0.76)
<i>CAP_RATIO</i>	-0.001	-0.001
	(-1.09)	(-1.09)
<i>INTANG</i>	0.545***	0.545***
	(2.86)	(2.86)
<i>BIG4</i>	0.179**	0.180**
	(2.26)	(2.28)
<i>CEO_TENURE</i>	-0.015	-0.016
	(-0.54)	(-0.56)
<i>BD_Exprts</i>	-0.161	-0.160
	(-1.36)	(-1.34)
<i>GNDR_BD</i>	-0.009	-0.009
	(-0.04)	(-0.05)
<i>AUD_GEND</i>	0.109*	0.109*
	(1.66)	(1.66)
<i>NON_AUD_FEE</i>	0.031***	0.032***
	(5.26)	(5.27)
<i>BD_SIZE</i>	-0.051	-0.050
	(-0.56)	(-0.55)
<i>BD_IND</i>	0.125	0.130
	(0.91)	(0.94)
<i>AUD_IND</i>	0.100	0.099
	(1.46)	(1.45)
<i>RISK_IND</i>	-0.056	-0.059
	(-0.78)	(-0.81)
<i>AUD_CHNG</i>	-0.123**	-0.124**
	(-2.04)	(-2.06)
<i>M&amp;A</i>	0.017	0.017
	(0.27)	(0.27)
<i>SUB</i>	0.169***	0.167***
	(3.68)	(3.63)
<i>YEAR FE</i>	YES	YES
<i>N</i>	1,244	1,244
<i>Adj. R-sq</i>	0.916	0.916

All variables are defined in Appendix A. *DID* is an indicator variable which equals to 1 if years are in the period 2014-2018, and 0 otherwise. *DID* is to capture the impact of the *Public Interest Disclosure Act 2013* on the relationship of audit fees and whistleblower governance since the Act was implemented in 2014. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 11: 2SLS analysis**

**Panel A: First-stage regression results**

Variable	Model 1	Model 2
<i>AMLCO</i>	0.239*** (4.84)	0.902*** (4.78)
ALL CONTROLS	Yes	Yes
Intercept	-0.126*** (-1.36)	-1.132*** (-3.42)
IND_FE	Yes	Yes
YEAR_FE	Yes	Yes

**Panel B: Diagnostic statistics**

Description	Model 1	Model 2
<b>1. Under-identification test</b>		
Kleibergen-Paap rk LM statistic	20.385	18.281
Chi-sq(1) <i>P</i> -value	0.000	0.000
<b>2. Weak identification test</b>		
Cragg-Donald Wald F statistic	105.942	97.333
Stock-Yogo (2005) critical value	16.38	16.38
<b>3. Overidentification test</b>		
Hansen J statistic	0.000	0.000
Chi-sq(1) <i>p</i> -value	0.000	0.000
<b>4- Endogeneity test</b>		
Durbin-Wu-Hausman tests	3.151	3.209
Chi-sq(1) <i>P</i> -value	0.0759	0.0732

**Panel C: Second-stage regression results**

VARIABLES	Model 1	Model 2
	<i>AFEE</i>	
<i>Constant</i>	7.758***	7.626***
	-10.62	-10.25
<b><i>WBG1</i></b>	<b>-0.795**</b>	
	<b>(-2.14)</b>	
<b><i>WBG2</i></b>		<b>-0.211**</b>
		<b>(-2.09)</b>
<i>SIZE</i>	0.187***	0.187***
	-5.14	-5.14
<i>LOSS</i>	0.088*	0.091**
	-1.94	-1.99
<i>ROA</i>	-0.001***	-0.001***
	(-2.91)	(-2.87)
<i>SECURITIES</i>	-0.128	-0.127
	(-0.96)	(-0.96)
<i>COM_LOAN</i>	-0.246	-0.242
	(-1.08)	(-1.05)
<i>CAP_RATIO</i>	-0.001	-0.001
	(-1.40)	(-1.40)
<i>INTANG</i>	0.548**	0.543**
	-2.55	-2.51
<i>BIG4</i>	0.172*	0.173*
	-1.75	-1.75
<i>CEO_TENURE</i>	-0.014	-0.015
	(-0.28)	(-0.30)
<i>BD_Exprts</i>	-0.152	-0.149
	(-1.02)	(-0.99)
<i>GNDR_BD</i>	0.029	0.023
	-0.15	-0.12
<i>AUD_GEND</i>	0.106**	0.107**
	-2.11	-2.11
<i>NON_AUD_FEE</i>	0.031*	0.031*
	-1.84	-1.85
<i>BD_SIZE</i>	-0.046	-0.042
	(-0.33)	(-0.30)
<i>BD_IND</i>	0.118	0.128
	-0.5	-0.54
<i>AUD_IND</i>	0.107*	0.106*
	-1.67	-1.65
<i>RISK_IND</i>	-0.069	-0.071

	(-0.87)	(-0.89)
<i>AUD_CHNG</i>	-0.123**	-0.125***
	(-2.57)	(-2.60)
<i>M&amp;A</i>	0.026	0.025
	-0.46	-0.45
<i>SUB</i>	0.169***	0.164***
	-3.52	-3.38
<i>YEAR FE</i>	YES	YES
<i>N</i>	1244	1244
<i>Adj. R-sq</i>	0.55	0.56

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.

**Table 12: Propensity Score Matching (PSM) analysis**

**Panel A: Covariate Balance test**

<i>Variable</i>	<i>Treated</i>	<i>Control</i>	<i>t</i>
<i>SIZE</i>	19.803	19.487	1.45
<i>LOSS</i>	0.120	0.152	-1.12
<i>ROA</i>	0.009	-0.020	1.39
<i>SECURITIES</i>	0.424	0.442	-0.43
<i>COM_LOAN</i>	0.111	0.100	0.53
<i>CAP_RATIO</i>	12.626	11.265	0.59
<i>INTANG</i>	0.135	0.115	1.23
<i>BIG4</i>	0.609	0.587	0.52
<i>CEO_TENURE</i>	1.230	1.300	-0.89
<i>BD_Exprts</i>	0.228	0.217	0.56
<i>GNDR_BD</i>	0.120	0.107	1.04
<i>AUD_GEND</i>	0.859	0.891	-1.16
<i>NON_AUD_FEE</i>	10.269	9.608	1.88
<i>BD_SIZE</i>	1.690	1.701	-0.37
<i>BD_IND</i>	0.813	0.781	1.56
<i>AUD_IND</i>	0.736	0.739	-0.1
<i>RISK_IND</i>	0.743	0.717	0.67
<i>AUD_CHNG</i>	0.087	0.091	-0.15
<i>M&amp;A</i>	0.112	0.087	0.99
<i>SUB</i>	1.029	0.917	1.17

**Panel B: Second stage regression results**

VARIABLES	<i>Model 1</i>	<i>Model 2</i>
	<i>AFEE</i>	
<i>Constant</i>	7.160*** (6.24)	7.079*** (6.13)
<i>WBG1</i>	-0.333* (-1.91)	
<i>WBG2</i>		-0.088* (-1.87)
<i>SIZE</i>	0.241*** (4.04)	0.241*** (4.03)
<i>LOSS</i>	0.128*	0.131*



	(1.72)	(1.75)
<i>ROA</i>	-0.073	-0.071
	(-0.73)	(-0.70)
<i>SECURITIES</i>	-0.151	-0.151
	(-1.49)	(-1.49)
<i>COMLOAN2</i>	0.273	0.276
	(1.10)	(1.11)
<i>COM_LOAN</i>	-0.001	-0.001
	(-0.77)	(-0.77)
<i>INTANG</i>	0.204	0.199
	(0.80)	(0.79)
<i>BIG4</i>	0.137	0.139
	(1.07)	(1.09)
<i>CEO_TENURE</i>	0.000	0.000
	(0.01)	(0.01)
<i>BD_Exprts</i>	-0.087	-0.087
	(-0.55)	(-0.55)
<i>GNDR_BD</i>	-0.093	-0.092
	(-0.47)	(-0.46)
<i>AUD_GEND</i>	0.055	0.056
	(0.67)	(0.68)
<i>NON_AUD_FEE</i>	0.034**	0.034**
	(2.38)	(2.38)
<i>BD_SIZE</i>	-0.121	-0.118
	(-0.92)	(-0.90)
<i>BD_IND</i>	0.151	0.160
	(0.76)	(0.81)
<i>AUD_IND</i>	0.061	0.059
	(0.73)	(0.70)
<i>RISK_IND</i>	0.022	0.021
	(0.26)	(0.24)
<i>AUD_CHNG</i>	-0.131*	-0.132*
	(-1.91)	(-1.92)
<i>M&amp;A</i>	0.014	0.014
	(0.13)	(0.13)
<i>SUB</i>	0.139***	0.136***
	(2.77)	(2.71)
<i>YEAR FE</i>	YES	YES
<i>N</i>	552	552
<i>Adj. R-sq</i>	0.919	0.919

All variables are defined in Appendix A. The *t*-statistics are in parentheses. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5% or 10% level, respectively.