

# CEO Characteristics and Audit Report Lag: Evidence from Egypt

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## Abstract

**Purpose** – This study examines the association between CEO characteristics and Audit Report Lag (ARL) in Egypt, an emerging economy with a long power distance and a secretive culture. Theoretical frameworks such as agency theory, stewardship theory, and upper echelons theory provide the basis for exploring these relationships.

**Design/methodology/approach** – The sample consists of 587 firm-year observations from 77 non-financial firms listed on the EGX100, covering the period from 2012 to 2019. ARL, the primary variable of the study, is measured using three different proxies: ARL (days), ARL/365, and Long-ARL (5%, 10%, and 15%). Both OLS and logistic regressions are employed, with additional analysis considering CEO power and using board gender diversity as a moderating variable.

**Findings** – The study finds that CEO characteristics significantly affect ARL, demonstrating a negative association between CEO ownership, founder status, family ties, duality, and ARL. These findings remain robust after a series of tests using alternative measures. Additional analysis reveals that CEO power is negatively and significantly related to ARL. Interestingly, the negative association between CEO characteristics and ARL is more pronounced in boards without female members.

**Originality/value:** Although extensive research has been conducted on the factors determining ARL, few studies have examined the impact of CEO characteristics on ARL, particularly in emerging economies like Egypt. The business environment in Egypt is characterized by high power distance and a secretive culture, providing a unique context for this study.

**Keywords:** CEO Characteristics; CEO Power; Audit Report Lag; Emerging Economies; Egypt.

## 1 Introduction

This study aims to investigate the potential impact of CEO characteristics on Audit Report Lag (ARL) within the context of an emerging economy, specifically Egypt. The audit report is a critical outcome of the audit process, providing the auditor's perspective on the financial statements, identifying material misstatements, and assessing the business's going-concern and other risks. ARL is defined as the duration between a company's fiscal year-end and the audit report date (Bamber et al., 1993). Stakeholders, who are keen on timely information, prefer shorter ARLs because obtaining the auditor's opinion promptly aids in informed decision-making (Habib & Bhuiyan, 2011). Conversely, a delayed issuance of the audit report may compromise the information's value and quality, rendering it potentially irrelevant (Knechel & Payne, 2001). This study focuses on unraveling the intricate relationship between CEO characteristics and ARL within the specific context of Egypt's emerging economy.

Theoretically, agency theory posits that conflicts of interest between managers and shareholders can influence corporate behavior, including the timeliness of financial reporting. Prior studies on audit report lag utilize the agency theory to explain the ARL (e.g., Ahmed et al., 2023; Hassan, 2016). Arguably, no one theory can fully explain corporate behavior. On the contrary, the Stewardship theory suggests that managers act as stewards of the business and are likely to work for the interest of all stakeholders and the long-term success of firms.

The Upper Echelons Theory suggests that an individual's background, experiences, and values influence decision-making processes within an organization, suggesting that organizational behavior and outcomes can be predicted by managers' characteristics (Hambrick, 2007; Hambrick & Mason, 1984). As such, CEOs, being at the apex of organizational decision-making, have the potential to influence the firm's behavior and decisions, consequently impacting the timing of the audit report. While the CEO's authority over the audit report date appears to be limited, their involvement in overseeing the preparation of financial reports and managing interactions with external auditors implies a role in influencing ARL. So, the dynamics of communication between CEOs and external auditors play a role in shaping ARL (Baatwah et al., 2015). In addition, the CEOs' responsibility for executing the firm's strategy, decision-making within their authority, and adherence to firm policies further positions them as key players in determining the timeliness and quality of financial reporting, including ARL. We employ a theoretical framework that integrates both agency theory and the upper echelon theory to examine how the unique attributes of CEOs in emerging markets, where cultural and business dynamics differ significantly from developed markets, influence ARL. This integrated approach enhances our understanding of the mechanisms through which CEO characteristics affect the timeliness of audit reports.

Prior studies provide ample evidence of the CEO's impact on firm performance and financial reporting quality (e.g., Altarawneh et al., 2020; Bhaskar et al., 2023; Bochkay et al., 2019; Cao & Chen, 2023; Francis et al., 2008; Malmendier & Tate, 2005; Zhang & Wiersema, 2009). For example, several studies on ARL have explored the impact of CEOs attributes such as CEO tenure and financial expertise (e.g., Baatwah et al., 2015; and Salehi et al., 2018), CEO duality (Abdullah, 2006; Afify, 2009), CEO succession origin (Oradi, 2021). However, the evidence from prior studies is mixed (Abernathy et al., 2017; Durand, 2019). Notably, while studies have delved

into various CEO-related attributes and their impact on ARL, there remains a gap in the literature concerning the associations between CEO founder status, CEO family ties, CEO ownership, and ARL specifically in emerging markets with unique cultures, such as Egypt. Therefore, our research question is: Do CEO characteristics affect audit report lag in emerging capital markets?

The distinctive cultural characteristics of Egypt, marked by a secretive and high-risk avoidance culture with a high-power distance (Abdelfattah, 2018; Abdelfattah & Hussainey, 2019), have profound implications for the behavior of CEOs in the context of ARL. The inclination towards avoiding uncertainty and resisting change, rooted in the cultural fabric, can shape the way CEOs navigate decisions related to financial reporting. Furthermore, the existence of a caste-like cultural system, where obedience to top management is paramount and change is met with aversion (Abdelfattah & Aboud, 2020; Abdelfattah & Elfeky, 2021), emphasizes the potential power CEOs hold in influencing organizational dynamics, including ARL. This cultural backdrop, with its emphasis on hierarchy and deference to top leadership, may create an environment where CEOs exercise significant control over the timeliness of audited financial statements. The high power distance creates more accountability pressure (Endrawes & Leong, 2023), and adoption of "fortify and defend" practices that support the firm's position in the industry (Gaganis et al., 2019). Consequently, managers are more likely to issue annual reports promptly (Toumi et al., 2022). Additionally, the auditor-in-charge in such a culture might spend less effort and time on an audit engagement, resulting in a shorter ARL (Bik & Hooghiemstra, 2017).

Family and group dynamics, which hold paramount importance in Egyptian culture (Abdelsalam & Weetman, 2007; Ebrahim & Fattah, 2015), add another layer of complexity to the role of CEOs in financial reporting. The subordination of the individual to the family and the group, coupled with a strong sense of family loyalty, creates a context where CEOs may prioritize familial relationships in decision-making. In the context of ARL, CEOs with familial ties may wield substantial influence over the financial reporting process, potentially impacting the speed at which audit reports are generated. Additionally, the prevalence of nepotism in Egyptian workplaces (Abdelfattah & Elfeky, 2021; Abdelsalam & Weetman, 2007; Caiazza & Volpe, 2015), suggests that CEOs with family ties may have a considerable say in determining the timing of audit reports.

The uncommon practice of Egyptian companies cross-listing on foreign stock exchanges and adhering to internationally recognized standards for regulatory filings adds another layer to the distinctive environment in which CEOs operate. The cultural nuances that discourage such international engagements may shape CEOs' attitudes toward transparency and compliance with global standards, potentially affecting the timeliness of audit reports. Understanding the cultural intricacies specific to Egypt is essential for comprehending how CEOs, especially those with family ties or founder status, navigate the complex landscape of financial reporting, impacting ARL in ways unique to this cultural context. To the best of our knowledge, no prior study has investigated the relationship between CEO founder status, CEO family ties, CEO ownership, and ARL in Egypt. Therefore, our study contributes to the literature by exploring the link between CEO characteristics and ARL in the Egyptian context.

This study utilized a sample from non-financial listed firms in the Egyptian Stock Market, spanning the period from 2012 to 2019. The findings provide evidence that CEO founder status, duality, family ties, and ownership have a significant and negative association with ARL. Conversely, no evidence was found of an association between CEO tenure and ARL. The findings remain robust when considering the audit committee and using alternative measures of ARL. We also report that firms with higher CEO power are linked to shorter ARL.

This study contributes to the literature in several ways. First, we add to the limited number of studies investigating the effect of national culture on ARL (Toumi et al., 2022). Second, we provide empirical evidence suggesting that founder CEOs and those with family ties are more likely to prioritize financial reporting quality by reducing the timeliness of their financial reports. The results have important implications for regulators and other stakeholders, informing them of the potential impact of CEOs' attributes on ARL, particularly in emerging markets.

The paper is structured as follows: the next section reviews previous studies and develops the study hypotheses. Section three presents the study design and methodology. Section four discusses the basic analysis results, while section five presents the additional analysis. Finally, section six concludes the study.

## **2. Literature Review and Hypotheses Development**

### **2.1 CEO Tenure and ARL**

CEO tenure is a key indicator of CEO experience (Wang et al., 2016). According to the upper echelon theory, CEOs with longer tenures have accumulated substantial knowledge and experience about their firms, industry, and regulatory environment. This expertise enables them to manage their firms more efficiently, anticipate and mitigate potential issues, and ensure timely financial reporting. CEOs' tenure has a clear effect on firm strategy and organizational outcomes, particularly risk-taking activities (Finkelstein & Hambrick, 1990; Graf-vlachy et al., 2020; Hambrick, 2007; Lee & Moon, 2016). Furthermore, agency theory suggests that managerial actions are influenced by the need to align their interests with those of the shareholders. CEOs with longer tenures may be more aligned with shareholder interests due to their deep involvement in the organization and their desire to maintain their reputation and a positive legacy. These CEOs might prioritize the timely release of annual reports to signal effective governance and transparency, thereby reducing ARL (Zhang & Wiersema, 2009). Furthermore, longer-tenured CEOs are likely to have greater influence and control within the organization, enabling them to enforce efficient reporting practices and reduce delays.

Empirical studies provide mixed evidence on the effect of CEO tenure. Some research highlights that longer CEO tenures facilitate greater social interaction and cohesion, leading to a better understanding of their organization and industry (Smith et al., 1994). CEO tenure has been associated with enhanced effectiveness in managing the firm, improved market perception of CEO capabilities (Cornett et al., 2008; Milbourn, 2003), risk avoidance (Berger et al., 1997; Coles et al., 2006; Lee & Moon, 2016), and higher reporting quality (Francis et al., 2008). However, other

studies suggest that longer tenure can lead to CEO entrenchment, opportunistic earnings management, and poorer internal control quality, which could increase audit efforts and ARL (Burns & Kedia, 2006; Cornett et al., 2008; Dikolli & Mayew, 2014; Habib et al., 2019; Lin et al., 2014). Baatwah et al. (2015) found a positive relationship between CEO tenure and ARL in Oman, while Salehi et al. (2018) reported an insignificant relationship between CEO tenure and ARL in Iran.

Arguably, longer CEO tenure likely improves familiarity with the business, allowing for an earlier start to the audit process and potentially reducing ARL. The cultural characteristics of Egypt, particularly its higher power distance and secretive nature, might affect the audit report lag. In Egypt, the CEO overseeing the preparation of financial statements and revises all replies to the independent auditors' inquiries before drawing up financial statements (Egyptian Institute of Directors (EIoD), 2016). Prior studies in the Egyptian context emphasize that the time taken in the preparation of financial statements affects ARL (Afify, 2009; Khlif & Samaha, 2014). As such, it can be argued that CEO tenure in Egypt not only enhances familiarity with the business but also mitigates potential negative cultural effects of its high-power distance and secretive nature. This familiarity between subordinates and the CEO fosters a more transparent and cohesive environment, which is likely to reduce ARL.

Based on the theoretical foundations of upper echelon theory and agency theory, as well as the empirical evidence from literature, we hypothesize that CEO tenure in the Egyptian listed firms is likely to positively affect the audit report timeliness, reducing the ARL. Therefore, our first hypothesis is as follows:

**H1:** CEO tenure is negatively associated with ARL.

## **2.2 CEO Ownership and ARL**

Agency theory argues that managerial and insider ownership can play a crucial role in making more efficient decisions. CEOs who hold shares in the firms they manage are more likely to make decisions that align with shareholders' interests and maximize shareholder wealth (Certo et al., 2003; Jensen & Meckling, 1976). Such CEOs are likely to be invested in the future success of the firm, behave more ethically, protect shareholders' interests, and resolve conflicts of self-interest that could lead to earnings manipulation (Mahoney & Thorn, 2006; Petrou & Procopiou, 2016; Zhang et al., 2008). This perspective aligns with Stewardship Theory, which posits that managers generally act as stewards of the business and work for the overall benefit of the firm. The positive impact of their stewardship is likely to be even greater when they hold shares in the firms they manage.

Prior studies reported a negative relationship between CEO shareholdings and earnings management (Petrou & Procopiou, 2016; Zhang et al., 2008). Moreover, stock-owning executives are less likely to engage in earnings management behaviors (Zhang et al., 2008).

Wiseman and Gomez-Mejia (1998) developed a behavioral agency model that explains that executives are loss averse, this makes the CEOs more unwilling to take risks (Deyá-Tortella et al., 2005; Gomez-Mejia et al., 2019) and can lead them to make investment strategies that aim

to minimize firm risk (Huang et al., 2022). Therefore, the CEO is likely to become more loss-averse, when having a higher value of the CEO's stock ownership (Zhang et al., 2008).

The Upper echelons theory (Hambrick and Mason, 1984) argues for the influence of CEO characteristics including ownership on firms' policies. CEOs with insider ownership are likely to align personal interests with those of all other shareholders and engage in less opportunistic behavior, enhancing firm performance (Zhang et al. 2008).

Nevertheless, the literature provides evidence of the positive impact of CEO shareholdings on the firm's risk-taking behavior (Barker & Mueller, 2002; May 1995) and a positive association between CEO share ownership and earnings management (Donoher et al., 2007; Feng et al., 2011).

Overall, this study argues that CEO ownership is more likely to positively impact the effectiveness of managerial decisions and align the interests of both CEOs and shareholders. A higher CEO ownership is likely to improve the earnings quality, lower audit risk, and thus, decrease ARL. Accordingly, the study's second hypothesis can be formulated as follows:

**H2:** CEO ownership is negatively related to ARL.

### **2.3 Founder-CEO and ARL**

Upper Echelon Theory's functional tracks are reflected in the founder (Ting et al., 2015). When the founder is the CEO of a company, it is more likely that founder-CEOs manage the business well since he/she would be more aware of companies, and their history and have more effective communication with all departments (Lee et al., 2017). The Stewardship theory argues that founder managers are stewards of the business who prioritize the firms' long-term success over any personal interests, contrary to the agency theory argument that managers act in their self-interest.

The founding CEO usually possesses valuable industry and company-specific knowledge, skills, and capabilities (Abebe et al., 2020). In addition, founder-CEOs are more influential therefore they can easily facilitate the control of corporate decision-making (Adams et al., 2005), and have a substantial influence on the performance and operations of the companies they start (Wasserman, 2006).

The literature provides empirical evidence on the positive impact of founder-CEOs on business operations. For example, Anderson et al. (2003) found that family ownership, when the founder serves as CEO, results in a lower cost of debt. Regarding financial performance, Begley (1995), Villalonga and Amit (2006), Palia et al. (2008), and Kim and Koo (2018) identified a positive association between founder-CEOs and firm performance. Kim and Koo (2018) documented that firms led by founder-CEOs achieve higher long-term innovation results. Similarly, Lee et al. (2020) found that firms with founder-CEOs are more likely to generate innovations. Additionally, founder-CEOs often own a larger portion of their firm's equity, which reduces agency-related issues (Abebe et al., 2020). This ownership structure is beneficial for improving information transparency between insiders and external investors (Hsu et al., 2018).

Nevertheless, and in line with the entrenchment effect, founder-CEOs are often more overconfident (Lee et al., 2017), which might lead to riskier decisions. According to the entrenchment theory, managers with significant control over a firm may make decisions that benefit themselves at the expense of shareholders, often resulting in increased risk-taking. Presley and Abbott (2013) showed that CEOs' overconfidence is related to a higher likelihood of financial statement restatement. Similarly, Dechow et al. (1996) reported that founder-CEOs are more likely to manipulate earnings. This overconfidence can result in decisions that, while potentially beneficial, also increase the likelihood of financial misreporting and manipulation.

Since the CEO revises all replies to the external auditors' inquiries before drawing up financial statements (Egyptian Institute of Directors (EIoD), 2016), external auditors might get a comprehensive understanding of the business' actions, risks, and history due to the historical background and knowledge of the founding CEO, which could accelerate the audit process since fewer audit efforts would be required (Tee, 2019; Yang, 2010), which accelerates the issue of the audit report. Accordingly, we argue that ARL is likely to decrease when firms are led by a founder-CEO. This leads to the next hypothesis:

**H3.** CEO founder is negatively associated with ARL.

## **2.4 CEO duality and ARL**

The board of directors selects a board chairman and appoints a managing director, who is known as the CEO of the company. CEO duality occurs when one person holds both positions. According to agency theory, CEO duality can lead to a conflict of interest, as it concentrates decision-making power on a single individual, potentially reducing the board's ability to effectively monitor management. To mitigate this risk, if splitting the two posts is not possible, the reasons should be disclosed in the firm's annual report and on its website. In such cases, an independent vice-chairman of the board should be appointed to chair meetings that discuss the performance of executive management (Egyptian Institute of Directors (EIoD), 2016).

The literature examined the effect of CEO duality on different business aspects. For example, Sun et al. (2023) found evidence that CEO duality has a strong impact on CEO decision-making in terms of the CEO's social capital and its impact on firm innovation. However, CEO duality is not necessarily to be related to poor governance/performance (Peel & Clatworthy, 2001). For example, CEO duality may be good for performance because of the unity of leadership it provides (Peng et al., 2007). According to this theory, combining the roles of Chairman and CEO improves effectiveness resulting in higher returns for shareholders than separating the roles of Chairman and CEO (Donaldson & Davis, 1991). However, agency theory argues that CEO duality may not comply with effective corporate governance practices and lead to self-interest decisions. Stewardship theory argues that managers are stewards of the business and likely to act in the best interest of shareholders, (Donaldson and Davis, 1991), meaning that the combined roles can lead to quicker and more efficient strategic decisions.

Goergen et al. (2020) summarized examples of companies' disclosures about the reasons for combining the CEO and Chairman roles including (1) "Unified leadership" suggesting that having a CEO-Chairman could enhance clear and consistent leadership, directive clarity, and effective and prompt decision making, (2) Raise the in-depth knowledge of the CEO of the company and its operations, and (3) enables the CEO to act as a bridge between management and the board, enhancing the flow of information between the two.

Nevertheless, audit failure could be estimated by the auditor as higher than estimated if two roles were combined as there is arguably more scope for concealment or misrepresentation of relevant facts and even fraud. This should result in a more thorough audit (Peel & Clatworthy, 2001). Due to a lack of effective management control in light of CEO duality (Goergen et al., 2020), increased audit efforts are likely to be the result of auditors being aware of the increased agency costs (Peel & Clatworthy, 2001), which might lead to a longer audit lag.

Using data from Malaysia, Abdullah (2006) documented that CEO duality is positively related to ARL. Using data from Egypt, Afify (2009) reported a positive relationship between CEO duality and ARL. This may be because the dominant figure in both roles, president and CEO could represent a threat and withhold unfavorable information, which might increase ARL. Hence, this affects the auditors' valuations of audit risk, audit time, and the level of objective testing (Afify, 2009).

Given the conflicting results of previous studies and the competing views on the influence of CEO duality, this study believes that CEO duality could affect ARL. Accordingly, the study's fourth hypothesis can be formulated as a non-directional as follows:

**H4:** CEO Duality is related to ARL

## **2.5 Family-CEO and ARL**

According to the agency theory, firms led by family CEOs will have less agency costs due to the alignment of interests between managers and shareholders. Family CEOs are more likely to act in the best interest of the shareholders due to their significant ownership and emotional investment in the firm (Minichilli et al., 2010), thereby reducing agency costs and minimizing information asymmetry. Furthermore, the Upper Echelon Theory posits that the firm's outcomes are influenced by the characteristics and experiences of its top executives. Family CEOs, with their long-term orientation and personalized leadership style, tend to adopt risk-averse strategies and prioritize the family's socioemotional wealth. These theories collectively suggest that family CEOs can foster more efficient management practices and timely financial reporting.

Empirically, there is ample evidence supporting the theoretical prediction of family CEOs' positive impact on firm performance and financial reporting. The presence of family members influences the firm's business philosophy and governance (Abdelfattah & Aboud, 2020; Mullins & Schoar, 2016). Minichilli et al. (2010) argue that family CEOs exercise strong leadership influence over company decisions and outcomes. Studies by Anderson et al. (2003), Cai et al. (2012), and Lin and Hu (2007) found that having a family CEO positively impacts firm

performance. Furthermore, family CEOs are less motivated to behave opportunistically and have fewer incentives to get involved in manipulation (Prencipe et al., 2008). Yang (2010) highlights that family CEOs have less tendency to manage earnings, aligning their decisions more closely with shareholder interests and reducing opportunistic behavior. Prior studies highlight the risk-taking behavior of family firms. Tan et al. (2024) report a negative association between family involvement in management and the extent of risk-taking activities, resulting in greater risk aversion. Family CEOs are more likely to decrease the firm's idiosyncratic risk (Huybrechts et al., 2013). They choose strategies that align with the risk appetites of the family owners (Gomez-Mejia et al., 2019; Lardon et al., 2017), leading to lower principal-agent costs (Miller et al., 2022). Similarly, Martino et al. (2020) report that family CEOs are more risk-averse than non-family CEOs, aiming to maintain the family's social and emotional wealth and minimize risky investments.

However, prior studies indicate that the impact of family firms on financial reporting quality is context-dependent and varies across countries, calling for more research in different contexts especially those with unique institutional and cultural characteristics (Ali et al., 2007; Klai & Omri, 2011). In Egypt, the listed family firms are under public scrutiny (Abdelfattah & Aboud, 2020), encouraging family CEOs to prioritize the timelines of financial reporting. Furthermore, the high-risk avoidance and the high-power distance of Egyptian culture enhance the power of family CEOs who are more likely to consider the audit report lag as a negative signal of their firm performance which might affect their family's image.

Based on the theoretical foundation and empirical evidence, we expect that family CEOs in the Egyptian listed firms are more likely to behave in a way that reduces ARL. Thus, our last hypothesis is as follows:

**H5:** Family-CEO is negatively related to ARL.

### **3. Research design**

#### **3.1 Sample and data**

Table (1) exhibits the final sample after excluding some observations, the initial sample covers the 100 most active firms as listed on the Egyptian Stock Exchange (EGX100 Index) over the period 2012-2019. The sample began in 2012, after the Egyptian political revolution in 2011, and ended in 2019 before the COVID-19 pandemic. We excluded observations from financial institutions (136 firm-year observations) due to the special financial regulations that these firms follow. Additionally, we dropped 77 firm-year observations with missing data from the total 800 observations. Our final sample consists of 587 firm-year observations of 77 non-financial listed firms. Since most required data were collected manually and the data of some variables were not available, we could not extend the sample size and study period beyond the mentioned sample size and study years. The Financial statements were downloaded from firms' websites and [www.mubasher.info](http://www.mubasher.info), and the reports of boards were collected from the EGX website. We treated the outliers by winsorizing the variables data at 1% using Stata rather than excluding these observations.

**Insert Table (1) here**

### **3.2 Dependent variable: ARL**

ARL is the primary study variable, we used three proxies to measure it. ARL was measured as the number of days from the business's fiscal year end to the audit report date. ARL/365 was measured as a percentage by dividing the number of days by 365 following (Mathuva et al., 2019). In the additional analysis, we estimated long ARL (Long ARL5%, Long ARL10%, and Long ARL15%) as a dummy variable that equals 1 for firm years with the top 5%, 10%, and 15% longest audit reporting lag, respectively.

### **3.3 Independent variables: CEO characteristics**

The independent variables are CEO characteristics including the (1) CEO tenure, (2) CEO ownership (3) CEO founder (4) CEO duality (5) CEO family. Table 2 exhibits the definitions and measurements of all study variables.

**Insert Table (2) here**

### **3.4 Control variables**

A set of control variables that are likely to affect ARL were added to the study models. Adding such variables could help mitigate the endogeneity problem. The first set of controls includes auditor-specific factors. ARL was found to be shorter for companies audited by a Big 4 auditor (Rusmin & Evans, 2017), therefore we added the audit firm size (BIG4). Since companies that received a qualified audit opinion have longer audit lags (Bamber et al., 1993), we included audit opinion (OPINION). The second set comprises corporate governance factors. The firm's ownership structure is used as a proxy for auditor business risk (Durand, 2019; Habib & Muhammadi, 2018; Sulimany, 2023). Prior studies highlight the high percentage of family ownership and government ownership in the Egyptian context ( e.g., Ahmed et al., 2023; Khlif et al., 2015). Therefore we control for family ownership (FAM)<sup>1</sup>, government ownership (GOWN), ownership concentration (OCON), and foreign ownership (FOWN). ARL was found to be larger in companies with larger board sizes (Hassan, 2016) and is shorter for companies with a higher proportion of board independence (Habib et al., 2019), therefore we included board size (BSIZE) and independence of board (BIND).

Our final set of control variables relates to company-specific factors. In Egypt, the most common fiscal year-end date is December 31. Knechel & Payne (2001) show that firms with the fiscal year ending in December have longer ARL, therefore we included financial year-end (YEAREND). We used company size (SIZE) because large firms are thought to negatively impact ARL, since these firms may have highly effective internal controls, thus, reducing the amount of audit effort needed at the end of the year (Habib & Bhuiyan, 2011). We used loss (LOSS), since losses increase concerns about material misstatements, and are often related to firm problems such

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<sup>1</sup> We thank the reviewer for pointing out this point.

as inventory obsolescence. More audit effort will likely be required to meet such concerns. Hence, the ARL is likely to be longer if the firm reports a loss (Bamber et al., 1993).

Finally, we controlled for business complexity measured by the number of subsidiaries (SQSUB), it is argued that the complication existing in auditing such firms may increase ARL (Habib & Bhuiyan, 2011). Since the intensity of inventories and receivables represents the inherent risk (Hay et al., 2006), and is expected to increase ARL, we included the intensity of inventories and receivables (INVRC). We controlled for leverage (LEV) since ARL is likely to be longer for highly leveraged firms (Bhuiyan & D'Costa, 2020). We used foreign operation (FOP), since foreign operations were found to be positively impacting ARL (Baatwah et al., 2019). We included profitability measured by the ROA.

### 3.5 Empirical model

The next model was estimated to explore the association between CEO characteristics and ARL:

$$\begin{aligned} \text{ARL}_{it} = & \beta_0 + \beta_1 \text{CEO Characteristics}_{it} + \beta_2 \text{BIG4}_{it} + \beta_3 \text{OPINION}_{it} + \beta_4 \text{OCON}_{it} \\ & + \beta_5 \text{GOWN}_{it} + \beta_6 \text{FOWN}_{it} + \beta_7 \text{FAM}_{it} + \beta_8 \text{BSIZE}_{it} + \beta_9 \text{BIND}_{it} + \beta_{10} \\ & \text{YEAREND}_{it} + \beta_{11} \text{SIZE}_{it} + \beta_{12} \text{SQSUB}_{it} + \beta_{13} \text{LOSS}_{it} + \beta_{14} \text{INVRC}_{it} + \beta_{15} \\ & \text{FOP}_{it} + \beta_{16} \text{LEV}_{it} + \beta_{17} \text{ROA}_{it} + \epsilon \end{aligned}$$

The model was developed in consistent with those of previous relevant studies (Baatwah et al., 2015, 2019; Bamber et al., 1993; Bhuiyan & D'Costa, 2020; Habib & Muhammadi, 2018; Jaggi & Tsui, 1999; Knechel & Sharma, 2012; Mathuva et al., 2019).

## 4. Results

### 4.1 Descriptive statistics

Table 3 presents descriptive statistics for all variables employed in the regression analyses before the continuous variables have been winsorized. The average ARL is about 75 days with a standard deviation of about 27 days and with a minimum of 9 days and a maximum of 185 days, this indicates that there is a wide variation between companies in terms of ARL. The average ARL is slightly higher than the 67.21 days reported by (Afify, 2009) for Egyptian companies for the year 2007, and it is closer to both 77.38 reported by (Baatwah et al., 2019) for Malaysian companies, and 78 reported by (Habib & Muhammadi, 2018) for Indonesian companies, and it is much higher than both 42.54 reported by (Knechel & Sharma, 2012) for USA listed companies, and 52 reported by (Baatwah et al., 2015) for Oman listed companies.

The results show that, on average, 37.1% of companies have the CEO as a shareholder. The average CEO Tenure is 3.319, with a minimum period of 1 and a maximum period of 8. This average is higher than the 2 reported by (Salehi et al., 2018) of a sample of Iranian firms and is smaller than the 5 reported by (Baatwah et al., 2015) with Oman data. In addition, the average of CEO founder is 23.3%, which is higher than 19.1 percent reported by (Zhu et al., 2021) for a sample of Chinese companies. The average CEO duality is 67.6%, which is higher than the 32.94 percent reported by (Afify, 2009) for Egyptian companies and 22 percent reported by (Abdullah,

2006) for Malaysian companies. The average of the CEO family variable is 21.3% indicating that that 21.3% of CEOs are family owners.

**Insert Table (3) here**

## **4.2 Correlations**

Table (4) exhibits the results of running the Pairwise Correlation Test as a preliminary analysis. CEO ownership, CEO founder, and Family-CEO were found negatively and significantly correlated with ARL. Thus, firms with higher CEO ownership, CEO founder, and Family-CEO are associated with lower ARL. In contrast, the correlation between CEO tenure and CEO duality and ARL was negative but not significant. Table (4) shows no multicollinearity concerns since none of the independent variables exhibit a correlation higher than 0.80 (Gujarati & Porter, 2009).

**Insert Table (4) here**

## **4.3 Regression results**

Table 5 exhibits the regression results of the effect of CEO characteristics on ARL. We run a model with robust standard errors to control for heteroskedasticity and autocorrelation problems and with industry and year-fixed effects. Results in Column 1 of Table 5 indicate that there is no significant relationship between CEO tenure and ARL. Thus, these findings reject our first hypothesis.

According to agency theory, managerial ownership aligns the interests of managers and shareholders, reducing agency costs. Results in Column 2 of Table 5 indicate that CEO ownership is significantly and negatively related ( $p < 0.01$ ) to ARL, supporting our second hypothesis (H2). This suggests that CEOs with ownership stakes are more motivated to ensure timely financial reporting to maximize shareholder value.

Stewardship theory posits that managers act as stewards of the company, prioritizing the firm's long-term success. Results in Column 3 of Table 5 indicate that a CEO founder is significantly and negatively related ( $p < 0.05$ ) to ARL, supporting our third hypothesis (H3). Founder-CEOs often exhibit stewardship behavior, which can enhance financial reporting quality and timeliness. Moreover, results in Column 4 of Table 5 indicate that CEO duality is significantly and negatively related ( $p < 0.05$ ) to ARL. Thus, these findings support the fourth hypothesis (H4). Results in Column 5 of Table 5 indicate that a CEO family is significantly and negatively related ( $p < 0.05$ ) to ARL. Thus, these findings support our fifth hypothesis (H5).

Overall, the results suggest that CEO characteristics namely; CEO ownership, CEO founder, CEO duality, and CEO family have a positive effect on the timeliness of audit reports. Our results support the upper echelons theory, suggesting that organizational outcomes are predicted in part by characteristics of the managerial background, especially risk-taking activities (Hambrick & Mason, 1984), and support the agency theory, suggesting that CEOs are more loss and risk-averse (Deyá-Tortella et al., 2005; Gomez-Mejia et al., 2019; Wiseman & Gomez-Mejia, 1998), which leads to lower audit risk, resulting in lower ARL. Additionally, some results come

in line with the argument of the Stewardship theory that managers of firms are stewards who work for the long-term success of business.

### **Insert Table (5) here**

For the control variables, our results support the suggestions that leverage (LEV), qualified audit opinion (OPINION), and loss (LOSS) are statistically significant and positively associated with ARL, and that independence of board (BIND) is statistically significant and negatively correlated with ARL. We found a negative association between ownership concentration (OCON) and ARL, this is consistent with the argument that widely held firms are more susceptible to litigation because more investors rely on the firm's financial statements, thus leading to a higher auditor business. On the contrary, this risk and then ARL are expected to decrease as the ownership of the firm's shares becomes more concentrated risk (Bamber et al., 1993). We also found a negative association between government ownership (GOWN) and ARL, this could be explained by the fact that government ownership could improve the effectiveness of managerial practices monitoring, and thus, lead to a lower assessed inherent and control risks, and then a shorter ARL (Habib, 2015). We found a positive association between family ownership (FAM) and ARL; this finding suggests that family ownership may increase agency conflicts in firms due to family entrenchment (Chen et al., 2013; Sulimany, 2023), leading to increased audit risk.

Regarding the financial year-end (YEAREND), we found a negative association between financial year-end and ARL, this agrees with the argument that a positive or negative association between fiscal year-end and ARL depends on whether auditors increased workload on firms with December year-ends or more audit staff (Ashton et al., 1989). Another possible explanation for this negative association could be that auditors can balance the workload pressure from the audit busy season with additional overtime, and then the maximum number of firms can be served within the limited schedule available, potentially resulting in a shorter ARL (Habib et al., 2019). For other variables, we could not find any significant association between audit firm size (BIG4), foreign ownership (FOWN), board size (BSIZE), company size (SIZE), number of firms' subsidiaries (SQSUB), intensity of inventories and receivables (INVRC), foreign operation (FOP), and profitability (ROA) and ARL.

## **4.4 Additional Controls and Alternative Measures**

### **4.4.1 Additional controls**

Since the audit committee characteristics might enhance audit committee effectiveness resulting in less audit effort and time and thus shorter audit report delay (Sultana et al., 2015), so we controlled for audit committee characteristics such as the number of audit committee members (ACSIZE), number of audit committee meetings (ACM), and audit committee expertise (ACEX). The requirement for these additional data reduces the sample to 462 firm-year observations. Table 6 shows that the results are generally similar even after controlling for audit committee characteristics to that of the main regression analysis (see Table 5). However, the level of statistical significance (p-value) between CEO founder, CEO duality, and CEO family and ARL has changed

to ( $p < 0.05$ ) from ( $p < 0.01$ ). This analysis confirms the main results that firms with a higher proportion of CEO ownership, founder, duality, and family have a shorter ARL.

**Insert Table (6) here**

#### 4.4.2 Alternative Measures of ARL

In the primary models, we used ARL, which is the number of days from the end of a firm's fiscal year to the date on its audit report. Following (Mathuva et al., 2019), we replaced ARL with the ARL scaled by 365 days. The results tabulated in Table 7 show similar results to the reported results in Table 5. These results confirm our main findings that CEO characteristics namely, CEO ownership, CEO founder, CEO duality, and CEO family are statistically significant and negatively related to ARL.

**Insert Table (7) here**

### 5. Additional analysis

In addition to the basic analysis, we conducted three additional analyses. The first was conducted using a long-ARL variable, which was measured as (ARL5%, ARL10%, and LongARL15%), while the second investigated the CEO characteristics as a combined variable, CEO Power. In the third additional test, we added board diversity as a moderating variable to figure out its impact on the relation between CEO characteristics and ARL.

#### 5.1 CEO characteristics and long ARL

We examined the relationship between CEO characteristics and log ARL. Consistent with Chan et al. (2016) we estimated long ARL (Long ARL5%, Long ARL10%, and Long ARL15%) as a dummy variable equals 1 for firm-years with the top 5%, 10%, and 15% longest audit reporting lag, respectively. Logistic regression has been employed since it is an appropriate analysis when the dependent variable is binary.

Agency theory and stewardship theory provide a theoretical framework for understanding these relationships. Agency theory suggests that when CEOs hold shares (CEO ownership) or are founders (CEO founder), their interests are more closely aligned with those of the shareholders, leading to better monitoring and more timely financial reporting. Stewardship theory posits that such CEOs are likely to act in the best interests of the company, thus reducing ARL.

As shown in Table 8, Panel A, there is no significant relationship between CEO tenure and all three of the long ARL measures (Long ARL5%, Long ARL10%, and Long ARL15%). Panel B of Table 8, the coefficient on CEO ownership is negative and significant at ( $p < 0.01$ ) for both the long ARL10% and Long ARL15% regression models, and at ( $p < 0.1$ ) for the Long ARL5% regression model. Panel C of Table 8, the coefficient on CEO founder is negative and significant at ( $p < 0.01$ ) for both the long ARL10% and Long ARL15% regression models, and at ( $p < 0.1$ ) for the Long ARL5% regression model. Panel D of Table 8, the coefficient on CEO duality is negative and significant at ( $p < 0.01$ ) for both the long ARL5%, Long ARL10%, and Long ARL15% regression models. Panel E of Table 8, the coefficient on CEO family is negative and significant at ( $p < 0.05$ ) for the long ARL10% regression model and at ( $p < 0.1$ ) for the Long ARL15%

regression model, but there is no significant relationship for the Long ARL5% regression model. Overall, the results suggest that CEO characteristics namely, CEO ownership, CEO founder, CEO duality, and CEO family are significantly associated with a reduction in long audit report lag.

**Insert Table (8) here**

## **5.2 CEO power and audit report lag:**

Agency Theory suggests that when CEOs hold significant power, they have the potential to reduce information asymmetry and align their interests with those of shareholders. Consequently, powerful CEOs are likely to ensure timely and accurate financial reporting.

Upper Echelons theory posits that organizational outcomes are partially predicted by the characteristics of top executives. Therefore, the combined influence of CEO characteristics through the CEO Power index can have a profound impact on ARL.

In this analysis, we investigate the CEO characteristics combined using CEO Power as a composite index rather than investigating each CEO characteristic individually. The literature proves that CEO power has a significant impact on firm decisions, policies, and outcomes (Al-dhamari et al., 2022). Shabir et al. (2023) found that CEO power could improve the financial performance of banks and reduce any negative impacts of economic and geopolitical uncertainty. Accordingly, it is expected that CEO power will affect ARL.

Following (Adams et al., 2005; Combs et al., 2007; Daily & Johnson, 1997; Finkelstein, 1992; Muttakin et al., 2018), we constructed the CEO power index based on five variables; (1) CEO tenure, (2) CEO ownership (3) CEO founder (4) CEO duality (5) CEO family. CEO tenure, measured as a dummy variable equals 1 if the tenure of a CEO is above the median value and 0 otherwise. CEO ownership was measured as an indicator variable of 1 if the CEO holds shares, and 0 otherwise. CEO founder was measured as a binary variable equal to 1 if the CEO is a founder of the firm and 0 otherwise. CEO duality was measured as a binary variable equal to 1 if the CEO serves as the Chairman of the board and 0 otherwise. CEO family was measured as a binary variable equal to 1 if the CEO is a member of the owning family and 0 otherwise.

As shown in Panel A of Table 9 the coefficient estimate on CEO power is negative and significant ( $p < 0.01$ ) across all two of the audit report lag models (ARL and ARL/365). Thus, these findings indicate that CEO power is likely to be negatively related to ARL. We also controlled for audit committee characteristics such as number of audit committee members (ACSIZE), number of audit committee meetings (ACM), and audit committee expertise (ACEX). As shown in Panel B of Table 9 the results remain the same.

**Insert Table (9) here**

## **5.3 The Moderating Role of Board Gender Diversity**

Prior studies find gender diversity strengthens corporate governance, females are more risk-averse, more comprehensive information processing with more focus on details, and overestimate their responsibility compared to males (e.g., Darley & Smith, 1995; Ittonen et al., 2013; Zalata & Abdelfattah, 2021). In Egypt, Ahmed et al. (2023) find board gender diversity affects ARL particularly with big data adaption. Thus we conducted one more additional analysis to examine the moderating effect of board gender diversity on the relationship between CEO characteristics and ARL. The board gender diversity was measured as a dummy variable that equals 1 if there is at least one female on board and zero otherwise.

Table 10 Panel (A) shows that board gender diversity does not have any moderating effect on the relationship between CEO characteristics (CEO tenure, CEO founder, CEO duality, CEO ownership, and CEO power) and audit report lag. Except for the CEO family, board gender diversity positively moderates the relationship between the CEO family and audit report lag. In Egypt, Ismail et al. (2024) also find that board gender diversity does not affect the relationship between other comprehensive income and ARL. Therefore, we divided the original sample into two sub-samples, the first includes firm-year observations with at least one female on board and the second includes observations without any presence of females on board. The results in Table 10 Panel (B) show that CEO characteristics (CEO tenure, CEO founder, CEO duality, and CEO family) and CEO power decrease audit report lag only in the absence of females on the board. Notably, CEO ownership has a statistically negative relationship with audit report lag in both sub-samples. These results could be explained by the masculine culture of Egypt and the Arab world.

**Insert Table (10) here**

## **6. Conclusion**

This study investigates the impact of CEO characteristics on the audit report lags in Egypt. We focus on the characteristics of CEOs because they have significant power and are the most influential managers in the company (Brockman et al., 2022). Results show that CEO ownership, CEO founder, CEO duality, and CEO family are more likely to reduce ARL. On the other hand, there is no association between CEO tenure and ARL. The results are robust to an alternative measure of ARL and even after considering audit committee characteristics. In additional analyses, we report that CEO ownership, CEO founder, CEO duality, and CEO family are negatively and significantly associated with long ARL, and CEO power is negatively and significantly associated with ARL. This study contributes to the ARL literature by examining determinants that have been rarely explored, particularly in developing countries such as CEO ownership, founder status, and family ties. Understanding the determinants of ARL is vital because of its impact on the quality and timeliness of financial reporting, which in turn affects the decisions of market participants, especially in emerging markets like Egypt. The results conform to agency theory that suggests that CEO ownership aligns the interests of the CEO with those of the shareholders, reducing agency costs and potentially leading to shorter ARL due to more effective monitoring and alignment of goals. According to Stewardship theory, CEOs who are founders, or have family ties, are more likely to act as stewards of the company, prioritizing long-term success and the quality of financial reporting, which can result in reduced ARL.

The study has several implications. From a policy perspective, our findings offer practical insights for regulatory bodies and policymakers in emerging markets. The observed negative association between certain CEO characteristics and ARL suggests that firms with founder CEOs or those with family ties may prioritize financial reporting quality by reducing ARL. This insight is crucial for policymakers aiming to enhance transparency and accountability in financial reporting practices. Furthermore, the study guides policymakers seeking to enhance corporate governance and regulatory frameworks in emerging markets like Egypt, particularly regarding gender diversity. It highlights the interplay between CEO characteristics and the representation of female board members.

The study has some limitations that future research can address. Firstly, future research can investigate how firms leverage technologies such as AI and blockchain to enhance efficiency and transparency in financial reporting, and how CEO characteristics interact with these technologies. Secondly, our study is a single-country study. Comparative studies across different emerging markets could shed light on how cultural, institutional, and economic differences influence the relationship between CEO characteristics and ARL. Thirdly, while our sample size is comparable to prior single-country studies, future research can expand the study period and sample size to provide more comprehensive evidence. Lastly, future studies could investigate other CEO characteristics in emerging economies such as overconfidence, gender, education, degree, narcissism, and compensation.

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**Table (1): Sample selection**

Description	No. of observations
The initial number of firm-year observations	800
Less: financial Institutions' observations	136
Less: observations with missing data	77
Final sample	<b>587</b>

**Table (2): Variables' Definitions and Measurements**

Variable	Definition	Variable measurement	Supporting Literature
ARL	Audit report lag	The number of days from the end of a firm's fiscal year to the date on its audit report.	(Bamber et al., 1993)
ARL/365	Audit Report Lag %	The number of days from the end of a firm's fiscal year to the date on its audit report divided by 365	(Mathuva et al., 2019)
LongARL	Long Audit Report Lag	We estimated long ARL (Long ARL5%, Long ARL10%, and Long ARL15%) as a dummy variable that equals 1 for firm years with the top 5%, 10%, and 15% longest audit reporting lag, respectively.	(Chan et al., 2016)
CEO tenure	CEO Tenure	The number of years the CEO had been in the CEO position.	(Combs et al., 2007)
CEO ownership	CEO Ownership	A binary variable equals 1 if the CEO holds shares, and 0 otherwise.	(Zhu et al., 2021)
CEO founder	CEO Founder	A binary variable equals 1 if the CEO is a founder of the firm and 0 otherwise.	(Finkelstein, 1992)
CEO duality	CEO Duality	A binary variable is equal to 1 if the CEO serves as the Chairman of the board and 0 otherwise.	(Daily & Johnson, 1997)
CEO Family	Family-CEO	An indicator variable equals 1 if the CEO is a member of the owning family and 0 otherwise.	(Martino et al., 2020)
CEO Power	CEO Power	CEO power was measured as an index based on five variables that are (1) CEO tenure, (2) CEO ownership (3) CEO founder (4) CEO duality (5) CEO family.	(Adams et al., 2005; Combs et al., 2007; Daily & Johnson, 1997;

			Finkelstein, 1992; Muttakin et al., 2018)
BIG4	Auditor Type	A binary variable equals 1 if a firm is audited by a Big Four auditor and 0 otherwise.	(Baatwah et al., 2015)
OPINION	Auditor Opinion	A binary variable equals 1 if the company received a qualified audit opinion, 0 otherwise.	(Bamber et al., 1993; Jaggi & Tsui, 1999)
OCON	Block holders	Percentage of largest shareholders ownership with equity 5 percent or more.	(Habib & Muhammadi, 2018)
GOWN	State ownership	Percentage of government ownership.	(Habib & Muhammadi, 2018)
FOWN	Foreign ownership	Percentage of foreign ownership.	(Habib & Muhammadi, 2018)
FAM	Family ownership	Percentage of family ownership.	(Sulimany, 2023)
BSIZE	Board size	Total number of board members.	(Bhuiyan & D'Costa, 2020)
BIND	Board independence	Percentage of non-executive members of board of directors.	(Bhuiyan & D'Costa, 2020)
BGD	Board gender diversity	Dummy variable equals 1 if the board has at least one female member, 0 otherwise.	(Ismail et al., 2024)
YEAEND	Year-end	Dummy variable equals 1 if the company year-end month is December, 0 otherwise.	(Baatwah et al., 2015)
SIZE	Firm size	The natural logarithm of total assets	(Jaggi & Tsui, 1999; Knechel & Sharma, 2012)
SQSUB	Business complexity	Square root of number of company subsidiaries.	(Jaggi & Tsui, 1999)
LOSS	Financially distressed firms	Dummy variable equals 1 if company is generating losses, 0 otherwise.	(Jaggi & Tsui, 1999)
INVRC	Intensity of inventories and receivables	The ratio of inventories and receivables to total assets.	(Bhuiyan & D'Costa, 2020)
FOP	Foreign operations	Dummy variable equals 1 if the company has foreign operation, 0 otherwise.	(Baatwah et al., 2019)
LEV	Financial Leverage	Ratio of total debt to total assets.	(Knechel & Sharma, 2012)
ROA	Financial performance	Income before extraordinary items divided by total assets.	(Chan et al., 2016; Habib & Muhammadi, 2018)

**Table (3): Descriptive statistics.**

	N	Mean	Median	Std. Dev.	min	max
<b>Continuous variables</b>						
ARL	587	74.744	70	26.971	9	185
CEO Tenure	587	3.319	3	2.105	1	8
OCON	587	0.609	0.609	0.214	.053	0.997
GOWN	587	0.188	0.00	0.299	0	0.957
FOWN	587	0.104	0.00	0.205	0	0.903
FAM	587	0.076	0.00	0.176	0	0.82
BSIZE	587	8.249	8.00	2.687	3	17
BIND	587	0.587	0.60	0.243	0.00	100
SIZE	587	21.201	21.313	1.775	16.935	25.367

SQSUB	587	1.475	1	1.716	0	7.28
INVRC	587	0.269	0.192	0.255	0	2.46
LEV	587	0.111	0.018	0.317	0	5.519
ROA	587	0.066	0.055	0.148	-1.167	0.808
<b>Dummy variables</b>						
CEO ownership	587	0.371	0	0.484	0	1
CEO Founder	587	0.233	0	0.423	0	1
CEO Duality	587	0.676	1	0.468	0	1
CEO Family	587	0.213	0	0.410	0	1
BIG4	587	0.477	0	0.5	0	1
OPINION	587	0.543	1	0.499	0	1
YEAREND	587	0.785	1	0.411	0	1
LOSS	587	0.187	0	0.391	0	1
FOP	587	0.693	1	0.461	0	1

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**Table (4): Correlation analysis**

Variables	1	2	3	4	5	6	7	8	9	10	11
<b>Panel A: Correlation for variables ARL (1) to FOWN (10)</b>											
ARL (1)	1.000										
CEO Tenure (2)	-0.014	1.000									
CEO ownership (3)	-0.277***	0.204***	1.000								
CEO Founder (4)	-0.094**	0.163***	0.593***	1.000							
CEO Duality (5)	-0.042	0.093**	0.125***	0.158***	1.000						
Family-CEO (6)	-0.104**	0.194***	0.616***	0.638***	0.137***	1.000					
BIG4 (7)	-0.094**	-0.020	0.035	0.086**	-0.221***	0.070*	1.000				
OPINION (8)	0.298***	-0.077*	-0.131***	-0.109***	0.112***	-0.083**	-0.213***	1.000			
OCON (9)	-0.050	-0.040	-0.201***	-0.092**	-0.037	-0.169***	0.074*	0.060	1.000		
GOWN (10)	0.022	-0.101**	-0.269***	-0.347***	0.233***	-0.285***	-0.238***	0.387***	0.437***	1.000	
FOWN (11)	-0.070*	-0.060	0.044	-0.036	-0.368***	0.020	0.134***	-0.142***	0.098**	-0.275***	1.000
FAM (12)	0.014	0.145***	0.436***	0.563***	0.100**	0.692***	-0.024	-0.091**	-0.077*	-0.263***	-0.134***
BSIZE (13)	-0.092**	-0.024	-0.071*	-0.139***	0.021	-0.060	0.185***	-0.047	-0.050	0.022	0.009
BIND (14)	-0.047	-0.115***	-0.224***	-0.379***	-0.010	-0.270***	0.055	0.033	-0.025	0.060	-0.018
YEAREND (15)	-0.233***	0.024	0.333***	0.210***	-0.113***	0.191***	0.341***	-0.413***	-0.191***	-0.589***	0.221***
SIZE (16)	0.049	0.085**	-0.106***	0.079*	-0.132***	0.043	0.403***	0.088**	0.283***	0.122***	0.074*
SQSUP (17)	0.002	0.064	0.135***	0.206***	-0.219***	0.252***	0.502***	-0.071*	-0.037	-0.388***	0.179***
LOSS (18)	0.267***	-0.058	-0.170***	-0.151***	0.015	-0.122***	-0.074*	0.195***	-0.073*	-0.114***	0.039
INVRC (19)	0.008	-0.077*	-0.043	0.114***	0.037	0.087**	-0.049	-0.120***	-0.148***	-0.085**	-0.220***
FOP (20)	0.123***	0.053	-0.001	0.096**	-0.010	0.030	-0.016	0.065	0.084**	-0.074*	0.127***
LEV (21)	0.098**	0.125***	0.026	0.091**	0.047	0.132***	0.324***	-0.083**	0.111***	-0.109***	0.080*
ROA (22)	-0.196***	0.035	0.098**	0.091**	0.067*	0.052	0.029	-0.104**	0.111***	0.216***	-0.063

Variables	12	13	14	15	16	17	18	19	20	21	22
<b>Panel B: Correlation for variables BSIZE (11) to ROA (20)</b>											
FAM (12)	1.000										
BSIZE (13)	0.008	1.000									
BIND (14)	-0.332***	0.366***	1.000								
YEAREND (15)	0.185***	0.187***	0.024	1.000							
SIZE (16)	0.175***	0.329***	-0.129***	0.083**	1.000						
SQSUB (17)	0.303***	0.135***	-0.265***	0.357***	0.549***	1.000					
LOSS (18)	-0.084**	-0.126***	0.030	-0.132***	-0.205***	0.038	1.000				
INVRC (19)	0.123***	-0.087**	-0.089**	-0.030	-0.128***	-0.101**	-0.035	1.000			
FOP (20)	0.075*	-0.034	-0.044	0.030	0.137***	0.024	0.007	-0.047	1.000		
LEV (21)	0.086**	0.001	-0.001	0.151***	0.312***	0.315***	0.055	-0.059	0.065	1.000	
ROA (22)	0.005	0.158***	0.069*	0.028	0.130***	-0.122***	-0.607***	0.007	0.000	-0.183***	1.000

\*, \*\*, \*\*\* Significant at the 10%, 5% and 1% levels, respectively.

**Table 5: CEO Characteristics and ARL**

VARIABLES	(1) ARL	(2) ARL	(3) ARL	(4) ARL	(5) ARL
CEOTenure	-0.748 (0.632)				
CEOownership		-14.640*** (2.768)			
CEOFounder			-8.753** (3.792)		
CEODuality				-5.452** (2.481)	
CEOFamily					-7.852** (3.701)
BIG4	-2.264 (2.622)	-0.299 (2.547)	-1.002 (2.668)	-2.577 (2.685)	-1.102 (2.643)
OPINION	10.682*** (2.550)	12.254*** (2.499)	11.402*** (2.578)	10.711*** (2.546)	11.258*** (2.563)
OCON	-14.926** (6.026)	-19.444*** (6.188)	-14.586** (6.065)	-15.752** (6.110)	-16.792*** (6.184)
GOWN	-17.013*** (5.517)	-7.943 (5.637)	-18.531*** (5.549)	-13.992** (5.819)	-15.487*** (5.486)
FOWN	-2.416 (6.851)	-0.730 (6.137)	-2.001 (6.584)	-4.579 (6.530)	0.666 (6.995)
FAM	0.348 (6.718)	18.141** (7.482)	9.443 (7.446)	1.489 (6.642)	11.890 (8.689)
BSIZE	-0.382 (0.489)	-0.365 (0.498)	-0.510 (0.491)	-0.288 (0.492)	-0.467 (0.493)
BIND	-6.423 (5.551)	-10.383* (5.558)	-9.268 (5.685)	-6.874 (5.509)	-6.232 (5.550)
YEAREND	-13.864*** (4.089)	-8.582** (4.062)	-13.736*** (4.030)	-12.576*** (4.016)	-13.629*** (4.028)
SIZE	1.184 (1.029)	-0.025 (1.009)	1.187 (1.007)	0.896 (1.018)	1.021 (1.004)
SQSUB	-1.331 (1.077)	-1.128 (1.044)	-1.556 (1.078)	-1.421 (1.070)	-1.352 (1.063)
LOSS	12.868*** (3.721)	10.500*** (3.683)	11.869*** (3.754)	13.302*** (3.626)	12.095*** (3.648)
INVRC	-4.727 (4.498)	-8.002* (4.396)	-3.621 (4.297)	-4.075 (4.354)	-3.302 (4.294)
FOP	1.965 (2.212)	2.980 (2.178)	2.213 (2.182)	2.027 (2.185)	1.939 (2.180)
LEV	23.382*** (8.707)	28.653*** (8.422)	24.235*** (8.270)	25.219*** (8.665)	24.539*** (8.792)
ROA	12.265 (10.473)	14.848 (10.151)	14.083 (10.328)	12.814 (10.297)	12.822 (10.547)
Constant	84.432*** (21.206)	107.623*** (20.194)	86.488*** (20.228)	92.932*** (20.884)	86.621*** (20.225)
Observations	587	587	587	587	587
Industry dummy	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included
R-squared	0.310	0.344	0.316	0.314	0.314

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6: Control for audit committee**

VARIABLES	(1) ARL1	(2) ARL1	(3) ARL1	(4) ARL1	(5) ARL1
CEOTenure	-0.799 (0.634)				
CEOownership		-16.146*** (3.128)			
CEOFounder			-10.605*** (4.005)		
CEODuality				-9.311*** (2.878)	
CEOFamily					-11.510*** (4.295)
ACSIZE	3.438* (1.880)	2.309 (1.881)	3.836** (1.901)	3.871** (1.902)	3.520* (1.911)
ACM	0.204 (0.503)	0.129 (0.490)	0.165 (0.501)	0.052 (0.491)	0.205 (0.502)
ACEX	7.284** (3.698)	8.459** (3.743)	7.811** (3.684)	8.398** (3.654)	6.328* (3.681)
BIG4	-2.955 (3.025)	-1.238 (2.958)	-1.203 (3.037)	-3.716 (3.090)	-1.760 (3.039)
OPINION	11.060*** (3.017)	12.667*** (2.930)	11.726*** (3.025)	11.172*** (2.956)	11.315*** (2.997)
OCON	-8.164 (7.524)	-12.350 (7.757)	-7.563 (7.615)	-10.158 (7.676)	-10.881 (7.878)
GOWN	-22.397*** (6.323)	-10.994* (6.455)	-24.771*** (6.257)	-17.587*** (6.638)	-20.943*** (6.242)
FOWN	7.586 (7.811)	8.612 (7.082)	7.693 (7.497)	2.623 (7.486)	11.555 (7.881)
FAM	5.745 (8.395)	24.729*** (9.072)	17.051* (8.933)	7.209 (8.032)	22.118** (10.052)
BSIZE	-1.139* (0.607)	-1.161* (0.602)	-1.290** (0.603)	-0.980 (0.603)	-1.329** (0.611)
BIND	-2.024 (6.685)	-4.847 (6.655)	-5.529 (6.772)	-3.185 (6.609)	-1.135 (6.726)
YEAREND	-8.169* (4.392)	-2.839 (4.387)	-8.474* (4.332)	-5.983 (4.222)	-8.402* (4.400)
SIZE	1.318 (1.126)	-0.083 (1.105)	1.275 (1.107)	0.646 (1.114)	1.043 (1.100)
SQSUB	-1.623 (1.259)	-1.313 (1.219)	-1.964 (1.254)	-1.747 (1.246)	-1.559 (1.234)
LOSS	14.597*** (4.455)	11.498*** (4.365)	13.083*** (4.522)	14.887*** (4.303)	13.006*** (4.347)
INVRC	-0.325 (5.284)	-4.031 (5.139)	1.316 (4.973)	-0.848 (5.183)	0.566 (5.032)
FOP	2.374 (2.477)	3.643 (2.414)	2.479 (2.420)	2.790 (2.429)	2.190 (2.410)
LEV	27.580*** (9.427)	33.968*** (9.192)	28.394*** (8.937)	32.062*** (9.291)	30.311*** (9.677)
ROA	10.562 (12.314)	13.797 (11.856)	11.777 (12.233)	12.870 (11.973)	12.064 (12.532)
Constant	65.861*** (24.452)	94.993*** (23.083)	68.300*** (23.666)	84.009*** (24.471)	74.019*** (23.244)
Observations	462	462	462	462	462

Industry dummy	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included
R-squared	0.334	0.374	0.343	0.348	0.344

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7: Alternative measures of ARL**

VARIABLES	(1) ARL/365	(2) ARL/365	(3) ARL/365	(4) ARL/365	(5) ARL/365
CEOTenure	-0.002 (0.002)				
CEOOwnership		-0.040*** (0.008)			
CEOFounder			-0.024** (0.010)		
CEODuality				-0.015** (0.007)	
CEOFamily					-0.022** (0.010)
BIG4	-0.006 (0.007)	-0.001 (0.007)	-0.003 (0.007)	-0.007 (0.007)	-0.003 (0.007)
OPINION	0.029*** (0.007)	0.034*** (0.007)	0.031*** (0.007)	0.029*** (0.007)	0.031*** (0.007)
OCON	-0.041** (0.017)	-0.053*** (0.017)	-0.040** (0.017)	-0.043** (0.017)	-0.046*** (0.017)
GOWN	-0.047*** (0.015)	-0.022 (0.015)	-0.051*** (0.015)	-0.038** (0.016)	-0.042*** (0.015)
FOWN	-0.007 (0.019)	-0.002 (0.017)	-0.005 (0.018)	-0.013 (0.018)	0.002 (0.019)
FAM	0.001 (0.018)	0.050** (0.020)	0.026 (0.020)	0.004 (0.018)	0.033 (0.024)
BSIZE	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
BIND	-0.018 (0.015)	-0.028* (0.015)	-0.025 (0.016)	-0.019 (0.015)	-0.017 (0.015)
YEAREND	-0.038*** (0.011)	-0.024** (0.011)	-0.038*** (0.011)	-0.034*** (0.011)	-0.037*** (0.011)
SIZE	0.003 (0.003)	-0.000 (0.003)	0.003 (0.003)	0.002 (0.003)	0.003 (0.003)
SQSUB	-0.004 (0.003)	-0.003 (0.003)	-0.004 (0.003)	-0.004 (0.003)	-0.004 (0.003)
LOSS	0.035*** (0.010)	0.029*** (0.010)	0.033*** (0.010)	0.036*** (0.010)	0.033*** (0.010)
INVRC	-0.013 (0.012)	-0.022* (0.012)	-0.010 (0.012)	-0.011 (0.012)	-0.009 (0.012)
FOP	0.005 (0.006)	0.008 (0.006)	0.006 (0.006)	0.006 (0.006)	0.005 (0.006)
LEV	0.064*** (0.024)	0.079*** (0.023)	0.066*** (0.023)	0.069*** (0.024)	0.067*** (0.024)
ROA	0.034 (0.029)	0.041 (0.028)	0.039 (0.028)	0.035 (0.028)	0.035 (0.029)
Constant	0.231*** (0.058)	0.295*** (0.055)	0.237*** (0.055)	0.255*** (0.057)	0.237*** (0.055)

Observations	587	587	587	587	587
Industry dummy	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included
R-squared	0.310	0.344	0.316	0.314	0.314

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 8: CEO characteristics and long ARL**

**Panel A: CEO tenure and long ARL**

VARIABLES	(1) LongARL5	(2) LongARL10	(3) LongARL15
CEOTenure	0.040 (0.093)	0.093 (0.071)	0.027 (0.062)
BIG4	-1.026 (0.829)	-0.466 (0.518)	-0.610 (0.421)
OPINION	1.726** (0.724)	1.839*** (0.469)	1.430*** (0.353)
OCON	-0.592 (1.334)	-0.867 (0.827)	-0.802 (0.704)
GOWN	-3.818*** (1.346)	-3.087*** (0.830)	-1.563** (0.682)
FOWN	2.058 (1.446)	0.565 (0.731)	0.895 (0.664)
FAM	-4.401** (2.113)	-3.595*** (1.031)	-2.033** (0.912)
BSIZE	-0.095 (0.165)	-0.099 (0.083)	-0.090 (0.065)
BIND	0.795 (1.259)	-0.314 (0.746)	0.683 (0.639)
YEAREND	-2.319*** (0.807)	-1.249*** (0.458)	-1.196*** (0.384)
SIZE	0.795*** (0.209)	0.395*** (0.133)	0.304*** (0.108)
SQSUB	0.018 (0.206)	0.062 (0.142)	0.199 (0.124)
LOSS	0.232 (0.618)	0.281 (0.436)	0.302 (0.361)
INVRC	1.509* (0.830)	0.731 (0.683)	0.585 (0.633)
FOP	0.371 (0.597)	0.921** (0.403)	0.544* (0.312)
LEV	2.881** (1.310)	1.018 (0.928)	1.523* (0.887)
ROA	-6.188** (2.459)	-2.481 (1.564)	-2.747** (1.174)
Constant	-19.336*** (4.193)	-9.996*** (2.613)	-7.903*** (2.102)
Observations	587	587	587
Pseudo R <sup>2</sup>	0.356	0.241	0.205
Wald chi2	60.56	71.65	92.93

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Panel B: CEO Ownership and long ARL**

VARIABLES	(1) LongARL5	(2) LongARL10	(3) LongARL15
CEOownership	-1.548* (0.864)	-1.567*** (0.386)	-2.006*** (0.419)
BIG4	-0.884 (0.828)	-0.374 (0.504)	-0.440 (0.407)
OPINION	1.895** (0.755)	2.023*** (0.484)	1.703*** (0.378)
OCON	-0.865 (1.278)	-1.284 (0.838)	-1.334* (0.708)
GOWN	-3.960*** (1.312)	-3.441*** (0.849)	-1.769** (0.691)
FOWN	2.163 (1.530)	0.656 (0.764)	1.065 (0.708)
FAM	-2.069 (2.425)	-1.266 (1.109)	0.519 (1.020)
BSIZE	-0.120 (0.164)	-0.106 (0.074)	-0.115** (0.058)
BIND	0.326 (1.270)	-0.910 (0.764)	0.108 (0.655)
YEAREND	-2.191*** (0.831)	-1.091** (0.464)	-0.945** (0.398)
SIZE	0.755*** (0.208)	0.348*** (0.128)	0.236** (0.110)
SQSUB	0.012 (0.206)	0.021 (0.136)	0.180 (0.123)
LOSS	0.132 (0.614)	0.100 (0.433)	0.028 (0.377)
INVRC	1.452* (0.772)	0.652 (0.675)	0.543 (0.617)
FOP	0.306 (0.605)	0.881** (0.401)	0.548* (0.314)
LEV	2.804** (1.267)	1.304 (0.887)	1.611* (0.843)
ROA	-5.597** (2.423)	-1.794 (1.574)	-2.209* (1.180)
Constant	-17.650*** (4.318)	-7.892*** (2.593)	-5.535** (2.190)
Observations	587	587	587
Pseudo R <sup>2</sup>	0.369	0.264	0.249
Wald chi2	59.42	85.06	95.98

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Panel C: CEO Founder and long ARL**

VARIABLES	(1) LongARL5	(2) LongARL10	(3) LongARL15
CEOFounder	-2.404* (1.251)	-1.465*** (0.511)	-2.061*** (0.522)
BIG4	-0.753 (0.786)	-0.306 (0.516)	-0.340 (0.410)
OPINION	1.985** (0.775)	1.989*** (0.489)	1.668*** (0.370)
OCON	-0.871 (1.309)	-0.894 (0.858)	-0.935 (0.739)
GOWN	-4.133*** (1.283)	-3.848*** (0.916)	-2.307*** (0.749)
FOWN	1.892 (1.514)	0.334 (0.748)	0.707 (0.674)
FAM	-0.792 (2.573)	-1.369 (1.120)	0.695 (1.065)
BSIZE	-0.128 (0.165)	-0.103 (0.076)	-0.118* (0.061)
BIND	0.477 (1.303)	-0.789 (0.785)	0.239 (0.672)
YEAREND	-2.276*** (0.788)	-1.336*** (0.457)	-1.311*** (0.396)
SIZE	0.786*** (0.204)	0.420*** (0.129)	0.334*** (0.112)
SQSUB	-0.001 (0.214)	-0.005 (0.140)	0.141 (0.127)
LOSS	-0.037 (0.600)	0.090 (0.437)	0.063 (0.376)
INVRC	1.462* (0.784)	0.705 (0.675)	0.656 (0.623)
FOP	0.275 (0.612)	0.816** (0.384)	0.508* (0.305)
LEV	2.683** (1.262)	1.300 (0.894)	1.596* (0.837)
ROA	-6.251** (2.474)	-2.139 (1.630)	-2.597** (1.219)
Constant	-18.278*** (4.188)	-9.511*** (2.616)	-7.619*** (2.194)
Observations	587	587	587
Pseudo R <sup>2</sup>	0.374	0.254	0.234
Wald chi2	64.21	75.05	89.33

Note: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Panel D: CEO Duality and long ARL**

VARIABLES	(1) LongARL5	(2) LongARL10	(3) LongARL15
CEODuality	-2.167*** (0.813)	-1.157*** (0.368)	-0.891*** (0.294)
BIG4	-0.385 (1.006)	-0.308 (0.524)	-0.598 (0.420)
OPINION	2.357*** (0.879)	2.073*** (0.515)	1.534*** (0.363)
OCON	0.272 (1.434)	-0.773 (0.896)	-0.817 (0.751)
GOWN	-3.580*** (1.226)	-2.960*** (0.829)	-1.352** (0.663)
FOWN	0.256 (1.265)	-0.657 (0.748)	0.042 (0.702)
FAM	-3.150 (1.978)	-2.936*** (1.027)	-1.672* (0.899)
BSIZE	-0.110 (0.179)	-0.087 (0.082)	-0.079 (0.065)
BIND	0.307 (1.435)	-0.833 (0.832)	0.448 (0.666)
YEAREND	-2.703*** (0.941)	-1.291*** (0.458)	-1.173*** (0.370)
SIZE	0.832*** (0.193)	0.381*** (0.123)	0.286*** (0.105)
SQSUB	-0.074 (0.194)	-0.004 (0.127)	0.165 (0.116)
LOSS	0.386 (0.627)	0.348 (0.412)	0.380 (0.355)
INVRC	1.310* (0.771)	0.429 (0.659)	0.424 (0.613)
FOP	0.683 (0.704)	1.019** (0.426)	0.628* (0.334)
LEV	4.792*** (1.482)	2.154** (0.930)	2.253** (0.898)
ROA	-6.013** (2.397)	-2.093 (1.598)	-2.529** (1.196)
Constant	-19.768*** (4.030)	-8.730*** (2.538)	-6.960*** (2.104)
Observations	587	587	587
Pseudo R <sup>2</sup>	0.399	0.260	0.220
Wald chi2	55.72	73.93	91.80

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Panel E: CEO Family and long ARL**

VARIABLES	(1) LongARL5	(2) LongARL10	(3) LongARL15
CEOFamily	-2.281 (1.733)	-1.279** (0.619)	-1.036* (0.574)
BIG4	-0.897 (0.885)	-0.339 (0.531)	-0.514 (0.436)
OPINION	1.704** (0.726)	1.884*** (0.479)	1.459*** (0.364)
OCON	-0.655 (1.295)	-0.964 (0.840)	-0.934 (0.711)
GOWN	-4.076*** (1.321)	-3.449*** (0.836)	-1.705** (0.678)
FOWN	1.973 (1.384)	0.519 (0.725)	0.943 (0.661)
FAM	-0.215 (2.947)	-1.151 (1.228)	-0.254 (1.182)
BSIZE	-0.103 (0.161)	-0.096 (0.077)	-0.090 (0.062)
BIND	0.601 (1.304)	-0.580 (0.771)	0.562 (0.647)
YEAREND	-2.413*** (0.803)	-1.379*** (0.465)	-1.276*** (0.385)
SIZE	0.794*** (0.212)	0.384*** (0.128)	0.284*** (0.107)
SQSUB	-0.004 (0.217)	0.023 (0.140)	0.191 (0.124)
LOSS	0.109 (0.608)	0.155 (0.421)	0.199 (0.358)
INVRC	1.534* (0.796)	0.752 (0.684)	0.628 (0.622)
FOP	0.302 (0.603)	0.872** (0.393)	0.524* (0.314)
LEV	2.940** (1.267)	1.347 (0.914)	1.710* (0.893)
ROA	-6.181** (2.470)	-2.171 (1.612)	-2.555** (1.190)
Constant	-18.705*** (4.394)	-9.038*** (2.548)	-7.139*** (2.120)
Observations	587	587	587
Pseudo R <sup>2</sup>	0.365	0.245	0.211
Wald chi2	63.04	74.97	94.07

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 9 Panel A: CEO Power and ARL**

VARIABLES	(1) ARL	(2) ARL/365
CEOPower	-1.551*** (0.499)	-0.004*** (0.001)
BIG4	-2.025 (2.626)	-0.006 (0.007)
OPINION	11.149*** (2.545)	0.031*** (0.007)
OCON	-16.242*** (6.129)	-0.044*** (0.017)
GOWN	-16.358*** (5.535)	-0.045*** (0.015)
FOWN	-4.228 (6.595)	-0.012 (0.018)
FAM	9.266 (7.296)	0.025 (0.020)
BSIZE	-0.339 (0.492)	-0.001 (0.001)
BIND	-7.413 (5.518)	-0.020 (0.015)
YEAREND	-13.380*** (3.965)	-0.037*** (0.011)
SIZE	0.810 (1.044)	0.002 (0.003)
SQSUB	-1.277 (1.066)	-0.003 (0.003)
LOSS	11.823*** (3.722)	0.032*** (0.010)
INVRC	-7.028 (4.527)	-0.019 (0.012)
FOP	2.344 (2.221)	0.006 (0.006)
LEV	26.608*** (8.820)	0.073*** (0.024)
ROA	14.479 (10.339)	0.040 (0.028)
Constant	96.665*** (21.501)	0.265*** (0.059)
Observations	587	587
Industry dummy	Included	Included
Year dummy	Included	Included
R-squared	0.320	0.320

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Panel B: CEO Power, AC and ARL**

VARIABLES	(1) ARL1	(2) ARL3
CEOPower	-1.738*** (0.504)	-0.005*** (0.001)
ACSIZE	3.086* (1.871)	0.008* (0.005)
ACM	0.135 (0.498)	0.000 (0.001)
ACEX	7.120* (3.658)	0.020* (0.010)
BIG4	-2.820 (3.032)	-0.008 (0.008)
OPINION	11.543*** (2.985)	0.032*** (0.008)
OCON	-9.678 (7.656)	-0.027 (0.021)
GOWN	-21.243*** (6.301)	-0.058*** (0.017)
FOWN	5.102 (7.509)	0.014 (0.021)
FAM	15.724* (8.824)	0.043* (0.024)
BSIZE	-1.093* (0.603)	-0.003* (0.002)
BIND	-3.001 (6.617)	-0.008 (0.018)
YEAREND	-7.810* (4.315)	-0.021* (0.012)
SIZE	0.850 (1.141)	0.002 (0.003)
SQSUB	-1.530 (1.242)	-0.004 (0.003)
LOSS	13.127*** (4.451)	0.036*** (0.012)
INVRC	-3.650 (5.383)	-0.010 (0.015)
FOP	2.904 (2.479)	0.008 (0.007)
LEV	32.251*** (9.552)	0.088*** (0.026)
ROA	13.421 (12.091)	0.037 (0.033)
Constant	82.117*** (24.748)	0.225*** (0.068)
Observations	462	462
Industry dummy	Included	Included
Year dummy	Included	Included
R-squared	0.348	0.348

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 10: The Moderating Role of Board Diversity**

Panel A

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ARL	ARL	ARL	ARL	ARL	ARL
CEOTenure	-0.641 (0.753)					
CEOownership		-17.343*** (3.545)				
CEOFounder			-7.696** (3.901)			
CEODuality				-6.869** (3.100)		
CEOFamily					-13.378*** (4.667)	
CEOPower						-1.780*** (0.618)
CEOTenure×BGD	-0.292 (0.866)					
CEOownership×BGD		6.797 (4.168)				
CEOFounder×BGD			-5.237 (3.267)			
CEODuality×BGD				3.883 (4.672)		
CEOFamily×BGD					11.947** (4.988)	
CEOPower×BGD						0.553 (0.703)
BGD	-0.246 (3.280)	-3.051 (2.661)	1.369 (2.476)	-3.727 (3.918)	-3.187 (2.257)	-3.686 (3.854)
BIG4	-2.275 (2.639)	-0.911 (2.525)	-0.451 (2.670)	-2.630 (2.686)	-1.417 (2.594)	-2.269 (2.629)
OPINION	10.705*** (2.557)	12.101*** (2.483)	11.679*** (2.584)	10.628*** (2.536)	11.385*** (2.559)	11.172*** (2.550)
OCON	-14.335** (6.044)	-18.822*** (6.274)	-15.287** (6.212)	-15.922*** (6.146)	-15.658** (6.276)	-15.829** (6.155)
GOWN	-17.249*** (5.544)	-11.046* (5.939)	-14.953** (6.160)	-14.153** (5.836)	-17.410*** (5.582)	-17.202*** (5.596)
FOWN	-3.026 (6.873)	-0.340 (6.115)	-2.676 (6.574)	-5.946 (6.461)	-0.396 (7.098)	-5.091 (6.657)
FAM	0.139 (6.788)	18.942** (7.729)	10.155 (7.513)	0.806 (6.722)	15.896* (9.434)	9.522 (7.524)
BSIZE	-0.298 (0.505)	-0.127 (0.531)	-0.604 (0.520)	-0.198 (0.507)	-0.279 (0.509)	-0.226 (0.511)

BIND	-6.384	-11.409**	-8.728	-7.216	-5.772	-7.707
	(5.559)	(5.657)	(5.735)	(5.536)	(5.594)	(5.559)
YEAREND	-13.785***	-10.141**	-11.729***	-12.984***	-15.274***	-13.616***
	(4.126)	(4.122)	(4.168)	(4.081)	(4.085)	(4.018)
SIZE	1.113	-0.038	0.986	0.947	0.955	0.824
	(1.023)	(1.002)	(1.012)	(1.021)	(0.994)	(1.032)
SQSUB	-1.330	-1.032	-1.576	-1.400	-1.200	-1.257
	(1.076)	(1.043)	(1.077)	(1.074)	(1.065)	(1.076)
LOSS	12.731***	10.584***	11.583***	13.387***	12.019***	12.111***
	(3.708)	(3.672)	(3.778)	(3.616)	(3.599)	(3.723)
INVRC	-5.157	-7.745*	-4.724	-4.424	-2.732	-7.120
	(4.606)	(4.439)	(4.470)	(4.399)	(4.350)	(4.594)
FOP	2.032	2.258	2.934	2.096	1.336	2.275
	(2.228)	(2.209)	(2.258)	(2.200)	(2.160)	(2.217)
LEV	23.700***	28.257***	25.299***	25.461***	24.908***	26.464***
	(8.708)	(8.530)	(8.262)	(8.680)	(8.899)	(8.863)
ROA	12.290	15.006	14.321	12.222	12.557	14.979
	(10.535)	(10.271)	(10.250)	(10.345)	(10.612)	(10.390)
Constant	85.263***	110.564***	87.864***	93.174***	88.827***	97.213***
	(21.121)	(20.285)	(20.226)	(20.835)	(20.119)	(21.406)
Industry dummy	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included
Observations	587	587	587	587	587	587
R-squared	0.310	0.347	0.319	0.315	0.320	0.321

Note: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Panel B

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VARIABLES	Female>=1 ARL	Female=0 ARL	Female>=1 ARL	Female=0 ARL	Female>=1 ARL	Female=0 ARL	Female>=1 ARL	Female=0 ARL	Female>=1 ARL	Female=0 ARL	Female>=1 ARL	Female=0 ARL
CEOTenure	-0.040 (0.893)	-1.700* (0.866)										
CEOOwnership			-11.164*** (3.662)	-23.558*** (4.282)								
CEOFounder					-5.224 (6.337)	-9.569* (5.191)						
CEODuality							-3.306 (4.234)	-9.184*** (3.414)				
CEOFamily									1.229 (6.198)	-17.973*** (6.143)		
CEOPower											-0.470 (0.670)	-2.882*** (0.753)
BIG4	1.262 (3.573)	-3.767 (4.625)	2.258 (3.588)	-0.782 (4.355)	1.844 (3.600)	-2.531 (4.751)	0.824 (3.612)	-3.833 (4.745)	1.230 (3.564)	0.872 (5.008)	1.240 (3.569)	-3.417 (4.471)
OPINION	11.278*** (3.079)	10.455*** (3.805)	12.518*** (3.040)	10.286*** (3.656)	11.507*** (3.090)	10.670*** (3.833)	11.147*** (3.051)	10.137*** (3.771)	11.245*** (3.120)	10.813*** (3.785)	11.222*** (3.039)	10.673*** (3.733)
OCON	1.537 (8.134)	-11.475 (11.591)	-0.922 (8.320)	-22.389* (11.634)	1.809 (8.116)	-15.225 (11.455)	1.956 (8.079)	-16.088 (11.846)	1.506 (8.108)	-20.076* (11.991)	1.159 (8.197)	-15.947 (11.735)
GOWN	-26.580*** (8.699)	-22.178** (9.820)	-17.196* (9.426)	-15.768 (9.610)	-26.067*** (8.765)	-21.704** (10.018)	-24.611*** (9.271)	-15.173 (10.522)	-26.647*** (8.642)	-16.616* (9.801)	-25.707*** (8.886)	-21.549** (9.778)
FOWN	0.071 (7.436)	-1.734 (9.102)	-0.612 (7.498)	9.942 (8.230)	2.601 (8.283)	0.953 (8.918)	0.447 (7.450)	-5.383 (8.979)	-0.628 (8.867)	7.749 (9.633)	0.181 (7.507)	-3.904 (8.662)
FAM	3.540 (11.405)	17.335* (9.613)	10.253 (11.590)	53.105*** (11.702)	7.597 (12.553)	25.457** (11.011)	5.917 (11.370)	16.373* (9.543)	2.049 (14.196)	51.040*** (16.314)	5.658 (11.801)	35.435*** (10.937)
BSIZE	-0.373 (0.769)	1.075 (0.789)	-0.968 (0.795)	2.095*** (0.796)	-0.701 (0.791)	0.996 (0.790)	-0.459 (0.772)	1.166 (0.793)	-0.307 (0.789)	1.015 (0.779)	-0.458 (0.763)	1.319* (0.796)
BIND	10.004 (8.186)	-17.226** (8.513)	8.567 (8.169)	-29.217*** (8.564)	9.315 (8.042)	-20.000** (8.941)	11.217 (8.286)	-19.068** (8.506)	10.075 (8.131)	-16.151* (8.385)	10.521 (8.186)	-20.263** (8.520)
YEAREND	-19.913*** (5.612)	-8.521 (6.781)	-12.723** (5.718)	-8.759 (6.554)	-18.496*** (5.664)	-10.997 (6.916)	-18.867*** (5.526)	-7.665 (6.690)	-20.190*** (5.706)	-12.110* (6.999)	-19.567*** (5.478)	-9.560 (6.432)

SIZE	-1.753 (1.229)	0.916 (1.623)	-2.510** (1.224)	-1.185 (1.522)	-1.498 (1.231)	0.947 (1.629)	-1.919 (1.262)	0.453 (1.619)	-1.724 (1.220)	0.409 (1.600)	-1.905 (1.246)	0.502 (1.621)
SQSUB	1.892 (1.417)	-3.569* (1.902)	1.699 (1.403)	-3.315* (1.811)	1.521 (1.521)	-3.583* (1.906)	1.810 (1.426)	-3.533* (1.864)	1.895 (1.426)	-3.889** (1.870)	1.855 (1.426)	-3.477* (1.868)
LOSS	4.151 (5.408)	16.933*** (4.988)	2.945 (5.356)	12.882*** (4.891)	2.882 (5.699)	16.055*** (5.011)	4.094 (5.313)	17.389*** (4.808)	4.278 (5.418)	14.554*** (4.761)	3.677 (5.465)	15.635*** (4.895)
INVRC	9.344 (9.264)	-7.279 (6.704)	3.969 (9.464)	-10.985* (6.463)	10.021 (9.283)	-5.034 (6.340)	9.390 (9.466)	-5.980 (6.285)	9.375 (9.165)	-4.825 (6.293)	8.325 (9.349)	-10.596 (6.688)
FOP	-2.696 (3.516)	6.721** (3.109)	-0.304 (3.618)	6.895** (3.105)	-2.527 (3.447)	6.946** (3.194)	-2.729 (3.405)	7.020** (3.094)	-2.777 (3.430)	6.350** (3.084)	-2.275 (3.552)	6.991** (3.068)
LEV	18.200 (13.141)	16.124 (11.727)	24.600* (12.603)	22.498** (11.387)	17.390 (12.555)	20.338* (11.345)	19.509 (12.572)	20.171* (12.088)	17.674 (12.890)	20.497* (12.390)	19.956 (13.102)	20.224* (11.871)
ROA	-2.942 (17.368)	26.204* (15.523)	2.916 (17.069)	25.801* (14.903)	-2.295 (17.156)	24.214 (15.108)	-2.178 (16.795)	24.244 (14.907)	-3.667 (17.591)	24.542 (15.346)	-2.633 (17.066)	29.716* (15.158)
Constant	115.873*** (25.886)	93.650*** (33.396)	129.568*** (24.693)	147.790*** (30.905)	115.003*** (24.657)	94.648*** (33.371)	121.699*** (26.513)	109.433*** (33.463)	115.158*** (24.909)	105.725*** (32.707)	121.067*** (26.329)	112.145*** (33.404)
Observations	246	341	246	341	246	341	246	341	246	341	246	341
Industry dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
R-squared	0.420	0.361	0.439	0.419	0.422	0.361	0.422	0.368	0.420	0.372	0.421	0.385

Note: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.