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BOARD CAPITAL, CEO POWER AND INVESTMENT EFFICIENCY OF FIRMS LISTED IN THE NAIROBI SECURITIES EXCHANGE IN KENYA

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ABSTRACT

The paper's main aim was to determine the moderating effect of chief executive officer (CEO) power on the relationship between board capital and investment efficiency of listed firms in the Nairobi Securities Exchange. The study adopted a longitudinal, and 10 years of panel data was obtained using documentary analysis from audited financial statements of 33 listed firms consistently trading in the Nairobi Securities Exchange between 2012 and 2021. The hierarchical Fixed model was used to test the moderating effect. Results revealed that board financial expertise and interlock positively affected the investment efficiency of listed firms. The effect of board interlock on investment efficiency is more profound for firms with powerful CEO. However, CEO power did not moderate the relationship between the board's financial expertise on the investment efficiency of listed firms. The study was limited to firms listed in the Nairobi securities exchange. However, future research should be replicated beyond East Africa. Again, this study utilizes CEO power as a moderator, and other studies should consider other variables.

Keywords: Board Interlock, Board Financial Expertise, CEO Power, Investments Efficiency, Firm Size, Firm Age

A. INTRODUCTION

Investment efficiency affirms that firms and investors will receive the anticipated returns of their capital outlay which heightens the growth and survival of firms and projects even in times of crisis and stiff competition (Moradi et al., 2022; Yoshino et al., 2019). The firm's investment actions are crucial for companies to maximize their value and secure their survival and growth (Salehi et al., 2022 & Ricupero, 2017). Investment efficiency decisions are crucial in determining a firm's value, performance, and survival (Mengesha, 2014). Increasing the value of a firm depends on its ability to raise capital for investment at the cheapest cost and earn higher returns. Thus, firms invest until the marginal cost equals the marginal benefit (Salehi et al., 2022).

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However, investment in developing countries remains below the pre-crisis level (Naeem et al., 2019), and in Kenya, investment inefficiencies have been alarming (Capital Market Authority, 2021). Most firms in emerging economies, including Kenya, have displayed declining stock returns over time, challenging investors (Capital Market Authority, 2018). As an illustration, Kenya Airways Limited was labeled as the poorest performing stock in 2017, with a 58.7% drop in stock price, a 51.4% decrease in profit, and a 46.7% reduction in dividend payout, compared to other companies listed on the NSE (Omondi, 2018). Kenya Airways and Uchumi Supermarkets face a series of corporate governance and financial challenges, with their investors suffering losses at 77.3% and 56.3%, respectively (NSE handbook, 2019). On the other hand, Safaricom has proved efficient in investments by realizing a return of 79.8% to its investors (NSE handbook, 2019). Due to these inefficiencies in corporate investment, many companies have been delisted over the past few decades, gone bankrupt, taken over, closed, or phased out completely by competition due to inefficient investment plans that have swept across the country. Firms such as ARM Cement PLC, Deacons (EA) PLC, and Atlas have been suspended from trading due to huge loss-making with high outstanding debts. At the same time, Kenol Kobil was delisted after its acquisition by Rubis Energy in 2019. Mumias Sugar Company was placed under statutory management for defaulting on debts. The investment performance of firms listed on the Nairobi Securities Exchange serves as a measure of the overall economic performance of the nation. If many companies experience a decrease in revenue and earnings, as shown by profit warnings, it indicates that investors' funds are not performing up to expectations.

This, therefore, calls for more studies to investigate which factors cause investment efficiency or inefficiencies. Previous studies have indicated several determinants of investment efficiency, such as corporate social responsibility (Lin et al., 2021), corporate governance (Bimo et al., 2021; Ellili, 2022), financial reporting quality (Ellili, 2022), ownership concentration (Dinh et al., 2022), earnings quality (Tahat et al., 2022), among others. However, except for Kweh et al. (2021), studies investigating the link between board capital and investment efficiency have been insufficient and with mixed findings.

Board capital refers to the skills and knowledge of directors serving on a company's board (Muttakin et al., 2018). This capital comprises two components: human capital, including experience, expertise, and reputation, and relational capital, such as connections to other firms and external relationships (Hillman & Dalziel, 2003). A review of the extant literature on

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human capital reveals the usage of constructs such as board education, board functional diversity, and board experience (Chen, 2014; Yang, 2014; Johnson, Schnatterly & Hill, 2013). Board human capital may positively affect investment (Chen, 2014). Hence, studying the effect of board capital on investment efficiency is important because the composition of a company's board can significantly impact the company's overall financial performance. A board with diverse skills and experiences may be better equipped to make informed investment decisions and optimize returns. On the other hand, a board lacking in specific areas of expertise may make suboptimal investment decisions, leading to lower returns. This study aims to examine the relationship between board capital and investment efficiency and to determine if there is a causal link between the two.

In addition, although the relationship between board capital and investment efficiency is important, as discussed in the previous answer, CEO power may also play a role in shaping this relationship. This study aims to determine if CEO power is a moderator, either strengthening or weakening the relationship between board capital and investment efficiency. This study provides valuable insights into the interplay between board capital, CEO power, and investment efficiency and could inform future corporate governance practices.

B. LITERATURE REVIEW

According to Becker (1964), Human Capital Theory appears more authoritative than Resource Dependence Theory as it outlines what qualities boards should consider when selecting a director. Although much research on human capital has focused on the employees of an organization, studies have also shown that a company's board of directors also contributes to human capital and can give the firm a competitive edge (Khanna et al., 2014). Board human capital refers to the combined skills, knowledge, and perspectives outside directors bring to the board (Nguyen et al., 2017). One significant source of board human capital that directors bring to the board comes from their experiences as managers at their firms and as directors on other firms' boards. These experiences provide a unique perspective on strategic leadership (Mintzberg, 1973), from formulating and executing the strategies of the firms they manage to approving and monitoring the strategies of firms they serve as directors on. This theory is relevant to the study by providing the key human capital variables that predict investment efficiency, specifically the director's financial experience.

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The social capital theory highlights that organizational relationships can bring value (King, 2004). This theory (Gulati & Gargiulo, 1999) is commonly used to analyze interlocking directorates. It suggests that the social network influences the actions of a company it is a part of, and the connections and relationships within that network can shape the behavior of its members (Larcker, So, & Wang, 2013). Research shows that social connections impact organizational innovation performance, and interlock studies emphasize the significance of these connections in shaping the overall embeddedness (Echols & Tsai, 2005; Mizruchi, 1996). The presence of connections between different firms can help them learn and adapt (Kraatz, 1998) and create decision-making frameworks at the board level (Westphal et al., 2001), turning the interlocking directorate network into a valuable source of information.

Board Financial Expertise and Investment Efficiency

Previous research has explored various ways to measure the expertise of the top management team (TMT) and defines a financial expert as someone who holds a degree in finance, accounting, or auditing (Khan et al., 2022; Jawad et al., 2021a), is a chief finance officer, accounts officer, or works in an executive role at an investment or commercial bank, or serves on a finance or audit committee (Güner et al., 2008). Financial experts have a strong understanding of the market and are better equipped to identify risks that may harm the firm's financial stability or opportunities that may benefit it. Francis et al. (2012) indicate that financial experts assist firms in avoiding losses during times of crisis by providing guidance to managers and helping firms access external resources (Francis et al., 2012).

Financial specialists understand the financial industry and may assist businesses in borrowing and acquiring money (Booth & Deli, 1999). Karamanou and Vafeas (2005) emphasized that having more financial expertise on the board allows managers to revise their projections, resulting in fewer internal control issues (Krishnan, 2005). Companies with financially trained directors can monitor and minimize risk and comprehend the firm's hedging policy behavior. Firms with more financial professionals on their boards have excellent supervision of their plans and policies and can recognize and handle risk (Gore, Matsunaga, & Eric Yeung, 2011). According to Güner et al. (2008), appointing financial professionals on the board can result in access to credit corporations with lower-risk rates. However, this loan can sometimes be unproductive because overconfidence bias managers may invest heavily, culminating in diminished cash flow sensitivity (Güner et al., 2008).

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According to Agyei-Mensah (2021), the number of financial professionals on a business's board is negatively associated with corporate investment in Ghana. These findings imply that having independent directors and financial specialists on a company's board of directors can prevent overinvestment and increase investment efficiency.

Board of directors (BOD) abilities and credentials are regarded as human and social capital for enterprises, and they help firms gain financial resources (Jawad et al., 2021b). As a result, selecting qualified board members is critical for successful investment supervision because they monitor and employ cognitive resources to comprehend information (Harjoto et al., 2018). Directors with skills in finance, accounting, management, legal, and banking are better positioned to acquire resources and generate investment for the organization, so it is hypothesized that;

$H1_1$: Board of financial expertise is positively related to investment efficiency.

Board of Director Interlock and Investment Efficiency

An interlocking directorate is a circumstance in which a person associated with one firm sits on the boards of directors of another (Abdelbadie & Salama, 2019). These ties provide access to critical external resources and information (Dalziel et al., 2011) and measure a board's external social capital (Tian et al., 2011). When directors serve on numerous boards, they establish ties with other firms, allowing them to gain influence over them (Caiazza & Simoni, 2015), which can lead to advantages but also a problem. Interlocking directorates, on the other hand, can improve investment efficiency by delivering critical resources such as knowledge and opportunities via their links and networks. This can result in increased knowledge exchange, strategic direction, and the implementation of new policies. According to research, directors' cognitive talents influence the efficacy of their strategic engagement and the effectiveness of their inter-organizational network.

Most research in this field is founded on social capital theory (Simoni & Caiazza, 2013). Interlocking directorates are thought to offer the board important resources and social capital by boosting connectedness with other executives and directors from other firms (Chen, 2014). Helmers et al. (2017) discovered that board interlocks had a considerable favorable influence on both Research & development activities and intellectual property. Teng, Gimmon, and Lu (2021) demonstrated that board interlocks minimize the difference in corporate investment performance and lead to the convergence of corporate investments among linked organizations. According to Li (2019), interlocking between enterprises from diverse industries might boost

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the possibilities of technological research. Furthermore, interconnections with firms that engage extensively in R&D are more important for technological exploration than interconnections with enterprises that do not invest strongly in R&D. Furthermore, according to the resource dependency hypothesis, director independence brings variety to the board by providing cognitive diversity and permitting the use of external resources, both of which are advantageous for stimulating investment, particularly those connected to exploratory activities (Kim & Kim, 2015). As a result, when the interlocking directorates are independent directors in a stronger position to import profitable investment methods from other firms where they hold a board position), the copying of investment strategies is more likely to occur. Therefore, this study hypothesized that;

$H1_2$: Board of Director Interlock is positively related to corporate investment.

Moderating Effect of CEO Power

In line with Javeed et al. (2021), a powerful CEO is one of the most predominant aspects of the corporate governance system of organizations. A CEO's capacity is frequently represented using the number of positions they have held (especially whether the CEO serves as chair), the tenure of a CEO, or their performance in contrast to peers (Adams et al., 2005). CEOs with high power, if able to impact decisions made by the board, are more inclined to impede board independence and consequently obstruct successful monitoring carried out by boards. Adams et al. (2005) demonstrate that a characteristic of organizations with considerably powerful CEOs includes higher performance variability. This suggests that CEOs with high power levels push toward policies, culminating in high-risk results. Pathan and Skully (2010) assert that CEO power can be of merit or demerit to an investment of a firm. In line with Larcker et al. (2007), CEO power is a sign of weak corporate governance and undermines board independence. A review conducted by Faleye and Krishnan (2010) studied the relationships between boards of directors' size and their borrowers. It was determined that the CEO's authority or the board's size fundamentally increases the risk to the bank, which results in a decline in the credit ratings of their borrowers and, eventually, firm performance. CEO power affects the relative strength of the board members regardless of whether the CEO is an appointed successor, the outgoing is forced to resign, or the new CEO is chosen from outside or inside the company (Davidson et al., 2008; Elsaid & Davidson, 2009). The degree of power demonstrates CEO supremacy. According to Brockmann et al. (2004), there are two types of executive power: formal power, which arises when the CEO simultaneously serves as

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the board's chair, and informal power, which is related to the CEO's network and social standing with other partners.

Qian et al. (2018) suggest that power is associated with earnings manipulations and an opaque information environment. Similarly, Cormier et al. (2016) note that CEO power and hubris are positively associated with financial misreporting leading to information asymmetry. Majeed and Ullah (2020) posit that excessive risk-taking, moral hazard, and adverse selection induced by CEO power may lead to sub-optimal investment decisions. On the contrary, powerful CEOs speed up decision-making, promptly leading to appropriate responses to complications or unexpected changes in external environments (Finkelstein & Aveni, 1994; Boyd, 1995). Powerful CEOs are entrenched and face fewer career threats, resulting in greater informational transparency (Jiraporn et al., 2014). Ultimately, lower information asymmetry and quick and timely decision-making may result in greater investment efficiency. Hence, powerful CEOs can make efficient or inefficient investment decisions. This unique ability of CEO power to influence investment efficiency in both ways motivates this study. As a result, when the interlocking directorates are independent directors in a stronger position to import profitable investment methods from other firms where individuals hold a board position), the copying of alternative investments is more likely to occur. When CEO holds position for a longer period, it reduces their flexibility, increases their influence, and reduces the monitoring capability of the board (Ryan & Wiggins, 2004; Hermalin & Weisbach, 1998; Oh et al., 2018).

$H2_1$: The effect of board financial experts on investment efficiency is more profound for firms with powerful CEO.

$H2_1$: The effect of board interlock on investment efficiency is more profound for firms with powerful CEO.

C. RESEARCH METHOD

Using a positivist research philosophy and panel data approach, data was derived from all firms trading consistently in the Nairobi security exchange from 2012 to 2021. Any company suspended, listed, or delisted during this period was removed from the sample. Thus, the study included all firms that traded consistently from 2012 to 2021 in the four Nairobi security exchanges. Thus, the study sample was 33 listed firms in NSE trading between 2012 and 2021, giving 330 observations. The secondary data were mainly drawn from secondary sources. The data were extracted from audited financial statements and management annual

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reports. Secondary data sources for this study were gathered from NSE, CBK, and other relevant sources.

The study used panel data to establish the relationship among the study variables. Three-panel data analysis techniques are at the researcher's disposal, depending on the type of panel data to be analyzed. The Hausman test was conducted to determine the most suitable model for the current study. The control effect and the direct effect were tested in separate equations. Panel Hierarchical regression model was applied in testing how the association between investment efficiency and board capital variables (board financial expertise and board interlock) is moderated by powerfully CEO. The first model tested for direct effect, while the second tested the interaction effect.

$$y_{it} = \beta_{0it} + \beta_{1it}FS_{it} + \beta_{2it}FA_{it} + \beta_{3it}BFE_{it} + \beta_{5it}BI_{it} + \varepsilon_i \quad \ldots\ldots 1$$

$$y_{it} = \beta_{0it} + \beta_{1it}FS_{it} + \beta_{2it}FA_{it} + \beta_{3it}BFE_{it} + \beta_{4it}BI_{it} + \beta_{5it}CP_{it} + \beta_{6it}BFE_{it} * CP_{it} + \beta_{7it}BI_{it} * CP + \varepsilon_i \quad \ldots\ldots 2$$

Where y is the measure of investments efficiency, β_0 is constant of the equation, FS is Firm size, fA is Firm age, BFE is Board financial expertise, BI is Board interlock, it is firm time. Following Biddle *et al.* (2009); Gomariz and Bellesta (2014) to estimate investment efficiency for firm i in year t, the study specified a model that predicts investment efficiency based on growth opportunities (measured by sales growth). Deviations from the model, as reflected in the error term of the investment model, represent investment inefficiency.

$$Invest_{i,t} = \beta_0 + \beta_1 salesGrowth_{i,t-1} + \varepsilon_{i,t}$$

Where:

$Invest_{i,t}$ = is the total investment of firm i in year t, defined as the net increase in tangible and intangible assets and scaled by lagged total assets.

Sales Growth$_{t-1}$ is the percentage change in sales of firm i from year $_{t-2 \text{ to } t-1}$

(Sales –is the gross inflow of economic benefits arising from the ordinary operating activities of an entity)

β_0 = Constant; β_1= Coefficients of regression; ε_{it}=Error term

The study estimated the investment model for each year and firm. The residuals from the regression model reflected the deviation from the expected investment level, and residuals were used as a firm-specific proxy for investment inefficiency.

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Director interlock (DI) was determined by dividing the total number of members of executive board members who also sit on other firms' executive boards by the number of executives on the firm's executive board (Hernández-Lara & Gonzales-Bustos, 2019: Barroso-Castro et al., 2016).

The financial expertise of the board was quantified as the proportion of board members who have a background in finance, accounting, and economics (such as a bachelor's or master's degree in these subjects, banking experience with an MBA degree, professional education as a chartered accountant, experience as a finance, management, accounting, or economics professor, experience as a professional investor, or a law degree in LLM or LLB) (Khan et al., 2022).

CEO power is an index of CEO tenure, ownership, experience, and age, whereas dummies code of CEO power '1' if the observation is above the sample median and '0' otherwise) is used (Gupta, 2018).

D. RESULTS AND DISCUSSION

The study variables are presented in Table 1. Descriptive statistics helped to identify trends, patterns, and characteristics of the data to allow for further analysis. Data was collected from websites and annual reports of 33 listed firms in operation from 2012-2021 at the Nairobi Securities Exchange that consistently posted financial statements from 2012 to 2021—the findings on investment efficiency, board interlock, board financial expertise, and CEO power. Results in Table 1 showed investment efficiency measured as residuals of the investment regression model by Biddle et al. (2009); Gomariz and Bellesta (2014) had a mean of 4.14. This shows that the residual is positive. Hence firms listed in NSE are making investments at a higher rate than expected according to the sales growth, so that they will overinvest. Results on board interlock revealed that listed firms in NSE had an average of 64% of the board members who also served as board members in other firms. Findings also indicated that, on average, 47% of the board of directors of firms listed in NSE had a financial background. CEO power indicated an index of 2.44, implying that almost half of NSE's listed firms had powerful CEOs.

Findings in Table 1 also showed correlation results of study variables which showed that investment efficiency was positively correlated with board interlock ($r = 0.56$) and board financial expertise ($r = 0.51$). However, powerful CEO was negatively associated with

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investment efficiency (r = -0.33). However, firm size and firm age were not correlated with investment efficiency.

Table 1 Descriptive Statistics and correlation analysis

Obs (330)	Max	Min	Mean	SD	IE	BI	BFE	CEOP	FS	FA
IE	-3.46	3.35	4.14	0.76	1					
BI	0.7	0.1	0.64	0.81	0.56**	1				
BFE	0.83	0.00	0.47	0.88	0.51*	0.21*	1			
CEOP	4.00	0.10	2.44	1.08	-0.33**	-0.17**	0.34**	1		
FS	25.7	8.72	16.23	2.57	0.08	0.04	0.03	0.11	1	
FA	121	31	40.36	29.82	0.02	0.06	0.03	0.02	0.08	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Key; = Investments Efficiency, BI= Board Interlock, BFE = Board Financial Expertise, FS= Firm Size, FA= Firm Age

Test of Hypotheses

In testing the hypothesis, the first Hausman test was applied in choosing a model to use between fixed and random effects. Based on the results in Table 2, all Hausman tests for the four models had p-values above 0.05 hence accepting the hypothesis and indicating that the study could use a fixed effect estimator to test the hypothesis. This means that the most appropriate model is the fixed effects. The model showed the effect of the control variable (firm size and firm age) on investment efficiency. Findings in Model 2 indicated a direct effect of board capital (board interlock and board financial expertise) on the investment efficiency of listed firms. From the results, board capital explains a 48% variation in investment efficiency (R-sq = 0.48).

Results in model 2 showed that board financial expertise as a component of board capital significantly affects the investment efficiency of listed firms ($\beta = 0.16$, $p < 0.05$). Thus, ***H1₁*** was accepted, implying that firms with many boards comprised of many directors serving other boards in other firms have a high probability of increasing investment efficiency. This result is consistent with Harjoto et al. (2018) that a board of directors with financial expertise facilitates financial resource utilization for a firm, leading to increased investment efficiency. Similarly, Jawad et al. (2021b) indicated that having directors with accounting and financial skills enhances the effectiveness of investment oversight. Nevertheless, the results contradict Agyei-

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Mensah's (2021) findings in Ghana that a high proportion of board of directors with financial backgrounds reduces corporate investments.

Again, in Model 2, board interlock positively affected investment efficiency at a 0.95 confidence level. Thus, ***H1₂*** was accepted, implying that firms with board interlock improve investment efficiency. The findings are explained by Barroso et al. (2016) that having interlocking directorates in the firms could increase investment efficiency by providing new skills, knowledge, and experience as key resources for more opportunities in networking, such as legitimacy, strategic information and learning. The positive effect of board interlocks on investment efficiency is supported by Yoshikawa et al. (2020) argument that board interlock brings in strategic channels of information that improve changes in a firm, such as strategic direction and inter-organizational network.

Findings in the model indicate the moderating effect of CEO power on the relationship between board capital and investment efficiency. Results in Table 2 indicated that CEO power insignificantly moderates the relationship between board financial expertise and investment efficiency ($\beta = -0.07$, $p < 0.05$). Thus, ***H2₁*** was rejected. However**,** CEO power significantly moderated the relationship between board interlock and the investment efficiency of listed firms (($\beta = -0.28$, $p < 0.05$)**.** *Hence,* ***H2₂*** was accepted, implying that the effect of board interlock on investment efficiency is more profound for firms with powerful CEO (R-sq = 0.07). Inconsistent with the findings of Jiraporn et al. (2014) Powerful CEO is associated with high transparency, which encourages interlocking directorates to share their information with the board. Powerful CEOs then speedily use the information to make appropriate decisions promptly, leading to high efficiency in investments (Majeed & Ullah, 2020).

Table 2 Fixed Hierarchical regression results

	Model 1	**Model 2**	**Model 3**	**Model 4**
FP	**Coef. (Se)**	**Coef. (Se)**	**Coef. (Se)**	**Coef. (Se)**
_cons	(-3.58) (2.97)	1.18(0.16)	1.38(2.24)	1.11(3.01)
FS	0.01(0.09)	0.03(0.06)	0.06(0.80)	0.05(0.03) **
FA	0.06(0.05)	0.04(0.00)	0.00(0.20)	0.01(0.01)
BFE		0.16(0.00) **	0.19(0.24) **	0.22(2.91) **
BI		0.12(0.03) **	0.17(0.09) **	0.21(0.09) **
CP			0.21(0.21) *	0.31(0.37) *
BFE*CP				-0.07(0.04)

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BI*CP				-0.28(0.08) **
R-sq:	0.04	0.48	0.54	0.61
R-sqΔ		0.44	0.06	0.07
Wald $chi^2(3)$	101.71	561.54	622.98	666.71
Prob > chi^2	0.410	0	0	0
sigma_u	0.094	0.154	0.148	0.163
sigma_e	0.473	0.289	0.3	0.274
rho	0.038	0.221	0.197	0.261
Housman test				
$chi^2(6)$	11.15	11.06	8.49	19.37
Prob > chi^2	0.084	0.136	0.387	0.013

E. CONCLUSION

In conclusion, having financial expertise on a company's board of directors can positively impact the efficiency of the company's investments. The board's understanding of financial matters, combined with their oversight and decision-making responsibilities, helps to ensure that investments are made wisely and with a long-term view, leading to better returns and financial stability for the company. Thus, having board members with financial expertise can be a valuable asset to any organization and contribute to its overall success. The findings could be attributed to the fact that the directors of the listed firms' boards possess at least one certificate, diploma, or academic degree in financial matters. The possession of good financial education makes it possible for the board directors to analyze, identify, and assess options and select the most appropriate investment opportunities with high investment returns. They also have a greater cognitive ability to adopt new ideas and accept innovations. Thus, the implication is that possessing financial education and experience enables the board of directors to have a greater capacity for information processing and receptivity to investment. The relationship between board financial expertise and investment behavior does not change in the presence of a powerful CEO.

Additionally, interlocks among the members of a company's board of directors have been shown to impact the efficiency of the company's investments positively. Interlocks refer to the connections and relationships between board members, such as prior business or personal ties. These connections can facilitate information-sharing and decision-making processes, leading

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to better outcomes for the company. Furthermore, interlocks can bring diverse perspectives and experiences to the board, helping to ensure that all relevant factors are considered when making investment decisions. Thus, having interlocks among the members of a company's board of directors can benefit the company and contribute to its overall investment efficiency. The impact of board interlocks on investment efficiency is also more pronounced for firms with a powerful CEO. In these cases, the connections and relationships between board members can counterbalance the CEO's influence, ensuring that investment decisions are made with the company's interests in mind. The diverse perspectives and experiences brought by board interlocks can provide a valuable check and balance on the decisions made by a dominant CEO, leading to better outcomes for the company. Thus, for firms with a powerful CEO, the effect of board interlocks on investment efficiency is especially important and can help ensure the company's long-term success.

Theoretical implication

The positive relationship between board financial expertise and investment efficiency supports the agency theory, which states that the board of directors represents shareholders and oversees the management to protect their interests. This relationship also reinforces the importance of corporate governance in ensuring that companies make informed and effective investment decisions. It highlights the need for board composition to include individuals with financial expertise to enhance the company's investment decision-making processes.

The positive relationship between board interlocks and investment efficiency supports the idea of social network theory, which posits that individuals make decisions based on the information and influence they receive from their network of relationships. This relationship highlights the importance of social capital in a company's decision-making processes, especially regarding investments. It also supports the idea of diversity in corporate governance, as interlocks bring diverse perspectives and experiences to the board, which can contribute to more informed and effective investment decisions.

The negative moderation effect of CEO power on the relationship between board interlocks and investment efficiency supports the agency theory, which posits that the board of directors serves as a check and balance on the management to ensure that the interests of shareholders are protected. This relationship highlights the importance of the balance of power between the CEO and the board in ensuring effective investment decisions, with interlocks

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serving as a counterbalance to the CEO's influence. It also supports the idea of corporate governance to mitigate the risks associated with having a powerful CEO.

Practical implication

Companies should prioritize including board members with financial expertise in their composition to benefit from the positive impact on investment efficiency. Board evaluation and succession planning processes should consider the importance of financial expertise when selecting and retaining board members. Regulators and investors should also consider the importance of board financial expertise in their evaluations of companies, as it can indicate the company's investment efficiency. Companies and boards should continuously seek opportunities to improve their financial expertise, through training and education programs, for example, to ensure that they remain competitive and effective in their investment decisions.

Further, Companies should consider the importance of board interlocks when composing their board of directors, seeking to include individuals with diverse connections and relationships. Board evaluation and succession planning processes should also consider the interlocks among board members, as they can serve as a valuable source of information and influence investment decisions. Regulators and investors should also consider the existence of board interlocks when evaluating companies, as they can indicate the company's ability to access valuable information and networks. Companies should continuously seek opportunities to strengthen their interlocks through networking and collaboration initiatives to enhance their investment efficiency.

Companies should consider the power dynamics between the CEO and the board when composing their board of directors, seeking to include individuals with strong interlocks who can counterbalance the CEO's influence. Board evaluation and succession planning processes should consider the CEO's power and the need for interlocks to check and balance their influence. Regulators and investors should also consider the CEO's power and the existence of board interlocks when evaluating companies, as they can indicate the company's ability to manage the risks associated with having a dominant CEO. Companies should continuously seek opportunities to balance power between the CEO and the board, through regular evaluation and succession planning processes, for example, to ensure that investment decisions are made with the company's interests in mind.

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