

Corporate Board Diligence Across the Corporate Life Cycle: Institutional Contexts Matter

Abstract

Purpose: This paper examines the association between corporate life cycle and board diligence and investigates how institutional forces (i.e., political instability, market pressure, economic development, and legal regimes) moderate this relationship.

Design/methodology/approach: Using a sample of 36,897 firm-year observations from 53 countries over the period 2002-2021, we run country-industry-year fixed-effect regression. We also address the endogeneity concern by executing the control function approach, IV Poisson-GMM, and lagged specifications.

Findings: We find that the corporate life cycle has a negative association with the number of board meetings held. This negative association is more pronounced in firms operating in countries with high political instability and less likely in firms facing greater external market discipline. However, the corporate life cycle has a positive association with board attendance, which is more pronounced during periods of high political instability and less likely in firms operating in a highly competitive environment. Lastly, the association between corporate life cycle and board diligence remains the same across different economic development levels and legal regimes of countries where the firms are domiciled.

Originality: First, by investigating how institutional factors discipline board behaviour across different life cycle stages, the study seeks to shed light on the institutional conditions under which firms adapt their governance structures to external pressures. Second, while existing research has explored the relationship between the corporate life cycle and board dynamics, there is a need for more focused inquiry into how institutional environments moderate the association between the corporate life cycle and board diligence. Third, we distinguish between board meeting frequency and attendance as two board diligence metrics, proposing that the firm life cycle may not affect the two metrics equally.

Keywords: Corporate life cycle; board diligence; political instability; external market competition

1. Introduction

Board meetings are a primary board diligence mechanism through which boards exercise their monitoring power (Saragih, 2024). Prior studies utilise two proxies for board diligence, namely the number of board meetings held during the year (Vafeas, 1999; Kamaludin et al., 2022; Agana et al., 2023) and board meeting attendance rate (Uyar et al., 2020; Unda and Ranasinghe, 2021). Prior research does not distinguish between meeting frequency and attendance. We posit that arranging a meeting per se is not sufficient to assess board diligence unless directors attend it. So, we distinguish these two board diligence metrics and investigate not only whether the life cycle predicts board meeting frequency and attendance, but also whether external pressure (i.e., political instability and competitive market pressure) moderates the relationship. Further analysis examines how this relationship is shaped by institutional forces, such as economic development and legal systems.

One strand of prior studies focused on the outcomes of board diligence. They show that while board meeting frequency weakens firm market performance (Vafeas, 1999) and leads to less environmental, social, and governance (ESG) disclosure (Kamaludin et al., 2022), board meeting attendance results in greater firm accounting performance (Lin et al., 2014), higher ESG performance (Uyar et al., 2020), and less insolvency risk (Unda and Ranasinghe, 2021). Thus, it can be inferred that having more meetings does not necessarily lead to better firm outcomes, implying the necessity of having more efficient meetings. We do not mean that attendance necessarily guarantees efficiency, but it may enrich it, as prior research shows. Thus, the contradictory findings about the outcomes of board meeting frequency and attendance necessitate a focus on these two board diligence metrics separately.

Another strand of past research focused on the drivers of board diligence. They found that firms having more foreign non-executive directors on the board have fewer board meetings (Hahn

and Lasfer, 2016), but foreign outside directors tend to have lower board meeting attendance rates (Min and Chizema, 2018). Furthermore, Vafeas and Vlittis (2024) find that firms with lower accrual quality meet more frequently. Our study extends this standard of research by focusing exclusively on whether the firm life cycle predicts board meeting frequency as well as attendance rate. Drawing on firm life cycle theory (Perrault and McHugh, 2015; Bhattacharya et al., 2020), we distinguish board meeting frequency and attendance, proposing that the firm life cycle may not affect the two metrics equivalently. Hence, we pose the following first research question: *R1: Is the firm life cycle associated with board diligence (i.e., board meeting frequency and attendance rate)?*

Literature has shown that corporate governance parameters may be linked to the firm's life cycle. Filatotchev et al. (2006) suggest that the life cycle strategic dynamics of the firm are accompanied by changes in its governance system. Studies by Miller and Friesen (1984) and Hanks et al. (1994) have highlighted the shifting roles and priorities of boards as firms progress through inception, growth, maturity, and decline stages. For example, in the early stages of the life cycle, boards may be more founder-dominated and focused on entrepreneurial activities, while in later stages, they may become more independent and strategic (Hambrick and Crozier, 1985; Zahra and Pearce, 1989). Habib et al. (2018) show that mature-stage firms have the lowest (highest) proportion of advisory (monitoring) directors, compared to other stages of the firm life cycle. Additionally, Li and Zhang (2018) find that board size, as well as board chair-CEO duality, declines as a firm moves through the life cycle stages; However, board independence is not found to vary across the firm life cycle, and mature firms practice better corporate governance.

While research has examined the association between firm life cycle stages and board structure (e.g., Filatotchev et al., 2006; Harjoto and Jo, 2009), fewer studies have directly investigated the link between corporate life cycle and board diligence, particularly in terms of board meeting

frequency and attendance rates. Bonn and Pettigrew (2009) suggest that board roles change over time, being organised around the life-cycle metaphor, proposing researchable questions for each stage of the organisational life cycle as well as the transition between the stages. Habib and Hasan (2019) encourage future research to investigate the evolution in governance diligence dynamics across life cycle development. Amin et al. (2021) found that corporate governance practices combine in different ways for firms in their growth, maturity and declining stages, suggesting a potential relationship between life cycle and diligence. However, the specific mechanisms through which the corporate life cycle affects board diligence remain understudied (Amin et al., 2021). Moreover, the literature lacks a systematic understanding of how the relationship between the corporate life cycle and board diligence is shaped by institutional forces, such as economic development and legal systems.

Institutional theory provides a valuable lens for understanding how external pressures shape governance practices, including board diligence. While some research has explored the association between institutional factors such as regulatory environments and market competition and board behaviour (Hillman and Dalziel, 2003; Henisz and Zelner, 2005), there is a gap in understanding how these factors interact with the corporate life cycle to influence board diligence. Examining the disciplining role of institutional factors can provide a nuanced understanding of **the institutional conditions under** which governance practices evolve over the life cycle. Therefore, drawing on institutional theory (DiMaggio and Powell, 1983; Ongsakul et al., 2021), we deepen our investigation by exploring whether external environments (i.e., political instability and competitive market pressure) **moderate the relationship between** corporate life cycle and board diligence. Hence, we pose the following second research question: *R2: Does external pressure (i.e., political instability and competitive market pressure) moderate the relationship between firm life cycle and board diligence (i.e., board meeting frequency and attendance rate)?* *R3: How does the relationship between firm life cycle and*

board diligence vary across developed versus developing economies, distinguishing between common-law and civil-law origins?

While prior research documents that governance structures and board characteristics evolve over the corporate life cycle (e.g., Filatotchev et al., 2006; Li and Zhang, 2018; Habib and Hasan, 2019). It has primarily focused on (i) structural board attributes (e.g., size, independence, duality) or (ii) main-effect associations between life cycle stages and governance outcomes, largely assuming homogeneity across institutional environments. It remains silent on the behavioural dimensions of board diligence and implicitly assumes that life-cycle effects operate uniformly across institutional environments. In contrast, our study advances the literature in three fundamental ways. First, we reconceptualise board diligence as a behavioural and multidimensional construct by explicitly distinguishing between board meeting frequency and board meeting attendance. This distinction reveals a novel life-cycle pattern—namely, that firms reallocate monitoring effort over time by holding fewer meetings while ensuring higher attendance—an insight that prior studies did not establish. **We theorise this pattern as a meeting-efficiency reallocation mechanism, whereby mature firms substitute meeting quantity with attendance-based meeting efficiency when information uncertainty declines, and board processes become more formalised. Specifically, we draw on information processing theory (Galbraith, 1974) and resource dependence theory (Hillman and Dalziel, 2003) to argue that as firms mature and information uncertainty declines, boards reduce the quantity of formal deliberation while preserving governance effectiveness by concentrating director attention and resource provision into fewer but more consequential meetings. Under this view, meeting frequency and attendance are jointly determined dimensions of board diligence rather than independent governance outcomes.**

Second, and more importantly, we move beyond documenting a life cycle–diligence association by integrating institutional theory to explain when, where, and why this relationship varies. **In**

doing so, we conceptualise political instability, market competition, economic development, and legal origin as moderating conditions that strengthen, weaken, or leave unchanged the association between corporate life cycle and board diligence, rather than as mechanisms transmitting the effect of life cycle. This shifts the literature from asking whether life cycle matters for board behaviour to explaining under what institutional conditions its effects are amplified or attenuated. This paper offers a contextual analysis explicitly comparing developed vs emerging economies and common vs civil law systems, moving beyond existing literature from asking "if" the relationship exists to explaining "when, where, and why" it varies across institutional contexts. We show that this life-cycle–diligence relationship is not homogeneous: it is systematically conditioned by coercive and mimetic forces stemming from political instability, product market competition, economic development, and legal systems.

Third, using a large cross-country sample spanning 53 countries over two decades, we provide systematic international evidence that life cycle-driven changes in board diligence are not universal but institutionally contingent. This comparative perspective meaningfully extends prior single-country or structurally focused studies and offers new theoretical and practical insights into how boards adjust monitoring behaviour in response to both internal firm evolution and external institutional pressures. Our cross-country evidence reveals that external institutional pressures moderate the relation between lifecycle and board diligence.

Thus, this paper not only investigates the life cycle-diligence association but also delineates its boundary conditions, offering more nuanced theory and targeted practical implications. By explicitly identifying these boundary conditions, the study advances theory from documenting life cycle-related governance patterns to explaining the institutional contexts under which such patterns are strengthened, weakened, or maintained.

Using a big global dataset of 36,897 firm-year observations, the findings reveal that the corporate life cycle has a negative association with the frequency of board meetings. This finding implies that as companies grow and stabilise, the need for frequent board meetings might decrease. This shift could be attributed to the fact that, as operations become more established and predictable, there may be fewer urgent strategic decisions requiring regular attention from the board. This negative effect is **more pronounced** in firms operating in countries with high political instability and less likely in firms facing external market pressure. Indeed, companies facing external market pressure often need to adapt quickly to changing circumstances. This may require more frequent strategic decisions and adjustments, necessitating regular board meetings to provide guidance and oversight. Political instability increases uncertainty and the need for rapid responses. **In such settings, firms tend to shift decision-making away from formal, scheduled board meetings toward more centralised and flexible executive action. Furthermore, the operational risks generated by political instability may render formal board processes less feasible, reinforcing a governance shift toward executive discretion over procedural deliberation.**

The results also show that the corporate life cycle has a positive association with board attendance, which is more pronounced during periods of high political instability and **less likely in firms** operating in a highly competitive environment. These findings suggest that political instability can introduce significant risks to a company's operations. Boards may need to attend meetings more frequently to assess these risks, develop contingency plans, and monitor their implementation to ensure the company's resilience. **Regarding competitive dynamics, while mimetic institutional pressures — as manifested through market competition — appear to shape the frequency with which boards meet, they do not extend to influencing the rate of board meeting attendance. This divergence suggests that mimetic forces operate predominantly at the level of observable governance form rather than substantive governance quality. Meeting**

frequency, as a more visible and readily benchmarked governance signal, is susceptible to imitation driven by competitive isomorphism; attendance, by contrast, reflects a deeper dimension of board engagement that is less amenable to such external conformity pressures. Furthermore, in highly competitive environments, firms are continuously subject to market discipline, transmitted through price signals, shifts in customer demand, and the strategic actions of rivals, which generate frequent and relatively transparent performance feedback. This ongoing flow of market information reduces information asymmetry and, consequently, diminishes the firm's reliance on intensive board participation as the primary mechanism for monitoring and internal information processing.

The study is organised as follows. In the next sections, we present the theoretical arguments and hypothesis development supported by the literature. Data and research design are then discussed before we present our results and discuss the main implications. The paper concludes with key contributions and further research.

2. Research Background and Literature Review

A growing body of work recognises the corporate life cycle as a central organising framework for understanding how firms' governance needs evolve (Habib and Hasan, 2019). Recent surveys highlight that life cycle stages shape not only financing and payout policies but also the intensity and configuration of monitoring mechanisms, as agency problems, information asymmetry, and resource constraints change from growth to maturity and decline (Habib and Hasan, 2019; Cremers et al., 2024). Contemporary life cycle research increasingly emphasises dynamic adjustment, arguing that boards and other governance mechanisms must adapt to shifting risk profiles, margins, and investment opportunities, rather than remaining static structures (Habib and Hasan, 2019).

Within this stream, recent studies show that life cycle proxies based on retained earnings, age, growth opportunities, and cash-flow patterns capture systematic cross-sectional variation in governance choices and their consequences (DeAngelo et al., 2010; Flavin et al., 2021; Owen and Yawson, 2010). Cash-flow-based classifications, such as those built on the joint signs of operating, investing, and financing cash flows, have been used to map governance behaviour into introduction, growth, maturity, and decline stages, highlighting that mature firms differ markedly from growth firms in their reliance on internal monitoring and external capital-market discipline (Habib and Hasan, 2019). Newer evidence from dual-class firms also suggests that the valuation consequences of control structures are themselves life-cycle dependent, with governance arrangements that may be value-enhancing at early stages becoming value-reducing as firms age, reinforcing the need to treat life cycle as an essential contingency variable in governance research (Cremers et al., 2024).

2.1. Corporate Life Cycle and Board-Level Mechanisms

Recent empirical work has begun to examine how board structures adjust across life cycle stages in different institutional settings (Li and Zhang, 2018; Nizar et al., 2025). Evidence from large emerging economies shows that board size tends to contract as firms move from early growth towards maturity, while CEO–chair duality declines, indicating a shift towards more distributed authority and stronger internal checks as agency conflicts become more salient (Li and Zhang, 2018). At the same time, board independence appears relatively stable over the life cycle in some markets, suggesting that firms may rely more on changes in board roles and the distribution of power within the board—rather than formal independence ratios alone—to respond to evolving monitoring and advisory demands (Li and Zhang, 2018; Nizar et al., 2025).

This dynamic view of boards is echoed in recent conceptual work, which frames boards as evolving institutions whose composition, information-processing capacity, and task priorities

should co-move with life cycle transitions (Bonn and Pettigrew, 2009; Habib and Hasan, 2019). From this perspective, the board's monitoring and advisory functions are reweighted as firms move from entrepreneurial growth, where flexibility, speed, and external resource acquisition dominate, to maturity, where coordination, risk oversight, and stakeholder accountability gain prominence (Habib and Hasan, 2019; Li and Zhang, 2018). Contemporary evidence implies that board mechanisms cannot be evaluated in isolation from the firm's life cycle, and that cross-sectional associations between board attributes and outcomes may be misleading if life-cycle heterogeneity is ignored (Habib and Hasan, 2019; Nizar et al., 2025).

2.2. Board Diligence as an Evolving Monitoring Mechanism

Recent developments in practice and regulation underscore that diligence is increasingly assessed not only through structural board attributes but also through behavioural indicators such as meeting preparation, attendance, and engagement (Alvarez and Marsal, 2024; Association of Corporate Counsel [ACC], 2024). In the UK and other developed markets, regulators, investors, and proxy advisers now routinely scrutinise attendance records in annual reports as a key signal of directors' compliance with their duty of care and diligence, viewing persistent non-attendance as inconsistent with effective oversight (BoardCloud, 2005). Parallel survey evidence indicates that senior legal and risk officers in large firms devote rising time to board and committee meetings, particularly as risk environments become more complex and stakeholder demands intensify, highlighting attendance as an important dimension of substantive board involvement (ACC, 2024).

Despite this growing emphasis, the academic literature has only recently started to differentiate between the frequency of meetings and the quality of participation as distinct dimensions of board diligence (Uyar et al., 2020; Vafeas and Vlittis, 2024). Existing work has typically treated meeting frequency as a generic monitoring proxy, while more recent studies link attendance to

more effective information sharing, deliberation quality, and compliance with directors' legal obligations to exercise reasonable care and skill (Uyar et al., 2020; Unda and Ranasinghe, 2021). Against this backdrop, theorising how life cycle stages shape both the quantity (frequency) and quality (attendance) of board interactions fills a clear gap in the contemporary governance literature (Habib and Hasan, 2019; Vafeas and Vlittis, 2024).

2.3. Institutional Environments, Life Cycle, and Governance

Modern corporate governance research increasingly frames boards as embedded in institutional environments characterised by varying levels of investor protection, regulatory quality, political risk, and product-market competition (La Porta et al., 1998). Institutions are seen as shaping both the demand for governance—through their influence on agency conflicts and external monitoring—and the supply of feasible governance arrangements by defining enforcement capabilities and normative expectations. Recent work theorises governance systems as “institutionally resolved”, arguing that formal structures and behavioural practices emerge as context-specific responses to prevailing legal, political, and market constraints (La Porta et al., 1998).

Within this institutional perspective, political instability and competitive pressure are particularly salient in global settings. Contemporary studies of multinational and cross-border activity illustrate how heightened political risk generates both threats and strategic opportunities, encouraging firms to develop political capabilities and to adjust internal oversight to cope with volatile regulatory environments (Henisz and Zelner, 2005). At the same time, intensified product-market competition, especially in increasingly globalised industries, raises the performance stakes for boards, strengthening the disciplining role of markets and investors and amplifying mimetic pressures to adopt governance practices perceived as “best in class” (Porter and Strategy, 1980; Alvarez and Marsal, 2024). These developments suggest that

the association between corporate life cycle and board diligence is unlikely to be uniform across countries and markets; instead, it should depend on how institutional and competitive conditions interact with firms' stage-specific vulnerabilities (Habib and Hasan, 2019).

2.4. Integrating Life Cycle, Institutional Disciplining, and Board Diligence

Recent integrative work calls for moving beyond simple main-effect models of life cycle and governance to examine how institutional contingencies shape the evolution and effectiveness of board mechanisms (Habib and Hasan, 2019). Institutional theory predicts that coercive pressures, such as political instability and regulatory interventions, can induce boards to intensify monitoring to maintain legitimacy and access to critical resources, while mimetic pressures from peers and markets push boards to emulate high-diligence practices that are viewed as signals of credibility (DiMaggio and Powell, 1983; Scott, 2013). These pressures are likely to be particularly potent when combined with life-cycle-specific risks—for example, when growth-stage firms in unstable environments seek to build legitimacy, or when mature firms under intense competition strive to defend market positions (Henisz and Zelner, 2005).

Current cross-country evidence points to substantial heterogeneity in how market development, legal origin, and governance quality condition the operation of board mechanisms, indicating that similar board structures can have different implications for diligence and performance depending on the institutional context (La Porta et al., 1998). This reinforces the argument that the relationship between corporate life cycle and board diligence must be theorised and tested within a framework that explicitly incorporates coercive and mimetic institutional forces, rather than assuming that life-cycle effects are universally homogeneous (DiMaggio and Powell, 1983; Habib and Hasan, 2019). By situating life cycle-driven changes in board diligence within these broader institutional logics, the manuscript's theoretical framework advances the emerging literature that seeks to explain not only whether life cycle matters for governance, but

when and **under which external disciplining conditions** its effects are amplified or attenuated (Habib and Hasan, 2019).

3. Hypotheses Development

3.1. Firm Life Cycle and Board Diligence

The relationship between firm life cycle stages and corporate governance mechanisms, such as board meetings, has garnered significant attention in organisational research (Habib and Hasan, 2019). The firm life cycle theory posits that firms progress through distinct stages of development, characterised by different strategic priorities, resource allocation patterns, and governance needs (Hanks et al., 1994). According to this theory, as firms evolve from inception through growth, maturity, and eventual decline, their governance structures and practices adapt to meet changing demands. **Importantly, life-cycle progression changes not only the intensity of board monitoring but also the mechanism through which boards process information and mobilise governance resources. Drawing on information processing theory (Galbraith, 1974), boards are organisational information-processing systems whose governance design adjusts to the volume and complexity of information requiring coordination. Drawing on resource dependence theory (Hillman and Dalziel, 2003), boards also serve as providers of expertise, legitimacy, and strategic resources. Consequently, as firms mature, boards may substitute meeting quantity with concentrated director engagement when governance demands become less dependent on repeated formal interaction (Vafeas and Vlittis, 2024).**

Initially, in the inception and early growth stages, firms tend to have simple organisational structures and informal governance mechanisms due to their entrepreneurial orientation and resource constraints (Hambrick and Crozier, 1985). **During these stages, board interaction may be frequent but irregular, because strategic uncertainty, external financing needs, and weak internal routines require repeated information exchange and rapid monitoring. However, as**

firms transition into the growth and maturity stages, the complexity of operations and stakeholder expectations increases, necessitating more structured governance processes (Finkelstein and Hambrick, 1989).

As firms mature, governance systems become more formalised and internal information channels become more developed through established reporting systems, board committees, internal controls, and managerial routines (Daily et al., 2003). Information processing theory (Galbraith, 1974) predicts that organisational governance structures adapt to information-processing requirements: when uncertainty declines and information becomes more codified, the need for repeated formal interaction diminishes. Boards therefore require fewer meetings to achieve the same monitoring objectives because information can be aggregated, filtered, and escalated more efficiently. Resource dependence theory complements this argument by suggesting that the value created by boards depends less on the frequency of interaction and more on directors' ability to provide concentrated expertise, legitimacy, and strategic resources when required (Hillman and Dalziel, 2003). Under these conditions, mature firms can rationally reallocate governance effort from meeting quantity toward meeting efficiency by holding fewer meetings while increasing director participation in those meetings. Accordingly, meeting frequency and attendance should not be viewed as separate governance mechanisms but as jointly optimised dimensions of board diligence.

Mature firms can rationally consolidate deliberation into fewer scheduled meetings, provided that the meetings retained are attended by directors with the relevant expertise and authority. This meeting-efficiency reallocation mechanism is consistent with evidence that board meeting frequency increases when directors need additional information, such as when earnings quality is low, whereas stronger information environments reduce the need for frequent formal convening (Vafeas & Vlittis, 2024). It is also consistent with governance guidance that treats both the number of meetings and individual director attendance as separate disclosure items,

implying that meeting quantity and director participation capture distinct dimensions of board diligence (Financial Reporting Council [FRC], 2024).

The same mechanism explains why attendance can increase as meeting frequency declines. When meetings are fewer, each meeting carries greater informational and decision weight (Zahra and Pearce, 1989). From an information-processing perspective, fewer meetings increase the informational density and strategic importance of each meeting, making director participation more valuable. From a resource dependence perspective, concentrated attendance allows boards to preserve access to directors' expertise and external connections without increasing coordination costs. Directors therefore have stronger incentives to attend because absence becomes more costly: missing one consolidated meeting implies missing a larger share of the board's annual deliberation. Higher attendance is also more likely in mature firms because boards are typically more formalised, agendas are better prepared, committees filter routine matters, and directors are selected for monitoring expertise and reputational capital (Carpenter et al., 2004). Prior evidence shows that attendance is an important behavioural indicator of director commitment and governance effectiveness (Chou et al., 2013; Min & Chizema, 2018), while regulatory guidance increasingly expects firms to disclose individual attendance separately from the number of meetings (FRC, 2024).

Accordingly, H1 is derived from a unified theoretical mechanism rather than two independent predictions. Information processing theory explains why maturity reduces the need for frequent formal meetings as governance becomes more efficient at processing information. Resource dependence theory explains why director engagement becomes more concentrated because fewer meetings increase the strategic value of director participation and resource provision. Thus, mature firms do not reduce governance effort; rather, they reallocate it from meeting quantity toward attendance intensity. The substitution is expected to occur when information uncertainty declines, governance routines become formalised, and directors' participation

becomes more consequential for board effectiveness. Thus, we formulate the following hypothesis:

H1: The firm life cycle is negatively associated with board meeting frequency but positively associated with board meeting attendance rate.

3.2. The Moderating Role of Political Instability

The organisational structure of corporate governance varies across nations, influenced by diverse economic, political, and social circumstances. For instance, in developed nations, companies often have widely dispersed shareholders and function within stable political and financial environments. They benefit from robust regulatory frameworks and efficient governance protocols. Conversely, the political instability experienced by certain developing nations can lead to challenging economic conditions, which in turn impact the operations of firms within those regions (Amin et al., 2021). Institutional theory provides a robust framework for understanding how external pressures, including coercive forces and disciplinary effects, shape organisational behaviour and practices (Scott, 2013). Political instability, as a form of coercive pressure stemming from the external environment, can significantly influence the governance practices of firms, particularly in terms of board diligence.

Firstly, political instability introduces uncertainty and risk into the business environment, compelling firms to adapt their governance mechanisms to navigate turbulent conditions (North, 1990). In response to heightened uncertainty, firms may increase their reliance on formal governance structures, such as boards of directors, to provide stability and guidance. This is consistent with the coercive pressure exerted by political instability, which prompts firms to conform to established norms and practices to mitigate risk (Meyer and Rowan, 1977).

Moreover, political instability can enhance the disciplinary effect of the external environment on firms, incentivising them to enhance governance diligence to maintain legitimacy and

reputation (Henisz and Zelner, 2005). In times of political upheaval, firms face greater scrutiny from stakeholders, including investors, regulators, and the public, leading to heightened expectations regarding transparency, accountability, and risk management. Consequently, boards may intensify oversight, but this need not take the form of more frequent formal meetings. In politically unstable environments, logistical disruption, time pressure, and rapid decision needs may make routine board convening less feasible. Boards may therefore consolidate deliberation into fewer high-stakes meetings while expecting higher attendance at those meetings (Hillman and Dalziel, 2003).

The relationship between the firm life cycle and board diligence is likely to be moderated by political instability. In stable political environments, firms may exhibit consistent governance practices across different stages of the life cycle, with little variation in board diligence. However, in politically unstable contexts, the association between firm life cycle and board diligence may vary significantly (Amin et al., 2021). Political instability may amplify the governance challenges faced by firms at different stages of the life cycle. For instance, younger firms in the early stages of development may struggle to establish effective governance mechanisms amidst political turmoil, leading to lower board diligence.

Conversely, mature firms with established governance structures may respond to political instability by intensifying their oversight activities, strengthening the meeting-efficiency reallocation mechanism. Mature firms possess more developed governance routines and can therefore respond to political uncertainty by prioritising attendance at fewer, more consequential meetings to navigate heightened uncertainty and maintain legitimacy in the face of external pressures. We therefore expect, drawing on institutional theory and empirical evidence, that political instability positively moderates the relationship between firm life cycle and board diligence. Thus, we formulate the following hypothesis:

H2: Political instability positively moderates the relationship between firm life cycle and board diligence (i.e., board meeting frequency and attendance rate).

3.3. The Moderating Role of Market Pressure

Corporate governance practice is expected to vary based on the external resources available within the firms' market or institutional settings. Since these resources are intricately linked with various organisational environments, the contingencies related to external resources are poised to impact the efficacy of governance processes. Specifically, the effectiveness of these processes may hinge on the stages of growth or decline experienced by the company, the unique characteristics of different markets, and the institutional limitations governing business operations (Amin et al., 2021). Institutional theory posits that organisations often mimic the behaviours and practices of successful peers in response to mimetic pressure, particularly in environments characterised by uncertainty and ambiguity (DiMaggio and Powell, 1983). Competitive market pressure represents a significant external force that shapes organisational behaviour and governance practices, influencing the relationship between firm life cycle and board diligence.

In highly competitive markets, firms face intense pressure to demonstrate performance and efficiency to maintain their competitive position (Porter and Strategy, 1980). This competitive environment heightens the need for effective governance mechanisms, including robust board oversight, to ensure strategic alignment and agility in decision-making (Hanson et al., 2016). Mimetic pressures lead firms to emulate the governance practices of successful competitors, including increasing board meeting frequency and attendance rates, as a means of signalling legitimacy and responsiveness to market demands (Westphal and Zajac, 2001).

Moreover, competitive market pressure enhances the disciplinary effect of the external environment on firms, compelling them to enhance governance diligence to remain viable and

competitive (Henisz and Zelner, 2005). Firms operating in competitive markets are subject to scrutiny from various stakeholders expecting higher transparency, accountability, and risk management. Effective governance, facilitated by active board oversight, becomes a critical means of addressing these expectations and maintaining stakeholder trust and confidence.

The relationship between the firm life cycle and board diligence is likely to be moderated by competitive market pressure. In highly competitive markets, firms at different stages of the life cycle may face varying degrees of pressure to demonstrate governance effectiveness. Younger firms in the early stages of development may perceive greater pressure to emulate the governance practices of established competitors as a means of gaining legitimacy and market credibility. As a result, they may exhibit higher levels of board diligence, including increased meeting frequency and attendance rates, despite their relative immaturity.

Conversely, competitive market pressure operates differently from political instability. Because meeting frequency is externally visible and easily benchmarked, firms facing intense competition may maintain or increase meeting frequency to signal responsiveness, discipline, and strategic agility (Porter and Strategy, 1980). Attendance, however, is a less visible and more internal form of engagement. Competitive pressure may therefore weaken the maturity-driven decline in meeting frequency without necessarily increasing attendance. This distinction is important because mimetic pressures are more likely to affect observable governance form than less observable governance substance. Thus, we formulate the following hypothesis:

H3: Competitive market pressure positively moderates the relationship between firm life cycle and board diligence (i.e., board meeting frequency and attendance rate).

4. Data and Research Design

4.1. Data

To examine the association between the corporate life cycle and board diligence, we combined data from three sources. *The London Stock Exchange Group (LSEG) Workspace* (formerly named *Thomson Reuters Eikon/Refinitiv*) database, which includes firm-level information (accounting data, corporate life cycle data, and board structure data). *The World Bank (2022a)* database provides Worldwide Governance Indicators (WGI) measuring countries' public governance quality. Macroeconomic information, specifically Gross Domestic Product (GDP), were obtained from the *World Bank (2022b)* database. Firms with missing key information were excluded from the study. Financial firms (SIC codes 6000-6999) were also removed from the sample. After these exclusions, our final dataset comprised 36,897 observations from 53 countries spanning the years 2002 to 2021.

4.2. Model Specification

We employed panel data regression models with robust standard errors clustered at the firm level to examine how the corporate life cycle affects board diligence. More specifically, we estimated the following model:

$$BDILIGENCE_{it} = \alpha_0 + \alpha_1 LIFECYCLE1_{it} + \alpha_2 BSIZE_{it} + \alpha_3 CEODUALITY_{it} + \alpha_4 SIZE_{it} + \alpha_5 ROA_{it} + \alpha_6 LEV_{it} + \alpha_7 CR_{it} + \alpha_8 CAPEXP_{it} + Country\ Fixed\ Effect + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon_{it} \quad (1)$$

To examine board diligence (*BDILIGENCE*), we employ two dependent variables that capture distinct but complementary dimensions of director effort: board meeting attendance (*BATTENDANCE*), measured as the fraction of meetings attended (bounded on the unit interval $[0, 1]$), and the number of board meetings (*BMEETING*) convened during the fiscal year, a non-negative integer count.

For the number of board meetings, we estimate count-data regression. As a natural baseline, we first estimate a Poisson model; however, a likelihood-ratio test for the overdispersion parameter α rejects the equidispersion restriction at conventional significance levels, indicating that the conditional variance materially exceeds the conditional mean. To accommodate this overdispersion and to account for unobserved firm-level heterogeneity, we adopt negative binomial regression (*NBREG*) as our primary specification.

For board attendance, we turn to a fractional response model. Specifically, we adopt a logit link function (*FRAC_LOGIT*), which by construction constrains predicted values to the unit interval and yields a quasi-maximum likelihood estimator that remains consistent under distributional misspecification of the conditional mean. We prefer the logit specification over its probit counterpart on practical grounds: both link functions produce virtually identical average partial effects, yet the logit form enjoys considerably wider adoption in the corporate governance literature, thereby facilitating direct comparability with prior work. Our inferences are robust to the use of alternative link functions, including probit.

All specifications include country, industry, and year fixed effects, and standard errors are clustered at the firm level to address potential heteroscedasticity and correlation of errors within firms. Clustering by firm allows us to account for the possibility that observations within the same firm may be correlated due to unobserved firm-level factors. By clustering standard errors in this manner, we aim to obtain more accurate estimates of the standard errors, which in turn improves the reliability of our statistical inference.

4.3. Variables

To capture the *corporate life cycle*, we followed DeAngelo et al. (2010) and used the retained earnings to total assets ratio (*LIFECYCLE1*). A low ratio of retained earnings to total assets suggests a need for external funding, while a high ratio indicates a more mature status with the

ability to rely on self-financing. Our *LIFECYCLE1* proxy may also capture accumulated profitability, payout policy, and financing structure in addition to life-cycle position. However, this measure remains a well-established and widely used proxy in the corporate life-cycle literature because it reflects the cumulative internal financing capacity of the firm, which is strongly linked to its stage of development and maturity (Hsu, 2018; Al-Hadi et al., 2019; Atif et al., 2022). Unlike alternative indicators, it captures the cumulative ability of the firm to generate and retain internal funds over time, which directly reflects the transition from early-stage reliance on external financing toward maturity and internal financing dominance.

To proxy for *board diligence* (*BDILIGENCE*), we followed previous research and used board meeting frequency (*BMEETING*) (Vafeas, 1999; Kamaludin et al., 2022; Angsoyiri et al., 2025) and attendance rate (*BATTENDANCE*) (Uyar et al., 2020; Unda and Ranasinghe, 2021). While *BMEETING* measures the number of board meetings held during the year, *BATTENDANCE* measures the average meeting attendance rate.

We control for board size (*BSIZE*) which is the number of directors on the board, CEO duality (*CEODUALITY*) which takes 1 if the CEO and board chair are the same person, 0 if not, firm size (*SIZE*), which is the natural logarithm of total assets; profitability (*ROA*) which income before tax over total assets; leverage (*LEV*), which total debt over total assets, current ratio (*CR*), which is current assets over current liabilities, capital expenditure (*CAPEXP*), which is capital expenditures over total assets, and the Worldwide Governance Index (*WGI*) which includes factors that control of corruption, government effectiveness, voice and accountability, rule of law, political stability and absence of violence/terrorism, and regulatory quality (values range from -2.5 to 2.5). We also controlled for economic development using the natural logarithm of gross domestic product per capita (GDP). These control variables are selected based on existing literature on the determinants of board diligence (Hahn and Lasfer, 2016; Min

and Chizema, 2018; Al-Shaer et al., 2023; Vafeas and Vlittis, 2024)¹. To control for possible variables across industries and time, we include industry and year dummies.

[Insert Table A1 in Appendix]

5. Results and Discussions

5.1. Descriptive Statistics and Correlation Analysis

Panel A of Table 1 displays the distribution of the sample across different countries, with the United States (US) having the highest proportion (37.794%), followed by the United Kingdom and Australia with 8.483% and 7.253%, respectively. Panel B of Table 1 displays the breakdown of observations by year; the ratios varied from 0.054% in 2002 to 14.999% in 2020, demonstrating a steady increase each year. Panel C of Table 1 presents the distribution of the sample across different sectors, with Real Estate accounting for 4.878% (the least represented sector) and Industrial for 17.717% (the most represented sector).

[Insert Table 1]

In Table 2, the summary statistics of the dependent, independent, and control variables are provided. To mitigate the impact of outliers, winsorization was applied to all continuous variables at the 1st and 99th percentiles of their respective distributions. Regarding board characteristics, the average values for *BMEETING* and *BATTENDANCE* were 8.725 and 0.892, respectively. The average value of the corporate life cycle variable (*LIFECYCLE1*) was 0.139. The descriptive statistics for other control variables are consistent with previous studies (e.g., Prevost et al. 2002; Boone et al. 2007; Bansal and Thenmozhi 2020; Al-Shaer et al. 2023).

[Insert Table 2]

¹ Please see the definitions of all variables in Table A1 in the Appendix.

Table 3 displays the Pearson correlations among the regression variables. All correlations between the independent variables are below the critical threshold of 0.8 (Gujarati, 2004). Furthermore, the variance inflation factor (VIF) for the variables in our model does not surpass the critical level of 10. These results assure that multicollinearity is unlikely to be a concern in our study.

[Insert Table 3]

5.2. Baseline Results

Table 4 shows the results for the association between corporate life cycle and board diligence. The results in column 1 of Table 4 show that the coefficient associated with corporate life cycle is negative and significant at the 1 % level. This finding suggests that the frequency of board meetings may decrease slightly as firms mature. This could be due to the stabilisation of firm operations, leading to fewer major strategic decisions being made regularly. However, it is important to note that board meetings continue to play a crucial role in monitoring performance, assessing management, and formulating long-term strategic decisions, even as the firm's operations become more stable. Additionally, the results in column 2 of Table 4 indicate that the coefficient associated with corporate life cycle is positively significant at the 1% level. This finding suggests that as companies mature, board members place a high priority on attendance to effectively fulfil their duties and ensure firm financial stability. **Overall, the findings support the proposed meeting-efficiency reallocation mechanism: mature firms appear to preserve governance intensity not through more frequent board interaction, but through concentrated attendance and more efficient information processing during fewer meetings.** Eventually, the results confirm H1 that the firm life cycle is negatively associated with board meeting frequency but positively associated with board meeting attendance rate. In terms of economic

significance², a one standard deviation increase in the corporate life cycle is associated with a reduction of 82.919% in board meetings and an increase of 9.761% in board attendance. These results highlight the potential of the corporate life cycle to enhance board diligence, which policymakers should take into consideration.

[Insert Table 4]

5.3. *Moderation Analysis*

Political uncertainty often leads to increased risk aversion among corporate leaders (Inekwe, 2016; Frot and Santiso, 2013). In such times, we argue that board members may prioritise attending meetings to stay informed about potential shifts in regulations, policies, or market conditions that could affect the company's performance and strategic direction. This heightened awareness of risks may drive higher meeting attendance and frequency, as board members seek to mitigate uncertainties through active involvement in the meetings. We measured political instability with the country-level political stability metric of WGI³. We multiply the original values by -1 so that higher values correspond to greater political instability. Consistent with this proposition, the results reported in Table 5 (column 1) show that the negative association between corporate life cycle and the number of board meetings is amplified during periods of high political uncertainty. However, in Table 5 (column 3), the positive association between corporate life cycle and board meeting attendance is more likely during periods of high political uncertainty. This finding suggests that political instability plays a meaningful moderating role in shaping board diligence across firm life cycle stages, confirming our H2 for board meeting attendance but not board meeting frequency. Notably, the divergence between meeting

²The economic significance is computed as the standard deviation of independent variable, multiplied by its coefficient, all divided by the average dependent variable.

³ Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5 (more stable environment) (World Bank, 2022a).

frequency and attendance under conditions of political uncertainty points to an important distinction between the form and the intensity of board oversight. Rather than convening more frequently, boards appear to respond to environmental uncertainty by enhancing the intensity of engagement during the meetings they do hold — prioritising substantive deliberation over procedural regularity.

Kamarudin et al. (2022) suggest that product market competition can affect corporate board attributes. Hence, to gain a deeper understanding of how the corporate life cycle is associated with board diligence, we examined the moderating effect of industry competitive pressure. We first calculated the Herfindahl–Hirschman Index (HHI) based on industry sales. Subsequently, we multiplied the resulting values by -1 so that higher values correspond to greater competition rather than higher concentration. The results in Table 5 (column 2) indicate that the negative association between corporate life cycle and the number of board meetings is less likely in the presence of external market pressure, whereas the moderating effect is insignificant for board meeting attendance (column 4). This result confirms H3 for board meeting frequency but not board meeting attendance, such that competitive market pressure induces firms to hold more meetings but does not make a significant change in board meeting attendance. Overall, our results indicate that mimetic institutional pressures, as expressed through market competition, primarily influence the frequency of board meetings rather than the rate of board meeting participation. This divergence suggests that mimetic forces operate mainly at the level of observable governance structures, rather than extending to more substantive dimensions of governance effectiveness. In particular, meeting frequency—being more visible, easily comparable, and benchmarked across firms—appears more susceptible to imitation, consistent with competitive isomorphism. In contrast, attendance reflects a deeper dimension of board engagement that is less observable and therefore less directly shaped by external conformity pressures.

[Insert Table 5]

5.4. Heterogeneity Analyses

Building on our moderation analysis, we conduct subsample analyses to examine whether the association **between** corporate life cycle **and** board diligence varies across additional institutional contexts. Specifically, we aim to assess the consistency of our primary findings across developed versus emerging countries and civil-law versus common-law jurisdictions, thereby enhancing the generalizability of our results.

Agency theory posits that boards intensify diligence—through meeting frequency and attendance—to mitigate agency problems (Jensen, 1986; Jensen and Meckling, 1976). However, institutional features such as market development and legal origin shape investor protection, enforcement quality, and board monitoring efficacy (La Porta et al., 1998; Djankov et al., 2008). We, therefore, argue that the **association between** corporate life cycle **and** board diligence may vary across these settings.

To investigate this, we conduct subsample analyses across these different contexts. Table 6 (Columns 1-8) shows a consistent pattern: the negative (positive) association of corporate life cycle with board meeting frequency (board meeting attendance) holds across developed/emerging markets and common/civil-law origins. This consistency suggests that the observed patterns are not driven by country-specific governance regimes, regulatory frameworks, or legal traditions, but rather reflect fundamental organisational dynamics associated with firm maturity. Taken together, these findings indicate that the influence of corporate life cycle on board diligence is broadly applicable across heterogeneous institutional settings, thereby strengthening the generalizability of our results.

[Insert Table 6]

5.5. Robustness Checks

5.5.1. Alternative Metric of Corporate Life Cycle

We conduct several tests that assess the robustness of the results to alternative metrics of the corporate life cycle. The first proxy, *LIFECYCLE2*, is calculated by dividing the retained earnings by the total equity of the firm. This approach has been used by previous studies such as Owen and Yawson (2010) and Ezzi et al. (2023). The second proxy, *LIFECYCLE3*, is based on the firm's age and follows the approach used by Flavin et al. (2021). To calculate *LIFECYCLE3*, the observation year is subtracted from the year the organisation was founded. The results shown in Table 6 confirm our previous results. The third proxy is a composite scoring indicator including *retained earnings*, *sales growth*, *capital expenditures*, and *firm age* to classify the various stages of the firm life cycle (*LIFECYCLE4*). The composite scores have been formulated with careful consideration of industry-specific differences, as recommended by Li and Zhang (2018). In every industry and for each year, we sort sales growth and capital expenditure variables in ascending order, and the retained earnings and firm age variables in descending order. Subsequently, we segment each of the four variables into three equal intervals, with a score ranging from 1 to 3 (See Table A2 in the Appendix for more information). Next, we aggregate the individual scores from the four variables to derive a composite score for each industry. Upon calibration of the composite score within each industry (ranging from 4 to 12). To ensure that higher scores correspond to later life cycle stages (from growth to maturity), we multiply the composite score by -1 so that the ordering properly reflects the progression of the firm life cycle. The results presented in Table 7 (columns#1-6) confirm our main conclusions.

[Insert Table 7]

As discussed above, prior studies (Owen and Yawson, 2010; Flavin et al., 2021; Li and Zhang, 2018; Ezzi et al., 2023) have developed various proxies to capture different stages of the firm

life cycle. Beyond these measures, Dickinson's (2011) classification scheme offers a cash-flow-based approach that relies on the signs of operating (CFO), investing (CFI), and financing (CFF) cash flows to categorise firms into distinct life cycle stages—introduction, growth, maturity, decline, and shake-out. The author argues that cash flow captures differences in a firm's profitability, growth, and risk and, hence, the cash flow from operating, investing, and financing can be used to define life cycle stages such as 'introduction', 'growth', 'mature', and 'decline'. The methodology is, introduction, if $CFO < 0$, $CFI < 0$, and $CFF > 0$; growth, if $CFO > 0$, $CFI < 0$, and $CFF > 0$; mature, if $CFO > 0$, $CFI < 0$, and $CFF < 0$; decline, if $CFO < 0$, $CFI > 0$, and $CFF \leq$ or ≥ 0 . Table 8 presents the results of this robustness analysis. The findings (Columns#1 – 4) confirm our primary results, indicating that as firms reach maturity, boards shift their focus from the frequency of meetings to effective attendance, reflecting more strategic and engaged oversight.

[Insert Table 8]

5.5.2. Omitted-variable bias

Our baseline regression model has already included country, industry, and year fixed effects to control for unobserved heterogeneity at these levels. To more directly address the concern about omitted-variable bias, we have conducted additional robustness analyses that incorporate firm fixed effects. The latter absorb all time-invariant unobserved firm characteristics. The results in Table 9 (Columns# 1 - 4) remain qualitatively unchanged, confirming the stability of our core findings.

The firm fixed-effects estimates yield substantive insight beyond a conventional robustness check. Although the association between *LIFECYCLE1* and *BATTENDANCE* retains statistical significance after the inclusion of firm fixed effects, its magnitude declines sharply, a pattern consistent with meaningful attenuation. This attenuation implies that a substantial portion of

the baseline association is attributable to time-invariant firm characteristics rather than to within-firm variation across life cycle stages. Such characteristics may include persistent governance practices, ownership structures, organisational routines, or managerial styles. Accordingly, the observed cross-sectional variation in board attendance across life-cycle stages reflects both within-firm adjustments and stable cross-firm heterogeneity. Overall, these results suggest that the governance-adaptation mechanism is present but less purely dynamic than implied by the baseline estimates, a non-trivial portion of the documented association being shaped by enduring firm-level attributes that operate independently of life-cycle progression.

[Insert Table 9]

5.5.3. Additional Country-Level Control Variables

To ensure that the baseline findings are not sensitive to the omission of relevant macroeconomic and institutional conditions, Table 10 re-estimates the core specifications augmented with two additional country-level control variables: GDP growth (*GDP*) and the *WGI*, which captures the broader institutional quality of the country in which the firm operates. The inclusion of these variables serves to absorb cross-country variation in economic conditions and institutional environments that may independently influence board monitoring behaviour, thereby providing a more stringent test of the life cycle–board diligence relationship.

The results reported in Table 10 (columns#1-2) confirm that the core findings remain both qualitatively and quantitatively robust to the inclusion of these additional controls. Specifically, the coefficient on *LIFECYCLE1* remains negative and statistically significant in the board meeting frequency specification, and positive and statistically significant in the board attendance specification, consistent with the baseline estimates. These findings confirm that firms in more advanced life cycle stages convene fewer board meetings but exhibit higher board

attendance rates, even after accounting for cross-country differences in economic development and institutional quality.

[Insert Table 10]

5.5.4. Endogeneity Concerns

Table 11 presents a series of robustness checks designed to address potential endogeneity concerns. To this end, we employ two complementary identification strategies: an instrumental variable count model (IV Poisson-GMM) and a control function approach suited to fractional dependent variables. Consistent with Habib and Hasan (2017) and Al-Shaer et al. (2023), we utilised two instrumental variables in the regression analysis: (i) the industry average of corporate life cycle, and (ii) the country average of corporate life cycle. Prior studies confirm that the country and industry averages of independent variables meet both the relevance and exclusion criteria of instrumental variables (Schreck, 2011; Banerjee et al., 2022).

Our identification strategy relies on the idea that firms operating in industries and countries characterised by more mature financial profiles are more likely to exhibit mature firm-level life-cycle characteristics themselves, thereby satisfying instrument relevance. Regarding the exclusion restriction, we note that our models already include extensive controls and fixed effects, including industry, country, and year fixed effects, which absorb persistent differences in governance norms, regulatory structures, and monitoring environments across industries and countries. In addition, board meeting frequency and attendance are fundamentally firm-level governance outcomes shaped by firm-specific monitoring needs and organisational characteristics. Conditional on the included controls and fixed effects, it is less likely that variation in *INDUSTRY_AVG_LC* or *COUNTRY_AVG_LC* directly affects board meeting practices except through its influence on the focal firm's life-cycle position.

Columns 1 and 2 re-estimate the association between corporate life cycle and board meeting frequency using IV Poisson-GMM. The results are both qualitatively and quantitatively consistent with the baseline findings. Specifically, the coefficient on *LIFECYCLE1* remains negative and statistically significant, confirming that firms in more advanced life cycle stages convene fewer board meetings even after correcting for potential reverse causality. The signs and significance of the control variables are broadly consistent with prior estimates, further supporting the stability of the model.

Columns 3 to 6 implement a two-stage control function approach, using the industry-average life cycle score (*INDUSTRY_AVG_LC*) and the country-average life cycle score (*COUNTRY_AVG_LC*) as instruments for *LIFECYCLE1* in the first stage. Both instruments are highly significant, and the first-stage R^2 of 0.55 confirms strong instrument relevance, alleviating concerns about weak identification. In the second stage, the coefficient on *LIFECYCLE1* remains positive and statistically significant across both specifications (confirming that firms in more mature life cycle stages exhibit higher board attendance rates after accounting for endogeneity. Importantly, the residual term *VHAT* is statistically significant in column 6, providing formal evidence that endogeneity is present in the board attendance equation and validating the use of the control function correction.

[Insert Table 11]

To address concerns that the observed association between corporate life cycle and board diligence may reflect persistence in board behaviour rather than a genuine life cycle effect, Table 12 (columns#1-2) reports lagged specifications in which the one-period lag of each board diligence measure is included as an additional regressor. Both lagged dependent variables enter positively and highly significantly; the lagged meeting frequency coefficient and lagged attendance coefficient confirm substantial inertia in board activity, consistent with the prior

literature. Importantly, the life cycle coefficient remains statistically significant in both columns, with the predicted signs preserved, indicating that the baseline results are not an artifact of serial dependence in the outcome variables.

[Insert Table 12]

5.5.5. Reweighting Tests

While the instrumental variable and control function approaches employed in the preceding section are designed to address reverse causality and omitted variable bias, propensity score matching and entropy balancing serve a distinct and complementary identificatory purpose.

5.5.5.1. Propensity Score Matching

To address potential selection bias arising from observable firm characteristics that may confound the relationship between corporate life cycle stage and board diligence, we employ propensity score matching (PSM). We first estimate propensity scores via probit regression, where the dependent variable is equal to 1 if the company life cycle is above the top quantile and 0 otherwise. The probit includes all firm-level controls from our main analyses (*BSIZE*, *CEODUALITY*, *SIZE*, *ROA*, *LEV*, *CR*, and *CAPEXP*). We then match each treated firm (*MATURITY STAGE* = 1) to a unique control firm (*MATURITY STAGE* = 0) without replacement, using the nearest-neighbour method within a calliper of 0.001. Regression analyses on the matched sample, reported in Panel A of Table 13, yield results qualitatively similar to our baseline findings.

Panel B of Table 13 (columns#1-2) evaluates covariate balance to assess the effectiveness of the propensity score matching (PSM) procedure. The results indicate excellent balance: mean differences across covariates are negligible and are statistically insignificant, confirming the success of the matching. Supporting balance diagnostics further confirm this conclusion: the

pseudo- R^2 is 0.001, indicating minimal explanatory power of covariates on treatment assignment; the likelihood ratio χ^2 test is non-significant ($LR \chi^2 = 12.92, p = 0.074$); the mean standardized bias is only 1.3% (median = 1.1%), well below commonly accepted thresholds of 5–10%; and the B statistic (5.9%) and R (0.83) confirm that observable differences between treated and control firms have been effectively minimized.

[Insert Table 12]

Figure 1 shows the kernel density function of the propensity scores across treated and control groups (defined based on Life cycle) before (left-hand chart) and after matching (right-hand chart). The left-hand figure demonstrates an important difference in the distribution of propensity scores before the matching process. Conversely, the right-hand figure demonstrates that the propensity scores are very similar between treated and control firms after matching.

[Insert Figure 1]

5.5.5.2. Entropy Balancing

Entropy balancing is also employed to address selection bias arising from systematic differences in observable firm characteristics across life cycle stages, a concern that instrumental variable approaches do not directly resolve, as they target endogeneity rather than covariate imbalance. In observational settings where firms at different life cycle stages differ systematically in their characteristics, naive comparisons may conflate the association between life cycle stage and board diligence with the effect of these underlying firm characteristics. Entropy balancing mitigates this concern by reweighting the sample such that the covariate distributions across life cycle stages are precisely balanced in their means, variances, and higher-order moments, thereby ensuring that the estimated relationship between corporate life cycle and board diligence reflects genuine governance differences rather than compositional heterogeneity across groups. Compared to PSM, the entropy balancing weighting methodology

is intended to improve covariate balance between the treatment and control groups while retaining the full sample and preserving the informational content of the data. This approach ensures that the distribution of observable firm characteristics is comparable across groups, thereby mitigating potential selection bias. As reported in Table 14 (columns#1-2), the results remain qualitatively unchanged, confirming that our findings are robust to alternative weighting schemes.

[Insert Table 14]

5.5.6. Alternative Sample Excluding the US

Given that the US represents the largest single-country constituent of the sample and is characterised by a distinctive corporate governance environment, including highly developed capital markets, stringent regulatory requirements, and strong shareholder protection mechanisms, its disproportionate presence may potentially drive the baseline findings. To assess whether the relationship between corporate life cycle and board diligence is generalizable beyond the US, Table 15 (columns#1-2) re-estimates the core specifications on an alternative sample excluding all US firms. The coefficient of *LIFECYCLE1* remains negative and statistically significant in the board meeting frequency specification, and positive and strongly significant in the board attendance specification, consistent with the baseline estimate.

[Insert Table 14]

6. Conclusions and Implications

Board meetings are a primary board diligence mechanism through which boards exercise their monitoring power. This paper examines how the corporate life cycle affects board diligence. Prior studies utilise two proxies for board diligence, namely the number of board meetings held during the year (Vafeas, 1999; Kamaludin et al., 2022) and board meeting attendance rate (Uyar

et al., 2020; Unda and Ranasinghe, 2021). Drawing on firm life cycle theory, we distinguish these two board diligence metrics and investigate whether the life cycle predicts board meeting frequency and attendance, proposing that corporate governance evolves over corporate life cycle stages. We further deepen the investigation by exploring how the institutional environment moderates the life cycle-board diligence relationship, assuming that political turbulence and market forces play a role in disciplining boards over their life cycles.

Using a cross-country sample of 36,897 firm-year observations from 53 countries over the period 2002-2021, we find that the corporate life cycle has a negative association with the frequency of board meetings. This negative association is **more pronounced** in firms operating in countries with high political instability and **less likely in firms** facing greater external market discipline. However, the corporate life cycle has a positive association with board attendance, which is more pronounced during periods of high political instability and **less likely in** those operating in a highly competitive environment. Lastly, the corporate life cycle and board diligence nexus is unaffected by the level of economic development and legal systems of countries in which firms are headquartered. These findings are robust to alternative metrics of corporate life cycle and to endogeneity concerns.

Our findings justify the firm life cycle theory, such that as firms mature, **boards reallocate diligence from meeting quantity toward meeting efficiency: consistent with information processing theory and resource dependence theory, mature firms require fewer meetings because governance information becomes more structured, while directors concentrate attendance to preserve strategic oversight and resource provision.** This evidence supports the life cycle theory, proposing that firms progress through distinct stages of development, characterised by different strategic priorities, resource allocation patterns, and corporate governance needs (Hanks et al., 1994; Habib and Hasan, 2019). The expectations from the board mechanism are reassessed and reconfigured as firms evolve over their life cycle, namely

growth and maturity; while agility in decision-making and resource acquisition gain dominance in growing firms, coordination, risk oversight, and accountability gain prominence in mature firms (Li and Zhang, 2018). This dynamic evolution of the board mechanism's diligence is closely associated with its information-processing capacity, task priorities, and market demands (Bonn and Pettigrew, 2009; Habib and Hasan, 2019). Hence, board mechanisms' functioning should be compatible with the life cycle of the firm, responding to evolving corporate needs over time rather than formulated in isolation from the firm's life cycle (Habib and Hasan, 2019; Nizar et al., 2025).

The moderating effects validate institutional theory's proposition that board diligence across the life cycle **is not universal, but rather contingent upon the external forces/institutional environment in which firms operate** (North, 1990; Amin et al, 2021; Ongsakul et al., 2021). Political instability's **moderating influence on** board discipline, **particularly board attendance**, over the life cycle confirms coercive factors' role in firm governance, suggesting that corporate governance substitutes for a weak/unstable institutional environment in firm management. This finding aligns with and advances the literature on "governance bundles" bundling corporate and public governance (Yoshikawa et al., 2014; Kuzey et al., 2023). **With respect to board meeting frequency, the pattern shows that political instability disrupts the formal scheduling and convening of board meetings, and can further shift the board toward relying less on formally structured meetings. Political instability shifts director attention: less to procedural compliance (meetings), more to active engagement (attendance as a proxy for engagement). Political instability heightens a risk-management logic (favours attendance) but weakens a bureaucratic-compliance logic (fewer scheduled board meetings). Coercive institutional pressures therefore do not operate uniformly across governance practices; they produce opposite effects depending on which logic dominates. Consequently, this finding challenges the treatment of corporate**

governance as monolithic: the same external shock can strengthen one practice while suppressing another, depending on which underlying logic governs the practice.

In addition, the evidence for market pressure confirms mimetic forces' role in firm governance, suggesting that competitive market forces push firms to hold a higher number of meetings (DiMaggio and Powell, 1983). In highly competitive environments, firms may emulate the governance practices of successful peers to signal discipline, strategic responsiveness, and effective oversight to investors and other stakeholders. While mimetic institutional pressures, manifested through competitive market dynamics, appear to shape how often boards convene, they do not appear to influence the seriousness or depth of engagement once meetings are held. This finding suggests that mimetic forces operate primarily at the level of observable governance form, meeting frequency being a more visible and easily benchmarked governance signal, rather than at the level of substantive governance quality, as captured by attendance rates.

The practical implications of the findings are that over the life cycle, firms' board diligence patterns may change. This requires the adoption of firms' monitoring functions depending on changing needs. Thus, there is no one-size-fits-all board diligence pattern for all life cycle stages. Our findings emphasise that corporate governance mechanisms adjust dynamically over the corporate life cycle in response to evolving risk profiles, stakeholder expectations, and investment opportunities, rather than functioning as static structures. In the growth stage, firms face heightened uncertainty and rapid strategic change, which increases the need for flexibility, agility, and access to external resources. Governance arrangements at this stage therefore tend to support frequent interaction and information exchange to cope with the dynamic business environment. By contrast, firms in the maturity stage confront greater organisational complexity and more stable operating conditions, shifting governance priorities toward coordination, risk oversight, and enhanced accountability to a broader set of stakeholders. These

life cycle-specific characteristics suggest that growing firms may hold a higher number of board meetings to address fast-changing strategic and operational issues, whereas mature firms are more likely to rely on fewer but more efficient meetings, characterised by higher attendance rates and greater decision-making effectiveness enabled by more formalised and well-established organisational structures.

Moreover, in politically unstable environments, heightened board diligence, particularly board attendance, becomes essential to address the challenges posed by dynamic institutional conditions. Political instability tends to increase uncertainty and weaken regulatory enforcement, creating institutional voids that complicate firms' operational processes and strategic decision-making. In such contexts, corporate governance mechanisms are required to operate more intensively and efficiently, prompting boards to attend more in order to monitor risks, reassess strategies, and address corporate agendas promptly. A board attendance response to political instability can also enhance the confidence of shareholders and other stakeholders by signalling that the firm is being effectively governed and steered through turbulent conditions. With respect to board meeting frequency, the decline in meeting frequency under political instability reflects a combination of logistical constraints, shifting deliberative needs, and reallocation of director attention — all of which reduce the demand for, and feasibility of, formal board convening without necessarily implying a withdrawal of oversight. This reduction need not be interpreted as governance deterioration; rather, it may represent a rational and deliberate organisational response to elevated environmental uncertainty. Indeed, when political instability intensifies firm-level risk exposure, boards may strategically consolidate their formal agenda by deferring non-urgent governance matters and reducing the cadence of routine deliberations in favour of fewer, more substantive and consequential meetings. Under this interpretation, declining meeting frequency is not symptomatic of disengagement but instead reflects a purposive recalibration of the board's deliberative architecture, one in which the

quality and strategic weight of individual meetings supersedes the imperative of frequency. This reorientation is consistent with a risk-management logic whereby directors, confronted with heightened political uncertainty, prioritise targeted, high-stakes deliberation over the procedural rhythm of regular convening.

At the same time, competitive market pressure disciplines firms differently across life cycle stages. Growing firms face pressure to achieve ambitious expansion targets, whereas mature firms need to defend their market positions and sustain their performance. Despite these differences, both stages experience incentives for more diligent governance practices, **board number of meetings**, as competitive intensity heightens the costs of strategic missteps and managerial slack. Accordingly, these uncertain and dynamic institutional conditions—reflecting both coercive pressures from weak political environments and mimetic pressures arising from competitive markets—strengthen the fiduciary role of directors and help mitigate agency conflicts between managers and principals. **While mimetic institutional pressures, as reflected in competitive market dynamics, appear to influence the frequency with which boards hold meetings, they do not seem to affect the directors' meeting engagement (attendance) once these meetings take place. This suggests that mimetic forces operate mainly at the level of observable governance structures—such as meeting frequency, which is easily visible and comparable across firms—rather than at the level of substantive governance quality, as proxied by board attendance rates.**

Nevertheless, additional heterogeneity analyses indicate that the relationship between board diligence and the corporate life cycle is not significantly affected by a country's level of economic development or its legal system. Although developed and developing economies differ markedly in their institutional environments, these macro-level characteristics appear to play a secondary role relative to firms' own life cycle stages in shaping board diligence. Similarly, despite well-documented differences between common law and civil legal systems,

often characterised as more shareholder-oriented and stakeholder-oriented, respectively, our results suggest that these legal distinctions do not materially alter board diligence patterns. This finding implies that while the substantive content of board agendas may vary across institutional contexts, core dimensions of diligence, such as meeting frequency and director attendance, remain broadly comparable across economic development levels and legal systems.

As a limitation, we acknowledge the existence of an unbalanced sample due to the data availability constraint over the sample period. As another limitation, the study does not rely on a sharp exogenous institutional shock suitable for a quasi-experimental design. Instead, identification is based on an instrumental variable strategy using theoretically motivated and widely accepted instruments that satisfy standard diagnostic tests. As such, our findings provide robust associative evidence, though causal interpretations should be made with caution. Future studies could explore other meeting efficiency stimulators such as meeting agenda coverage, board composition, directors' skills, experience, and diversity, among others. It could also be worth investigating the life cycle-board diligence connection between Anglo-Saxon versus non-Anglo-Saxon countries, as the two sets of countries differ in terms of corporate governance and firm ownership structures. **Last but not least**, financial distress might be a meaningful moderator between the life cycle and board diligence, which could be a potential future topic as well. Last, **we acknowledge an important limitation of the subsample analysis between emerging and developed economies, which stems from the substantial imbalance in sample size. This imbalance may reduce statistical power in the emerging-market subsample, potentially limiting our ability to detect heterogeneous effects across groups. Accordingly, the finding that the results are consistent across both subsamples should be interpreted with caution and not be taken as conclusive evidence of institutional universality or full cross-country generalizability.**

References

- Agana, J. A., Alon, A., & Zamore, S. (2023). Self-regulation versus government oversight: audit fees research. *Journal of Accounting Literature*, 45(2), 340-363.
- Al-Hadi, A., Chatterjee, B., Yaftian, A., Taylor, G., & Monzur Hasan, M. (2019). Corporate social responsibility performance, financial distress and firm life cycle: evidence from Australia. *Accounting & Finance*, 59(2), 961-989.
- Al-Shaer, H., Kuzey, C., Uyar, A., & Karaman, A. S. (2023). Corporate strategy, board composition, and firm value. *International Journal of Finance & Economics*, in press, <https://doi.org/10.1002/ijfe.2827>.
- Alvarez & Marsal. (2024, December 3). The changing landscape of corporate governance: Best practices for board directors. <https://www.alvarezandmarsal.com/insights/changing-landscape-corporate-governance-best-practices-board-directors>
- Amin, H. M., Mohamed, E. K., & Hussain, M. M. (2021). Corporate governance practices and firm performance: a configurational analysis across corporate life cycles. *International Journal of Accounting & Information Management*, 29(5), 669-697.
- Angsoyiri, D., Alkaraan, F., & John, J. (2025). Disclosure of environmental management strategies practices and corporate performance: does green governance structure matter?. *Journal of Accounting Literature*, in press, <https://doi.org/10.1108/JAL-02-2025-0075>.
- Association of Corporate Counsel. (ACC) (2024). Data insight: CLO board attendance. ACC. <https://www.acc.com/resource-library/data-insight-clo-board-attendance>
- Atif, M., Liu, B., & Nadarajah, S. (2022). The effect of corporate environmental, social and governance disclosure on cash holdings: Life-cycle perspective. *Business Strategy and the Environment*, 31(5), 2193-2212.
- Banerjee, R., Gupta, K., & Krishnamurti, C. (2022). Does corrupt practice increase the implied cost of equity? *Journal of Corporate Finance*, 73, 102191.

- Bansal, S., & Thenmozhi, M. (2020). Does concentrated founder ownership affect board independence? Role of corporate lifecycle and ownership identity. *Pacific-Basin Finance Journal*, 62, 101377.
- Bhattacharya, D., Chang, C. W., & Li, W. H. (2020). Stages of firm life cycle, transition, and dividend policy. *Finance Research Letters*, 33, 101226.
- BoardCloud. (2005). What is board meeting attendance? A UK guide. BoardCloud. <https://boardcloud.co.uk/board-meeting-glossary-of-terms/attendance/>
- Bonn, I., & Pettigrew, A. (2009). Towards a dynamic theory of boards: An organisational life cycle approach. *Journal of Management & Organization*, 15(1), 2-16.
- Boone, A. L., Field, L. C., Karpoff, J. M., & Raheja, C. G. (2007). The determinants of corporate board size and composition: An empirical analysis. *Journal of Financial Economics*, 85(1), 66-101.
- Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, 30(6), 749-778.
- Chou, H. I., Chung, H., & Yin, X. (2013). Attendance of board meetings and company performance: Evidence from Taiwan. *Journal of Banking & Finance*, 37(11), 4157-4171.
- Cremers, M., Lauterbach, B., & Pajuste, A. (2024). The life cycle of dual-class firm valuation. *The Review of Corporate Finance Studies*, 13(2), 459-493.
- Daily, C. M., Dalton, D. R., & Cannella Jr, A. A. (2003). Corporate governance: Decades of dialogue and data. *Academy of Management Review*, 28(3), 371-382.
- DeAngelo, H., DeAngelo, L., & Stulz, R. M. (2010). Seasoned equity offerings, market timing, and the corporate lifecycle. *Journal of Financial Economics*, 95(3), 275-295.

- Dickinson, V. (2011). Cash flow patterns as a proxy for firm life cycle. *The Accounting Review*, 86(6), 1969-1994.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 147-160.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88(3), 430-465.
- Ezzi, F., Jarboui, A., & Mouakhar, K. (2023). Exploring the relationship between blockchain technology and corporate social responsibility performance: Empirical evidence from European firms. *Journal of the Knowledge Economy*, 14(2), 1227-1248.
- Filatotchev, I., Toms, S. and Wright, M. (2006). The firm's strategic dynamics and corporate governance life-cycle, *International Journal of Managerial Finance*, 2 (4), 256-279.
- Financial Reporting Council. (2024). *UK Corporate Governance Code 2024*. FRC.
<https://www.frc.org.uk/library/standards-codes-policy/corporate-governance/uk-corporate-governance-code/>
- Finkelstein, S., & Hambrick, D. C. (1989). Chief executive compensation: A study of the intersection of markets and political processes. *Strategic Management Journal*, 10(2), 121-134.
- Flavin, T., Goyal, A., & O'Connor, T. (2021). Corporate governance, lifecycle, and payout precommitment: An emerging market study. *Journal of Financial Research*, 44(1), 179-209.
- Frot, E., & Santiso, J. (2013). Political uncertainty and portfolio managers in emerging economies. *Review of International Political Economy*, 20(1), 26-51.
- Galbraith, J. R. (1974). Organization design: An information processing view. *Interfaces*, 4(3), 28-36.

- Gujarati, D.N. (2004). Basic Econometrics (4th edition). The McGraw-Hill Companies.
- Habib, A., & Hasan, M. M. (2017). Firm life cycle, corporate risk-taking and investor sentiment. *Accounting & Finance*, 57(2), 465-497.
- Habib, A., & Hasan, M. M. (2019). Corporate life cycle research in accounting, finance and corporate governance: A survey, and directions for future research. *International Review of Financial Analysis*, 61, 188-201.
- Habib, A., Bhuiyan, B., & Hasan, M. (2018). Firm life cycle and advisory directors. *Australian Journal of Management*, 43(4), 575–592.
- Hahn, P. D., & Lasfer, M. (2016). Impact of foreign directors on board meeting frequency. *International Review of Financial Analysis*, 46, 295-308.
- Hambrick, D. C., & Crozier, L. M. (1985). Stumblers and stars in the management of rapid growth. *Journal of Business Venturing*, 1(1), 31-45.
- Hanks, S. H., Watson, C. J., Jansen, E., & Chandler, G. N. (1994). Tightening the life-cycle construct: A taxonomic study of growth stage configurations in high-technology organizations. *Entrepreneurship Theory and Practice*, 18(2), 5-29.
- Hanson, D., Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2016). Strategic management: *Competitiveness and globalisation*. Cengage AU.
- Harjoto, M.A. & Jo, H. (2009). CEO power and firm performance: a test of the life-cycle theory. *Asia- Pacific Journal of Financial Studies*, 38 (1), 35-66.
- Henisz, W. J., & Zelner, B. A. (2005). Legitimacy, interest group pressures, and change in emergent institutions: The case of foreign investors and host country governments. *Academy of Management Review*, 30(2), 361-382.
- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383-396.

- Hsu, F. J. (2018). Does corporate social responsibility extend firm life-cycles?. *Management Decision*, 56(11), 2408-2436.
- Inekwe, N. J. (2016). Financial uncertainty, risk aversion and monetary policy. *Empirical Economics*, 51(3), 939-961.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), 323-329.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Kamaludin, K., Ibrahim, I., Sundarasan, S., & Faizal, O. V. A. (2022). ESG in the boardroom: Evidence from the Malaysian market. *International Journal of Corporate Social Responsibility*, 7(1), 4.
- Kamarudin, K. A., Ariff, A. M., & Wan Ismail, W. A. (2022). Product market competition, board gender diversity and corporate sustainability performance: International evidence. *Journal of Financial Reporting and Accounting*, 20(2), 233-260.
- Kuzey, C., Al-Shaer, H., Karaman, A. S., & Uyar, A. (2023). Public governance, corporate governance and excessive ESG. *Corporate Governance: The International Journal of Business in Society*, 23(7), 1748-1777.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106(6), 1113-1155.
- Li, Y., & Zhang, X. T. (2018). How does firm life cycle affect board structure? Evidence from China's listed privately owned enterprises. *Management and Organization Review*, 14(2), 305-341.
- Lin, Y. F., Yeh, Y. M. C., & Yang, F. M. (2014). Supervisory quality of board and firm performance: a perspective of board meeting attendance. *Total Quality Management & Business Excellence*, 25(3-4), 264-279.

- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340-363.
- Miller, D., & Friesen, P. H. (1984). A longitudinal study of the corporate life cycle. *Management Science*, 30(10), 1161-1183.
- Min, B. S., & Chizema, A. (2018). Board meeting attendance by outside directors. *Journal of Business Ethics*, 147, 901-917.
- Nizar, H., Uyar, A., Lakhal, F., & Karaman, A. S. (2025). Does the Corporate Lifecycle Affect Board Structure? International Evidence. *Corporate Governance: An International Review*. <https://doi.org/10.1111/corg.12645>
- North, D. C. (1990). Institutions, Institutional Change and Economic Performance. Cambridge University Press.
- Ongsakul, V., Treepongkaruna, S., Jiraporn, P., & Uyar, A. (2021). Do firms adjust corporate governance in response to economic policy uncertainty? Evidence from board size. *Finance Research Letters*, 39, 101613.
- Owen, S., & Yawson, A. (2010). Corporate lifecycle and M&A activity. *Journal of Banking & Finance*, 34(2), 427-440.
- Perrault, E., & McHugh, P. (2015). Toward a life cycle theory of board evolution: Considering firm legitimacy. *Journal of Management & Organization*, 21(5), 627-649.
- Porter, M. E., & Strategy, C. (1980). Techniques for analysing industries and competitors. *Competitive Strategy*. New York: Free Press.
- Prevost, A. K., Rao, R. P., & Hossain, M. (2002). Determinants of board composition in New Zealand: a simultaneous equations approach. *Journal of Empirical Finance*, 9(4), 373-397.

- Saragih, A. H. (2024). The power of good corporate governance in activating the impact of internal information quality on tax savings. *Journal of Accounting Literature*, (ahead-of-print).
- Schreck, P. (2011). Reviewing the business case for corporate social responsibility: New evidence and analysis. *Journal of Business Ethics*, 103, 167-188.
- Scott, W. R. (2013). *Institutions and Organizations: Ideas, Interests, and Identities* (4th ed.). Sage Publications.
- Unda, L. A., & Ranasinghe, D. (2021). To pay or not pay: Board remuneration and insolvency risk in credit unions. *Pacific-Basin Finance Journal*, 66, 101128.
- Uyar, A., Kilic, M., Koseoglu, M. A., Kuzey, C., & Karaman, A. S. (2020). The link among board characteristics, corporate social responsibility performance, and financial performance: Evidence from the hospitality and tourism industry. *Tourism Management Perspectives*, 35, 100714.
- Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53(1), 113-142.
- Vafeas, N., & Vlittis, A. (2024). Earnings quality and board meeting frequency. *Review of Quantitative Finance and Accounting*, 62(3), 1037-1067.
- Westphal, J. D., & Zajac, E. J. (2001). Decoupling policy from practice: The case of stock repurchase programs. *Administrative Science Quarterly*, 46(2), 202-228.
- World Bank (2022a). Worldwide Governance Indicators, data retrieved from <https://info.worldbank.org/governance/wgi/> (20 September 2022).
- World Bank (2022b), “World Development Indicators”, available at: <https://databank.worldbank.org/source/world-development-indicators> (accessed 15 March 2022).

- Yoshikawa, T., Zhu, H., & Wang, P. (2014). National governance system, corporate ownership, and roles of outside directors: A corporate governance bundle perspective. *Corporate Governance: An International Review*, 22(3), 252-265.
- Zahra, S. A., & Pearce II, J. A. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management*, 15(2), 291-334.

Table 1. Sample distribution

Panel A. Sample distribution per country		
Country	N	Percentage
Australia	2,676	7.253
Austria	63	0.171
Belgium	191	0.518
Bermuda	75	0.203
Brazil	10	0.027
Canada	2,192	5.941
Cayman Islands	28	0.076
Chile	31	0.084
China	2,674	7.247
Colombia	35	0.095
Cyprus	21	0.057
Denmark	144	0.390
Finland	390	1.057
France	1,017	2.756
Germany	690	1.870
Greece	48	0.130
Hong Kong	1,117	3.027
Hungary	26	0.070
India	942	2.553
Indonesia	283	0.767
Ireland	320	0.867
Israel	44	0.119
Italy	73	0.198
Japan	1,329	3.602
Korea	247	0.669
Kuwait	13	0.035
Luxembourg	91	0.247
Macau	32	0.087
Malaysia	506	1.371
Malta	14	0.038
Mexico	35	0.095
Morocco	10	0.027
Netherlands	282	0.764
New Zealand	291	0.789
Norway	169	0.458
Oman	22	0.060
Philippines	166	0.450
Portugal	62	0.168
Qatar	15	0.041
Russia	204	0.553
Saudi Arabia	47	0.127
Singapore	449	1.217
South Africa	813	2.203
Spain	191	0.518
Sri Lanka	11	0.030
Sweden	602	1.632
Switzerland	569	1.542
Thailand	427	1.157
Turkey	88	0.239
United Arab Emirates	33	0.089
United Kingdom	3,130	8.483
United States	13,945	37.794
Vietnam	14	0.038
Total	36,897	100.000
Panel B. Sample distribution per year		
Year	N	Percentage
2002	20	0.054
2003	55	0.149
2004	113	0.306
2005	234	0.634
2006	272	0.737
2007	567	1.537
2008	871	2.361
2009	1,104	2.992
2010	1,432	3.881
2011	1,579	4.279
2012	1,692	4.586

2013	1,796	4.868
2014	1,851	5.017
2015	2,238	6.066
2016	2,686	7.280
2017	3,308	8.965
2018	3,930	10.651
2019	4,649	12.600
2020	5,534	14.999
2021	2,966	8.039
Total	36,897	100.000
Panel C. Sample distribution per industry		
Industry	N	Percentage
Basic Materials	4,679	12.681
Consumer Cyclicals	6,286	17.037
Consumer Non-Cyclicals	3,223	8.735
Energy	2,869	7.776
Healthcare	4,368	11.838
Industrials	6,537	17.717
Real Estate	1,800	4.878
Technology	5,327	14.437
Utilities	1,808	4.900
Total	36,897	100.000

This table reports the sample distribution by country (Panel A), per year (Panel B) and per industry (Panel C). See Table A1 in Appendix for variable definitions.

Table 2. Descriptive statistics

	N	Mean	Median	Sd	P25	P75	Min	Max
<i>BMEETING</i>	36,897	8.725	8.000	3.718	6.000	11.000	4.000	17.000
<i>BATTENDANCE</i>	36,897	0.892	0.943	0.106	0.750	0.989	0.750	1.000
<i>LIFECYCLE1</i>	36,897	0.139	0.215	0.429	0.034	0.398	-1.141	0.698
<i>BSIZE</i>	36,897	9.385	9.000	2.639	7.000	11.000	5.000	15.000
<i>CEODUALITY</i>	36,897	0.379	0.000	0.485	0.000	1.000	0.000	1.000
<i>SIZE</i>	36,897	21.811	21.854	1.627	20.650	23.009	18.755	24.620
<i>ROA</i>	36,897	0.048	0.057	0.104	0.014	0.106	-0.233	0.225
<i>LEV</i>	36,897	0.232	0.230	0.162	0.096	0.350	0.000	0.539
<i>CR</i>	36,897	2.097	1.585	1.540	1.097	2.475	0.575	6.661
<i>CAPEXP</i>	36,897	0.048	0.036	0.040	0.018	0.066	0.003	0.149

This table reports descriptive statistics of the regression variables. The sample comprises 36,897 firm-year observations from 2002 to 2021.
See Table A1 in the Appendix for variable definitions

Table 3. Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>BMEETING</i>	1.000									
(2) <i>BATTENDANCE</i>	0.162***	1.000								
(3) <i>LIFECYCLE1</i>	-0.078***	0.150***	1.000							
(4) <i>SIZE</i>	-0.064***	-0.050***	0.243***	1.000						
(5) <i>CEODUALITY</i>	-0.133***	-0.281***	0.091***	0.095***	1.000					
(6) <i>BSIZE</i>	0.041***	0.053***	0.380***	0.589***	0.110***	1.000				
(7) <i>ROA</i>	-0.112***	0.118***	0.659***	0.151***	0.056***	0.236***	1.000			
(8) <i>LEV</i>	0.073***	0.019***	-0.034***	0.202***	0.014***	0.357***	-0.080***	1.000		
(9) <i>CR</i>	-0.077***	-0.163***	-0.235***	-0.258***	0.014***	-0.426***	-0.207***	-0.411***	1.000	
(10) <i>CAPEXP</i>	0.043***	0.080***	0.061***	0.014***	-0.006	0.033***	0.116***	0.035***	-0.138***	1.000
VIF	1.50	1.16	2.01	2.01	1.12	1.55	1.82	1.36	1.45	1.03

This table presents the pairwise correlations. The sample includes 36,897 firm-year observations from 2002 to 2021. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in the Appendix for variable definitions.

Table 4. Corporate life cycle and board diligence

	<i>BMEETING</i>	<i>BATTENDANCE</i>
	<i>NBREG</i>	<i>FRAC_LOGIT</i>
<i>LIFECYCLE1</i>	-0.031*** (-4.686)	0.128*** (10.116)
<i>BSIZE</i>	-0.005*** (-5.158)	-0.030*** (-13.185)
<i>CEODUALITY</i>	-0.045*** (-10.094)	0.002 (0.280)
<i>SIZE</i>	0.026*** (14.357)	0.024*** (6.140)
<i>ROA</i>	-0.414*** (-16.394)	0.225*** (4.446)
<i>LEV</i>	0.084*** (6.025)	0.013 (0.470)
<i>CR</i>	-0.013*** (-8.400)	-0.009*** (-2.845)
<i>CAPEXP</i>	0.235*** (4.397)	-0.182 (-1.508)
<i>Constant</i>	1.816*** (18.891)	3.265*** (21.622)
Country	Yes	Yes
Industry	Yes	Yes
Year	Yes	Yes
Observations	36,897	36,897
Pseudo. R ²	0.0578	0.1068
Alpha (α)	0.0162	
LR test $\alpha = 0$	364.88***	

This table reports our main results of regressions of the corporate life cycle on board diligence. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 5. The moderating role of political instability and product market competition

	<i>BMEETING</i> <i>NBREG</i>	<i>BMEETING</i> <i>NBREG</i>	<i>BATTENDANCE</i> <i>FRAC_LOGIT</i>	<i>BATTENDANCE</i> <i>FRAC_LOGIT</i>
<i>LIFECYCLE1</i>	-0.070*** (-3.657)	-0.023*** (-2.963)	0.330*** (5.630)	0.120*** (8.417)
<i>POLITICAL_INSTABILITY</i>	-0.056*** (-2.589)		-1.338*** (-18.126)	
<i>LIFECYCLE1 x POLITICAL_INSTABILITY</i>	-0.026** (-2.145)		0.141*** (3.711)	
<i>COMP</i>		0.012 (0.663)		0.098*** (3.040)
<i>LIFECYCLE1 x COMP</i>		0.079** (2.017)		-0.082 (-1.383)
<i>BSIZE</i>	-0.005*** (-5.075)	-0.005*** (-5.108)	-0.029*** (-12.604)	-0.030*** (-13.214)
<i>CEODUALITY</i>	-0.045*** (-10.114)	-0.045*** (-10.159)	0.000 (0.037)	0.002 (0.283)
<i>SIZE</i>	0.026*** (14.220)	0.026*** (14.269)	0.023*** (5.767)	0.024*** (6.166)
<i>ROA</i>	-0.415*** (-16.420)	-0.415*** (-16.442)	0.197*** (3.899)	0.227*** (4.476)
<i>LEV</i>	0.082*** (5.829)	0.084*** (6.025)	0.023 (0.842)	0.013 (0.471)
<i>CR</i>	-0.013*** (-8.236)	-0.013*** (-8.293)	-0.007** (-2.473)	-0.009*** (-3.078)
<i>CAPEXP</i>	0.235*** (4.398)	0.239*** (4.458)	-0.140 (-1.163)	-0.165 (-1.360)
<i>Constant</i>	1.724*** (16.746)	1.841*** (18.997)	0.983*** (4.998)	3.308*** (21.611)
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Observations	36,897	36,897	36,897	36,897
Pseudo. R ²	0.0579	0.0579	0.1078	0.1068
Alpha (α)	0.0161	0.0161		
LR test $\alpha = 0$	363.78***	364.20***		

This table reports the moderating role of political instability and market pressure on the relationship between the corporate life cycle and board diligence. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 6. Heterogeneity analyses

	<i>BMEETING</i>		<i>BMEETING</i>		<i>BATTENDANCE</i>		<i>BATTENDANCE</i>	
	<i>DEVELOPED</i>	<i>EMERGING</i>	<i>COMMON</i>	<i>CIVIL</i>	<i>DEVELOPED</i>	<i>EMERGING</i>	<i>COMMON</i>	<i>CIVIL</i>
	<i>NBREG</i>	<i>NBREG</i>	<i>NBREG</i>	<i>NBREG</i>	<i>FRAC LOGIT</i>	<i>FRAC LOGIT</i>	<i>FRAC LOGIT</i>	<i>FRAC LOGIT</i>
<i>LIFECYCLE1</i>	-0.020*** (-2.879)	-0.105*** (-4.093)	-0.036*** (-4.978)	-0.050*** (-2.837)	0.112*** (8.723)	0.274*** (3.428)	0.104*** (8.025)	0.344*** (5.263)
<i>BSIZE</i>	-0.008*** (-7.189)	0.006*** (2.811)	-0.007*** (-5.021)	-0.004** (-2.391)	-0.024*** (-9.859)	-0.049*** (-8.141)	-0.025*** (-10.257)	-0.043*** (-7.234)
<i>CEODUALITY</i>	-0.050*** (-10.286)	-0.017 (-1.602)	-0.050*** (-9.289)	-0.034*** (-4.174)	0.001 (0.101)	-0.028 (-0.848)	0.015 (1.628)	-0.144*** (-4.660)
<i>SIZE</i>	0.019*** (9.816)	0.060*** (13.225)	0.029*** (13.430)	0.018*** (5.451)	0.019*** (4.547)	0.030** (2.119)	0.023*** (5.648)	0.019 (1.475)
<i>ROA</i>	-0.417*** (-15.763)	-0.274*** (-3.544)	-0.403*** (-14.343)	-0.478*** (-8.259)	0.159*** (3.083)	0.569** (2.517)	0.174*** (3.396)	0.421* (1.929)
<i>LEV</i>	0.087*** (5.795)	0.022 (0.591)	0.047*** (2.882)	0.154*** (5.503)	0.034 (1.199)	0.074 (0.668)	-0.003 (-0.122)	0.072 (0.686)
<i>CR</i>	-0.017*** (-10.060)	0.005 (1.045)	-0.016*** (-8.908)	-0.003 (-0.684)	-0.008** (-2.536)	0.018 (1.246)	-0.007** (-2.345)	-0.006 (-0.375)
<i>CAPEXP</i>	0.057 (0.946)	1.088*** (8.814)	0.100 (1.591)	0.544*** (5.240)	-0.186 (-1.447)	0.199 (0.570)	-0.358*** (-2.839)	0.397 (0.986)
<i>Constant</i>	1.999*** (20.871)	1.174*** (5.270)	1.766*** (17.824)	1.362*** (8.522)	3.335*** (21.718)	2.685*** (5.880)	3.234*** (21.150)	1.716*** (4.673)
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	29,477	7,420	26,863	10,034	29,477	7,420	26,863	10,034
Pseudo. R ²	0.0583	0.0675	0.0441	0.0714	0.1023	0.0626	0.0884	0.0590
Alpha (α)	0.0099	0.0323	0.0164	0.0124				
LR test $\alpha = 0$	115.73***	267.36***	262.44***	67.93***				

This table reports the results regarding corporate life cycle stage and board diligence across subsamples defined by market development (developed versus emerging economies) and legal origin (common-law versus civil-law systems). LIFECYCLE1 is the retained earnings divided by the total assets reported. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 7. Alternative proxy of corporate life cycle

	<i>BMEETING</i> <i>NBREG</i>	<i>BMEETING</i> <i>NBREG</i>	<i>BMEETING</i> <i>NBREG</i>	<i>BATTENDANCE</i> <i>FRAC_LOGIT</i>	<i>BATTENDANCE</i> <i>FRAC_LOGIT</i>	<i>BATTENDANCE</i> <i>FRAC_LOGIT</i>
<i>LIFECYCLE2</i>	-0.018*** (-6.325)			0.046*** (9.026)		
<i>LIFECYCLE3</i>		-0.000** (-2.150)			0.003*** (14.879)	
<i>LIFECYCLE4</i>			-0.004*** (-3.116)			0.041*** (13.962)
<i>BSIZE</i>	-0.005*** (-5.069)	-0.005*** (-4.974)	-0.005*** (-4.969)	-0.031*** (-13.349)	-0.034*** (-14.888)	-0.033*** (-13.117)
<i>CEODUALITY</i>	-0.045*** (-9.970)	-0.046*** (-10.395)	-0.052*** (-10.578)	0.004 (0.439)	-0.002 (-0.208)	-0.005 (-0.507)
<i>SIZE</i>	0.027*** (14.779)	0.024*** (13.815)	0.025*** (12.768)	0.025*** (6.373)	0.029*** (7.544)	0.031*** (7.150)
<i>ROA</i>	-0.405*** (-16.873)	-0.480*** (-23.249)	-0.507*** (-22.011)	0.318*** (6.779)	0.476*** (11.952)	0.479*** (10.354)
<i>LEV</i>	0.084*** (6.021)	0.091*** (6.501)	0.084*** (5.489)	0.005 (0.200)	0.004 (0.136)	0.056* (1.824)
<i>CR</i>	-0.013*** (-8.432)	-0.013*** (-8.455)	-0.012*** (-6.790)	-0.009*** (-2.935)	-0.008** (-2.554)	-0.006* (-1.705)
<i>CAPEXP</i>	0.231*** (4.329)	0.232*** (4.330)	0.046 (0.702)	-0.168 (-1.384)	-0.106 (-0.879)	0.512*** (3.459)
<i>Constant</i>	1.797*** (18.683)	1.851*** (19.330)	1.944*** (27.897)	3.245*** (21.425)	3.120*** (20.653)	3.614*** (21.838)
Country	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Observations	36,897	36,897	36,897	36,897	36,897	36,897
Pseudo. R ²	0.0577	0.0579	0.0610	0.1067	0.1071	0.1088
Alpha (α)	0.0161	0.0161	0.0134			
LR test $\alpha = 0$	362.64***	365.36***	213.40***			

This table examines the association of alternative metrics of the corporate life cycle with board diligence. LIFECYCLE2 is the retained earnings divided by total equity. LIFECYCLE3 is the observation year minus the organisation-founded year. LIFECYCLE4 uses a composite score (ranging from 4 to 12) based on retained earnings, sales growth, capital expenditures, and firm age, with higher scores indicating earlier stages of the life cycle. To ensure that higher scores correspond to later lifecycle stages (from growth to maturity), we multiply the composite score by -1 so that the ordering properly reflects the progression of the firm life cycle. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 8. Corporate life cycle stages and board diligence

	<i>BMEETING</i>	<i>BMEETING</i>	<i>BATTENDANCE</i>	<i>BATTENDANCE</i>
	<i>NBREG</i>	<i>NBREG</i>	<i>FRAC_LOGIT</i>	<i>FRAC_LOGIT</i>
<i>LC_INTRODUCTION</i>	0.009 (0.948)		-0.077*** (-4.564)	
<i>LC_GROWTH</i>	0.027*** (5.022)		-0.021* (-1.836)	
<i>LC_MATURITY</i>		-0.038*** (-8.171)		0.020* (1.930)
<i>LC_DECLINE</i>		0.024* (1.690)		-0.006 (-0.264)
<i>BSIZE</i>	-0.005*** (-5.004)	-0.005*** (-4.876)	-0.030*** (-13.147)	-0.030*** (-13.253)
<i>CEODUALITY</i>	-0.047*** (-10.531)	-0.047*** (-10.603)	0.010 (1.169)	0.011 (1.233)
<i>SIZE</i>	0.023*** (13.328)	0.026*** (14.592)	0.033*** (8.631)	0.032*** (8.324)
<i>ROA</i>	-0.475*** (-22.080)	-0.435*** (-20.259)	0.477*** (11.302)	0.512*** (12.299)
<i>LEV</i>	0.085*** (6.069)	0.086*** (6.133)	-0.018 (-0.672)	-0.018 (-0.677)
<i>CR</i>	-0.014*** (-8.449)	-0.014*** (-8.998)	-0.007** (-2.291)	-0.008*** (-2.719)
<i>CAPEXP</i>	0.199*** (3.684)	0.229*** (4.284)	-0.164 (-1.348)	-0.195 (-1.612)
<i>Constant</i>	1.872*** (19.543)	1.816*** (18.963)	3.070*** (20.388)	3.097*** (20.511)
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Observations	36,897	36,897	36,897	36,897
Pseudo. R ²	0.0578	0.0581	0.1066	0.1066
Alpha (α)	0.0161	0.0159		
LR test $\alpha = 0$	362.70 ***	357.21 ***		

This table reports regression results of the association of alternative metrics of corporate life cycle with board structure. Assessing the life cycle stage at the firm level is difficult because an individual firm is composed of many overlapping, but distinct, product life cycle stages. Moreover, firms can compete in multiple industries, and their product offerings can be fairly diverse (Dickinson, 2011). To overcome this estimation problem, we follow the methodologies of Dickinson (2011) to develop proxies for the firms' stage in the life cycle. Dickinson (2011) deploys data from the firm's cash flow statement. The author argues that cash flow captures differences in a firm's profitability, growth, and risk and, hence, that one may use the cash flow from operating (CFO), investing (CFI), and financing (CFF) to group firms in life cycle stages such as 'introduction', 'growth', 'mature', and 'decline'. The methodology is, introduction, if CFO<0, CFI<0, and CFF>0; growth, if CFO>0, CFI<0, and CFF>0; mature, if CFO>0, CFI<0, and CFF<0; decline, if CFO<0, CFI>0, and CFF≤0 or ≥0. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 9. Firm fixed effect regression

	<i>BMEETING</i>	<i>BATTENDANCE</i>	<i>BMEETING</i>	<i>BATTENDANCE</i>
	<i>PPMLHDFE</i>	<i>PPMLHDFE</i>	<i>REGHDFE</i>	<i>REGHDFE</i>
<i>LIFECYCLE1</i>	-0.038** (-2.083)	0.007** (2.268)	-0.401*** (-2.732)	0.006** (2.230)
<i>BSIZE</i>	-0.003 (-1.359)	-0.002*** (-4.480)	-0.029* (-1.750)	-0.002*** (-5.304)
<i>CEODUALITY</i>	0.000 (0.021)	0.000 (0.058)	0.006 (0.085)	0.000 (0.219)
<i>SIZE</i>	0.026*** (3.471)	-0.003** (-2.312)	0.226*** (3.562)	-0.003*** (-2.699)
<i>ROA</i>	-0.488*** (-12.003)	0.012** (2.029)	-4.566*** (-14.321)	0.010* (1.726)
<i>LEV</i>	0.028 (0.918)	-0.007 (-1.363)	0.293 (1.145)	-0.007 (-1.427)
<i>CR</i>	0.000 (0.083)	-0.001* (-1.744)	0.006 (0.221)	-0.001 (-1.443)
<i>CAPEXP</i>	-0.013 (-0.141)	-0.010 (-0.632)	0.083 (0.098)	-0.009 (-0.584)
<i>Constant</i>	1.753*** (10.872)	-0.023 (-0.769)	4.532*** (3.348)	0.974*** (39.684)
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes
Observations	35,908	35,908	35,908	35,908
Pseudo. R ²	0.2456	0.0057		
R ²			0.6053	0.7766

This table examines the robustness of our results to omitted variable bias, specifically firm fixed effects. *LIFECYCLE1* is the retained earnings divided by the total assets reported. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. Given the inclusion of multiple high-dimensional fixed effects (firm, country, industry, and year), which exceed Stata's standard variable limit (maxvar), the estimations rely on high-dimensional fixed effects estimators. PPMLHDFE refers to Poisson pseudo-maximum likelihood estimation, which provides consistent estimates in the presence of heteroskedasticity and allows for zero-valued dependent variables, particularly in models with high-dimensional fixed effects. REGHDFE refers to linear regression models estimated with high-dimensional fixed effects, allowing multiple fixed effects to be efficiently absorbed rather than explicitly included as dummy variables. Model fit for the PPMLHDFE estimations is reported using pseudo-R², as standard R² is not defined in nonlinear models, while R² is reported for the REGHDFE estimations. The estimation procedure excludes 989 singleton observations, defined as observations belonging to groups with only one effective observation after the inclusion of firm fixed effects; such observations do not contribute to parameter identification.

Table 10. Additional country-level control variables

	<i>BMEETING</i>	<i>BATTENDANCE</i>
	<i>NBREG</i>	<i>FRAC_LOGIT</i>
<i>LIFECYCLE1</i>	-0.030*** (-4.607)	0.117*** (9.265)
<i>BSIZE</i>	-0.005*** (-5.094)	-0.029*** (-12.737)
<i>CEODUALITY</i>	-0.045*** (-0.030***)	-0.001 (-0.164)
<i>SIZE</i>	0.026*** (14.400)	0.023*** (5.771)
<i>ROA</i>	-0.410*** (-16.252)	0.194*** (3.866)
<i>LEV</i>	0.086*** (6.140)	0.002 (0.074)
<i>CR</i>	-0.013*** (-8.498)	-0.007** (-2.318)
<i>CAPEXP</i>	0.230*** (4.294)	-0.105 (-0.875)
<i>GDP</i>	0.082*** (3.789)	-0.550*** (-7.634)
<i>WGI</i>	-0.042 (-1.382)	1.485*** (17.617)
<i>Constant</i>	1.027*** (4.056)	6.499*** (7.946)
Country	Yes	Yes
Industry	Yes	Yes
Year	Yes	Yes
Observations	36,897	36,897
Pseudo. R ²	0.0579	0.1079
Alpha (α)	0.0161	
LR test $\alpha = 0$	362.25***	

This table reports our main results of regressions of the corporate life cycle on board diligence with additional macro-level controls. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 11. Robustness to endogeneity

	<i>BMEETING</i>	<i>BMEETING</i>	<i>LIFECYCLE1</i>	<i>BATTENDANCE</i>	<i>LIFECYCLE1</i>	<i>BATTENDANCE</i>
	<i>IVPOISSON</i>	<i>IVPOISSON</i>	Control Function Approach		Control Function Approach	
	<i>GMM</i>	<i>GMM</i>	1 st stage	2 nd stage	1 st stage	2 nd stage
INDUSTRY_AVG_LC			0.102***			
COUNTRY_AVG_LC			(14.248)		0.133***	
					(16.018)	
LIFECYCLE1	-0.038**	-0.136***		0.279*		3.559***
	(-2.245)	(-4.855)		(1.870)		(15.481)
BSIZE	-0.020***	-0.020***	0.001	-0.030***	0.001	-0.033***
	(-18.641)	(-18.003)	(1.518)	(-13.206)	(1.610)	(-14.534)
CEODUALITY	-0.112***	-0.110***	0.060***	-0.007	0.059***	-0.205***
	(-24.336)	(-23.061)	(17.066)	(-0.535)	(16.954)	(-12.581)
SIZE	0.039***	0.050***	0.058***	0.015	0.058***	-0.179***
	(13.466)	(14.674)	(41.995)	(1.585)	(41.349)	(-12.682)
ROA	-0.371***	-0.002	2.190***	-0.112	2.202***	-7.380***
	(-4.828)	(-0.025)	(132.144)	(-0.333)	(133.950)	(-14.411)
LEV	0.034**	0.016	-0.259***	0.051	-0.255***	0.892***
	(2.191)	(0.941)	(-23.428)	(1.099)	(-23.162)	(13.775)
CR	-0.020***	-0.023***	0.002*	-0.009***	0.002	-0.014***
	(-10.794)	(-11.384)	(1.927)	(-2.896)	(1.330)	(-4.622)
CAPEXP	0.491***	0.493***	-0.048	-0.175	-0.054	0.033
	(8.785)	(8.583)	(-1.112)	(-1.444)	(-1.254)	(0.271)
VHAT				-0.152		-3.441***
				(-1.010)		(-14.949)
Constant	1.575***	1.334***	-1.315***	3.459***	-1.223***	7.698***
	(25.521)	(18.860)	(-18.572)	(14.162)	(-17.250)	(22.968)
Country	Yes	Yes	Yes	Yes		Yes
Industry	Yes	Yes	Yes	Yes		Yes
Year	Yes	Yes	Yes	Yes		Yes
Observations	36,897	36,897	36,897	36,897		36,897
Pseudo. R ²				0.1068		0.1074
R ²			0.5500		0.5500	

This table presents robustness tests of the relationship between corporate life cycle and board diligence that address potential endogeneity concerns using two instrumental variable-based approaches: (i) an IV Poisson-GMM estimator and (ii) a control function approach. Given that BMEETING is a count variable, Poisson specifications are employed. Since BATTENDANCE is a fractional variable bounded between 0 and 1, a fractional response specification is adopted within the control function framework. Under the control function approach, the endogenous variable LIFECYCLE1 is first regressed on the instrumental variables and control variables, and the resulting residual term (VHAT) is subsequently included in the second-stage specification to account for endogeneity. LIFECYCLE1 is the retained earnings divided by the total assets reported. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. Model fit for the IV Poisson and fractional logit estimations is reported using pseudo-R², as standard R² is not defined in nonlinear models, while R² is reported for the first-stage control function estimations. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 12. Lagged specification

	<i>BMEETING</i> <i>POISSON</i>	<i>BMEETING</i> <i>FRAC_LOGIT</i>
BATTENDANCE (t-1)		7.317*** (69.096)
BMEETING (t-1)	0.066*** (111.367)	
LIFECYCLE1 (t-1)	-0.015** (-2.167)	0.042*** (3.931)
BSIZE (t-1)	-0.002* (-1.842)	-0.017*** (-8.340)
CEODUALITY (t-1)	-0.023*** (-4.756)	-0.006 (-0.834)
SIZE (t-1)	0.011*** (5.994)	0.015*** (4.579)
ROA (t-1)	-0.051* (-1.892)	0.194*** (4.544)
LEV (t-1)	0.022 (1.448)	0.026 (1.103)
CR (t-1)	-0.007*** (-4.209)	-0.000 (-0.094)
CAPEXP (t-1)	0.192*** (3.467)	-0.118 (-1.132)
Constant	1.488*** (15.013)	-3.582*** (-21.168)
Country	Yes	Yes
Industry	Yes	Yes
Year	Yes	Yes
Observations	29,122	29,122
Pseudo. R ²	0.1483	0.1354
Alpha (α)	5.44e-10	
LR test $\alpha = 0$	0.000	

This table examines the robustness of the association between corporate life cycle and board diligence to endogeneity concerns using lagged specification. LIFECYCLE1 is the retained earnings divided by the total assets reported. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. The estimated dispersion parameter in the negative binomial model is statistically indistinguishable from zero ($\alpha \approx 0$), and the likelihood ratio test fails to reject the Poisson restriction. This indicates that the Poisson specification is appropriate for the data, and the negative binomial model collapses to the Poisson model.

Table 13. Propensity Score Matching

PANEL A. The PSM					
	<i>BMEETING</i>		<i>BATTENDANCE</i>		
	<i>NBREG</i>		<i>FRAC LOGIT</i>		
<i>LIFECYCLE1</i>	-0.065***		0.161***		
	(-6.368)		(8.263)		
<i>BSIZE</i>	-0.001		-0.025***		
	(-0.808)		(-6.823)		
<i>CEODUALITY</i>	-0.048***		0.009		
	(-7.082)		(0.598)		
<i>SIZE</i>	0.020***		0.023***		
	(7.466)		(3.767)		
<i>ROA</i>	-0.367***		0.157*		
	(-8.774)		(1.854)		
<i>LEV</i>	0.097***		0.123**		
	(3.771)		(2.392)		
<i>CR</i>	-0.002		-0.019***		
	(-0.880)		(-3.847)		
<i>CAPEXP</i>	0.126		-0.115		
	(1.437)		(-0.564)		
<i>Constant</i>	1.951***		3.706***		
	(11.601)		(9.017)		
Country	Yes		Yes		
Industry	Yes		Yes		
Year	Yes		Yes		
Observations	14,910		14,910		
Pseudo. R ²	0.0668		0.1065		
Alpha (α)	0.0061				
LR test $\alpha = 0$	21.57***				
Panel B. Covariate Balance Diagnostics					
Variable	Mean		t-test		
	Treated	Control	%bias	t	p>t
<i>BSIZE</i>	9.571	9.540	1.200	0.730	0.465
<i>CEODUALITY</i>	0.441	0.442	-0.200	-0.120	0.908
<i>SIZE</i>	21.927	21.916	0.700	0.430	0.666
<i>ROA</i>	0.096	0.095	1.100	0.810	0.420
<i>LEV</i>	0.173	0.168	3.400	2.260	0.024
<i>CR</i>	2.238	2.203	2.300	1.470	0.141
<i>CAPEXP</i>	0.046	0.046	0.100	0.080	0.940
Ps R2	LR chi2	p>chi2	MeanBias	MedBias	B
0.001	12.92	0.074	1.3	1.1	5.9
					0.83
					100

This table examines the robustness of our results to endogeneity concerns using the PSM approach. LIFECYCLE1 is the retained earnings divided by the total assets reported. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 14. Entropy Balancing

	<i>BMEETING</i> <i>NBREG</i>	<i>BATTENDANCE</i> <i>FRAC_LOGIT</i>
<i>LIFECYCLE1</i>	-0.081*** (-7.149)	0.183*** (11.155)
<i>BSIZE</i>	0.002 (1.092)	-0.028*** (-8.641)
<i>CEODUALITY</i>	-0.044*** (-6.550)	-0.004 (-0.335)
<i>SIZE</i>	0.018*** (6.981)	0.020*** (3.572)
<i>ROA</i>	-0.357*** (-8.269)	0.071 (0.908)
<i>LEV</i>	0.111*** (4.841)	0.156*** (3.290)
<i>CR</i>	-0.003 (-1.129)	-0.015*** (-3.295)
<i>CAPEXP</i>	0.088 (1.012)	-0.333* (-1.818)
<i>Constant</i>	1.960*** (19.330)	3.443*** (16.539)
Country	Yes	Yes
Industry	Yes	Yes
Year	Yes	Yes
Observations	36,897	36,897
F-statistic	147.64***	241.73***
Alpha (α)	0.005***	

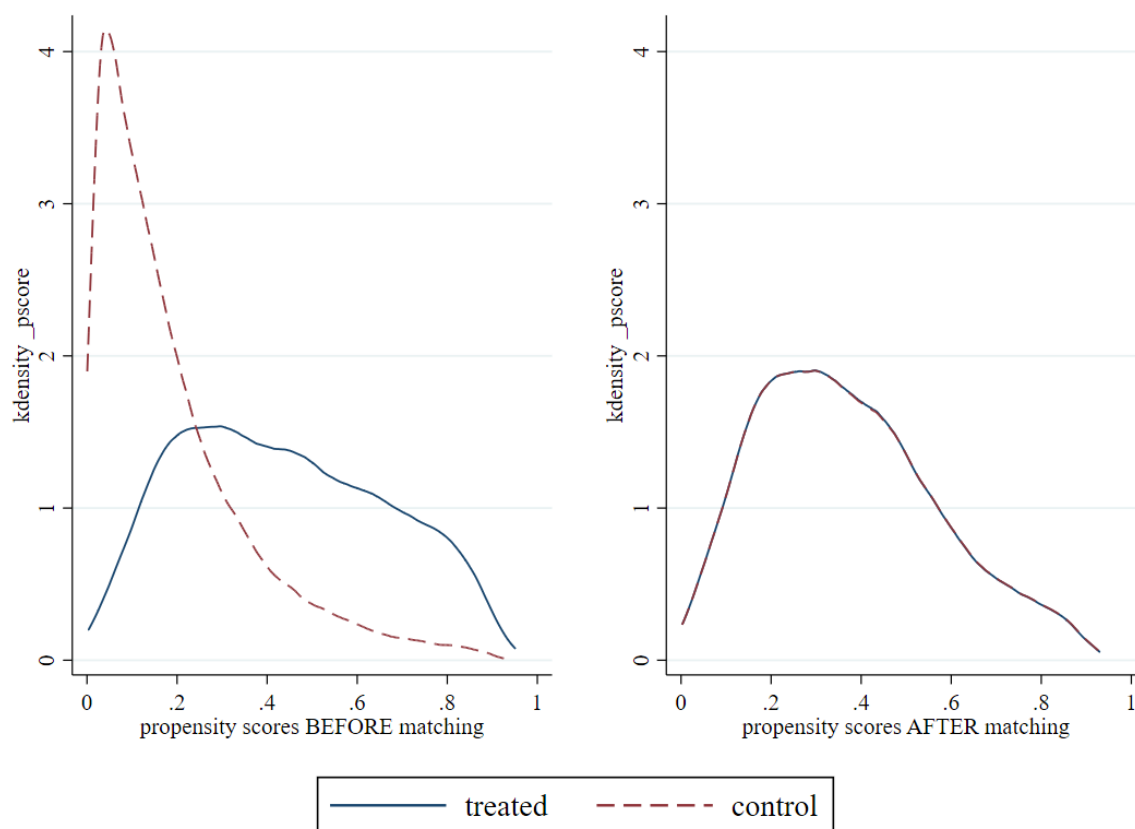
This table examines the robustness of the association between corporate life cycle and board diligence to endogeneity concerns using the entropy balancing approach. LIFECYCLE1 is the retained earnings divided by the total assets reported. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. Pseudo R² is not reported as it is not consistently defined under the survey-weighted negative binomial framework (svy: nbreg), and model fit is therefore assessed using the Wald F-statistic. The likelihood-ratio (LR) test of $\alpha = 0$ is not reported because it is also not applicable under the survey-weighted estimation framework. α therefore is used to examine the overdispersion parameter of the negative binomial model; its statistical significance confirms the presence of overdispersion in the dependent variable and justifies the use of the negative binomial specification over the Poisson model. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Table 15. Excluding the US

	<i>BMEETING</i>	<i>BATTENDANCE</i>
	<i>NBREG</i>	<i>FRAC_LOGIT</i>
<i>LIFECYCLE1</i>	-0.018** (-2.076)	0.394*** (11.931)
<i>BSIZE</i>	-0.005*** (-4.035)	-0.052*** (-13.147)
<i>CEODUALITY</i>	-0.042*** (-7.217)	-0.131*** (-6.359)
<i>SIZE</i>	0.021*** (9.740)	0.012 (1.534)
<i>ROA</i>	-0.397*** (-12.587)	0.567*** (4.895)
<i>LEV</i>	0.077*** (4.349)	0.114* (1.788)
<i>CR</i>	-0.008*** (-4.137)	-0.012 (-1.612)
<i>CAPEXP</i>	0.394*** (6.312)	-0.293 (-1.312)
<i>Constant</i>	2.089*** (19.133)	2.735*** (10.411)
Country	Yes	Yes
Industry	Yes	Yes
Year	Yes	Yes
Observations	22,951	36,897
Pseudo. R ²	0.0741	0.0505
Alpha (α)	0.0094	
LR test $\alpha = 0$	86.99***	

This table reports our main results of regressions of the corporate life cycle on board diligence when excluding US firms. T-statistics (shown in parentheses) are based on robust standard errors clustered at the firm level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. See Table A1 in Appendix for variable definitions. NBREG refers to negative binomial regression models estimated for count-dependent variables, while FRAC_LOGIT refers to fractional logit models used for dependent variables bounded between 0 and 1.

Figure 1. The kernel density of propensity scores for treated and control firms before and after matching



This figure examines the kernel density distributions of propensity scores for the treated and control groups before matching (left panel) and after matching (right panel).

Appendix

Table A1. List of variables

VARIABLES	DEFINITIONS
LIFECYCLE1	The retained earnings over total assets.
LIFECYCLE2	The retained earnings over total equity.
LIFECYCLE3	Firm age is proxied by the observation year minus the organisation's founding year.
LIFECYCLE4	A composite score (ranging from 4 to 12) based on retained earnings, sales growth, capital expenditures, and firm age (see Table A2). To ensure that higher scores correspond to later life cycle stages (from growth to maturity), we multiply the composite score by -1 so that the ordering properly reflects the progression of the firm life cycle.
LC_INTRODUCTION	The firm is at the introduction stage if $CFO < 0$, $CFI < 0$, and $CFF > 0$.
LC_GROWTH	The firm is at the growth stage if $CFO > 0$, $CFI < 0$, and $CFF > 0$.
LC_MATURITY	The firm is at the maturity stage if $CFO > 0$, $CFI < 0$, and $CFF < 0$.
LC_DECLINE	The firm is at the decline stage if $CFO < 0$, $CFI > 0$, and $CFF \leq$ or ≥ 0 .
BMEETING	The number of board meetings during the year.
BATTENDANCE	The average overall attendance percentage of board meetings.
POLITICAL_INSTABILITY	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. The estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5 (more stable environment) (World Bank, 2022a). We measured political instability by multiplying the original scoring by -1 so that higher values correspond to greater political instability.
COMP	We first calculated the Herfindahl–Hirschman Index (HHI) based on industry sales for market competition. Subsequently, we multiply the resulting values by -1 so that higher values correspond to greater competition rather than higher concentration.
BSIZE	Number of directors on the board.
CEODUALITY	COE duality, which takes the value 1 if the CEO and board chair are the same person, 0 if not.
SIZE	Natural logarithm of total assets.
ROA	Income before tax over total assets.
LEV	Total debt over total assets.
CR	Current assets over current liabilities.
CAPEXP	Capital expenditures over total assets.
WGI	Public governance quality is proxied by the average of six metrics of Worldwide Governance Indicators, including control of corruption, government effectiveness, voice and accountability, rule of law, political stability and absence of violence/terrorism, and regulatory quality (values range from -2.5 to 2.5).
GDP	Natural logarithm of gross domestic product per capita.
INDUSTRY_AVG_LC	The industry average of the corporate life cycle.
COUNTRY_AVG_LC	The country average of the corporate life cycle.

Table A2. Classification indicators of firm life cycle (Li and Zhang, 2018)

	Sales Growth		Earning Retained		Capital Expenditure		Firm Age	
Variable Stages	Features	Values	Features	Values	Features	Values	Features	Values
Growth	High	3	Low	3	High	3	Low	3
Maturity	Medium	2	Medium	2	Medium	2	Medium	2
Decline	Low	1	High	1	Low	1	High	1