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# THE LINK BETWEEN EARNINGS MANAGEMENT AND COST OF EQUITY CAPITAL: THE MODERATING EFFECT OF AUDIT QUALITY

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## ABSTRACT

*The present study aims to examine whether audit quality moderates the relationship between earnings management and the cost of capital. Specifically, it investigates how variations in audit quality influence the effect of earnings management on capital costs. The analysis focuses on a sample of 30 banks listed on the Tunisian Stock Exchange (BVMT) over the period 2016–2022. Using the Generalized Method of Moments (GMM), the results reveal that earnings management exerts a positive effect on the cost of equity capital. Furthermore, firms audited by high-quality auditors tend to experience lower capital costs. The findings from the moderation analysis confirm that effective auditing mitigates the adverse impact of earnings management on capital costs. Overall, the study suggests that investors place greater confidence in reports issued by reputable auditors, even when firms engage in earnings management, as these audits contribute to reducing the cost of equity capital.*

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**KEYWORDS:** Earning Management, Audit Quality, Cost of Equity Capital, GMM.

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## 1. INTRODUCTION

The cost of equity capital is a fundamental concept in financial literature, playing a pivotal role in corporate financing and investment decisions. It ensures the availability of adequate financial resources, facilitates the calculation of financing costs, and reflects the relationship between risk and return associated with firms' financing choices (Pham et al., 2012; Salehi et al., 2020). According to Dhaliwal et al. (2011), the cost of capital represents the rate of return required by investors as compensation for bearing risk. When investment risk is perceived to be high, investors demand higher expected returns. Consequently, a higher cost of equity capital can constrain firms' growth opportunities and investment capacity. To enhance firm value, companies therefore seek to reduce their cost of equity capital, as a lower cost signals reduced perceived risk and strengthens investor confidence. However, empirical evidence suggests that corporate financing costs have shown an increasing trend over time (Kiswanto & Fitriani, 2019).

Earnings management is often used opportunistically by managers to influence reported financial performance. Accounting information plays a central role in shaping capital market responses to firm performance (Bhattacharya et al., 2013). As a key input in investment decision-making, reported earnings can significantly affect investor perceptions. Managers may engage in earnings management to present more favorable financial results and attract investors; however, rational investors typically respond by demanding a higher risk premium to compensate for increased agency risk, thereby raising the firm's cost of capital (Utami & Pernamasari, 2020).

Kim and Sohn (2013) argue that earnings management reduces the informativeness and reliability of reported earnings, increasing perceived uncertainty in the market. As a result, investors require higher returns to compensate for the additional information risk, leading to an increase in the cost of equity capital. Empirical studies generally support this argument, showing that earnings management is associated with higher equity financing costs (Kiswanto & Fitriani, 2019; Utami & Pernamasari, 2020; O'Callaghan et al., 2018). However, some studies (e.g., Meini & Siregar, 2014; Febrininta & Siregar, 2014) report no significant relationship, suggesting that the association may be context-dependent and influenced by other moderating factors.

From an agency theory perspective, audit quality represents a key governance mechanism for

mitigating conflicts of interest between managers and shareholders. High-quality auditors serve as effective monitors of financial reporting practices, thereby enhancing the credibility and reliability of accounting information and providing positive signals to the market (Houque et al., 2017). Strong audit assurance improves managerial accountability and reduces information risk by increasing the transparency and trustworthiness of financial statements (Pham et al., 2020; Salehi et al., 2017).

Empirical evidence largely supports these arguments. Setiawan and Daljono (2014) find that Indonesian manufacturing firms audited by Big Four audit firms experience lower costs of equity capital. Similarly, Ningsih and Ariani (2016) and Houque et al. (2017) document a negative association between audit quality and cost of capital. However, other studies (e.g., Wiyadi et al., 2017) report insignificant effects, indicating that the impact of audit quality on financing costs remains an open empirical question.

This study is motivated by several considerations. First, as highlighted by Beyer et al. (2019), earnings management continues to be a central topic in accounting research due to its implications for financial reporting quality and capital market outcomes. Second, by incorporating audit quality as a moderating variable, this study extends the literature by examining whether audit quality influences the relationship between earnings management and the cost of equity capital. The inconsistent findings in prior research suggest that moderating mechanisms, such as audit quality, may help explain these divergent empirical results.

The remainder of this paper is organized as follows. Section 2 presents the literature review and hypothesis development. Section 3 describes the research methodology. Section 4 discusses the empirical results and analysis. Finally, Section 5 concludes the study and provides implications and recommendations.

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 2.1. *Relationship Between Earnings Management and Cost of Equity Capital*

Investors require clear and reliable earnings information to make informed financial decisions (Utami & Pernamasari, 2020). Given the importance of earnings data in capital markets, managers may have incentives to manipulate or distort reported profits in order to present a more favorable picture of firm performance. Due to managers' superior access to timely and detailed internal information, a

condition of information asymmetry arises between managers and external stakeholders (Meini & Siregar, 2014), which can facilitate opportunistic behavior in the form of earnings management driven by managerial self-interest. Such practices are often used to align reported earnings with internal targets or external benchmarks, thereby influencing investor perceptions of firm performance.

However, rational investors are aware of agency problems and the possibility of earnings manipulation. As a result, they adjust their expectations by demanding a higher required rate of return as compensation for increased information and agency risk (Utami & Pernamasari, 2020). Kim and Sohn (2013) further argue that earnings management reduces the quality, credibility, and informativeness of reported earnings. This decline in financial reporting quality increases perceived uncertainty in capital markets, leading investors to require a higher risk premium, which ultimately increases the cost of equity capital.

Empirical evidence supports this theoretical argument. Meini and Siregar (2014) and Kiswanto and Fitriani (2019) find a positive association between earnings management and the cost of capital in Indonesian firms. Similarly, O'Callaghan et al. (2018) report that higher levels of earnings manipulation are associated with increased financing costs, reflecting investors' heightened risk perceptions. Firms characterized by greater earnings volatility or more aggressive accounting practices are generally perceived as riskier, leading investors to demand higher expected returns to compensate for the additional uncertainty. Based on this theoretical reasoning and empirical evidence, the following hypothesis is proposed:

**H1: The cost of equity capital is positively influenced by earnings management.**

## ***2.2. Relationship Between Audit Quality and Cost of Equity Capital***

Qualified auditors on a company's payroll can serve as a strong monitoring system for management and help provide positive signals to the market. Qualified auditors are also thought to play an important role in reducing conflicts between organizations. A dependable financial report certified by a qualified auditor may increase management accountability and serve as a useful tool for employees to monitor management tasks (Ningsih and Ariani, 2016). According to previous research, high audit quality increases investors' trust in financial reports published by external auditors (Alawaqleh et al., 2021).

Investors will value these firms for reducing information asymmetry and acting as a warning system, resulting in greater oversight of the direction (Houque et al., 2017). Strict-governance businesses with a good track record will voluntarily turn to qualified verifiers to maintain their good reputation and demonstrate that they have nothing to hide. This criterion will appeal to investors because they believe the company is low risk, implying that the required rate of return will be modest. As a result, the cost of the equity capital supported by the company will be low.

According to a study conducted by Setiawan and Daljono (2014), companies audited by Big Four affiliated accounting firms had lower capital costs. Better audit quality increases the transparency of a company's financial statements and public disclosures, which leads to investors rating a company's risk as low and, as a result, lowering the required rate of return. Houque et al., (2017) research findings support this conclusion, demonstrating that audit quality increases capital equity costs. As a result, the hypothesis is as follows:

**H2: The quality of the audit has a negative impact on the cost of equity capital.**

## ***2.3. Relationship Between Earnings Management, Audit Quality and Cost of Equity Capital***

According to agency theory, external verifiers serve as essential monitoring mechanisms that help align the interests of managers and shareholders. One of the most prominent external corporate governance mechanisms is the use of independent external auditors. Engaging a qualified external auditor provides two major advantages: it mitigates earnings management practices and reduces information asymmetry between management and stakeholders (Alzoubi, 2018).

Auditors affiliated with the Big Four firms are particularly recognized for maintaining high audit quality because they possess: (1) a larger and more diverse client base; (2) substantial resources to support the auditing process—such as recruitment, training, and advanced technology; and (3) strong incentives to safeguard their professional reputation and avoid potential losses resulting from audit failures or regulatory sanctions (Rusmin, 2010). Moreover, financial statements certified by highly qualified auditors are generally perceived as more accurate, transparent, and reliable, which enhances the credibility of financial information and limits managerial discretion in earnings management. Consequently, the cost of capital faced by these firms

tends to be lower due to increased investor confidence and reduced perceived risk.

**H3: The effectiveness of the audit enables the favorable impact of earning management on the cost of capital equity.**

### 3. METHODOLOGY

#### 3.1. Data And Sample Selection

The study's sample consists of 30 banks listed on the Tunisian Stock Exchange. The data source is the annual financial reports of banks for the period 2016 to 2022. The banking sector was chosen because of its economic importance, high regulatory oversight, and information sensitivity, which make it an ideal context for examining the effects of earnings management and audit quality. Moreover, banks' resilience during economic downturns and their critical role in financial intermediation justify their selection as the focus of this study. Regarding the sample size of 30 banks, we acknowledge that this relatively limited sample may affect the generalizability of the findings. However, the sample is determined by data availability and the focus on listed Saudi banks over the study period consistent with prior studies using similar institutional samples (e.g., Aladwey, 2026).

#### 3.2. Definition And Variable Measurement

The independent variable focuses on accrual-based earnings management measures. Following Dechow et al. (1995), we employ discretionary accruals derived from the cross-sectional Modified Jones model as a proxy for accrual earnings management. This approach is widely used in accounting and finance literature as it provides a more refined separation between non-discretionary (normal) accruals driven by firm fundamentals and discretionary accruals that may reflect managerial discretion in financial reporting. Discretionary accruals are defined as the difference between total accruals and expected (non-discretionary) accruals. Total accruals are computed as earnings before extraordinary items and discontinued operations minus operating cash flows.

**The expected level of accruals is estimated using the modified Jones (1991) model, as proposed by Dechow et al. (1995), specified as follows:**

$$\frac{Accruals_{i,t}}{TA_{i,t-1}} = \alpha_0 + \beta_1 * \frac{1}{TA_{i,t-1}} + \beta_2 * \frac{\Delta SR_{i,t}}{TA_{i,t-1}} + \beta_3 * \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (1)$$

**Where:**

TA<sub>i,t</sub> = total accruals for firm i in year t, measured as earnings before extraordinary items and discontinued operations minus operating cash flows; TA<sub>i,t-1</sub> = total assets at the end of year t-1 for firm i; ΔSR<sub>i,t</sub> = change in sales revenue from year t-1 to year t; PPE<sub>i,t</sub> = gross property, plant, and equipment for firm i in year t; ε<sub>i,t</sub> = error term capturing discretionary (abnormal) accruals.

We conduct the estimation on a cross-sectional basis for each industry-year to account for industry-specific economic conditions and heterogeneity in accrual processes. The residuals from this regression (ε<sub>i,t</sub>) represent discretionary accruals and are used as our measure of accrual-based earnings management (EM). Higher absolute values of these residuals indicate a greater extent of earnings management through accrual manipulation.

Regarding the cost of equity capital, we rely on the Ohlson (1995) valuation framework, which links a firm's market value to expected abnormal future earnings.

**In line with this model, the cost of equity is inferred from market-based using the following formula:**

$$r = (B_t + X_{t+1} - P_t) / (P_t) \quad (2)$$

**Where:**

P<sub>t</sub>: Share price in period t

B<sub>t</sub>: Book value per share for period t

X<sub>t+1</sub>: Earnings per share in period t + 1

r: Cost of equity capital

Earnings per share for the next year (X<sub>t + 1</sub>) is estimated using random walk model.

$$E(X_{t+1}) = X_t + d \quad (3)$$

**Where:**

E(X<sub>t + 1</sub>): Estimated earnings per share in period t + 1

X<sub>t</sub>: Earnings per share in period t

d: Drift Term (average earnings per share for 5 years)

**The Generalized Moment Method regression (GMM) analysis method was used in this study to estimate the following equation:**

$$CEC = a + \beta_1 EM + \beta_2 AQ + \beta_3 EM\_AQ + \beta_4 LEV + \beta_5 SIZE + \varepsilon_t \quad (4)$$

**Where:**

CEC: Cost of equity capital

α: Constant

β: Regression coefficient

EM: Earnings management

AQ: Audit quality

LEV: Leverage

SIZE: Firm size

ε: Error term

**Table 1: Variables Descriptions.**

Variables	Definitions	Sources
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CEC	Cost of equity capital: equity to total assets	Annual reports
EM	Earnings management: earnings per share	Annual reports
AQ	Audit quality: 1 if audited by Big four, 0 otherwise	Annual reports
LEV	Leverage: Total debt divided by total assets in percentage	Annual reports
Firm Size	Firm size: Logarithm of total assets.	Annual reports

## 4. RESULTS AND DISCUSSIONS

### 4.1. Descriptive Statistics

Our dataset consists of 210 firm-year observations. Table 1 presents the descriptive statistics for all study variables, including the minimum, maximum, mean, and standard deviation values. The average cost of equity capital is positive, indicating that firms in the sample operate in an environment associated with a required return by investors that reflects perceived risk levels in the sector. Similarly, the positive mean value of earnings management suggests that firms, on average, engage in discretionary accrual practices, reflecting the presence of active earnings management behavior within the sample.

As shown in Table 1, approximately 77% of the sampled firms are audited by one of the Big Four auditing firms, while the remaining 23% are audited

by other external auditors. This distribution indicates a strong reliance on high-quality auditors within the sample. Taken together, the descriptive evidence suggests that although earnings management practices are present across firms, the cost of equity capital remains relatively moderate, which may reflect investor confidence in the credibility and monitoring role of Big Four auditors and the perceived quality of financial reporting.

Regarding the control variables, leverage shows considerable dispersion, with a minimum value of -0.703, a maximum of 89.708, a mean of 4.932, and a standard deviation of 13.793. This wide range indicates substantial heterogeneity in firms' capital structures within the sample. Firm size also varies across observations, ranging from -0.429 to 8.348, with a mean of 2.816 and a standard deviation of 3.703, suggesting a moderately diverse distribution of firm scale among the sampled companies.

*Table 2: Descriptive Statistics.*

Variable	Obs	Mean	Std. Dev	Min	Max
CEC	210	0.664	0.162	0.226	1.208
EM	210	0.210	3.020	-10.329	30.046
EM_AQ	210	0.263	2.929	-0.741	30.046
AQ	210	0.771	0.420	0	1
LEV	210	4.932	13.793	-0.703	89.708
SIZE	210	2.816	3.703	-0.429	8.348

Note: CEC: Cost of Equity Capital, EM: Earnings Management, AQ: Audit Quality, LEV: Leverage, Size: Firm Size.

Source: Author's Work

### 4.2. Pearson Correlation Matrix

Table 3 presents the correlation matrix for the study variables. The correlations among the independent variables are all below 0.6, indicating that multicollinearity is not a concern in this analysis. These results are consistent with the outcomes of the multicollinearity diagnostic tests. The results reveal a significant positive relationship between earnings management and the cost of equity capital, suggesting that the market perceives earnings manipulation negatively, prompting investors to demand higher returns as compensation for increased risk. Conversely, there is a significant negative association between audit quality and the cost of equity capital, implying that firms audited by high-quality auditors benefit from enhanced financial information credibility, which reduces

perceived risk and, consequently, the cost of capital.

Furthermore, audit quality is negatively correlated with earnings management, indicating that the presence of competent and reputable auditors constrains opportunistic financial reporting behavior. This relationship highlights the disciplining role of external audit quality in improving financial transparency. The joint negative relationship among audit quality, earnings management, and the cost of equity capital suggests that firms engaging high-quality auditors not only reduce earnings manipulation but also enjoy more favorable financing conditions. Overall, these findings imply that investors place substantial trust in the assurance provided by reputable auditors when assessing firms' risk and required rates of return.

*Table 3: Pearson Correlation Matrix.*

	CEC	EM	EM_AQ	AQ	LEV	SIZE
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CEC	1.000					
EM	0.113	1.000				
EM_AQ	-0.084	0.471	1.000			
AQ	-0.312	0.079	0.0491	1.000		
LEV	0.151	-0.024	-0.031	0.183	1.000	
SIZE	0.094	-0.090	-0.070	-0.108	-0.1880	1.000

Source: Author's Work

### 4.3. Results And Discussion of Findings

The results reported in Table 4 provide support for the study's three hypotheses. First, earnings management is positively and significantly associated with the cost of equity capital ( $\beta = 0.0824$ ,  $p < 0.01$ ), indicating that higher levels of discretionary accruals reduce the credibility and reliability of reported financial information. This increase in information risk leads investors to perceive greater uncertainty, thereby demanding a higher required rate of return. This finding is consistent with prior empirical evidence (Meini & Siregar, 2014; O'Callaghan et al., 2018; Kiswanto & Fitriani, 2019).

Second, audit quality exhibits a negative and statistically significant effect on the cost of equity ( $\beta = -0.0867$ ,  $p < 0.01$ ). This suggests that firms audited by high-quality auditors—particularly Big Four audit firms—benefit from enhanced financial reporting credibility, which reduces information asymmetry and perceived investment risk. As a result, investors require a lower return on equity capital. This result is consistent with prior studies emphasizing the role of audit quality in

strengthening financial reporting reliability and reducing capital costs (Houqe et al., 2017; Setiawan & Daljono, 2014).

Third, the interaction term between earnings management and audit quality is negative and statistically significant ( $\beta = -0.0704$ ,  $p < 0.01$ ), indicating that audit quality moderates and weakens the positive effect of earnings management on the cost of equity. In other words, the presence of high-quality auditing reduces the adverse impact of earnings management on investor perceptions. Even when earnings management exists, firms audited by Big Four auditors are perceived as more credible, thereby lowering the associated risk premium demanded by investors (Alzoubi, 2018; Rusmin, 2010; Salehi et al., 2017; Pham et al., 2020).

Regarding the control variables, firm size is found to have a negative and significant effect on the cost of equity, suggesting that larger firms benefit from lower perceived risk and better market reputation. In contrast, leverage does not exhibit a statistically significant effect. Overall, these findings highlight the critical roles of earnings quality and audit quality in shaping investor risk perceptions and determining firms' cost of equity capital.

Table 4: Results Of Regression Analysis.

Variables	CEC
L.CEC	0.812*** (42.52)
EM	0.0824*** (-91.43)
EM_AQ	-0.0704*** (74.09)
AQ	-0.0867*** (6.89)
LEV	-0.0000882 (-0.12)
SIZE	-0.00838*** (-7.28)
_CONS	0.0816*** (14.29)
N	210

Note: Dependent Variable: CEC: Cost of Equity Capital, EM: Earnings Management, AQ: Audit Quality, LEV: Leverage, Size: Firm Size.  
N: obs number.  
t statistics in parentheses: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Source: Author's Work.

## 5. CONCLUSION AND MANAGERIAL IMPLICATIONS

This study demonstrates that earnings management increases the cost of equity capital, while high-quality audits significantly mitigate this

effect, highlighting the critical role of auditors in enhancing financial transparency and strengthening investor confidence. The moderation results further indicate that investors place considerable reliance on the credibility of audited financial statements, even in the presence of earnings management practices. As a result, perceived information risk is reduced, leading to a lower risk premium and a decrease in firms' cost of equity capital. These findings have important practical implications for both regulators and audit practitioners. Regulators can enhance the effectiveness of financial reporting by strengthening auditing standards and emphasizing the importance of high-quality audit practices in reducing information risk and improving the reliability of capital market information. In doing so, they contribute to more efficient capital allocation and improved investor protection. For audit firms, the results highlight that delivering high-quality audit services is not only essential for compliance but also adds tangible value to firms by reducing their financing costs and enhancing their reputation in capital markets. Similarly, for firms, engaging high-quality auditors—particularly reputable audit providers—can serve as a strategic mechanism to reduce information risk, improve financial statement

credibility, and ultimately lower the cost of external financing.

The study is subject to several limitations. First, it focuses exclusively on the banking sector, which may limit the generalizability of the findings to other industries with different regulatory and operational characteristics. Second, the relatively small sample size and country-specific context may restrict external validity. Third, the explanatory power of the model is modest, suggesting that additional determinants of the cost of equity capital may not be fully captured. Future research is encouraged to address these limitations by extending the analysis to other industries and larger cross-country samples. In addition, future studies may incorporate other important determinants such as information asymmetry (Indarti *et al.*, 2019; Kiswanto & Fitriani, 2019) and corporate governance mechanisms (Salehi *et al.*, 2020; Utami & Pernamasari, 2020). Furthermore, alternative proxies for audit quality, including audit tenure and audit fees (Houque *et al.*, 2017), could be employed to provide a more comprehensive understanding of the channels through which audit quality influences the cost of capital.

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**Author Contributions:** For research articles with several authors, a short paragraph specifying their individual contributions must be provided. The following statements should be used “Conceptualization, F.Z. and L.A.; methodology, H.Y.; software, J.M.; validation, W.A., H.Y. and W.A.; formal analysis, F.Z.; investigation, L.A.; resources, L.A.; data curation, J.M.; writing – original draft preparation, F.Z.; writing – review and editing, W.A.; visualization, L.A.; supervision, H.Y.; project administration, L.A.; funding acquisition, J.M. All authors have read and agreed to the published version of the manuscript.”

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