School of Accounting, Economics and Finance

Anti-Money Laundering Disclosure, Income Shifting, Litigation Risks and Audit Fees: Evidence from Financial Institutions

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This thesis is presented for the Degree of

Doctor of Philosophy

of

Curtin University

September 2024

Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

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Abstract

The thesis consists of three essays addressing contemporary challenges faced by financial institutions. Specifically, the essays explore anti-money laundering (AML) disclosure, income shifting, litigation risk, and audit pricing. Tax crime and money laundering activities pose significant threats to financial institutions, and such activities always hide behind obfuscated transactions. The interplay between illicit tax planning activities and money laundering practices can undermine the integrity of financial systems. The economic consequences of such threats should be addressed. Tax avoidance is particularly prevalent in Australia due to the high statutory tax rate, motivating individuals to seek tax planning strategies to lower their tax payments. In China, AML practices have been found to be less effective than those in many developed countries. Therefore, this thesis investigates income shifting and AML challenges and the economic consequences encountered by Australian financial institutions and Chinese institutions separately through the three essays. The thesis has five chapters.

Chapter 1 provides the institutional background for Australia and China, offering insights into the specific characteristics of these two countries that underlie the context of this thesis. This chapter also provides an overview of the three essays, including their results and contributions.

Chapter 2 presents the first essay, titled "Income Shifting and Audit Fees: Evidence from Australian Financial Firms", which investigates whether income shifting is associated with the fees charged by external auditors, using evidence from Australian financial institutions. The findings indicate that firms engaging in income shifting incur higher audit fees. This positive relationship is more evident in firms located in jurisdictions with high financial secrecy and in firms with lower levels of reputation risk, culture-based risk, and conduct-based risk. Additionally, the positive effects of income shifting on audit fees are stronger in firms with subsidiaries in tax haven jurisdictions.

Chapter 3 presents the second essay, titled "Anti-Money Laundering Disclosure and Litigation Risk: Evidence from Financial Institutions", which investigates the impacts of Chinese

financial institutions' AML disclosure on their litigation risk. The findings show that increased disclosure of AML-related information in financial statements can reduce the potential for litigation risk. The essay further investigates how firm-specific characteristics influence the relationship between AML disclosure and litigation risk. The results suggest that the relationship is more significant when there is greater gender diversity within the firm's top management team. Additionally, the impact of AML-related disclosure on litigation risk is greater in state-owned enterprises (SOEs) and when the firm's financial statements have better readability.

Chapter 4 presents the third essay, titled "Anti-Money Laundering Disclosures and Audit Fees: Evidence from Financial Institutions". This essay investigates the impact of AML disclosure by Chinese financial institutions on their audit fees. The findings reveal a positive relationship between AML disclosure and audit pricing, which is more pronounced for SOEs. Furthermore, the impact of AML-related disclosure on audit fees is greater for firms with good financial performance and in firms whose financial reports have high readability.

Chapter 5 summarises the research findings and discusses the general implications and limitations of the study.

Acknowledgement

I would like to take this chance to express my gratitude to all the people who have offered me with help throughout my PhD journey.

First and foremost, I would like to express my sincere appreciation to my supervisors, Dr. Ying Han Fan and Dr. Baban Eulaiwi, for their invaluable supervision, continuous support and encouragement throughout my PhD journey. Their expertise, feedback and encouragement have been fundamental in this thesis. I could not complete this thesis without them. Also, I would like to thank my external supervisor, Professor. Yan Wang, for her support and help during the writing process.

In addition, I would like to thank my former co-supervisors, Dr. Pattarin Adithipyangkul and Dr. Shams Pathan, for their mentorship over the past few years. Their insightful suggestions and comments have greatly enriched my research.

I would also like to thank the Chair of my thesis committee, Professor Grantley Taylor, for his valuable advice and comments in every thesis milestone and throughout my thesis progress.

A special thank you goes to my colleagues and friends, who provided me with intellectual support and emotional support during this journey. Their encouragement has been a constant source of strength.

I would also like to acknowledge the financial support provided by Curtin University HDR Scholarship, without which this research would not have been possible.

I would also like to acknowledge Dr. Justine McNamara from Next Version Editing for her professional editing service. Her editorial advice on language has ensured the completeness and consistency of my thesis.

My deepest appreciations go to my family for their unconditional love and support – especially to my parents, who have always supported my educational aspirations. To my husband, thank you for your endless love and for being by my side throughout all the ups and downs. You continue to enlighten my present and future.

Finally, I want to say thank you to myself for not giving up during these four years. This experience has shaped me into a better vision of myself.

Attribution Statement

This thesis is presented in a hybrid format. The work in Chapter 2 is being developed for a publication entitled "Income Shifting and Audit Fees: International Evidence from Australia" with co-authors. Attribution statement is provided below.

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List of Abbreviations

ACAMS	Association of Certified Anti-Money Laundering Specialists
AML	Anti-Money Laundering
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
ASX	Australian Securities Exchange
ATO	Australian Taxation Office
BEPS	Base Erosion and Profit Shifting
CFR	Council of Financial Regulators
CSISC	China Securities Investor Services Centre
CSR	Corporate Social Responsibility
FATF	Financial Action Task Force
FSI	Financial Secrecy Index
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
G20	Group of Twenty
MNEs	Multinational enterprises
OECD	Organisation for Economic Co-operation and Development
PBC	People's Bank of China
RBA	Reserve Bank of Australia
SOEs	State-Owned Enterprises
TJN	Tax Justice Network
TJN-Aus	Tax Justice Network Australia
TMT	Top Management Team
UAE	United Arab Emirates
UNODC	United Nations Office on Drugs and Crime
US	United States

Chapter 1

Introduction

1.1 Introduction

This thesis aims to investigate contemporary challenges encountered by financial institutions, with a focus on tax avoidance and anti-money laundering (AML) governance systems and their effects on litigation risks and audit pricing. The thesis comprises five chapters, including an introduction chapter, three chapters related to three essays on different topics, and a conclusion chapter. Chapter 1 discusses the institutional background in Australia and China, offering insights into the specific characteristics of these two countries that underlie the context of this thesis. Chapter 1 also provides an overview of the three essays and their results and contributions. Chapter 2 presents the first essay, titled "Income Shifting and Audit Fees: Evidence from Australian Financial Firms", which investigates whether income shifting is associated with the fees charged by external auditors, using evidence from Australian financial institutions. Chapter 3 presents the second essay, titled "Anti-Money Laundering Disclosure and Litigation Risk: Evidence from Financial Institutions", which investigates the impacts of Chinese financial institutions' AML disclosure on their litigation risk. Chapter 4 presents the third essay, titled "Anti-Money Laundering Disclosures and Audit Fees: Evidence from Financial Institutions", which investigates the impacts of AML disclosure by Chinese financial institutions on their audit fees. The thesis ends with Chapter 5, which concludes this thesis and discusses the general implications and limitations of this study.

This chapter provides a summary of the thesis. It starts with the motivations and objectives of this thesis, offering insights into the specific characteristics of the two focal countries, Australia and China, and how these provide a unique setting to explore the topics of this thesis. This is followed by the relevant background on Australia and China's political and economic contexts. The chapter then presents a summary of the results of each essay separately and highlights its contributions.

1.2 Background and Setting of the Thesis

Prior studies suggest that soaring inflation, more assertive regulations, geopolitical tensions, cybersecurity threats, and regulatory and compliance pressures are the contemporary issues encountered by financial institutions (Allianz, 2022; Wade et al., 2023). Among these, operational risks, encompassing losses caused by inadequate or failed internal processes, human errors, system failures, or external events, are particularly significant (El Hajj & Hammoud, 2023). Notably, tax crime and money laundering stand out as major threats, posing not only substantial risks to financial institutions but also serious concerns for the community (Australian Taxation Office [ATO], 2019). The synergy between money laundering and tax crime has been largely neglected (Graycar & Grabosky, 1996; Mathias & Wardzynski, 2023; Organisation for Economic Co-operation and Development [OECD], 2015). In the revised *FATF 40 Recommendations*, tax crime is identified as a predicate offence for money laundering (Financial Action Task Force [FATF], 2012). Individuals involved in both tax evasion and money laundering often employ similar obfuscation strategies to avoid detection by authorities (Mathias & Wardzynski, 2023). The AML system has also been found to have an interconnection with income shifting (Eulaiwi et al., 2024). The European Union has stated that fighting against money laundering will contribute to global security, financial system stability and integrity, and sustainable growth (European Commission, n.d.). The interplay between illicit tax planning activities and money laundering practices has the potential to undermine the integrity and compliance of financial institutions and erode investor trust in the fairness of the financial market (Maamar, 2024). Lawlor-Forsyth and Gallant (2018) as well as Reuter (2005) suggest that studies focused on financial institutions are crucial for ensuring the integrity of financial systems.

In Australia, tax avoidance is notably prevalent, where the high statutory tax rate (i.e., 30%) incentivises individuals to seek methods to lower their tax payments (Ozili, 2020). In 2022, the ATO reported 177 tax crime prosecutions, resulting in over $2.1 million in fines.[1] In

[1] For more information, see: https://www.ato.gov.au/about-ato/tax-avoidance/the-fight-against-tax-crime/news-and-results/tax-crime-prosecution-results#ato-Summaryprosecutions

response, the Australian government has established the Tax Avoidance Taskforce, which aims to combat the tax avoidance issues in the country. By 2023, the taskforce had assisted the ATO in generating $32.7 billion in tax liabilities.[2] The booming tax avoidance industry continually creates innovative and sophisticated strategies to lower tax payments, which increases the difficulties faced by tax authorities in regulation and monitoring (Ozili, 2020). Base erosion and profit shifting (hereafter, BEPS),[3] one of the tax planning strategies, results in a global revenue loss of $100 to $240 billion each year, amounting to around 4 to 10% of total corporate income tax revenue worldwide (OECD, n.d.). Research has found that Australian firms shift their incomes internationally to decrease their domestic corporate tax obligations substantially (Eldenburg et al., 2003).

Previous studies have suggested that firms shift their income from high-tax jurisdictions to low-tax jurisdictions (e.g., Joshi, 2020; Joshi et al., 2020; Klassen & Laplante, 2012a, 2012b) and/or from profitable affiliates to loss-making affiliates (e.g., De Simone et al., 2017; De Simone et al., 2022; Gramlich et al., 2004). However, few studies explore non-tax-motivated income-shifting activities (i.e., from low-tax jurisdictions to high-tax jurisdictions). Donohoe and Knechel (2014) documented the economic consequences of tax aggressiveness but did not differentiate among specific tax techniques. Although Eulaiwi et al. (2021) found a positive association between Australian financial firms' use of tax havens and audit pricing, it remains unclear whether their income shifting for tax and other purposes constitutes a component of audit risk. Moreover, it is uncertain whether factors related to information asymmetry (e.g., financial secrecy, reputation risk, conduct risks, and use of tax havens) influence the consequences of income shifting. Furthermore, most prior studies of audit pricing exclude the financial industry (Ettredge et al., 2014). In this context, **Essay 1** of this thesis addresses the

[2] For more information, see: https://www.ato.gov.au/about-ato/tax-avoidance/tax-avoidance-taskforce

[3] Base erosion and profit shifting is defined as a strategy to "exploit gaps and differences between tax rules of different jurisdictions internationally" (ATO, 2022). For more information, see: https://www.ato.gov.au/businesses-and-organisations/international-tax-for-business/in-detail/multinationals/base-erosion-and-profit-shifting

issue of tax avoidance in the Australian financial industry by focusing on income-shifting activities and exploring their economic consequences.

Another contemporary issue of concern for financial institutions is money laundering. Technological developments have led to diversified forms of money laundering, such as megabyte money, increasing the complexity and urgency of AML actions. AML efforts are reportedly less effective in China than those in many developed countries. According to Yang and Nayak (2023), China is ranked as the fifth largest destination for money laundering activities, following the United States (US), the Cayman Islands, Russia, and Italy. Furthermore, Mainland China is ranked 27th out of 152 jurisdictions in terms of global money laundering risk, with two of its Special Administrative Regions, Macao and Hong Kong, ranked 49th and 87th, respectively. [4] Despite China's rapid economic and social growth, the development of its political and legal institutions has lagged behind, creating opportunities that modern crime exploits (Yang & Nayak, 2023). Prior studies based on country-level data indicate that there are still deficiencies in the current Chinese AML system, as it fails to effectively detect money laundering activities (Ai et al., 2010; Ping, 2008; Xue & Zhang, 2016). The current laws in China are insufficient for combating money laundering due to their limited applications and insufficient detail, along with the fragile institutional structure in place (Nobanee & Ellili, 2018).

Ai (2012) and Naheem (2018) argue that financial sector organisations, especially banks, should improve their AML assessment systems by combining rule-based and risk-based approaches to detect money laundering activities more efficiently. The FATF recommendations are accepted by many countries, including China, as a framework for developing an AML system within organisations. However, Pol (2018) argues that the AML system in the US, based on FATF methodologies, is ineffective and costly. It is unknown whether the AML systems established by firms are well designed or if they control money laundering activities effectively due to a lack of empirical studies. In addition, prior studies have failed to provide evidence of AML disclosure and its economic consequences in China.

[4] The global money laundering risk score is calculated by the Basel AML Index, which is an independent tool for assessing and ranking countries based on their money laundering and terrorist financing risks. For more information, see: https://index.baselgovernance.org

Furthermore, the ability of the AML system to reduce the litigation risks of financial institutions is under-studied, despite the potential of this as a corporate governance mechanism. Therefore, addressing these contemporary issues from the perspective of financial institutions is necessary. Accordingly, **Essay 2** and **Essay 3** of this thesis focus on AML challenges faced by financial institutions in China.

The three essays in this thesis collectively address the contemporary challenges financial institutions face, providing a cohesive narrative that links income shifting, the AML system and their economic consequences. Essay 1 establishes the foundation by investigating income shifting activities within the Australian financial industry, exploring their economic consequences, and analysing their implications for corporate tax obligations and audit risks. This analysis provides insights into financial secrecy and corporate governance, serving as a foundation for understanding the regulatory challenges encountered by financial institutions. Essay 2 and Essay 3 build on this foundation by shifting focus to China, where money laundering poses significant and complex challenges. Both essays explore the AML-related disclosures by Chinese financial institutions and their implications. Essay 2 investigates the impact of AML disclosures on litigation risk, highlighting the role of AML systems in mitigating legal and reputational threats as part of corporate governance strategies. Essay 3 complements this by analysing the relationship between AML disclosures and audit fees, providing insights into how transparency in AML practices affects the cost of audit services. Together, these three essays offer a comprehensive perspective on the interplay between tax avoidance, income shifting, and AML practices. This integrative approach underscores the importance of corporate governance mechanisms required to address the above issues and ensure global financial institutions' integrity and stability.

1.3 Institutional Background

1.3.1 Australia

Australia is a democratic nation within the British Commonwealth. Its federal Parliament consists of the King (represented by the Governor-General) as well as two houses: the House of Representatives and the Senate (Parliament of Australia, n.d.).[5] The Constitution of Australia, established in 1901, outlines the authority and duties of the Federal Government and

[5] For more information, see: www.aph.gov.au/About_Parliament

states. The Constitution sets up the Federal Government by outlining the Parliament, the Executive Government, and the Judiciary, often referred to as the "three branches of government" (Parliament of Australia, n.d.). Australia has a high credit rating, as it achieved a AAA rating from all three leading credit rating agencies (i.e., Moody's Investor Services, Standard & Poor's, and Fitch Group) as of 2024.[6] Also, it is evaluated as a "low risk" country based on the assessment of economic, business environment, political, commercial, and financing risks (Allianz, 2023).

The Australian financial industry encompasses sectors offering banking, financial services, and investment trusts. Key players in this industry include the banking, insurance, and superannuation sectors. In 2023, the market value of Australia's financial industry was estimated at $360.6 billion, employing approximately 235,000 individuals (IBISWorld, 2023).[7] The Australian financial industry is under stringent supervision by regulatory bodies such as the Australian Prudential Regulation Authority (APRA), Council of Financial Regulators (CFR), Australian Securities and Investments Commission (ASIC), and the Reserve Bank of Australia (RBA). In addition, the government plays an active role in shaping financial industry policies and overseeing regulations concerning banking, taxation, and consumer protection, including legislation such as the *Corporation Act 2001*, the *Banking Act 1959*, and the *Tax Transparency Code*. However, a Royal Commission into the Australian banking industry found that there is a lack of control relating to money laundering, the accuracy of financial advice, and terrorism financing.[8] Westpac Bank, Bell Financial Group, and Crown Casino were all alleged to be involved in money laundering (Eulaiwi et al., 2024). In 2019, Westpac Bank faced allegations of breaching AML regulations and was subsequently investigated by APRA. Westpac was then ordered to pay a $1.3 billion penalty for engaging in unconscionable conduct during a $12 billion interest rate swap transaction in 2016, which was the largest of its kind in Australian financial market history (ASIC, 2024). Moreover, the Tax Justice Network Australia

[6] For more information, see: https://ministers.treasury.gov.au/ministers/jim-chalmers-2022/media-releases/australias-aaa-credit-rating-confirmed-sp

[7] For more information, see: https://my.ibisworld.com/au/en/industry/k6200/at-a-glance

[8] Available at: https://www.royalcommission.gov.au/banking

(TJN-Aus) has stated that Australia has caused approximately $521 million in tax losses for other countries by facilitating global corporate tax abuse and global private tax evasion, accounting for around 0.11% of global tax losses.[9] Although this percentage may seem small, the adverse effects on others should raise concerns for the regulatory authorities.

1.3.2 China

China, as a socialist nation, is distinguished by a unique blend of political, economic, and social systems that have significantly evolved in recent decades, with China now viewed as a leading developed economy. It is governed by the Communist Party of China, which controls and regulates all aspects of governance, policymaking, and administration. China has a socialist market economy, which combines both socialism and capitalism. The government maintains control over key sectors, including finance, energy, and telecommunications, while private companies and market forces are allowed to play their roles in other areas.

The Chinese government heavily controls financial institutions in China, as they are a crucial pillar of the national economy. Although there is an increasing number of partially private and private financial institutions, state-owned entities still dominate the industry (Hou et al., 2018). The People's Bank of China (PBC) serves as the central bank of China. The management team of the PBC consists of governors nominated by the Premier of the State Council. The PBC is responsible for carrying out monetary policy and regulating financial institutions. Financial institutions in China are under stringent supervision by various regulatory authorities, including the Ministry of Finance, National Financial Regulatory Administration, and the China Securities Regulatory Commission. These authorities play active roles in regulation and supervision at both national and provincial levels. In 2023, the PBC imposed a total of 1,034 AML administrative penalties, amounting to approximately 5.239 billion RMB.

Despite stringent supervision, the AML system in China is still developing and has certain deficiencies due to its initial rule-based approach. Under the rule-based system, regulatory

[9] For more information, see: https://taxjustice.net/country-profiles/australia

authorities establish regulations or requirements that financial institutions must strictly comply with, often leading to formalistic over-reporting (Unger & Van Waarden, 2009). Although China has shifted towards a risk-based approach following the release of the *FATF 40 Recommendations* in 2012 (Ai et al., 2010), the AML process in China is still evolving. In 2023, a Chinese money remitting chain in Australia was accused of laundering almost AUD $229 million from 2020 to 2023. The Australian Federal Police also alleged that the crime syndicate engaged in falsifying documents and tax evasion, highlighting the vulnerabilities in international financial transactions originating from China. This case exemplifies the opportunities in the Chinese economic environment for lawbreakers to conduct illicit activities through obfuscated transactions.[10]

According to the Basel AML Index (n.d.), Mainland China was ranked 27th out of 152 jurisdictions in terms of global money laundering risk in 2023, categorised as "medium to high". Furthermore, the unique institutional environment of China provides opportunities for money launderers to "clean" their illicit funds. Launderers exploit the branches of financial institutions in the Special Administrative Regions of China (i.e., Hong Kong, Macao, and Taiwan), where legislation distinct from that of Mainland China allows them to evade judicial adjudication more easily. As the legal environment in China is still evolving, the financial institutions and the regulators should enhance their cooperation and communication to ensure the stability and sustainability of the financial market.

1.4 Research Methodology

1.4.1 Research Method

This thesis employs secondary data for all three essays, following the approach suggested by Ellram and Tate (2016), highlighting that secondary data can enhance the credibility and objectivity of research findings. A quantitative research method was adopted due to the reliance

[10] For more information, see: https://www.afp.gov.au/news-centre/media-release/seven-syndicate-members-charged-allegedly-laundering-almost-229-million

on numerical data from financial statements. Data analysis was conducted using Software for Statistics and Data Science (STATA).

1.4.2 Data and Sample Selection

Essay 1 examines Australian financial firms listed on the Australian Securities Exchange (ASX) from 2008 to 2018. Data on income shifting, audit pricing, reputation risk, risk culture, conduct risk, and corporate governance characteristics were hand-collected from annual reports. The Financial Secrecy Index (FSI) was sourced from the Tax Justice Network (TJN) while accounting and financial data were obtained from the Morningstar database. Observations of foreign-incorporated corporations and those with missing values were excluded, resulting in a final sample of 1,308 firm-year observations.

Essay 2 focuses on Chinese financial firms listed on the Shanghai and Shenzhen Stock Exchanges from 2007 to 2022. Using machine-learning techniques, AML disclosure data were extracted from annual reports and internal control self-evaluation reports. Other financial and trading data were sourced from the CSMAR, WinGo, and WIND databases. Observations of special treatment firms (*ST and ST firms) and those with missing data were excluded, yielding a final sample of 1,317 observations.

Similarly, **Essay 3** studies Chinese financial firms listed on the Shanghai and Shenzhen Stock Exchanges during 2007–2022. AML disclosure data were gathered using the same machine-learning techniques, with other financial and trading data sourced from the CSMAR, WinGo, and WIND databases. Special treatment firms (*ST and ST) and observations with missing data were excluded, resulting in a final sample of 1,295 observations.

1.5 Summary of Results and Significance Contributions

This section provides an overview of the results and contributions for each essay separately.

1.5.1 Essay 1: Income Shifting and Audit Fees: Evidence from Australian Financial Firms

Essay 1 explores the association between Australian financial institutions' income-shifting activities and their audit pricing. This essay also provides evidence regarding the moderating roles of financial secrecy, reputation risk disclosure, culture-based risk and conduct-based risk

disclosure, and the utilisation of tax havens in terms of the relationship between income shifting and audit pricing.

The results presented in Essay 1 suggest that firms' engagement in income shifting leads to higher audit fees. The results have economic significance, with a 1 standard deviation increase in income shifting, on average, leading to a 4.73% increase in audit pricing. Furthermore, the results indicate that higher financial secrecy or poor transparency levels can induce firms to shift income out of their jurisdiction, leading to higher audit fees. In addition, in firms with no disclosure of reputation risk or of risk culture and conduct risk, increased engagement in income-shifting activities leads to higher audit pricing. The positive effects of income shifting on audit fees are also stronger in firms with subsidiaries in tax haven jurisdictions. The result is robust to endogeneity, as indicated by the use of a generalised method of moments (GMM) model and propensity score matching (PSM) analysis.

This essay makes several contributions. First, it draws on a unique measure of income shifting derived from differential tax applied to overseas income as the measure of income shifting; it covers shifting from high-tax jurisdictions to low-tax jurisdictions and vice versa. Grubert (2003) studied the implications of income shifting for "real" behaviour and argued that opportunities for income shifting affect the engagement of multinational enterprises (MNEs) in related-party transactions and choice of location. Second, this essay contributes to the literature on audit pricing and extends the work of Donohoe and Knechel (2014), who found that increased tax aggressiveness is associated with higher audit pricing. This essay answers the call from Ettredge et al. (2014) to examine audit fees in the financial industry, as most prior studies of audit pricing have excluded financial firms. Although Eulaiwi et al. (2021) found a positive association between Australian financial firms' use of tax havens and audit pricing, this essay focuses on Australian financial firms' income shifting for both tax and other purposes. The findings of this essay supplement the current literature on the determinants of audit pricing.

However, this essay has several limitations. First, it does not investigate other tax reduction methods apart from income shifting, which could also influence audit pricing. Second, the findings may lack generalisability to firms in industries with different regulatory requirements. Third, given that the relationship between income shifting and audit pricing may be impacted

by country-level institutional factors (such as culture, the legal and regulatory environment, and the level of capital market development), the findings of this essay could vary in different institutional contexts. Additionally, the findings may differ in jurisdictions with corporate tax rates significantly different from Australia's statutory rate, as this could influence incentives for income shifting or reallocating income and deductible expenses to other tax-effective regimes. Lastly, the results may have limited applicability in countries where litigation and non-tax costs play a different role in shaping auditors' incentives to act independently.

1.5.2 Essay 2: Anti-Money Laundering Disclosure and Litigation Risk: Evidence from Financial Institutions

Essay 2 investigates the impacts of AML disclosure on litigation risks. Specifically, it investigates the AML-related disclosures made by Chinese financial institutions. In addition, this essay explores whether firm-specific characteristics influence the relationship between AML-related disclosure and litigation risk through conducting cross-sectional analyses.

The results provide evidence of the negative impact of AML disclosure on litigation risk. Specifically, increased disclosure of AML-related information in annual reports and internal control self-evaluation reports can reduce the potential for litigation risk. A battery of endogeneity tests and robustness tests are performed to ensure the result is not affected by other confounding factors. These tests confirm that the baseline result of this essay remains robust.

In addition, several heterogeneity tests are conducted. The results show that the relationship between AML-related disclosure and litigation risk is more significant when there is greater gender diversity within a firm's top management team (TMT). This suggests that a TMT with greater gender diversity provides more strategic contributions from different gender perspectives. Also, the analysis shows that the impact of AML-related disclosure on litigation risk is greater in state-owned enterprises (SOEs). Moreover, this essay finds that the association between AML-related disclosure and litigation risk is more pronounced when a firm's financial statement has better readability.

Essay 2 makes several significant contributions to the literature on AML-related disclosure and litigation risk. First, it investigates the AML-related disclosures made by Chinese financial institutions, which is an area previously under-explored due to the sensitivity of the topic in

China and the absence of mandatory disclosure requirements. Although previous studies (e.g., Mathuva et al., 2020; Nobanee & Ellili, 2018; Siddique et al., 2022) have examined AML disclosures, few have focused on China. Additionally, these studies mainly addressed banks and money exchangers, whereas this essay examines a wider range of financial institutions, including banks, insurance companies, securities firms, and trusts. It focuses on the microeconomic aspect and investigates the firm-level AML activities, which is different from prior studies on AML risk that have covered the macroeconomic perspective (Bolgorian & Mayeli, 2020). This provides more comprehensive insight into the AML disclosures made by the responsible organisations.

Second, the essay contributes to the debate on the litigation risk associated with voluntary disclosure. While previous research, such as work by Roger and Stocken (2005), Houston et al. (2019), and Dong and Zhang (2019), found mixed results on the relationship between voluntary disclosure and litigation risk, this essay provides new insights by focusing on AML disclosures by financial institutions. It argues that voluntary AML disclosure impacts litigation risk, aligning with legitimacy theory and transparency-stability theory. The study quantifies AML disclosure and examines its effect on litigation risk, addressing a gap in the literature noted by Md Zaini et al. (2018) regarding the relative lack of focus on risk-related voluntary disclosure.

It is also important to acknowledge this essay's limitations. First, disclosed actions in financial reports do not guarantee a firm's successful execution. As Ai (2012) suggests, a qualitative research approach is more suitable than a quantitative approach for assessing the effectiveness and thorough implementation of actions disclosed by firms, which this essay fails to address. Second, while some financial institutions disclose AML-related information in their annual reports, it remains unclear whether these disclosed AML policies and frameworks are effectively implemented, as such information is not publicly accessible. Future research could address these gaps by investigating the alignment between disclosed AML practices and their actual implementation, providing deeper insights into the effectiveness of these measures.

1.5.3 Essay 3: Anti-Money Laundering Disclosures and Audit Fees: Evidence from Financial Institutions

Essay 3 examines the impacts of firms' AML disclosure on audit fees. Similar to Essay 2, it focuses on the AML-related disclosures made by Chinese financial institutions. Additionally, this essay investigates whether firm-specific characteristics influence the relationship between AML-related disclosure and audit fees by conducting cross-sectional analyses.

Essay 3 provides evidence of the positive association between AML disclosure and audit pricing. Specifically, increased disclosure of AML-related information in annual reports and internal control self-evaluation reports can lead to higher audit fees paid by financial institutions. A battery of endogeneity tests and robustness tests confirm that these results are not influenced by other confounding factors, ensuring the robustness of the baseline findings.

Further analyses reveal that the relationship between AML-related disclosure and audit fees is more pronounced in SOEs due to the stricter supervision of these firms compared to non-SOEs. Consequently, SOEs are more likely to disclose AML-related information, increasing auditors' workloads. Moreover, the study finds a greater impact of AML-related disclosure on audit fees for firms with good financial performance compared to those with poor financial performance. Additionally, when financial reports have high readability, the impact of AML-related disclosure on audit fees is more significant. Although high readability contributes to clearer information, it also enhances the informativeness and comprehensiveness of qualitative disclosures. This requires more audit effort, particularly when auditors are less familiar with AML issues. As a result, auditors must perform additional procedures to verify the information, which would lead to higher audit fees.

Essay 3 makes significant contributions to the literature on AML-related disclosure and audit pricing. First, it examines the disclosure of AML-related information by Chinese financial institutions, addressing a gap in existing research, which has primarily focused on other regions. Unlike previous studies limited to specific sectors, this essay comprehensively investigates AML disclosures across various financial institutions, providing a more nuanced understanding of AML practices from the microeconomic perspective.

Second, the essay contributes to the debate on the role of voluntary disclosure in audit pricing. While prior research has mainly focused on the impact of financial disclosures on audit

fees, this study shifts the focus to AML-related disclosures, which are non-financial and qualitative. It responds to Krishnan et al.'s (2012) call to investigate the impact of other types of voluntary disclosures on auditors. Unlike Habib et al. (2018), who examined the association between money laundering and audit fees from a macroeconomic perspective, this essay explores microeconomic factors by analysing the disclosure activities of financial institutions. By demonstrating a positive relationship between AML disclosures and audit pricing, the essay sheds light on the factors influencing audit fees. The finding implies that improved transparency in AML-related disclosures is not necessarily viewed by auditors as a sign of effective management in internal control and corporate governance. Instead, the inherent risks and exposures embedded in these disclosures are integrated into the auditor's risk assessment process, subsequently leading to increased audit fees. To the best of the author's knowledge, this is the first study to investigate the association between audit pricing and AML-related disclosures. This novel perspective fills a gap in the literature and expands readers' understanding of voluntary disclosure's impact on audit pricing.

This essay also has several limitations. Similar to Essay 2, disclosed actions in financial reports do not guarantee a firm's successful execution. As Ai (2012) suggests, a qualitative research approach is more suitable than a quantitative approach for assessing the effectiveness and thorough implementation of actions disclosed by firms, which this essay does not address. Secondly, while some financial institutions disclose AML-related information in their annual reports, it remains unclear whether these disclosed AML policies and frameworks are effectively implemented, as such information is not publicly accessible. Future research could address these gaps by investigating the alignment between disclosed AML practices and their actual implementation, providing deeper insights into the effectiveness of these measures. Third, due to the unavailability of data on audit hours, this essay uses audit fees as a proxy for audit efforts, which may not accurately capture the resources invested by auditors. Future studies could explore alternative proxies that better capture audit inputs.

1.5.4 General Conclusion from Essays 1, 2 and 3

The three essays collectively provide insights into the contemporary challenges that financial institutions encounter, focusing on the implications of income shifting activities and AML-related disclosures in both Australian and Chinese contexts.

Essay 1 finds that Australian financial institutions' income shifting activities are strongly associated with higher audit fees. This relationship is further exacerbated by financial secrecy, lack of risk disclosures, and the use of tax havens. Essays 2 and 3 focus on another critical issue in China – money laundering activities. Both essays examine the AML disclosures by Chinese financial institutions, revealing a dual impact: reducing litigation risks (Essay 2) while simultaneously increasing audit fees (Essay 3). These findings underscore the role of AML disclosures in enhancing transparency and accountability, albeit at the cost of greater audit efforts and higher audit fees.

Together, the findings in these three essays shed light on the interconnection between financial institutions' disclosure practices, audit pricing, and risk management. Conventional financial systems often lack transparency, relying on regulators whose insufficient oversight can lead to institutional failures, financial fraud, or market manipulation (Harvey & Rabetti, 2024). The three essays emphasise the importance of governance mechanisms, such as transparency measures, in mitigating risks and enhancing governance. However, these measures also lead to higher costs associated with compliance and audit procedures. The results provide critical implications for policymakers, auditors, and financial institutions, emphasizing the need to balance transparency to ensure the integrity and stability of global financial institutions.

The next chapter, Chapter 2, presents the first essay, titled "Income Shifting and Audit Fees: Evidence from Australian Financial Firms", which investigates whether income shifting is associated with the fees charged by external auditors, using evidence from Australian financial institutions.

Chapter 2

Income Shifting and Audit Fees: Evidence from Australian Financial Firms

2.1 Introduction

Trades between subsidiaries provide opportunities for multinational enterprises (MNEs) to structure their businesses in ways that enable them to shift income to lower-taxed jurisdictions, while shifting deductible expenditure, such as research and development (R&D) expenditures, interest, and loan fees, to higher-taxed jurisdictions. Miller et al. (2019) asserted that the deadweight loss resulting from a marginal increase in corporate taxes is reduced by around 80% when accounting for income shifting. Income shifting involves transfers designed to reduce the tax payable as well as to capitalise on differences in regulations, legislation, and levels of enforcement across jurisdictions. Hence, income shifting encapsulates complex arrangements designed to obtain far more than purely tax benefits and typically involves information asymmetry and obfuscation of information, which can result in an increase in business risk and audit risk.

Auditing Standard ASA 240 *The Auditor's Responsibilities Relating to Fraud in an Audit of a Financial Report* requires the auditor to be aware of fraud that may lead to misrepresentation of financial reports (Auditing and Assurance Standards Board, 2021). Given that income shifting may involve sophisticated and carefully organised schemes or obfuscation of associated transactions, the risk of non-detection of such activities and outcomes (i.e., misstatements or errors) is higher, thereby leading to increased audit risk and auditor risk (Donohoe & Knechel, 2014). Although the auditor is responsible for maintaining professional scepticism during the conduct of the audit, the risk remains that audit procedures may not be effective in detecting fraud or aggressive conduct relating to income shifting.

This study has several motivations. First, the Group of Twenty (G20)[11] explicitly addressed the need to avoid base erosion and profit shifting (BEPS[12]; Jones & Temouri, 2016;

[11] The Group of Twenty (G20) involves annual meetings of Heads of State to discuss global issues. These issues may include, for instance, tax evasion through income shifting.

[12] According to the Australian Taxation Office, the term base erosion and profit shifting (BEPS) refers to "tax planning strategies used by multinational companies to exploit gaps and differences between tax rules of different jurisdictions internationally". The profits are shifted artificially to low- or no-tax jurisdictions where there is little

OECD, 2013). The Australian Tax Office (ATO) regarded income shifting as an area that can significantly contribute to the base erosion of taxes (Richardson et al., 2013; Taylor & Richardson, 2012, 2013). In 2017, the Tax Justice Network Australia (TJN-Aus) reported that Australia had lost approximately US$6 billion a year from MNEs' income-shifting activities.[13] It is difficult for auditors to track the destination of MNEs' shifted income, which further affects their risk assessments of their MNE clients. As such, the significance of Australia's loss from income-shifting activities makes it important to evaluate the impact of income-shifting activities on audit pricing. To compensate for a perceived higher level of litigation risk and reputational risk, higher audit fees are charged as a premium (Bell et al., 2008). This study is therefore motivated to determine whether income shifting can influence audit pricing.

Second, a Royal Commission into the Australian banking industry found that there is a lack of control relating to money laundering, the accuracy of financial advice, and terrorism financing.[14] Owing to the reporting requirements of the Australian Securities and Investments Commission (ASIC), Australian audit firms have increased obligations in terms of financial firms' risks associated with reporting and compliance (Eulaiwi et al., 2021). Donohoe and Knechel (2014) suggested that the effects of such risk can give rise to higher audit fees. Auditing MNEs requires additional audit effort and advice from a broad range of consultants, such as tax experts, lawyers, economists, and supply chain experts.

Third, the role of financial reporting quality is also considered. MNEs that perform income shifting may choose to conceal their activities and prevent disclosures on risk exposure. Shifting income to jurisdictions with high secrecy is preferred as these jurisdictions rarely share information with regulators and other jurisdictions, a feature that can protect the secrecy of income-shifting MNEs. The low transparency increases the audit effort in assessing risks and tracking income. As income shifting may incur risks that lead to a degradation in reputation, disclosure of those risks facilitates effective risk management. Disclosures of reputation risk

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or no economic activity. For more information, please see https://www.ato.gov.au/business/international-tax-for-business/in-detail/base-erosion-and-profit-shifting/

[13] The Tax Justice Network Australia (TJN-Aus) "is the Australian branch of the Tax Justice Network (TJN) and the Global Alliance for Tax Justice. TJN is an independent organisation launched in the British Houses of Parliament in March 2003. It is dedicated to high-level research, analysis and advocacy in the field of tax and regulation. TJN works to map, analyse and explain the role of taxation and the harmful impacts of tax evasion, tax avoidance, tax competition and tax havens. TJN's objective is to encourage reform at the global and national levels". For more information, please see: https://taxjustice.net/

[14] Available at: https://financialservices.royalcommission.gov.au/Pages/reports.html#final

and of risk culture and conduct risk reflect the quality of a firm's risk management. Auditors can use such disclosures to make corresponding risk assessments. It is therefore important to determine whether the association between income shifting and audit pricing is influenced by a firm's risk management structure.

The aim of this study is twofold. First, it considers whether income shifting is positively associated with audit fees. Second, it investigates whether this association is more evident based on different levels of financial secrecy, reputation risk disclosure, and risk culture and conduct risk disclosure. Based on a sample of publicly listed Australian financial firms over the period from 2008 to 2018, this study finds a positive association between firms' engagement in income shifting and audit pricing. The results are economically significant, indicating that a 1 standard deviation increase in income shifting is, on average, associated with an increase in audit fees of around 4.75%. Moreover, it finds that this positive association is more evident when firms shift income to jurisdictions with high financial secrecy and when firms do not disclose reputation risk and risk culture and conduct risk.

This study makes several important contributions. First, it draws on a unique measure of income shifting derived from differential tax applied to overseas income as the measure of income shifting; it covers the shifting from high-tax jurisdictions to low-tax jurisdictions and vice versa. Grubert (2003) studied the implications of income shifting for "real" behaviour and argued that opportunities for income shifting affect MNEs' engagement in related-party transactions and choice of location. Second, this study contributes to the literature on audit pricing and extends the study by Donohoe and Knechel (2014), who found that increased tax aggressiveness is associated with higher audit pricing. It answers the call from Ettredge et al. (2014) to examine audit fees in the financial industry as most prior studies of audit pricing have excluded financial firms. Although Eulaiwi et al. (2021) found a positive association between Australian financial firms' use of tax havens and audit pricing, this study focuses on Australian financial firms' income shifting for both tax and other purposes. The findings of this study supplement the current literature on the determinants of audit pricing.

The remainder of this essay is organised as follows. Section 2.2 provides an overview of the related literature and develops the hypotheses. Section 2.3 describes the research design and the empirical results are presented in Section 2.4. Section 2.5 concludes the essay.

2.2 Background and Hypotheses Development

2.2.1 Australian Financial Services Industry

The investigation report titled the *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry* (Royal Commission) found that the Australian financial industry suffered from a culture of greed, anti-money laundering non-compliance, unfair treatment of consumers, weak legal compliance processes and practices, and ineffective governance systems which did not provide adequate oversight (Hayne, 2019). Both civil and criminal outcomes stemming from this investigation were pursued by ASIC and the courts. Given that there is a close connection between a lack of controls and both illicit activities, such as money laundering, and other forms of strategic non-compliance, such as income shifting, auditors are likely to ensure that the scope of the audit and the inherent risks of financial services firms attract a suitable premium in terms of audit pricing. The nature of income-shifting arrangements and the elements of poor or unethical procedures within the financial services sector highlighted by the Royal Commission demonstrate that oversight and control by firms' institutions and management behaviour are important in mitigating such risks.

2.2.2 Income Shifting

Income shifting involves the movement or reallocation of income from one jurisdiction to another (McGuire et al., 2018) and is commonly used as a tool to reduce income tax expenses. However, income shifting can also give rise to a number of other benefits, such as providing a tool to evaluate management performance (Yoo, 2020) via the evaluation of cross-jurisdictional share stakes and variable subsidiary performance. It can also enable insurers to meet regulatory capital requirements (Hepfer et al., 2020). In practice, income shifting is commonly achieved via investment allocation (Deng, 2020), intercompany payments (De Simone et al., 2019), transfer pricing, cost allocation, and a change in the location of debt (Klassen & Laplante, 2012a). Income shifting generally comprises exploitation of arbitrage opportunities based on foreign tax rate differentials (Klassen & Laplante, 2012a, 2012b; Taylor et al., 2018). Transfer pricing manipulation can also be used as a mechanism to shift income (Richardson & Taylor, 2015). Specifically, aggressive transfer pricing activities enable MNEs to shift their profits to subsidiaries located in tax havens, where they are subject to relatively low or zero tax rates and weaker legal and regulatory controls (De Simone et al., 2019). Omar

and Zolkaflil (2015) found that MNEs with tax haven subsidiaries are more inclined to conduct income-shifting activities and more likely to engage in money laundering activities. Augmented by the use of tax havens, about US$667 billion was strategically shifted from MNEs in 2016, accounting for 36% of their profits (Tørsløv et al., 2018). Income can also be shifted via domestic sales between related companies owing to tax rate differentials across jurisdictions (Gramlich et al., 2004; Lo et al., 2010; Yoo, 2020). MNEs use intercompany transactions strategically to shift their income out of high-tax jurisdictions in response to tax incentives (De Simone, 2016; Markle, 2016) or to shift their debt to high-tax jurisdictions that offer greater tax deductions (Desai et al., 2006a, 2006b).

McGuire et al. (2018) found that internal information quality can promote income shifting as higher-quality information improves management's ability to identify and grasp income-shifting opportunities. However, income-shifting activity can be lessened by increasing the regulatory costs of shifting (Klassen & Laplante 2012b; Saunders-Scott, 2015). The tax regime of the parent country (Markle, 2016), financial constraints (Dyreng & Markle, 2016), accounting standards (De Simone, 2016), cash flow volatility (Deng, 2020), and profitability of affiliates (De Simone et al., 2017) also affect income-shifting practices.

2.2.3 Audit Pricing

Audit pricing is determined by the costs and risks associated with the audit service, but these are typically unobservable (Ettredge et al., 2014). Prior studies have demonstrated that both auditor characteristics and client characteristics can determine audit fees (Choi et al., 2010). The auditor characteristics that affect audit pricing include the size and location of the audit firm (Choi, Kim, Qiu et al., 2008), the brand of the audit firm (i.e., Big 4 or non-Big 4; Choi, Kim, Liu et al., 2008), and the auditor's industry expertise (G.V. Krishnan, 2005). Client characteristics, such as the client size (Choi et al., 2010), complexity (Gul et al., 2018; Jones et al., 2018), quality of the board and audit committee (Carcello et al., 2002; Habib et al., 2019; Hay et al., 2006), and perceived business risk (Bedard & Johnstone, 2004; Bell et al., 2008; Niemi, 2002) are also associated with audit pricing. Furthermore, Zhang et al. (2018) found that institutional factors such as economic policy uncertainty can affect audit pricing. Whether the reputation of the audit firm will be harmed, whether the audit client will encounter any litigation, and the corresponding costs of delivering audit services are always of interest to auditors (Choi et al., 2010; Eulaiwi et al., 2021). These issues are considered by auditors before

they accept clients. Auditors will ask for additional compensation if increased audit efforts (e.g., more audit hours and personnel) are required (Cao et al., 2012).

2.2.4 Theoretical Framework

Audit pricing theory (see Kim et al., 2012; Simunic, 1980) explains the roles of audit inputs (both quantitative and qualitative). According to Simunic (1980), audit pricing depends on factors such as audit efforts, risk premium for potential auditor losses, and audit market competition, many of which are unobservable. This theory covers both supply and demand perspectives of determining the audit fees. From the supply side, audit effort reflects auditors' need to mitigate litigation risk and reputational damage (DeAngelo, 1981a; Dye, 1993; Watts & Zimmerman, 1983; Weber et al, 2008). Previous studies (e.g., Abbott et al.,2006; Cao et al., 2020; Gul et al., 2003; Hogan & Wilkins, 2008; Lim & Mali, 2021; Lyon & Maher, 2005) document the positive relationship between audit fee premium and client risk considerations. Higher client risk, such as internal control deficiencies or higher litigation risk, leads to more substantive audit tests and higher fees (see Hogan & Wilkins, 2008; Taylor & Simon, 1999). Auditors are motivated to conduct detailed procedures to avoid potential liabilities. From the demand side, audit pricing is driven by stakeholders seeking improved reporting quality and reduced information asymmetry (DeAngelo, 1981b; DeFond & Zhang, 2014; Esplin et al., 2018; Lim & Mali, 2021; Mali & Lim, 2021). Clients with higher credit ratings, for example, demand greater audit effort to enhance audit quality and transparency (Lim & Mali, 2021). In general, the pursuit of lower supply-side risks as well as higher demand-side quality interactively shapes the audit pricing.

2.2.5 Income Shifting and Audit Pricing

2.2.5.1 Information Asymmetry

Income-shifting activities impose a significant amount of uncertainty, as reflected in the foreign tax differentials and in the calculation of a firm's uncertain tax benefits (see Mills et al., 2010; Rego & Wilson, 2012; Taylor et al., 2018). Klassen and Laplante (2012b) suggested that, as a consequence of income shifting, a firm reports a higher income than expected based on its asset allocation internationally. External auditors are expected to identify MNEs' manipulation of income. Following the implementation of the OECD *BEPS 15 Action Plan* (hereafter, BEPS

2013) in mid-2013, external auditors were given increased responsibilities to identify tax-related information from firms, especially in relation to aggressive tax planning. However, external auditors still suffer from a number of constraints in their ability to detect aggressive tax planning techniques (OECD, 2013). Auditors face increased audit challenges, and firms' exploitation of tax rate differentials is also likely to generate further audit risk and effort on the part of external audit firms.

For valuation purposes, it is crucial to identify the true location of earnings owing to the variance in business risks, earnings persistence, and expected growth rates between domestic and foreign earnings (see Bodnar & Weintrop, 1997; Thomas, 1999). Either tax- or non-tax-motivated income shifting lowers the informativeness of a firm's disclosures in terms of domestic and foreign earnings (Chen et al., 2018). Low-quality disclosures may inhibit outsiders from fully understanding the valuation of foreign earnings (Thomas, 1999), a disadvantage that would aggravate information asymmetry. Balakrishnan et al. (2018) found a negative association between tax aggressiveness and corporate transparency when firms try to obfuscate their aggressive tax planning, as reflected in weaker tax-related disclosures. Moreover, the Financial Transparency Coalition (2021) claimed that country-by-country financial reporting can help to mitigate the information asymmetry resulting from income-shifting practices. Bodnar and Weintrop (1997) argued that domestic income and foreign income are valued differently, depending on the relative persistence of each earnings source. In the context of income shifting, when a portion of domestic (foreign) income is reported as foreign (domestic) income, outsiders may encounter greater difficulties in ascertaining the firm value. It is therefore difficult for auditors to identify the manipulation of income and the real purpose and economic substance behind such activity. Increased audit effort is required to identify the misstatement risks; therefore, we anticipate that higher audit fees will be charged in response to the greater information asymmetry.

2.2.5.2 Overall Legal Environment and Potential Litigation Risk

In terms of the overall environment, a jurisdiction's legal environment affects captive insurance firms' decisions on where to shift their profits using shadow insurance (Cetina et al., 2016; Hepfer et al., 2020). Yoo (2020) also found that increased domestic and foreign regulations affect income shifting for both tax and non-tax purposes. Moreover, Choi, Kim, Liu et al. (2008) argued that the strictness of a country's legal liability regime is positively related to audit pricing. Considering the Australian legal environment, MNEs engaging in income-shifting activities may generate litigation risks as they are more likely to be detected by regulatory

authorities. Simunic (1980) found that audit pricing is determined by auditors' effort and perceived litigation risks. As a result, considering the litigation risk associated with income shifting, this study anticipates that greater audit effort is needed for a client firm engaging in income shifting, resulting in higher audit fees.

2.2.5.3 Reputation Risk

Reputation risk, which encapsulates negative perceptions by stakeholders, such as customers, shareholders, investors, and market analysts, is incurred by income-shifting activities (Commonwealth Bank of Australia, 2011; Hanlon & Slemrod, 2009; Joshi, 2020). Reputation risk is an important component of a firm's overall business risk management (Bebbington et al., 2008). Cao et al. (2012) found that there is a lower likelihood of financial misstatements for firms with higher reputation scores (i.e., lower reputation risk). High reputation risk implies a firm's underperformance in some areas and may raise ongoing concerns.

A firm's reputation risk is of concern to the auditor (Habib et al., 2019). The reputation risk of the country to which the income is shifted is also important. For instance, Marchini et al. (2020) reported that a country with a well-known reputation for bribery is less likely to attract foreign income as hidden costs destroy value. Reputation risk will increase when an MNE shifts income into a corrupt country, and auditors would regard such movements of income as red flags for reputation risk and potential financial manipulation risk, requiring increased audit effort. According to Taylor et al. (2018), such increased audit effort may lead to clear identification of a firm's involvement in income shifting based on economic and reputation risks.

In accordance with the above discussion, issues of information asymmetry, potential litigation risk, and reputation risk generated by income shifting can potentially lead to an increased probability of material misstatements. This study conjectures that such income shifting reduces the informativeness of firms' disclosures about foreign and domestic earnings and further increases audit risk and auditing complexities. The first hypothesis is therefore stated as:

H_1: Income shifting and audit fees are positively associated.

2.2.6 The Potential Moderating Effect of Financial Secrecy

In terms of the destination of the shifted income, MNEs usually prefer jurisdictions with not only low or zero tax rates but also high secrecy. Jurisdictions that take advantage of high

secrecy and low transparency enable manipulators to escape or undermine the rules, regulations, and laws of other jurisdictions (Jones & Temouri, 2016; Murphy, 2008; Richardson et al., 2020). Taylor and Richardson (2012) argued that the lack of accountability and transparency of a firm affects its mindset towards issues such as the provision of information to tax authorities. Jones et al. (2018) demonstrated that MNEs with more subsidiaries have greater complexity and secrecy, which increase the difficulty for authorities in trying to track revenue. Jurisdictions with high financial secrecy (i.e., low transparency) typically have low quality of information disclosures, and it is therefore more difficult for outsiders to track the flow of funds. Durnev et al. (2017) demonstrated that firms with subsidiaries in offshore financial centres have lower financial reporting quality than those without. The secrecy policies of these offshore financial centres may compromise scrutiny by regulatory officers and external auditors (Durnev et al., 2017). Eka (2019) found that taxpayers located in relatively low-secrecy (i.e., high-transparency) jurisdictions are more likely to shift their income out of their home country as more information disclosure increases the detection risk by regulators. Therefore, this study conjectures that the level of financial secrecy can affect a firm's income-shifting activities. The financial secrecy level of the jurisdiction into which the income is shifted may affect the association between income shifting and audit pricing. In jurisdictions with high financial secrecy, there is little information sharing and disclosure. When MNEs engage in income shifting, auditors experience an increase in the workload required to access the related information and to track income, resulting in higher audit fees. Based on the above discussion, the following hypothesis was developed:

H_2: The positive association between income shifting and audit fees is moderated by the level of financial secrecy.

2.2.7 The Potential Moderating Effect of Reputation Risk Disclosure

Based on the discussion of reputation risks in Section 2.2.4.3, this study attempts to determine whether the positive relationship between audit pricing and income shifting is moderated by the disclosure of reputation risks. As reputation risk is considered to be an operation risk (Aula, 2010); disclosure of such risk can enable outsiders to understand a firm's operational effectiveness and make appropriate evaluations. However, if a firm has no risk management system in place to assess its reputation risk or attempts to hide its defects, it may choose not to disclose such information. Especially for firms that engage in income-shifting activities, disclosure of reputation risk may lead to exposure and investigation by taxation or regulatory

authorities (ATO, 2018). Firms that disclose their reputation risk may help auditors to identify potential financial reporting issues and make further assessments of the integrity of the financial reporting process and outcomes. In this regard, this study conjectures that firms with income shifting tend not to make reputation risk disclosures and, hence, are charged higher audit fees as their low informativeness and higher audit risk require auditors to exert greater effort. Based on the above discussion, the following hypothesis is proposed:

H_3: The positive association between income shifting and audit fees is moderated by the level of reputation risk disclosure.

2.2.8 The Potential Moderating Effect of Risk Culture and Conduct Risk Disclosure

This study investigates whether the positive association between income shifting and audit pricing is moderated by a firm's disclosure of its risk culture and conduct risk. An organisation's risk culture is its commitment to and style of managing operation risk, and it is determined by its values, attitudes, competencies, and behaviours (Basel Committee on Banking Supervision, 2011). Recent scandals and failures of banks can be traced to an aggressive risk culture that allowed excessive risk taking by the bank management (Palermo et al., 2016). Cultivation of a consistent risk culture can be used as a risk management tool by the firm (Institute of International Finance, 2008). In addition, conduct risk is the action of a financial firm or individual that harms customers or the stability of the market (KPMG, 2021). Such risk can have negative impacts on profits if it is not managed appropriately (Power et al., 2016). Disclosure of risk culture and conduct risk can reflect a financial firm's identification of business risks and show outsiders that it is committed to risk management. The non-disclosure of risk culture and conduct risk provides firms with an opportunity to conceal managerial resource extraction, non-compliance, and misconduct. The Basel Committee on Banking Supervision (2015) stated that directors of firms should take the responsibility for overseeing the organisational culture, given its association with business risk. The non-disclosure of risk culture and conduct risk may allow firms to perform activities that involve excessive risk taking, such as income shifting. Audit risk therefore increases and more challenges are posed for the auditors, further increasing audit fees. This study conjectures that the association between income shifting and audit fees is greater when a firm does not make culture risk and conduct risk disclosures. Based on the above discussion, the following hypothesis is developed:

H_4: The positive association between income shifting and audit fees is moderated by the level of risk culture and conduct risk disclosure.

2.2.9 The Potential Moderating Effect of Tax Haven Utilisation

This study investigates whether the positive association between income shifting and audit fees is augmented by the use of tax havens. Tax havens refer to jurisdictions which are characterised by a lack of information exchange and secrecy and a nil or low corporate tax rate (Donohoe & Knechel 2014; Eulaiwi et al., 2021; Taylor & Richardson, 2012; Taylor et al., 2018). Indeed, prior research has found that income shifting to and from tax haven jurisdictions facilitates the financial secrecy of transactions and the locations of cash stockpiled offshore (Taylor et al., 2018). Given the increased financial, legal, and regulatory obfuscation of tax haven utilisation in association with income shifting, the concomitant increase in business risk, auditor risk, and auditing risk will likely increase the audit effort and scope of the auditor's work and the testing undertaken, thereby leading to an increase in audit fees. As such, this study proposes the following hypothesis:

H_5: The positive association between income shifting and audit fees is moderated by the use of tax havens.

2.3 Research Design

2.3.1 Sample Selection and Data Source

The sample in this study consists of financial firms listed on the Australian Securities Exchange (ASX) over the 2008–2018 period. Data relating to income shifting, audit pricing, reputation risk disclosure, risk culture and conduct risk disclosures, and corporate governance characteristics were hand collected from financial firms' annual reports. Financial Secrecy Index (FSI) data for each country were collected from the Tax Justice Network (TJN), while accounting and financial data were obtained from the Morningstar database. The initial sample comprised 2,321 firm-year observations. This included 90 observations of foreign incorporated corporations and 923 observations with missing financial data, which were eliminated from the sample. The final sample contains 1,308 firm-year observations (Table 1, Panel A), and its distribution by year is shown in Panel B of Table 1.

Table 1. Composition of sample observations

Panel A: Sample selection	
Total sample of firm-years over the 2008–2018 period	2,321

Less: Foreign incorporated corporations	(90)
Less: Missing financial data	(923)
Total	**1,308**

Panel B: Sample distribution by year

Year	**Frequency**	**Percentage**
2008	93	7.11
2009	99	7.57
2010	101	7.72
2011	104	7.95
2012	104	7.95
2013	108	8.26
2014	123	9.4
2015	138	10.55
2016	142	10.86
2017	150	11.47
2018	146	11.16
Total	**1,308**	**100.00**

2.3.2 Dependent Variable

The dependent variable for this study is the audit fees (*AFEE*) paid by the financial firms for audit services. Auditors charge for their service depending on the type of service that they provide and the corresponding workload and audit risks. Increased complexity of the audit work undertaken by accounting firms leads to higher audit pricing (Eulaiwi et al., 2021). Consistent with prior studies (e.g., Ettredge et al., 2014; Ittonen & Peni, 2012; Ittonen et al., 2019), audit fees (*AFEE*) are measured as the natural logarithm of the total audit fees.

2.3.3 Independent Variables

The main independent variable of interest is the level of income shifting. To improve the robustness of the empirical results, this study employs two measures of income shifting in the regression analyses. The first one is *INCS%*, which is measured as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR, as shown in Equation (1):

$$INCS\%_{i,t} = \frac{WAVG\_FTR_{i,t}}{STR_{i,t}} \quad (1)$$

where i = firms, t = the financial year 2008–2018, $WAVG\_FTR_{i,t}$ = the marginal reduction in the Australian STR due to the effect of the average lower tax applied to foreign income for firm i in year t, and $STR_{i,t}$ = the Australian STR of 30% for firm i in year t.

WAVG_FTR$_{i,t}$ was obtained from the accounting income to taxable income reconciliation statements provided in the tax notes in annual reports. A negative adjustment to accounting income (taxed at a notional 30%) is indicative of lower-weighted average foreign taxes applied to foreign income relative to the case in which foreign income would be taxed at the Australian statutory tax rate of 30%. Larger negative adjustments to accounting income reflect larger amounts of foreign income taxed at lower-weighted foreign tax rates, which in turn give rise to larger accounting income–taxable income differentials and greater income-shifting incentives for firms' management (see Richardson et al., 2020).[15] For the 2008 year, this study also compares the measure used in this study with that calculated by Collins et al. (1998). The result shows that the Collins et al. (1998) measure of income shifting (FTR$_{i,t}$) of 8.52% is comparable to the measure of income shifting in this study (*INCS%*$_{i,t}$) of 9.03% for the 2008 year.[16] The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%*$_{i,t}$ in Eq. (1) is negative, and 0 otherwise.

2.3.4 Moderating Variables

This study has three moderating variables: the financial secrecy score (*SS*), reputation risk (*RR*), risk culture and conduct risk disclosure (*RCCR*), and tax haven usage (*TH*). An indicator of transparency, *SS* is measured based on the FSI over the period 2008–2018 for all jurisdictions. The FSI ranges from 0 to 100, with a higher score meaning that the jurisdiction is less transparent, unwilling to exchange information, and less compliant with international norms in respect of anti-money laundering (AML). Conversely, a lower score means that a jurisdiction is more transparent and more compliant in information exchange (Eka, 2019; TJN, 2015).[17]

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[15] *WAVG_FTR*$_{i,t}$ is calculated as the negative adjustment in income tax expense on accounting profit as a result of income being earned offshore at a rate less than the statutory corporate tax rate of 30%. For example, in 2008, the Commonwealth Bank of Australia Ltd earned accounting profit of $6,255 million with prima facie income tax expense on that profit of $ 1,877 million. There is a negative adjustment of 51 million relating to income earned offshore at tax rates less than 30%. Hence, *WAVG_FTR*$_{i,}$ = (-51/1877) x 100 = -2.71%. This percentage reduction represents the incentive to shift income to lower tax rate offshore jurisdictions. This reduction in income tax expense then represents a 9.03% reduction in income tax expense as a proportion of the statutory tax of 30% – this is the *INCS%* calculation. Appendix B provides a calculation example and validation test of *INCS*.

[16] Collins et al. (1998) measure a MNE's capacity or incentive to shift income as the US statutory tax rate of 35% less the corporation's average foreign effective tax rate (current foreign tax expense plus deferred foreign tax expense, scaled by pre-tax foreign income). To conserve space, this study does not tabulate the comparison of annualised FTR estimates following Collins et al. (1998).

[17] The FSI is available at https://fsi.taxjustice.net/en/. "The secrecy score is a qualitative measure looking at a jurisdiction's laws and regulation, international treaties and so on. It is constructed based on 15 key financial

For each sample firm, the mean of the FSIs of all its subsidiaries that are located in different jurisdictions is calculated. The variable *SS* is a dummy variable which is equal to 1 if the firm's mean FSI score is above the sample mean, and 0 otherwise.

The variable *RR*, which measures a firm's disclosure of its reputation risk, is coded 1 if the firm discloses reputation risk, and 0 otherwise. The variable *RCCR*, measuring the disclosure of a firm's risk culture and conduct risk, is coded 1 if the firm discloses its risk culture and conduct risk, and 0 otherwise. These variables denote elements of corporate governance and environmental factors that may impact the relationship between income shifting and audit fees. The incentives for firm management to disclose the activities captured in these variables are likely driven by institutional and organisational dynamics pertaining to, for instance, external stakeholder pressure, corporate strategy, ethics and integrity, and litigation and regulatory risks (Cravens et al., 2003). This study includes these variables as moderators in the analyses because Auditing Standard ASA 240 *The Auditor's Responsibilities Relating to Fraud in an Audit of a Financial Report*[18] states that the primary responsibility for the detection and prevention of fraud or its equivalent lies with firm management and those charged with governance. This standard highlights that "this involves a commitment to creating a culture of honesty and ethical behaviour which can be reinforced by an active oversight by those charged with governance" (p. 12). Hence, the auditor, firm management, and governing committees collectively play an important role in mitigating the risk of fraud (or activities equivalent to fraud) in income-shifting arrangements that form part of a scheme designed to exploit loopholes or arbitrage opportunities in tax law. Finally, *TH* is an indicator variable coded 1 for a firm that has a subsidiary located in a tax haven jurisdiction, and 0 otherwise. All the variable definitions are presented in Appendix A.

2.3.5 Control Variables

This study includes a number of variables in the regression models to control for other effects on audit pricing. Size (*SIZE*) is measured as the natural log of total assets. Loss (*LOSS*) is a

secrecy indicators. Among these indicators, several important ones are related to bank secrecy, country-by-country reporting, tax administration efficiency, tax treaty, and automatic exchange of information (TJN, 2015). Therefore, the secrecy score should be able to represent the level of transparency of a particular jurisdiction" (Eka, 2019, p. 32).

[18] Available at: https://www.auasb.gov.au/admin/file/content102/c3/ASA_240_Compiled_2019-FRL.pdf

binary variable coded 1 if the firm's net income is negative, and 0 otherwise. Securities (*SECURITIES*) equals one minus the total securities scaled by the total assets. Common loan (*COMLOAN*) is the total of commercial and agricultural loans divided by gross loans. The capital ratio (*CAPRATIO*) is measured as the firm's total risk-adjusted capital ratio. Intangible assets (*INTANG*) are measured as the firm's intangible assets scaled by its total assets. Audit quality (*BIG4*) is also controlled and is measured using an indicator variable coded 1 if the firm is audited by a Big 4 accounting firm, and 0 otherwise. The age of the firm (*AGE*) is measured as the natural logarithm of the difference between the current year and the year of incorporation.

Corporate governance attributes are also controlled. CEO tenure (*CEOTENURE*) is measured as the number of years that the CEO has served as the chief executive officer of a firm, expressed as the natural logarithm. Based on Al-Hadi et al. (2015, 2016), this study also includes the strength of corporate governance (*Firm_CG*), which is coded 1 for a firm with independent board and committee governance, and 0 otherwise. A firm's subsidiary structure (*SUB_LN*) is measured with the natural logarithm of the total number of subsidiaries. A change in audit firm (*AUD_CHNG*) is represented by a dummy variable coded 1 if the firm changed its audit firm from year *t-1* to *t*, and 0 otherwise. This study also controls for a change in a firm's operating environment. A firm's merger and acquisition (*M&A*) activities are measured as an indicator variable coded 1 if the firm engages in merger and acquisition activity, and 0 otherwise.

2.3.6 Regression Models

All the regression models in this study employ firm fixed-effects (FFE) panel regression analysis to control for correlated omitted variables (Wooldridge, 2010). To examine the association between income shifting and audit fees (H_1), the following model is estimated:

$$AFEE_{i,t} = \gamma_{0+}\gamma_1 INCS\%_{i,t} / \ INCS\_D_{i,t} \ + \gamma_n CONTROLS + Year_{i,t} \ + \mu_{i,t} + \ e_{i,t} \qquad (2)$$

where *i* = firms and *t* = the financial years 2008 to 2018.

To investigate whether the positive association between income shifting and audit fees is moderated by a firm's financial secrecy score (*SS*) (H_2), reputation risk disclosure (H_3), risk culture and conduct risk disclosure (H_4), or tax haven use (H_5), samples are divided into two groups based on the median values of the moderating variables, coding as one if exists and zero otherwise. The baseline model (i.e., Eq. (2)) is then rerun for each of the subsamples.

2.4. Empirical Results

2.4.1 Descriptive Data

Table 2 reports the descriptive statistics for all the variables used in this study. The dependent variable, *AFEE*, has a mean (median) of 11.85 (11.51), implying that the sample firms have average (median) audit fees of approximately $140,084 ($99,708). The independent variable, *INCS%*, has a mean of 0.18, indicating that the marginal adjustment of income tax expense on foreign-sourced income is, on average, reduced by 18% relative to the base case in which that foreign income was to be taxed at 30%. *INCS_D* has a mean value of 0.23, showing that approximately 23% of the sample firms record a negative adjustment to income tax expense on foreign-sourced income. For the moderator variables, *SS* has a mean value of 0.47, reflecting that around 47 sample firms have a secrecy score higher than the mean of that sample. Both *RR* and *RCCR* have a mean of 0.24, indicating that around 24% of the sample firms record reputation risk disclosures as well as risk culture and conduct risk disclosures. In regard to the use of tax havens, the variable *TH* has a mean and median of 0.13 and 0, respectively, indicating that around 13% of the sample firms use tax havens. The mean and median of the control variables are similar to those reported in prior Australian studies (e.g., Eulaiwi et al., 2021, 2022).

Table 2. Descriptive statistics

Variables	N	Mean	SD	Min	Median	Max
AFEE	1308	11.85	1.78	8.47	11.51	16.82
INCS%	1308	0.18	0.65	0.00	0.00	3.70
INCS_D	1308	0.23	0.42	0.00	0.00	1.00
SS	1308	0.47	0.50	0.00	0.00	1.00
RR	1308	0.24	0.43	0.00	0.00	1.00
RCCR	1308	0.24	0.43	0.00	0.00	1.00
TH	1308	0.13	0.33	0.00	0.00	1.00
SIZE	1308	18.82	3.00	9.84	18.60	27.61
LOSS	1308	0.24	0.43	0.00	0.00	1.00
SECURITIES	1308	0.48	0.50	0.00	0.00	1.00
COMLOAN	1308	0.08	0.21	0.00	0.00	0.97
CAPRATIO	1308	11.68	31.46	-3.75	1.34	182.00
INTANG	1308	0.31	0.82	0.00	0.00	4.41
BIG4	1308	0.53	0.50	0.00	1.00	1.00
CEOTENURE	1308	1.11	0.92	0.00	1.10	3.37
Firm_CG	1308	0.54	0.34	0.00	0.50	1.00
AUD_CHNG	1308	0.09	0.28	0.00	0.00	1.00
SUB_LN	1308	0.78	1.15	0.00	0.00	4.26
M&A	1308	0.10	0.30	0.00	0.00	1.00
AGE	1308	2.92	1.01	0.69	2.83	5.11

Note: This table reports the descriptive statistics of dependent, independent, and control variables. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise.

2.4.2 Correlation Results

The Pearson's correlation results are reported in Table 3. These show that the correlations between the dependent variable (*AFEE*) and the independent variables (*INCS%* and *INCS_D*) are positive and significant at $p < 0.01$. *AFEE* is also significantly correlated with several control variables. Multicollinearity is not a concern in this study as none of the correlation coefficients exceeds the threshold of 0.80 (Halcoussis, 2005).

Table 3. Pearson's Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1. AFEE	1.00															
2. INCS%	0.21***	1.00														
3. INCS_D	0.46***	0.50***	1.00													
4. SIZE	0.76***	0.20***	0.42***	1.00												
5. LOSS	-0.25***	-0.15***	-0.26***	-0.40***	1.00											
6. SECURITIES	0.06**	-0.02	-0.03	0.13***	0.13***	1.00										
7. COMLOAN	0.46***	-0.02	0.13***	0.47***	-0.09***	0.17***	1.00									
8. CAPRATIO	0.37***	0.24***	0.21***	0.37***	-0.13***	-0.03	0.05*	1.00								
9. INTANG	0.11***	0.01	0.02	-0.09***	0.04	-0.12***	-0.10***	-0.08***	1.00							
10. BIG4	0.28***	0.08***	0.13***	0.30***	-0.13***	0.05**	0.11***	0.08***	0.03	1.00						
11.CEOTENURE	0.17***	0.01	0.07***	0.18***	-0.15***	0.04	0.01	0.09***	0.02	0.02	1.00					
12. Firm_CG	0.54***	0.12***	0.27***	0.54***	-0.26***	-0.11***	0.33***	0.30***	0.10***	0.18***	0.11***	1.00				
13. AUD_CHNG	-0.14***	-0.01	-0.06**	-0.16***	0.07***	-0.03	-0.06**	-0.07**	-0.01	-0.11***	-0.05*	-0.11***	1.00			
14. SUB_LN	0.68***	0.19***	0.44***	0.50***	-0.09***	0.01	0.31***	0.28***	0.01	0.21***	0.07**	0.40***	-0.08***	1.00		
15. M&A	0.05*	-0.03	0.01	0.04	0.06**	0.15***	-0.04	-0.02	0.06**	-0.04	0.06**	0.00	0.01	0.02	1.00	
16. AGE	0.46***	0.10***	0.17***	0.41***	-0.13***	0.03	0.20***	0.22***	0.02	0.21***	0.26***	0.39***	-0.04	0.32***	0.08***	1.00

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

2.4.3 Regression Results

2.4.3.1 Income Shifting and Audit Pricing (H_1)

Table 4 presents the FFE panel regression results for the association between income shifting (*INCS%* and *INCS_D*) and audit fees (*AFEE*). Models (1) – (2) show that the coefficients between income shifting and audit fees are positive and significant. The estimated coefficients for *INCS%* (0.073) and *INCS_D* (0.174) are positive and significant at $p < 0.05$ or lower. The result is consistent with the anticipation that engagement in income shifting increases business risk, audit risk, and the complexity of the audit service. In addition, the results are economically significant, with a 1 standard deviation increase in income shifting (*INCS%*) being associated with an increase in audit fees of around 4.75% (Model (1) in Table 4).[19] In other words, a $10,226 increase in audit fees (*AFEE*) per firm-year on average is observed for a 1-unit increase in the income-shifting variable (*INCS%*).[20] For the control variables, significant associations between several control variables (i.e., *SIZE*, *LOSS*, *INTANG*, *BIG4*, *AUD_CHNG*, *SUB_LN*, and *AGE*) and audit pricing (i.e., *AFEE*) are found at $p < 0.05$ or lower.

This study also employed ordinary least squares (OLS) regression analysis to examine the robustness of the baseline results. As reported in Models (3) and (4) of Table 4, *INCS%* is positively (0.047), but not significantly, associated with *AFEE*, indicating that the association between income shifting (when income shifting is measured as a continuous variable) and audit pricing is not robust using OLS analysis. The coefficient for *INCS_D* is positive (0.292) and significant ($p < 0.01$), suggesting that the audit fees paid by financial firms engaging in tax-motivated income shifting are about 29.2% higher than those paid by financial firms not engaging in income shifting. Finally, there are significant associations between some control variables (i.e., *SIZE*, *COMLOAN*, *CAPRATIO*, *INTANG*, *BIG4*, *SUB_LN*, and *AGE*) and audit fees.

Table 4. FFE regression results: Income shifting and audit pricing (H1)

Variables	***Model 1: FFE***	***Model 2: FFE***	***Model 3: OLS***	***Model 4: OLS***
	A_FEE	***A_FEE***	***A_FEE***	***A_FEE***
INCS%	**0.073****		**0.047**	
	(2.48)		**(1.00)**	

[19] This is calculated as 0.65 (INCS% standard deviation) × 0.073 (Model (1) regression coefficient) × 100% = 4.75%.

[20] This is calculated as 0.073 (regression coefficient of Model (1) in Table 4) * mean audit fees of $140,084 = $10,226.

INCS_D		**0.174*** **		**0.292*** **
		(2.92)		**(3.95)**
SIZE	0.148***	0.142***	0.255***	0.243***
	(7.92)	(7.54)	(18.10)	(17.21)
LOSS	0.118***	0.127***	0.018	0.047
	(2.70)	(2.90)	(0.28)	(0.72)
SECURITIES	-0.024	-0.019	-0.032	-0.025
	(-0.49)	(-0.40)	(-0.56)	(-0.43)
COMLOAN	-0.268	-0.238	1.114***	1.139***
	(-1.22)	(-1.08)	(9.69)	(9.98)
CAPRATIO	-0.001	-0.001	0.005***	0.005***
	(-0.64)	(-0.67)	(5.46)	(5.70)
INTANG	0.087***	0.085***	0.328***	0.321***
	(3.32)	(3.23)	(10.36)	(10.15)
BIG4	0.160***	0.154**	0.123**	0.129**
	(2.60)	(2.50)	(2.32)	(2.44)
CEOTENURE	-0.001	-0.003	0.039	0.039
	(-0.02)	(-0.11)	(1.43)	(1.41)
Firm_CG	0.012	0.013	0.070	0.088
	(0.13)	(0.14)	(0.73)	(0.91)
AUD_CHNG	-0.101**	-0.097**	-0.087	-0.092
	(-2.15)	(-2.06)	(-0.97)	(-1.01)
SUB_LN	0.211***	0.195***	0.558***	0.524***
	(5.59)	(5.17)	(17.32)	(15.25)
M&A	-0.002	-0.006	0.085	0.078
	(-0.04)	(-0.12)	(0.92)	(0.88)
AGE	0.354***	0.362***	0.169***	0.174***
	(4.50)	(4.60)	(5.45)	(5.68)
Constant	7.769***	7.847***	5.782***	5.937***
	(17.77)	(17.95)	(22.18)	(23.16)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	NO	NO
R-squared	0.939	0.939	0.748	0.751
N	1,308	1,308	1,308	1,308

Note: This table presents the fixed-effects (FE) and ordinary least squares (OLS) regression coefficients and their statistical significance for the regression model, with alternative measures of income shifting. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loans (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.4.3.2 The Moderating Effect of Financial Secrecy (H_2)

Table 5 presents the results of the analysis designed to test the moderating role of financial secrecy, by investigating empirically whether the positive association between firms' engagement in income shifting (*INCS%* and *INCS_D*) and the pricing of audit services (*AFEE*) is affected by high and low FSI. Models (1) and (3) show that both coefficients of income shifting (*INCS%* and *INCS_D*) are positive and significant when the FSI is high (i.e., the financial secrecy score is above the sample mean and *SS* = 1). However, as reported in Models (2) and (4), the coefficients of *INCS%* and *INCS_D* are insignificant in the low FSI subsample (i.e., the financial secrecy score is under or equal to the sample mean and *SS* = 0). This result confirms the moderating role of financial secrecy. When a firm has high levels of financial secrecy, a positive association between income shifting and audit pricing is evident. In other words, financial firms characterised by poor transparency are more likely to shift profit as a result of their lower risk of exposure to tax authorities. It is harder for auditors to access information owing to the low transparency, and auditing such financial firms is therefore more difficult and complex, resulting in an increase in audit fees.

Table 5. Moderating role of financial secrecy (H_2)

Variables	***A_FEE***		***A_FEE***	
	***SS* = 1**	***SS* = 0**	***SS* = 1**	***SS* = 0**
INCS%	**0.140*** **	**-0.035**		
	(3.38)	**(-1.01)**		
INCS_D			**0.151****	**0.107**
			(2.10)	**(0.95)**
SIZE	0.154***	0.161***	0.147***	0.157***
	(2.96)	(4.51)	(2.78)	(4.29)
LOSS	0.118*	0.137**	0.106	0.153**
	(1.73)	(2.14)	(1.53)	(2.42)
SECURITIES	0.028	-0.094	0.029	-0.093
	(0.41)	(-1.02)	(0.42)	(-1.01)
COMLOAN	-0.330	-0.128	-0.289	-0.107
	(-0.78)	(-0.56)	(-0.66)	(-0.46)
CAPRATIO	-0.000	-0.001	0.000	-0.001
	(-0.01)	(-0.65)	(0.14)	(-0.66)
INTANG	0.067*	0.096**	0.061	0.094**
	(1.68)	(2.06)	(1.54)	(2.02)
BIG4	0.105	0.176*	0.101	0.178*
	(0.94)	(1.89)	(0.91)	(1.89)
CEOTENURE	-0.039	0.013	-0.042	0.014
	(-1.01)	(0.32)	(-1.08)	(0.34)

Firm_CG	0.053	-0.030	0.063	-0.027
	(0.31)	(-0.20)	(0.36)	(-0.18)
AUD_CHNG	-0.057	-0.186***	-0.048	-0.180**
	(-0.67)	(-2.62)	(-0.56)	(-2.52)
SUB_LN	0.159***	0.258***	0.150***	0.258***
	(2.85)	(5.61)	(2.65)	(5.59)
M&A	-0.084	0.051	-0.092	0.051
	(-0.97)	(0.67)	(-1.06)	(0.67)
AGE	0.433***	0.203	0.442***	0.217
	(2.96)	(1.37)	(2.95)	(1.45)
Constant	7.474***	7.990***	7.575***	8.005***
	(6.40)	(10.83)	(6.44)	(10.77)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
N	620	688	620	688
R-squared	0.929	0.944	0.928	0.944

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model of the second hypothesis (H_2), with alternative measures of income shifting. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loans (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.4.3.3 The Moderating Effect of Reputation Risk Disclosure (H_3)

The next hypothesis (H_3) aims to test whether the positive association between income shifting and audit fees is moderated by a firm's reputation risk disclosure. As shown in Models (1) and (3) of Table 6, the coefficients of *INCS%* and *INCS_D* are both positive but insignificant for the group of firms with reputation risk disclosure (i.e., *RR* = 1). However, within the subsample of firms with no reputation risk disclosure (i.e., *RR* = 0), the coefficients of *INCS%* and *INCS_D* are both positive and significant at $p < 0.01$. When firms engage in income shifting and do not make reputation risk disclosures, auditors need to put more time and effort into identifying the reputation risk and determining whether there is a tax issue involved. As a result, such firms need to pay more for the audit services.

Table 6. Moderating role of reputation risk disclosure (H3)

Variables	*A_FEE*		*A_FEE*	
	***RR* = 1**	***RR* = 0**	***RR* = 1**	***RR* = 0**
INCS%	**0.028**	**0.092*** **		
	(0.48)	**(2.71)**		
INCS_D			**0.034**	**0.312*** **
			(0.26)	**(4.51)**
SIZE	0.020	0.155***	0.015	0.146***
	(0.34)	(5.02)	(0.25)	(4.70)
LOSS	0.356***	0.058	0.351**	0.074
	(2.65)	(1.17)	(2.54)	(1.50)
SECURITIES	-0.226	0.015	-0.231	0.019
	(-1.37)	(0.27)	(-1.40)	(0.35)
COMLOAN	0.469	-0.451	0.478*	-0.496*
	(1.61)	(-1.63)	(1.65)	(-1.80)
CAPRATIO	-0.002*	0.001	-0.002*	0.001
	(-1.74)	(0.64)	(-1.73)	(0.60)
INTANG	0.031	0.089**	0.032	0.083**
	(0.93)	(2.45)	(0.96)	(2.29)
BIG4	0.453*	0.137*	0.430*	0.139*
	(1.95)	(1.82)	(1.90)	(1.88)
CEOTENURE	-0.087	0.016	-0.092	0.014
	(-1.24)	(0.54)	(-1.34)	(0.49)
Firm_CG	-0.213	0.130	-0.211	0.134
	(-1.28)	(1.13)	(-1.28)	(1.16)
AUD_CHNG	-0.040	-0.118**	-0.042	-0.109*
	(-0.42)	(-2.04)	(-0.45)	(-1.89)
SUB_LN	0.154***	0.242***	0.146***	0.222***
	(4.67)	(4.01)	(4.21)	(3.73)
M&A	-0.156*	0.019	-0.163**	0.020
	(-1.89)	(0.30)	(-2.02)	(0.31)
AGE	0.029	0.445***	0.039	0.453***
	(0.12)	(4.06)	(0.16)	(4.18)
Constant	12.571***	6.989***	12.667***	7.105***
	(7.94)	(10.76)	(7.97)	(10.98)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
N	319	989	319	989
R-squared	0.977	0.875	0.977	0.877

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model of the third hypothesis (H_3), with alternative measures of income shifting. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the

Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loans (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.4.3.4 The Moderating Effect of Risk Culture and Conduct Risk Disclosure (H_4)

The fourth hypothesis (H_4) is intended to examine empirically the moderating role of a firm's risk culture and conduct risk disclosure. The regression results are reported in Table 7. In Models (1) and (3), when firms disclose their risk culture and conduct risk (i.e., *RCCR* = 1), the coefficients of *INCS%* and *INCS_D* are positive but insignificant. Models (2) and (4) show that *INCS%* and *INCS_D* are significantly and positively associated with *AFEE* ($p < 0.10$) when firms do not disclose their risk culture and conduct risk (i.e., *RCCR* = 0). The results indicate that when a firm does not have a risk culture and conduct risk disclosure, its engagement with income shifting leads to higher audit fees. These findings are similar to those discussed in the previous section (Section 2.4.3.3) about the moderating role of reputation risk disclosure in the relationship of income shifting and auditing pricing. Without the disclosure of risk culture and conduct risk, auditors need to exert more effort in the audit process, and the audit price consequently increases.

Table 7. Moderating role of risk culture and conduct risk disclosure (H_4)

Variables	***A_FEE***		***A_FEE***	
	***RCCR* = 1**	***RCCR* = 0**	***RCCR* = 1**	***RCCR* = 0**
INCS%	**0.060**	**0.080***		
	(1.20)	**(1.87)**		
INCS_D			**0.075**	**0.247*****
			(0.91)	**(3.21)**
SIZE	0.031	0.154***	0.026	0.146***
	(1.03)	(4.86)	(0.75)	(6.37)
LOSS	0.127	0.130**	0.130*	0.146***
	(1.47)	(2.46)	(1.84)	(2.71)
SECURITIES	-0.059	-0.042	-0.063	-0.039
	(-0.74)	(-0.59)	(-1.05)	(-0.62)
COMLOAN	0.301	-0.556*	0.314	-0.625*
	(1.59)	(-1.71)	(1.39)	(-1.68)
CAPRATIO	-0.000	-0.001	-0.000	-0.001
	(-0.03)	(-0.49)	(-0.01)	(-0.62)
INTANG	0.044	0.085***	0.043	0.082***
	(0.94)	(2.70)	(0.74)	(2.70)

BIG4	-0.067	0.127	-0.083	0.124*
	(-0.35)	(1.63)	(-0.54)	(1.72)
CEOTENURE	-0.022	0.010	-0.025	0.008
	(-0.84)	(0.27)	(-0.91)	(0.26)
Firm_CG	-0.463***	0.111	-0.454***	0.112
	(-2.74)	(0.96)	(-3.35)	(0.98)
AUD_CHNG	0.022	-0.126**	0.009	-0.113*
	(0.32)	(-2.07)	(0.13)	(-1.96)
SUB_LN	0.139***	0.296***	0.123***	0.273***
	(4.87)	(4.43)	(3.49)	(4.52)
M&A	-0.084	0.019	-0.091	0.018
	(-1.50)	(0.28)	(-1.39)	(0.29)
AGE	-0.295	0.399***	-0.269	0.400***
	(-1.07)	(3.66)	(-1.62)	(4.05)
Constant	13.828***	7.179***	13.852***	7.302***
	(9.99)	(10.93)	(13.37)	(14.33)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
N	320	988	320	988
R-squared	0.988	0.861	0.988	0.862

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model of the fourth hypothesis (H_4), with alternative measures of income shifting. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loans (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.4.3.5 The Moderating Effect of Tax Haven Utilisation (H_5)

This section examines the last hypothesis (H_5) and reports the results in Table 8. It can be observed that the coefficient on each of the income-shifting variables *INCS%* and *INCS_D* is significant and positive for the subsample of firms that have at least one subsidiary located in a tax haven jurisdiction. The coefficients of *INCS%* and *INCS_D* are not significant for the subsample of firms which do not have a subsidiary located within a tax haven jurisdiction. These results support the conjecture that tax haven usage augments income shifting and contributes to an increase in financial obfuscation and business risk, thereby increasing the price auditors charge.

Table 8. Moderating role of tax haven utilisation (H_5)

Variables	*A_FEE*		*A_FEE*	
	***TH* = 1**	***TH* = 0**	***TH* = 1**	***TH* = 0**
INCS%	**0.091***	**-0.046**		
	(1.95)	**(-0.71)**		
INCS_D			**0.517*****	**0.066**
			(3.81)	**(0.78)**
SIZE	0.514***	0.204***	0.460***	0.200***
	(17.29)	(10.57)	(15.49)	(10.58)
LOSS	0.342**	0.051	0.417**	0.057
	(2.06)	(0.74)	(2.54)	(0.82)
SECURITIES	-0.048	-0.135**	-0.010	-0.128**
	(-0.39)	(-2.09)	(-0.08)	(-1.98)
COMLOAN	-0.019	1.262***	0.066	1.291***
	(-0.10)	(8.74)	(0.36)	(8.84)
CAPRATIO	0.008***	0.003**	0.008***	0.003**
	(7.55)	(2.08)	(8.96)	(2.11)
INTANG	0.196***	0.345***	0.159**	0.345***
	(3.38)	(9.92)	(2.49)	(9.89)
BIG4	-0.188*	0.223***	-0.203*	0.225***
	(-1.74)	(3.87)	(-1.92)	(3.92)
CEOTENURE	-0.050	0.075***	-0.013	0.075***
	(-0.90)	(2.62)	(-0.22)	(2.62)
Firm_CG	-0.387*	0.209*	-0.181	0.209*
	(-1.79)	(1.95)	(-0.83)	(1.94)
AUD_CHNG	0.058	-0.143	0.058	-0.147
	(0.31)	(-1.54)	(0.31)	(-1.57)
SUB_LN	-0.189**	0.535***	-0.193**	0.529***
	(-2.20)	(9.65)	(-2.31)	(9.37)
M&A	-0.193	0.082	-0.190	0.084
	(-1.30)	(0.79)	(-1.38)	(0.81)
AGE	0.201***	0.143***	0.234***	0.144***
	(3.40)	(4.21)	(4.24)	(4.23)
Constant	2.805***	6.664***	3.407***	6.704***
	(5.98)	(18.47)	(7.60)	(18.82)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
N	297	1,011	297	1,011
R-squared	0.879	0.543	0.885	0.543

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model of the fifth hypothesis (H_5), with alternative measures of income shifting. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loans (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.4.4 Endogeneity Test: Generalised Method of Moments (GMM) Model

There is a possibility that the main regression results (the OLS and FFE analyses) for H_1 (presented in Table 4) are affected by endogeneity and omitted variable bias (Wooldridge, 2010). Agha (2013) argued that FFE analysis is not robust to endogeneity that results from unobserved heterogeneity in the potential correlations between unobserved firm characteristics and other variables. Furthermore, owing to central bank regulations, the audit pricing for financial firms is always higher than that for firms from other industries (Eulaiwi et al., 2021). Following Agha and Eulaiwi (2020) and Eulaiwi et al. (2021), this study employs a generalised method of moments (GMM) model to control for potential endogeneity and increase the robustness of the main findings further.

To perform system GMM estimator regression, this study uses lagged values of the predetermined variables as instruments in the first-differenced estimator. To achieve consistent GMM estimator results, second-order correlation or higher autocorrelations in the error term should be restricted (Arellano & Bover, 1995; Blundell & Bond, 1998). The Sargan test is also performed to examine the validity of the instrumental variables.

The GMM estimator results for H_1 are presented in Table 9. The coefficients between both income-shifting variables (*INCS%* and *INCS_D*) and *AFEE* are positive and significant at $p < 0.05$ and $p < 0.01$, respectively. Furthermore, the value of the M1 test ($p < 0.10$) indicates first-order autocorrelation in the first-differenced residuals, and the value of the M2 test ($p > 0.10$) indicates the absence of second-order autocorrelation in the error term. Finally, the value of the Sargan test is not significant ($p > 0.10$), which confirms the exogeneity and validity of the instrumental variables used in the analysis. Overall, the GMM estimator regression result demonstrates a positive association between income shifting and audit fees, indicating that the results of H_1 are robust to endogeneity.

Table 9. GMM estimator regression results: Income shifting and audit pricing (H_1)

Variables	***A_FEE***	***A_FEE***
Lagged dependent$_{(t-1)}$	0.815***	0.845***
	(10.71)	(20.34)
INCS%	**0.084****	
	(2.00)	
INCS_D		**0.191*****
		(2.68)
SIZE	0.102***	0.048***

	(4.27)	(4.17)
LOSS	0.623***	0.317***
	(4.86)	(4.68)
SECURITIES	-0.070	0.003
	(-0.73)	(0.09)
COMLOAN	-0.034	0.070
	(-0.19)	(0.76)
CAPRATIO	-0.002***	-0.000
	(-2.66)	(-0.29)
INTANG	0.062	0.054**
	(1.51)	(2.04)
BIG4	0.017	0.044
	(0.31)	(1.35)
CEOTENURE	0.010	0.024
	(0.29)	(1.48)
Firm_CG	0.134	0.096
	(1.20)	(1.50)
AUD_CHNG	0.005	-0.093**
	(0.05)	(-2.00)
SUB_LN	0.105**	0.064**
	(2.29)	(2.45)
M&A	-0.036	-0.040
	(-0.26)	(-0.90)
AGE	-0.062**	-0.032*
	(-2.14)	(-1.72)
Constant	-2.422**	1.396***
	(-2.23)	(3.37)
YEAR FE	YES	YES
N	1171	1171
M1 test	0.017	0.025
M2 test	0.984	0.197
Sargan *p*-value	0.786	0.996

Note: This table presents the regression coefficients and their statistical significance for the baseline regression using a generalised method of moments (GMM) model. *Lagged dependent*$_{(t-1)}$, calculated as the lagged value of the predetermined variable, is the instrumental variable in the first-differenced estimator. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loans (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.4.5 Propensity Score Matching (PSM) Analysis

In this section, propensity score matching (PSM) is employed to mitigate potential concerns around self-selection bias of the regression coefficients (Shipman et al., 2017). The PSM procedure first involves the use of a probit model to generate predicted values from a series of determinants of the income-shifting variables. The dependent variable *INCS_D* is coded 1 if a firm exhibits strength in income-shifting incentives greater than the median, and 0 otherwise. The propensity scores are then matched across the treatment (*INCS_D* equal to 1) and control groups (*INCS_D* equal to 0). The procedure uses nearest neighbour matching without replacement to ensure that firm-year observations across the treatment and control groups are matched based on comparable predicted values (Austin, 2011). To assess the effectiveness of the matching process, this study performs *t*-tests of covariate distributions between the treatment group and the control group. Table 10, Panel A, shows that the *t* statistics between the treatment and the control group for each of the covariates are insignificant except for the *LOSS* and *BIG4* variables. In the second stage regression, the coefficients of both income-shifting variables (*INCS%* and *INCS_D*) are significantly and positively related to audit fees at $p < 0.10$ or better, indicating that a firm exhibiting strength in income shifting will tend to be associated with higher audit fees (Table 10, Panel B). H_1 is further supported by the PSM results. Several of the control variables also demonstrate consistency in the direction and level of significance with those in the baseline model (see Table 4).

Table 10. Propensity score matching

Panel A: Covariate balancing

Variables	**Treatment**	**Control**	***t*-statistic**
SIZE	19.657	19.802	-0.66
LOSS	0.050	0.110	-2.30
SECURITIES	0.349	0.417	-1.48
COMLOAN	0.058	0.078	-1.02
CAPRATIO	16.424	19.708	-0.81
INTANG	0.393	0.490	-1.05
BIG4	0.606	0.505	2.13
CEOTENURE	1.202	1.203	-0.01
Firm_CG	0.628	0.647	-0.60
AUD_CHNG	0.083	0.083	0.00
SUB_LN	1.093	1.171	-0.67
M&A	0.092	0.124	-1.08
AGE	3.018	2.985	0.35

Panel B: Second stage results

Variables	***AFEE***	
INCS%	**0.061****	
	(2.10)	
INCS_D		**0.142***
		(1.93)
SIZE	0.164***	0.157***
	(3.89)	(3.74)
LOSS	0.273***	0.289***
	(2.66)	(2.80)
SECURITIES	0.020	-0.001
	(0.22)	(-0.01)
COMLOAN	0.270	0.392
	(0.79)	(1.13)
CAPRATIO	0.006*	0.006
	(1.76)	(1.61)
INTANG	0.046	0.049
	(0.79)	(0.83)
BIG4	0.250**	0.209*
	(2.29)	(1.92)
CEOTENURE	0.048	0.050
	(1.31)	(1.35)
Firm_CG	-0.201	-0.243
	(-1.37)	(-1.65)
AUD_CHNG	0.005	0.028
	(0.06)	(0.36)
SUB_LN	0.246***	0.259***
	(4.56)	(4.77)
M&A	-0.035	-0.046
	(-0.42)	(-0.55)
AGE	0.267*	0.295**
	(1.81)	(1.98)
Constant	7.618***	7.671***
	(8.52)	(8.59)
Year FE	YES	YES
Firm FE	YES	YES
N	370	370
R-squared	0.967	0.967

Note: This table presents sample matching using the propensity sample matching (PSM) technique and the baseline result based on a matched sample. Panel A reports the covariate comparisons of the matching items between treatment group and control groups. Panel B presents the coefficients and their statistical significance for the baseline model based on the matched sample. The dependent variable, *AFEE*, is the natural logarithm of the firm's audit fees. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30%

due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1). The second measure of income shifting, *INCS_D*, is a binary variable coded 1 if the variable *INCS%* in Eq. (1) is negative, and 0 otherwise. Control variables include the firm's size (*Size*), financial performance (*LOSS*), total securities (*SECURITIES*), loan (*COMLOAN*), capital structure (*CAPRATIO*), intangible assets held (*INTAG*), audit quality (*BIG4*), CEO's tenure (*CEOTENURE*), firm's corporate governance strength (*Firm_CG*), auditor change (*AUD_CHNG*), firm's subsidiary structure (*SUB_LN*), engagement with M&A activities (*M&A*), and firm's age (*AGE*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

2.5 Conclusion, Implications, and Limitations

This study investigates whether Australian financial firms' engagement in income shifting is associated with audit fees. It also examines the moderating role of firms' financial secrecy, disclosure of reputation risk and risk culture and conduct risk, and tax haven utilisation on the relationship between income shifting and audit fees. This study finds that a firm's engagement in income shifting is positively associated with audit fees. The results are economically significant, suggesting that a 1 standard deviation increase in income shifting is, on average, associated with an increase in audit fees of around 4.75%. In addition, the results demonstrate that financial secrecy, reputation risk disclosure, risk culture and conduct risk disclosure, and tax haven utilisation can moderate the positive association between income shifting and audit pricing. Higher levels of financial secrecy or poor transparency can induce firms to shift income out of their jurisdiction and lead to higher audit fees. In addition, in firms with no disclosure of reputation risk or of risk culture and conduct risk increased engagement in income-shifting activities leads to higher audit pricing. The positive effects of income shifting on audit fees are also stronger in firms with subsidiaries in tax haven jurisdictions.

The findings of this study have theoretical implications for audit pricing. This study contributes to audit pricing theory by demonstrating a positive association between income shifting activities and audit fees. The results suggest that firms engaging in income shifting present greater risks and complexities, requiring auditors to put in more effort, which further increases audit fees. This highlights the need to consider a client's operational practices, such as tax strategies, when determining audit fees. The findings provide a deeper understanding of factors influencing audit pricing and also enhance the supply-side perspective of audit pricing theory.

This study also has practical implications. This study highlights the importance of the roles of the auditor, and the importance of client management and governing committees within organisations in terms of mitigating financial reporting risks that could stem from aggressive income-shifting arrangements. Further, reduced or omitted risk disclosures and the use of tax havens may need to be considered as metrics of business risk by auditors as metrics of business risk by auditors as these can expose potentially illicit firm activity, and the risks associated

with this, thus enabling other outsiders to identify these risks. These elements of business risk that may exacerbate the risks around aggressive income-shifting arrangements may add to the fee premium in audit pricing. This is particularly pertinent in the Australian financial services industry given the findings of the 2019 Australian Royal Commission into the financial services industry.

In terms of limitations and future research, the author acknowledges that there are other methods of tax reduction apart from income shifting. Future research may investigate the impacts of other tax planning mechanisms on audit pricing. It would also be worth investigating whether the findings of this study are generalisable to firms in other industries which are subject to different regulatory requirements. Given that the relationship between income shifting and audit pricing may be impacted by country-level institutional factors (such as culture, the legal and regulatory environment, and the level of capital market development), it would be worthwhile to replicate this study using data from other countries. Further, the results could differ in jurisdictions where the corporate tax rate differs markedly from the Australian statutory tax rate as this may impact the incentives to shift income or to reallocate income and deductible expenses to other tax-effective regimes. Finally, the results may not be applicable to a country where litigation and non-tax costs have a different role in providing incentives for auditors to act independently.

Chapter 3

Anti-money Laundering Disclosure and Litigation Risk: Evidence from Financial Institutions

3.1 Introduction

3.1.1 Research Background

Litigation risk poses significant threats to firms as litigation incurs significant costs. Litigation is commonly understood as involving the filing of a lawsuit and the official procedure of resolving disputes through the legal system. Prior studies have found that the risk involved in litigation (i.e., litigation risk) leads to substantial and long-lasting poor firm performance (Arena, 2018; Malm et al., 2023; Wu et al. 2020). While prior studies have focused primarily on the impact of litigation risk on firm performance (e.g., Cao & Narayanamoorthy, 2011; Lowry & Shu, 2002; Wu et al., 2020), only a few studies have investigated the factors that affect litigation risk (e.g., Huang et al., 2020; Francis et al., 1994). For instance, poor disclosure quality and earnings management by firms in developed countries trigger litigation issues (Huang et al., 2020). Although Lev (1992) and Skinner (1994) argue that pre-emptive actions such as voluntarily disclosing earnings warnings could reduce the likelihood of litigation, they do not provide direct evidence regarding the deterrent impact of voluntary disclosure.

The impact of disclosure on litigation risk has been described as a "controversy in prior literature" (Johnson et al., 2001, p. 303). While Francis et al. (1994) reported that early disclosure increases litigation risk, Field et al. (2005) found that disclosure mitigates earnings-related lawsuits and disclosure-related lawsuits. Disclosure quality can affect litigation risk to a certain degree. More specifically, the asymmetric information between a litigant and a potential risk bearer may pose a significant challenge in establishing a viable market in litigation risk (Molot, 2009). Relevant to this, Habib et al. (2014) showed that poor financial reporting quality is the primary determinant of a firm's litigation. Insufficient disclosure or the failure to proactively report information can lead to a decrease in financial reporting quality. This could be attributable to management's reluctance to disclose certain information, as such information could draw external attention and potentially increase firm risks. Hence, management tries not to report information related to risky activities to the public to avoid drawing negative attention.

Money laundering, a way to legitimise illicit gains acquired through unlawful activities (Isa et al., 2015), poses significant dangers to global stability and security.[21] The United Nations Office on Drugs and Crime (UNODC) estimates that the annual amount of laundered money ranges from $800 billion to $2 trillion in US dollars, constituting 2 to 5 per cent of the global gross domestic product (GDP). Money laundering poses significant risks for financial institutions, particularly banks, as they serve as the primary points of contact for individuals engaging in such activities. The financial services offered by these institutions create opportunities for money launderers to "cleanse" their illicit funds (Isa et al., 2015). It has been argued that financial institutions in China have become more likely to be used as vehicles for "washing" money in the context of the country's rapid economic development (Ai et al., 2020). In 2023, the People's Bank of China (PBC) imposed a total of 1,034 anti-money laundering (AML) administrative penalties, resulting in approximately 5.239 billion RMB in penalties.[22] As financial institutions are at the forefront of engaging in money laundering activities, they have more responsibilities of detecting and eradicating the related risks. As such, Chinese financial institutions are obliged to adhere to AML policies and manage these risks. Non-compliance with AML regulations can subject firms to litigation risks. Additionally, financial institutions may face tensions as reporting obligations may conflict with customer confidentiality duties (Gikonyo, 2021; Mugarura, 2015). Therefore, this study seeks to investigate the impact of AML-related voluntary disclosure on the litigation risk of financial institutions.

China offers a unique setting for exploring the association between AML-related disclosure and litigation risk for three important reasons. First, the rapid economic development in China provides more opportunities for money launderers to obtain illegal funds through various business activities. Second, the initial AML actions in China followed a rule-based approach. Under a rule-based system, regulatory authorities establish regulations or requirements for financial institutions to strictly comply with. Anything that is prohibited (or required) should also be banned (or compulsory) in all contexts and all cases (Ai et al., 2010).

[21] Money laundering is the act of legitimising financial proceeds obtained from illicit activities, effectively making "dirty" money appear clean (Habib et al., 2018; Nobanee & Ellili, 2018; Tiwari et al., 2020). This process typically involves three stages: placement, layering, and integration (Buchanan, 2004). Money laundering enables illegal activities worldwide and poses serious consequences for the global economy. In response, an increasing number of countries are prioritising anti-money laundering efforts and establishing AML organisations to mitigate these illegal activities.

[22] The PBC, founded in 1948, is the central bank of China. The PBC is tasked with implementing monetary policy and regulating financial institutions. For further details, please refer to <http://www.pbc.gov.cn>

Therefore, a rule-based approach is more likely to result in formalistic over-reporting (Unger &Van Waarden, 2009). Although China has shifted its AML approach towards a risk-based approach since the release of the *40 Recommendations* by the Financial Action Task Force (FATF) in 2012 (Ai et al., 2010), the AML process in China has lagged far behind those of the developed countries that initially adopted the risk-based approach. Furthermore, current AML regulations in China do not require mandatory AML-related disclosures, allowing discretion for financial institutions in their reporting practices. As a result, the AML system in China is still developing, and certain deficiencies still exist. Third, given that China operates under a civil legal system and its legal environment is still evolving, it is essential to investigate factors that can alleviate litigation issues within this "underdeveloped and highly capricious legal system" (Allen et al., 2005; Firth et al., 2011, p. 573; Shan & Round, 2012; Wu et al., 2020).

3.1.2 Research Objective and Motivation

An overarching goal of this study is to find out whether including disclosures regarding AML activities as an effort to fight money laundering will address the potential litigation risk encountered by financial institutions. A point of departure is examining how Chinese financial institutions deal with the disputes generated by insufficient AML practices. As AML information is usually hard to obtain by outsiders, the only way to understand how a firm implements its AML system is through the firm disclosing AML-related information. However, information asymmetry still exists as so far there is no specific requirement regarding AML-related disclosures in China. Some of the financial institutions fail to report such information even though they effectively implement their AML system. Therefore, this is a good research opportunity as this study will emphasise the impact of such optional disclosure on a firm's litigation risk, from the perspective of mitigated information asymmetry and improved corporate governance.

Current studies on the association between voluntary disclosure and litigation risk mostly focus on financial disclosures. It can be observed that earnings forecasts (e.g., Donelson et al., 2012; Houston et al., 2019; Robinson et al., 2023) and restatements (e.g., Fuerman, 1997; Palmrose & Scholz, 2004) are the most popular voluntary disclosure categories in terms of litigation risk studies. However, the information contained in such disclosures is usually available to the public. Other information, such as information about money laundering, corruption, and shadow banking, is always regarded as private and risky. Any deficiencies in these systems could indicate the potential flaws of the firm's risk management. Previous studies (e.g., Francis et al., 1994; Skinner, 1997) have documented that the voluntary disclosure of bad

news leads to a greater potential for litigation. Thus, financial institutions are less willing to disclose such information due to the fear of litigation (Houston et al., 2019). Due to limited availability of or access to information, the impact of risk-related voluntary disclosure has been overlooked by scholars.

When considering existing research, the impact of voluntary disclosure on litigation risk is still ambiguous. According to transparency-stability theory, greater disclosure enhances transparency, resulting in lower information asymmetry and more efficient resource allocation (Tadesse, 2006). However, transparency-fragility theory proposes the opposite argument that greater disclosure would indicate the problems existing within the firms and may lead to negative consequences (Mathuva et al., 2020; Takáts, 2011; Van der Zahn et al., 2007). Disclosing AML-related information demonstrates the effort of financial institutions in fighting against illegal and terrorist activities, suggesting an effective corporate governance system in terms of risk taking. Such disclosures enable outsiders to understand how a firm's AML system works and may build their confidence in the firm's activities. As a result, such disclosures could lower the potential of future disputes between the outsider and the firm. Accordingly, this study aims to clarify whether disclosing AML-related information would positively or negatively impact litigation risk.

3.1.3 Research Findings

Using a sample of Chinese listed financial institutions from 2007 to 2022, this study finds evidence of the negative impact of AML disclosure on litigation risk. The result suggests that greater disclosures of AML-related information in the annual report and internal control self-evaluation report could mitigate the potential of litigation risk. This result contrasts with Nobanee and Ellili's (2018) study, as they observed no impact of AML disclosure on the performance of United Arab Emirates (UAE) banks. One potential reason for such contrasting findings could be due to different institutional settings and the different nature of the association between the variables. The different measures of AML disclosures and the different proxies for firm performance could contribute to the different findings in each study. AML disclosure, as an indicator of the AML practices implemented by the firm, is more "risk-related", therefore, it is more likely to affect business activities prone to generate disputes and incur costs. However, the relationship underlying the association between AML disclosure and financial performance, as examined by Nobanee and Ellili (2018), is relatively weak, as AML disclosure cannot bring in profits directly.

The results of this study are robust to six different estimations to address the endogeneity concerns between AML disclosure and litigation risk. They are also robust to the use of alternative proxies for both litigation risk and AML disclosure, alternative sample period, examination of lagged disclosure effect, and the placebo test. Further analyses show that gender heterogeneity of the top management team (TMT) can affect the association between AML disclosure and litigation risk by contributing diverse and heterogeneous opinions and strategic suggestions. Specifically, this study finds that a TMT with greater gender heterogeneity can strengthen the association between AML disclosure and litigation risk. Moreover, when the financial institution is owned by the country, the impact of AML-related disclosure on litigation risk is greater. This study also finds that the association between AML-related disclosure and litigation risk is more pronounced when the firm's financial statement has better readability, as the information is more readable and enables the information users to capture key information regarding AML issues.

3.1.4 Research Contributions

This study makes several significant theoretical contributions. First, this study contributes to the literature on AML by adding knowledge about the disclosures of AML-related information made by Chinese financial institutions. It extends the literature on AML by focusing on the microeconomic level and contributing firm-level evidence regarding AML, which has not been investigated in prior studies. Existing research has, for example, explored AML disclosures in various contexts, and these studies have typically been conducted within different institutional frameworks. Nobanee and Ellili's (2018) examination of AML disclosures by banks in the UAE highlighted an overall low level of disclosure. Similarly, Siddique et al. (2022) investigated AML disclosures by money exchangers in the Gulf Cooperation Council (GCC) countries, also documenting minimal AML and counter-terrorism financing disclosures. Mathuva et al. (2020) reported comparable findings in their study of AML disclosures by banks in Kenya. However, there is a notable gap in the literature regarding AML disclosures by financial institutions in China, where money laundering is a particularly sensitive topic. In addition, previous studies on AML risk have often adopted a macroeconomic perspective (Bolgorian & Mayeli, 2020). To the best of the author's knowledge, no research to date has comprehensively examined AML disclosures across all types of financial institutions, such as banks, insurance companies, securities firms, and trust companies. This approach provides a more comprehensive insight into the AML disclosures made by responsible

organisations, contributing to a deeper understanding of AML practices within the financial sector.

Second, this study also contributes to new knowledge in the litigation risk literature by contributing to the ongoing debate concerning the risk of litigation associated with voluntary disclosure. Previous studies have documented an inverse causality between voluntary disclosure and litigation risk, leading to inconclusive evidence regarding their relationship. For instance, Roger and Stocken (2005) found that firms with a higher likelihood of involvement in litigation tend to issue more pessimistic forecasts compared to those with a lower litigation risk. Similarly, Houston et al. (2019) reported that lower litigation risk correlates with a lower probability and frequency of management earnings forecasts. Dong and Zhang (2019) have further suggested that the impact of litigation risk on a firm's disclosure practices is minimal in countries with weak law enforcement. The current study advances the literature by contending that voluntary disclosure affects firms' litigation risk in accordance with legitimacy theory and transparency-stability theory, which explain the channel through which voluntary disclosure affects litigation risk.

Finally, this study also contributes to the voluntary disclosure literature. It addresses the gap identified by Md Zaini et al. (2018), who noted that risk-related topics are underrepresented in voluntary disclosure studies. Moreover, risk-related information is always more qualitative and harder to measure and verify through quantitative data. By quantifying the AML-related information provided in financial reports, this study enriches the understanding of how voluntary disclosure associated with risk influences litigation risk.

3.1.5 Essay Structure

The rest of this study is structured as follows. Section 3.2 discusses the literature on litigation risk and AML-related disclosures. It also provides the conceptual framework based on two relevant theories and develops the corresponding hypotheses. Section 3.3 describes the research design. Section 3.4 presents the empirical results and endogeneity tests, while Section 3.5 discusses a battery of robustness tests. Section 3.6 presents the baseline results under different firm-specific characteristics. Finally, Section 3.7 concludes this essay by discussing some policy implications and also notes the limitations of this study.

3.2 Literature Review and Hypothesis Development

3.2.1 Litigation Risk

There are essentially four categories of litigation: (1) civil litigation, (2) business/commercial litigation, (3) criminal litigation, and (4) public interest litigation (Fletch Law, n.d.). In China, litigation is divided into three categories: (1) civil litigation, (2) criminal litigation, and (3) administrative litigation. Litigation risk suggests the likelihood of a firm engaging or being engaged in a lawsuit and incurring legal outcomes. According to Arena and Ferris (2018), defendant firms with headquarters located in civil law countries (e.g., France, China, Germany, Indonesia) or countries with less efficient legal systems face lower litigation risk. Firms headquartered in common law countries such as Australia, Canada, and the US have relatively higher litigation risk. Due to the increased complexity of business and organisational structures, firms nowadays have higher likelihood of incurring litigation risk (Liu et al., 2020; Wu et al., 2020). Such risk is always regarded as an external uncertainty for the firm (Liu et al., 2020). In terms of specific industries, technology firms are more likely to incur litigation risk due to their stock market characteristics (Jones & Weingram, 1996). Moreover, biotechnology, computer hardware, electronics, retailing, and computer software industries have been deemed to be high-risk industries as they are more likely to be sued (Francis et al., 1994; Roger & Stocken, 2005).

When firms engage in opportunistic behaviours, such as committing accounting fraud, firms are more likely to incur litigation risk (Kim & Skinner, 2012). Litigation risk is also determined by other factors. For example, Pukthuanthong et al. (2017) found that institutional investors have an impact on a firm's litigation risk, and the risk increases as short-term (long-term) institutional ownership increases (decreases). CEOs with higher social capital are also associated with litigation risk (Zhang et al., 2023). Therefore, firms can take corresponding actions to mitigate litigation risks.

However, firms may pay insufficient attention to their litigation risk (Wu et al., 2020). Previous literature has explored the consequences of litigation risk from both the internal perspective (e.g., for CEOs and for overall consequences for firms) and the external perspective (e.g., for auditors and investors). It has been argued that litigation risk could lead to strong and lasting consequences (Arena, 2018). The most direct impacts are financial losses and reputation damage. Firms are more likely to have poor operating performance when they incur higher litigation risk (Malm et al., 2023). Since the firms are the subjects of lawsuits, such litigation cases tend to convey a passive signal to the stock market. As a result, the defendant firm's reputation is harmed as outsiders are "informed" through the lawsuits that the company is open

to participating in activities that are claimed to be illegal (Engelmann & Cornell, 1988). Consistently, Johnson et al. (2014) also found evidence that litigation will damage a firm's reputation and further affect operating performance. Moreover, evidence suggests that firms exposed to litigation risk will be charged higher audit fees as more auditor effort is required (Abbott et al., 2017). Creditworthiness also decreases for firms at higher risk of litigation, and this affects the firm's funding ability (Arena, 2018). Especially for firms that have an initial public offering, the withdrawal decision has been shown to be strongly affected by the litigation risk (Qing, 2011).

Habib et al. (2014) claimed that CEOs are sued along with the firm in almost all lawsuits. Therefore, no matter whether the litigation is against the firm itself or the management of the firm (i.e., personal litigation), it should be regarded as a whole. As litigation risks may result in significant losses to an organisation, firms must take corresponding actions to navigate such external uncertainty and, therefore, mitigate the negative consequences.

On the other hand, being subject to litigation may not be a bad thing for the firm itself. According to learning effect theory, the firm can learn from past experiences and gain wisdom (Madsen & Desai, 2010). When a firm encounters related situations in the future, it will be better able to handle the issues. Liu et al. (2020) argued that higher litigation risk can improve a firm's risk taking as the firm learns how to bear and solve the risks during the litigation process.

3.2.2 AML-Related Disclosure

Disclosure by a firm is deemed critical for ensuring the efficient function of a capital market (Healy & Palepu, 2001). Firms, through disclosures, can provide and convey information to both insiders and outsiders. Besides the information presented in mandatory disclosures (e.g., financial statements, Form 10-K, related-party transactions), firms are also expected to provide the information users with additional information. Such additional information is always provided voluntarily by the firm. That is, the firm has the right to decide whether to provide voluntary disclosures or not. Voluntary disclosure can be divided into various categories, such as non-financial information, forward-looking information, strategic information, board composition information, and historical financial information (Lim et al., 2007). Such voluntary disclosures are expected to offer information users with detailed firm-specific information. Voluntary disclosure can benefit a firm's business performance and a firm's value depending on management's attitude towards voluntary disclosure (Ho & Taylor, 2013; Qu et al., 2013; Stocken, 2000; Uyar & Kılıç, 2012). Offering optimistic information regarding the

firm's performance or addressing concerns about certain areas can shape the views of information users towards the firms. In addition, disclosing bad news in a timely way can avoid certain negative consequences (Lev, 1992; Skinner, 1994). However, some firms are less willing to provide voluntary disclosures due to their fears of litigation (Houston et al., 2019). Unlike mandatory disclosure, which is prepared under certain regulations or laws, voluntary disclosure is subject to managerial discretion and may include information that misleads shareholders or does not meet shareholders' requirements. If this occurs, firms have a high likelihood of being the subject of shareholder litigation.

According to agency theory, information asymmetry is triggered by conflicts between insiders and outsiders. To mitigate these conflicts and the asymmetry, a rich disclosure environment is desirable (Kothari, Li, et al., 2009). Voluntary disclosure is expected to minimize the information gap between internal and external users (Field et al., 2005; Healy & Palepu, 2001). Through voluntary disclosure, public firms can improve their transparency and demonstrate their commitment to openness, leading to enhanced informativeness of the firm's overall disclosures. Revealing either good or bad private information can mitigate the information asymmetry (Healy & Palepu, 2001; Kothari, Shu, et al., 2009; Verrecchia, 2001). Furthermore, voluntary disclosure can lower the cost for users to acquire the information, and provides a credible information source that can be obtained by external users (Healy & Palepu, 2001). Therefore, voluntary disclosure works as an effective tool for firm communication and facilitates the flow of information between the firm and information users (especially outside users), building on what is already provided in mandatory disclosures. In these circumstances, the information users (especially investors) are better informed and can make more informed decisions based on this additional information.

A key element in economic theories related to banking revolves around the emergence of information asymmetry between bank managers and depositors, or among depositors (Beck et al., 2022). Voluntary disclosures could mitigate the information asymmetry through conveying additional information to outsiders. For general financial institutions, disclosing information associated with AML can reduce the information gap between the institutions and clients. Disclosing relevant information is crucial for AML efforts and counter-terrorism financing efforts (Al-Tawil, 2023; Ellili & Nobanee, 2023). In other words, if such information is disclosed, clients could understand what the institutions have done to fight against the money launderers. Moreover, disclosing AML-related content in financial statements indicates a firm's effort in combating money laundering and mitigating related risks, assuring clients that the firm is dedicated to maintaining the integrity and quality of its financial services. As such,

clients are more confident in the financial institutions and this may lead to further customer loyalty. In addition, AML-related disclosure indicates the firm's compliance with and implementation of required AML obligations. Such disclosure has also been considered as evidence of the firm's commitment to corporate social responsibility (Al-Tawil, 2023). In summary, external stakeholders can gain insight into the activities undertaken by financial institutions to reduce potential risks.

So far, there are no regulations or laws in China that explicitly address the disclosure of AML-related content by financial institutions, or that impose mandatory obligations to disclose such information. Whether or not to provide such information depends on the firm's management. Disclosing AML-related information enables information users to be better informed regarding the firm's risk management. In other words, they will have more information about AML activities implemented by the firm and have a deeper understanding of the firm's behaviours. Besides purely focusing on the "what" or "how" of money laundering, incorporating "who" and "where" in AML disclosures can help inform boards' and regulators' understanding of money laundering problems and help them address these issues (Gilmour, 2022). Accordingly, financial institutions are strongly encouraged to provide comprehensive disclosures when revealing more private information.

3.2.3 Conceptual Framework

3.2.3.1 Legitimacy Theory

Previous studies (e.g., Meng et al., 2014; Nurhayati et al., 2015; Qu & Leung, 2006; Sharma et al., 2013) argue that the increasing trend towards voluntary disclosures can be explained by legitimacy theory. According to Hogner (1982), the motivation of corporate disclosure is to legitimise the activities of the corporation and ultimately justify its ongoing existence (Deegan, 2002; Guthrie & Parker, 1989; Hogner, 1982; Lehman, 1983; Wilmshurst & Frost, 2000). Breaching the "social contract" between the firm and society (Shocker & Sethi,1973) will challenge the survival of the firm (Lindblom, 1994). According to Kent and Zunker (2013), managers seek legitimacy by adhering to existing institutional recommendations or regulations, such as guidelines for corporate governance.

Under legitimacy theory, AML disclosure can work as a communication tool with society as well as a mechanism to influence public opinion towards the firm. Moreover, it has been found that firms in developing countries are more likely to provide voluntary disclosure to gain legitimacy and attract potential investments (Md Zaini et al., 2018). Disclosing AML-related content voluntarily helps financial institutions gain legitimacy for their operations. In this way,

the firms can build their image in the AML area and build the trust and confidence of customers. Although China does not have any specific regulation or law requiring financial institutions to disclose AML-related information in their financial statements, there is an increasing trend for these institutions to provide such information proactively and voluntarily. The six largest banks in China all included AML-related disclosures in their annual reports in 2021.[23] Through disclosing information regarding AML, these financial institutions are able to demonstrate legitimacy, transparency, and honesty by adhering to appropriate corporate governance practices. It also implies that financial institutions implement their AML policies and practices effectively, as such disclosures show them as "doing well by doing good" (Lys et al., 2015, p.56). Financial institution management also has strong incentives to improve AML-related disclosure to avoid costly litigation pertaining to missing or insufficient disclosures.

3.2.3.2 Transparency-Stability Theory

Another theory that can explain the economic outcomes of disclosing AML-related information is transparency theory. According to transparency-stability theory, greater disclosure and consequent transparency enhance market discipline and facilitate efficient resource allocation through reduced information asymmetry (Tadesse, 2006).[24] Van der Zahn et al. (2007) asserted that implementing regulated disclosure and transparency standards is necessary to avert banking crises. Greater regulation of disclosures, and thus greater transparency, will lower the likelihood of banking crises (Tadesse, 2006).

Given the criminal nature of money laundering, it is believed that some enforcement, such as requiring greater disclosure, is necessary for financial institutions (Smellie, 2004). When AML-related disclosures are made in financial statements, firms typically provide details about their AML policies, adherence to regulations, ongoing AML initiatives, and any penalties incurred in the reporting period. This disclosure serves as an information source and provides insight for external stakeholders, enabling them to understand the AML measures undertaken by the firms through reviewing the financial statements. These stakeholders, especially customers, are particularly concerned about whether their money can be secured and whether

[23] The six largest banks in China are: Industrial and Commercial Bank of China (ICBC), Agricultural Bank of China (ABC), Bank of China (BOC), China Construction Bank (CCB), Postal Savings Bank of China (PSBC), and Bank of Communications (BOCOM). For more information, please see: https://www.mpaypass.com.cn/news/202204/29141214.html

[24] This theory raises opposite opinions from those associated with transparency-fragility theory, which argues that greater disclosure could signal widespread problems incurred by the banking system and in turn generating negative externalities (Mathuva et al., 2020; Takáts, 2011; Van der Zahn et al., 2007).

their rights can be protected. Transparency-stability theory also suggests that greater disclosure helps financial institutions avoid some costs associated with withholding certain AML information (Mathuva et al., 2020). Overall, disclosing AML information enables financial institutions to achieve greater transparency and, hence, lower information asymmetry as well as strengthening the confidence of external users towards the firms.

3.2.4 Hypothesis Development

Litigation is always costly to a firm, and it also results in a series of negative consequences such as decreased performance, damaged reputation, and customer loss. Therefore, management is expected to take action to avoid incurring these costs. One of the most common forms of litigation is a firm being sued by customers or shareholders because the performance or actions of the firm do not meet their expectations and therefore, conflicts are triggered. Such conflicts usually occur due to asymmetric information. One way to insure against litigation costs is to lower the probability of being sued (Lowry & Shu, 2002). To lower the probability of incurring lawsuits, firms need to align with regulations and laws and mitigate the conflicts between the firms and stakeholders. Previous studies (e.g., Field et al., 2005; Huang & Gao, 2021) have demonstrated that asymmetric information is one of the determinant factors of litigation risk. Greater disclosure can mitigate information asymmetry (Healy & Palepu, 2001; Kothari, Li, et al., 2009; Kothari, Shu, et al., 2009; Tadesse, 2006; Verrecchia, 2001). Increasing the extent of disclosure will improve the information transparency of the firm as well as enhance communications between insiders and outsiders.

Besides mandatory disclosures, which are mandated by the regulatory authorities, voluntary disclosures are encouraged by external users since voluntary disclosures can provide inside information that cannot be accessed by the public. Previous studies have documented the impact of voluntary disclosure on firms' litigation risk. Specifically, Skinner (1994) found that managers are more likely to provide voluntary negative news to reduce the cost of litigation. According to Field et al. (2005), the early disclosure of earnings warnings can lower the potential of litigation risk. Consistent with this, Cao and Narayanamoorthy (2011) argue that prompt disclosure can lower the potential of litigation by disclosing bad news relatively frequently. Voluntary disclosure has also been found to act as a mediator between litigation risk and firm performance (Waheed et al., 2024).

Despite the advantage of providing voluntary disclosures, some issues still prevent outsiders from accessing additional information through such disclosures. Firstly, some firms are still less willing to voluntarily provide additional information. According to Houston et al.

(2019), firms are often unwilling to make voluntary disclosures even though the improved transparency will benefit stock market efficiency. The reason behind this is that that firms are afraid of triggering litigation due to over-optimistic disclosures. Secondly, some voluntary disclosures are not sufficiently comprehensive or informative. Especially in China, voluntary disclosures are currently more likely to be in the form of corporate social responsibility (CSR) reports, environmental impact reports, financial forecasts, and so on. In contrast, information related to AML and anti-corruption is overlooked or avoided intentionally, as such information is regarded as sensitive in China. Although the Chinese government requires financial institutions to implement AML strategies, few AML-related disclosures are provided voluntarily. As a result, outsiders have little access to such information, and this generates information asymmetry. More importantly, poor quality financial reports have been identified as a primary determinant of class action lawsuits against firms and auditors (Habib et al., 2014). Insufficient disclosures may decrease reporting quality and, therefore, trigger the risk of litigation.

Financial institutions, because of their functions, have a higher likelihood of being engaged in money laundering activities. Therefore, financial institutions face greater difficulties in survival, and these difficulties are exacerbated by their higher risk of being sued. Increasing transparency in markets can enhance market discipline, enabling the early detection of weak banks before they collapse the entire banking system (Tadesse, 2006). In terms of AML, disclosing AML-related information can facilitate a firm's AML or anti-terrorism processes (Al-Tawil, 2023; Ellili & Nobanee, 2023). Also, when firms reveal content related to AML, outsiders can examine: (1) the extent to which the financial institutions provide AML-related information in their financial statements, and (2) the overall attitude conveyed by these institutions in their financial statements regarding AML-related information. Avoiding the disclosure will lose the trust of clients, and the potential risks exposed to clients will trigger higher litigation risks. In this regard, financial institutions are encouraged to provide AML disclosures to the public to provide insights regarding AML practice and risk management, which can mitigate information asymmetry and improve transparency. Consequently, the confidence of outsiders (especially investors and customers) will be strengthened and this will lead to a lower likelihood of litigation risk.

Besides reducing information asymmetry, AML-related disclosure also works as an indicator of corporate governance. In other words, such disclosure can reflect the quality of a firm's corporate governance. Firstly, it has been argued that a commitment to AML necessitates the implementation of a strong risk management system within a bank, aiming to safeguard the

interests of investors (Dunne, 2014). Secondly, in terms of corporate functions, ensuring accountability and transparency requires thorough disclosures of all related information to enable information users to make well-informed decisions (Mathuva et al., 2020). Dunne (2004) similarly argues that effective implementation of AML practices requires good corporate governance mechanisms. Therefore, by disclosing AML-related content, information users will also be informed about the effective implementation of the firm's corporate governance. Thirdly, disclosing AML-related content can discipline the management, leading to a better governance environment. In addition, Qin et al. (2021) found that litigation risk is positively associated with a firm's cost of capital, but that such a relationship can be mitigated by strong internal corporate governance. Therefore, a firm with better corporate governance, as indicated by AML disclosure, has a lower likelihood of engaging in illegal activities and facing future lawsuits.

As discussed in Section 3.2.3, both legitimacy theory and transparency-stability theory predict a negative association between litigation risk and AML-related disclosure. Through examining the proportion of AML-related disclosure in financial statements, the level of information disclosure by financial institutions in terms of AML issues and the attitudes of financial institutions towards AML can be revealed. Based on the above reasoning, this study expects a likelihood of greater AML disclosure to decrease litigation risk because such disclosure can alleviate information asymmetry and reflect the effectiveness of corporate governance. The hypothesis is formulated as follows:

H_1: AML-related disclosure decreases litigation risk.

3.3 Research Design and Procedure

3.3.1 Sample Collection

All data were collected from Chinese financial institutions listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange for the period 2007 to 2022. AML disclosure data were collected from the annual reports and internal control self-evaluation reports using a machine-learning technique. All other financial and trading data were collected from the CSMAR, WinGo, and WIND databases. This study then excluded: (1) special treatment firms (ST and *ST firms), and (2) firm-year observations with missing data. The final sample consisted of 1,317 observations, and its distributions are reported in Table 11. According to the *Classification of National Economy Industries* of China, there are four categories under the financial industry: (1) Monetary and Financial Services (Industry Code: J66), (2) Capital Market Services (Industry Code: J67), (3) Insurance (Industry Code: J68), and (4) Other

Financial Industries (Industry Code: J69). As shown in Panel A of Table 11, the Capital Market Services category incorporates the largest proportion of the observations (43.58%), while Insurance has the lowest proportion, at only 6.07%. The other two categories have similar proportions, with Monetary and Financial Services at 28.85% and Other Financial Industries at 21.49%. Panel B reports the sample distribution by year. It can be observed that the number of firm-year observations increased from 3.42% in 2007 to 9.64% in 2022.

Table 11. Sample distribution

Panel A: Sample distribution by industry classification		
Industry classification	**Frequency**	**Percentage**
J66: Monetary and Financial Services	380	28.85%
J67: Capital Market Services	574	43.58%
J68: Insurance	80	6.07%
J69: Other Financial Industries	283	21.49%
Total	**1317**	**100%**

Panel B: Sample distribution by year		
Year	**Frequency**	**Percentage**
2007	45	3.42%
2008	47	3.57%
2009	51	3.87%
2010	63	4.78%
2011	67	5.09%
2012	69	5.24%
2013	68	5.16%
2014	71	5.39%
2015	74	5.62%
2016	87	6.61%
2017	91	6.91%
2018	103	7.82%
2019	112	8.50%
2020	118	8.96%
2021	124	9.42%
2022	127	9.64%
Total	**1317**	**100%**

Note: Panel A presents the sample distribution by industry classification. Industries are classified based on the *Classification of National Economy Industries* (GB/T 4754 – 2017). Panel B presents the sample distribution across the sample period (2007–2022).

3.3.2 Measurement of Variables

3.3.2.1 Litigation Risk

In line with Amin et al. (2021) and Rogers and Stocken (2005), this study employs a probit model to estimate the probable litigation risks incurred by the sample firms:

$$Prob(Lawsuit = 1)$$

$$= \alpha_0 + \alpha_1 MV + \alpha_2 Turn + \alpha_3 Beta + \alpha_4 Returns + \alpha_5 Std\_Ret$$

$$+ \alpha_6 Skewness + \alpha_7 Min\_Ret + \varepsilon \quad (3)$$

where *Lawsuit* is a dummy variable, and equals 1 if there is any lawsuit against the firm during the year, and 0 otherwise. *MV* is the natural logarithm of the firm's market value of equity. *Turn* is the average daily share volume divided by the average shares outstanding. *Beta* is the slope coefficient from regressing daily stock returns on Chinese stock exchanges. *Returns* captures the buy-and-hold stock return for the year. *Std_Ret* is the standard deviation of the firm's daily stock returns. *Skewness* is calculated as the skewness of the firm's daily stock return. *Min_Ret* is the firm's minimum daily stock return during the year. Eq. (3) is used to estimate the probability of litigation risk, proxied by *Lit_Risk*. A higher value of *Lit_Risk* indicates a greater litigation probability incurred by the risk. As this study focuses on financial institutions only, high-risk industry indicators (i.e., Biotechnology, Computer Hardware, Electronics, Retailing, and Computer Software) used in Amin et al. (2021) and Rogers and Stocken (2005) are not the concern of this study and are excluded from the estimation model.

3.3.2.2 AML Disclosure

Disclosure content regarding a firm's AML actions was obtained through content analysis of the annual reports and internal control self-evaluation reports. It has been argued that textual analysis conducted in a manual way may be subject to perceptions, feelings, attitudes, and interpretations (Blumer, 2012; Ifversen, 2003). To ensure the reliability and validity of the content analysis, a web-crawling technique was applied, using Python to search keywords related to AML. AML-related keywords were obtained based on the AML Glossary of Terms produced by the Association of Certified Anti-Money Laundering Specialists (ACAMS).[25] This glossary includes a total of 301 terms.[26] After reviewing the glossary, only 29 keywords were identified as words that could adequately represent Chinese financial institutions' AML behaviours; these included, for example, "anti-money laundering program", "know your customer", "suspicious activity", and "customer due diligence". Accordingly, these 29 words

[25] See https://www.acams.org/en
[26] ACAMS's AML Glossary of Terms is provided in Appendix C.

were used as keywords in the content analysis to exclusively represent financial institutions' AML behaviours. The full list of keywords used for content analysis is provided in Table 12. Words such as "affidavit", "bank draft", and "custodian" that fail to identify AML exclusively were dropped in the content analysis. In this way, the textual analysis was able to cover more themes and issues in terms of the firm's AML activities.

Table 12. AML-related keywords

	Word	**Abbreviation (if any)**
1	Anti-Money Laundering International Database	AMLID
2	Anti-Money Laundering Program	
3	Anti-Money Laundering and Counter-Financing of Terrorism Program	
4	Asia/Pacific Group on Money Laundering	APG
5	Basel Committee on Banking Supervision	Basel Committee
6	Beneficial Owner	
7	Criminal Proceeds	
8	Currency Smuggling	
9	Customer Due Diligence	CDD
10	Designated Non-Financial Businesses and Professions	
11	Eastern and Southern African Anti-Money Laundering Group	ESAAMLG
12	Enhanced Due Diligence	EDD
13	Eurasian Group on Combating Money Laundering and Financing of Terrorism	EAG
14	Financial Action Task Force	FATF
15	Financial Intelligence Unit	FIU
16	Know Your Customer	KYC
17	Money Laundering	
18	Money Laundering Reporting Officer	MLRO
19	Ponzi Scheme	
20	Predicate Crimes	
21	Pyramid Scheme	
22	Risk-Based Approach	
23	Smurfing	
24	Suspicious Activity	
25	Suspicious Activity Report	SAR
26	Suspicious Transaction Report	STR
27	Terrorist Financing	
28	Underground Banking	
29	Unusual Transaction	

This study uses *AMLD_Ratio* to measure a firm's AML disclosure. Considering that some firms may not disclose AML-related content in their annual reports, but instead disclose this in the internal control self-evaluation report, this study conducted content analysis of these two types of reports separately. The frequency of the AML keywords disclosed in both reports was then added together. As shown in Eq. (4), *AMLD_Ratio* is calculated by AML disclosure frequency divided by the total number of words in both reports.[27] *AMLD_Ratio* is bounded between 0 and 1, and a greater value of *AMLD_Ratio* suggests an increased extent of AML-related content disclosed by the firms. In contrast, a lower value of *AMLD_Ratio* suggests less AML-related content disclosed by the firms.

$$AMLD\_Ratio = \frac{\text{AML Disclosure Word Counts}}{\text{Total length of financial reports}} \quad (4)$$

3.3.3 Empirical Model

Eq. (5) is constructed to examine the impacts of AML disclosure on a firm's litigation risk.

$$LitRisk_{i,t} = \beta_0 + \beta_1 AMLD\_Ratio_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 SOE_{i,t} + \beta_5 IndBoard_{i,t} + \beta_6 Domestic10_{i,t} + \beta_7 Top1_{i,t} + \beta_8 TobinQ_{i,t} + \beta_9 Age_{i,t} + \beta_{10} Duality_{i,t} + \mu_{i,t} \quad (5)$$

where $Lit\_Risk_{i,t}$ and $AMLD\_Ratio_{i,t}$ are as defined in Sections 3.3.2.1 and 3.3.2.2, respectively. Other variables that may have impacts on a firm's litigation probability are controlled. In terms of the control variables, this study controls for both firm characteristics and corporate governance characteristics. From the perspective of firm characteristics, a firm's capital structure, size, ownership structure, age, and market value are controlled. Specifically, *Ln_Lev* measures the firm's capital structure and is calculated by the natural logarithm of the debt-to-equity ratio. The size of the firm (*Size)*, is measured by the natural logarithm of total assets. *SOE* is a dummy variable, and equals 1 if the government is the actual controller of the firm,

[27] Previous studies (e.g., Mathuva et al., 2020; Nobanee & Ellili, 2018; Van der Zahn et al., 2007) use an AML index to study the firm's AML. However, this essay does not use indexing, but instead uses the proportion of AML keywords to measure the AML-related disclosure for three reasons. First, according to Lim and Chow (2007), allocating weights to the voluntary disclosure items requires subjective evaluation of the content. Second, the assigned weights may not reflect the preferences of other users of the financial reports (Lim & Chow, 2007), as this study does not target a specific user group. Third, it is easier for firms to disclose less important items when they are better at disclosing important items, and therefore firms would be scored based on their disclosure of important items regardless of whether the items are weighted or unweighted (Meek et al., 1995).

and 0 otherwise. *Top_1* is the proportion of shares held by the firm's largest shareholder. Tobin's Q, represented by *TobinQ*, is measured by the firm's market value divided by its total assets. *Age* is the firm's age, measured as the natural logarithm of the difference between the current year and the year of incorporation. From the perspective of corporate governance characteristics, board structure, audit quality, and management structure are controlled. *Ind_Board* measures the ratio of independent directors to the total number of directors. *Domestics10* is a dummy variable that equals 1 if the firm is audited by a Top10 local audit firm, and 0 otherwise. *Duality* is a binary variable equalling 1 if the firm's board chair serves as CEO at the same time, or 0 otherwise. Definitions of the variables in this study are provided in Appendix D. All continuous variables are winsorised at the 1st and 99th percentiles.

3.4 Empirical Results

3.4.1 Descriptive Statistics

Table 13 reports the descriptive statistics of all the variables in this study. The dependent variable, *Lit_Risk*, has a mean value of 0.090 and a standard deviation value of 0.052, suggesting that the potential litigation risk varies slightly among our sample firms. In addition, its minimum value is 0.008, which is close to zero, suggesting that some firms incur little litigation risk. The independent variable, *AMLD_Ratio*, has a mean value of 0.020 and a standard deviation value of 0.032, suggesting that AML-related disclosure takes up a tiny proportion of financial statements, and that the proportion varies slightly among the sample firms. The minimum value (0.000) of *AMLD_Ratio* indicates that some firms do not disclose any content related to AML.

In terms of the control variables, *Ln_Lev* has a mean value of 1.130 and a standard deviation of 1.286, suggesting that, on average, sample firms in this study have a relatively risky financing strategy. *Size* has a mean value of 25.260 with a standard deviation of 2.812. Moreover, the mean value of *SOE* (0.542) suggests that more than half of the sample firms are state-owned enterprises. *Ind_Board* has a mean value of 36.964, and its standard deviation is 4.529, indicating that the proportion of independent directors represents around 37% of the total number of directors and that the proportion varies among the sample firms. The statistics for *Domestics10* suggest that around 73.2% of the firms are audited by the top 10 local audit firms, which confirms the quality of the annual reports. *Top_1* has a mean value of 31.965 and a standard deviation value of 17.327, suggesting that the largest shareholders hold around 32% of the shares on average. However, their shareholdings vary greatly across firms. *TobinQ* has a maximum value of 6.411, which suggests that some firms are greatly overvalued. *Age* has a

mean value of 2.944 and a standard deviation of 0.393, suggesting that the year of establishment differs slightly among the firms. *Duality* has a mean value of 0.137, suggesting that around 14% of the sample firms have CEOs who also serve as the board chair.

Table 13. Descriptive statistics

Variables	N	Mean	SD	P50	Min	Max
Lit_Risk	1317	0.090	0.052	0.086	0.008	0.229
AMLD_Ratio	1317	0.020	0.032	0.006	0.000	0.166
Ln_Lev	1317	1.130	1.286	1.158	-2.949	3.040
Size	1317	25.260	2.812	25.281	19.663	30.892
SOE	1317	0.542	0.498	1.000	0.000	1.000
Ind_Board	1317	36.964	4.529	36.360	26.670	50.000
Domestics10	1317	0.732	0.443	1.000	0.000	1.000
Top_1	1317	31.965	17.327	27.450	6.290	73.670
TobinQ	1317	1.516	1.049	1.084	0.896	6.411
Age	1317	2.944	0.393	2.996	0.000	3.664
Duality	1317	0.137	0.344	0.000	0.000	1.000

Note: This table reports the descriptive statistics of dependent, independent, and control variables. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). *AMLD_Ratio* represents the AML-related disclosures, calculated as AML-related disclosure word counts divided by the total length of financial reports.

3.4.2 Pearson's Correlation

Table 14 reports the Pearson's correlation results. It shows that the correlation between the dependent variable (*Lit_Risk*) and the independent variable (*AMLD_Ratio*) is negative and significant at a 1% level or better. *Lit_Risk* is also significantly correlated with all the control variables. Table 14 reveals that the multivariate analysis should not incur any multicollinearity problems as none of the correlation coefficients is higher than the threshold of 0.80 (Halcoussis, 2005).

Table 14. Pearson's correlation

	Lit_Risk	*AMLD_Ratio*	*Ln_Lev*	*Size*	*SOE*	*Ind_Board*	*Domestics10*	*Top_1*	*TobinQ*	*LNAge*	*Duality*
Lit_Risk	1										
AMLD_Ratio	-0.31***	1									
Ln_Lev	-0.48***	0.23***	1								
Size	-0.55***	0.27***	0.82***	1							
SOE	-0.39***	0.12***	0.14***	0.19***	1						
Ind_Board	-0.06**	-0.02	-0.00	-0.01	0.01	1					
Domestics10	-0.32***	0.17***	0.33***	0.48***	0.04	-0.02	1				
Top_1	0.16***	-0.16***	-0.14***	-0.05*	0.13***	0.05*	-0.00	1			
TobinQ	0.34***	-0.25***	-0.55***	-0.60***	-0.25***	0.03	-0.24***	0.06**	1		
Age	-0.12***	0.15***	0.13***	0.22***	0.04	0.04	0.13***	-0.00	-0.14***	1	
Duality	0.06**	-0.14***	-0.19***	-0.16***	-0.06**	0.10***	0.04	-0.01	0.18***	-0.04	1

Note: *, ** and, *** denote significance at the 10%, 5%, and 1% levels, respectively.

3.4.3 Baseline Results

A fixed effect model is applied to examine Eq. (5) and the results are reported in Table 15. The firm-specific effect remains controlled throughout all the analyses as it can effectively control the impacts of specific characteristics within the sample firm itself. To ensure the robustness of the results in this study, another alternative proxy of the independent variable, *AMLD_Dummy*, is employed in the main analysis. *AMLD_Dummy* is a dummy variable coded 1 if the firm has AMLD-related disclosure, and 0 otherwise. Columns (1) and (2) reports the regression results of the main variable only, and these results show that both *AMLD_Ratio* and *AMLD_Dummy* are negatively related to *Lit_Risk* at a 1% significance level. Columns (3) and (4) include all the control variables in the model and control both year and firm fixed effects. The results show that both *AMLD_Ratio* and *AMLD_Dummy* are still negatively and significantly related to *Lit_Risk* at a 1% level or better. Thus, this result offers strong support for the main hypothesis, H_1, that increased AML-related disclosure effectively lowers the potential litigation risk faced by financial institutions. The magnitude of the estimates is also large. For instance, a 1 standard deviation increase in AML disclosure (*AMLD_Ratio*) decreases litigation risk (*Lit_Risk*) by about 0.67%.[28]

[28] This is calculated as 0.032 (*AMLD_Ratio* standard deviation) (see Table 13) × 0.208 (regression coefficient in Column (3) of Table 15) × 100% = 0.67%.

Table 15. Effect of AML disclosure on litigation risk

Variables	(1) *Lit_Risk*	(2) *Lit_Risk*	(3) *Lit_Risk*	(4) *Lit_Risk*
AMLD_Ratio	-0.241***		-0.208***	
	(-3.46)		(-4.00)	
AMLD_Dummy		-0.024***		-0.023***
		(-3.91)		(-4.20)
Ln_Lev			-0.003	-0.003
			(-1.43)	(-1.30)
Size			0.002	0.002
			(0.77)	(1.06)
SOE			-0.037***	-0.037***
			(-5.09)	(-5.12)
Ind_Board			-0.001***	-0.001***
			(-3.56)	(-3.53)
Domestics10			0.001	0.001
			(0.35)	(0.34)
Top_1			0.000**	0.000**
			(2.37)	(2.25)
TobinQ			0.003	0.003
			(1.56)	(1.64)
Age			-0.011	-0.013
			(-0.43)	(-0.50)
Duality			-0.002	-0.002
			(-0.72)	(-0.65)
Constant	0.100***	0.105***	0.122	0.116
	(18.86)	(17.17)	(1.54)	(1.51)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
R-squared	0.144	0.168	0.284	0.310
N	1,317	1,317	1,317	1,317

Note: This table presents the fixed effects (FE) regression coefficients and their statistical significance for the regression model with alternative measures of AML-related disclosure. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). The independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). The other alternative proxy is *AMLD_Dummy*, which is a binary variable that equals 1 if the firm has AML-related disclosure, and 0 otherwise. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*). *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.4.4 Endogeneity Tests

There is potential for endogeneity, such as sample selection bias, omitted variables, and reverse causality, to affect the accuracy of the results of this study. For instance, financial institutions are under more stringent supervision by the government than institutions in other sectors, and they have a lower likelihood of incurring litigation risk, which could trigger sample selection bias. Also, litigation risk encountered by firms may either increase or decrease future voluntary

disclosure depending on management's assumption about the potential consequences of such disclosure. Such reverse causality has been documented in previous studies (see Huston et al., 2019; Dong & Zhang, 2019; Roger & Stocken, 2005). Therefore, this study adopts the following tests to mitigate the issue of endogeneity: (1) entropy balancing, (2) propensity score matching (PSM), (3) difference-in-differences (DID) test, (4) Lewbel test, (5) Oster test, and (6) Heckman selection model.

3.4.4.1 Entropy Balanced Matching

Given that there is a likelihood of selection bias, this study applies the entropy balanced matching (EBM) technique. The EBM technique is proposed for three reasons. According to Hainmueller (2012), the EBM technique allows a higher degree of covariate balance and reweights units flexibly. By using EBM, a more balanced sample can be achieved and, therefore, it is possible to reduce the difference and adjust inequalities between the treatment and control firms (Hasan et al., 2023; Hu et al., 2023). Following previous studies (e.g., Beck et al., 2022; Cao et al., 2023; Hu et al., 2023), all the control variables in the baseline model are matched across mean, variance, and skewness. Accordingly, both treatment and control groups are constructed based on the matched results. The baseline model is then rerun based on this EBM-matched sample.

Table 16 reports the mean, variance, and skewness across treatment and control groups before matching (Panel A) and after matching (Panel B). As Panel A shows, exposed observations (i.e., treatment group) and unexposed observations (i.e., control group) exhibit statistically significant differences before balancing. However, after balancing, all the variables achieve a desirable covariate balance across the exposed observations (i.e., treatment group) and unexposed observations (i.e., control group). As shown in Panel B, *Ln_Lev* for the treatment (control) group has a mean of 1.708 (1.707), a variance of 0.855 (0.855), and a skewness of -0.511 (-0.511). *Size* for the treatment (control) group has a mean of 26.790 (26.790), a variance of 4.967 (4.967), and a skewness of 0.089 (0.091). *SOE* for the treatment (control) group has a mean of 0.607 (0.607), a variance of 0.239 (0.239), and a skewness of -0.436 (-0.436). *Ind_Board* for the treatment (control) group has a mean of 36.810 (36.810), a variance of 19.870 (19.870), and a skewness of 0.827 (0.828). *Domestics10* for the treatment (control) group has a mean of 0.859 (0.859), a variance of 0.121 (0.121), and a skewness of -2.064 (-2.064). *Top_1* for the treatment (control) group has a mean of 29.130 (29.130), a variance of 250.600 (250.600), and a skewness of 0.987 (0.987). *TobinQ* for the treatment (control) group has a mean of 1.124 (1.124), a variance of 0.071 (0.071), and a skewness of

4.415 (4.439). *Age* for the treatment (control) group has a mean of 2.973 (2.973), a variance of 0.195 (0.195), and a skewness of -1.973 (-1.972). *Duality* for the treatment (control) group has a mean of 0.079 (0.079), a variance of 0.073 (0.073), and a skewness of 3.121 (3.120). Therefore, the results demonstrate that the distributions of all the variables across treatment and control groups are similar after matching.

Panel C of Table 16 reports the regression results using the EBM sample. After removing the sample selection bias, the coefficient of *AMLD_Ratio* is negative and significant at a 1% level. This result affirms that the main results presented in Table 15 are robust, and are not affected by an endogeneity problem from sample selection bias

Table 16. Entropy balanced matching (EBM)

Panel A: Before EBM matching

	Treatment n = 582			**Control n = 735**		
	Mean	**Variance**	**Skewness**	**Mean**	**Variance**	**Skewness**
Ln_Lev	1.708	0.855	-0.511	0.672	1.815	-.3571
Size	26.790	4.967	0.089	24.040	6.893	0.292
SOE	0.607	0.239	-0.436	0.491	0.250	0.035
Ind_Board	36.810	19.870	0.827	37.090	21.020	0.877
Domestics10	0.859	0.121	-2.064	0.631	0.233	-0.544
Top_1	29.130	250.600	0.987	34.210	328.500	0.691
TobinQ	1.124	0.071	4.415	1.826	1.699	2.004
Age	2.973	0.195	-1.973	2.921	0.121	-1.133
Duality	0.079	0.073	3.121	0.182	0.149	1.646

Panel B: After EBM matching

	Treatment n = 582			**Control n = 735**		
	Mean	**Variance**	**Skewness**	**Mean**	**Variance**	**Skewness**
Ln_Lev	1.708	0.855	-0.511	1.707	0.855	-0.511
Size	26.790	4.967	0.089	26.790	4.967	0.091
SOE	0.607	0.239	-0.436	0.607	0.239	-0.436
Ind_Board	36.810	19.870	0.827	36.810	19.870	0.828
Domestics10	0.859	0.121	-2.064	0.859	0.121	-2.064
Top_1	29.130	250.600	0.987	29.130	250.600	0.987
TobinQ	1.124	0.071	4.415	1.124	0.071	4.439
Age	2.973	0.195	-1.973	2.973	0.195	-1.972
Duality	0.079	0.073	3.121	0.079	0.073	3.120

Panel C: Regression results using entropy balanced sample

Variables	***Lit_Risk***
AMLD_Ratio	-0.012***
	(-2.94)
Ln_Lev	-0.003

	(-1.34)
Size	0.002
	(0.79)
SOE	-0.037***
	(-5.10)
Ind_Board	-0.001***
	(-3.44)
Domestics10	0.001
	(0.25)
Top_1	0.000**
	(2.52)
TobinQ	0.003
	(1.44)
Age	-0.011
	(-0.43)
Duality	-0.002
	(-0.55)
Constant	0.119
	(1.46)
Year FE	YES
Firm FE	YES
R-squared	0.281
N	1,317

Note: This table presents sample matching using the entropy balanced matching (EBM) technique and the baseline result based on a matched sample. Panel A reports the mean, variance, and skewness across treatment and control groups before matching, and Panel B reports the mean, variance, and skewness across treatment and control groups after matching. Panel C presents the fixed effects (FE) regression coefficients and their statistical significance for the regression model based on the matched sample. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.4.4.2 Propensity Score Matching (PSM)

To further mitigate endogeneity caused by sample selection bias, this study also employs the propensity score matching (PSM) technique. This study uses one-to-two nearest neighbour matching due to the small sample size, and a caliper of 0.05 is set. The PSM analyses include all the control variables used in the baseline regression.

Based on Austin (2011), this study simulates the observations in different proportions of 75%, 80%, and 90%. In other words, approximately 25% (20%, 10%) of the sample are exposed to the treatment group. Around 75% (80%, 90%) are exposed to the control group. First, univariate comparisons are conducted of the matching items between the treatment and control groups. The baseline regressions are then rerun based on the matched sample. Results are reported in Table 17. Panels A, B, and C report the results based on different proportions

assigned to treatment and control groups, respectively.

When 25% of observations are assigned to the treatment group, it can be observed that, except for *Ind_Board*, the mean distributions of the other variables exhibit statistically significant differences between the treatment group and the control group when the sample is unmatched. However, in the PSM-matched sample, except for *TobinQ*, there are not any statistically significant differences between the treatment and control groups. The baseline regression is rerun using the PSM-matched sample, and the results are reported in Column (1) of Panel D, Table 17. The coefficient of *AMLD_Ratio* (-0.143) remains negative and statistically significant at the 1% level or better. The PSM performance is further presented in Figure 1-1, showing that there are no significant differences between the two groups after matching.

As shown in Panel B of Table 17, when 20% of observations are assigned to the treatment group, except for *Ind_Board*, the mean distributions of other covariates show statistically significant differences between the treatment group and control group before the sample is matched. In the PSM-matched sample, all the covariates demonstrate no statistically significant differences between the treatment and control groups. When rerunning the baseline regression using the matched sample, as shown in Column (2) of Panel D, the coefficient of *AMLD_Ratio* (-0.124) remains negative and statistically significant at a 1% level. Also, Figure 1-2 confirms that there are no significant differences between the treatment and control groups after matching.

Moreover, Panel C reports similar results when 10% of observations are assigned to the treatment group. Except for *Ind_Board*, the mean distributions of the other variables exhibit statistically significant differences between the treatment group and control group when the sample is unmatched. In the PSM-matched sample, all the covariates demonstrate no statistically significant differences between the treatment and control groups. It can be observed in Column (3) of Panel D that *AMLD_Ratio* is still negative and significantly associated with *Lit_Risk* ($p < 0.10$). Figure 1-3 further confirms the insignificant differences between the treatment and control groups after matching.

In general, the PSM analyses demonstrate that the results of this study are robust and free from endogeneity issues.

Table 17. Results for PSM estimation

Panel A: 25% of observations assigned to treatment group

		Treatment	Control	*t*-statistic	*p*-value
Ln Lev	Unmatched	1.689	0.943	9.42***	0.000
	Matched	1.685	1.729	-0.59	0.552
Size	Unmatched	26.748	24.762	11.66***	0.000
	Matched	26.729	26.818	-0.54	0.589
SOE	Unmatched	0.639	0.510	4.12***	0.000
	Matched	0.637	0.604	0.88	0.377
Ind Board	Unmatched	36.983	36.958	0.09	0.931
	Matched	36.955	36.497	1.35	0.176
Domestics10	Unmatched	0.852	0.692	5.73***	0.000
	Matched	0.851	0.851	0.00	1.000
Top 1	Unmatched	27.951	33.307	-4.90***	0.000
	Matched	28.014	28.744	-0.58	0.562
TobinQ	Unmatched	1.099	1.655	-8.56***	0.000
	Matched	1.100	1.072	1.87*	0.061
Age	Unmatched	3.026	2.917	4.37***	0.000
	Matched	3.022	3.031	-0.29	0.769
Duality	Unmatched	0.061	0.162	-4.68***	0.000
	Matched	0.061	0.073	-0.62	0.533

Panel B: 20% of observations assigned to treatment group

		Treatment	Control	*t*-statistic	*p*-value
Ln_Lev	Unmatched	1.581	1.017	6.47***	0.000
	Matched	1.578	1.501	0.89	0.376
Size	Unmatched	26.487	24.952	8.12***	0.000
	Matched	26.474	26.407	0.35	0.724
SOE	Unmatched	0.633	0.519	3.31***	0.001
	Matched	0.631	0.633	-0.05	0.964
Ind_Board	Unmatched	36.774	37.012	-0.76	0.446
	Matched	36.771	37.033	-0.69	0.492
Domestics10	Unmatched	0.833	0.707	4.18***	0.000
	Matched	0.833	0.827	0.17	0.862
Top_1	Unmatched	27.108	33.183	-5.14***	0.000
	Matched	27.142	28.377	-0.94	0.347
TobinQ	Unmatched	1.109	1.618	-7.19***	0.000
	Matched	1.109	1.089	1.23	0.220
Age	Unmatched	3.015	2.927	3.28***	0.001
	Matched	3.013	3.008	0.15	0.880
Duality	Unmatched	0.064	0.155	-3.84***	0.000
	Matched	0.065	0.065	-0.00	1.000

Panel C: 10% of observations assigned to treatment group

		Treatment	Control	*t*-statistic	*p*-value
Ln_Lev	Unmatched	1.329	1.108	1.88*	0.060
	Matched	1.345	1.220	0.98	0.326
Size	Unmatched	25.782	25.201	2.26**	0.024
	Matched	25.803	25.780	0.09	0.929
SOE	Unmatched	0.689	0.526	3.59***	0.000
	Matched	0.682	0.678	0.07	0.947
Ind_Board	Unmatched	36.749	36.988	-0.58	0.565
	Matched	36.796	36.574	0.42	0.671
Domestics10	Unmatched	0.803	0.724	1.94*	0.052
	Matched	0.798	0.837	-0.80	0.422
Top_1	Unmatched	26.138	32.614	-4.10***	0.000
	Matched	26.424	28.364	-1.04	0.299
TobinQ	Unmatched	1.122	1.560	-4.58***	0.000
	Matched	1.124	1.127	-0.11	0.916
Age	Unmatched	3.077	2.930	4.11***	0.000
	Matched	3.070	3.094	-0.71	0.479
Duality	Unmatched	0.038	0.148	-3.50***	0.000
	Matched	0.039	0.043	-0.16	0.875

Panel D: Regression results using PSM-matched sample

Variables	**(1)** ***Lit_Risk***	**(2)** ***Lit_Risk***	**(3)** ***Lit_Risk***
% of observations assigned to treatment group =	***25%***	***20%***	***10%***
AMLD_Ratio	-0.143***	-0.124***	-0.168*
	(-2.73)	(-3.11)	(-1.87)
Ln_Lev	-0.011	-0.027***	-0.025***
	(-1.34)	(-4.09)	(-3.53)
Size	0.003	0.016**	-0.000
	(0.45)	(2.10)	(-0.06)
SOE	-0.045***	-0.035***	-0.043***
	(-5.16)	(-4.25)	(-3.07)
Ind_Board	-0.001	-0.000	-0.000
	(-1.58)	(-1.55)	(-0.50)
Domestics10	0.008	0.000	0.011
	(1.18)	(0.05)	(1.47)
Top_1	0.001*	0.001***	0.001**
	(1.78)	(2.75)	(2.21)
TobinQ	0.007	0.007	-0.020
	(0.74)	(0.51)	(-1.13)
Age	-0.026	-0.013	-0.011
	(-0.71)	(-0.35)	(-0.14)
Duality	0.002	0.004	-0.000

	(0.40)	(0.71)	(-0.03)
Constant	0.098	-0.245	0.204
	(0.57)	(-1.26)	(0.78)
Year FE	YES	YES	YES
Firm FE	YES	YES	YES
R-squared	0.387	0.430	0.397
N	681	594	333

Note: This table presents sample matching using the propensity sample matching (PSM) technique and the baseline result based on a matched sample. Panels A, B, and C report the univariate comparisons of the matching items between treatment and control groups based on proportions of 75%, 80%, and 90%, separately. Panel D presents the coefficients and their statistical significance for the baseline model based on the different proportions of the matched sample. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

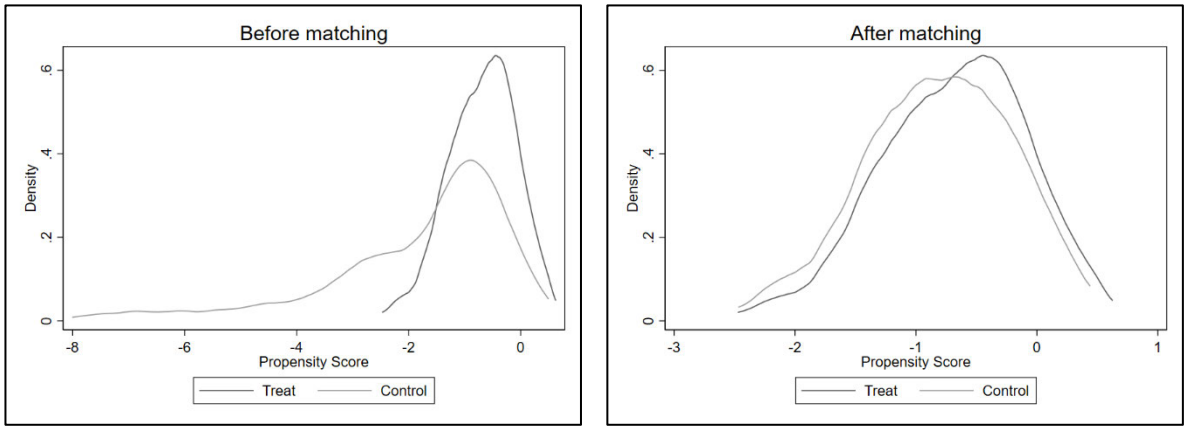

Figure 1-1. Density distribution when 25% of observations assigned to treatment group

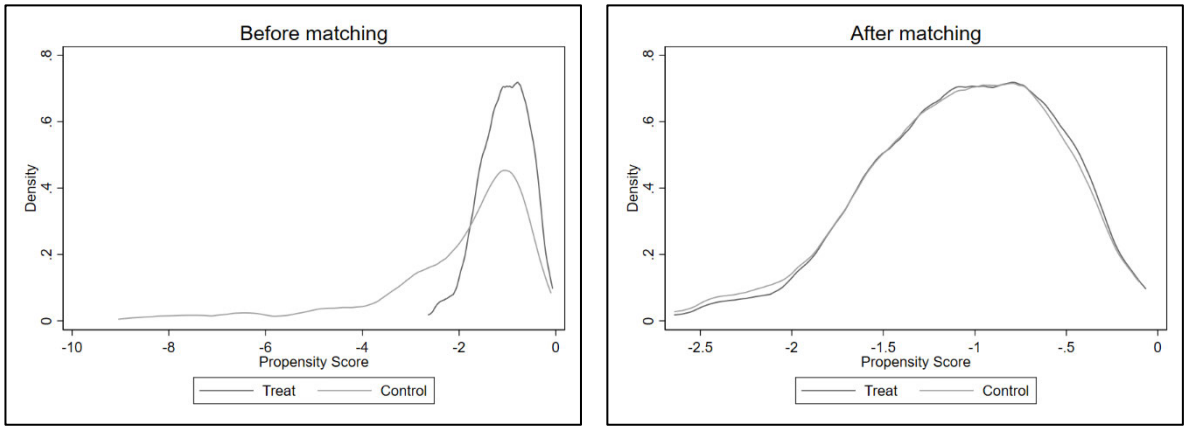

Figure 1-2. Density distribution when 20% of observations assigned to treatment group

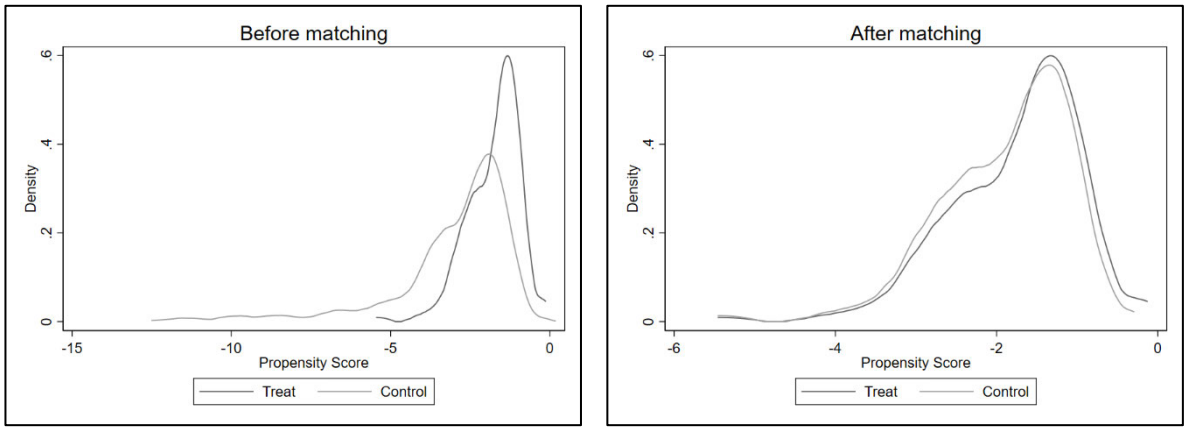

Figure 1-3. Density distribution when 10% of observations assigned to treatment group

3.4.4.3 Difference-in-Differences Analysis

To mitigate the potential impact of omitted variables and reverse causality, this study also employs a difference-in-differences (DID) model to examine how litigation risk changes around the related exogenous event. DID is often used for examining the impacts of policy interventions by reviewing the outcomes before and after the policy intervention (Athey & Imbens, 2006).

This study uses the establishment of the China Securities Investor Services Centre (CSISC) as the policy intervention. In 2014, the CSISC was established by the China Securities Regulatory Commission, which is a regulatory department for supervising the activities of stock exchanges and securities. The CSISC, as a non-profit regulatory institution, can hold and exercise the shareholding rights for firms to supervise controlling shareholders and protect the interests of minority shareholders. Also, it can act as a representative of minority shareholders to resolve disputes and provide litigation support. As a novel regulatory mechanism, the CSISC combines regulatory interventions with private enforcement, which effectively governs the Chinese stock market and significantly restricts corporate fraud (Zhao et al., 2023). Prior studies have found that the monitoring role of CSISC improves the information environment and enhances media attention (Ren & Yan, 2023). Accordingly, the CSISC is expected to enhance AML disclosure. Therefore, this study uses the establishment of the CSISC as a policy intervention to see how AML disclosure might change around the year 2014 and impact litigation risk. *CSISC* is an indicator variable that equals 1 if the firm-year observations with disclosure of AML-related content are from 2014 and afterwards (i.e., after the CSISC was established). Otherwise, the value of *CSISC* is 0. The regression results are reported in Table

18. The table shows that the coefficient of *CSISC* (-0.030) is negative and statistically significant at the 1% level, indicating that litigation risk falls with the introduction of the CSISC.

Figure 2 depicts the parallel trend analysis. A 10-year window is examined. Specifically, *pre_5* takes a value of 1 for the sample year 2009, and 0 otherwise. *Pre_4* takes a value of 1 for the sample year 2010, and 0 otherwise. *Pre_3* and *pre_2* separately represent the sample years 2011 and 2012. *Current* represents the sample year 2014. Similarly, *post_1*, *post_2*, *post_3*, *post_4,* and *post_5* represent the sample years 2015, 2016, 2017, 2018, and 2019, respectively. Figure 2 shows that the litigation risk decreased significantly only after the CSISC was established. This indicates that the establishment of the CSISC had an immediate impact on the decrease in firms' litigation risk, which further confirms the results of this study.

Table 18. DID estimation

Variables	***Lit_Risk***
CSISC	-0.030***
	(-5.12)
Ln_Lev	-0.004
	(-1.55)
Size	0.001
	(0.52)
SOE	-0.034***
	(-5.19)
Ind_Board	-0.001***
	(-3.19)
Domestics10	0.000
	(0.05)
Top_1	0.000**
	(2.34)
TobinQ	0.003*
	(1.80)
Age	-0.011
	(-0.42)
Duality	-0.001
	(-0.41)
Constant	0.134*
	(1.74)
Year FE	YES
Firm FE	YES
R-squared	0.336
N	1,317

Note: This table presents the baseline result using the difference-in-differences (DID) model. The dependent variable (*Lit_Risk*) is the indicator of potential litigation risk, calculated based on Eq. (3). *CSISC* is an indicator variable that equals 1 if the firm-year observations with disclosure of AML-related content are after the China Securities Investor Services Centre (CSISC) was established, and 0 otherwise. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership

(*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

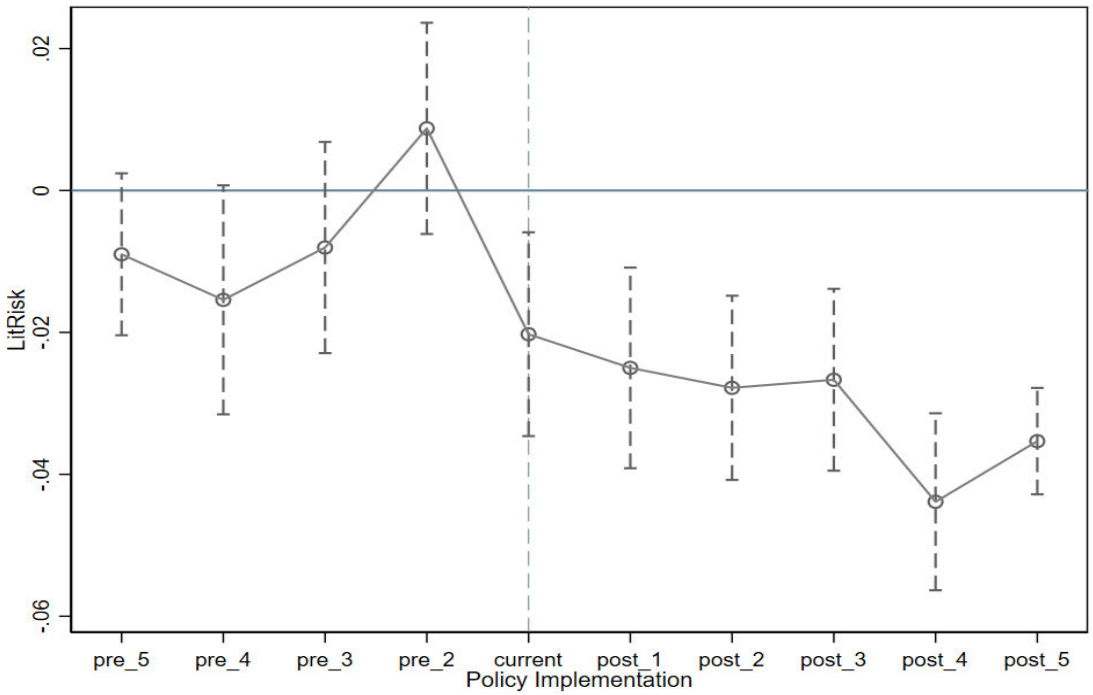

Figure 2. Parallel trend

Note: Figure 2 shows time period before and after the implementation of the policy on the horizontal axis. The vertical axis depicts the regression coefficients, and the short vertical line represents the 95% confidence interval.

3.4.4.4 Lewbel Estimation

Whether or not to disclose AML-related content is determined by the management of firms. Therefore, the disclosure of such content may create endogeneity. For instance, when firms have a higher likelihood of incurring litigation risks, the management may be more likely to provide voluntary disclosures, such as discussing internal controls in financial statements. Conversely, firms that incur fewer litigation risks may provide fewer voluntary disclosures. To address this endogeneity issue, this study follows Lewbel's (2012) approach to generating heteroskedasticity-based instruments. This method has been widely used in recent studies (e.g., Hasan et al., 2022; Khoo et al., 2022). This method is applicable when external instrumental variables are unavailable. In this regard, the Lewbel approach uses the regression model's heteroskedastic errors in the first stage to generate several instruments (Chen et al., 2021; Hasan et al., 2023; Lewbel, 2012; Mavis et al., 2020). For this study, and following previous studies (e.g., Hasan et al., 2023; Khoo et al., 2022; Lewbel, 2012), two instruments are selected

from the generated heteroskedasticity-based instruments and are used for the standard instrumental variable estimation in the second stage.

Table 19 displays the Lewbel results. *IV1* and *IV2* are the two heteroskedasticity-based instruments. As shown in Column (1), their coefficients are both statistically significant at a 1% level, confirming that they are both efficient in explaining the extent of disclosing AML-related content. In addition, an *F*-test confirms that the two instruments are statistically significant at the conventional levels (i.e., *F* is greater than 10), indicating that the instruments are valid and free from weak identification issues. In the second stage, as Column (2) shows, the coefficient of *AMLD_Ratio* remains negatively and statistically significant at a 5% level or better. Also, the under-identification test shows that both Anderson statistics Chi^2 *p*-values (0.000) in Columns (1) and (2) are significant at a 1% level, which suggests that the instruments used are relevant. In the weak identification test, the Cragg-Donald Wald *F* statistic for the first and second stages are both greater than 10 and are greater than Stock and Yogo's (2015) 10% maximal IV size values (19.93). These results confirm that the two instruments employed are not weak and are not correlated with the endogenous regressors. Moreover, the insignificant Sargan statistics Chi^2 *p*-value (0.433) in the over-identification test further confirms the validity of the chosen instruments.

Overall, the Lewbel (2012) test results provide strong evidence that the reported negative relationship between litigation risk and AML disclosure remains robust to endogeneity biases from reverse causality or omitted variables.

Table 19. Results for Lewbel's (2012) estimation

	(1)	(2)
	1st Stage	2nd Stage
Variables	***AMLD_Ratio***	***Lit_Risk***
AMLD_Ratio		-0.129**
		(-2.07)
IV1	0.526***	
	(8.97)	
IV2	-0.921***	
	(-23.60)	
Ln_Lev	-0.001	-0.003*
	(-1.52)	(-1.77)
Size	0.004***	0.002
	(4.36)	(1.10)
SOE	0.005***	-0.037***
	(3.33)	(-13.16)
Ind_Board	-0.000	-0.001***
	(-0.43)	(-4.03)
Domestics10	0.002	0.001
	(1.13)	(0.42)
Top_1	-0.000	0.000***
	(-1.50)	(3.24)
TobinQ	0.003***	0.003**
	(4.21)	(2.08)
Age	-0.011**	-0.011
	(-2.37)	(-1.22)
Duality	-0.000	-0.002
	(-0.28)	(-0.61)
Year FE	YES	YES
Firm FE	YES	YES
First stage *F*-test	456.47***	
Under-identification test (Anderson statistics Chi^2 *p*-value)	0.000	0.000
Weak identification test (Cragg-Donald Wald *F* statistic)	456.47	456.47
Over-identification test (Sargan statistics Chi^2 *p*-value)		0.433
R-squared	0.536	0.282
N	1,314	1,314

Note: This table presents the results using the Lewbel (2012) test. *IV1* and *IV2* are the two heteroskedasticity-based constructed instruments. In Column (1), the dependent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). In Column (2), the dependent variable (*Lit_Risk*) is the indicator of potential litigation risk, calculated based on Eq. (3), while the independent variable is *AMLD_Ratio*. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).

*, **, and *** denote significance at the 10%, 5% ,and 1% levels, respectively; *z*-statistics are reported in parentheses.

3.4.4.5 Oster Estimation

This study's findings could be biased due to some omitted variables, as it is difficult to identify and incorporate all relevant factors explaining litigation risk in the baseline regression. In this regard, this study follows Oster's (2019) method to examine whether the omitted variables will impact the relationship between litigation risk and AML-related disclosure. Following previous studies (Donohoe et al., 2022; Oster, 2019; Song et al., 2023), a bias-adjusted treatment effect bound is calculated by using a value of $R_{max} = 1.3 \widetilde{R}$, which means that the R_{max} upper bound is 1.3 times the R^2 of the baseline regression with all the control variables. Also, the bias-adjusted effect assumes $\delta = 1$. The results are reported in Table 20. As shown in Column (1), the estimated bound (i.e., "True" β Bound) does not contain zero, which can be considered an indication of robust effects that are non-zero. Then, the delta value is calculated based on the same assumption. The delta value indicates the importance of the unobservable confounders in fully explaining the findings of this study. According to Song et al. (2023), the delta value is expected to be greater than 1 or lower than -1, as this suggests that the unobservable confounders should be more than 1 times stronger than the impact of the observable factors. As shown in Column 2, the delta value (3.871) is greater than 1, which is aligned with Oster's (2019) argument, indicating that the results in this study are not driven by unobservable factors. Specifically, the delta value shows that the impact of the unobservable factors needs to be more than 3.87 times stronger than the impact of the observable factors to fully explain the findings of this study. In conclusion, the results of this study are free from issues associated with omitted variables.

Table 20. The Oster (2019) method

Parameter assumptions	
1.3 R^2; $\delta = 1$	Estimated β from Eq. (5) = 0
(1) "True" β Bound	(2) δ
[-0.177, -0.221]	3.871

Note: This table reports the results of examining the sensitivity of β by considering the existence of unobservable factors in the sample and their impact on driving β to zero. This analysis assumes that including unobservable factors increases R^2 by 130% and that the factors are at least as important as observable factors in Eq. (5).

3.4.4.6 Heckman Selection Model

This study's independent variable (i.e., *AMLD_Ratio*) is extracted from annual and internal control self-evaluation reports. It is, therefore, difficult to avoid sample self-selection concerns. Firms with a stronger ability to prevent risk are more likely to disclose internal control content (Lin et al., 2022). Moreover, some of the sample firms in this study had previously operated in

non-financial industries. As a result, these firms had relatively less experience in AML and, therefore would be less inclined to provide AML-related disclosures. Conversely, firms consistently operating within the financial sector are more likely to disclose AML-related content, given their ample experience in combating money laundering and their established AML systems. Therefore, this study runs a Heckman selection model to remove self-selection bias as a final technique.

This study first employs *IsDeficiency* as one of the instrumental variables. *IsDeficiency* is a dummy variable, equal to 1 if firms disclose internal control deficiencies, and 0 otherwise. The other instrumental variable employed is *Loss*, measured as a dummy variable, which equals 1 if the firm has negative net income, and 0 otherwise. These two variables both have an indirect relationship with lawsuit involvement.

Column (1) in Table 21 reports the first stage probit regression result. The dependent variable, *LitDummy*, is a dummy variable capturing whether a firm is involved in litigation; it equals 1 if involved, and 0 otherwise. The probit model regresses *LitDummy* and *IsDeficiency* as well as *Loss*, with same set of control variables used in Column (2). As reported in Column (1) of Table 21, the coefficient of *IsDeficiency* is positive (0.258) and statistically significant at the 10% level, suggesting that the internal control deficiency existing within a firm is positively related to the likelihood of a litigation case occurring. The coefficient of *Loss* is negative (-0.474) and statistically significant at the 5% level, suggesting that the firm's loss-making is negatively associated with litigation engagement. Accordingly, the first stage result indicates a potential selection bias in incurring litigation risk. The inverse Mills ratio (*IMR*) is calculated from the first stage probit estimation and then is included in the second stage regression as a bias correction term. In the second step, as shown in Column (2), *IMR* is included in the baseline regression. It can be observed that the coefficient of *AMLD_Ratio* still remains negative (-0.382) and statistically significant at the 1% level, suggesting that the results are robust after selection bias is controlled.

Table 21. Heckman selection model

Variables	(1) 1st Stage *LitDummy*	(2) 2nd Stage *Lit_Risk*
AMLD_Ratio		-0.382***
		(-3.29)
IMR		-0.054
		(-1.64)
IsDeficiency	0.258*	
	(1.91)	
Loss	-0.474**	
	(-2.07)	
SOE	-0.455***	-0.062***
	(-3.47)	(-4.11)
Domestics10	0.226	-0.021
	(1.40)	(-1.55)
Ln_Lev	-0.032	-0.028***
	(-0.38)	(-4.06)
Size	-0.081*	0.002
	(-1.66)	(0.32)
Ind_Board	0.024*	-0.003***
	(1.88)	(-2.63)
Top_1	-0.004	0.001***
	(-0.98)	(2.75)
TobinQ	-0.206**	-0.002
	(-2.42)	(-0.18)
Age	0.038	-0.018
	(0.21)	(-1.14)
Duality	-0.197	0.021
	(-1.01)	(1.25)
Constant	0.272	0.378***
	(0.22)	(3.11)
Year FE	YES	YES
Firm FE	YES	YES
N	1,149	1,149

Note: This table presents the regression results using Heckman's two-stage approach. The first stage uses *IsDeficiency* and *Loss* to estimate firms' involvement in litigation issues. *LitDummy* is the dummy variable, equals to 1 if the firm is involved in litigation, and 0 otherwise. *IsDeficiency* is the first instrumental variable, equalling 1 if the firm discloses any internal control deficiencies, and 0 otherwise. *Loss* is the other instrumental variable, equalling 1 if the firm has negative net income, and 0 otherwise. *IMR* is the inverse Mills ratio from the first stage probit estimation and is added to the second stage. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *z*-statistics are reported in parentheses.

3.5 Robustness Tests

Considering the limited number of samples in this study, this section describes a series of robustness tests that were conducted to ensure the validity of the main results. The coefficients of the "core" variable are expected to be consistent with the baseline regression, as discussed in Section 3.4.3. Plausible and robust coefficients are regarded as an indication of structural validity (Lu & White, 2014). This study examines the robustness of its results using: (1) an alternative measure for the dependent variable (i.e., litigation risk); (2) an alternative measure for the independent variable (i.e., AML disclosure); (3) a different sample period; (4) a lagged independent variable; and (5) a placebo test.

3.5.1 Alternative Proxy for Litigation Risk

Following previous studies (e.g., Huang & Gao, 2021; Wu et al., 2020; Zhang et al., 2023), this study measures the litigation risk in an alternative way, *Lit_Risk1*, by using the amount involved in the litigation and arbitration cases, divided by the total assets of the firm. This measure can effectively capture the litigation risk as it reflects the impact of lawsuits on the defendant firm (Zhang et al., 2023), and indicates the losses faced by the defendant firm. The same regression models and procedures are applied to ensure consistency with the baseline regression. The firm-specific effect is always controlled according to the statistical model used.

Table 22 presents the results of regression Eq. (5) where *Lit_Risk1* is used as the dependent variable. The coefficient of *AMLD_Ratio* remains negative across all three columns and statistically significant at the 1% level or better for two columns. Therefore, the baseline regression results presented in Table 15 are insensitive to the use of an alternative litigation risk proxy.

Table 22. Regression results with alternative measure for litigation risk

Variables	(1) *Lit_Risk1*	(2) *Lit_Risk1*	(3) *Lit_Risk1*
AMLD_Ratio	-0.249	-0.201*	-0.270*
	(-1.50)	(-1.67)	(-1.78)
Ln_Lev		0.042**	0.044**
		(2.14)	(2.22)
Size		-0.033***	-0.042***
		(-2.73)	(-2.80)
SOE		0.009	0.010
		(0.89)	(0.95)
Ind_Board		0.001	0.001
		(0.66)	(0.60)
Domestics10		0.003	0.008
		(0.26)	(0.64)
Top_1		0.000	0.000
		(0.05)	(0.15)
TobinQ		-0.003	-0.003
		(-0.34)	(-0.36)
Age		0.073**	0.010
		(2.50)	(0.33)
Duality		-0.030*	-0.030*
		(-1.89)	(-1.92)
Constant	0.247***	5.692***	9.495***
	(6.70)	(6.34)	(6.85)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES
R-squared	0.003	0.081	0.102
N	1,317	1,317	1,317

Note: This table presents the fixed effects (FE) regression coefficients and their statistical significance for the regression model with alternative measures of litigation risk. The new dependent variable is *Lit_Risk1*, calculated as the amount involved in the litigation and arbitration cases divided by the total assets of the firm. The independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.5.2 Alternative Proxy for AML Disclosure

An alternative measure for AML-related disclosure, *AMLD_No*, is constructed. *AMLD_No* is measured by the natural logarithm of the AML-related word frequency (i.e., numbers of AML-related keywords mentioned in the annual report and the internal control self-evaluation report) plus 1. Table 23 reports the results. Column (1) shows that the coefficient of *AMLD_No* is negative (-0.014) and statistically significant at the 1% level when examining the key variable only. After including all the control variables, as shown in Column (2), *AMLD_No* is still

negative (-0.009) and significantly related to *Lit_Risk* at a 1% level. In Column (3), after controlling the year-specific fixed effects, the coefficient of *AMLD_No* remains negative (-0.009) and statistically significant at the 1% level. It should be noted that when using the word frequency to measure disclosure, the coefficient in Columns (2) and (3) is the same, which indicates that the impact of AML disclosure on litigation risk is the same no matter whether factors that change each year are controlled or not. In general, the result of the robustness test with an alternative measure for AML disclosure confirms the validity of the findings in this study.

Table 23. Regression results with alternative AML disclosure measure

Variables	**(1)** ***Lit_Risk***	**(2)** ***Lit_Risk***	**(3)** ***Lit_Risk***
AMLD_No	-0.014***	-0.009***	-0.009***
	(-4.91)	(-4.11)	(-4.24)
Ln_Lev		-0.005*	-0.003
		(-1.86)	(-1.46)
Size		-0.000	0.002
		(-0.03)	(0.90)
SOE		-0.037***	-0.036***
		(-4.99)	(-5.01)
Ind_Board		-0.001***	-0.001***
		(-3.39)	(-3.47)
Domestics10		0.003	0.001
		(0.72)	(0.31)
Top_1		0.000**	0.000**
		(2.18)	(2.13)
TobinQ		0.001	0.003*
		(0.60)	(1.77)
Age		-0.016	-0.011
		(-1.38)	(-0.45)
Duality		-0.003	-0.002
		(-1.10)	(-0.78)
Constant	0.104***	0.190***	0.116
	(36.02)	(4.45)	(1.50)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES
R-squared	0.086	0.244	0.298
N	1,317	1,317	1,317

Note: This table presents the fixed effects (FE) regression coefficients and their statistical significance for the regression model with an alternative measure of AML-related disclosure. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). The new proxy, *AMLD_No*, is calculated by the natural logarithm of the AML-related word frequency plus 1. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.5.3 Alternative Sample Intervals

From an empirical standpoint, the statistical relationship between the variables may be impacted when the sample observation period is changed. Therefore, this study randomly shortened the sample interval and excluded the firm-year observations before 2012. In other words, the sample period in this robustness test is from 2012 to 2022 to see if the shortened sample period influences the relationship between litigation risk and AML-related disclosure. Results are reported in Table 24. The same procedures are performed as for the previous robustness tests. Aligning with the previous results, *AMLD_Ratio* is negative (-0.366) and significantly related to *Lit_Risk* at a 1% level when examining the key variables only. After including all the control variables, as indicated in Column (2), the statistical result of *AMLD_Ratio* remains unchanged (i.e., negative, and statistically significant at a 1% level). When controlling for the firm-specific fixed effects, the coefficient of *AMLD_Ratio* is still negative (-0.226) and statistically significant at the 1% level. In sum, the negative impact of AML-related disclosure on a firm's litigation risk is not impacted by the shortened sample interval; therefore, the finding is robust.

Table 24. Regression results with alternative sample intervals (randomly chosen)

Variables	**(1)** ***Lit_Risk***	**(2)** ***Lit_Risk***	**(3)** ***Lit_Risk***
AMLD_Ratio	-0.366***	-0.203***	-0.226***
	(-4.84)	(-3.50)	(-4.28)
Ln_Lev		-0.006**	-0.005*
		(-1.98)	(-1.69)
Size		-0.003	0.001
		(-0.84)	(0.48)
SOE		-0.036***	-0.036***
		(-4.60)	(-4.84)
Ind_Board		-0.001**	-0.001**
		(-2.02)	(-2.58)
Domestics10		0.003	0.003
		(0.57)	(0.66)
Top_1		0.001**	0.001***
		(2.43)	(2.66)
TobinQ		0.000	0.005**
		(0.29)	(2.53)
Age		-0.031	0.004
		(-1.60)	(0.09)
Duality		-0.003	-0.003
		(-0.86)	(-0.79)

Constant	0.095***	0.280***	0.093
	(53.74)	(5.81)	(0.74)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES
R-squared	0.065	0.237	0.295
N	1,044	1,044	1,044

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model for the period 2012 to 2022. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.5.4 One-Year Lagged AML Disclosure

In this robustness test, the independent variable is replaced with its one-year lagged value. There are two reasons for using the lagged value of *AMLD_Ratio*. Firstly, the impact of the AML-related disclosure may not immediately impact the firm's potential litigation risk. In other words, the litigation risk incurred in the current year may be the result of insufficient AML activities performed in the previous year. Secondly, there is a potential issue of reverse causality between the AML-related disclosure and litigation risk. To address this, *AMLD_Ratio* is lagged for one year and denoted as *LAMLD_Ratio*. *LAMLD_Ratio* is used in the baseline regression model to predict the potential litigation risk incurred by the firm, and the results are reported in Table 25. As shown in Column (1), the coefficient of *LAMLD_Ratio* is negative (-0.217) and statistically significant at a 1% level when examining the relationship between *Lit_Risk* and *LAMLD_Ratio* only. In Column (2), the coefficient of *LAMLD_Ratio* is still negative (-0.103) and statistically significant at a 10% level after including the control variables. In Column (3), after controlling for the firm-specific fixed effects, the coefficient of *LAMLD_Ratio* remains negative (-0.102) and statistically significant at a 10% level after including the control variables. As a result, the robustness of the relationship between AML-related disclosure and litigation risk is further confirmed by the lagged value of AML-related disclosure.

Table 25. Regression results with AML disclosure lagged by one year

Variables	**(1)** ***Lit_Risk***	**(2)** ***Lit_Risk***	**(3)** ***Lit_Risk***
LAMLD_Ratio	-0.217***	-0.103*	-0.102*
	(-3.02)	(-1.96)	(-1.91)
Ln_Lev		-0.005*	-0.004

		(-1.79)	(-1.50)
Size		0.001	0.003
		(0.23)	(1.08)
SOE		-0.034***	-0.032***
		(-4.23)	(-4.19)
Ind_Board		-0.001***	-0.001***
		(-3.45)	(-3.79)
Domestics10		0.000	-0.002
		(0.06)	(-0.47)
Top_1		0.001***	0.000***
		(2.94)	(2.83)
TobinQ		0.001	0.003*
		(0.73)	(1.73)
Age		-0.031**	-0.022
		(-2.04)	(-0.61)
Duality		-0.001	-0.000
		(-0.48)	(-0.17)
Constant	0.094***	0.204***	0.117
	(70.14)	(4.45)	(1.20)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES
R-squared	0.019	0.198	0.260
N	1,178	1,178	1,178

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model with a lagged independent variable. *Lit_Risk* is the indicator of potential litigation risk, calculated based on Eq. (3). The independent variable, *LAMLD_Ratio*, is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*) lagged for one year. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*). *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.5.5 Placebo Test

To further confirm that the causality and validity of the results are not affected by other confounding factors, a placebo test is conducted as one of the robustness tests. The idea of the placebo test is that if litigation risk is mainly driven by other common unobservable factors, the impact on litigation risk still remains when defining the AML-related disclosure in an alternative way. According to Liang et al. (2021), this placebo test is conducted by randomly assigning the treatment group and control group. Specifically, the disclosure of AML-related content is randomly assigned (i.e., pseudo disclosure) to a firm, and Eq. (5) is re-estimated using the pseudo disclosure. The placebo test is simulated 1,000 times, and the result is visualised in Figure 3.

As presented in Figure 3, the baseline result is represented as a dotted vertical line. The horizontal dotted line indicates the *p*-value of 0.1. The scatter located above the horizontal

dotted line indicates that the estimated coefficient from the baseline regression is statistically significant at a 10% level or above. In contrast, the scatter located below the horizontal dotted line indicates that the estimated coefficient is statistically significant. It can be observed that after randomly assigning the treatment and control groups, estimated coefficients are mostly located around the value of zero. The estimated coefficients are far away from the dotted vertical line (i.e., the actual coefficient). More importantly, Figure 3 clearly shows that most of the scatters are located above the horizontal dotted line, indicating the *p*-value of most coefficients is greater than 0.1. In other words, most estimated coefficients are statistically insignificant. It is observed that only 109 scatters are located below the horizontal dotted line. Therefore, the placebo test confirms that litigation risk is not driven by other confounding factors. That is, the AML-related disclosure effectively alleviates the risk of litigation by the firm. In sum, the results of this study are robust.

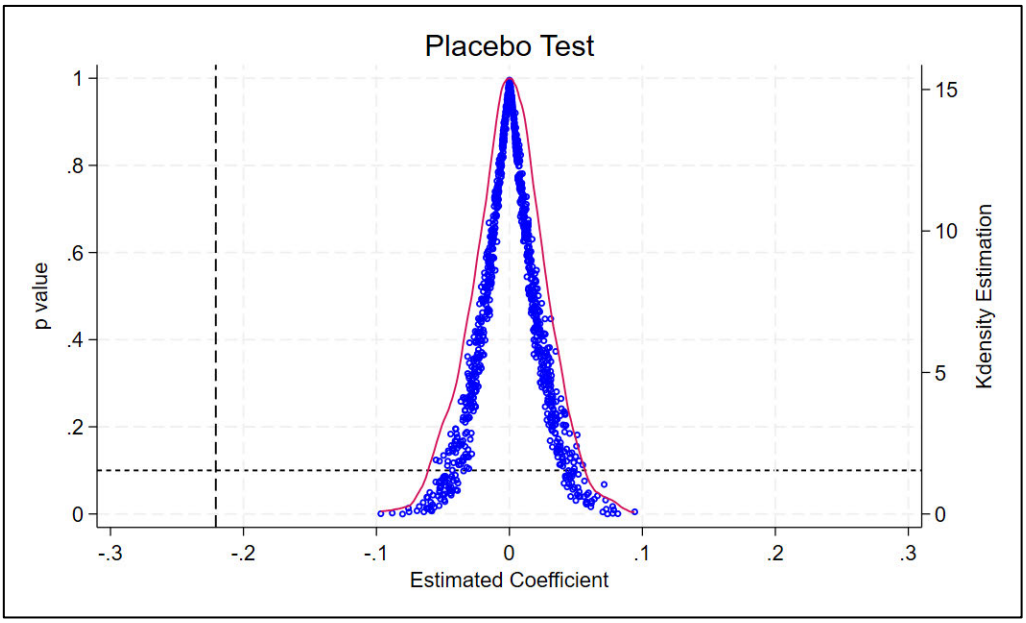

Figure 3. Placebo test

Note: Figure 3 shows scatters based on a 1,000 times simulation. The placebo test is conducted by randomly assigning the disclosure of AML-related disclosures to a firm, and Eq. (5) is re-estimated using the pseudo disclosure.

3.6 Cross-Sectional Analysis

To extend the results of this study, cross-sectional tests were conducted that further examine whether the relationship between litigation risk and AML-related disclosure changes with firm-specific heterogeneities. Different firm-specific attributes, such as the management team's characteristics and corporate governance, may explain management's decision to disclose

voluntary information. Accordingly, this study investigated whether the relationship between litigation risk and AML-related disclosure could be affected by: (1) top management team (TMT) characteristics, including gender and age diversity; (2) ownership structure; and (3) readability of the financial statements.

3.6.1 TMT Gender Heterogeneity

According to upper echelon theory, managerial background characteristics can predict a firm's outcomes (Hambrick & Mason, 1984). Heterogeneity within the TMT can contribute to the firm's knowledge and professions from diverse perspectives (Naranjo-Gil et al., 2008). TMT composition has also been found to have impacts on the voluntary disclosures made by the firm (Kwak et al., 2023). In addition, TMT characteristics are associated with legal risk, as a TMT with more women present and with longer tenure results in lower legal risk exposure (Bao et al., 2012). Along with this, previous studies (e.g., Opstrup & Villadsen, 2015; Saeed et al., 2023; Wu et al., 2017) have argued that the gender diversity of the TMT can lead to better firm performance. Also, gender heterogeneity among a firm's independent non-executive directors could reduce risk taking in large banks (Mollah et al., 2021).

In line with the previous literature (e.g., Hambrick et al., 1996; Mollah et al., 2021; Naranjo-Gil et al., 2008; Plečnik & Wang, 2021), this study applies Blau's (1977) Herfindahl-Hirschman index to calculate the TMT gender heterogeneity as shown in Equation (6) below:

$$H = 1 - \sum_{i=1}^{n} P_i^2 \tag{6}$$

where H represents the heterogeneity. P_i is the percentage of TMT members in the ith heterogeneity category (in this case, P_i is calculated based on two categories: female and male). H is bounded between 0 and 1. A higher value of H indicates greater TMT heterogeneity, and a lower value of H indicates lower TMT heterogeneity. If H has a value of 0, this represents complete homogeneity of the TMT. The calculated gender heterogeneity is defined as "high" if the value of H is higher than the firm-year median and is defined as "low" if the value of H is lower than the firm-year median. Results are reported in Table 26. As shown in Columns (1) and (2), both the coefficients of *AMLD_Ratio* are negative and significant. Coefficients of *AMLD_Ratio* were compared between the high and low gender heterogeneity groups, and the *p*-value of the differences was calculated by using seemingly unrelated estimations. As shown in Table 26, the *p*-value of 0.0004 (significant at a 1% level) suggests that the effect of AML-related disclosure on litigation risk is more visible for firms with high gender heterogeneity in

the TMT. This suggests that TMT gender heterogeneity can mitigate the litigation risk of financial institutions by the firms making strategic decisions such as issuing more voluntary disclosures. Therefore, when there is high TMT gender heterogeneity, the firm is more likely to issue AML-related content. As a result, the possibility of incurring litigation risk may be lowered.

Table 26. TMT gender heterogeneity

	(1)		(2)
Variables	**High**		**Low**
AMLD_Ratio	-0.156*		-0.127**
	(-1.79)		(-2.31)
p-value		0.0004***	
Ln_Lev	-0.003*		-0.006
	(-1.80)		(-1.54)
Size	0.004*		0.001
	(1.67)		(0.37)
SOE	-0.001		-0.014**
	(-0.10)		(-2.23)
Ind_Board	-0.000		-0.001**
	(-0.84)		(-2.06)
Domestics10	-0.003		0.001
	(-0.50)		(0.36)
Top_1	0.000		0.000
	(1.24)		(0.40)
TobinQ	0.003*		0.003
	(1.72)		(1.45)
Age	-0.055*		-0.004
	(-1.88)		(-0.32)
Duality	0.002		-0.001
	(0.48)		(-0.17)
Constant	0.129		0.128**
	(1.29)		(2.33)
Year FE	YES		YES
Firm FE	YES		YES
R-squared	0.147		0.176
N	616		701

Note: This table presents the regression coefficients and their statistical significance for the regression models for the high gender diversity group and the low gender diversity group. The dependent variable is *Lit_Risk*, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*). The coefficients of *AMLD_Ratio* were compared between the groups, and the *p*-value of the differences was calculated by using seemingly unrelated estimations.
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.6.2 TMT Age Heterogeneity

In contrast to other TMT heterogeneities, age heterogeneity has been found to be negatively associated with a firm's performance (Tanikawa et al., 2017). Higher age heterogeneity indicates greater differences in attitudes, cognition, and values within specific environments (Bantel & Jackson, 1989; Hambrick & Mason, 1984). Previous research has also found that age heterogeneity is negatively associated with risk tolerance (Bucciol & Miniaci, 2011).

In line with previous studies (Bantel & Jackson, 1989; Richard & Shelor, 2011; Wiersema & Bantel, 992), age heterogeneity is measured in this study using the standard deviation of the TMT members' age and scaled by the mean age value. Age heterogeneity is defined as "high" if the estimated value is higher than the firm-year median and is defined as "low" if the value is lower than the firm-year median. Results are reported in Table 27. Columns (1) and (2) show that both the coefficients of *AMLD_Ratio* are negative and statistically significant at a 1% level. The results suggest that the TMT age heterogeneity affects the relationship between litigation risk and AML-related disclosure, whether the age heterogeneity is high or low. Coefficients of *AMLD_Ratio* were compared between the high and low age heterogeneity groups, and the *p*-value of the differences was calculated by using seemingly unrelated estimations. However, the *p*-value of 0.9156 suggests no difference exists between the impact of high and low TMT age heterogeneities on the relationship between litigation risk and AML-related disclosure. Therefore, the results in Table 27 suggest that age diversity in a firm's TMT does not influence how strategic decisions, such as voluntary disclosure, affect the litigation risk of financial institutions.

Table 27. TMT age heterogeneity

	(1)		(2)
Variables	**High**		**Low**
AMLD_Ratio	-0.205***		-0.197***
	(-3.99)		(-3.23)
p-value		0.9156	
Ln_Lev	-0.002		-0.010**
	(-0.88)		(-2.14)
Size	0.001		0.003
	(0.35)		(0.59)
SOE	-0.025***		-0.042***
	(-3.25)		(-3.70)
Ind_Board	-0.000		-0.001***
	(-0.85)		(-3.10)
Domestics10	-0.001		0.010

	(-0.26)	(1.60)
Top_1	0.000	0.001**
	(0.34)	(2.40)
TobinQ	0.005***	0.001
	(2.79)	(0.27)
Age	-0.026	-0.024
	(-1.40)	(-0.54)
Duality	-0.006	0.004
	-0.205***	-0.197***
Constant	0.151*	0.145
	(1.72)	(1.00)
Year FE	YES	YES
Firm FE	YES	YES
R-squared	0.180	0.391
N	661	656

Note: This table presents the regression coefficients and their statistical significance for the regression models for the high age diversity group and low age diversity group. The dependent variable is *Lit_Risk*, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*). Coefficients of *AMLD_Ratio* were compared between the groups, and the *p*-value of the differences was calculated by using seemingly unrelated estimations.
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.6.3 State-Owned Enterprises

In terms of corporate governance, it is believed that a firm's ownership structure can affect its decisions on information disclosure. Compared to non-SOEs, state-owned enterprises (SOEs) are more likely to experience government intervention and the organisational outcomes of these firms tend towards achieving the government's objectives rather than the target of maximising profits typical of private firms (Chen et al., 2011). Moreover, it has been argued that SOEs are more likely to obtain private information than non-SOEs (Eng & Mak, 2003). SOEs that hold private information are encouraged to provide voluntary disclosure to ensure information transparency (Xiao & Yua, 2007), and firms that are owned by the government are more likely to provide voluntary disclosure (Eng & Mak, 2003). Therefore, this study investigated whether government ownership has an impact on the relationship between litigation risk and AML-related disclosure. The results are reported in Table 28. As shown in Column (1), when firms are SOEs, the coefficient of *AMLD_Ratio* is negative (-0.185) and statistically significant at a 5% level. Column (2) shows that when firms are non-SOEs, the coefficient of *AMLD_Ratio* becomes positive (0.005) and statistically insignificant. Moreover, when comparing the coefficients of *AMLD_Ratio* between the SOE and non-SOE groups by using seemingly unrelated estimations, the *p*-value of 0.004 (significant at the 1% level) suggests that there is a

difference between SOEs and non-SOEs in terms of the relationship between litigation risk and AML-related disclosure. The results indicate that government ownership can effectively strengthen the impact of AML-related disclosure on the firm's litigation risk. One reason for this could be government intervention. As they are directly controlled and monitored by the government, SOEs are required to provide more private information (especially, AML-related content) in their financial statements, which can improve information transparency and achieve the aims of the government.

Table 28. SOE heterogeneity

	(1)		(2)
Variables	**SOE**		**Non-SOE**
AMLD_Ratio	-0.185**		0.005
	(-2.33)		(0.14)
p-value		0.0004**	
Ln_Lev	-0.011**		-0.004*
	(-2.33)		(-1.75)
Size	0.005		0.003
	(1.60)		(1.40)
Ind_Board	-0.001*		-0.000
	(-1.78)		(-1.09)
Domestics10	-0.003		-0.001
	(-0.68)		(-0.12)
Top_1	0.000		-0.000
	(0.20)		(-0.48)
TobinQ	0.004		0.004***
	(1.18)		(3.05)
Age	-0.000		-0.011
	(-0.00)		(-1.18)
Duality	0.005		-0.001
	(1.47)		(-0.28)
Constant	-0.003		0.072
	(-0.04)		(1.03)
Year FE	YES		YES
Firm FE	YES		YES
R-squared	0.177		0.083
N	714		603

Note: This table presents the regression coefficients and their statistical significance for the regression models for state-owned enterprises (SOEs) and non-SOEs. The dependent variable is *Lit_Risk*, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*). Coefficients of *AMLD_Ratio* are compared between the groups, and the *p*-value of the differences is calculated by using seemingly unrelated estimations.

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.6.4 Readability

As discussed in the previous section, disclosing AML-related content provides more firm-specific information to financial information users, which can lower information asymmetry. A readable financial report may include more firm-specific information (Bai et al., 2019). According to Biddle et al. (2009), the readability of the financial report is regarded as an indicator of reporting quality. When the financial report is more readable, it is easier for the readers to find the information (financial and/or non-financial) provided and enable them to make corresponding decisions. Especially for relatively sensitive information that is not easy to obtain, the high readability of the financial report enables the readers to better capture and understand such information.

This study obtained readability data from the WinGo database, where the readability of the financial reports is calculated based on the structure and sequence of the sentences constructed. A higher value of readability indicates that the financial report is more readable and easier to understand. In contrast, a lower value of readability suggests that the financial report is more complex and takes time for readers to understand the content. In the test conducted for this study, readability is defined as "high" if the estimated value is higher than the firm-year median and is defined as "low" if the value is lower than the firm-year median. Results are reported in Table 29. It can be observed that the coefficient of *AMLD_Ratio* in Column (1) is negative (-0.361) and statistically significant at a 1% level, whereas the coefficient in Column (2) is statistically insignificant. Coefficients of *AMLD_Ratio* are compared between the high readability and low readability groups and the *p*-value of the differences is calculated by using seemingly unrelated estimations. The *p*-value of 0.0044 (significant at the 1% level) suggests that there is a difference in the relationship between litigation risk and AML-related disclosure for firms with financial reports with high levels of readability compared to those whose reports have low levels of readability. These results suggest that when the financial report is readable, the impact of AML-related disclosure on litigation risk is strengthened as the information users can better capture the AML-related content and take corresponding actions. As a result, the potential litigation risk can be mitigated.

Table 29. Readability heterogeneity

Variables	(1) High		(2) Low
AMLD_Ratio	-0.361***		-0.092
	(-3.17)		(-1.65)
p-value		0.0044***	
Ln_Lev	-0.002		-0.009
	(-0.98)		(-1.35)
Size	-0.000		0.006
	(-0.12)		(0.69)
SOE	-0.034***		-0.041***
	(-3.71)		(-4.86)
Ind_Board	-0.034***		-0.041***
	(-3.71)		(-4.86)
Domestics10	-0.001**		-0.001**
	(-2.47)		(-2.51)
Top_1	0.004		-0.004
	(0.92)		(-0.65)
TobinQ	0.000*		0.001***
	(1.77)		(2.72)
Age	0.001		0.005
	(0.62)		(1.13)
Duality	0.019		-0.024
	(0.64)		(-0.94)
Constant	0.120		0.016
	(1.27)		(0.06)
Year FE	YES		YES
Firm FE	YES		YES
R-squared	0.246		0.361
N	653		653

Note: This table presents the regression coefficients and their statistical significance for the regression models for the high readability group and the low readability group. Readability is calculated based on the structure and sequence of the sentences constructed. It is defined as "high" if the estimated value is higher than the firm-year average value and is defined as "low" if the value is lower than the firm-year average value. The dependent variable is *Lit_Risk*, calculated based on Eq. (3). *AMLD_Ratio* represents the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's leverage (*LN_Lev*), size (*Size*), and ownership (*SOE*), the proportion of independent directors on the board (*Ind_Board*), audit quality (*Domestics10*), the proportion of shares held by the largest shareholder (*Top_1*), Tobin's Q (*TobinQ*), firm age (*Age*), and CEO duality (*Duality*). Coefficients of *AMLD_Ratio* are compared between the groups and the *p*-value of the differences is calculated by using seemingly unrelated estimations.
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

3.7 Conclusion, Implications, and Limitations

Fighting against money laundering activity is an important issue in the world. It is especially important to financial institutions because they are regarded as "first-level contact points" (Isa et al., 2015) due to their functions. From the macroeconomic perspective, failures in effectively implementing AML practices can have severe consequences for a country's financial security

and even the whole financial system. From a microeconomic standpoint, deficiencies in a firm's AML system can detrimentally impact the firm and its stakeholders, leading to financial losses, disruption of normal operations, damage to reputation, and other adverse effects. Consequently, financial institutions may find themselves facing litigation. Through examining AML-related disclosure, the extent of information disclosure by financial institutions in terms of AML issues, as well as their attitudes towards AML, can be revealed. To further enrich the literature on AML, this study focuses on the economic consequences of AML disclosure. That is, whether the AML-related information disclosed by a financial institution would affect its potential of incurring in litigation risk. Using a sample of financial institutions listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange from 2007 to 2022, this study uses machine-learning techniques to conduct a content analysis of AML-related information disclosed in firms' annual reports and internal control self-evaluation reports. The results show a negative association between AML-related disclosure and a firm's potential litigation risk. A battery of endogeneity tests and robustness tests were performed to ensure this result is not driven by other confounding factors. These show that the baseline result of this study remains robust. In addition, several heterogeneity tests were conducted. The results show that the relationship between AML-related disclosure and litigation risk is more pronounced when there is a greater difference in gender (i.e., gender heterogeneity) within the TMT. This suggests that TMTs with greater gender heterogeneity may provide more strategic contributions from different gender perspectives. Also, the analysis shows that the impact of AML-related disclosure on litigation risk is greater in SOEs, which may be because SOEs are under stricter supervision than non-SOEs. Moreover, this study finds that the association between AML-related disclosure and litigation risk is more pronounced when the firm's financial statements have better readability, suggesting that the more readable nature of the statements enables the information users to capture key information regarding AML issues.

This study has implications from several perspectives. From practical perspective, the findings of this study could make Chinese financial institutions aware of the extent of their AML disclosure. The findings could also help the central bank (i.e., the People's Bank of China) to improve its AML framework and corresponding guidelines to enhance transparency and compliance. Researchers have suggested that the existing law in China is still insufficient for combating money laundering due to its restrictive applications, lack of detailed provisions, and a weak institutional framework (Nobanee & Ellili, 2018). Although China has made progress in improving its technical compliance with the *FATF 40 Recommendations* (FATF, 2012), it remains non-compliant with four of the recommendations (FATF, 2022). Therefore,

the Chinese government should strengthen AML practices and impose more stringent supervision on financial institutions. The regulatory authorities in China should encourage financial institutions to disclose more information regarding AML, especially how their AML programs are implemented and what outcomes are achieved. If this was implemented, information users could clearly understand the AML practices used by the financial institutions and this would strengthen their confidence in these institutions.

The study's findings also suggest that international AML organisations (e.g., ACAMS, FATF, Basel Committee on Banking Supervision) need to clarify their guidelines regarding AML-related disclosure, as these remain ambiguous regarding the "what", "how", and "why" of financial institutions' disclosure of such information to the public. However, it should be noted that the release of information could expose financial institutions to litigation from customers, who may claim that the financial institution has not complied with the duty of secrecy and has failed to adhere to customers' instructions (Gikonyo, 2021). Accordingly, these international AML organisations should provide clear guidance about how to convey AML-related information in an appropriate way. Information users, especially shareholders and customers, need to evaluate the AML-related disclosures provided by a firm, as there is a likelihood of information manipulation: legitimacy theory suggests that institutions may try to appear legitimate by disclosing such information and thus avoid litigation costs. It is useful for these users to understand the reasons behind an AML-related disclosure that is made in response to litigation risk, as it may enable them to better interpret the AML-related content provided by the financial institution. For scholars, this study highlights the need to measure the effectiveness of AML practices. Moreover, future studies could explore AML disclosures delivered in other formats, such as through social media, and could also explore ESG[29] reports and how they relate to litigation risks. Future research could also examine the underlying mechanism of the impact of AML disclosure on litigation risk.

Moreover, the findings of this study have theoretical implications. First, this study contributes to legitimacy theory by investigating how AML-related disclosures can serve as a tool for financial institutions to signal compliance and mitigate litigation risk. This aligns with the concept that organizations disclose information not only to comply with regulations but also to maintain their legitimacy and public image. Second, the results enrich transparency-stability theory by demonstrating that AML disclosures help reduce information asymmetry

[29] ESG is an acronym for Environmental, Social and Governance.

and improve transparency, thereby strengthening investor confidence and lowering potential risks. Finally, this study provides new insights into the interplay between organizational characteristics (e.g., TMTs gender diversity and ownership structure) and the impacts of disclosures, highlighting the dynamics of corporate governance mechanisms and risk mitigation strategies. These contributions serve as a theoretical foundation for understanding the strategic role of AML disclosures in managing litigation risk and enhancing organizational accountability and stability.

It is important to note this study's limitations. According to Ai (2012), determining the effectiveness and thorough implementation of actions based on disclosed information should rely on qualitative research rather than quantitative research. In other words, when financial reports state that particular actions have been undertaken, this does not necessarily imply the successful outcomes of these actions. Effectiveness cannot be assured in the absence of a legal framework, even with voluntary disclosure (Al-Tawil, 2023). Although some institutions disclose AML-related information in their annual report, it is unknown whether the AML policies or frameworks are implemented because such information is still inaccessible to the public at this stage. Therefore, future studies could put more effort into investigating whether the effectiveness of implementing AML practices is consistent with the impact of disclosing AML-related information.

Chapter 4

Anti-money Laundering Disclosures and Audit Fees: Evidence from Financial Institutions

4.1 Introduction

4.1.1 Research Background

Money laundering, a process to legitimise illicit gains acquired through unlawful activities (Isa et al., 2015), poses significant dangers to global stability and security.[30] The United Nations Office on Drugs and Crime (UNODC) estimates that the annual amount of laundered money ranges from $800 billion to $2 trillion in US dollars, constituting 2 to 5 per cent of the global gross domestic product (GDP).[31] Money laundering poses significant risks for financial institutions, particularly banks, as they serve as the primary points of contact for individuals engaging in such activities. The financial services offered by these institutions create opportunities for money launderers to "cleanse" their illicit funds (Isa et al., 2015). It has been argued that financial institutions in China have become more likely to be used as vehicles for "washing" money in the context of the country's rapid economic development (Ai et al., 2020). In 2023, the People's Bank of China (PBC) imposed a total of 1,034 anti-money laundering (AML) administrative penalties, resulting in approximately 5.239 billion RMB in penalties.[32] As financial institutions are at the forefront of engaging in money laundering activities, they have more responsibilities of detecting and eradicating the related risks. As such, Chinese financial institutions are obliged to adhere to AML policies and manage these risks. Non-compliance with AML regulations can subject firms to additional costs, such as penalties and litigation. Additionally, financial institutions may face conflicts as reporting obligations may conflict with customer confidentiality duties (Gikonyo, 2021; Mugarura, 2015). As a result, financial institutions are less willing to disclose AML-related information to the public.

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[30] Money laundering is the act of legitimising financial proceeds obtained from illicit activities, effectively making "dirty" money appear clean (Habib et al., 2018; Nobanee & Ellili, 2018; Tiwari et al., 2020). This process typically involves three stages: placement, layering, and integration (Buchanan, 2004). Money laundering enables illegal activities worldwide and poses serious consequences for the global economy. In response, an increasing number of countries are prioritising anti-money laundering efforts and establishing AML organisations to mitigate these illegal activities.

[31] For more information, see: www.unodc.org/unodc/en/money-laundering/overview.html

[32] The PBC, founded in 1948, is the central bank of China. The PBC is tasked with implementing monetary policy and regulating financial institutions. For further details, please refer to <http://www.pbc.gov.cn>

In recent years, scholars have paid increased attention to the narrative disclosures in financial statements (Hossain et al., 2019). Corporate textual disclosure (another term for narrative disclosure) can serve as a vehicle for conveying information to outsiders, serving to lower information asymmetry. Although previous research studies (e.g., Mathuva et al., 2020; Nobanee & Ellili, 2018; Van der Zahn et al., 2007) have examined firms' disclosure of AML, most of these studies focus on the disclosure only without considering the consequences of the AML-related disclosure. Therefore, this study intends to investigate how AML-related disclosure affects the decision making of information users. Specifically, this study seeks to examine how the disclosure of AML-related information in financial statements affects auditors' price decisions.

Money laundering can impact audit pricing in two ways: (1) by reducing the quality of financial reporting, and (2) by heightening audit risks other than the quality issue of financial reporting (Habib et al., 2018). When there is disclosure of AML-related information, auditors must examine the AML procedures in place and also evaluate the extent to which employees comply with these procedures in their actual practices. In accordance with Simunic's (1980) audit pricing theory, the impact of disclosures on audit pricing is subject to both audit supply and audit demand influences. Previous studies (e.g., Ball et al., 2012; Calderon & Gao, 2020; Krishnan et al., 2012; Wang & Wang, 2023) have documented the impact of voluntary disclosures on audit pricing. However, most of these studies focus on the auditor's perception, thereby addressing the supply side of the auditor's services. Auditing financial statements with AML-related disclosures may require additional audit efforts and workload. On the other hand, from the audit demand perspective, such disclosures may ease the burdens of the auditors due to the improved information transparency and potentially lower audit risks. Consequently, demand from management and other stakeholders for audit efforts will decrease. This study therefore, attempts to investigate the relationship between AML-related disclosure and audit pricing from two opposite views: that is, using theories of auditing pricing and transparency-stability.

China offers a unique setting for exploring the association between AML-related disclosure and audit pricing because of the following three important reasons. First, the rapid economic development in China provides more opportunities for money launderers to obtain illegal funds through various business activities. Second, the initial AML actions taken in China followed a rule-based approach. Under a rule-based system, regulatory authorities establish regulations or requirements that financial institutions must strictly comply with. Anything that is prohibited (or required) should also be prohibited (or required) in all contexts and all cases

(Ai et al., 2010). Therefore, the rule-based approach is more likely to result in formalistic over-reporting (Unger &Van Waarden, 2009). Although China has shifted its AML approach towards a risk-based approach since the release of the *40 Recommendations* by the Financial Action Task Force (FATF) in 2012 (Ai et al., 2010), the AML process in China has lagged far behind those of the developed countries that initially adopted the risk-based approach. As a result, the AML system in China is still developing and certain deficiencies still exist. Third, compared with developed countries, where the Big 4 accounting firms dominate more than 80% of the audit market, China has a larger number of small accounting firms, leading to greater market competition (Huang et al., 2019). Moreover, Wang and Dou (2015) argue that the demand for high-quality auditing is low in China, and there is a weak incentive for auditors to improve audit quality. In this regard, the auditor's judgement may be biased, especially when delivering their audit opinion, due to concerns about customer attrition and income loss (Omar et al., 2017). Therefore, it is necessary to understand whether AML-related disclosure would affect the integrity and quality of audits in such a competitive market.

4.1.2 Research Objective and Motivation

An overarching goal of this study is to find out whether the integration of disclosure regarding AML activities in financial statements will affect the auditor's pricing decision. A point of departure is examining how the auditors perceive and respond to the AML-related information disclosed by the financial institutions. Given that AML information is typically hard for external users to access, the primary way of understanding a firm's AML system is through the disclosure of AML-related information by the firm. Currently, there are no regulatory requirements concerning AML-related disclosures in China. Hence, certain financial institutions have neglected to report such information despite effectively implementing their AML system. As a result, information asymmetry persists between information users (especially investors and auditors) and financial institutions. It is expected that disclosure of AML-related information can somewhat mitigate information asymmetry. Moreover, disclosing AML-related information demonstrates the effort of financial institutions in fighting against illegal and terrorist activities, suggesting an effective corporate governance system in terms of risk management. The disclosure of AML-related information could send a positive signal to auditors, as it lowers information asymmetry and improves corporate governance.

Consequently, this study presents a valuable research opportunity by emphasising the impact of voluntary disclosures on audit pricing, particularly in terms of mitigating information asymmetry and improving corporate governance.

Current studies on the relationship between voluntary disclosures and audit pricing mostly focus on earnings forecasts or pro-forma earnings (e.g., Ball et al., 2012; Chen et al., 2012; Guay et al., 2016; Krishnan et al., 2012), corporate social responsibility (CSR) disclosure (e.g., Carey et al., 2017; Zheng & Ren, 2019), and disclosures of goodwill-related impairment testing (e.g., V. Chen et al, 2019). Earnings forecasts and CSR disclosures have been frequently examined in relation to their impact on audit fees, with relevant disclosures typically being publicly accessible. In contrast, information about issues such as money laundering, corruption, and shadow banking is always regarded as private and risky. Any deficiencies in these systems could indicate potential weaknesses or flaws in the firm's risk management. Previous studies (e.g., Francis et al., 1994; Skinner, 1997) have documented that the voluntary disclosure of bad news leads to a greater potential for litigation. Thus, financial institutions are less willing to disclose such information due to the "fear of litigation" (Houston et al., 2019). Due to limited availability of or access to information, the impact of risk-related voluntary disclosure is underexplored by scholars.

Since AML-related disclosures are voluntary and subjective to the preferences and motivations of financial institutions, there is a possibility of information manipulation by firms to achieve legitimacy or other objectives. It is difficult to verify the qualitative disclosures as there is no direct link with quantitative data (Ball et al., 2012). Therefore, auditors are expected to undertake a confirming role. Ball et al. (2012) argue that certain costs must be incurred to ensure the credibility of disclosures, and audit fees (as a function of audit resources supplied) are one of these costs.[33] Consistent with this, when financial statements have more extensive disclosure, audit fees increase due to increased billable hours for auditors (Taylor & Simon, 1999). With the disclosure of AML-related information, auditors may need to put more effort into investigating the auditee's AML activities and verifying the information's credibility.

In this regard, this study conceptualises the research objectives from the perspective of auditor-perceived risks and from the perspective of mitigated information asymmetry and improved corporate governance, to clarify whether and how AML-related disclosure affects audit pricing.

[33] According to Ball et al. (2012), other costs related to establishing the credibility of disclosures include related internal accounting and control costs, internal audit expenditures, management time, and reduced utility from managers' constraints on their capacity to manipulate financial information.

4.1.3 Research Findings

Using a sample of Chinese listed financial institutions from 2007 to 2022, this study finds evidence of the positive impact of AML disclosure on audit pricing. Increased disclosures of AML-related information in firms' annual reports and internal control self-evaluation reports may incur an audit fee premium because of increased audit inputs. This finding is aligned with Simunic's (1980) audit pricing theory, especially the audit supply perspective. AML disclosure, as an indicator of the AML practices implemented by the firm, is more "risk-related", and therefore it is more likely to affect business activities that are prone to incur disputes and costs. Moreover, as noted above, such qualitative disclosure is hard to verify as it lacks a direct link with specific quantitative results (Ball et al., 2012). In this regard, potential litigation risk and/or reputation damage may be incurred by AML-related disclosure. According to audit supply theory, auditors respond to the potential risk proactively and undertake additional procedures to ensure the credibility of such voluntary disclosure.

The results of this study are robust to six different estimations to address endogeneity concerns between AML disclosure and audit pricing. They are also robust to the use of alternative proxies for audit pricing and AML disclosure, an alternative sample period, examination of a lagged disclosure effect, a placebo test, and examination with additional control variables. Further analyses show that firm-specific heterogeneities can strengthen or mitigate the impact of AML-related disclosure on audit pricing. Specifically, this study finds that when the financial institution is owned by the government, the impact of AML-related disclosure on audit pricing is greater. In addition, it finds that there is a greater impact of AML-related disclosure on firms' audit pricing when firms have a high level of financial performance compared to those with a low level of financial performance. Moreover, when financial reports have a high level of readability, the impact of AML-related disclosure on audit pricing is more pronounced. Given that some voluntary disclosures are not sufficiently comprehensive or informative, high readability can alleviate this issue by increasing both the comprehensiveness and informativeness of the disclosures. Especially when auditors are unfamiliar with AML, increased informativeness would require additional audit efforts, and therefore lead to higher audit fees.

4.1.4 Research Contributions

This study makes several significant contributions to the literature regarding AML-related disclosure and the literature on audit pricing. First, this study contributes to the body of AML research by investigating the disclosure of AML-related information by Chinese financial

institutions. While several studies have examined AML in the context of the related disclosures, they have been conducted within a different institutional background. For example, Nobanee and Ellili (2018) studied the AML disclosures made by banks in the United Arab Emirates (UAE) and found an overall low level of disclosure. Similarly, Siddique et al. (2022) investigated the AML disclosures by money exchangers in the Gulf Cooperation Council (GCC) countries and documented a low level of AML and counter-terrorism financing disclosures. Mathuva et al. (2020) conducted their study in Kenya and made similar findings about the extent of AML disclosures by banks. However, few studies have investigated the AML disclosures made by financial institutions in China, as money laundering is always a sensitive topic in China. Besides, current AML regulations in China do not impose mandatory requirements for AML-related disclosure, providing room and freedom for financial institutions to decide whether to disclose or not. Moreover, while previous studies (e.g., Mathuva et al., 2020; Nobanee & Ellili, 2018; Van der Zahn et al., 2007) have examined the AML disclosures of banks and money exchangers, to the best of the author's knowledge, no study has been undertaken to investigate AML disclosure by all financial institutions (e.g., banks, insurance companies, securities firms, and trusts), either globally or specific to any country. Through analysing the content in financial reports, AML-related content disclosed by the financial institution can be precisely captured without missing any content due to oversight. In addition, prior studies on AML risk cover the macroeconomic perspective (Bolgorian & Mayeli, 2020). This study focuses on the microeconomic aspect and investigates firm-level AML activities. This provides a more comprehensive insight into the AML disclosures made by the responsible organisations. Thus, this thesis adds new knowledge to the AML literature and makes a theoretical contribution.

Second, this study contributes to the debate on the role of voluntary disclosure in audit pricing, addressing the currently unclear impact of additional disclosures on audit fees (V. Chen et al., 2019). Voluntary disclosures might increase audit pricing due to greater audit efforts required or decrease pricing through enhanced information transparency and improved corporate governance. By documenting a positive relationship between AML-related disclosures and audit pricing, this study validates the claims that such disclosures influence audit supply. It provides insights into audit inputs and the factors auditors consider when devising their strategies and decisions. The finding also implies that improved transparency in AML-related disclosures is not necessarily viewed by auditors as a sign of effective management in internal control and corporate governance. Instead, the inherent risks and exposures embedded in these disclosures are integrated into the auditor's risk assessment

process, subsequently leading to increased audit fees. Unlike previous research focusing on voluntary financial disclosures (e.g., Ball et al., 2012; Chen et al., 2012; Guay et al., 2016; Krishnan et al., 2012), this study emphasises AML-related disclosures, which are non-financial, more qualitative, and harder to obtain. This study also responds to Krishnan et al.'s (2012) call to investigate the impact of another type of voluntary disclosure on auditors. While Habib et al. (2018) have examined the relationship between money laundering and audit fees from the macroeconomic perspective, this study explores microeconomic factors by analysing the disclosure activities of financial institutions. It is the first study to investigate the relationship between audit pricing and AML-related disclosures, thus identifying a previously unexplored determinant of audit pricing. It also fulfils the gap identified by Md Zaini et al. (2018), who noted that risk-related topics are less popular among the categories of voluntary disclosure studies.

4.1.5 Research Structure

The rest of this essay is structured as follows. Section 4.2 discusses the literature on audit pricing and AML-related disclosure. Additionally, it provides the conceptual framework based on two relevant theories and develops the corresponding hypotheses. Section 4.3 describes the research design. Section 4.4 presents the empirical results and endogeneity tests, while Section 4.5 discusses a battery of robustness tests. Section 4.6 describes the cross-sectional analyses conducted to examine the relationship between audit pricing and AML-related disclosures with different firm-specific characteristics. Finally, Section 4.7 concludes this essay with some policy implications and notes the limitations of this study.

4.2 Literature Review and Hypothesis Development

4.2.1 Audit Pricing

Audit pricing is a function of the costs and risks associated with the audit service (Niemi, 2002), but these are typically unobservable (Ettredge et al., 2014). The auditor, the client, and the broader economic or institutional context may incur associated auditing costs and risks. Prior studies have demonstrated that both auditor characteristics and client characteristics can determine audit fees (Choi et al., 2010). The auditor characteristics that affect audit pricing include the size and location of the audit firm (Choi et al., 2008a; Choi et al., 2010), the brand of the audit firm (i.e., Big 4 or non-Big 4) (Choi et al., 2008b), and the auditor's industry expertise (J. Krishnan, 2005). Such characteristics are associated with audit quality. Compared to smaller audit firms or non-Big 4 audit firms, audit firms of a larger size or that belong to the

Big 4 are assumed to be more professional, as employees receive more staff training and/or are more likely to conduct standardiszed procedures (Choi et al., 2010). Costs associated with such professional auditing services would be borne by clients, consequently leading to higher audit pricing.

From the perspective of the auditee, its firm-specific characteristics can also affect the audit pricing based on business risks and/or associated efforts perceived by the auditor (see Bedard & Johnstone, 2004; Bell et al., 2008; Niemi, 2002). Larger client sizes have been found to trigger more audit efforts and further affect audit pricing (Fleischer & Goettsche, 2012). It has also been found that operation complexity leads to higher audit pricing (Eulaiwi et al., 2021; Fields et al., 2004; Gul et al., 2018; Jones et al., 2018). For example, the share pledging practices of a firm's controlling shareholders can increase audit fees as this is associated with higher business risk, which triggers more audit inputs (Kong & Huang, 2023). A firm's earnings management activity also affects audit pricing as a result of risk premium (Abbott et al., 2006). In addition, when firms have high exposure to fair-valued assets, audit fees will be lower as a result of the auditor's decreased workload and/or risks (Goncharov et al., 2014). Furthermore, the corporate governance system of the auditee, indicating the potential risk, could also affect audit pricing. For example, Eulaiwi et al. (2022) found that the strength in whistleblower governance is negatively associated with audit pricing. Moreover, failures in internal control will trigger idiosyncratic risks (Bedard et al., 2008). As a result, higher audit fees are charged to compensate for potential legal liability as well as the potential reputation loss for the auditors (Ji et al., 2018). Also, the impact of the quality of the board and audit committee on audit pricing has also been documented in previous studies (e.g., Carcello et al., 2002; Habib et al., 2019; Hay et al., 2006).

Moreover, macroeconomic factors are also one of the determinants of audit pricing. Zhang et al. (2018) found that institutional factors such as economic policy uncertainty can affect audit pricing. The reporting motivations of clients are probably affected by the national legal environment, and therefore affect an auditor's risk assessment (Choi et al., 2008b). Other macroeconomic factors such as litigation propensities, disclosure requirements, and regulation have also been associated with higher audit fees (Taylor & Simon, 1999). Institutional factors can impact both the supply and demand within the audit market. Auditors may adjust their pricing in response to these environmental conditions. A negative association between audit fee and economic uncertainty has been found as a result of decreased demands for auditing services (J. Chen et al., 2019).

In general, whether the reputation of the audit firm will be harmed, whether the audit client will encounter any litigation, and the corresponding costs of delivering audit services are always of interest to auditors (Choi et al., 2010; Eulaiwi et al., 2021). These issues are considered by auditors before they accept clients. Auditors will ask for additional compensation if increased audit efforts (e.g., more audit hours and personnel) are required (Cao et al., 2012).

Financial institution audits may require auditors to have knowledge specific to the financial industry (Ettredge et al., 2014). Especially in the banking industry, auditor credibility is regarded as an important assurance by the depositors due to the opacity of institutions' financial statements (Beck et al., 2022; Morgan, 2002). Chinese regulatory departments have set specific requirements for audit firms engaged in auditing financial institutions. In 2000, the People's Bank of China (PBC) and the Ministry of Finance proposed *Interim Measures for Accounting Firms to Engage in Financial-Related Audit Services*, which specified the conditions that accounting firms engaged in auditing financial institutions should meet, including the time of legal establishment, the number of certified public accountants, income, professional ethics record, reputation, and so on. This measure aimed to strengthen the supervision of financial institutions, protect the public interest, and ensure the assurance and service functions of accounting firms. Particularly, audit firms are required to meet certain qualifications when auditing financial institutions, and therefore, the costs involved are likely to be higher. In this regard, a financial institution audit may incur a fee premium as more audit effort and industry-specific knowledge are required. Compared to other industries, financial institutions generally face relatively fewer risks as they are under the stringent supervision of the government. In light of this, auditors' perceptions of audit risks could, therefore, be expected to be lower. However, such benefits could be offset by the costs and efforts involved in auditing financial institutions. Moreover, the reputation damage stemming from failure to detect misconduct may be more significant when auditing financial institutions compared to other institution types. As a result, audit pricing for financial institutions may still be positively associated with audit inputs and hours involved.

4.2.2 AML-Related Disclosure

Disclosure by a firm is deemed critical for ensuring the efficient function of a capital market (Healy & Palepu, 2001). Firms, through disclosures, can provide and convey information to both insiders and outsiders. Besides the information presented in mandatory disclosures (e.g., financial statements, Form 10-K, related-party transactions), firms are also expected to provide information users with additional information. Such additional information is always provided

voluntarily by the firm. That is, the firm has the right to decide whether to provide voluntary disclosures or not. Voluntary disclosure can be divided into various categories, such as forward-looking information, strategic information, non-financial information, and historical financial information (Lim et al., 2007). Such voluntary disclosures are expected to offer information users with detailed firm-specific information. Voluntary disclosure can benefit a firm's business performance and a firm's value depending on management's attitude towards voluntary disclosure (Ho & Taylor, 2013; Qu et al., 2013; Stocken, 2000; Uyar & Kılıç, 2012). Offering optimistic information regarding the firm's performance or addressing concerns about certain areas can shape the views of information users towards the firms. In addition, disclosing bad news in a timely way can avoid certain negative consequences (Lev, 1992; Skinner, 1994). However, some firms are less willing to provide voluntary disclosures due to the fear of litigation (Houston et al., 2019). Unlike mandatory disclosure, which is prepared under certain regulations or laws, voluntary disclosure is subject to managerial discretion and may include information that misleads shareholders or does not meet shareholders' requirements. Therefore, voluntary disclosures need to be verified by external auditors.

According to agency theory, information asymmetry is triggered by the conflicts between insiders and outsiders. A rich disclosure environment is desirable to mitigate the conflicts and the asymmetry (Kothari, Li, et al., 2009). Voluntary disclosure is expected to reduce the information asymmetry between internal and external users (Field et al., 2005; Healy & Palepu, 2001). Through voluntary disclosure, public firms can improve their transparency and demonstrate their commitment to openness, leading to enhanced informativeness of the firm's overall disclosures. Revealing either good or bad private information can mitigate the information asymmetry (Healy & Palepu, 2001; Kothari, Shu, et al., 2009; Verrecchia, 2001). Furthermore, voluntary disclosure can lower the cost for users to acquire the information, and provides a credible information source that can be obtained by external users (Healy & Palepu, 2001). Therefore, voluntary disclosure works as an effective tool for firm communication and facilitates the flow of information between the firm and information users (especially outside users), building on what is already provided in mandatory disclosures. In these circumstances, the information users (especially investors) are better informed and can make more informed decisions based on this additional information.

A key element in economic theories related to banking revolves around the emergence of information asymmetry between bank managers and depositors, or among depositors (Beck et al., 2022). Voluntary disclosures could mitigate the information asymmetry through conveying additional information to outsiders. For general financial institutions, disclosing information

associated with AML can reduce the information gap between the institutions and clients. Disclosing relevant information is a vital component of AML and of combating the financing of terrorism efforts (Al-Tawil, 2023; Ellili & Nobanee, 2023). In other words, if such information is disclosed, clients could understand what the institutions have done to fight against the money launderers. Moreover, disclosing AML-related content in financial statements indicates a firm's effort in combating money laundering and mitigating related risks, assuring clients that the firm is dedicated to maintaining the integrity and quality of its financial services. As such, clients are more confident in the financial institutions and this may lead to further customer loyalty. In addition, AML-related disclosure indicates the firm's compliance with and implementation of required AML obligations. Such disclosure has also been considered as evidence of the firm's commitment to corporate social responsibility (Al-Tawil, 2023). In summary, external stakeholders can gain insight into the activities undertaken by financial institutions to reduce potential risks.

So far, there are no regulations or laws in China that explicitly address the disclosure of AML-related content by financial institutions, or that impose mandatory obligations to disclose such information. Whether or not to provide such information depends on the firm's management. Disclosing AML-related information enables information users to be better informed regarding the firm's risk management. In other words, they will have more information about AML activities implemented by the firm and have a deeper understanding of the firm's behaviours. Besides purely focusing on the "what" or "how" of money laundering, incorporating "who" and "where" in AML disclosures can help inform boards' and regulators' understanding of money laundering problems and help them address these issues (Gilmour, 2022). Accordingly, financial institutions are strongly encouraged to provide comprehensive disclosures when revealing more private information.

4.2.3 Conceptual Framework

4.2.3.1 Audit Pricing Theory

Audit pricing theory (see Kim et al., 2012; Simunic, 1980) explains the functions of audit inputs (both quantitative and qualitative). According to Simunic (1980), audit pricing depends on factors such as the number of audit efforts, the risk premium associated with potential future losses the auditors might be liable for, and the level of competition in the audit market. This theory covers both supply and demand perspectives of the audit fees. From the perspective of audit supply, audit effort is influenced by the audit firm's incentives to reduce litigation risk and reputational damage (DeAngelo, 1981a; Dye, 1993; Watts & Zimmerman, 1983; Weber et

al, 2008). Auditors need to make more audit efforts to mitigate potential risks through undertaking more audit tests. Previous studies (e.g., Abbott et al.,2006; Cao et al., 2020; Gul et al., 2003; Hogan & Wilkins, 2008; Lim & Mali, 2021; Lyon & Maher, 2005) document the positive relationship between audit fee premium and client risk considerations. For example, Hogan and Wilkins (2008) suggest that auditors demand substantive audit tests for clients with internal control deficiencies, leading to higher audit pricing. Taylor and Simon (1999) also found that higher litigation risk will lead to increased audit pricing. Therefore, auditors have a strong motivation to conduct detailed auditing procedures in order to avoid potential litigation.

From the perspective of audit demand, audit pricing is driven by the clients and/or other stakeholders of financial statements in order to enhance reporting quality (DeAngelo, 1981b). Client demand increases audit effort by regarding auditing as value adding (Lim & Mali, 2021). Previous studies have documented that firms' shareholders and management demand more audit effort to boost audit quality and/or reduce information asymmetry (e.g., DeFond & Zhang, 2014; Dopuch et al., 1986; Esplin et al., 2018; Houqe et al., 2017; Lim & Mali, 2021; Mali & Lim, 2021). For example, Lim and Mali (2021) found that auditees with higher credit ratings demand more audit hours compared to auditees with low credit ratings. The authors argue that the reason behind this is the auditees' desire to reduce information asymmetry as well as the pursuance of audit quality.

4.2.3.2 Transparency-Stability Theory

Transparency-stability theory can also explain the impact of AML-related disclosure on audit pricing. According to transparency-stability theory, greater disclosure and consequent transparency enhance market discipline and facilitate efficient resource allocation through reduced information asymmetry (Tadesse, 2006). Van der Zahn et al. (2007) asserted that implementing regulated disclosure and transparency standards is necessary to avert banking crises. Greater regulation of disclosures, and thus greater transparency, will lower the likelihood of banking crises in the countries (Tadesse, 2006).

When AML-related disclosures are made in financial statements, firms typically provide details about their AML policies, adherence to regulations, ongoing AML initiatives, and any penalties incurred in the reporting period. This disclosure serves as an information source and provides insight for external stakeholders, enabling them to understand the AML measures undertaken by the firms through reviewing the financial statements. These stakeholders, especially customers, are particularly concerned about whether their money can be secured and whether their rights can be protected. Auditors, when such disclosures are made, would pay

more attention to any inherent risk behind such disclosures. Especially when there is a qualitative disclosure which is hard to verify through quantitative sources (Ball et al., 2012), there is a likelihood of manipulated information being provided in such disclosures. Transparency-stability theory also suggests that greater disclosure helps financial institutions avoid some costs associated with withholding certain AML information (Mathuva et al., 2020). Overall, disclosing AML information enables financial institutions to achieve greater transparency and, hence, lower information asymmetry as well as strengthening the confidence of external users towards the firms.

4.2.4 Hypothesis Development

According to Simunic's (1980) audit pricing model, an audit pricing decision is made based on considerations of the auditor's opportunity cost of auditing, resources invested, and risk premium to compensate for the auditor's potential loss. Auditors usually invest significant time and resources in evaluating client-specific information by considering factors such as estimated future performance, potential legal challenges, business strategies, discontinued operations, industry trends, and even the macroeconomic environment to gauge the level of risk associated with the audit engagement (Hossain et al., 2019). Such client-specific information could be either mandatory or voluntary. Besides the financial statements required by the government, some companies voluntarily disclose information related to activities such as CSR, blockchain, AML, and cybersecurity as information supplements. It has been argued that the audited financial statement outcomes and disclosure of private information play complementary roles in communicating information to stakeholders (Ball et a., 2012). Voluntary disclosures are usually internal information that outsiders have less knowledge of or that cannot be directly verified; therefore, it is difficult to confirm such information's credibility and reliability. In this regard, it is necessary for auditors to verify the voluntary disclosures when auditing the financial statements to ensure the reliability and credibility of the information. Information users could be misled and make inappropriate decisions by relying on information that has not had external verification. However, a counterargument suggests auditors are not directly liable for potentially misleading voluntary disclosures and should not care about such information (Krishnan et al., 2012). From this point of view, there should be no association between audit pricing and voluntary disclosure. This argument is opposed by previous studies (e.g., Calderon & Gao, 2021; Hossain et al., 2019; Yang et al, 2018) that have documented a positive relationship between textual disclosures and audit pricing, suggesting the informativeness of

the textual disclosures. When firms provide extensive disclosures, auditors are expected to improve their reliability through additional verification, which may incur greater audit inputs.

AML-related disclosure is considered private information, disclosed voluntarily rather than mandatorily by financial institutions, due to its sensitivity and confidentiality. As discussed in Section 4.2.2, disclosing AML-related content in financial statements indicates a firm's effort in combating money laundering and mitigating related risks. However, such qualitative disclosures are hard to verify as they are not "directly linked to specific financial statement outcomes" (Ball et al., 2012, p.137). In this regard, auditors are expected to undertake a confirming role in regard to AML-related content. Auditors must conduct procedures pertaining to the AML activities outlined in the annual reports and the internal control self-evaluation reports. Some companies may choose to disclose AML-related information in either the annual reports, the internal control self-evaluation report, or both. If AML-related information is disclosed in the annual report, auditors must implement specific auditing procedures to ensure that the financial statements are accurately presented in all material aspects (Calderon & Gao, 2021). If AML-related disclosures are made in the internal control self-evaluation report, auditors need to examine the disclosed information and assess its alignment with the internal control structures of the company. The extra audit procedures and expanded scope of audit work will result in higher audit fees (Kong & Huang, 2023). Moreover, auditing AML-related disclosures may require additional effort when the auditors have no knowledge about a special industry or are not familiar with a specific area (see Habib & Bhuiyan, 2011; Romanus et al., 2008). In these circumstances, the auditor's operations will last longer and require additional efforts. Alternatively, audit firms can assign industry specialist auditors, who have greater experience or specialised skills, which may also lead to audit fee premiums (Ferguson et al., 2003; Francis et al., 2005).

Based on the above discussion, increased AML-related disclosure may contribute to additional audit efforts and, therefore, lead to audit fee premiums. Accordingly, this study proposes the first hypothesis below:

H_{1a}: Increased AML-related disclosure leads to increased audit pricing.

In contrast, as discussed in Section 4.2.3.2, transparency-stability theory can also explain the economic impact of AML-related disclosure and this theory would suggest a negative association between audit pricing and AML-related disclosure. In China, voluntary disclosures are currently more likely to be in the form of CSR reports, environmental impact reports, financial forecasts, and so on. In contrast, information related to AML and anti-corruption is

overlooked or avoided intentionally, as such information is regarded as sensitive in China. Although the Chinese government requires financial institutions to implement AML strategies, few AML-related disclosures are provided voluntarily. As a result, outsiders have little access to such information and this generates information asymmetry. This low transparency creates audit risks, and therefore auditors would be expected to charge higher audit fees as compensation (Frino et al., 2023).

Compared to their counterparts in other industries, financial institutions, because of their functions, have a higher likelihood of being engaged in money laundering activities. Therefore, financial institutions may incur greater operational risks. Disclosing AML-related information is beneficial for a firm's AML or anti-terrorism processes (Al-Tawil, 2023; Nobanee & Ellili, 2018). Also, when firms reveal content related to AML, outsiders can examine: (1) the extent to which the financial institutions provide AML-related information in their financial statements, and (2) the overall attitude conveyed by these institutions in their financial statements regarding AML-related information. In this regard, financial institutions' disclosure of AML-related information provides insights regarding AML practice and risk management, which can mitigate information asymmetry and improve transparency. In line with audit demand theory, when information asymmetry is mitigated, shareholders' and/or management's demand for additional audit efforts will decrease, which in turn reduces the auditor's workload and risk perception. Consequently, audit pricing will decrease.

Besides reducing information asymmetry, AML-related disclosure also works as an indicator of corporate governance. In other words, such disclosure can reflect the quality of a firm's corporate governance. Firstly, it has been argued that a commitment to AML necessitates the implementation of a strong risk management system within a bank, aiming to safeguard the interests of investors (Dunne, 2014). Secondly, in terms of corporate functions, ensuring accountability and transparency requires thorough disclosures of all related information to enable information users to make well-informed decisions (Mathuva et al., 2020). Dunne (2004) similarly argues that effective implementation of AML practices requires good corporate governance mechanisms. Moreover, AML practices are considered a crucial part of the internal control system within financial institutions. Therefore, by disclosing AML-related content, information users will also be informed about the effective implementation of a firm's corporate governance. Thirdly, disclosing AML-related content can discipline the management, leading to a better governance environment. Therefore, firms with better corporate governance, as indicated by increased AML disclosure, have a lower likelihood of engaging in misconduct and generating the corresponding risk.

Based on the above discussion, firms with increased AML-related disclosure can send a positive signal to auditors as a result of decreased information asymmetry and improved corporate governance. Accordingly, this study conjectures that auditors may perceive that the audit risk and workload of firms with increased AML-related disclosures are lower and, therefore, they will charge lower audit fees. As such, the second hypothesis is:

H_{1b}: Increased AML-related disclosure leads to decreased audit pricing.

4.3 Research Design and Procedure

4.3.1 Sample Collection

All data were collected from Chinese financial institutions listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange for the period 2007 to 2022. AML disclosure data were collected from the annual reports and internal control self-evaluation reports using a machine-learning technique. All other financial and trading data were collected from the CSMAR, WinGo, and WIND databases. This study then excluded: (1) special treatment firms (ST and *ST firms), and (2) firm-year observations with missing data. The final sample consisted of 1,295 observations, and its distribution is reported in Table 30. According to the *Classification of National Economy Industries*, there are four categories under the financial industry: (1) Monetary and Financial Services (Industry Code: J66), (2) Capital Market Services (Industry Code: J67), (3) Insurance (Industry Code: J68), and (4) Other Financial Industries (Industry Code: J69). As shown in Panel A of Table 30, the Capital Market Services category incorporates the largest proportion of the observations (43.17%), while Insurance has the lowest proportion, at only 6.18%. The sample distribution suggests that Capital Market Services firms (e.g., securities, futures, fund company, and private placement) make up a substantial part of the financial industry market of China. The other two categories have similar proportions, with Monetary and Financial Services at 28.88% and Other Financial Industries at 21.78%. Panel B reports the sample distribution by year. It can be observed that the number of firm-year observations steadily increased from 3.47% in 2007 to 9.58% in 2022.

Table 30. Sample distribution

Panel A: Sample distribution by industry classification		
Industry classification	**Frequency**	**Percentage**
J66: Monetary and Financial Services	374	28.88%
J67: Capital Market Services	559	43.17%
J68: Insurance	80	6.18%
J69: Other Financial Industries	282	21.78%

Total	**1295**	**100%**

Panel B: Sample distribution by year

Year	Frequency	Percentage
2007	45	3.47%
2008	47	3.63%
2009	51	3.94%
2010	63	4.86%
2011	67	5.17%
2012	69	5.33%
2013	68	5.25%
2014	70	5.41%
2015	71	5.48%
2016	86	6.64%
2017	89	6.87%
2018	100	7.72%
2019	110	8.49%
2020	113	8.73%
2021	122	9.42%
2022	124	9.58%
Total	**1295**	**100%**

Note: Panel A presents the sample distribution by industry classification. Industries are classified based on the *Classification of National Economy Industries* (GB/T 4754 – 2017). Panel B presents the sample distribution across the sample period (2007–2022).

4.3.2 Measurement of Key Variables

4.3.2.1 Audit Fees

The dependent variable for this study is the total audit fees (*AFEE*) paid by the financial firms for audit services. Auditors charge for their services depending on the type of service that they provide and the corresponding workload. Increased complexity of the audit work undertaken by accounting firms leads to higher audit pricing (Eulaiwi et al., 2021). Following Abbott et al. (2006) and Eulaiwi et al. (2021), audit fees (*AFEE*) are measured as the natural logarithm of the total audit fees. A higher value of *AFEE* suggests a potential for more complicated work, and therefore, greater work inputs are needed. Conversely, a lower value of *AFEE* suggests less complicated work and, therefore, fewer inputs are required.

4.3.2.2 AML Disclosure

Disclosure content regarding a firm's AML actions was obtained through content analysis of the annual reports and internal control self-evaluation reports. It has been argued that textual analysis conducted in a manual way may be subject to perceptions, feelings, attitudes, and interpretations (Blumer, 2012; Ifversen, 2003). To ensure the reliability and validity of the

content analysis, this study applies a web-crawling technique by using Python to search keywords related to AML. AML-related keywords were obtained based on the AML Glossary of Terms produced by the Association of Certified Anti-Money Laundering Specialists (ACAMS).[34] This glossary includes a total of 301 terms.[35] After reviewing the glossary, only 29 keywords were identified as words that could adequately represent Chinese financial institutions' AML behaviours; these included, for example, "anti-money laundering program", "know your customer", "suspicious activity", and "customer due diligence". Accordingly, these 29 words were used as keywords in the content analysis to exclusively represent financial institutions' AML behaviours. The full list of keywords used for content analysis is provided in Table 31. Words such as "affidavit", "bank draft", and "custodian" that fail to identify AML exclusively were dropped in the content analysis. In this way, the textual analysis was able to cover more themes and issues in terms of the firm's AML activities.

Table 31. AML-related keywords

	Word	**Abbreviation (if any)**
1	Anti-Money Laundering International Database	AMLID
2	Anti-Money Laundering Program	
3	Anti-Money Laundering and Counter-Financing of Terrorism Program	
4	Asia/Pacific Group on Money Laundering	APG
5	Basel Committee on Banking Supervision	Basel Committee
6	Beneficial Owner	
7	Criminal Proceeds	
8	Currency Smuggling	
9	Customer Due Diligence	CDD
10	Designated Non-Financial Businesses and Professions	
11	Eastern and Southern African Anti-Money Laundering Group	ESAAMLG
12	Enhanced Due Diligence	EDD
13	Eurasian Group on Combating Money Laundering and Financing of Terrorism	EAG
14	Financial Action Task Force	FATF
15	Financial Intelligence Unit	FIU
16	Know Your Customer	KYC
17	Money Laundering	
18	Money Laundering Reporting Officer	MLRO
19	Ponzi Scheme	

[34] For more information, see: https://www.acams.org/en
[35] ACAMS's AML Glossary of Terms is provided in Appendix C.

20	Predicate Crimes	
21	Pyramid Scheme	
22	Risk-Based Approach	
23	Smurfing	
24	Suspicious Activity	
25	Suspicious Activity Report	SAR
26	Suspicious Transaction Report	STR
27	Terrorist Financing	
28	Underground Banking	
29	Unusual Transaction	

This study uses *AMLD_Ratio* to measure a firm's AML disclosure. Considering that some firms may not disclose AML-related content in their annual reports, but instead disclose this in the internal control self-evaluation report, this study conducted content analysis of these two types of reports separately. The frequency of the AML keywords disclosed in both reports was then added together. As shown in Eq. (7), *AMLD_Ratio* is calculated by AML disclosure frequency divided by the total number of words in both reports.[36] *AMLD_Ratio* is bounded between 0 and 1, and a greater value of *AMLD_Ratio* suggests an increased extent of AML-related content disclosed by the firms. In contrast, a lower value of *AMLD_Ratio* suggests less AML-related content disclosed by the firms.

$$AMLD\_Ratio = \frac{\text{AML Disclosure Word Counts}}{\text{Total length of financial reports}} \quad (7)$$

4.3.3 Empirical Models

Eq. (8) is constructed to examine the impacts of AML disclosure on the audit fees a firm is charged.

[36] Previous studies (e.g., Mathuva et al., 2020; Nobanee & Ellili, 2018; Van der Zahn et al., 2007) use an AML index to study the firm's AML. However, this study does not use indexing, but instead uses the proportion of AML keywords to measure the AML-related disclosure for three reasons. First, according to Lim and Chow (2007), allocating weights to the voluntary disclosure items requires subjective evaluation of the content. Second, the assigned weights may not reflect the preferences of other users of the financial reports (Lim & Chow, 2007), as this study does not target a specific user group. Third, it is easier for firms to disclose less important items when they are better at disclosing important items, and therefore firms would be scored based on their disclosure of important items regardless of whether the items are weighted or unweighted (Meek et al., 1995).

$$AFEE_{i,t} = \beta_0 + \beta_1 AMLD\_Ratio_{i,t} + \beta_2 Size_{i,t} + \beta_3 Ind\_Board_{i,t} + \beta_4 TobinQ_{i,t} + \beta_5 Capital_{i,t} + \beta_6 Age_{i,t} + \beta_7 SOE_{i,t} + \beta_8 Big4_{i,t} + \beta_9 Domestics10_{i,t} + \beta_{10} Top1_{i,t} + \beta_{11} Duality_{i,t} + \mu_{i,t} \quad (8)$$

where $AFEE_{,t}$ and $AMLD\_Ratio_{i,t}$ are as defined in Sections 4.3.2.1 and 4.3.2.2 respectively. Other variables that may have impacts on a firm's audit pricing are controlled. In terms of the control variables, this study controls for firm characteristics, corporate governance characteristics, and audit characteristics. From the perspective of firm characteristics, a firm's size, market value, capital structure, age, and ownership structure are controlled. Specifically, the size of the firm (*Size*) is measured by the natural logarithm of total assets. Tobin's Q, represented by *TobinQ*, is measured by the market value of the firm divided by its total assets. *Capital* measures the firm's capital structure and is calculated by the natural logarithm of the ratio of total equity to total assets. *SOE* is a dummy variable that is equal to 1 if the government is the actual controller of the firm, and 0 otherwise. *Age* is the firm's age, measured as the natural logarithm of the difference between the current year and the year of incorporation. *Top_1* is the proportion of shares held by the firm's largest shareholder. From the perspective of corporate governance characteristics, this study controls for board structure. *Ind_Board*, represents the proportion of independent directors on the board, and is calculated by the ratio of independent directors to the total number of directors. *Duality* is a binary variable equalling 1 if the firm's board chair serves as CEO at the same time, or 0 otherwise. In terms of audit quality, this study controls the factors that would affect audit pricing. *Big4* is a dummy variable that equals 1 if the firm is audited by an international Big 4 accounting firm, and 0 otherwise. *Domestic10* is a dummy variable that equals 1 if the firm is audited by a Top10 local audit firm, and 0 otherwise. Definitions of the variables in this study are provided in Appendix E. All continuous variables are winsorised at the 1st and 99th percentiles.

4.4 Empirical Results

4.4.1 Descriptive Statistics

Table 32 reports the descriptive statistics of all the variables in this study. The dependent variable, *AFEE*, has a standard deviation value of 1.122, suggesting that the audit fees of the sample firms varies to some extent. Also, it has a mean (median) value of 7.650 (7.409), suggesting that the sample firms have average (median) audit fees of approximately RMB 2,079,255 (RMB 1,645,114). The independent variable, *AMLD_Ratio*, has a mean value of

0.197 and a standard deviation value of 0.301, suggesting that AML-related disclosure takes up a tiny proportion of financial statements, and that the proportion varies slightly among the sample firms. The minimum value (0.000) of *AMLD_Ratio* indicates that some firms do not disclose any content related to AML.

In terms of the control variables, *Size* has a mean value of 25.247 with a standard deviation of 2.826, indicating a great variation in business size among the sample firms. *Ind_Board* has a mean value of 36.992, and its standard deviation is 4.557, indicating that the proportion of independent directors represents around 37% of the total director numbers and that the proportion varies among the sample firms. *TobinQ* has a maximum of 6.411, which suggests that some firms are greatly overvalued. *Capital* has a maximum of -0.020, indicating that the sample firms all have a higher value of liabilities than assets. *Age* has a mean value of 2.941 and a standard deviation of 0.394, suggesting that the year of establishment differs slightly among the firms. Moreover, the mean value of *SOE* (0.538) suggests that around 53% of the sample firms are state-owned enterprises, and the rest are private firms. The mean value of *Big4* (0.419) indicates that around 42% of the observations are audited by a Big 4 accounting firm, and the mean value of *Domestic10* (0.731) indicates that around 73% of the observations are audited by the top 10 local audit firms. *Top1* has a mean value of 32.117 and a standard deviation of 17.404, suggesting that the largest shareholders hold around 32% of the shares on average. *Duality* has a mean value of 0.137, suggesting that around 14% of the sample firms have CEOs who also serve as the board chair.

Table 32. Descriptive statistics

Variables	N	Mean	SD	P50	Min	Max
AFEE	1295	7.650	1.122	7.409	5.521	9.535
AMLD_Ratio	1295	0.197	0.301	0.061	0.000	1.656
Size	1295	25.247	2.826	25.278	19.663	30.892
Ind_Board	1295	36.992	4.557	36.360	26.670	50.000
TobinQ	1295	1.523	1.057	1.084	0.896	6.411
Capital	1295	-1.631	0.831	-1.488	-4.767	-0.020
Age	1295	2.941	0.394	2.996	0.000	3.664
SOE	1295	0.538	0.499	1.000	0.000	1.000
Big4	1295	0.419	0.494	0.000	0.000	1.000
Domestic10	1295	0.731	0.444	1.000	0.000	1.000
Top1	1295	32.117	17.404	27.750	6.290	73.670
Duality	1295	0.137	0.344	0.000	0.000	1.000

Note: This table reports the descriptive statistics of dependent, independent, and control variables. The dependent variable is the natural logarithm of the firm's audit fees. *AMLD_Ratio* represents the AML-related disclosures, calculated as AML-related disclosure word counts divided by the total length of financial reports.

4.4.2 Pearson's Correlation

Table 33 reports the Pearson's correlation results. It shows that the correlation between the dependent variable (*AFEE*) and the independent variable (*AMLD_Ratio*) is positive and significant at a 1% level or better. *AFEE* is also significantly correlated with all the control variables employed in this study. Table 33 reveals that the multivariate analysis should not incur any multicollinearity problems as none of the correlation coefficients is higher than the threshold of 0.80 (Halcoussis, 2005).

Table 33. Pearson's correlation

Variables	*AFEE*	*AMLD_Ratio*	*Size*	*Ind_Board*	*TobinQ*	*Capital*	*Age*	*SOE*	*Big4*	*Domestic10*	*Top1*	*Duality*
AFEE	1											
AMLD_Ratio	0.67***	1										
Size	0.32***	0.30***	1									
Ind_Board	0.08***	-0.02	-0.01	1								
TobinQ	-0.23***	-0.26***	-0.60***	0.02	1							
Capital	-0.20***	-0.18***	-0.77***	-0.02	0.47***	1						
Age	0.21***	0.14***	0.22***	0.05*	-0.14***	-0.10***	1					
SOE	0.15***	0.10***	0.19***	0.01	-0.25***	-0.08***	0.04	1				
Big4	0.26***	0.24***	0.74***	0.02	-0.38***	-0.62***	0.12***	0.12***				
Domestic10	0.18***	0.18***	0.48***	-0.02	-0.24***	-0.30***	0.13***	0.04	0.52***	1		
Top1	-0.08***	-0.15***	-0.05*	0.04	0.06**	0.12***	0.00	0.14***	-0.10***	0.00	1	
Duality	-0.10***	-0.13***	-0.16***	0.10***	0.18***	0.15***	-0.04	-0.05*	-0.06**	0.04	-0.01	1

Note: *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

4.4.3 Baseline Results

A fixed-effects model is applied to examine Eq. (8) and the results are reported in Table 34. The firm-specific effect remains controlled throughout all the analyses as it can effectively control the impacts of specific characteristics within the sample firm itself. To ensure the robustness of the results, another alternative proxy of the independent variable, *AMLD_Dummy*, is employed in the main analysis. *AMLD_Dummy* is a dummy variable coded 1 if the firm has AMLD-related disclosure, and 0 otherwise. Columns (1) and (2) report the regression results of the main variable only, and these results show that both *AMLD_Ratio* and *AMLD_Dummy* are negatively related to *AFEE* at a 1% level. Columns (3) and (4) include all the control variables in the model and control both year and firm fixed effects. The results show that both *AMLD_Ratio* and *AMLD_Dummy* are still positively and significantly related to *AFEE* at a 1% level or better. Thus, this result offers strong support for the first hypothesis (H_{1a}), that increased AML-related disclosure will increase the audit fees charged by the auditor, as greater auditing inputs and efforts are needed. The result also has economic significance, although the impact is minor. For instance, a 1 standard deviation increase in AML disclosure (*AMLD_Ratio*) increases audit pricing (*AFEE*) by about around 0.60%.[37] In other words, if a firm increases its AML-related disclosure in its financial statements by 30%, the audit fees charged will increase by around 0.60%.

Regarding the control variables, the audit fee increases if the firm has a greater proportion of independent directors (*Ind_Board*), is state-owned (*SOE*), and has auditors from the Big 4.

Table 34. Impact of AML disclosure on audit pricing

	(1)	(2)	(3)	(4)
Variables	***AFEE***	***AFEE***	***AFEE***	***AFEE***
AMLD_Ratio	0.021***		0.020***	
	(10.90)		(11.89)	
AMLD_Dummy		0.777***		0.754***
		(8.68)		(8.68)
Size			-0.038	-0.055

[37] This is calculated as 0.301 (*AMLD_Ratio* standard deviation) (see Table 32) × 0.020 (regression coefficient in Column (3) of Table 34) × 100% = 0.60%.

			(-0.79)	(-1.16)
Ind_Board			0.013**	0.012
			(1.99)	(1.60)
TobinQ			0.009	0.008
			(0.20)	(0.16)
Capital			0.035	-0.026
			(0.31)	(-0.23)
Age			0.210	0.217
			(0.54)	(0.53)
SOE			0.321***	0.342***
			(3.22)	(2.74)
Big4			0.310***	0.547***
			(2.84)	(3.66)
Domestic10			-0.100	-0.122
			(-1.09)	(-1.10)
Top1			0.002	-0.001
			(0.36)	(-0.30)
Duality			-0.019	-0.061
			(-0.25)	(-0.70)
Constant	6.981***	6.958***	6.660***	7.002***
	(46.65)	(48.41)	(4.28)	(4.33)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
R-squared	0.410	0.286	0.430	0.315
N	1,295	1,295	1,295	1,295

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model with alternative measures of audit pricing. The dependent variable is the natural logarithm of firm's audit fees. The independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). The other alternative proxy is *AMLD_Dummy*, which is a binary variable that equals 1 if the firm has AML-related disclosure, and 0 otherwise. Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.4.4 Endogeneity Tests

There is potential for endogeneity, such as sample selection bias, omitted variables, and reverse causality, to affect the accuracy of the results of this study. For instance, financial institutions have more complicated structures and operations. In addition, some documents are confidential and have a high level of financial secrecy. Auditors need to spend more effort to access information and, therefore, charge higher audit fees when auditing financial institutions. In this context, there is a likelihood of sample selection bias. Moreover, the high audit fee may discourage a firm's voluntary disclosures in the future due to financial conditions and investors' expectations of cost efficiency as well as reputation concerns, since a high audit fee may signal

business risks to clients (see Stanley, 2011). Such reverse causality between AML-related disclosure and audit pricing may result in endogeneity issues. Therefore, this study adopts the following tests to mitigate the issue of endogeneity: (1) entropy balancing, (2) propensity score matching (PSM), (3) difference-in-differences (DID) test, (4) Lewbel test, (5) Oster test, and (6) Heckman selection model.

4.4.4.1 Entropy Balanced Matching

Given that there is a likelihood of selection bias, this study applies the entropy balanced matching (EBM) technique. The EBM technique is proposed for three reasons. According to Hainmueller (2012), the EBM technique allows a higher degree of covariate balance and reweights units flexibly. By using the EBM technique, a more balanced sample can be achieved and, therefore, it is possible to reduce the difference and adjust inequalities between the treatment and control firms (Hasan et al., 2023; Hu et al., 2023). Following previous studies (e.g., Beck et al., 2022; Cao et al., 2023; Hu et al., 2023), all the control variables in the baseline model are matched across mean, variance, and skewness. Accordingly, both treatment and control groups are constructed based on the matched results. The baseline model is then rerun based on this EBM-matched sample.

Table 35 reports the mean, variance, and skewness across treatment and control groups before matching (Panel A) and after matching (Panel B). As Panel A shows, exposed observations (i.e., treatment group) and unexposed observations (i.e., control group) exhibit statistically significant differences before balancing. However, after balancing, all the variables achieve a desirable covariate balance across the exposed observations (i.e., treatment group) and unexposed observations (i.e., control group). As shown in Panel B, *Size* for the treatment (control) group has a mean of 26.790 (26.790), a variance of 4.967 (4.967), and a skewness of 0.089 (0.091). *Ind_Board* for the treatment (control) group has a mean of 36.810 (36.810), a variance of 19.870 (19.870), and a skewness of 0.827 (0.829). *TobinQ* for the treatment (control) group has a mean of 1.124 (1.124), a variance of 0.071 (0.071), and a skewness of 4.415 (4.445). *Capital* for the treatment (control) group has a mean of -1.939 (-1.939), a variance of 0.546 (0.546), and a skewness of 0.172 (0.171). *Age* for the treatment (control) group has a mean of 2.973 (2.973), a variance of 0.195 (0.195), and a skewness of -1.973

(-1.972). *SOE* for the treatment (control) group has a mean of 0.607 (0.606), a variance of 0.239 (0.239), and a skewness of -0.436 (-0.436). *Big4* for the treatment (control) group has a mean of 0.646 (0.646), a variance of 0.229 (0.229), and a skewness of -0.611 (-0.610). *Domestic10* for the treatment (control) group has a mean of 0.859 (0.859), a variance of 0.121(0.121), and a skewness of -2.064 (-2.064). *Top1* for the treatment (control) group has a mean of 29.130 (29.130), a variance of 250.600 (250.600), and a skewness of 0.987 (0.987). *Duality* for the treatment (control) group has a mean of 0.079 (0.079), a variance of 0.073 (0.073), and a skewness of 3.12 (03.120). Therefore, the results demonstrate that the distributions of all the variables across treatment and control groups are similar after matching.

Panel C of Table 35 reports the regression results using the EBM sample. The coefficient of *AMLD_Ratio* is positive and significant at a 1% level after removing the sample selection bias. This result affirms that the main results presented in Table 34 are robust and any endogeneity problem from sample selection bias is controlled.

Table 35. Entropy balanced matching (EBM)

Panel A: Before EBM matching

	Treatment n = 582			**Control n = 735**		
	Mean	**Variance**	**Skewness**	**Mean**	**Variance**	**Skewness**
Size	26.790	4.967	0.089	24.040	6.893	0.292
Ind_Board	36.810	19.870	0.827	37.090	21.020	0.877
TobinQ	1.124	0.071	4.415	1.826	1.699	2.004
Capital	-1.939	0.546	0.172	-1.388	0.663	-0.448
Age	2.973	0.195	-1.973	2.921	0.121	-1.133
SOE	0.607	0.239	-0.436	0.491	0.250	0.035
Big4	0.646	0.229	-0.611	0.242	0.184	1.204
Domestic10	0.859	0.121	-2.064	0.631	0.233	-0.544
Top1	29.130	250.600	0.987	34.210	328.500	0.691
Duality	0.079	0.073	3.121	0.182	0.149	1.646

	Treatment n = 582			**Control n = 735**		
	Mean	**Variance**	**Skewness**	**Mean**	**Variance**	**Skewness**
Size	26.790	4.967	0.089	26.790	4.967	0.091
Ind_Board	36.810	19.870	0.827	36.810	19.870	0.829
TobinQ	1.124	0.071	4.415	1.124	0.071	4.445
Capital	-1.939	0.546	0.172	-1.939	0.546	0.172
Age	2.973	0.195	-1.973	2.973	0.195	-1.972
SOE	0.607	0.239	-0.436	0.606	0.239	-0.436

Big4	0.646	0.229	-0.611	0.646	0.229	-0.610
Domestic10	0.859	0.121	-2.064	0.859	0.121	-2.064
Top1	29.130	250.600	0.987	29.130	250.600	0.987
Duality	0.079	0.073	3.121	0.079	0.073	3.120

Panel C: Regression results using entropy balanced sample

Variables	***AFEE***
AMLD_Ratio	0.872***
	(13.03)
Size	-0.054
	(-1.06)
IndBoard	0.011
	(1.63)
TobinQ	0.018
	(0.35)
Capital	-0.027
	(-0.24)
Age	0.238
	(0.61)
SOE	0.305**
	(2.47)
Big4	0.512***
	(3.84)
Domestic10	-0.109
	(-0.99)
Top1	0.872***
	(13.03)
Duality	-0.054
	(-1.06)
Constant	6.916***
	(4.11)
Year FE	YES
Firm FE	YES
R-squared	0.346
N	1,295

Note: This table presents sample matching using the entropy balanced matching (EBM) technique and the baseline result based on a matched sample. Panel A reports the mean, variance, and skewness across treatment and control groups before matching, and Panel B reports the mean, variance, and skewness across treatment and control groups after matching. Panel C presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model based on the matched sample. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.4.4.2 Propensity Score Matching (PSM)

To further mitigate endogeneity caused by sample selection bias, this study also employs the propensity score matching (PSM) technique. This study uses one-to-two nearest neighbour matching due to the small sample size, and a caliper of 0.05 is set. The PSM analyses include all the control variables used in the baseline regression.

Based on Austin (2011), this study simulates the observations in different proportions of 75%, 80%, and 90%. In other words, approximately 25% (20%, 10%) of the sample are exposed to the treatment group. Correspondingly, around 75% (80%, 90%) are exposed to the control group. First univariate comparisons are conducted of the matching items between the treatment and control groups. The baseline regressions are then rerun based on the matched sample. Results are reported in Table 36. Panels A, B, and C report the results based on different proportions assigned to treatment and control groups, respectively.

When 25% of observations are assigned to the treatment group, it can be observed that, except for *Ind_Board*, the mean distributions of the other variables exhibit statistically significant differences between the treatment group and the control group when the sample is unmatched. In the PSM-matched sample, all the covariates demonstrate no statistically significant differences between the treatment and control groups. The baseline regression is rerun using the PSM-matched sample, and the results are reported in Column (1) of Panel D, Table 36. The coefficient of *AMLD_Ratio* (0.018) remains positive and statistically significant at the 1% level or better. The PSM performance is further presented in Figure 4-1, showing that there are no significant differences between the two groups after matching.

As shown in Panel B of Table 36, when 20% of observations are assigned to the treatment group, the results are similar to Panel A of Table 36. Except for *Ind_Board*, the mean distributions of other covariates show statistically significant differences between the treatment group and control group before the sample is matched. In the PSM-matched sample, all the covariates demonstrate no statistically significant differences between the treatment and control groups. When rerunning the baseline regression using the matched sample, as shown in Column (2) of Panel D, the coefficient of *AMLD_Ratio* (0.019) remains positive and statistically significant at a 1% level. Also, Figure 4-2 confirms that there are no significant differences between the treatment and control groups after matching.

Moreover, Panel C reports similar results when 10% of observations are assigned to the treatment group. Except for *Ind_Board*, *Capital*, and *Big4*, the mean distributions of the other variables exhibit statistically significant differences between the treatment group and control group when the sample is unmatched. In the PSM-matched sample, all the covariates demonstrate no statistically significant differences between the treatment and control groups. It can be observed in Column (3) of Panel D that *AMLD_Ratio* is still positively and significantly associated with *AFEE* ($p < 0.10$). After matching, Figure 4-3 further confirms the insignificant differences between the treatment and control groups.

In general, the PSM analyses demonstrate that the results of this study are robust and free from endogeneity issues.

Table 36. Results for PSM estimation

Panel A: 25% of observations assigned to treatment group

		Treatment	**Control**	***t*-statistic**	***p*-value**
Size	Unmatched	26.789	24.736	11.90***	0.000
	Matched	26.740	26.809	-0.43	0.281
Ind_Board	Unmatched	37.010	36.986	0.08	0.934
	Matched	36.996	36.775	0.63	0.528
TobinQ	Unmatched	1.098	1.663	-8.55***	0.000
	Matched	1.100	1.083	1.05	0.293
Capital	Unmatched	-1.932	-1.532	-7.66***	0.000
	Matched	-1.923	-1.934	0.19	0.851
Age	Unmatched	3.021	2.915	4.20***	0.000
	Matched	3.014	2.984	0.97	0.333
SOE	Unmatched	0.630	0.508	3.85***	0.000
	Matched	0.625	0.604	0.53	0.597
Big4	Unmatched	0.621	0.353	8.70***	0.000
	Matched	0.615	0.650	-0.91	0.366
Domestic10	Unmatched	0.851	0.691	5.68***	0.000
	Matched	0.849	0.864	-0.57	0.572
Top1	Unmatched	28.180	33.419	-4.72***	0.000
	Matched	28.289	28.239	0.04	0.969
Duality	Unmatched	0.062	0.162	-4.56***	0.000
	Matched	0.063	0.085	-1.06	0.289

Panel B: 20% of observations assigned to treatment group

		Treatment	Control	*t*-statistic	*p*-value
Size	Unmatched	26.530	24.930	8.32***	0.000
	Matched	26.517	26.631	-0.61	0.545
Ind_Board	Unmatched	36.802	37.039	-0.75	0.456
	Matched	36.799	36.888	-0.23	0.821
TobinQ	Unmatched	1.108	1.625	-7.15***	0.000
	Matched	1.108	1.082	1.51	0.132
Capital	Unmatched	-1.844	-1.579	-4.60***	0.000
	Matched	-1.842	-1.870	0.42	0.672
Age	Unmatched	3.009	2.925	3.07***	0.002
	Matched	3.009	2.996	0.44	0.663
SOE	Unmatched	0.621	0.518	2.98***	0.003
	Matched	0.620	0.612	0.18	0.856
Big4	Unmatched	0.578	0.380	5.82***	0.000
	Matched	0.576	0.596	-0.45	0.654
Domestic10	Unmatched	0.832	0.705	4.11***	0.000
	Matched	0.831	0.825	0.18	0.860
Top1	Unmatched	27.371	33.286	-4.91***	0.000
	Matched	27.407	28.123	-0.53	0.594
Duality	Unmatched	0.066	0.155	-3.70***	0.000
	Matched	0.067	0.088	-0.91	0.363

Panel C: 10% of observations assigned to treatment group

		Treatment	Control	*t*-statistic	*p*-value
Size	Unmatched	25.827	25.185	2.41**	0.016
	Matched	25.842	25.745	0.39	0.695
Ind_Board	Unmatched	36.805	37.012	-0.48	0.631
	Matched	36.862	36.565	0.54	0.588
TobinQ	Unmatched	1.121	1.565	-4.49***	0.000
	Matched	1.121	1.127	-0.20	0.838
Capital	Unmatched	-1.634	-1.631	-0.04	0.966
	Matched	-1.644	-1.589	-0.60	0.551
Age	Unmatched	3.068	2.928	3.78***	0.000
	Matched	3.062	3.071	-0.25	0.804
SOE	Unmatched	0.669	0.524	3.09***	0.002
	Matched	0.664	0.648	0.27	0.789
Big4	Unmatched	0.468	0.414	1.15	0.251

	Matched	0.475	0.434	0.64	0.522
Domestic10	Unmatched	0.798	0.723	1.79*	0.073
	Matched	0.795	0.807	-0.24	0.811
Top1	Unmatched	26.618	32.699	-3.72***	0.000
	Matched	26.758	28.151	-0.74	0.461
Duality	Unmatched	0.040	0.148	-3.31***	0.001
	Matched	0.041	0.033	0.34	0.735

Panel D: Regression results using PSM-matched sample

	(1)	**(2)**	**(3)**
	AFEE	***AFEE***	***AFEE***
% of observations assigned to treatment group =	***25%***	***20%***	***10%***
AMLD_Ratio	0.018***	0.019***	0.014***
	(10.37)	(12.40)	(9.13)
Size	0.103	-0.075	-0.074
	(0.68)	(-0.70)	(-0.47)
Ind_Board	0.013	0.023***	0.008
	(1.29)	(2.84)	(0.53)
TobinQ	-0.023	0.109	0.005
	(-0.10)	(0.49)	(0.01)
Capital	0.238	0.259	0.023
	(1.23)	(1.14)	(0.09)
Age	0.345	0.144	0.034
	(1.52)	(0.48)	(0.05)
SOE	0.292***	0.420***	0.539***
	(2.63)	(4.08)	(3.60)
Big4	0.262	0.372**	-0.092
	(1.48)	(2.40)	(-0.52)
Domestic10	-0.171	-0.130	-0.178
	(-0.97)	(-0.89)	(-1.19)
Top1	-0.011	-0.004	-0.009
	(-1.36)	(-0.42)	(-0.73)
Duality	-0.018	0.001	-0.045
	(-0.17)	(0.01)	(-0.19)
Constant	3.564	7.230**	8.063*
	(0.95)	(2.56)	(1.98)
Year FE	YES	YES	YES
Firm FE	YES	YES	YES
R-squared	0.613	0.681	0.665
Observations	643	583	310

Note: This table presents sample matching using the propensity sample matching (PSM) technique and the baseline result based on a matched sample. Panels A, B, and C report the univariate comparisons of the matching items between the treatment and control groups based on the proportions of 75%, 80%, and 90%, separately. Panel D presents the coefficients and their statistical significance for the baseline model based on the different proportions of the matched sample. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's

size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

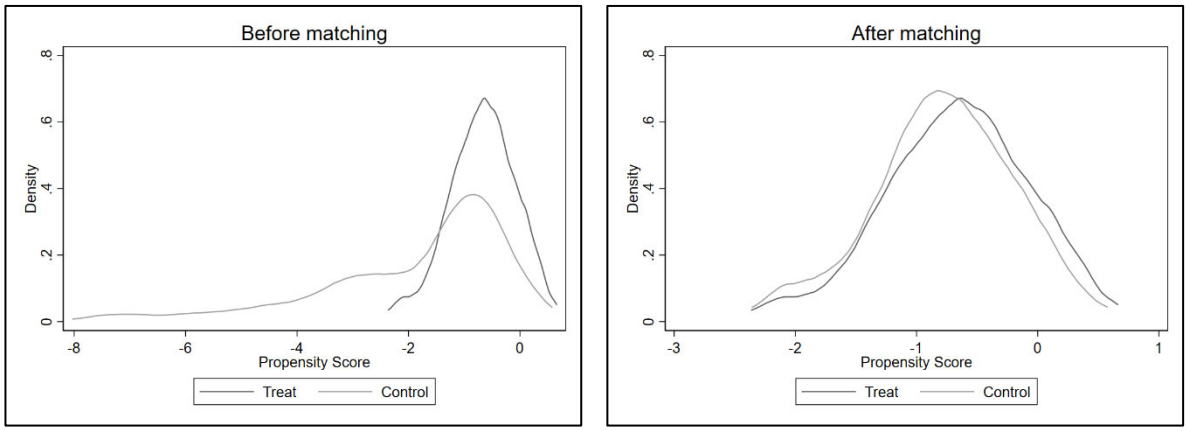

Figure 4-1. Density distribution when 25% of observations assigned to treatment group

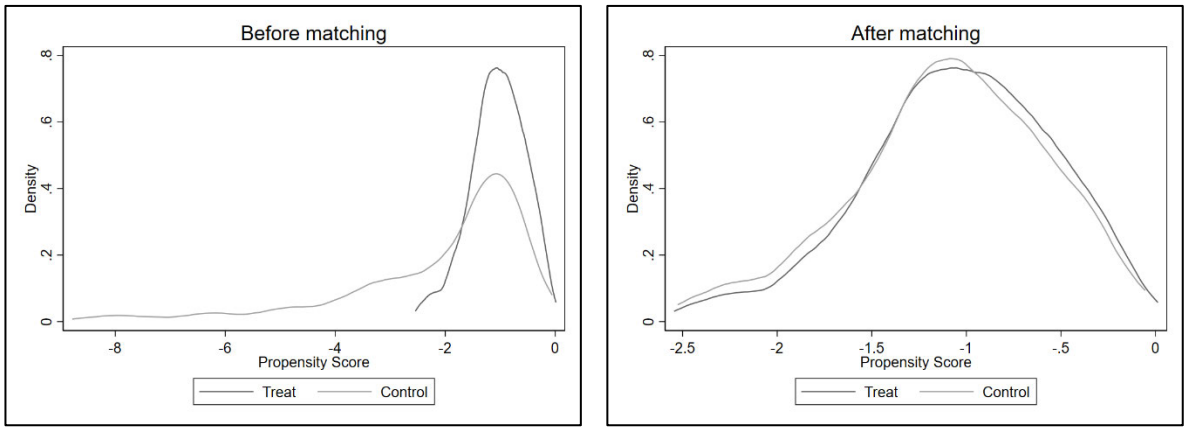

Figure 4-2. Density distribution when 20% of observations assigned to treatment group

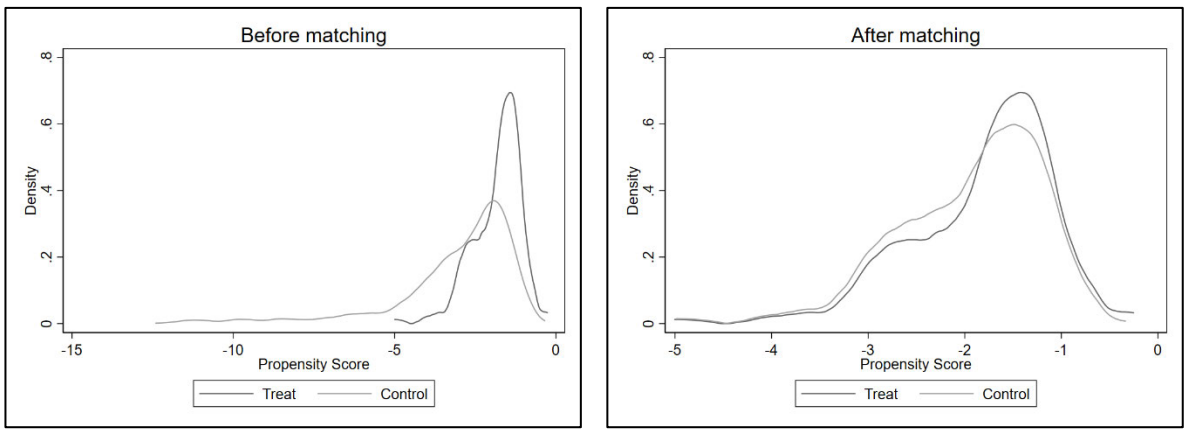

Figure 4-3. Density distribution when 10% of observations assigned to treatment group

4.4.4.3 Difference-in-Differences (DID) Analysis

To mitigate the potential impact of omitted variables and reverse causality, this study also employs the difference-in-differences (DID) model to examine how audit pricing changes around the related exogenous event. DID is often used for examining the impacts of policy interventions by reviewing the outcomes before and after the policy intervention (Athey & Imbens, 2006).

This study uses the establishment of the China Securities Investor Services Centre (CSISC) as the policy intervention. In 2014, the CSISC was established by the China Securities Regulatory Commission, which is a regulatory department for supervising the activities of stock exchanges and securities. The CSISC, as a non-profit regulatory institution, can hold and exercise the shareholding rights for firms to supervise controlling shareholders and protect the interests of minority shareholders. Also, it can act as a representative of minority shareholders to resolve disputes and provide litigation support. As a novel regulatory mechanism, the CSISC combines regulatory interventions with private enforcement, which effectively governs the Chinese stock market and significantly restricts corporate fraud (Zhao et al., 2023). Prior studies have found that the monitoring role of CSISC improves the information environment and enhances media attention (Ren & Yan, 2023). Accordingly, the CSISC is expected to enhance AML disclosure. Therefore, this study uses the establishment of the CSISC as a policy intervention to see how AML disclosure might change around the year 2014 and further impact audit pricing. *CSISC* is an indicator variable that equals 1 if the firm-year observations with disclosure of AML-related content are from 2014 and afterwards (i.e., after the CSISC was established). Otherwise, the value of *CSISC* is 0. The regression results are reported in Table 37. The table shows that the coefficient of *CSISC* (1.307) is positive and statistically significant at the 1% level. This result suggests that audit pricing increases with the introduction of the CSISC.

Figure 5 depicts the parallel trend analysis. A 10-year window is examined. Specifically, *pre_5* takes a value of 1 for the sample year 2009, and 0 otherwise. *Pre_4* takes a value of 1

for the sample year 2010, and 0 otherwise. *Pre_3* and *pre_2* separately represent the sample years 2011 and 2012. *Current* represents the sample year 2014. Similarly, *post_1*, *post_2*, *post_3*, *post_4*, and *post_5* represent the sample years 2015, 2016, 2017, 2018, and 2019, respectively. Figure 5 shows that audit pricing increased gradually after the CSISC was established. This indicates that the establishment of the CSISC had an impact on the increase in firms' audit pricing, which further confirms the results of this study.

Table 37. DID estimation

Variables	***AFEE***
CSISC	1.307***
	(13.73)
Size	0.010
	(0.24)
IndBoard	0.006
	(0.89)
TobinQ	0.013
	(0.34)
Capital	-0.051
	(-0.56)
Age	0.182
	(0.71)
SOE	0.204**
	(2.32)
Big4	0.282**
	(2.09)
Domestic10	-0.035
	(-0.38)
Top1	-0.001
	(-0.32)
Duality	-0.096
	(-1.11)
Constant	5.991***
	(4.58)
Year FE	YES
Firm FE	YES
Observations	1,295
R-squared	0.410

Note: This table presents the baseline result using the difference-in-differences (DID) model. The dependent variable is the natural logarithm of the firm's audit fees. *CSISC* is an indicator variable that equals 1 if the firm-year observations with disclosure of AML-related content are after the China Securities Investor Services Centre (CSISC) was established, and 0 otherwise. Control variables include the firm's size (*Size*), the proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

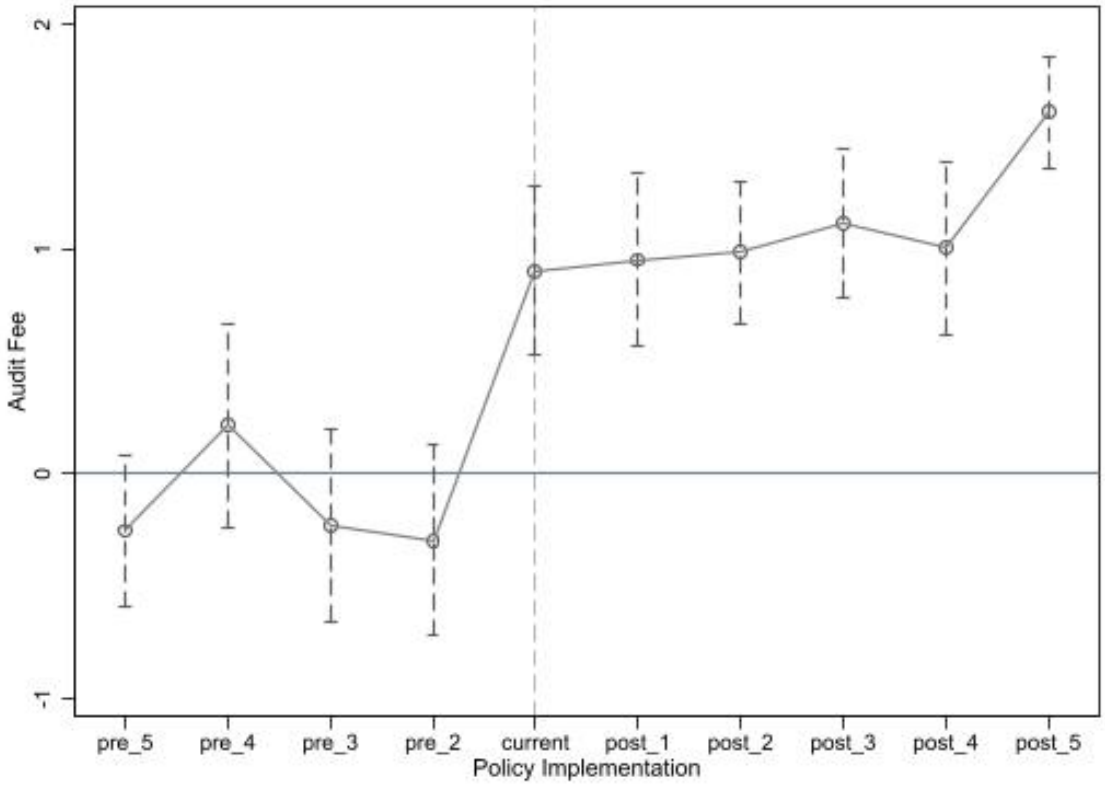

Figure 5. Parallel trend

Note: Figure 5 shows time period before and after the implementation of the policy on the horizontal axis. The vertical axis depicts the regression coefficients, and the short vertical line represents the 95% confidence interval.

4.4.4.4 Lewbel Estimation

Whether or not to disclose AML-related content is determined by the management of firms. Therefore, the decision to disclose such content may result in endogeneity in the analysis. For instance, when firms are charged high audit fees, they may be less willing to provide voluntary disclosures in the financial statement in the upcoming year as increased disclosures would increase auditors' workloads and efforts. Especially when firms are prioritising cost efficiency, there is a high likelihood for them to reduce voluntary disclosures in order to save expenses. In addition, higher audit pricing may act as a risk indicator of the business, as greater potential risks will lead to greater audit efforts (Frino et al.,2023; Habib et al., 2018; Hogan & Wilkins.

2008). Consequently, high audit fees could impact a firm's reputation, even if these fees result from increased voluntary disclosure volume, which increase the auditor's workload. To address this endogeneity issue, this study follows Lewbel's (2012) approach to generating heteroskedasticity-based instruments. This method has been widely used in recent studies (e.g., Hasan et al., 2022; Khoo et al., 2022). This method is applicable when external instrumental variables are unavailable. In this regard, the Lewbel approach uses the heteroskedastic errors of the regression model in the first stage to generate several instruments (Chen et al., 2021; Hasan et al., 2022; Lewbel, 2012; Mavis et al., 2020). Following previous studies (e.g., Hasan et al., 2022; Khoo et al., 2022; Lewbel, 2012), an instrument is selected from the generated heteroskedasticity-based instruments and is used for the standard instrumental variable estimation in the second stage.

Table 38 displays the Lewbel results. *IV* represents the heteroskedasticity-based instrument. As shown in Column (1), the coefficient of *IV* is statistically significant at a 1% level, confirming that it is efficient in explaining the extent of disclosing AML-related content. In addition, an *F*-test confirms that the instrument is statistically significant at the conventional levels (*F* value is greater than 10), indicating that the instrument is valid and free from weak identification issues. In the second stage, as Column (2) shows, the coefficient of *AMLD_Ratio* remains positive and statistically significant at a 1% level or better. Also, the under-identification test shows that both Kleibergen-Paap rk LM statistics Chi^2 *p*-values (0.000) in Columns (1) and (2) are significant at a 1% level, which suggests that the instruments used are relevant. In the weak identification test, the Kleibergen-Paap Wald F statistics in the first and second stages are greater than 10 and greater than Stock and Yogo's (2015) 10% maximal IV size values (16.38). These results confirm that the instrument is not weak and is not correlated with the endogenous regressors.

Overall, the Lewbel (2012) test results provide strong evidence that the reported positive relationship between audit pricing and AML disclosure remains robust to endogeneity biases from reverse causality or omitted variables.

Table 38. Results for Lewbel's (2012) estimation

	(1)	(2)
	1st Stage	**2nd Stage**
Variables	***AMLD_Ratio***	***AFEE***
AMLD_Ratio		0.023***
		(7.11)
IV	0.970***	
	(5.45)	
Size	0.460	-0.039
	(0.82)	(-1.02)
IndBoard	-0.148	0.014**
	(-1.36)	(2.22)
TobinQ	0.017	0.009
	(0.03)	(0.21)
Capital	-0.874	0.036
	(-0.34)	(0.29)
Age	-7.612	0.218
	(-0.86)	(0.95)
SOE	4.217**	0.314***
	(1.96)	(4.33)
Big4	12.841***	0.275**
	(2.84)	(2.22)
Domestic10	-1.043	-0.097
	(-0.59)	(-1.13)
Top1	-0.171**	0.002
	(-2.37)	(0.56)
Duality	-2.844	-0.013
	(-1.51)	(-0.16)
Year FE	YES	YES
Firm FE	YES	YES
First stage *F*-test	29.73***	
Under-identification test (Kleibergen-Paap rk LM statistic Chi^2 *p*-value)	0.000	0.000
Weak identification test (Kleibergen-Paap Wald rk *F* statistic)	29.73	29.73
Observations	1,291	1,291
R-squared	0.312	0.428

Note: This table presents the results using the Lewbel (2012) test. *IV* is the heteroskedasticity-based constructed instrument. In Column (1), the dependent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). In Column (2), the dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is *AMLD_Ratio*. Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.4.4.5 Oster Estimation

The findings of this study could also be biased due to some omitted variables, as it is difficult to identify and incorporate all relevant factors explaining audit pricing in the baseline regression. In this regard, this study follows Oster's (2019) method to examine whether the omitted variables will impact the relationship between audit pricing and AML-related disclosure. Following previous studies (Donohoe et al., 2022; Oster, 2019; Song et al., 2023), a bias-adjusted treatment effect bound is calculated by using a value of R_{max} = 1.3 $\widetilde{R}$, which means that the R_{max} upper bound is 1.3 times the R^2 of the baseline regression with all the control variables. Also, the bias-adjusted effect assumes δ = 1. The results are reported in Table 39. As shown in Column (1), the estimated bound (i.e., "True" β Bound) does not contain zero, which can be considered an indication of robust effects that are non-zero. Then, the delta value is calculated based on the same assumption. The delta value indicates the importance of the unobservable confounders in fully explaining the findings of this study (Song et al., 2023). The delta value is expected to be greater than 1 or lower than -1, as this suggests that the unobservable confounders should be more than 1 times stronger than the impact of the observable factors. As shown in Column 2, the delta value (1.907) is greater than 1, which is aligned with Oster's (2019) argument, indicating that the results in this study are not driven by unobservable factors. Specifically, the delta value shows that the impact of the unobservable factors needs to be more than 1.907 times stronger than the impact of the observable factors to fully explain the findings of this study. In conclusion, the results of this study are free from issues associated with omitted variables.

Table 39. The Oster (2019) method

Parameter assumptions	
1.3 R^2; δ = 1	Estimated β from Eq. (8) = 0
(1) "True" β Bound	(2) δ
[0.015, 0.020]	1.907

Note: This table reports the results of examining the sensitivity of β by assuming that unobservable factors exist in the sample as well as the impact of unobservable factors on driving β to zero. This analysis assumes that accounting for unobservable factors increases R^2 by 130% and that unobservable factors are at least as important as observable factors in Eq. (8).

4.4.4.6 Heckman Selection Model

The independent variable (i.e., *AMLD_Ratio*) in this study is extracted from annual and internal control self-evaluation reports. It is, therefore, difficult to avoid sample self-selection concerns. Some of the sample firms in this study had previously operated in non-financial industries. As a result, these firms had relatively less experience in AML and, therefore, would be less inclined to provide AML-related disclosures. Conversely, firms consistently operating within the financial sector are more likely to disclose AML-related content, given their ample experience in combating money laundering and their established AML systems. To remove self-selection bias, this study runs a two-stage Heckman selection model as a final technique.

This study uses *IND_Change* as the identifying instrument. *IND_Change* is a dummy variable equal to 1 if the firm had previously operated in the non-financial sector, and equal to 0 if the firm had only operated within the financial sector.

Column (1) in Table 40 reports the first stage probit regression result. The dependent variable, *Opinion,* is a dummy variable equalling 1 if the auditor provides a standard unqualified opinion, and 0 otherwise. The probit model regresses *Opinion* and a series of variables that may impact the audit opinion, including *IND_Change*, *Size*, *Ind_Board*, *TobinQ*, *Capital*, *Age*, *SOE*, *Top1,* and *Duality*. As reported in Column (1) of Table 40, the coefficient of *IND_Change* is negative (-0.853) and statistically significant at the 10% level, suggesting that firms that experienced industry change may affect auditors' decision-making. Accordingly, the first-stage result indicates a potential selection bias in determining audit pricing. The inverse Mills ratio (*IMR*) is calculated from the first stage probit estimation and then is included in the second stage regression as a bias correction term. In the second step, as shown in Column (2), *IMR* is included in the baseline regression. It can be observed that the coefficient of *AMLD_Ratio* still remains positive and statistically significant at the 1% level, suggesting that the results are robust after selection bias is controlled.

Table 40. Heckman selection model

Variables	(1) 1st Stage *Opinion*	(2) 2nd Stage *AFEE*
AMLD_Ratio		0.023***
		(28.68)
IMR		0.173
		(0.47)
IND_Change	-0.853**	
	(-2.14)	
Big4		0.056
		(0.76)
Domestic10		0.043
		(0.68)
Size	0.332***	0.035
	(4.46)	(1.58)
IndBoard	-0.012	0.024***
	(-0.74)	(4.65)
TobinQ	0.068	0.020
	(1.02)	(0.67)
Capital	0.349***	-0.000
	(2.69)	(-0.00)
Age	-0.114	0.256***
	(-0.41)	(4.27)
SOE	0.282	0.153***
	(1.45)	(3.12)
Top1	0.008	-0.000
	(1.44)	(-0.25)
Duality	0.005	-0.033
	(0.03)	(-0.47)
Constant	-4.529**	4.495***
	(-2.44)	(8.35)
Year FE	YES	YES
Firm FE	YES	YES
Observations	1,295	1,295

Note: This table presents the regression results using Heckman's two-stage approach. The first stage uses *Opinion* to estimate auditor opinions of firms' financial statements. *Opinion* is a dummy variable equal to 1 if the auditor provides a standard unqualified opinion, and 0 otherwise. *IND_Change* is the instrumental variable, equalling 1 if the firm had previously operated in a non-financial sector, and 0 otherwise. *IMR* is the inverse Mills ratio from the first stage probit estimation and is added to the second stage. *AFEE* is the natural logarithm of a firm's audit fees. *AMLD_Ratio* is the proportion of AML-related disclosure relative to the total length of the financial statements. Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5% ,and 1% levels, respectively; *z*-statistics are reported in parentheses.

4.5 Robustness Tests

Considering the limited number of samples in this study, this section describes a series of robustness tests that were conducted to ensure the correctness and validity of the main results. The coefficients of the "core" variable are expected to be consistent with the baseline regression, as discussed in Section 4.4.3. Plausible and robust coefficients are regarded as an indication of structural validity (Lu & White, 2014). This study examines the robustness of its results using: (1) an alternative measure for the independent variable (i.e., AML disclosure); (2) a different sample period; (3) a lagged independent variable; and (4) a placebo test.

4.5.1 Alternative Proxy for AML Disclosure

An alternative measure for AML-related disclosure, *AMLD_No*, is constructed. *AMLD_No* is measured by the natural logarithm of the AML-related word frequency (i.e., numbers of AML-related keywords mentioned in the annual report and the internal control self-evaluation report) plus 1. The same regression models and procedures used in the baseline regression are applied here, to ensure consistency. The firm-specific effect is always controlled according to the statistical model used.

Table 41 reports the results. Column (1) shows that the coefficient of *AMLD_No* is positive (0.821) and statistically significant at the 1% level when examining the key variable only. After including all the control variables, as shown in Column (2), *AMLD_No* is still positive (0.708) and significantly related to *AFEE* at a 1% level. In Column (3), after controlling the year-specific fixed effects, the coefficient of *AMLD_No* remains positive (0.700) and statistically significant at the 1% level. It should be noted that when using the word frequency to measure disclosure, the coefficients in Columns (2) and (3) are similar, which indicates that the impact of AML disclosure on audit pricing remains, regardless of whether factors that change each year are controlled or not. In general, the result of the robustness test with alternative measures for AML disclosure confirms the validity of the findings in this study.

Table 41. Regression results with alternative measure of AML disclosure

Variables	(1) *AFEE*	(2) *AFEE*	(3) *AFEE*
AMLD_No	0.821***	0.708***	0.700***
	(25.66)	(18.28)	(16.59)
Size		0.028	-0.054
		(0.76)	(-1.43)
IndBoard		0.013**	0.011*
		(2.12)	(1.76)
TobinQ		0.052	-0.011
		(1.33)	(-0.27)
Capital		-0.081	0.012
		(-0.68)	(0.11)
Age		0.611***	0.223
		(3.70)	(0.59)
SOE		0.286***	0.257***
		(2.88)	(3.07)
Big4		0.231**	0.263**
		(2.21)	(2.55)
Domestic10		-0.108	-0.080
		(-1.31)	(-0.95)
Top1		0.002	0.002
		(0.55)	(0.45)
Duality		-0.002	-0.019
		(-0.03)	(-0.27)
Constant	6.814***	3.501***	6.971***
	(209.25)	(4.17)	(5.15)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES
R-squared	0.381	0.425	0.463
Observations	1,295	1,295	1,295

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model with an alternative measure of AML-related disclosure. The dependent variable is the natural logarithm of the firm's audit fees. The new proxy, *AMLD_No*, is calculated by the natural logarithm of the AML-related word frequency plus 1. Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.5.2 Alternative Sample Intervals

From an empirical standpoint, the statistical relationship between the variables may be impacted when the sample observation period is changed. Therefore, this study randomly shortened the sample interval and excluded the firm-year observations before 2012. In other words, the sample period in this robustness test is from 2012 to 2022 to see if the shortened

sample period influences the relationship between audit pricing and AML-related disclosure. Results are reported in Table 42. The same procedures are performed as for the previous robustness tests. Aligning with the previous results, *AMLD_Ratio* is positive (0.026) and significantly related to AFEE at a 1% level when examining the key variables only. After including all the control variables, as indicated in Column (2), the statistical result of *AMLD_Ratio* remains unchanged (i.e., positive, and statistically significant at a 1% level). When controlling for the year-specific fixed effects, the coefficient of *AMLD_Ratio* is still positive (0.023) and statistically significant at the 1% level. In sum, the positive impact of AML-related disclosure on a firm's audit fees is not impacted by the shortened sample interval; therefore, the finding is robust.

Table 42. Regression results with alternative sample intervals (randomly chosen)

Variables	**(1)** ***AFEE***	**(2)** ***AFEE***	**(3)** ***AFEE***
AMLD_Ratio	0.026***	0.023***	0.023***
	(12.98)	(13.41)	(12.93)
Size		0.052	-0.029
		(1.02)	(-0.51)
IndBoard		0.002	0.003
		(0.33)	(0.44)
TobinQ		0.003	-0.070
		(0.07)	(-1.61)
Capital		-0.200*	-0.119
		(-1.71)	(-1.07)
Age		0.957***	0.235
		(4.38)	(0.44)
SOE		0.368***	0.360***
		(3.00)	(3.37)
Big4		-0.101	-0.077
		(-0.94)	(-0.73)
Domestic10		-0.086	-0.076
		(-0.99)	(-0.88)
Top1		0.001	0.000
		(0.22)	(0.09)
Duality		0.073	0.065
		(0.83)	(0.79)
Constant	7.246***	2.543**	6.563***
	(162.24)	(2.19)	(3.53)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES

R-squared	0.398	0.454	0.486
Observations	1,022	1,022	1,022

Note: This table presents the fixed-effects (FE) regression coefficients and their statistical significance for the regression model for the period 2012 to 2022. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's size (*Size*), the proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*).
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.5.3 One-Year Lagged AML Disclosure

In this robustness test, the independent variable is replaced with its one-year lagged value to address the potential issue of reverse causality between AML-related disclosure and audit pricing. *AMLD_Ratio* is lagged for one year and denoted as *LAMLD_Ratio*. *LAMLD_Ratio* is then used in the baseline regression model to predict the audit fees paid by the firm, and the results are reported in Table 43. As shown in Column (1), the coefficient of *LAMLD_Ratio* is positive (0.015) and statistically significant at a 1% level when examining the relationship between *AFEE* and *LAMLD_Ratio* only. In Column (2), the coefficient of *LAMLD_Ratio* is still positive (0.010) and statistically significant at a 1% level after including the control variables. In Column (3), after controlling for the year-specific fixed effects, the coefficient of *LAMLD_Ratio* remains positive (0.010) and statistically significant at a 1% level after including the control variables. As a result, the robustness of the relationship between AML-related disclosure and audit pricing is further confirmed by the lagged value of AML-related disclosure.

Table 43. Regression results with AML disclosure lagged by one year

Variables	**(1)** ***AFEE***	**(2)** ***AFEE***	**(3)** ***AFEE***
LAMLD_Ratio	0.015***	0.010***	0.010***
	(8.28)	(5.77)	(5.47)
Size		0.055	-0.029
		(1.31)	(-0.58)
IndBoard		0.010	0.007
		(1.11)	(0.80)
TobinQ		0.021	-0.014
		(0.49)	(-0.30)
Capital		-0.091	-0.019
		(-0.71)	(-0.16)

Age		1.266***	0.220
		(6.42)	(0.40)
SOE		0.352**	0.347***
		(2.34)	(2.64)
Big4		0.490***	0.468***
		(3.27)	(3.34)
Domestic10		-0.177*	-0.124
		(-1.69)	(-1.18)
Top1		0.001	0.001
		(0.28)	(0.15)
Duality		-0.027	-0.034
		(-0.28)	(-0.33)
Constant	7.380***	1.441	6.444***
	(219.66)	(1.34)	(3.49)
Year FE	NO	NO	YES
Firm FE	YES	YES	YES
R-squared	0.113	0.255	0.298
Observations	1,158	1,158	1,158

Note: This table presents the fixed effects (FE) regression coefficients and their statistical significance for the regression model with a lagged independent variable. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable, *LAMLD_Ratio*, is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*) lagged for one year. Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*). *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.5.4 Placebo Test

To further confirm that the causality and validity of the results are not affected by other confounding factors, a placebo test is conducted as one of the robustness tests. The idea of the placebo test is that if audit pricing is mainly driven by other common unobservable factors, the impact on audit pricing will still remain when defining AML-related disclosure in an alternative way. According to Liang et al. (2021), this placebo test is conducted by randomly assigning the treatment group and control group. Specifically, the disclosure of AML-related content is randomly assigned (i.e., pseudo disclosure) to a firm, and Eq. (8) is re-estimated using the pseudo disclosure. The placebo test is simulated 1,000 times and the result is visualised in Figure 6.

As presented in Figure 6, the baseline result is represented as a dotted vertical line. The horizontal dotted line indicates the *p*-value of 0.1. The scatter located above the horizontal dotted line indicates that the estimate coefficient from the baseline regression is statistically significant at a 10% level or above. In contrast, the scatter located below the horizontal dotted

line indicates that the estimate coefficient is statistically significant. It can be observed that after randomly assigning the treatment and control groups, estimated coefficients are mostly located around the value of zero. The estimated coefficients are far away from the dotted vertical line (i.e., the actual coefficient). More importantly, Figure 6 clearly shows that most of the scatters are located above the horizontal dotted line, indicating the *p*-value of most coefficients is greater than 0.1. In other words, most estimated coefficients are statistically insignificant. It is observed that only 111 scatters are located below the horizontal dotted line. Therefore, the placebo test confirms that audit pricing is not driven by other confounding factors. That is, AML-related disclosure does increase audit pricing as a result of the increased workload. In sum, the results of this study are robust.

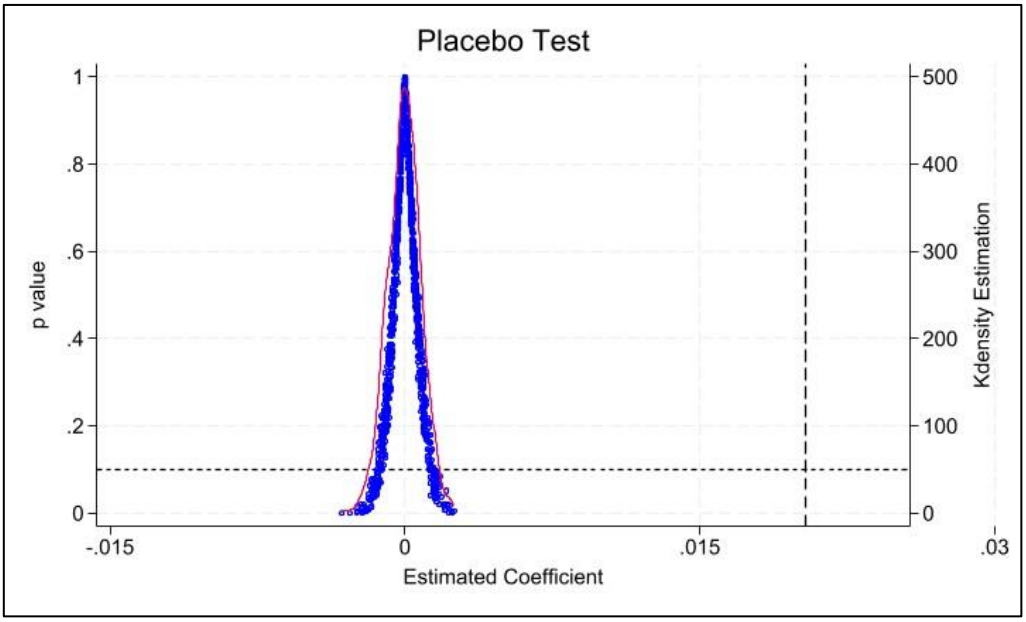

Figure 6. Placebo test

Note: Figure 6 shows scatters based on a 1,000 times simulation. The placebo test is conducted by randomly assigning the disclosure of AML-related disclosures to a firm, and Eq. (8) is re-estimated using the pseudo disclosure.

4.6. Cross-Sectional Analysis

This study further checks whether the relationship between audit pricing and AML-related disclosure changes with firm-specific heterogeneities. Different firm-specific attributes, such as corporate governance characteristics and the business environment, may explain management's decision to disclose voluntary information, which may further affect auditing

fees. Accordingly, this study intends to investigate whether the relationship between the audit pricing and AML-related disclosure could be affected by: (1) ownership structure, (2) financial performance, and (3) readability of the financial statements.

4.6.1 Ownership Structure

In terms of corporate governance, it is believed that a firm's ownership structure can affect its decisions on information disclosure. Compare to non-SOEs, state-owned enterprises (SOEs) are more likely to experience government intervention and the organisational outcomes of these firms tend towards achieving the government's objectives rather than the target of maximising profits target typical of private firms (Chen et al., 2021). Moreover, it has been argued that SOEs are more likely to obtain private information than non-SOEs (Eng & Mak, 2003). SOEs that hold private information are encouraged to provide voluntary disclosure to ensure information transparency (Xiao & Yua, 2007), and firms that are owned by the government are more likely to provide voluntary disclosure (Eng & Mak, 2003). SOEs that are concerned about social welfare and operating in a less competitive market are especially likely to disclose all of their private information (Bova & Yang, 2018). Therefore, this test intends to investigate whether government ownership has an impact on the relationship between audit pricing and AML-related disclosure.

The results are reported in Table 44. As shown in Column (1), when firms are SOEs, the coefficient of *AMLD_Ratio* is positive (0.021) and statistically significant at a 1% level. Column (2) shows that when firms are non-SOEs, the coefficient of *AMLD_Ratio* is also positive (0.016) and statistically significant at a 1% level. Coefficients of *AMLD_Ratio* are compared between the SOE and non-SOE groups, and the *p*-value of the differences is calculated by using seemingly unrelated estimations. As shown in Table 44, the *p*-value of 0.0372 (significant at a 5% level) suggests that there is a difference between SOEs and non-SOEs in terms of the relationship between audit pricing and AML-related disclosure. The results indicate that there is a greater impact of AML-related disclosure on the firm's audit pricing for SOEs than for non-SOEs. One reason for this could be government intervention. As they are directly controlled and monitored by the government, SOEs are required to provide

more private information (especially AML-related content) in their financial statements, which increases the workloads of the auditors, as more effort is required to review such information.

Table 44. Cross-sectional analysis: Ownership structure

Variables	(1) SOE		(2) Non-SOE
AMLD_Ratio	0.021***		0.016***
	(8.08)		(6.57)
p-value		0.0372**	
Size	-0.086		0.009
	(-1.58)		(0.12)
IndBoard	0.001		0.014
	(0.07)		(1.44)
TobinQ	0.098		-0.030
	(0.99)		(-0.61)
Capital	0.301		-0.047
	(1.39)		(-0.39)
Age	0.226		0.026
	(0.41)		(0.04)
Big4	0.360*		0.120
	(1.98)		(0.86)
Domestic10	-0.155		0.037
	(-1.46)		(0.24)
Top1	0.010**		-0.004
	(2.08)		(-0.62)
Duality	0.097		-0.197
	(0.96)		(-1.45)
Constant	8.400***		6.640***
	(3.69)		(2.66)
Year FE	YES		YES
Firm FE	YES		YES
R-squared	0.349		0.230
Observations	697		598

Note: This table presents the regression coefficients and their statistical significance for the regression models for state-owned enterprises (SOEs) and non-SOEs. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*). Coefficients of *AMLD_Ratio* are compared between the groups, and the *p*-value of the differences is calculated by using seemingly unrelated estimations.

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.6.2 Financial Performance

The financial performance of the firm can be another motivation behind the management's decision on information disclosures. It has been found that profitability can drive a firm's social disclosures (Qiu et al, 2016). According to voluntary disclosure theory, revealing a firm's environmental and social practices can incur substantial proprietary costs such as regulatory costs, contractual costs, and reputation costs (Blacconiere & Patten, 1994; Cormier & Magnan, 1999; Verrecchia, 1983, 2001). In this regard, when the firm has higher profitability, the management is more likely to provide information regarding its social practices, which may receive attention from the auditors and, therefore, incur higher audit pricing. This study employs return on equity (*ROE*) as a proxy for the firm's financial performance. *ROE* is calculated as a firm's net profit divided by its shareholder equity. A firm's financial performance is defined as "high" when *ROE* is higher than the firm-year average value and defined as "low" when the *ROE* is lower than the firm-year average value.

The results are reported in Table 45. As shown in Column (1), firms with good financial performance exhibit a positive (0.022) and statistically significant (at a 1% level) coefficient of *AMLD_Ratio*. Column (2) shows that when firms have poor financial performance, the coefficient of *AMLD_Ratio* is also positive (0.018) and statistically significant at a 1% level. Coefficients of *AMLD_Ratio* are compared between the high and low financial performance groups, and the *p*-value of the differences is calculated by using seemingly unrelated estimations. As shown in Table 45, the *p*-value of 0.0579 (significant at a 1% level) suggests that there is a difference between the impact of good and poor financial performance on the relationship between audit pricing and AML-related disclosure. The results indicate that there is a greater impact of AML-related disclosure on the firm's audit pricing when firms have a high level of financial performance compared to those with a low level of financial performance. The finding is consistent with the voluntary disclosure theory argument. Firms with good financial performance are more likely to make voluntary disclosures (in this context, AML-related disclosures) and, therefore, will incur higher auditing costs.

Table 45. Cross-sectional analysis: Financial performance

Variables	(1) High		(2) Low
AMLD_Ratio	0.022***		0.018***
	(11.85)		(9.73)
p-value		0.0579*	
Size	-0.067		0.005
	(-0.82)		(0.08)
IndBoard	0.010		0.000
	(1.29)		(0.04)
TobinQ	0.136		-0.032
	(1.41)		(-0.66)
Capital	0.218		-0.210
	(0.94)		(-1.46)
Age	0.383		-0.157
	(1.27)		(-0.21)
ROE	0.337***		0.404**
	(3.47)		(2.35)
Big4	0.397**		0.189
	(2.16)		(0.97)
Domestic10	-0.261*		-0.028
	(-1.76)		(-0.25)
Top1	0.003		-0.000
	(0.49)		(-0.01)
Duality	0.062		-0.038
	(0.56)		(-0.33)
Constant	7.180***		6.970***
	(3.28)		(2.72)
Year FE	YES		YES
Firm FE	YES		YES
R-squared	0.516		0.352
Observations	771		524

Note: This table presents the regression coefficients and their statistical significance for the regression models for different levels of financial performance. Return on equity (*ROE*) is used to measure the firm's financial performance. *ROE* is calculated as a firm's net profit divided by its shareholder equity. It is defined as "high" if the estimated value is higher than the firm-year average value and is defined as "low" if the value is lower than the firm-year average value. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*). Coefficients of *AMLD_Ratio* are compared between the groups, and the *p*-value of the differences is calculated by using seemingly unrelated estimations.

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.6.3 Readability

As discussed in the previous section, disclosing AML-related content provides more firm-specific information to financial information users, which can lower information asymmetry. The readability of the financial report is regarded as an indicator of reporting quality (Biddle et al., 2019). When the financial report is more readable, it is easier for the readers to identify understand information (financial and/or non-financial) provided and enable them to make corresponding decisions. Especially for information that is relatively sensitive and not easy to obtain, the high readability of the financial report enables the readers to better capture and understand such information.

This study obtained readability data from the WinGo database, where the readability of the financial reports is calculated based on the structure and sequence of the sentences constructed. A higher value of readability indicates that the financial report is more readable and easier to understand. In contrast, a lower value of readability suggests that the financial report is more complex and takes time for readers to understand the content. In the test conducted for this study, readability is defined as "high" if the estimated value is higher than the firm-year average value and is defined as "low" if the value is lower than the firm-year average. Results are reported in Table 46. It can be observed that the coefficient of *AMLD_Ratio* in Column (1) is positive (0.025) and statistically significant at a 1% level, and the coefficient in Column (2) is also positive (0.017) and statistically significant at a 1% level. Furthermore, the coefficients of *AMLD_Ratio* are compared between the high readability and low readability groups. As shown in Table 46, the *p*-value of the differences is 0.0007, which is significant at a 1% level, indicating that the level of readability has an impact on the relationship between audit pricing and AML-related disclosure.

This heterogeneity analysis provides interesting insights into the impact of voluntary disclosure on audit pricing. The results suggest that when the financial report has high readability, the impact of AML-related disclosure on audit pricing is more evident compared to when there is a low level of readability. There are two possible explanations of this relationship. Firstly, the high readability of the financial statement indicates easier access for information users to obtain and interpret firm-specific information (Bai et al., 2019), which includes information regarding the firm's AML activities. Previous studies (e.g., Abernathy et

al., 2019; Wang et al., 2021; Xu et al., 2020) have documented that higher readability can lead to lower audit pricing due to the lower likelihood of both business risk and information manipulation. However, due to the complexity of the AML process, auditors may need to put more effort into interpreting and evaluating the AML-related information within readable financial statements. As a result, higher audit fees are charged. In contrast, when the readability is low, it is more difficult to identify and understand AML-related information. In these circumstances, auditors may undertake conservative or simplified processes to audit and evaluate the AML risks. Salehi et al. (2020) found that auditors will exert less effort with financial reports that have low readability. Accordingly, when the financial statement is less readable, the impact of AML-related disclosure on audit pricing may be alleviated. Secondly, financial statements with high readability will give auditors a better understanding of the operational and financial situations of their clients. It is likely that auditors will be more readily able to identify potential money laundering risks, which requires more audit effort and higher audit pricing. Conversely, low readability may hinder auditors from becoming concerned about AML-related content. Instead, auditors may adjust their audit procedures and put more emphasis on risks that are more obvious or easier to identify. Therefore, the impact of AML-related disclosure on audit fees will be less evident when there is low financial statement readability compared to high readability.

Table 46. Cross-sectional analysis: Readability

Variables	**(1)** **High**		**(2)** **Low**
AMLD_Ratio	0.025***		0.017***
	(9.97)		(8.41)
p-value		0.0007***	
Size	0.010		0.019
	(0.20)		(0.12)
IndBoard	0.011		0.014**
	(1.15)		(1.99)
TobinQ	-0.018		0.164**
	(-0.42)		(2.01)
Capital	-0.136		0.169
	(-1.11)		(0.95)
Age	0.677		0.483
	(1.06)		(1.38)

SOE	0.255*	0.222**
	(1.89)	(2.06)
Big4	-0.019	0.233
	(-0.10)	(1.53)
Domestic10	-0.027	-0.072
	(-0.27)	(-0.45)
Top1	0.000	-0.001
	(0.06)	(-0.19)
Duality	0.023	-0.072
	(0.23)	(-0.55)
Constant	4.622**	4.681
	(2.44)	(1.13)
Year FE	YES	YES
Firm FE	YES	YES
R-squared	0.326	0.584
Observations	669	615

Note: This table presents the regression coefficients and their statistical significance for the regression models based on different levels of readability. Readability is calculated based on the structure and sequence of the sentences constructed. It is defined as "high" if the estimated value is higher than the firm-year average value and is defined as "low" if the value is lower than the firm-year average value. The dependent variable is the natural logarithm of the firm's audit fees, while the independent variable is the proportion of AML-related disclosure relative to the total length of the financial statements (*AMLD_Ratio*). Control variables include the firm's size (*Size*), proportion of independent directors on the board (*Ind_Board*), Tobin's Q (*TobinQ*), capital structure (*Capital*), ownership (*SOE*), age (*Age*), audit quality (*Big4* and *Domestic10*), the proportion of shares held by the largest shareholder (*Top_1*), and CEO duality (*Duality*). Coefficients of *AMLD_Ratio* are compared between the groups, and the *p*-value of the differences is calculated by using seemingly unrelated estimations.
*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively; *t* statistics are reported in parentheses.

4.7 Conclusion, Implications, and Limitations

Fighting against money laundering activity is an important issue in the world. It is especially important to financial institutions because they are regarded as "first-level contact points" (Isa et al., 2015) due to their functions. From the macroeconomic perspective, failures in effectively implementing AML practices can generate severe adverse consequences for a country's financial security and even the whole financial system. From a microeconomic standpoint, deficiencies in a firm's AML system can detrimentally impact the firm itself and its stakeholders, leading to financial losses, disruption of normal operations, litigation, damage to reputation, and other adverse effects. Through examining AML-related disclosure, the extent of information disclosure by financial institutions in terms of AML issues, as well as their attitudes towards AML, can be revealed. The veracity of disclosures pertaining to AML practices within financial institutions often presents a challenge for individual information users due to the qualitative and confidential nature of this information. Specifically, it is

difficult for individual information users to determine whether financial institutions indeed have AML practices in place and whether these are effectively implemented. Consequently, auditors have an increased responsibility to verify such information by undertaking a confirming role.

Against this backdrop, this study directs its focus towards the economic consequences of AML disclosure. Specifically, it investigates whether the disclosure of AML-related information by a financial institution would affect the audit fee it is charged. Using a sample of financial institutions listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange from 2007 to 2022, this study uses machine-learning techniques to conduct a content analysis of AML-related information disclosed in firms' annual reports and internal control self-evaluation reports. The results show a positive association between AML-related disclosure and audit pricing. A battery of endogeneity tests and robustness tests were performed to ensure the results are not driven by other confounding factors. These show that the baseline results of this study remain robust. In addition, several heterogeneity tests were conducted. The results show that the relationship between AML-related disclosure and audit pricing is more pronounced in SOEs because SOEs are under stricter supervision by governments compared to non-SOEs. Because of this supervision, SOEs are more likely to disclose AML-related information and increase auditor workloads. Moreover, this study finds that there is a greater impact of AML-related disclosure on firms' audit pricing when firms have a high level of financial performance compared to those with a low level of financial performance. In addition, when firm financial reports have high readability, the impact of AML-related disclosure on audit pricing is more pronounced. High readability may improve the informativeness and comprehensiveness of qualitative disclosures, especially when auditors are unfamiliar with the AML area. Thus, auditors may undertake additional procedures and make more effort to verify the information, which leads to higher audit pricing.

This study has implications from several perspectives. First, auditors should pay closer attention to AML-related information, such as content, narratives, and effectiveness. They should also integrate this information with quantitative data to improve the information's credibility and identify potential risks. In addition, auditors could develop text analytic procedures to flag disclosures that may incur money laundering risks. Such procedures are

important for external auditors considering the litigation risks that auditors may encounter if potential cases of fraud are overlooked, as well as the substantial costs incurred in altering auditors' reports (Goel & Uzuner, 2016). Additionally, audit firms could enhance their staff training programs, focusing on specialised knowledge and skills related to specific areas or industries. Previous research indicates that bank specialist auditors charge lower fees on average (Ettredge et al., 2014). This study suggests that audit firms should prioritise training in the AML area and the financial industry. Such training could not only improve auditors' professional skills, thereby reducing additional effort required during the auditing process, but it could also create knowledge spillovers from AML-related information to financial information, enhancing audit efficiency.

Second, regulators could mandate the disclosure of AML-related information to improve general efficiency. So far, many countries still operate AML system on a "comply or explain" basis, which is not suitable for the criminal nature of money laundering (Nakajima, 2017). Regulators should strengthen their supervision regarding the AML-related activities of financial institutions. Previous research has found that audit efficiency increased following the introduction of mandatory CSR disclosure in China (Wang & Wang, 2023).

Third, standard setters could develop or revise the relevant standards and regulations to improve the quality of AML-related disclosure in financial statements. AML-related disclosure with improved quality would not only ease the burden on auditors but also benefit other information users, including regulatory departments, investors, and credit rating agencies. The results also have implications for the Chinese government. The central bank (i.e., the People's Bank of China) could improve its AML framework and corresponding guidelines to enhance transparency and compliance. Researchers have suggested that the existing law in China is still insufficient for combating money laundering due to its restrictive applications, lack of detailed provisions, and a weak institutional framework (Nobanee & Ellili, 2018). Although China has made progress in improving its technical compliance with the *FATF 40 Recommendations* (FATF, 2012), it remains non-compliant on four of the recommendations (FATF, 2022). Therefore, the Chinese government should strengthen AML practices and impose more stringent supervision on financial institutions. International AML organisations (e.g., ACAMS, FATF, Basel Committee on Banking Supervision), need to clarify their guidelines regarding

AML-related disclosure, as these remain ambiguous regarding the “what”, “how”, and “why” of financial institutions’ disclosure of such information to the public. International AML organisations should provide clear guidance regarding how to convey AML-related information in an appropriate way. This would make it easier for auditors to understand the disclosed information and to identify the potential risks.

Fourth, this study highlights the need to measure the effectiveness of the AML practices. Moreover, future studies could explore AML disclosures delivered in other forms, such as through social media, and could also explore CSR reports and how they relate to the other aspects of auditing. The underlying mechanism of the impact of AML disclosure on audit pricing could also be examined.

Finally, from a theoretical perspective, this study contributes to the literature on corporate disclosure, audit pricing, and AML. Specifically, the findings highlight the importance of incorporating qualitative dimensions of AML-related information into audit pricing theories, which is an area that remains underexplored. This study enriches the understanding of how non-financial disclosures impact the auditing process. Furthermore, the results contribute to transparency-stability theory by demonstrating that AML disclosures help reduce information asymmetry and improve transparency, thereby strengthening investor confidence and lowering potential risks. Moreover, by using machine learning for content analysis of AML-related disclosures, this study provides a methodological foundation for future theoretical frameworks in evaluating corporate governance practices.

It is important to note this study’s limitations. According to Ai (2012), determining the effectiveness and thorough implementation of actions based on disclosed information should rely on qualitative research rather than quantitative research. In other words, when financial reports state that particular actions have been undertaken, this does not necessarily imply the successful outcomes of these actions. Effectiveness cannot be assured in the absence of a legal framework, even with voluntary disclosure (Al-Tawil, 2023). Although some institutions disclose AML-related information in their annual report, it is unknown whether the AML policies or frameworks are implemented because such information is still inaccessible to the public at this stage. Therefore, future studies could put more effort into investigating whether the effectiveness of implementing AML practices is consistent with the impact of disclosing

AML-related information. Furthermore, due to the unavailability of data capturing audit hours, this study uses audit fees as a proxy for audit efforts, which may not accurately capture the resources invested by auditors. Future studies could explore alternative proxies that more precisely describe the audit inputs. In addition, there is still limited research studying the economic consequences of AML-related disclosures. Accordingly, future studies could investigate the impact of AML-related disclosures on other economic facets including, for example, litigation, earnings management, and stock price crash risk.

Chapter 5

Conclusion

5.1 Summary of Findings

The thesis presents an in-depth study of contemporary issues encountered by financial institutions through three different essays. Specifically, the three essays describe research in both developed and developing countries, investigating income-shifting activities as well as anti-money laundering (AML) mechanisms and their economic consequences.

Essay 1 investigates the association between the income-shifting activities of Australian financial institutions and audit pricing. Using a sample of publicly listed Australian financial firms from 2008 to 2018, this study finds that greater levels of income shifting lead to higher audit fees. The main results remain robust to the use of endogeneity tests. In addition, the results are economically significant, revealing that a 1 standard deviation rise in income shifting typically leads to an approximate 4.73% increase in audit fees. Moreover, the positive association between income shifting and audit fees is more pronounced in firms located in jurisdictions with high financial secrecy, and in firms with lower exposures to reputation, culture-based, and conduct-based risks. The effects are also more pronounced in firms with subsidiaries in tax haven jurisdictions. Overall, Essay 1 demonstrates that income-shifting activities have significant economic consequences due to information asymmetry, litigation risk, and reputation risk.

The next two studies are conducted in a Chinese setting. Essay 2 investigates the impacts of AML disclosure by Chinese financial institutions on their litigation risk. This essay employs a unique and robust AML measure using content analysis of firms' annual reports and internal control self-evaluation reports. Using a sample of listed financial institutions from 2007 to 2022, this essay finds that greater disclosures of AML-related content reduce litigation risk. Additional analyses suggest that this association is more significant in firms with greater heterogeneity in the gender in their top management team (TMT), in state-owned enterprises (SOEs), and in firms with more readable financial reports. The results presented in this essay remain robust to a battery of endogeneity tests as well as robustness tests. Overall, this essay

contributes to the debate regarding the relationship between voluntary disclosure and litigation risk.

Essay 3 investigates the impacts of AML disclosure by Chinese financial institutions on their audit fees they are charged. Using the same sample of listed financial institutions from 2007 to 2022, this essay finds that greater disclosures of AML-related content increase audit pricing. Further analyses reveal that this association is more pronounced for SOEs, in firms with better financial performance and higher levels of financial statement readability. The results are robust to a battery of endogeneity tests as well as robustness tests. Overall, the finding contributes to the debate regarding the relationship between voluntary disclosure and audit pricing.

The findings of the three essays reveal similarities in their economic consequences. All three essays demonstrate that corporate practices, whether income shifting activities or AML disclosures, have significant economic consequences. For instance, Essay 1 shows that engaging in income shifting activities would incur higher audit fees, while Essays 2 and 3 reveal that AML disclosures impact litigation risks and audit fees, respectively. These findings indicate the role of corporate practices in shaping risk-related costs. Moreover, Essays 2 and 3 emphasise the dual role of AML-related disclosures in signalling compliance and reducing information asymmetry, which aligns with the theme of Essay 1. All three essays highlight how operational practices influence risk perception and associated costs. Together, the results share a common theme: the impact of stakeholders' perceptions on operational practices.

However, there are also differences across the three essays. This thesis spans multiple disciplines, including governance, accounting, and law, and examines distinct types of corporate practices. Essay 1 focuses on income shifting activities, while Essays 2 and 3 focus on AML disclosures. Furthermore, Essay 1 is conducted within a different institutional context than the other two essays (Australia versus China). The contrasting regulatory frameworks of these two countries limit the comparability of the essays and contribute to the variations in their findings.

Collectively, the findings of this thesis shed light on the interconnection between financial institutions' disclosure practices, audit pricing, and risk management. Essay 1 examines income shifting in Australia's financial industry, its economic impacts, and its implications for tax and

audit risks, providing valuable insights into financial secrecy and corporate governance. Essays 2 and 3 build on this foundation, shifting focus to a more critical issue in China — money laundering. These essays analyse the economic impacts of AML disclosures on risk management, particularly their influence on litigation risk and perceived audit risk, as reflected in audit pricing. Together, the three essays highlight the critical role of governance mechanisms, such as transparency measures, in mitigating risks and enhancing oversight. This integrative approach underscores the necessity of corporate governance to address these challenges and maintain the integrity and stability of global financial institutions. The findings offer significant implications for policymakers, auditors, and financial institutions, emphasizing the need to balance transparency to ensure the integrity and stability of global financial institutions.

5.2 General Implications

Although the essays in this thesis present research conducted in different contexts, the findings have general implications from various perspectives. First, from the perspective of regulatory authorities, the findings of this thesis could inform efforts to improve corporate governance in financial institutions. Regulatory authorities should pay more attention to the contemporary issues faced by financial institutions, including a consideration of the consequences of these, and make corresponding adjustments. For example, regulatory authorities could establish specialized investigative groups to monitor critical issues or activities that may incur risks or harm public benefits, such as tax avoidance, money laundering, and insider trading. Moreover, governments could develop related risk management instruments to detect and control such risky activities. Both income shifting and money laundering activities may involve sophisticated schemes or obfuscated transactions. Regulatory authorities could employ technological tools such as big data or artificial intelligence to detect and "dig out" the facts behind these sophisticated transactions. Policymakers should also improve relevant regulations or guidelines for financial institutions, not only regarding illicit activities but also the disclosure of related risks. Voluntary disclosures are always overlooked as, so far, there are no specific regulations in Australia or China that address risk-related disclosures. Therefore, policymakers could establish regulations or guidelines to standardise and encourage voluntary disclosures by

firms. These guidelines could specify the content, format, criteria and periodicity of the disclosures to ensure consistency and comparability.

Second, financial institutions should strengthen their internal control, governance, and risk management systems. Based on the findings of this thesis, ineffective internal governance (e.g., weak AML systems and aggressive transfer pricing activities) leads to undesired consequences, including increased audit fees and litigation risks. Therefore, financial institutions must improve internal controls and mitigate compliance risks by ensuring that their activities comply with laws and regulations. For example, they could establish dedicated risk management committees to oversee and strengthen internal controls. Additionally, financial institutions should enhance employee training to increase awareness of risk and compliance among staff. Given the potential negative outcomes of weak internal governance, financial institutions must also establish mechanisms to mitigate or avoid threats to their brand and reputation.

Third, this thesis highlights the crucial role of information users. Shareholders and customers must maintain a critical attitude towards the information disclosed by firms due to the potential for information manipulation. For auditors, disclosed information can indicate potential risks and should not be overlooked. Auditors need to pay close attention to the content, narratives, and effectiveness of such information, integrating it with quantitative data to enhance credibility and identify risks. Developing text analytic procedures to flag disclosures that may indicate firm-specific risks is also essential. This approach is particularly important given the litigation risks auditors face from overlooked fraud cases and the substantial costs of altering audit reports (Goel & Uzuner, 2016). Furthermore, auditors should undertake specialised professional training, focusing on specific areas or industries. For instance, auditors in the financial sector could benefit from targeted AML training. This training will improve their competency and audit efficiency while helping them avoid potential losses due to unfamiliarity with uncommon areas.

Finally, from a theoretical perspective, this thesis provides a comprehensive framework for understanding the economic consequences of income shifting activities and AML activities. The findings of this thesis enrich audit pricing theory by identifying new determinants of audit fees (i.e., income shifting activities and AML-related disclosures). By examining how these factors influence auditors' risk assessments and efforts, the thesis expands the supply-side

perspective of audit pricing theory. Additionally, the findings highlight the dual role of AML disclosures in signalling compliance and reducing information asymmetry, which extends both legitimacy theory and transparency-stability theory. These disclosures not only enhance legitimacy and transparency but also mitigate risks such as litigation and audit costs while promoting financial stability. Collectively, this thesis provides valuable insights into the interplay between financial institutions' practices and their economic consequences. It contributes to the theoretical framework of corporate governance, transparency, and financial stability, providing a solid foundation for future research in these areas. By integrating themes from diverse disciplines such as governance, accounting and law, this thesis fills theoretical gaps and deepens the understanding of the contemporary challenges faced by financial institutions.

5.3 Limitations of the Thesis

This thesis provides significant insights into the contemporary issues encountered by financial institutions. However, it is important to acknowledge several limitations inherent in this thesis. While these limitations do not undermine the overall findings, they suggest areas for caution when interpreting the results and indicate directions for future research.

First, as the essays were completed at different times, their sample periods vary. The sample period for Essay 1 spans the period 2008 to 2018, whereas Essays 2 and 3 cover the period from 2007 to 2022. Moreover, the sample sizes for the essays are small due to the limited number of financial institutions in Australia and China. Specifically, Essay 1 has 1,308 firm-year observations, while Essays 2 and 3 have 1,317 and 1,295 firm-year observations, respectively. Future research could expand the sample period and/or sample size to enhance the generalisability of the findings.

Another limitation of this thesis lies in the research design. Although it addresses contemporary issues in Australia and China, the essays examine these countries separately rather than through cross-country analysis. The differing regulatory backgrounds of these two countries reduce their comparability. For instance, the statutory tax rate in China varies across regions and industries due to government incentives, complicating comparisons of tax planning mechanisms with other countries. Consequently, a comparative study between Australia and

China is impractical for reaching general conclusions. Future research could replicate Essay 1 using data from countries with similar regulatory backgrounds but different corporate tax rates to study income-shifting incentives.

Furthermore, due to data unavailability, some variable measures used in this thesis may not effectively describe the activities in question. For example, regarding tax reduction, there are other methods to capture tax planning mechanisms beyond income shifting. Future research could investigate the impacts of other tax planning mechanisms on audit pricing. In terms of audit inputs, the unavailability of audit hours led to the use of audit fees as a proxy for audit efforts in Essays 1 and 3, which may not accurately reflect the resources invested by auditors. Future studies should explore alternative proxies that more precisely describe audit inputs. Additionally, while some institutions disclose risk-related information in their annual reports (e.g., reputation risk, risk culture, conduct risk, AML-related disclosures), it is unknown whether the corresponding policies or frameworks are in place, as such information is often unavailable to the public. Future studies should investigate whether the effectiveness of risk management practices aligns with the information disclosed by firms.

Moreover, the contemporary issues faced by financial institutions are not limited to income shifting and AML. Future research could explore other relevant issues – such as the impact of soaring inflation, challenges posed by artificial intelligence, and corporate social responsibility – and their economic consequences. By addressing these limitations, future research can expand upon the insights of this thesis, offering a deeper understanding of the challenges and dynamics within financial institutions.

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Appendix A. Variable Definitions for Essay 1

Variables		Definitions
AFEE	=	The natural log of total audit fees.
INCS%	=	Income shifting for firms, which is computed as follows: $INCS\%_{i,t} = \frac{WAVG\_FTR_{i,t}}{STR_{i,t}}$ *i* = firms; *t* = the financial year 2008–2018; $WAVG\_FTR_{i,t}$ = fractional reduction in the expected tax on accounting income due to foreign income taxed at lower rates compared to the Australian statutory tax rate (STR) for firm *i* in year *t*; $STR_{i,t}$ = the Australian STR for firm *i* in year *t*.
INCS_D	=	Dummy variable, coded 1 if *INCS%* negative, and 0 otherwise.
SS	=	Dummy variable, coded 1 if the firm's secrecy score (the mean Financial Secrecy Index of all its subsidiaries) is above the sample mean, and 0 otherwise.
RR	=	Dummy variable, coded 1 if the firm has reputational risk disclosure, and 0 otherwise.
RCCR	=	Dummy variable, coded 1 if the firm has risk culture and conduct risk disclosure, and 0 otherwise.
TH	=	Dummy variable, coded 1 if the firm has a subsidiary located in a tax haven jurisdiction, and 0 otherwise.
SIZE	=	The natural log of total assets.
LOSS	=	Dummy variable, coded 1 if the firm has net income less than zero, and 0 otherwise.
SECURITIES	=	1 – Total Securities/Total Assets.
COMLOAN	=	Sum of commercial and agricultural loans scaled by gross loans.
CAPRATIO	=	Total risk-adjusted capital ratio.
INTANG	=	Intangible assets scaled by total assets.
BIG4	=	Dummy variable, coded 1 if the firm is audited by a Big 4 accounting firm, and 0 otherwise.
AGE	=	The natural log of the difference between the current year and the year of incorporation.
CEOTENURE	=	The natural log of the number of years that the firm's CEO has been in his or her position.
Firm_CG	=	Firm-level corporate governance index, comprising four governance items (independence of the board of directors, independent directors in an audit committee, independent directors in a risk committee and independent directors in a remuneration committee). *Firm_CG* equals 1 if the firm has all of the four items (all of them are equally weighted), and 0 otherwise.
SUB_LN	=	The natural log of total number of subsidiaries.
AUD_CHNG	=	Dummy variable, coded 1 if the firm has changed its audit firm from *t-1* to *t-0*, and 0 otherwise.
M&A	=	Dummy variable coded 1 if the firm is engaged in a merger or acquisition, and 0 otherwise.

Appendix B. *INCS%* Calculation Example and Validation Test

Panel A: Example of calculating *INCS%* for Commonwealth Bank of Australia Ltd

	(1) Year-end	(2) Reduction in STR (%) due to the tax effect of lower weighted average foreign tax rates (*WAVG_FTR*)	(3) Reduction in the STR (%) due to lower weighted average foreign tax rates relative to the STR of 30% (*INCS%*)
Commonwealth Bank	30/06/2008	-2.71	9.03
	30/06/2009	-2.84	9.47
	30/06/2010	-2.68	8.95
	30/06/2011	-2.02	6.74
	30/06/2012	-2.77	9.25
	30/06/2013	-2.78	9.29
	30/06/2014	-2.75	9.16
	30/06/2015	-3.06	10.21
	30/06/2016	-2.04	6.82
	30/06/2017	-1.83	6.09
	30/06/2018	-1.63	5.46

Note: This table presents an example to describe the calculation of the independent variable (i.e., *INCS%)* employed in Chapter two. Data are sourced from the taxation footnotes of the Commonwealth Bank's annual reports. *INCS%* represents the level of income shifting, which is calculated as the fractional reduction in the Australian statutory tax rate (STR) of 30% due to lower-weighted average foreign tax rates divided by the Australian STR as shown in Eq. (1).

The difference between prima facie income tax expense on accounting profit and income tax expense after adjusting for income earned offshore at lower tax rates for the 2008 year is shown below (refer to the 2008 Commonwealth Bank annual report[38], Note 5):

Year-end 30 June 2008	2008
Prima facie income tax (millions)	1877
Effect of:	
• Difference in overseas and offshore banking unit tax rates	-51
Income tax expense reduction	2.71%

Annualised foreign tax rate (FTR) estimate following Collins et al. (1998). FTR is computed as follows:

$FTR_{it} = \frac{TE_{it}}{PTI_{it}} - STR_{it}$, FTR (CBA, 2008) = (237m/11030m) -30% = -8.52%

where FTR_{it} = annualised foreign tax rate for firm *i* in year *t*, TE_{it} = foreign income tax expense for firm *i* in year *t*, PTI_{it} = foreign pre-tax income for firm *i* in year *t*, and STR_{it} = the US STR for firm *i* in year *t*.

[38] For more information, see: www.commbank.com.au/content/dam/commbank/about-us/shareholders/pdfs/annual-reports/2008_Annual_report.pdf

Appendix C. AML Glossary of Terms

	Terms	Abbreviation (if any)
1	Affidavit	
2	Alert	
3	Alternative Remittance System	ARS
4	Anti-Money Laundering International Database	AMLD
5	Anti-Money Laundering Program	
6	Anti-Money Laundering and Counter-Financing of Terrorism Program	
7	Arrest Warrant	
8	Asia/Pacific Group on Money Laundering	APG
9	Asset	
10	Asset Blocking	
11	Asset Confiscation	
12	Asset Flight	
13	Asset Forfeiture	
14	Asset Freezing	
15	Asset Mingling	
16	Asset Protection	
17	Asset Protection Trusts	APTs
18	Asset Seizure	
19	Asset Structuring	
20	Automated Clearing House	ACH
21	Automated Screening Tool	AST
22	Automated Teller Machine	ATM
23	Autonomous Sanctions	
24	Back-to-Back Letters of Credit	
25	Bank Draft	
26	Bank Secrecy	
27	Bank Secrecy Act	BSA
28	Bank Secrecy Act (BSA) Compliance Program	
29	Basel Committee on Banking Supervision	Basel Committee
30	Batch Processing	
31	Batch Screening	
32	Bearer Form	
33	Bearer Negotiable Instruments	
34	Bearer Share	
35	Benami Account	

36	Beneficial Owner	
37	Beneficiary	
38	Bill of Exchange	
39	Bill of Lading	
40	Bill Stuffing	
41	Blacklist	
42	Black Market Peso Exchange	BMPE
43	Block	
44	Blockade	
45	Boycott	
46	Bureau of Industry and Security	BIS
47	Cardholder	
48	Caribbean Financial Action Task Force	
49	Casa de Cambio	
50	Cash-Intensive Business	
51	Cash Collateralized Loans	
52	Cash Deposits	
53	Cashier's Check	
54	Comisión Interamericana para el Control del Abuso de Drogas or Inter-American Drug Abuse Control Commission	CICAD
55	Collection Accounts	
56	Commission Rogatoire	
57	Compliance	
58	Comprehensive Sanctions	
59	Concentration Account	
60	Concentration Risk	
61	Confidentiality	
62	Confiscation	
63	Consolidation of Goods	
64	Control Effectiveness	
65	Corporate Vehicles	
66	Correspondent Banking	

67	Counterparty	
68	Credit Cards	
69	Criminal Proceeds	
70	Cross Border	
71	Currency	
72	Currency Smuggling	
73	Currency Transaction Report	CTR
74	Custodian	
75	Custody	
76	Customer Due Diligence	CDD
77	Customer Relationship	
78	Database, Third-Party	
79	Dealing in Funds	
80	Debit Card	
81	Decision Tree	
82	Delisting	
83	Delivery Channels	
84	Denied Persons List	DPL
85	Designated Categories of Offense	
86	Designated Non-Financial Businesses and Professions	
87	Dilution of Sanctioned Ownership	
88	Dollar Clearing	
89	Domestic Transfer	
90	Dual Control	
91	Dual-Use Goods	
92	Due Diligence	
93	Eastern and Southern African Anti-Money Laundering Group	ESAAMLG
94	Economic Sanctions	
95	Egmont Group of Financial Intelligence Units	
96	Electronic Funds Transfer	EFT
97	Electronic Money	E-Money
98	Embargo	

99	Embezzlement	
100	End-User Certificate	
101	Enhanced Due Diligence	EDD
102	Eurasian Group on Combating Money Laundering and Financing of Terrorism	EAG
103	European Union	EU
104	European Union Directive on Prevention of the Use of the Financial System for the Purpose of Money Laundering and Terrorist Financing	
105	Europol	
106	Evasion	
107	Event-Triggered Monitoring	
108	Exclusions List	
109	Exemption	
110	Export Administration Regulations	EAR
111	Export Control Joint Unit	ECJU
112	Express Trust	
113	External Evasion	
114	Extradition	
115	Extraterritorial Jurisdiction	
116	Extraterritorial Reach	
117	Facilitation	
118	False Negative	
119	False Positive	
120	Final Rule Part 504	
121	Financial Action Task Force	FATF
122	Financial Action Task Force on Money Laundering in Latin America	GAFILAT
123	Financial Action Task Force-Style Regional Body	FSRB
124	Financial Intelligence Unit	FIU
125	First Line of Defense	
126	Foreign Sanctions Evader	FSE
127	Forfeiture	

128	Free Trade Zone	FTZ
129	Freeze	
130	Front Company	
131	Fuzzy Logic	
132	Grupo de Acción Financiera de Sudamérica	GAFISUD
133	Gatekeepers	
134	Globalization	
135	Governance	
136	Grantor	
137	Greylist	
138	Gulf Cooperation Council	GCC
139	Hawala	
140	Hawalada	
141	Hit	
142	Human Rights	
143	Human Smuggling	
144	Human Trafficking	
145	Identifier	
146	Inequalities List	
147	Informal Value Transfer System	IVTS
148	Inherent Risk	
149	Integration	
150	Internal Evasion	
151	International Business Company	IBC
152	International Monetary Fund	IMF
153	Investigation	
154	Isolation Company	
155	Joint Comprehensive Plan of Action	JCPOA
156	Jurisdiction of Citizenship	
157	Jurisdiction of Residence	
158	Kleptocrat	
159	Knowledge	

160	Know Your Customer	KYC
161	Know Your Employee	KYE
162	Layering	
163	Legal Risk	
164	Letter of Credit	
165	Letter Rogatory	
166	License	
167	Limited Liability Company	LLC
168	Look-Back / Look-Back Review	
169	Mandatory Sanctions Lists	
170	Memorandum of Understanding	MOU
171	Middle East and North Africa Financial Action Task Force	MENAFATF
172	Mirror Trades	
173	Monetary Instruments	
174	Money Laundering	
175	Money Laundering Reporting Officer	MLRO
176	Money Order	
177	Money Services Business	MSB
178	Money Transfer Service or Value Transfer Service	
179	MONEYVAL	
180	Monitoring	
181	Multilateral Sanctions	
182	Mutual Evaluation Report	MER
183	Mutual Legal Assistance Treaty	MLAT
184	Name Screening	
185	Naming Conventions	
186	Nested Account	
187	Nesting	
188	Nominee Director or Shareholder	
189	Non-Governmental Organization	NGO
190	Non-Profit Organizations	NPO
191	Non-Proliferation Treaty	NPT

192	Office of Foreign Assets Control	OFAC
193	Office of the Superintendent of Financial Institutions	OSFI
194	Offshore	
195	Offshore Banking License	
196	Offshore Financial Center	OFC
197	Omnibus Account	
198	Operational Risk	
199	Organization for Economic Cooperation and Development	OECD
200	Originator	
201	Partial Match	
202	Pass-Through Sanctions Risk	
203	Payable Through Account	
204	Payment Screening	
205	Payments, Cross Border	
206	Physical Presence	
207	Placement	
208	Politically Exposed Person	PEP
209	Ponzi Scheme	
210	Predicate Crimes	
211	Private Banking	
212	Private Investment Company	PIC
213	Pyramid Scheme	
214	Real Time Gross Settlement Systems	RTGS
215	Reasonable Cause (to Suspect)	
216	Red Flag	
217	Register, Corporate	
218	Regulatory Agency	
219	Remittance Services	
220	Reporting Requirements, Initial and Periodic	
221	Reputational Risk	
222	Respondent Bank	
223	Restrictive Measures	

224	Risk Appetite	
225	Risk Assessment	
226	Risk-Based Approach	
227	Romanization	
228	Safe Harbor	
229	Sanctions	
230	Sanctions Compliance	
231	Sanctions Compliance Officer	SCO
232	Sanctions Compliance Program	SCP
233	Sanctions Evasion	
234	Sanctions Due Diligence	SDD
235	Sanctions List	
236	Sanctions Regime	
237	Scope of Licensing	
238	Scope of Permitted Activities	
239	Screening Tools	
240	Second Line of Defense	
241	Sectoral Sanction	
242	Sectoral Sanctions Identification List	SSI List
243	Seize	
244	Selective Sanctions	
245	Senior Foreign Political Figure	
246	Settlors	
247	Sham Divestment	
248	Shelf Company	
249	Shell Bank	
250	Shell Company	
251	Simple Checks	
252	Smart Sanctions	
253	Smurfing	
254	Sources, Primary	
255	Sources, Secondary	

256	Specially Designated Nationals and Blocked Persons List	SDN List
257	Sting Operation	
258	Straw Man	
259	Strict Liability	
260	String Matching	
261	Stripping	
262	Structuring	
263	Subpoena	
264	Suspicious Activity	
265	Suspicious Activity Report	SAR
266	Suspicious Transaction Report	STR
267	SWIFT Message	
268	Target Match	
269	Targeted Sanctions	
270	Tax Haven	
271	Terrorist Financing	
272	Testimony	
273	Third Line of Defense	
274	Threshold Calibration	
275	Tipping Off	
276	Toll Gates	
277	Trade Finance	
278	Transaction Monitoring and Filtering Programs	TMPs
279	Transliteration	
280	Transparency International	TI
281	Transshipment	
282	Trust	
283	Trustee	
284	Typology	
285	Ultimate Beneficial Owner	UBO
286	Underground Banking	
287	Unilateral Sanctions	

288	United Nations	UN
289	UN Security Council Resolution 1373 (2001)	
290	Unusual Transaction	
291	USA PATRIOT Act	
292	U-Turn Payment	
293	Value Transfer Service	
294	Vienna Convention	
295	Virtual Currency	
296	Weak Alias	
297	Whitelist	
298	Willful Blindness	
299	Wire Transfer	
300	Wolfsberg Group	
301	World Bank	

Source: ACAMS's AML Glossary of Terms (https://www.acams.org/en/resources/aml-glossary-of-terms).

Appendix D. Variable Definitions for Essay 2

Variables	Definitions
Lit_Risk	Litigation risk, calculated according to Rogers and Stocken's (2005) estimation model: $$Prob(Lawsuit = 1) = \alpha_0 + \alpha_1 MV + \alpha_2 Turn + \alpha_3 Beta + \alpha_4 Returns + \alpha_5 Std\_Ret + \alpha_6 Skewness + \alpha_7 Min\_Ret + \varepsilon$$
AMLD_Ratio	AML-related content disclosed by firms, calculated by AML disclosure frequency divided by total numbers of words in both reports.
Ln_Lev	A firm's leverage level, calculated as the natural logarithm of debt-to-equity ratio.
Size	Size of the firm, calculated as the natural logarithm of total assets.
SOE	A dummy variable which equals 1 if the government is the actual controller of the firm, and 0 otherwise.
Ind_Board	Board independence, calculated as the ratio of independent directors to total number of directors.
Domestics10	A dummy variable which equals 1 if the firm is audited by one of the top 10 local audit firms, and 0 otherwise.
Top_1	Top 1 shareholding, measured as the proportion of shares held by the largest shareholder of the firm.
TobinQ	Tobin's Q value, calculated as the market value of the firm divided by its book value of total assets.
Age	A firm's age, calculated as the natural logarithm of the difference between the current year and the year of incorporation.
Duality	A dummy variable which equals 1 if the firm's board chair also serves as the CEO of the same firm, or 0 otherwise.

Appendix E. Variable Definitions for Essay 3

Variables	Definitions
AFEE	Audit fee charged by the auditors, calculated as the natural logarithm of total audit fees.
AMLD_Ratio	AML-related content disclosed by firms, calculated by AML disclosure frequency divided by total numbers of words in both reports.
Size	Size of the firm, calculated as the natural logarithm of total assets.
Ind_Board	Board independence, calculated as the ratio of independent directors to total number of directors.
TobinQ	Tobin's Q value, calculated as the market value of the firm divided by its book value of total assets.
Capital	Firm's capital structure, calculated by the natural logarithm of the firm's ratio of total equity to total assets.
Age	A firm's age, calculated as the natural logarithm of the difference between the current year and the year of incorporation.
SOE	A dummy variable which equals 1 if the government is the actual controller of the firm, and 0 otherwise.
Big4	A dummy variable which equals 1 if the firm is audited by a Big 4 accounting firm, and 0 otherwise.
Domestic10	A dummy variable which equals 1 if the firm is audited by one of the top 10 local audit firms, and 0 otherwise.
Top1	Top 1 shareholding, measured as the proportion of shares held by the largest shareholder of the firm.
Duality	A dummy variable which equals 1 if the firm's board chair also serves as the CEO of the same firm, or 0 otherwise.