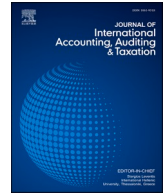


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Do family ownership and supervisory board characteristics influence audit report lag? A view from a two-tier board context

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ABSTRACT

This study investigates the impact of family ownership and supervisory board characteristics on audit report lag in Indonesia. The study relies on a balanced panel dataset and matched-pair sample of 124 listed non-financial firms (2017–2019) in a two-tier board context, drawing on Type II agency theory and the entrenchment/alignment implications of ownership concentration. First, we find a positive and significant association between family ownership and audit report lag. Second, we find evidence that the size of the supervisory board (locally referred to as the board of commissioners) and the frequency of meetings are negatively associated with audit report lag. Further analyses reveal that firms with a larger proportion of family members on the supervisory board experience longer reporting lag. This finding highlights the family's entrenchment and their domination of the board of commissioners. Additional analysis considering the commissioners' backgrounds reveals that audit report timeliness worsens when there is a larger proportion of community leadership. This suggests that some commissioner profiles could further lead to entrenchment behaviors. Our findings contribute to the literature and to policy by highlighting the potential and limits of a two-tier board policy on accounting outcomes, particularly in the context of dominant family structures in emerging economies.

1. Introduction

Audit report lag (ARL), typically defined as “the length of time from a company's fiscal year-end to the audit report date” (Abernathy et al., 2017, p. 100) is an important measure of the quality of financial statements in the accounting literature (Durand, 2019). A delay in releasing a financial report can increase information asymmetry, convey higher management/corporate risk, and call into question the relevance of the information in financial statements (Bamber et al., 1993; Whitworth & Lambert, 2014), thereby impairing the management's credibility. Consequently, a delay in signing off on the audited financial statements tends to be a major signal of concern to investors, lenders, regulators, and other stakeholders. This concern has motivated a body of research on the determinants and consequences of ARL.

Prior studies examining the determinants of ARL have considered various aspects such as firm characteristics (e.g., profitability, leverage), governance and board mechanisms (e.g., board composition, audit

committee expertise and independence), and audit-related factors (e.g., type of audit opinion, client complexity, provision of non-audit services) (Habib et al., 2019). The results have not always been consistent, particularly when it comes to the monitoring role of boards (Harjoto et al., 2015; Hassan, 2016). According to Habib et al. (2019), this inconsistency may be caused by variations in time period, sample size, and research settings. Regarding the latter, Habib et al. (2019) recommended further forays into ARL in family-controlled companies, given the potential risks and additional efforts involved in auditing them. In addition, the wider context of emerging economies is of interest given the prominence of family-owned and –controlled firms in Asian economies (e.g., Fan & Wong, 2002; Dinh and Calabrò, 2019) and arguably the different rationales and logics such boards draw upon when making decisions (see Aguilera & Crespi-Cladera, 2016; Darmadi, 2016; Rusmin & Evans, 2017; Ahmed & Uddin, 2024). Indonesia has the largest number of family-controlled companies in East Asia, and the activity of top business groups represents approximately 25 % of the Indonesian

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economy (Joni et al., 2020). The 2018 Report on the Observance of Standards of Codes (ROSC) on Accounting and Auditing (World Bank, 2018) for Indonesia also highlights several challenges, including the late submission and publication of financial statements, which limits the availability of financial information in the market (p. 81). Given the country's ongoing efforts to align with International Financial Reporting Standards (IFRS) and the limited insights into the effect of family ownership on ARL and accounting outcomes more generally (Habib et al., 2019), we decided to examine ARL and the influence of family control and ownership in Indonesia.

In parallel, policymakers and regulators have argued that the adoption of corporate governance rules may foster professional, accountable, and transparent board practices. In turn, the quality of a board may reassure auditors and assurance providers that there is adequate and active oversight of internal controls and processes, financial reporting, and risk management practices (see Habib et al., 2019), thereby mitigating ARL and maintaining investor confidence. 'Good governance' practices have often been proposed in Asian emerging economies; however, these practices are typically based on Western models, and their effectiveness in such contexts has been questioned (Dinh & Calabro, 2019). We are particularly interested the two-tier structure of company boards in Indonesia, where company boards consist of a supervisory board composed of non-executives (known locally as a board of commissioners) and a board of directors composed of executives¹ (World Bank, 2010). According to Belot et al. (2014) and Bezemer et al. (2014), a two-tier board seeks to address the monitoring constraints of a unitary board, in which a single set of directors is tasked with both advisory and monitoring roles. There is a risk that a single-tier board could be 'captured' by the executive and/or controlling shareholders. In this case, non-executive directors may not act, or be allowed to act, in a sufficiently robust way to protect the interests of all shareholders. This enables the controlling shareholders to effectively dictate corporate decisions and extract private benefits through entrenchment (Claessens et al., 2000).

By providing a dedicated space for outside directors, a two-tier board may reduce the risk of 'board capture' and motivate controlling shareholders and managers to operate in line with minority shareholders' interests (Lizares, 2022). Yet there is reason to doubt the strength of this alignment effect in Asian contexts. In view of the well-documented combination of family ownership concentration, limited enactment of governance practices, and high information asymmetry (Fan & Wong, 2002; Durand, 2009; Belot et al., 2014), we question whether the technical features and intentions of a two-tier board structure are effective in improving organizational outcomes, including accounting outcomes such as ARL (Afify, 2009; Alfraih, 2016; Chan et al., 2016; Kusumastati et al., 2022).

In Indonesia, there have been concerns (World Bank, 2010) that boards of commissioners were not sufficiently active and could not directly appoint a board of directors or oversee organizational strategies. Furthermore, their roles and responsibilities were not clearly defined, despite recent regulatory changes aimed at improving their effectiveness and composition (including a requirement to appoint independent commissioners). It is unclear whether supervisory board-related practices and reforms are effective in tackling excesses by executives and/or controlling shareholders. Our paper thus addresses the following research questions:

- (a) *In the context of an emerging economy (Indonesia), to what extent is family ownership/control associated with ARL?*

- (b) *To what extent do supervisory board characteristics (size, independence, board meeting frequency, and proportion of female commissioners) mitigate ARL?*

We rely on Type II agency theory, which focuses on conflicts between majority and minority shareholders and the notion of entrenchment behavior, whereby controlling shareholders (in our case family shareholders) supported by executives seek to extract benefits from the company at the expense of minority shareholders (see Fan & Wong, 2002; Ng, 2005; Darmadi, 2016; Lizares, 2022). The role of the supervisory board is to mitigate such conflicts and behaviors with regards to accounting, auditing, and reporting outcomes, but it is not clear whether such aims can be achieved. Empirically, the study relies on a balanced panel dataset and a matched-pair sample of 124 non-financial firms (2017–2019) listed on Indonesia Stock Exchange (IDX).

This paper seeks to contribute to the literature in three ways. First, it responds to the call by Habib et al. (2019) to examine the possible association between family ownership/control and ARL. In line with theoretical expectations, we find that the presence of family ownership is associated with longer ARL. Auditors, for instance, may be compelled to review more transactions and raise more queries when auditing family-controlled firms. Second, we provide evidence about the role of the two-tier board structure in ARL. This role is relatively under-researched, as most studies examine the influence of corporate governance mechanisms in one-tier structures (see Durand, 2019; Kusumastati et al., 2022). One interesting finding is that companies with larger supervisory boards that meet more frequently experience shorter ARL. Third, we show that the composition of the supervisory board has a notable impact on ARL. ARL increases when family members serve on the supervisory board and decreases when the board consists of advisors, community leaders and academics. Such insights shed light on the varying facets and consequences of two-tier (supervisory) board heterogeneity (e.g., Ng, 2005; Belot et al., 2014; Bezemer et al., 2014). A more diverse supervisory board mitigates entrenchment behaviors and promotes an alignment agenda.

The remainder of the paper is structured as follows. Section 2 provides an overview of family firms and corporate governance in Indonesia. Section 3 reviews the extant work, and Section 4 presents the theoretical framework and hypotheses. The data and methods are explained in Section 5, followed by the findings and analysis in Section 6. In Section 7, we discuss the implications of our findings and conclude the paper.

2. Family firms and corporate governance in Indonesia

Family enterprises have been at the forefront of key business activities in Indonesia for many decades. According to Ramadani et al. (2017), family businesses became prominent due to Indonesia's strong kinship system, which is a salient feature of the country's culture and society. Furthermore, some of the major family businesses, particularly members of local informal business groups (known as conglomerates) (Carney & Hamilton-Hart, 2015), expanded significantly due to their close connections with the regime of Soeharto, Indonesia's second president.² For example, the importing and distribution of essential commodities such as rice and sugar could only be undertaken through the Salim Group, a major conglomerate controlled by Liem Sioe Liong (King, 2000). In return, Liem was one of the major funders of Soeharto's foundations, organizations controlled by the president to benefit his political activities and business investments. Soeharto's children also benefited from shares in Liem's companies (King, 2000).

¹ In Indonesia, limited liability companies must implement a two-tier corporate governance structure in which the board of commissioners monitors and advises of the board of directors, and the board of directors manages the company (Pemerintah Republik Indonesia, 2007; Lukviarman, 2016).

² Soeharto led a dictatorial government in Indonesia for 32 years. He finally stepped down in 1998 after a series of chaotic and widespread riots in several cities (Berger, 2008). Under his leadership, Indonesia gained a reputation as one of the most corrupt nations in the world (King, 2000).

After Soeharto's fall and following the development of Indonesia's capital market, the proportion of influential family firms has decreased. Still, families own a significant number of firms, including companies listed on IDX (Setiawan et al., 2016; Joni et al., 2020). Tan et al. (2019) estimated that family firms control approximately 70 % of the economy. The high concentration of family ownership is a distinctive feature of Indonesia's current business elite (Setiawan et al., 2016), and conflicts between family owners and other shareholders persist, as do unethical practices (Ramadani et al., 2017). Such practices lead to significant minority shareholder expropriation and a lack of transparency (World Bank, 2010, 2018). For instance, family owners tend to nominate family members (or other nominees who will favor the family's interests) for strategic positions at the executive and/or supervisory board level (as commissioners). Many do so regardless of their relatives' capabilities and experience, although some of the companies ensure that family representatives are adequately trained (Tan et al., 2019). Furthermore, Kumala and Siregar (2021) revealed that family firms in Indonesia are engaged in earnings management. In the current study, we however focus on ownership by family members, and not on ownership by family business groups. While family business groups gained prominence due to the privileges conferred by the Soeharto regime, more contemporary developments in the Indonesia Stock Exchange and changes in ownership structure after the fall of Soeharto suggest that it is more appropriate to study ownership by family members (rather than family business groups). Nonetheless, the situation still highlights the need for more robust corporate governance mechanisms and external auditor oversight, issues that were recently highlighted in a World Bank ROSC report (2018).

For this reason, we take an interest in the Indonesian two-tier board structure modeled on Dutch and European law (Joni et al., 2020).³ Indonesia experienced about 350 years of colonization; as a result, many management practices and regulations from the Netherlands have become embedded in Indonesian culture and law (Prabowo et al., 2017). In Indonesia, the Otoritas Jasa Keuangan (OJK) is the Financial Service Authority, the government agency that regulates and supervises the capital market and the financial sector. Given the complexity of Indonesian businesses and the presence of corruption and nepotism (Gunanwan & Joseph, 2017), the separation of supervisory and executive functions was intended to provide non-executive members (commissioners) with the space to execute their monitoring and independent advisory roles without overt influence and 'capture' by the executives. A board of commissioners (the supervisory board) is led by a President Commissioner, while a board of directors (the management/executive board) is led by a President Director (Chief Executive Officer – CEO) (OJK, 2014a). Other directors such as the Chief Financial Officer (CFO) are members of the board of directors. In an Indonesian company's organizational structure, the board of commissioners is positioned above the board of directors, since commissioners have the authority to monitor the directors' work. However, commissioners do not directly appoint or remove executives, as this is the prerogative of the shareholders. Such a mechanism also applies to the appointment of external

³ A two-tier board structure is also present in countries such as Austria, Germany, the Netherlands, and Poland (Bezemer et al., 2014; Trinugroho et al., 2023). In these countries, companies have two separate boards: a management board and a supervisory board. The functions of these boards are the same across most of these countries. The management board is responsible for managing daily operations, whereas the supervisory board is responsible for monitoring and advising the management board. However, the board's level of authority differs slightly across nations, depending on each country's regulation. For example, in the Netherlands, the supervisory board can dismiss members of the management board (Hooghiemstra, 2012). In Indonesia, however, the supervisory board can only temporarily suspend members of the management board. In such a case, the supervisory board must organize a general shareholder meeting and let the shareholders decide whether the management board members should be dismissed (OJK, 2014a).

auditors. Based on recommendations from the audit committee, the board of commissioners proposes potential auditors to the shareholders, who then approve the appointment (OJK, 2017).

According to the OJK (Regulation 33/POJK.04/2014), the board of commissioners must hold a meeting at least once every two months. The board of commissioners must have at least two members, and one of these must be an independent commissioner (OJK, 2014a). When the board of commissioners has more than two members, at least 30 % of the board members must be independent commissioners. Independent commissioners must not be affiliated with the company. They have various backgrounds and experience (Darmadi, 2013; Joni et al., 2020), with many coming from public sector management (e.g., retired military officers and former ministers/politicians), private sector management (former senior executives) (Joni et al., 2020), and/or academia (e.g., professors).

There have been recurring questions as to the effectiveness of the board of commissioners in a context involving prominent family ownership and control (World Bank, 2018). Can independent commissioners realistically address conflicts between family shareholders and other shareholders in listed firms? Can a more active and well-resourced supervisory board effectively oversee executive management and improve transparency (Chan et al., 2016; Darmadi, 2016; Napitupulu et al., 2020)? With these questions in mind, we consider insights from prior literature and highlight areas in need of further exploration in relation to ARL.

3. Literature review on audit report lag

Many studies have examined the determinants of ARL (e.g., Durand, 2019; Habib et al., 2019), including factors influencing ARL in the public sector (e.g., Cohen & Leventis, 2013). Recently, a meta-analysis (Habib et al., 2019) identified key gaps and opportunities for future studies (e.g., Sultana et al., 2015; Chan et al., 2016; Huang et al., 2017; Meckfessel & Sellers, 2017). Habib et al. (2019) called for further investigation of the possible impact of audit business risk variables on ARL, particularly in emerging economies (see Abernathy et al., 2017; Durand, 2019). Notably, public regulatory bodies are not very effective (Abernathy et al., 2017) in many emerging economies; hence, investor confidence and capital market efficiency tend to depend more on private regulation such as assurance services by external auditors (Leventis et al., 2005; Abernathy et al., 2017; Rusmin & Evans, 2017). Although a firm's ownership structure is a key example of audit business risk (Durand, 2019), family ownership has rarely been examined in ARL studies (Habib et al., 2019). Given the relatively high levels of ownership concentration (including family ownership) in Asian emerging economies' capital markets (Dinh & Calabrò, 2019), it would be useful to ascertain its impact on ARL, an important proxy of accounting information quality and market-led transparency.

Furthermore, results from meta-analyses on the impact of corporate governance variables on ARL (e.g., board size and board independence) have generally been inconclusive (Durand, 2019), despite the crucial interface between board-level monitoring and external auditing. For instance, Harjoto et al. (2015) and Alfraih (2016) found a negative association between board size and ARL. As Alfraih (2016) explained, these findings indicate that larger boards perform better monitoring and result in shorter ARL. In contrast, Shu et al. (2015) and Hassan (2016) found a positive association suggesting that larger boards may lack the coordinating capacity to adequately monitor the accounting and auditing process. Results on board independence have also been inconclusive. Wu et al. (2008), Mohamad-Nor et al. (2010), and Nouraldeen et al. (2021) found a positive relationship between board independence and ARL. This finding suggests that non-executive members devote more time to accounting and auditing issues, which results in longer ARL. However, Afify (2009) and Habib et al. (2019) document a negative association between board independence and ARL. This suggests that the presence of a greater proportion of independent board members has

a positive impact on financial reporting quality, thereby reducing audit work and mitigating ARL (Afify, 2009).

Most of the studies have conceptualized board governance from the perspective of a one-tier board structure, which implies the presence of both executives and non-executives on the same board. However, one concern of this structure is that executives actively shape board proceedings and dominate non-executives (Duygun et al., 2018), thereby limiting the latter's ability to challenge executives' decisions. In turn, this hampers the monitoring and independent advisory tasks expected of non-executive directors. A split between the supervisory and executive boards may enable the supervisory board to operate more independently and effectively, although such benefits could be jeopardized by a lack of expertise on the supervisory board or by the structural information asymmetry created by a two-tier board (Bezemer et al., 2014). In line with Durand's views (2019) and considering the skepticism of Bezemer et al.'s (2014) qualitative exploration of Dutch supervisory boards, we contend that the associations between corporate governance mechanisms and ARL need to be further investigated, particularly those related to supervisory board characteristics.

In addition to the above-mentioned meta-analyses, recent studies have investigated the determinants of ARL in various countries such as Australia (Bhuiyan & D'Costa, 2020), Iran (Oradi, 2021), Malaysia (Kaaroud et al., 2020), and Tunisia (Lajmi & Yab, 2022). Significant determinants include the number of audit committee meetings, audit committee size, audit committee diligence, and audit committee expertise. Recent studies have also looked at ARL regionally. For example, Chalu (2021) considered the case of central banks in Sub-Saharan Africa, drawing on agency theory, stewardship theory, resource dependence theory, and monetary theories. The findings suggest that several board characteristics (bank governor duality and audit committee size) are positively associated with ARL (i.e., companies with larger audit committees experience longer ARL). However, the audit mandate was negatively associated with ARL (i.e., central banks whose boards have the power to appoint external auditors experience shorter ARL). Furthermore, the use of mediating variables may increase the positive impact of a board member's duality and audit committee size on ARL, while board gender diversity and board size have a significant negative impact on ARL. Elements of national culture (from Hofstede's viewpoint) also appear to influence ARL. Toumi et al. (2022) noted that masculinity and long-term orientation are positively related with ARL, while uncertainty avoidance is negatively associated. Of note is that external auditors tend to take less time when they audit firms whose managers generally follow regulations (in a culture with high uncertainty avoidance).

Lastly, there are several Indonesian studies (e.g., Rusmin & Evans, 2017; Habib & Muhammadiyah, 2018; Abdillah et al., 2019). Rusmin and Evans (2017) investigated the possible impact of auditor quality in manufacturing companies and found that relying on industry-specialist auditors and auditor reputation shortens ARL. Habib and Muhammadiyah (2018) found that ARL is longer for politically connected firms engaged in related-party transactions. Abdillah et al. (2019) showed that audit committee effectiveness and profitability negatively influence ARL, whereas a firm's financial condition (i.e., the probability of bankruptcy) positively influences ARL. While these studies provide valuable insights and point to important differences across regulatory and cultural settings, they do not focus on the role of family ownership or the implications of the two-tier board structure.

The preceding review suggests that the influence of ownership concentration on ARL needs to be further investigated, particularly in emerging economies where many large and prominent listed companies are family controlled. As Mulyani et al. (2016) noted, 67 % of listed firms in Indonesia are family businesses, whereas other forms of ownership such as state ownership and foreign ownership are less common. This setting calls into question the relevance and effectiveness of mainstream corporate governance requirements—especially role of the supervisory board—in protecting investor and other stakeholder

interests. Although the study focuses on just one jurisdiction, Indonesia is a useful East Asian setting because it has the largest number of family-controlled firms in the region (Claessens et al., 2000; Rusmin & Evans, 2017). Thus, our insights can potentially be generalized to similar settings and agency concerns in the region (Aguilera & Crespi-Cladera, 2016; Dinh & Calabro, 2019).

4. Theoretical framework and hypotheses development

Our review of the literature suggests that agency theory remains the dominant perspective in understanding the determinants of ARL (e.g., Hassan, 2016). Previous studies typically conceptualize ARL as both a process and an outcome of the external audit aimed at addressing agency problems between shareholders and management (see Hassan, 2016; Sultana et al., 2015). This is often referred to as a Type I agency problem (see Jensen & Meckling, 1976; Bhaumik & Selarka, 2012; Darmadi, 2016). In our case, however, the emphasis is on the agency problem between controlling shareholders (family members/owners) and minority ones (e.g., non-family shareholders). According to La Porta et al. (1999), shareholder-management conflict is less of a concern for firms with concentrated ownership (such as family-controlled and –owned companies in Indonesia), since management is often subservient to, or even part of, the family structure. We therefore draw on the theory of conflict between majority and minority shareholders, which are typically referred to as Type II agency problems (Shleifer & Vishny, 1997; Fan & Wong, 2002; Setia-Atmaja et al., 2011; Bhaumik & Selarka, 2012; Darmadi, 2016).

Family ownership and control often give rise to competing interests, motivations, and behaviors that are at odds with those of minority shareholders. For example, family members can exert control and power due to their historical and filial links (Burkart et al., 2003; Morck & Yeung, 2004). They tend to be closely involved in scrutinizing and appointing senior management to ensure that family interests are preserved (Demsetz & Lehn, 1985). Family members and/or their nominees can also be directly involved in executive management (Westhead & Cowling, 1998), which gives them more opportunities to steer the company. According to Type II agency theory, this leads to conflict with, and wealth expropriation from, non-family shareholders (Darmadi, 2016). At relatively high levels of ownership and effectively full control over management, an *entrenchment effect* takes hold as minority shareholders “face the uncertainty that the entrenched controlling owner may opportunistically deprive them of their rights” (Fan & Wong, 2002, pp. 405–406). For example, expropriation can take the form of self-dealing transactions to divert profits to other entities owned by the family shareholders or to engage in unprofitable activities purely for the family's benefit. Managers, who operate largely at the behest of the family shareholders, do not believe they are accountable to the boards or to the market. They do not prioritize transparency through the provision of timely accounting information, and they may manipulate accounting information to limit scrutiny by outside parties and regulators (Fan & Wong, 2002). In settings with weak legal systems, ineffective enforcement mechanisms, and limited governance/oversight, such an entrenchment effect becomes even more pronounced (Claessens et al., 2002; Ng, 2005).

Admittedly, external audits mitigate expropriation by ensuring that appropriate internal controls are in place and that financial statements fairly and promptly represent the company's activities and finances. Similarly, corporate governance mechanisms—such as an independent, large, active, diverse board—can strengthen the board's monitoring power and ability to mitigate expropriation and support the external audit process, thereby reducing agency costs for all shareholders and market players (Alfraih, 2016). Hence, we argue that timely audit reporting and corporate governance are key mechanisms in ensuring the communication and credibility of audited financial statements.

At the same time, Claessens et al. (2000), Fan and Wong (2002), and Ng (2005) point out that entrenchment behavior has its limits, and that

continuing to divert firm resources for private gain will eventually harm the controlling shareholder(s). Other market players and investors will become aware of the expropriation behaviors and consider the firm's financial information unreliable, which will damage the firm's reputation and stock market performance. This in turn will decrease the overall value of the family's shareholding. Therefore, there is an optimal point at which family shareholders aim to control the firm while also benefiting non-family shareholders by limiting expropriation behaviors and further entrenchment (Fan & Wong, 2002). This is termed the alignment effect, whereby dominant (e.g., family) shareholders have an incentive to recognize and reward the interests of minority shareholders. In this scenario, the provision of appropriate and timely audited accounting information communicates to the market that the dominant shareholders are not seeking to expropriate minority shareholders.

In light of the above, we argue that mainstream governance mechanisms (in our case the role, composition, independence, and profile of the supervisory board) can help to assure the market and other stakeholders that they can oversee executives and family shareholders and ensure that the interests of non-family shareholders are not jeopardized (Carter et al., 2003). In other words, we contend that an adequately composed supervisory board can mitigate entrenchment behaviors and help foster the alignment of the family and non-family shareholders. Type II agency theory and the entrenchment/alignment arguments offer a useful framework (Reddy & Jadhav, 2019; Chalu, 2021), in terms of highlighting how family ownership and the characteristics of the supervisory board that arise from any governance reforms could differentially influence accounting and audit outcomes such as ARL.

4.1. Family ownership

As we have highlighted, agency conflicts between family shareholders and other shareholders tend to arise due to diverging interests and a tendency for the former to privilege decisions that favor the family's interests. Such conflict can be more severe if family members become directly involved in management roles (Westhead & Cowling, 1998; Ng, 2005). Family members or their appointed representatives can exert their power or authority to expropriate wealth from other shareholders. As a result, there may be more risks associated with related-party and/or self-dealing transactions, and auditors would need to spend more time reviewing financial statements, verifying transactions, and raising queries. Finally, in response to possible earnings manipulation and questionable disclosure practices, auditors may propose accounting and reporting adjustments that the family owners object to, and the resulting negotiations could lead to delays in signing off on the accounts. The ARL literature (e.g., Alfraih, 2016; Hassan, 2016; Durand, 2019) highlights the impact of various forms of ownership structure (e.g., government ownership and ownership dispersion), as ownership structure reflects auditor business risk. A powerful shareholder group such as a government is usually associated with higher auditor business risk; therefore auditors spend more time auditing the company's financial statements (Alfraih, 2016). Prior research, however, has not considered the possible impact of family ownership on ARL (see Habib et al., 2019). Therefore, in line with Type II agency theory and the behaviors arising from an entrenchment effect, we make the following hypothesis:

H1: Family-owned companies experience longer ARL than non-family-owned companies.

4.2. Supervisory board size

Several studies have highlighted the strengths and potential benefits of a two-tier board structure (e.g., Aste, 1999; Millet-Reyes & Zhao, 2010; Bezemer et al., 2014), but this research is typically based on experiences and legal requirements in continental Europe (e.g., France and Germany). Unlike unitary board structures where all directors are jointly tasked with and responsible for a combination of monitoring,

resourcing, advising, and decision-making roles, a two-tier board structure enables a clearer delineation of responsibilities. Both the supervisory board and the management board operate at arm's length. This enables swifter decisions by the management and a rigorous scrutiny of these decisions and other managerial plans or strategies. These two distinctive forums could alleviate familiar concerns about excessive executive power and influence over boardroom proceedings (Bailey & Peck, 2013; Pettigrew & McNulty, 2019) and the corresponding inability of non-executives to challenge decisions. Furthermore, Bezemer et al. (2014) argue that a two-tier structure often provides space for the appointment of non-conventional board members (e.g., those with different profiles, expertise, and backgrounds; employee and other stakeholder representatives, non-family members). Their inclusion can improve the quality of the board's scrutiny, particularly in contexts where there is ownership concentration (i.e., family-owned firms) and/or potentially powerful influence from social stakeholders.

Hence, in line with Type II agency theory, we argue that the two-tier structure enables the board of commissioners to draw on a larger set of expertise to monitor firm decisions independently and mitigate potential expropriation. Arguably, a larger board of commissioners has more power and clout to hold management to account and scrutinize accounting statements more rigorously. Furthermore, given larger boards' heightened scrutiny, auditors tend to be less concerned about the risk of agency problems and may not need to perform additional work to assure themselves that the interests of the non-family shareholders and the company are being protected. Along these lines, prior studies have reported a negative relationship between board size and ARL (e.g., Ezat & El-Masry, 2008; Alfraih, 2016). Those studies, however, focus on a one-tier board structure (e.g., in Egypt and Kuwait). In contrast, Bezemer et al.'s (2014) fieldwork suggests that a two-tier structure does not necessarily benefit monitoring. There are also concerns that it can be harder for larger boards to coordinate actions and reach decisions (Guest, 2009). In the Indonesian context, there have been well-documented efforts to improve the board of commissioners' power and influence (World Bank, 2010, 2018) given prior concerns about a lack of effective monitoring. Therefore, we formulate the following hypothesis:

H2: Companies with larger supervisory boards experience shorter ARL.

4.3. Supervisory board independence

Indonesian listed companies are required to have at least 30 % of independent members sitting on the board of commissioners (and 50 % when there are only two board members) (OJK, 2014a). The presence of independent commissioners (members of the supervisory board who are not affiliated with the majority shareholders, directors, and other members of the board of commissioners (Napitupulu et al., 2020) has been already highlighted in local cases involving the approval of financial statements.⁴ From the perspective of Type II agency theory, independent commissioners are better equipped to address agency conflicts between family shareholders and other shareholders. Their

⁴ A well-publicized case is that of Garuda Indonesia, an Indonesian listed state-owned airline company. In April 2019, two independent commissioners of Garuda Indonesia decided not to sign the company's financial statements for the 2018 financial year because they argued that the audited financial statements were not presented in accordance with the accounting standards (Aviantara, 2023). After investigations, Garuda Indonesia and its auditors were finally penalized by the Ministry of Finance and the Financial Service Authority. Garuda Indonesia was also required to restate the 2018 financial statements (Aviantara, 2023). A similar case involved PT Tiga Pilar Sejahtera Food Tbk (AISA), an Indonesian listed family firm that operates in the food industry. In July 2018, all members of the board of commissioners decided not to sign the company's annual report for the 2017 financial year. The commissioners claimed they did not receive sufficient explanations of several transactions in the financial statements (Forddanta, 2018).

status and role within the supervisory board ensure that they are less (or not) affiliated with management and the main family shareholders (Napitupulu et al., 2020), whereas other commissioners may represent family interests and/or have previously worked for the company. In such a situation, external auditors may perceive that accounting misstatements are less likely due to the independent commissioners' scrutiny. In fact, even the auditors' own conduct may be subject to review by independent commissioners. Furthermore, independent commissioners could be in an ideal position to broker an alignment of interests between family and non-family shareholders and to help attenuate expropriation and information asymmetry. A negative association between board independence and ARL has been documented in prior studies such as Afify (2009) and Habib et al. (2019), but not in the case of a two-tier board context. Thus, we make the following hypothesis:

H3: Companies with a greater proportion of independent members on the board of commissioners experience shorter ARL.

4.4. Supervisory board meeting frequency

Chan et al. (2016) argue that more frequent board meetings typically enhance the oversight function of the board, although more time devoted by board members does not necessarily translate into more effective monitoring activities. To improve organizational performance and monitor actions/strategies, board members need to spend their time optimally on various governance tasks (see Wijethilake et al., 2015). Furthermore, in a two-tier structure, specific challenges arise from the separation of the supervisory board and the management board (Bezemer et al., 2014). First, information asymmetries between the executive and non-executives can be heightened, leading to trust issues. Access to relevant 'insider' information (from executives) is inherently limited due to the absence of informal settings and/or opportunities to interact, which would have allowed non-executives to become more familiar with the motivations and mindset underlying managerial thinking. In such cases, there is a greater need for the board of commissioners to meet and discuss the strategies, decisions, and policies of management, potentially relying on other sources of privileged information (e.g., company visits and meetings, commissioning reviews or reports by consultants). More frequent meetings may help to address such asymmetries and enable the board of commissioners to monitor sources of agency conflict between family shareholders and other shareholders, improve their understanding of accounting statements and audit reports, and engage more effectively with external auditors. Consequently, the more frequent meetings of the board of commissioners could help mitigate ARL. Chan et al. (2016) also examined ARL in a two-tier board setting (China) and documented a negative relationship between the frequency of board meetings and ARL. However, it is not clear whether they examined executive board meetings or supervisory board meetings).

Thus, we propose the following hypothesis:

H4: Companies that have more frequent supervisory board meetings experience shorter ARL.

4.5. Proportion of female commissioners

One objective of the two-tier board is to encourage diversity in the firm's governance structures (Millet-Reyes & Zhao, 2010), with diversity conceptualized in various ways (Mahadeo et al., 2012). In some countries, there has been a political effort to embed marginalized stakeholders such as employees and community members in the management and oversight of private sector businesses. The goal is to foster constructive dialogue and debate, instead of breeding antagonism and fractious industrial relations. In parallel, efforts to create a diverse board demonstrate a desire to democratize board membership and challenge the reliance on an often small and well-connected elite of top managers and businessmen (not women) who sit on each other's boards. Toward this end, many initiatives have been enacted to improve gender diversity

on boards worldwide, including in Indonesia.⁵ The classic (and somewhat stereotypical) argument is that women directors tend to be more conservative and risk-averse than men (see Liao et al., 2015; Sila et al., 2016). A more crucial point is that women tend to represent different perspectives on a decisions/strategies and how they might impact different constituencies and actors. In line with Type II agency theory, the presence of gender diversity may help mitigate attempts by family owners to rely on traditional business elites who favor their interests over those of minority shareholders. In other words, there may be less opportunity for entrenchment-related behaviors and an impetus to pursue an alignment strategy in the presence of a diverse board.

We argue that within a two-tier structure, a more gender-diverse group of commissioners may enhance the oversight functions of the supervisory board, such as scrutinizing financial statements and overseeing auditors' work (Chen et al., 2016; Dobija et al., 2022). Furthermore, Mathuva et al. (2019) found that companies with more women on the board experience shorter ARL. They concluded that the presence of women on the board helps to compel auditors to complete their work and release the audit reports in a timely manner. Thus, we propose the following hypothesis.

H5: Companies with a greater proportion of female commissioners on the board experience shorter ARL.

5. Data and methodology

5.1. Sample and data collection

This study relies on a balanced panel dataset and a matched-pair design to examine the impact of family ownership and supervisory board characteristics on audit report lag in Indonesia. First, we identified family-owned businesses from an article entitled 'Family businesses: Maintaining relevance in the modern era,' published by the Globe Asia Business Magazine (Globe Asia, 2019). From this article, we identified the websites of each group of businesses. We pinpointed 62 non-financial family businesses that published their annual reports between 2017 and 2019.⁶ Second, we selected a matched control sample of non-family firms by using three criteria: (1) fiscal year, (2) industry classification, and (3) closest total assets amount.⁷ This gave us a complete matched-pair sample of 124 non-financial businesses over three years (372 observations). This sample selection aligns with the approach adopted by Qosasi et al. (2022). Table 1 reports on ARL overall and in each of the eight industries. Note that the real estate and building construction industry represents just over 30 % of the sample with 114 observations (30.65 %).

We focus on ARL from 2017 to 2019 because regulatory deadlines for filing audited financial statements changed due to the 2020 COVID-19

⁵ The Financial Service Authority (OJK) in Indonesia encourages companies to develop a policy on the diversity of the Board of Directors and Board of Commissioners, including board gender diversity (OJK, 2014b). Compliance with this policy should be disclosed in the companies' annual reports. This encouragement appears in a document prepared and published by OJK in 2014, entitled "Indonesia Corporate Governance Roadmap." This document is the main resource for improving good corporate governance regulations and practices in Indonesia (OJK, 2014b).

⁶ This study focuses on non-financial IDX-listed firms to ensure homogeneity. This is due to the dominance of non-financial companies in Asia, particularly in the Indonesian economy (Craig & Diga, 1998; Dhawan et al., 2000; Qosasi et al., 2022).

⁷ As in Qosasi et al. (2022), our independent-samples *t*-test shows that the means of total assets of family and non-family companies are not significantly different. For brevity, we do not present the results of the independent-samples *t*-tests.

Table 1
Audit report lag (days) by industry sector.

Industry Sector	2017–2019		2017	2018	2019	Audit Report Lag (days) from 2017 to 2019					
	N	%	Mean	Mean	Mean	Mean	Median	Min	Max	>80 days (n)	>90 days (n)
1 Agriculture	24	6.45	73	73	94	80	83	50	150	12	2
2 Mining	36	9.68	75	74	88	79	82	45	140	19	6
3 Basic industry & chemicals	60	16.13	72	75	79	75	81	22	121	31	7
4 Miscellaneous industries	24	6.45	74	77	95	82	85	51	141	16	4
5 Consumer goods industry	54	14.52	75	75	91	80	80	31	182	26	4
6 Property, real estate & building construction	114	30.65	73	76	100	83	84	43	205	65	24
7 Infrastructure, utilities & transportation	24	6.45	64	68	77	69	78	31	108	9	2
9 Trade, services & investment	36	9.68	79	82	97	86	86	51	181	20	6
Total	372	100,00	73	75	92	80	82	22	205	198	55

pandemic. The Indonesian Financial Service and IDX authorities normally require annual audited financial statements to be filed within 90 days from the fiscal year-end. From March 18, 2020 to March 9, 2022,⁸ this deadline was extended to 5 months (OJK, 2020, 2022) in response to the pandemic. Due to marked differences in the duration of audit assignments and deadlines between the pre-pandemic period and the pandemic period, we exclude 2020 and 2021 ARL data from this study.

5.2. Dependent variable

The dependent variable is audit report lag (ARL), measured by the number of days from the fiscal year-end to the time when the auditor signs the audit report (Rusmin & Evans, 2017). Table 1 reports an average of 80 days after the fiscal year-end. On average, the audit report is completed more quickly (69 days) in the infrastructure, utilities, and transportation sectors. In contrast, the longest period (86 days) is in the trade, services, and investment industry sector. The shortest and longest audit times are 22 and 205 days, in the basic industry and chemicals industry and the property, real estate, and building construction industry, respectively. Crucially, 14.78 % of audits (55) failed to meet the regulatory deadline of 90 days, most of which were in the property, real estate and building construction industry. More than half (198 or 53.23 %) of the audits were completed in excess of the overall average time (80 days). There was a considerable increase in the average lag from 75 days in 2018 to 92 days in 2019. This increase might be caused by Indonesia's first large-scale social restriction from March 2020 to May 2020 in response to the COVID-19 pandemic (Khoirunurrofik et al., 2022). Auditors were compelled to complete their work on the 2019 financial statements from their homes during the pandemic restriction period (Harymawan & Putri, 2023).

5.3. Independent and control variables

This study relies on data about family ownership and four supervisory board characteristics (board size, board independence, board meeting frequency, and proportion of female commissioners) as explanatory variables in the model. Audit report lag and corporate governance information was collected from the firms' annual reports, while family ownership was identified from the Globe Asia Business Magazine (GlobeAsia, 2019). Family-controlled businesses were defined as one when family members held at least 20 % of a company's outstanding shares and served on the executive or supervisory board (Anderson & Reeb, 2003; Arosa et al., 2010).

We control for other variables that might impact audit report timeliness, namely audit committee size (drawn from the board of commissioners), firm size, leverage, Altman Z-Score, cash from operating activities, and profitability (Al-Ajmi, 2008; Habib & Bhuiyan, 2011;

Wan-Hussin & Bamahros, 2013). We also include Big 4 auditors as a classification to control for the effect of relying on internationally affiliated accounting firms and their assumed expertise in generating timelier financial reports. Big 4 accounting firms can deploy more resources in the audit process and mobilize more qualified staff to reduce audit reporting lag (Owunsu & Leventis, 2006; Afify, 2009; Wan-Hussin & Bamahros, 2013). We also include price-to-book ratio and firm age due to their documented effects on audit report delays (Basuony et al., 2016). We do not include certain control variables that are not relevant (or less relevant) to Indonesia. For example, we do not include the provision of non-audit services by audit firms because companies in Indonesia are not allowed to hire accountants for non-audit services when the same professionals audit their financial statements (OJK, 2017).

5.4. Empirical model equations

The Ordinary Least Squares multiple regression is the primary statistical technique to test the hypotheses. The regression models are defined in the following equation:

$$ARL_{it} = \alpha_1 + \alpha_{11}FAM_{it} + \alpha_{12}BOARD_{it} + \alpha_{13}BOIND_{it} + \alpha_{14}BOMEET_{it} + \alpha_{15}FEMALE_{it} + \alpha_{16}AC_{it} + \alpha_{17}SIZE_{it} + \alpha_{18}LEV_{it} + \alpha_{19}ALTMAN_{it} + \alpha_{110}ROA_{it} + \alpha_{111}BIG4_{it} + \alpha_{112}AGE_{it} + \alpha_{113}P/B\ RATIO_{it} + \alpha_{114}CFO_{it} + INDUSTRY\ FIXED\ EFFECT_{it} + YEAR\ FIXED\ EFFECT_{it}\ \epsilon_i$$

ARL is the number of days from the financial year-end to when the auditor signs the report. FAM is a dummy variable equal to 1 if a company is classified as a family-controlled firm. BOARD is the total number of members on the board of commissioners as reported by the company. BOIND is the percentage of independent commissioners on the board. BOMEET is the annual number of supervisory board meetings. FEMALE is the percentage of female commissioners on the board. AC is the total number of members of the audit committee. SIZE is the natural log of total assets. LEV is the total debt divided by total assets. ALTMAN is the Altman Z-score (Altman, 1993). ROA is the return on assets. BIG4 is a dummy variable equal to 1 if a company's auditor is a Big 4 audit firm. AGE is the natural logarithm of the years since the company was established. P/B RATIO is the company's stock price divided by its book value per share. CFO is cash flow from operations divided by total assets. In the regressions, fixed effects are included to control for different industries (INDUSTRY FIXED EFFECT) and years (YEAR FIXED EFFECT).

6. Findings and discussion

6.1. Descriptive statistics

The descriptive statistics and some early indications of relationships between the key variables are shown in Tables 2 and 3. Table 2 focuses on the independent and control variables. The size of the supervisory board ranges from two to 11 members, with a mean of five. The proportion of independent commissioners on the board is 41.21 %, which is

⁸ Since March 10, 2022, the two-month extension of the deadline to submit financial statements has been reduced to one month (OJK, 2022) because the COVID-19 pandemic became under control and social restrictions were relaxed.

Table 2
Descriptive statistics.

	Mean	Median	Standard Deviation	Minimum	Maximum
Continuous Variables					
Independent Variables:					
BOARD	4.92	5.00	1.84	2.00	
BOMEET	7.53	6.00	3.85	2.00	11.00
BOIND (%)	41.21	40.00	11.08	20.00	31
FEMALE (%)	11.51	0.00	18.27	0.00	100.00
					66.67
Control Variables:					
AC	3.15	3.00	0.49	2.00	5.00
SIZE (Total Assets in million IDR)	19,838,596	7,302,514	36,810,261	21,663	351,958,000
LEV (%)	46.47	48.11	19.46	4.15	97.26
ALTMAN	3.61	2.16	4.15	-1.59	26.97
ROA (%)	4.84	3.76	8.17	-40.14	50.67
AGE (years)	37.50	37.08	17.20	3.17	98.92
P/B RATIO (%)	2.53	1.13	5.57	0.09	46.50
CFO (%)	5.73	4.89	9.72	-27.69	53.05
Indicator Variables				Frequency	%
Control Variable:					
BIG4				164	44.09
Other than BIG4 audit firm				208	55.91
Independent Variable:					
FAM				186	50
Companies not controlled by a family				186	50

Notes: For the purpose of data description, the descriptive statistics of firm size are presented in million IDR. In the regression analyses, however, the natural log of total assets is used as the measurement of firm size (see Section 5.3). For variable definitions, see the Appendix.

well above the 30 % required by the Financial Services Authority Regulation (POJK) No. 33 Year 2014.⁹ Independent supervisory board members have diverse backgrounds as business advisors, community leaders, and academics. The number of supervisory board meetings ranges from 2 to 31; the average number of meetings is about 7.5. The POJK regulation requires commissioners to hold a meeting at least once every two months. Most boards met the requirement, although there are 59 observations (15.86 %) with less than six meetings. The average size of the audit committee is three, which is in line with the requirements (POJK No. 55 of 2015). The mean proportion of female commissioners on the board is 11.5 %. This relatively low level of female participation on supervisory boards is consistent with prior findings (e.g., Kusumastati et al., 2022). It also appears that most non-financial firms in Indonesia ignored the OJK's exhortation to increase diversity in the board of commissioners (OJ K, 2014b).

The financial profile of the sample firms reveals that the mean total assets is IDR19,838,596 million,¹⁰ while the median value and skewness suggest that the sample includes a small number of substantially capitalized companies. The sample firms' average total debt-to-assets ratio (LEV) is 46.47 %, with a median of 48.11 %. The average (median) Altman Z-score is 3.61 (2.16). The low mean return on assets (ROA) (4.84 %) suggests that firms experienced low financial performance during the sample period. They also have a relatively low average CFO ratio (5.73 % of the total assets). Additionally, 44 % of the firm observations are audited by Big 4 firms, which is very much in line with the local audit market for listed companies. Consistent with the approach adopted in other studies, we rely on the natural logarithm for continuous variables (e.g., the natural logarithm of total assets) to address the non-normal distributions of observations.

⁹ Financial Services Authority Regulation (POJK) No. 33 Year 2014 applies to both listed financial and non-financial companies because the Financial Service Authority regulates and supervises all companies listed on the Indonesian capital market (see footnote 4).

¹⁰ IDR19,838,596 million equals approximately USD 1,398 million.

6.2. Correlations

The Spearman correlation matrix highlights any issue of multicollinearity among the variables (Table 3). Family ownership (FAM) is significantly and positively associated with ARL, while ARL is negatively associated with supervisory board size (BOARD) and supervisory board meeting frequency (BOMEET) (at $p < 0.01$). In addition, the coefficient for female commissioners (FEMALE) is statistically non-significant. Finally, the proportion of independent commissioners (BOIND) and audit committee size (AC) are not significantly associated with ARL. All correlation coefficients are lower than the threshold of 0.80 (Greene, 1999; Cooper & Schindler, 2011; Hair et al., 2018). The variance inflation factors (VIF) are reasonable, suggesting that multicollinearity may not be an issue for the regression results.

6.3. Multivariate regression results

Table 4 provides the estimates for our main hypotheses. Columns 1 and 2 show the regression results considering the industry and year impact, respectively, whereas Column 3 considers both the industry and year effects. All regression model estimates reported in Table 4 are statistically significant (F-statistic $p < 0.01$). The model in Column 1 explains the least variance (21.7 %), while the model in Column 3 explains the most (29.2 %). The highest reported VIF is 3.850, which confirms that multicollinearity is not a concern.

The overall explanatory power of the model is at first glance comparable to the results of many relevant studies, such as 8.8 % to 12.3 % in Ashton et al. (1987), 14.2 % to 14.4 % in Jaggi and Tsui (1999), 24.3 % in Leventis et al. (2005), 4 % to 17 % in Tanyi et al. (2010), 25 % to 27 % in Habib and Bhuiyan (2011), and 39.2 % to 39.4 % in Dao and Pham (2014). Across all Table 4 regressions, FAM is positively and significantly (at $p < 0.01$) associated with ARL, implying that ARL is likely to

Table 3
Spearman correlation matrix of major variables.

	ARL	FAM	BOARD	BOMEET	BOUND	FEMALE	AC	SIZE	LEV	ALTMAN	ROA	BIG4	AGE	P/B RATIO
FAM	0.171*													
BOARD	-0.256*	0.001												
BOMEET	-0.219*	-0.185*	0.134*											
BOUND	-0.007	0.071	-0.018	-0.077										
FEMALE	0.011	0.007	-0.032	0.112**	0.003									
AC	-0.088	-0.179*	0.264*	0.229*	-0.139*	-0.082								
SIZE	-0.215*	0.027	-0.510*	0.243*	-0.031	-0.076	0.334*							
LEV	-0.051	-0.090	0.099	0.164*	-0.012	0.141	0.160*							
ALTMAN	-0.136*	0.098	0.067	-0.087	0.066	-0.171*	0.015	0.310*						
ROA	-0.284*	0.173*	0.175*	-0.085	0.083	-0.175*	0.079	-0.138*	-0.555*	0.618*				
BIG4	-0.113**	0.087	0.343*	0.048	-0.064	-0.182*	0.234*	0.123*	-0.234*	0.214*	0.207*			
AGE	-0.161*	-0.111**	0.259*	0.284*	-0.033	0.015	0.180*	0.342*	-0.026	0.081	-0.031	0.175*		
P/B RATIO	-0.214*	0.066	0.101	0.065	0.083	-0.148	-0.124**	0.029	0.092	0.651*	0.514*	0.184*	0.071	
CFO	-0.204*	0.133*	0.192*	-0.066	0.068	-0.072	0.038	0.132**	-0.147*	0.493*	0.553*	0.302*	-0.006	0.464*

Notes: * and ** indicate significance at $p < 0.01$ and $p < 0.05$ (based on two-tailed tests), respectively. For variable definitions, see the Appendix.

be longer¹¹ for family-owned firms than for non-family-owned firms. These findings support H1. Incrementally to all other firm-level factors and relative to non-family firms, family firms appear to pose higher risks for external auditors. Consequently, audit firms must expend more effort, which leads to longer ARL (Ashton et al., 1987; Bamber et al., 1993). As already highlighted in the accounting literature, family owners have significant control over the company's management (Wang, 2006) and may engage in expropriation behaviors; thus, they may tend to favor more information asymmetry when dealing with other shareholders (Fan & Wong, 2002). Faced with this Type II agency problem, auditors need to spend more time on their audits. For instance, they may review related-parted transactions, undertake a more extensive work program to verify transactions, raise more queries, and propose reporting adjustments that may be resisted by family shareholders and their appointed managers.

The regression coefficient for BOARD is negative and statistically significant at $p < 0.01$ in Columns 1 to 3, supporting H2. This result reveals that a larger board of commissioners is associated with a shorter audit report lag. This result supports the monitoring arguments suggesting that a larger board may bring in a broader range of experience and backgrounds, providing more expertise and time to challenge the company's financial reporting practices. Such a board can thus provide effective oversight over the quality of financial reporting and contribute to lower audit delays (Lee & Mande, 2005). A larger supervisory board also has more power to monitor and detect possible expropriation and entrenchment behaviors. Due to the higher level of scrutiny from a larger supervisory board, auditors may be less concerned about the risk of agency problems. In that case, they may not require additional work to reassure themselves that the interests of the non-family shareholders and the company are protected. The result is consistent with previous studies (e.g., Ezat & El-Masry, 2008; Alfraih, 2016) in developing and developed economies (Abdelsalam & Street, 2007).

Furthermore, Columns 1 to 3 report a significant negative association between BOMEET and ARL, implying that a higher board meeting frequency is associated with shorter ARL. Thus, H4 is supported. More frequent supervisory board meetings provide members with more opportunities to discuss any concerns (Evans & Weir, 1995), including Type II agency conflicts and strategies for mitigating entrenchment-related activities. This is especially useful given the supervisory board members' limited interactions with executive management. From the audit firm's standpoint, more frequent supervisory board meetings may suggest that the companies are using their resources to mitigate Type II agency conflicts. Thus, external auditors can feel more confident about the internal controls of the company and reduce their workload, which reduces ARL. These findings are consistent with those of Taurigana et al. (2008) and Chan et al. (2016). The remaining two independent variables, BOUND and FEMALE, do not have a significant relationship with ARL. We do not find evidence that supervisory board independence (H3) and the proportion of female commissioners (H5) are associated with audit report lag. In contrast to the mainstream corporate governance perspective and Indonesia's mandate that boards contain a minimum of 30 % independent commissioners, there is no evidence that such directors contribute incrementally to better audit outcomes. This may be explained by the strong influence of family shareholders, who pressure independent commissioners not to fully carry out their supervisory function (see Cahaya et al., 2017; Cahaya & Yoga, 2020). Similarly, the presence of female commissioners does not appear lead to tighter scrutiny. Taken together, our results do not support the oft-made argument that diversity-related board characteristics improve monitoring quality by adding board members with different profiles. Auditors may see the existence of the supervisory board in a two-tier board

¹¹ The result from an independent samples *t*-test (not presented for brevity) shows that firms owned by family members statistically and significantly experience longer audit report lag than their non-family-owned counterparts.

Table 4
Family ownership, supervisory board characteristics, and ARL.

Variables	Column 1 Includes Industry but not Year Fixed Effects			Column 2 Includes Year but not Industry Fixed Effects			Column 3 Includes both Industry and Year Fixed Effects		
	Beta	t-stat	VIF	Beta	t-stat	VIF	Beta	t-stat	VIF
	(Constant)		13.512*			15.826*			14.426*
FAM	0.119	4.139*	1.120	0.112	4.101*	1.109	0.115	4.220*	1.120
BOARD	-0.031	-3.413*	1.511	-0.034	-4.009*	1.426	-0.032	-3.713*	1.511
BOIND	0.001	0.272	1.123	0.001	0.456	10.54	0.001	0.091	1.125
BOMEET	-0.016	-4.035*	1.245	-0.015	-4.131*	1.213	-0.015	-4.056*	1.214
FEMALE	0.089	1.030	1.166	0.099	1.228	1.119	0.099	1.212	1.166
AC	0.045	1.407	1.364	0.050	1.688	1.309	0.043	1.428	1.366
SIZE	-0.011	-0.938	1.784	-0.015	-1.371	1.645	-0.014	-1.275	1.790
LEV	-0.048	-0.515	1.773	-0.060	-0.685	1.717	-0.053	-0.598	1.775
ALTMAN	-0.006	-0.918	3.824	-0.006	-1.071	3.673	-0.007	-1.131	3.850
ROA	-1.193	-3.744*	2.452	-0.783	-2.623*	2.363	-0.954	-3.125*	2.492
BIG4	-0.015	-0.444	1.435	0.007	0.233	1.331	0.002	0.060	1.449
AGE	-0.004	-0.152	1.337	-0.015	-0.555	1.213	-0.012	-0.442	1.340
P/B RATIO	0.003	0.287	2.648	0.013	1.148	2.452	0.010	0.890	2.693
CFO	-0.110	-0.515	2.329	-0.323	-1.655	2.138	-0.279	-1.362	2.372
YEAR DUMMIES	No			Yes			Yes		
INDUSTRY DUMMIES	Yes			No			Yes		
SUMMARY									
Adj. R-Squared	0.217			0.286			0.292		
F-Statistic	5.909*			10.295*			7.655*		
Sample Size	372			372			372		

Notes: * indicates significance at $p < 0.01$ (based on two-tailed tests). For variable definitions, see the Appendix.

structure and the diligence of this board as the most important features in mitigating Type II agency conflicts. Therefore, they may not consider the independence of the supervisory board and the presence of more female commissioners to be incrementally relevant.

According to the Indonesian Financial Service Authority's regulation (No. 33/POJK.04/2014), the board of commissioners has the authority to monitor the work of the executive board and, if necessary, to temporarily suspend its members (OJK, 2014a). Implementing this authority through larger and more frequent supervisory board meetings

may be sufficient to minimize Type II agency issues. Lastly, the average proportion of female commissioners on the board is only 11.51 % (see again Table 2), so supervisory boards in Indonesia are far from being gender diverse. Indeed, 129 observations do not have any female commissioners on the board. Thus, it might be unrealistic to expect significant outcomes from the presence of female commissioners.

Table 5
Various levels of family control and ARL.

Variables	Column 1: Family member(s) on Board as Directors (FAMDIR)		Column 2: Family member is CEO (FAMCEO)		Column 3: Family member(s) on Supervisory Board (FAMBOC)		Column 4: Active family control, including FAMDIR, FAMCEO, and FAMBOC	
	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat
(Constant)		14.390*		14.409*		14.555*		14.332*
FAM	0.100	3.174*	0.101	3.233*	0.063	2.009**	0.060	1.741**
BOARD	-0.032	-3.683*	-0.031	-3.616*	-0.037	-4.237*	-0.036	-4.154*
BOIND	0.001	0.129	0.001	0.121	0.001	0.291	0.001	0.295
BOMEET	-0.015	-4.040*	-0.016	-4.129*	-0.016	-4.252*	-0.016	-4.253*
FEMALE	0.084	1.001	0.082	0.973	0.031	0.368	0.026	0.308
AC	0.042	1.386	0.046	1.511	0.064	2.077**	0.065	2.085**
SIZE	-0.014	-1.243	-0.015	-1.363	-0.013	-1.214	-0.014	-1.250
LEV	-0.051	-0.573	-0.047	-0.531	-0.042	-0.484	-0.040	-0.458
ALTMAN	-0.007	-1.157	-0.007	-1.091	-0.009	-1.476	-0.009	-1.441
ROA	-0.955	-3.126*	-0.964	-3.154*	-0.951	-3.154*	-0.956	-3.158*
BIG4	0.001	0.022	0.001	0.026	-0.017	-0.536	-0.017	-0.536
AGE	-0.011	-0.400	-0.016	-0.557	-0.018	-0.658	-0.020	-0.705
P/B RATIO	0.009	0.752	0.008	0.637	0.007	0.600	0.006	0.503
CFO	-0.279	-1.363	-0.277	-1.353	-0.205	-1.010	-0.206	-1.006
FAMDIR	0.015	0.923					-0.003	-0.141
FAMCEO			0.039	0.954			0.018	0.386
FAMBOC					0.050	3.133*	0.050	2.953*
YEAR DUMMIES	Yes		Yes		Yes		Yes	
INDUSTRY DUMMIES	Yes		Yes		Yes		Yes	
SUMMARY								
Adj. R-Squared	0.292		0.292		0.310		0.306	
F-Statistic	7.368*		7.372*		7.931*		7.288*	
Sample Size	372		372		372		372	

Notes: * and ** indicate significance at $p < 0.01$ and $p < 0.05$ (based on two-tailed tests), respectively. The FAM variable is included here because it is different from FAMBOC, FAMDIR, and FAMCEO. FAM is coded 1 if company is classified as a family-controlled firm and 0 otherwise. FAMBOC, FAMDIR, and FAMCEO reflect the role of family members within the sample companies regardless of whether it is a family-controlled company. For variable definitions, see the Appendix.

6.4. Additional analyses

We perform several additional analyses to explore the reliability of the main findings. First, we consider the actual role of family members, notably whether they are actively or passively involved in the firm's management. Family members serving in their company's key position (s) raise two opposing implications. In light of Type II agency theory, [Salvato and Moores \(2010\)](#) argue that top management positions empower family members to expropriate minority shareholders' wealth. For example, they may pay themselves excessive compensation and special dividends or involve the company in biased related-party transactions ([Shleifer & Vishny, 1986](#); [DeAngelo & DeAngelo, 2000](#); [Fan & Wong, 2002](#)). In contrast, the presence of family members in the management could ensure a stronger alignment between the owners' interests and that of the firm in general, thereby improving firm performance and reputation from the perspective of the market and the minority shareholders ([Morck et al., 1988](#); [Davis et al., 1997](#); [Anderson & Reeb, 2003](#)).

We create three dummy variables to consider three forms of family involvement: executive directors (FAMDIR), CEO (FAMCEO), and supervisory board commissioners (FAMBOC). The results of this additional test are summarized in [Table 5](#). Columns 1 to 3 exhibit results from regressions with only one type of family involvement (FAMDIR, FAMCEO, and FAMBOC), while Column 4 shows the results with all family involvement included in one regression model. Columns 1 and 4 report that the coefficients on FAMDIR are positive and negative, respectively, but they are statistically non-significant. Also, the coefficients on FAMCEO in Columns 2 and 4 are positive and not significantly related to ARL. Therefore, our results document that the involvement of family members in executive and/or CEO positions does not significantly affect ARL. The findings in Columns 3 and 4 reveal that the effect of the family board members on the timeliness of audit reporting is positive and statistically significant, suggesting that the presence of a family member on the board of commissioners leads to increased audit reporting lag. Our results suggest that family involvement on the supervisory board leads

to further Type II agency behaviors, even if the family is not represented in active executive positions. In other words, the presence of family representatives on the supervisory board mitigates its monitoring ability.

Third, we explore how specific supervisory board commissioner profiles influence ARL without considering their family relationship status. [Haynes and Hillman \(2010\)](#) argue that board members have different expertise, backgrounds, knowledge, networks, and skills, and a board of commissioners is not a homogeneous group. Following [Armano and Scagnelli \(2012\)](#) and [Ramos-Llorens et al. \(2020\)](#), we classify members of the board of commissioners into three categories: advisors, community leaders, and academics. This classification is based on the taxonomy of commissioners proposed by [Hillman et al. \(2000\)](#). This study classifies board of commissioner members as advisor experts (BOADV) when they are or were insiders in auditing, accounting, financial, marketing, or other consulting companies. BOLEAD applies to members classified as politicians, heads of non-profit organizations, or other significant public positions. In line with [Joni et al. \(2020\)](#) and [Murti et al. \(2022\)](#), this variable reflects a firm's affiliation with political networks. Finally, BOACAD indicates current or former academics. Columns 1 to 3 of [Table 6](#) present results from regressions with only one background. Column 4 shows the results with all board of commissioner backgrounds included in one multiple regression. [Table 6](#) reveals that the coefficients of BOADV and BOACAD are not significant. However, BOLEAD has a significantly positive association in Column 4 with ARL at $p < 0.05$, implying that community leader commissioners are associated with longer reporting lag. One possible explanation is that boards composed of community leaders (mainly politicians) are connected to the family networks and are less able (or willing) to monitor accounting and auditing practices ([Peterson & Philpot, 2007](#); [Habib & Muhammadi, 2018](#); [Ramon-Llorens et al., 2020](#)).

Fourth, [Cuadrado-Ballesteros et al. \(2017\)](#) reveal that a higher proportion of independent directors is associated with higher corporate social responsibility performance. However, the relationship is weaker in family-controlled firms. Similarly, [Amin et al. \(2022\)](#) show a positive

Table 6
Supervisory board member characteristics and ARL.

Variables	Column 1 Advisory Background (BOADV)		Column 2 Leadership Background (BOLEAD)		Column 3 Academic Background (BOACAD)		Column 4 Advisory, Leadership, and Academic Backgrounds	
	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat
(Constant)		14.441*		14.586*		14.007*		14.209*
FAM	0.115	4.223*	0.108	3.920*	0.115	4.194*	0.106	3.848*
BOARD	-0.034	-3.869*	-0.038	-4.142*	-0.030	-3.374*	-0.037	-4.011*
BOIND	0.001	0.058	-0.001	-0.463	0.001	0.241	-0.001	-0.341
BOMEET	-0.015	-3.960*	-0.015	-3.941*	-0.015	-3.943*	-0.014	-3.641*
FEMALE	0.099	1.216	0.094	1.152	0.091	1.101	0.080	0.975
AC	0.042	1.396	0.032	1.043	0.048	1.562	0.037	1.191
SIZE	-0.015	-1.381	-0.016	-1.422	-0.012	-1.101	-0.015	-1.305
LEV	-0.048	-0.546	-0.019	-0.209	-0.053	-0.604	-0.009	-0.1045
ALTMAN	0.007	-1.110	-0.007	-1.120	0.005	-0.867	-0.004	-0.690
ROA	-0.901	-2.930*	-0.961	-3.158*	-0.981	-3.198*	-0.942	-3.069*
BIG4	0.003	0.098	0.002	0.069	-0.005	-0.163	-0.008	-0.245
AGE	-0.010	-0.364	-0.014	-0.492	-0.014	-0.493	-0.014	-0.488
P/B RATIO	0.010	0.859	0.011	0.917	0.009	0.728	0.007	0.631
CFO	-0.293	-1.430	-0.267	-1.308	-0.268	-1.308	-0.265	-1.298
BOADV	0.038	1.354					0.046	1.607
BOLEAD			0.060	1.870			0.068	2.110**
BOACAD					-0.033	-0.933	-0.052	-1.471
YEAR DUMMIES	Yes		Yes		Yes		Yes	
INDUSTRY DUMMIES	Yes		Yes		Yes		Yes	
SUMMARY								
Adj. R-Squared	0.294		0.297		0.292		0.289	
F-Statistic	7.430*		7.534*		7.369*		7.031*	
Sample Size	372		372		372		372	

Notes: * and ** indicate significance at $p < 0.01$ and $p < 0.05$ (based on two-tailed tests), respectively. For variable definitions, see the Appendix.

relationship between female representation in corporate boards and a firm’s financial performance. Still, this relationship is less pronounced when family ownership serves as a moderator. In the third analysis, we examine whether family-owned firms moderate the relationship between supervisory board characteristics and audit report lag. The regression results are reported in Table 7. None of the FAM*Board interaction term measures have statistically significant relationships with ARL. In other words, family ownership does not significantly moderate the relationship between supervisory board characteristics and audit report timeliness.

Fifth, following past studies (e.g., Dechow & Dichev, 2002; Frankel et al., 2002; Velury & Jenkins, 2006), we consider earnings management as an alternative measure of financial report quality. Researchers (e.g., Dechow et al., 1995; Kothari et al., 2005) claim that discretionary accruals estimated with the modified Jones (1991) model are correlated with financial performance; thus, using the Jones model could induce erroneous conclusions about the presence of earnings management. Hence, this study employs the Kothari et al. (2005) approach to calculate discretionary accruals (a proxy for earnings management) by including ROA in the modified Jones (1991) model as a control for a firm’s performance. The additional test results using earnings management to proxy for audit reporting quality show that the family ownership and supervisory board variables are statistically non-significant (but in the same direction). Thus, family ownership and supervisory board characteristics do not appear to affect accrual-based earnings management.

Finally, we perform robustness tests to check for endogeneity. Abdallah et al. (2015) argue that an important concern in corporate governance research is the endogeneity problem among the dependent and explanatory variables. Following Sultana et al. (2015) and Baatwah et al. (2024), we first employ the Heckman two-stage least squares (2SLS) approach to check for endogeneity problems. Adopting 2SLS will address endogeneity issues that could arise from simultaneous-equation bias and correlated omitted variable bias (Larcker & Rusticus, 2010). The first stage of the 2SLS involves identifying and utilizing Z instruments (exogenous variables) that only impact audit report lag

through our independent variables (family ownership and board characteristics). However, in the corporate governance literature, it is not possible to obtain a perfectly exogenous Z instrument (Brown et al., 2011). As a result, we use a reasonably crude measure of the endogenous variable as an instrumental variable (Hentschel & Kothari, 2001). Following Krishnan and Visvanathan (2008), we employ a 3-year average of specific governance and firm-specific characteristics as instrumental variables. The average three-year values are less likely to be endogenous to the audit report lag in year *t* (Greene, 1999). The first stage estimates the associations between various governance and firm-specific factors and each independent variable (family ownership, supervisory board size, supervisory board independence, supervisory board meeting frequency, and proportion of female commissioners). Then, we obtain the predicted values for each independent variable. Finally, in the second stage of the 2SLS, we regress the predicted values of the independent variables from the first stage against the audit report lag. In the second stage, we re-estimate our original regressions using the predicted values of the potential endogenous variables. The results, presented in Column 1 of Table 8, are consistent with the main tests.

We also test for endogeneity and utilize the lagged dependent variable approach to verify that the previous year’s ARL does not drive the increase (decrease) in the ARL (Bajary et al., 2023; Baatwah et al., 2024). Therefore, we include the lagged values of ARL as an additional variable in the original equations. As reported in Column 2 of Table 8, the estimated coefficients of FAM, BOARD, and BOMEET are similar to the main findings reported in Table 5.

7. Conclusions

This study investigates the impact of family ownership and corporate governance structures on audit report lag (ARL) using a balanced panel dataset and matched-pair design. We examine 124 annual reports of non-financial firms listed on the Indonesia Stock Exchange during 2017–2019. First, we find a positive and significant association between family ownership and audit report lag. In effect, family firms have

Table 7
Moderating effect of family ownership on the relationship between supervisory board characteristics and ARL.

Variables	Column 1 Interaction of FAM and Board Size (BOARD)		Column 2 Interaction of FAM and Board Independence (BOIND)		Column 3 Interaction of FAM and Board Meetings (BOMEET)		Column 4 Interaction of FAM and female board members (FEMALE)		Column 5 Interaction of FAM with BOARD, BOIND, BOMEET, and FEMALE	
	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat
(Constant)		14.322*		14.195*		14.356*		14.395*		14.050*
FAM	0.022	0.275	0.142	1.296	0.020	0.323	0.132	4.022*	-0.241	-0.891
BOARD	-0.044	-3.419*	-0.032	-3.685*	-0.032	-3.673*	-0.031	-3.617*	-0.043	-3.238*
FAM*BOARD	0.020	1.263							0.019	1.225
BOIND	-0.001	-0.029	0.001	0.234	0.001	0.044	0.001	0.162	-0.001	-0.048
FAM*BOIND			-0.001	-0.249					0.001	0.049
BOMEET	-0.015	-3.845*	-0.015	-4.049*	-0.021	-4.089*	-0.015	-3.879*	-0.020	-3.865*
FAM*BOMEET					0.013	1.658			0.015	1.881
FEMALE	0.085	1.034	0.100	1.220	0.083	1.014	0.175	1.508	0.153	1.296
FAM*FEMALE							-0.149	-0.922	-0.163	-0.990
AC	0.049	1.605	0.044	1.443	0.057	1.816***	0.042	1.364	0.048	1.266
SIZE	-0.013	-1.159	-0.014	-1.280	-0.013	-1.127	-0.015	-1.344	-0.011	-0.987
LEV	-0.044	-0.498	-0.055	-0.617	-0.033	-0.375	-0.053	-0.595	-0.019	-0.214
ALTMAN	-0.007	-1.222	-0.007	-0.1.153	-0.006	-0.985	-0.007	-1.161	0.007	-1.098
ROA	-0.942	-3.087*	-0.950	-3.102*	-1.003	-3.277*	0.948	-3.101*	-0.993	-3.235*
BIG4	0.003	0.088	0.001	0.034	0.001	0.043	0.005	0.174	0.006	0.201
AGE	-0.009	-0.321	-0.012	-0.427	-0.016	-0.578	-0.011	-0.387	-0.009	-0.313
P/B RATIO	0.010	0.849	0.011	0.904	0.009	0.766	0.011	0.961	0.009	0.737
CFO	-0.253	-1.232	-0.284	-1.378	-0.278	-1.362	-0.283	-1.383	-0.270	-1.300
YEAR DUMMIES	Yes		Yes		Yes		Yes		Yes	
INDUSTRY DUMMIES	Yes		Yes		Yes		Yes		Yes	
SUMMARY										
Adj. R-Squared	0.293		0.290		0.296		0.292		0.295	
F-Statistic	7.415*		7.319*		7.487*		7.368*		6.541*	
Sample Size	372		372		372		372		372	

Notes: *, **, and *** indicate significance at $p < 0.01$, $p < 0.005$, and $p < 0.10$ (based on two-tailed tests), respectively. For variable definitions, see the Appendix.

Table 8
Family ownership, corporate governance, and ARL (endogeneity).

Variables	Column 1: Two-stage least squares (2SLS)		Column 2: One-year lagged value of audit report lag (LAG_ARL)	
	Beta	t-stat	Beta	t-stat
(Constant)		2.058**		7.790*
FAM	0.113	3.884*	0.070	2.919*
BOARD	-0.031	-3.570*	-0.020	-2.653*
BOIND	0.001	0.186	-0.001	-0.215
BOMEET	-0.016	-4.102*	-0.009	-2.644*
FEMALE	0.118	1.578	0.024	0.345
AC	0.049	1.401	0.016	0.616
SIZE	-0.009	-0.140	-0.007	-0.695
LEV	-0.028	-0.123	-0.009	-0.120
ALTMAN	-0.011	-1.257	-0.001	-0.061
ROA	-0.941	-2.393**	-0.538	-2.027**
BIG4	0.019	0.306	0.031	1.130
AGE	-0.041	-0.221	-0.013	-0.556
P/B RATIO	0.005	0.324	0.004	0.371
CFO	-0.019	-0.064	-0.126	-0.715
LAG_ARL			0.445	11.134*
YEAR DUMMIES	Yes		Yes	
INDUSTRY DUMMIES	Yes		Yes	
Model Summary				
Adj. R-Squared	0.287		0.477	
F-Statistic	6.148*		15.093*	
Sample Size	372		372	

Notes: * and ** indicate significance at $p < 0.01$ and $p < 0.05$ (based on two-tailed tests), respectively. For variable definitions, see the Appendix.

higher business risk, and concerns about the integrity of their financial reporting lead to increased auditor efforts and delays. Our result supports the argument that family firms experience greater Type II agency problems than non-family firms. Second, we find evidence that the number of supervisory board members and board meeting frequency are negatively associated with ARL. These findings, which are in line with the arguments of Type II agency theory and entrenchment behaviors, shed light on the determinants of ARL (Habib et al., 2019).

In further analysis, we consider the composition of the supervisory board. The results suggest that firms with family members sitting on the board of commissioners tend to have longer ARL. Hence, a non-executive family member on the supervisory board can disrupt the monitoring process at the expense of other shareholders. The very purpose of the two-tier board structure is to ensure some distance from the powerful owners (whether family owners or another ownership group), so allowing such representatives on the board of commissioners seems self-defeating. Finally, boards whose members have backgrounds as community leaders are more likely to have longer audit report lag.

In addition to considering the role of family ownership, we seek to contribute to the literature by examining the less-researched implications and consequences of a two-tier board (Belot et al., 2014; Bezemer et al., 2014). The two-tier board structure was meant to address the potential 'capture' or dominance of a unitary board by executive management or by prominent shareholders (e.g., state, family). However, our results show that the composition of the supervisory board can be crucial in ensuring adequate monitoring of accounting and auditing outcomes. It may be especially important to limit the presence of board members whose involvement needs to be mitigated (e.g., representatives of family owners and community leaders). Finally, it is noteworthy that supervisory board independence and gender diversity did not have an impact on ARL, which may indicate the current limitations of such requirements in emerging economies. These insights can provide policymakers with additional information and guidance as they consider mandating the composition and role of supervisory boards.

This research has several implications. First, it suggests that corporate governance reforms in Indonesia need to pay more attention to the composition of supervisory boards, while not necessarily adopting

mainstream prescriptions. In particular, if the government wishes to improve investment in listed companies (see Deloitte, 2020), it should consider regulatory intervention to limit (or even prohibit) family membership on supervisory boards. As our results indicate, excluding family members can reduce ARL in a two-tier board context, since auditors assume that supervisory boards consisting of commissioners without family relationships can professionally mitigate Type II agency problems. In turn, the reduction in ARL will improve investor confidence (see Habib et al., 2019).

Second, our results suggest that companies with family ownership need to appoint more board commissioners, particularly members who do not have family relationships with the companies, to sit on the supervisory boards. The appointment of more supervisory board members (commissioners) enhances auditors' confidence, as the auditors may perceive that the supervisory board has more power to mitigate Type II agency problems. Therefore, the auditors may not need to expend extra efforts to reassure themselves that the interests of the non-family shareholders and the company are being protected. However, family shareholders may not want the companies to appoint more supervisory board members, because commissioners can hinder their interests. To minimize such resistance, auditors need to recommend that their clients whose companies have family ownership appoint more supervisory board members, particularly when the clients have sufficient financial resources to pay additional commissioners. Third, more frequent meetings may be required to improve monitoring and discourage entrenchment behaviors.

Although our results relate to the Indonesian case, the findings are relevant to other countries that have significant family ownership, those that are considering implementing a two-tier board structure, and those that have concerns about the timeliness of financial reporting, such as China and Germany (Cheng et al., 2015; Kraiczy et al., 2015; Dinh & Calabrò, 2019; Nipper, 2021). Regulators and policy makers in these countries may consider strengthening the function of the supervisory board through regulations, policies, and training. They might also commission further in-depth (e.g., qualitative) studies to understand two-tier board dynamics.

Our study has certain limitations. First, it reflects the audit work from the year-end to the ARL. It does not consider audit work conducted outside this period. Also, factors other than those included in our model can affect audit report timeliness (e.g., administrative approval processes within the audit firm's home offices). Second, this study examines only some of the corporate governance characteristics that may affect ARL. Future research can explore the effects of other corporate governance attributes thought to influence ARL (e.g., quality of internal auditing). Third, to maintain the integrity of our research, we controlled for several variables considered to influence ARL; however, numerous other control variables may be relevant. Finally, future investigations can attempt to refine proxy measures for the dependent and experimental variables.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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Appendix

Variable definitions

Abbreviation	Variable	Definition
ARL	Audit report lag	Number of days from the financial year-end to when the auditor signs the report
FAM	Family ownership	A dummy variable coded 1 if a company is classified as a family-controlled firm, and 0 otherwise
BOARD	Supervisory board size	Total number of members on the board of commissioners as reported by the company
BOIND	Supervisory board independence	Percentage of independent commissioners on the board
BOMEET	Supervisory board meeting frequency	Number of supervisory board meetings held in a year
FEMALE	Proportion of female commissioners	Percentage of female commissioners on the board
AC	Audit committee size	Total number of members of the audit committee
SIZE	Firm size	Natural log of total assets
LEV	Leverage	Total debt divided by total assets
ALTMAN	Financial condition	Altman Z-score (Altman, 1993)
ROA	Return on assets	Net income divided by total assets
BIG4	Auditor reputation	A dummy variable coded 1 if a company's auditor is a Big 4 audit firm, and 0 otherwise
AGE	Firm age	Natural logarithm of the years since the company was established
P/B RATIO	Firm value	Company's stock price divided by its book value per share
CFO	Cash flow from operations to total assets ratio	Cash flow from operations divided by total assets
FAMDIR	The presence of family members in the executive board	A dummy variable coded 1 if one or more family members hold the director position in the company, and 0 otherwise
FAMCEO	The presence of a family member as the CEO of the company	A dummy variable coded 1 if the CEO position is held by a family member, and 0 otherwise
FAMBOC	The presence of family members in the supervisory board.	A dummy variable coded 1 if one or more family members serve on the board of commissioners, and 0 otherwise
BOADV	The presence of supervisory board members with advisor backgrounds	A dummy variable coded 1 if one or more members of the supervisory board are currently developing or formerly developed their role as insiders in auditing, accounting, financial marketing, or other consulting companies, and 0 otherwise
BOLEAD	The presence of supervisory board members with leadership backgrounds	A dummy variable coded 1 if one or more members of the supervisory board are classified as politicians, heads of non-profit organizations, or other significant public positions, and 0 otherwise
BOACAD	The presence of supervisory board members with academic backgrounds	A dummy variable coded to 1 if one or more members of the supervisory board hold academic positions, and 0 otherwise
LAG_ARL	Lagged audit report lag	One-year lagged value of audit report lag

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