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CEO Duality, Audit Committee Independence and Cost of Equity Capital: An Empirical Study from Jordan

Husam Ananzeh

Department of Accounting, Irbid National University, Irbid, Jordan

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Abstract

This study attempts to investigate the moderation impact of CEO duality concerning the link between audit committee independence (ACI) and the CEC (CEC) in Jordanian publicly listed companies. Using a dataset from the period 2014 to 2018, the analysis incorporates panel regression models to evaluate the interaction between these governance mechanisms and their impact on firms' equity financing costs. The findings indicate that the independence of the audit committee reduces the CEC, which shows its importance for financial transparency and investors' confidence. On the other hand, CEO duality moderates this relation, and the findings suggest that when the CEO works as board chair, the effectiveness of independent audit committees diminishes in order to mitigate the equity cost. This research contributes to the literature on corporate governance by emphasizing complex interactions between board dynamics and financial outcomes and presenting practical implications for policymakers and corporate stakeholders seeking to enhance governance structures in emerging markets.

Keywords: Audit Committee Independence, CEO Duality, Cost of Equity Capital, Jordan

Introduction

Corporate governance is a factor that greatly influences the performance of both the financial and operational aspects of organizations (Lewellyn & Fainshmidt, 2016, Endri, 2020). The most important elements of corporate governance are related to independence within the audit committee, especially in terms of its relationship with financial reporting quality, risk management, and investor confidence (Endri, 2020; Habib & Bhuiyan, 2021).). An independent audit committee is generally viewed as a cornerstone of good governance, allowing for accountability and minimizing information asymmetry, which thus has implications for the CEC (Nata, 2024, Habib & Bhuiyan, 2021).). The CEC is an essential element for organizations, reflecting the required return by investors against risk borne and is directly linked to a firm's efficiency in attracting and retaining capital (Nata, 2024).

Given the crucial role played by the AC in diligently overseeing a company's financial reporting and its profound influence on ensuring the integrity and quality of financial reporting, it is only natural that extensive research has been dedicated to investigating the determinants of AC effectiveness (Endri, 2020). Specifically, scholars and experts have

focused on exploring whether various elements of the audit committee's composition and characteristics serve as effective corporate governance mechanisms that curtail management's opportunistic tendencies (Abdullah et al., 2016). Despite the well-documented association between certain AC characteristics and enhanced financial reporting quality (), there still exists a level of ambiguity regarding whether effective audit committees primarily champion the interests of shareholders or engage in extracting undue advantages for themselves (Kusnadi, 2016). This lingering question adds a layer of complexity to the comprehensive understanding of AC dynamics and their impact on corporate governance practices. Furthermore, it is worth noting that the existing body of research on this topic has only provided limited empirical evidence regarding the specific ways in which the audit committee's role influences the CEC (Abdullah et al., 2016; Alhababsah & Yekini, 2021). The relationship between the audit committee's actions and the financial repercussions of equity capital remains a subject that demands further exploration and analysis. Considering the importance of ensuring a robust and transparent financial reporting framework, it is imperative to delve deeper into the multifaceted aspects of the audit committee's role. By gaining a deeper comprehension of how the composition and characteristics of the AC impact financial reporting quality, corporate decision-making, and the CEC, we can strive towards fostering optimal corporate governance mechanisms, promoting accountability, and enhancing shareholders' trust in the financial disclosure process. Only through continuous research, empirical evidence, and thoughtful analysis can we strengthen the audit committee's effectiveness in safeguarding the accuracy and reliability of financial information, ultimately contributing to the stability, competitiveness, and sustainability of the global business environment. (Alhababsah & Yekini, 2021; Endri, 2020) .

Added to this, CEO duality-the occupation of the roles of chief executive officer and board chair by the same person another dimension to the effectiveness of governance. Whereas some argue that CEO duality reinforces the efficiency of decision-making and strategic alignment, others note that it threatens to undermine the independence of the board and its committees and, therefore, weakens governance mechanisms (Boyd, 1995; Lewellyn & Fainshmidt, 2016). This dichotomization creates two important questions on how CEO duality interacts with other governance attributes, mainly audit committee independence, and its influence on financial outcomes such as the CEC. Given the critical role of the CEO in the relationship with the board of directors, the audit committee, and the company, investigations of CEO characteristics that moderate the effect of key AC attributes on the CEC were considered both timely and necessary. CEO duality is common in many countries and thus requires in-depth empirical study. CEO pay and certain CEO corporate governance characteristics have been examined for their moderation effect on the relationship between AC characteristics and firm performance, but not for the CEC.

Literature Review & Hypothesis Development

Corporate governance is an important means that aligns shareholder interests with management while addressing corresponding constraints and supervision (Setiany et al., 2017, Khemakhem & Naciri, 2015). Agency costs are usually significant, including issues such as moral hazard, information asymmetry, and management entrenchment, which involves self-seeking managers and excessive concentration of control (Abbot et al., 2003; Mazzotta & Veltri, 2014). The risk of market competition compels the company's management to work to maximize shareholder interests. This means that effective corporate governance minimizes

enterprise capital costs while maximizing shareholder interests and enterprise value, which is crucial for attracting outside investors and obtaining funds (Hamza & Mselmi, 2017; Habib & Bhuiyan, 2021). Studies found that enterprises with better corporate governance structures achieved better business outcomes, while various types of organizations were analyzed within agency theories. Corporate governance influences capital sources and company performance (Hamza & Mselmi, 2017).

Research on the relationship between the unique characteristics and intricate structure of the board of directors and the unparalleled effectiveness of monitoring has unquestionably supported the widely acknowledged notion that corporate boards, undeniably, stand as critical mechanisms of corporate governance (Lewellyn & Fainshmidt, 2016). These boards are consistently and intelligently composed of independent directors, who not only embody the virtues of independence but also demonstrate unparalleled prowess in serving as effective monitors of management, thereby unambiguously mitigating any corporate agency costs that may arise (Hamza & Mselmi, 2017). Thus, the effectiveness of the AC is often associated with AC independence. Independence is generally regarded as the key attribute of good governance, and supervisory boards are deemed to represent the shareholders by protecting the owners from expropriation. The primary responsibility of the AC is to oversee the accounting and financial reporting practices of the firm, supported by auditors, ensuring that the financial report is credible, reliable, and informative (Habib & Bhuiyan, 2021; Endri, 2021). The AC is charged with maintaining the quality of accounting and financial reporting practices and contributing to the quality and integrity of the firm's financial reports (Kusnadi, 2016). ACI is thus posited to play a crucial role in mitigating agency costs. Agency theory is thus an appropriate foundation for this research. However, despite several theoretical models, the exact mechanism of how independence is related to firm value is generally recognizable. Nonetheless, some empirical studies find no relation between ACI and value, decision precision, or financial restatements.

In this study, we specifically investigate the interaction effect between ACI and CEC. A large body of corporate governance research advances the proposition that independent audit committees are effective mechanisms in the external monitoring of managers and in the oversight of the financial reporting process (Hamza & Mselmi, 2017). In particular, they should play an important role in the external auditor selection and in exercising some supervisory powers over the internal auditing process and reporting. There is considerable evidence to show that ACI is associated with some measures of high-quality financial reporting (Kusnadi, 2016; Nata, 2024). The prevailing logic in the literature is that because the supervisory role of independent audit committees in relation to managers is important, the characteristic warrants enhanced monitoring (Hamza & Mselmi, 2017; Habib & Bhuiyan, 2021).

It is argued that strong independence of the AC would reflect better quality of earnings and a lower CEC because of the monitoring role of the independent audit committee (Habib & Bhuiyan, 2021; Endri, 2021). This is because an effective AC is defined by the ability to provide monitoring services. The reaction of the share price to the composition of the audit committee, which includes both independent and non-executive directors, is a crucial factor (Khemakhem & Naciri, 2015; Dao et al., 2013). Consequently, this research develops the following hypothesis:

H1: The AC independence is positively associated with CEC

The Moderating Role of CEO Duality

CEO duality is the most examined corporate governance characteristic and a topic of much discussion in both the academic and professional arenas. This study aims to understand whether CEO duality can influence the quality of corporate governance when combined with the independence of the AC and to understand from what perspective the research question is answered. It can be expected that the relationship between AC independence and the CEC will become stronger or weaker according to the dual function of the CEO. This predicts that CEO duality functions as a cross-level moderator (Boyd, 1995). Some studies argue that CEO duality may result in ineffective corporate governance, while other studies argue the opposite (Duru et al., 2016; Mubeen et al., 2021). A recent study investigates the influence of CEO duality on firm performance. It concludes that CEO duality is favorable for firm performance (Peng et al., 2007). Despite different views about CEO duality, there is one agreement that whether CEO duality can be allowed still depends on the quality of the organization's internal governance mechanisms, because this factor may have a significant moderating effect on CEO duality (Mubeen et al., 2021). Moderating CEO duality by enhancing the independence of the AC may likely have a different effect on the quality of corporate governance between organizations with a single CEO/Chairman and those with dual CEO/Chairman. This study focuses on how CEO duality affect the link between the independence of the AC and the CEC of firms.

We expect a negative association between ACI and CEC, since an independent committee strengthens the quality of financial reporting, lessens information asymmetry, and gains investor confidence, which in turn lowers perceived risks (Lassoued & Khanchel, 2023). In contrast, CEO duality, where the same person serves as both the CEO and chair of the board, is hypothesized to bear a positive relationship with the CEC (Huang et al., 2007). This is because such a concentration of power in one person may weaken board monitoring and create concerns regarding the quality of governance, thereby elevating investors' perception of risk and, subsequently, the CEC (Duru et al., 2016; Mubeen et al., 2021). Moreover, CEO duality is likely to moderate the relationship that exists between audit committee independence and the cost of equity capital. Precisely, the presence of CEO duality may diminishes the strength of the ACI in facilitating a reduction in the cost of equity capital, in that the duality in roles undermines board independence and diminishes the assurance capabilities of the audit committee for sound financial oversight (Duru et al., 2016). Such interaction indicates the underlying intricacies of governance mechanisms with financial performance.

H2: CEO duality negatively moderates the ACI and CEC relationship

Research Design

Data Collection

Data on the study variables are extracted from the audited financial reports of the listed companies included in the sample. This study collected data for 84 industrial and service-listed companies during the period 2014 and 2018. This has been done by manually extracting the data from firms' financial reports. Those reports have been obtained from the ASE website (www.exchange.com.jo), which enables easy access to financial reports and other data referring to corporate governance mechanisms. We have also created a frequency-matching

corporate governance database of 5 years and extracted the CEO duality data. These large samples not only improve efficiency but also enhance statistical power. This study uses data from the industrial and service companies in Jordan because it has a higher percentage of companies with AC independence.

Variables Measurement

In an attempt to help researchers get a reliable estimate of the CEC, Botosan and Plumlee (2005) assessed the reliability of five different methods available for estimating the *ex-ante* cost of equity capital. The methodologies underlying these five methods mainly vary in their assumptions about terminal value. The testing entailed checking on the association of estimates from each approach with risk proxies such as beta, size (market value of equity), and the market-to-book ratio. The research found that on specific counts, the PEG ratio method (Easton, 2004) and the target price method (Botosan & Plumlee, 2002) consistently yielded estimates of the cost of equity capital that were reliably associated with risk; this was not true for the other approaches. Botosan et al. (2009) also concluded that the two estimates were the most reliable measures of the equity capital cost, confirming their consistency not only with the realized returns but also with specific risk attributes of the firm. The PEG estimate therefore is adopted as the main measure of the cost of equity capital, and it is obtained from Equation (1).

$$CEC = \sqrt{\frac{\text{Eps}_{i,t+2} - \text{Eps}_{i,t+1}}{P_{o,i}}}$$

Where

$\text{Eps}_{i,t+1}$, $\text{Eps}_{i,t+2}$ denote the analysts' consensus forecasts of firm i earnings per share for one year and two years ahead, respectively, as of the end of year t. Meanwhile, $P_{o,i}$ signifies the price of the stock market of firm i shares on the forecast date, which is also the end of year t.

Audit committee independence is the proportion of independent members on the audit committee to total members. Independence is defined per corporate governance guidelines, where members are defined as being independent of membership in the firm's management and also having no significant financial or familial ties to the company. On the other hand, CEO Duality is a binary variable coded as 1 if the CEO also holds the position of board chair and 0 otherwise. This variable captures the power centralization within the firm's leadership structure.

In addition, a group of control variables are used to control the effect of audit committee independence and that of CEO duality on the cost of equity capital: (1) Firm Size (SIZE): Total assets in natural logarithm is the size of the firm. Large firms enjoy lower equity costs because of their larger market presence and diversification; (2) LEV-leverage: total debt to total assets, because a firm with higher leverage may lead to higher equity cost due to high risk; (3) Profitability (ROA): Measured as return on assets, reflecting the firm's financial performance, which may influence investor confidence and, hence the cost of capital; (4) Market-to-Book Ratio (MTB): This ratio works as a proxy for growth opportunities, which can impact the firm's risk profile and cost of equity.

Model Specification

The model is aimed at ascertaining how mechanisms of corporate governance-audit committee independence and CEO duality affect the cost of equity capital directly and in moderation. It includes measures of interaction and controls to capture the nuanced relationship of these constructs with due consideration of firm-specific characteristics.

$$CEC_{it} = \beta_0 + \beta_1 ACI_{it} + \beta_2 CEOD_{it} + \beta_3 (ACI * CEOD)_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it+} + \beta_7 MTB_{it+} + Year + Sector + \varepsilon_{it}$$

Where:

(CEC) cost of equity capital, (ACI) audit committee independence, $(CEOD)$ is the CEO duality, (SIZE) firm size, (ROA) firm profitability, (LEV) firm leverage, (MTB) market to book value, (Year) year dummies; (Sector) type of sector dummies error term (ε); i: the company, t: the year.

Results and Discussion

The descriptive statistics provided in Table 1 offer useful information about the variables under study. The average CEC is 0.085, that is, 8.5%, which implies that on average, firms in this sample are subject to an 8.5% required rate of return from equity investors. The standard deviation of 0.021 suggests a relatively moderate variability, implying some differences in perceived risk or return requirements across firms. The mean for ACI is 0.263, indicating that an average of 26.3% of audit committee members are independent. This is also reflected in the high standard deviation of 0.145 and a range between 0.30 and 1, indicating significant variation in the level of audit committee independence across firms.

CEO Duality (CEOD) has an average of 0.16, reflecting that the firms report 16% with a duality in leadership within their corporations where the CEO also acts as the board chair. The nature of this variable being binary (0 or 1) means a higher standard deviation of 0.48. The firm size is measured by the natural logarithm of the total assets, and it has an average of 15.20 with a standard deviation of 1.35, indicating that there was a relatively wide range of firm sizes between 12.50 and 18.50. The leverage ratio stands at an average of 0.45, suggesting that an average firm finances 45% of its assets through debt, with a moderate standard deviation of 0.18 and ranging between 0.10 to 0.85.

Table 1
Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Cost of Equity (CEC)	0.085	0.021	0.040	0.130
Audit Committee Independence (ACI)	.263	.145	.30	1
CEO Duality (CEOD)	0.16	0.48	0	1
Firm Size (SIZE)	15.20	1.35	12.50	18.50
Leverage (LEV)	0.45	0.18	0.10	0.85
Return on Assets (ROA)	2.25	1.20	0.80	5.50
Market-to-Book Ratio (MTB)	0.065	0.030	-0.01	0.15

ROA reports an average of 2.25%, reflecting firms' average profitability with respect to their total assets, with a standard deviation of 1.20 and a range of 0.80-5.50. This suggests significant variation in the operational efficiency across the sample firms. The last variable is MTB, which has an average of 0.065 with a standard deviation of 0.030; its values oscillate within a range from -0.01 to 0.15. These figures suggest that firms generally have low growth opportunities or market valuation against their book value, while some outliers reflect negative or very low market-to-book ratios.

The correlation matrix in Table 2 has provided several interferences that were important to understand the relationships among the study of the variables: the CEC is inversely correlated with ACI, which is -0.45, meaning that the higher the audit committee's independence, the lower the equity cost. This would, therefore, imply that independent audit committees could indeed elevate governance and lower investor risk perceptions. On the contrary, CEC is positively correlated to 0.30 with CEO duality, CEOD, suggesting that firms in which the CEO is also the board chair have higher equity costs, perhaps because of governance concerns. The firm size, SIZE, is negatively correlated with CEC at -0.40, indicating that the larger the firm, the smaller the equity cost, probably because such firms are perceived as more stable and less risky. Similarly, ROA positively relates to CEC with a correlation value of 0.35, indicating that more profitable firms might attract lower required returns. Leverage, LEV is positively related to CEC at 0.25, which evidences that higher levels of debt increase risk and consequently cost of equity. Finally, MTB stands at -0.50, which is negatively associated with CEC. A high MTB ratio implies that a firm enjoys growth opportunities or market valuation in excess of its book value. Its CEC is therefore low, reflecting the investor confidence in such firms. These relationships point out the importance of corporate governance, financial structure, and firm-specific characteristics for the determination of the cost of equity capital.

Table 2
Correlation Matrix

Variable	CEC	ACI	CEOD	SIZE	ROA	LEV	MTB
CEC	1.000	-0.45	0.30	-0.40	0.35	0.25	-0.50
ACI	-0.45	1.000	-0.20	0.30	-0.25	0.10	0.40
CEOD	0.30	-0.20	1.000	-0.10	0.25	0.15	-0.30
SIZE	-0.40	0.30	-0.10	1.000	-0.35	0.40	0.50
ROA	0.35	-0.25	0.25	-0.35	1.000	-0.10	-0.20
LEV	0.25	0.10	0.15	0.40	-0.10	1.000	0.30
MTB	-0.50	0.40	-0.30	0.50	-0.20	0.30	1.000

Table 3 reports the results of regressions along three models to investigate the relationship between ACI and CEC. Model 1 is a base model, in which each of the key independent variables is considered individually. Audit Committee Independence (ACI) has a significant negative impact on CEC (−0.085, $p < 0.01$), suggesting that the higher status of audit committee independence diminishes the cost of equity. CEO Duality (CEOD) positively influences CEC significantly (0.045, $p < 0.01$), which indicates that companies with CEO duality-the very same individual operating as Chief Executive Officer and board chair-tend to have higher costs of equity, possibly because perceived governance weaknesses set in when such situations take effect. Furthermore, Firm Size (SIZE) bears a negative coefficient (-0.030, $p < 0.01$), reflecting that larger firms are inclined to have lower costs of equity, likely due to their perceived stability and lower risk. ROA also presents a negative and significant influence with CEC (−0.090, $p < 0.01$), indicating that firms with more profitability have a lower cost of equity capital.

Table 3
Regression Results

Variables	Model 1: CEC (Baseline)	Model 2: CEC + Interaction	Model 3: CEC (Fixed Effects)
Audit Committee Independence (ACI)	-0.085** (-4.20)	-0.070** (-3.50)	-0.065** (-3.30)
CEO Duality (CEOD)	0.045** (3.50)	0.050** (3.90)	0.055** (4.00)
Firm Size (SIZE)	-0.030** (-3.00)	-0.025** (-2.70)	-0.020** (-2.50)
Return on Assets (ROA)	-0.090** (-4.10)	-0.085** (-4.00)	-0.080** (-3.90)
Leverage (LEV)	0.065** (3.80)	0.060** (3.60)	0.055 (0.67)
Market-to-Book Ratio (MTB)	0.008 (1.10)	0.006 (0.90)	0.005 (0.80)
ACI × CEOD (Interaction)	---	0.025* (2.10)	0.030* (2.20)
Constant	0.150** (5.00)	0.140** (4.80)	0.135** (4.70)
Observations	420	420	420
R-squared	0.23	0.28	0.29

Model 2 introduces the interaction term between Audit Committee Independence and Chief Executive Officer Duality. The interaction term is significant, at (0.025 and $p < 0.05$), suggesting that the effect of audit committee independence on the cost of equity is moderated by Chief Executive Officer Duality. This means that in firms where there is a chief executive officer duality, the impact of an independent audit committee on reducing equity costs becomes even more profound. However, the coefficient for CEO Duality increases slightly to 0.050 but is still positive and significant, meaning that the direct effect of CEO duality on the cost of equity is still high. Other variables such as Firm Size, Return on Assets, and Leverage retained their significance in this model, hence reinforcing the robustness of the results. Finally, Model 3 introduces fixed effects to control for unobserved firm heterogeneity. The results indicate that the significance of the main variables does not vary significantly.

Discussion of Findings

In the category of firms with CEO duality type 0, where the CEO is not the board chairman, we found a strong signaling effect for the independence of the audit committee, where the negative relationship between the independence of the ACI and CEC is significant after accounting for the effect of country-level factors. In this category of firms, with implications consistent with those of organization theory, the AC members play a significant role as an effective monitoring mechanism which reduces agney costs and improves the financial reporting practice ultimately leading to reduced CEC. However, in the category of firms with CEO duality type 1, where the CEO holds both positions of CEO and chairman, we found evidence demonstrating the lack of a significant relationship between the independence of the AC and CEC. Consistent with the predictions of agency theory, one would expect that CEOs may have the ability to reduce oversight of AC members and hamper the attainment of effective decision-making authority of the audit committees. In companies with CEO duality, the difficulties of obtaining highly independent audit committees and the interpersonal relationships between members could hamper the committee's effectiveness.

Audit committees are a key tool in protecting the rights and benefits of investors, as they play an essential role in maintaining the credibility of financial information, based on which the financial markets operate. Through the need for quality financial and non-financial reports, the AC is expected to play a certain role in influencing the CEC for companies. An independent AC is expected to monitor information management by company management, to reduce conflicts of interest between shareholders and management. For this study, two methods are used to measure the cost of capital.

Based on the above, and in terms of task specialization, a dualistic CEO, with combined tasks, can have the opposite effect on the company, which does not necessarily have to be positive. Among other things, the leadership of such a CEO is perceived as risky. Therefore, there is a need for additional mechanisms to mitigate the negative impact of such leadership and maintain the agency's simple alignment in the organization.

Conclusion and Implications

This research endeavors to study the relationship between audit committee independence and chief executive officer duality with the cost of equity capital, using a sample of firms listed in Jordan. The results indicate that audit committee independence

exerts a significant negative influence on the cost of equity, supporting the fact that independent audit committees contribute to good governance and reduce investor perceptions of risk. However, CEO duality is positively associated with the cost of equity, suggesting that firms whose CEO holds the board chair have higher equity costs, perhaps due to perceptions of potentially ineffective governance. In addition, the interaction between audit committee independence and CEO duality indicates that the governance effect of independent audit committees is more effective in firms with CEO duality.

The analysis also elicits that firm size, profitability, as captured by ROA, and leverage are determinants of the cost of equity; however, leverage loses significance when the fixed effects are incorporated. These findings give weight to corporate governance structures in influencing financial performance and perceived risk by investors. Results also tend to indicate that while traditional governance mechanisms such as audit committee independence matter, the effectiveness of some of these mechanisms is contingent upon the broader governance structure, especially in firms with CEO duality.

The results of this study have several practical and policy implications. First, regulators and policymakers should stress the importance of audit committee independence as a means to enhance corporate governance practices and lower CEC for companies. Considering the role of CEO duality on the cost of equity is significant, companies could also revisit the issues of separating the posts of CEO and board chair to enhance governance and reduce investor fears about managerial dominance. In the context of practical implications, the study has shown that for practitioners concerned with corporate governance or investors' analysts, a firm's leadership structure may significantly influence equity cost. Therefore, investors consider such firms as more risky to invest in and, hence, may demand a higher return on equity than others. Companies having an independent audit committee can reduce their equity cost by disseminating signals of better governance transparency. Such a study could be further extended by future research that investigates how other governance structures interact with firm-specific characteristics across different institutional settings to provide an in-depth understanding of the dynamics underlying corporate governance and financial performance.

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