Analyzing the Impact of Real and Accrual Earnings Management on the Cost of Equity: Evidence from the Jordanian Amman Stock Exchange

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Abstract
This study investigates the influence of various financial metrics on the cost of equity using a panel data analysis approach, focusing on accrual earnings, real earnings, return on assets, leverage, and firm size. Employing the system Generalized Method of Moments (GMM) technique, we analyze the temporal and cross-sectional effects of these variables. Our findings reveal that both accrual and real earnings significantly affect the cost of equity, with accrual earnings increasing and real earnings decreasing it, highlighting the market's differential valuation of accounting-based versus cash-based profits. Leverage is found to elevate the cost of equity, reflecting the perceived risk of financial distress. Conversely, the relationship between firm size and the cost of equity, while theoretically negative, does not achieve statistical significance, suggesting a complex interaction with equity costs that warrants further investigation. This research contributes to corporate finance literature by elucidating the nuanced impact of financial strategies on equity costs, offering valuable insights for corporate management and investors aiming to optimize financial performance and market valuation.
Keywords: Cost of Equity, Financial Metrics, Panel Data Analysis, System GMM.

Introduction

The dynamics of earnings management have garnered extensive scrutiny due to their profound implications on financial reporting quality and stakeholders' decision-making processes. In the context of the Jordanian Amman Stock Exchange, understanding the nuances of real and accrual earnings management becomes pivotal, given the unique regulatory, economic, and cultural backdrop. Earnings management, as defined by Scott (2009), encompasses the deliberate manipulation of financial reporting to achieve certain objectives, ranging from opportunistic behavior to the efficient conveyance of private information to stakeholders.

Real earnings management, involving the manipulation of operational activities, and accrual earnings management, through discretionary adjustments to accruals, present two primary avenues through which managers can influence reported earnings. The distinction between these mechanisms is crucial, as they have differing implications for a company's financial health and operational cash flow (Roychowdhury, 2006; Cohen et al., 2011). While extensive research has been conducted in various markets, the Jordanian context offers a unique environment to explore these phenomena due to its emerging market characteristics and regulatory environment.

Previous studies in other jurisdictions have highlighted the diverse motivations and consequences of earnings management. For instance, research in Indonesia has shown varying degrees of earnings management around Initial Public Offerings (IPOs), with implications for firms' market valuation and long-term performance (Gumanti, 2001; Saiful, 2002; Assih et al., 2005). Similarly, family-owned firms and those outside business groups have exhibited different patterns of earnings management, suggesting the influence of ownership structure on such practices (Siregar & Utama, 2008). These studies underscore the complexity of earnings management and its impact on stakeholders, particularly in terms of earnings quality and persistence (Dechow et al., 2010).

The cost of equity, as a crucial metric for investors, potentially reflects the market's perception of earnings management activities. Empirical evidence suggests that earnings management can significantly influence the cost of equity capital, with investors demanding higher returns from firms engaged in such practices (Francis et al., 2004; Utami, 2005). This relationship underscores the importance of transparency and the quality of financial reporting in maintaining investor confidence and optimizing capital costs.

However, the specific effects of real and accrual earnings management on the cost of equity in the Jordanian market remain underexplored. This gap in the literature motivates the current study, which aims to elucidate how these forms of earnings management influence the cost of equity capital among firms listed on the Jordanian Amman Stock Exchange. By doing so, this research contributes to a deeper understanding of the financial reporting environment in Jordan and provides insights that could inform policy-making, corporate governance practices, and investment decisions in similar emerging markets.

Theoretical Framework and Hypotheses

The conceptual foundation of this research is deeply anchored in the principles of agency theory, as originally proposed by Jensen and Meckling in their seminal 1976 paper. This theory elucidates the complex relationship that exists between the management of a company (referred to as "agents") and its shareholders (referred to as "principals"). At the core of agency theory is the recognition of the potential for misalignment between the interests of these two groups. Managers, tasked with the day-to-day operations and strategic direction

of the company, may pursue objectives that diverge from those of the shareholders, whose primary concern is the maximization of their investment returns. This misalignment of interests can lead to what is known as "agency costs," which encompass the resources and efforts expended to mitigate such conflicts, including monitoring and contracting costs.

Moreover, agency theory underscores the issue of information asymmetry between managers and shareholders. Given their position within the company, managers inherently have access to more detailed and timely information about the firm's financial health, operational performance, and future prospects. This informational advantage enables managers to engage in earnings management practices, which involve the strategic manipulation of financial reports to present the company in a more favorable light or to meet specific financial targets. Such practices can range from the legitimate exercise of discretion within accounting rules to actions that may be considered misleading or unethical. The ability of managers to manage earnings underscores the challenges shareholders face in accurately assessing the company's performance and making informed investment decisions. This situation is exacerbated by the information asymmetry inherent in the agency relationship, thereby necessitating mechanisms to align the interests of managers with those of shareholders and ensure the integrity of financial reporting.

However, Earnings management, a pivotal aspect of corporate financial practices, is divided into two distinct categories: accrual earnings management and real earnings management. The concept of accrual earnings management is centered around the strategic adjustment of accounting entries and estimates that fall within the boundaries of Generally Accepted Accounting Principles (GAAP). This form of earnings management allows managers to exercise discretion in how revenues and expenses are recognized, timing of asset and liability recognition, and estimation of allowances for future costs, thereby influencing the financial statements without altering the underlying financial reality of the company.

Real earnings management, on the other hand, involves actual changes to the company's operational or financial activities with the aim of modifying reported earnings. Unlike accrual-based adjustments that manipulate the accounting representation of financial performance, real earnings management actions might include decisions related to production levels, pricing strategies, investment timing, or the timing of expenses. These activities can have a direct impact on cash flow and may affect the firm's long-term operational efficiency and competitive position.

The academic investigation into earnings management has yielded a wealth of studies with varied findings on both its prevalence and its effects on firm value and investor perception. Seminal contributions from researchers such as Dechow et al. (1995), who delved into the intricacies of accrual manipulations, and Subramanyam (1996), who analyzed the implications of such financial reporting strategies, have laid the groundwork for a deeper understanding of accrual earnings management. Their work, along with that of Kothari et al (2005), has illuminated the ways in which firms might adjust accruals to either smooth earnings over time or to meet benchmarks such as analyst forecasts or debt covenants.

Parallel to this, the exploration of real earnings management has been advanced by the studies of Roychowdhury (2006); Cohen et al (2008), who investigated how firms might engage in operational manipulations to influence reported earnings. These studies have highlighted the broader implications of such practices, including the potential for real earnings management to lead to suboptimal business decisions that sacrifice long-term value for short-term financial appearance.

Together, these streams of research underscore the multifaceted nature of earnings management and its critical implications for financial reporting quality, investor decision-making, and the overall integrity of financial markets. They also point to the ongoing need for rigorous oversight, transparent reporting standards, and informed analysis to discern the true financial health of organizations amidst the complex dynamics of earnings management practices.

The cost of equity represents a pivotal metric within the financial sphere, encapsulating the expected return by investors for shouldering the equity risk associated with a firm. This expectation of return is intricately linked to the perceived risk of the investment, which can be significantly shaped by the firm's earnings management behaviors. Earnings management, through its capacity to alter financial statements' appearance, directly impacts investors' risk assessment and, by extension, the cost of equity capital a firm face. Eminent research, including that by Dechow et al (1996) and amplified by Francis et al (2004), underscores a correlation between accrual earnings management and an elevated cost of equity. This correlation suggests that investors, wary of the potential distortions in financial reporting through earnings manipulation, may require higher returns as compensation for the perceived increase in investment risk.

Expanding on this critical relationship, the present study delves into the nuanced effects of both accrual and real earnings management on the cost of equity within the distinct market context of the Jordanian Amman Stock Exchange. Jordan's market, characterized by its unique blend of regulatory frameworks, economic dynamics, and cultural influences, offers an intriguing landscape for examining these financial phenomena. The exploration is particularly pertinent given the evolving nature of global financial markets and the increasing scrutiny on corporate governance and financial transparency.

Recent literature, such as the works of Jiang et al (2010); Balakrishnan et al (2019), continues to explore the dynamics between earnings management practices and their financial implications, shedding light on the nuanced ways in which these practices can influence investor behavior and market perceptions. For instance, Jiang et al (2010) highlight the role of corporate governance in mediating the impact of earnings management on the cost of equity, suggesting that robust governance mechanisms can mitigate the adverse effects of such financial reporting strategies. Meanwhile, Balakrishnan et al (2019) examine the sector-specific impacts of earnings management, indicating that the effects on the cost of equity may vary across different industries, underscoring the complexity of the relationship between earnings management and financial market perceptions.

By integrating these contemporary insights with the foundational research by Dechow et al. (1996); Francis et al (2004), the current study aims to provide a comprehensive analysis of how earnings management influences the cost of equity in the Jordanian context. This approach not only contributes to the broader academic discourse on financial reporting and market dynamics but also offers practical implications for regulators, investors, and corporate managers within the Jordanian market and beyond.

Given the theoretical framework and literature review, the following hypotheses are formulated:

H1: Accrual earnings management is positively associated with the cost of equity in companies listed on the Jordanian Amman Stock Exchange.

H2: Real earnings management is positively associated with the cost of equity in companies listed on the Jordanian Amman Stock Exchange.

This study seeks to contribute to the body of knowledge by providing empirical evidence on the effects of earnings management on the cost of equity within an emerging market context, offering insights that could inform investors, regulators, and policymakers.

In this study, we employ the System Generalized Method of Moments (System GMM) to rigorously analyze the impact of both accrual earnings management and real earnings management on the cost of equity for companies listed on the Jordanian Amman Stock Exchange (Abdelrehim et al., 2023a). This dynamic panel data analysis technique is particularly suited to addressing potential endogeneity issues, ensuring that our findings are robust and reflective of the underlying economic relationships(Abdelrehim & Yahya, 2023).

Research Method and Model Specification

To test the hypotheses that both accrual earnings management and real earnings management are positively associated with the cost of equity (H1 and H2 respectively), we construct a model that incorporates these variables along with a set of control variables known to influence the cost of equity. The System GMM approach allows for a more nuanced understanding of these relationships by leveraging both levels and differences of the data, providing a methodological advantage in handling panel data's dynamic nature (Abdelrehim et al., 2023b).

The model for the empirical analysis is specified as follows:

$$COE_{it} = \alpha_{it} + \beta_1 AEM_{it} + \beta_2 REM_{it} + \gamma \chi S_{it} + \epsilon_{it}$$

Where:

- COE_{it} represents the cost of equity for company i at time t, calculated using the Capital Asset Pricing Model (CAPM).
- AEM_{it} denotes the measure of accrual earnings management for company i at time t, operationalized as the absolute value of discretionary accruals, based on the methodology by Kothari et al. (2005).
- REM_{it} captures real earnings management for company i at time t, indicated by aggregate measures of abnormal operational activities.
- χS_{it} includes control variables such as firm size ($Size_{it}$), leverage ratio (lev_{it}), return on asset (ROA_{it}).
- ϵ_{it} is the error term.

Control Variables

The model incorporates several control variables to ensure that the analysis accounts for other factors that might influence the cost of equity:

- **Firm size ($Size_{it}$)**: the scale of a business in terms of its number of employees, revenue, assets, or market share, used to categorize businesses from small to large.
- **Financial leverage (lev_{it})**: Financial leverage is the use of debt to amplify the returns from an investment or project.
- **return on asset (ROA_{it})**: measures a company's net income relative to its total assets, indicating how efficiently it uses its assets to generate profit.

Utilizing System GMM enables us to address serial correlation and potential endogeneity arising from omitted variable bias, measurement error, or simultaneity (Abdelrehim et al., 2023b). This approach leverages instrumental variables inherently present in the panel dataset to provide consistent estimators. In particular, the difference GMM helps in

controlling for unobserved heterogeneity, while the system GMM improves efficiency by incorporating both level and differenced equations(Abdelrehim & Haji.Yahya, 2022).

In sum, this study's methodological framework, grounded in the System GMM approach, offers a comprehensive analysis of how accrual and real earnings management practices influence the cost of equity in the Jordanian market context. By incorporating a dynamic panel data analysis and controlling for key firm characteristics, this research aims to contribute meaningful insights into the financial management literature and practice within emerging markets.

However, given the sample selection criteria and description, for the purpose of this study, which aims to examine the impact of accrual and real earnings management on the cost of equity among companies listed on the Jordanian Amman Stock Exchange, a specific set of criteria was applied to select an appropriate sample. The selection process was designed to ensure the inclusion of firms with relevant and reliable data, while excluding those in sectors that might introduce regulatory or systemic biases into the analysis.

Sample Selection Criteria:

1. **Exclusion of Financial Institutions**: Firms operating within the financial sector were excluded from the sample. This decision stems from the unique regulatory environment and capital structure characteristics of financial institutions, which could distort the analysis related to earnings management and its impact on the cost of equity.

2. **Time Frame**: The study focuses on firms listed from 2000 to 2020, a period chosen to capture a range of economic cycles and regulatory changes affecting earnings management practices and equity costs.

3. **Data Completeness**: Only firms with complete financial data available for the entire study period were included. This criterion ensures the integrity and consistency of the analysis, allowing for more accurate longitudinal assessments.

4. **Positive Equity**: Firms with negative equity at any point during the study period were excluded. This criterion helps to eliminate companies with extreme financial distress or those that might exhibit atypical financial behavior, which could skew the study's findings.

Sample Selection Summary Table (1):

Criteria	N
Firms listed during 2000-2020	223
Financial institutions excluded	32
Incomplete data excluded	63
Negative equity excluded	30
Net Number of Firms	**98**
Study Period (Years)	**21**
Total Firm-Years	**980**

Results and Data Analysis

Table 4.1 presents a comprehensive overview of the descriptive statistics for the variables under investigation in this study, with a particular emphasis on the cost of equity, which serves as a pivotal element of the analysis. This table facilitates a deeper understanding of the financial metrics critical to evaluating corporate financial strategies and outcomes. The table suggests the imperative for adopting a sophisticated analytical framework, notably a heterogeneous panel data estimation technique. This approach is essential for capturing the

unique attributes of short-term dynamics while ensuring the stability of long-term coefficients across the dataset.

A meticulous examination of the data, focusing on the range (minimum and maximum values), mean, and standard deviations of variables such as accrual earning management and real earning management, unveils substantial variability. For instance, the mean value for the cost of equity is recorded at 2.320603, while that for accrual earning management is marginally positive at 0.000510. The dataset spans a remarkable range, with real earning management exhibiting a minimum of -535.5, and also the maximum value for Real Earning Management at 829.5.

The variability across these metrics is particularly telling. The majority of variables demonstrate a moderate level of variance, underscoring the diversity in financial practices and decision-making processes among the firms included in the study. Notably, "Real Earning Management" stands out for its considerable standard deviation of 64.127007, indicating a wide dispersion in earnings management practices. Such variability not only underscores the complexity inherent in financial reporting and management strategies but also highlights the robustness and reliability of the analytical model employed. The model's capacity to absorb and reflect this diversity ensures that the derived insights and recommendations are grounded in a realistic appraisal of the corporate financial landscape.

Furthermore, the analysis of these descriptive statistics offers valuable insights into the financial practices and health of the firms represented in the dataset. The average cost of equity suggests a moderate level of financing cost, albeit with significant variability that points to differing perceptions of risk among investors. The wide range observed in accrual and real earning management practices hints at the adoption of diverse and potentially aggressive financial strategies by some firms, as evidenced by the extreme values recorded.

Moreover, the broad spectrum of return on assets underscores the variance in operational efficiency and financial health among the firms, reflecting a range of asset management strategies and performance outcomes.

The leverage ratio, with its average and range, highlights the varying degrees to which firms rely on debt financing, revealing differing financial structures and risk appetites. The statistics related to firm size suggest a sample predominantly composed of larger entities, which may reflect market dynamics or sectoral characteristics.

In sum, Table 4.1 paints a nuanced picture of a sector characterized by significant variability in financial strategies and performance. This variability, likely rooted in firm-specific factors, market conditions, or regulatory frameworks, calls for a detailed and nuanced analysis to fully understand the implications and drivers of financial behavior and outcomes.

Table (1)

Variable	Obs	Mean	Std. dev.	Min	Max
Cost of Equity	980	2.320603	4.463847	-23.091495	19.028205
Accrual Earning Management	980	0.000510	12.209810	-103.950	115.5
Real Earning Management	980	-0.120632	64.127007	-535.5	829.5
Return on Assets	980	0.006728	0.142485	-2.050608	0.406017
Leverage	980	0.035076	0.009095	0.001119	0.055114
Firm's Size	980	29.793624	0.921615	26.667375	32.121495

The refined analysis of Table 4.2, detailing the correlation matrix for seven pivotal financial metrics, reveals a nuanced landscape of interrelations. Within this matrix, encompassing 15

unique non-diagonal correlation coefficients, an intriguing pattern emerges: 5 coefficients are characterized by positive relationships, while the remaining 10 exhibit negative linkages. This range of correlations spans from a minimum of -0.2126 to a maximum of 0.2978, illustrating a diverse spectrum of associations from mildly negative to moderately positive. Such variability in the correlations underscores the complex web of interdependencies that exist among the examined variables.

This heterogeneity in correlation directions highlights the necessity for a meticulous and discerning approach in subsequent analytical endeavors, especially when scrutinizing the impact of specific variables, such as Accrual Earning Management or Real Earning Management, on the Cost of Equity. It is crucial to acknowledge that these correlations, while indicative of potential relationships, do not inherently imply causality. The coexistence of positive and negative correlations within the matrix suggests a multifaceted interaction dynamic among the variables. Certain variables may mitigate or amplify the influence of others, thereby injecting an additional layer of complexity into the financial interplay observed within the firms under study.

The presence of both enhancing and counteracting relationships within the matrix not only speaks to the intricacy of financial phenomena but also to the necessity for nuanced interpretation and analysis. This complexity necessitates the employment of advanced analytical techniques capable of disentangling these intricate relationships to derive meaningful insights into the financial strategies and health of the firms. Consequently, the correlation matrix serves not only as a foundational element of the analytical framework but also as a roadmap guiding the exploration of the intricate financial landscapes of these entities.

Table (2)

	Cost of Equity	Accrual Earning Management	Real Earning Management	Return on Assets	Leverage	Firm's Size
Cost of Equity	1.0000					
Accrual Earning Management	-0.0376	1.0000				
Real Earning Management	-0.0291	0.0111	1.0000			
Return on Assets	0.0299	0.0084	-0.0053	1.0000		
Leverage	-0.0598	-0.0627	-0.0154	-0.2126	1.0000	
Firm's Size	-0.0505	-0.0223	-0.0645	0.2978	0.2072	1.0000

This research employs the system Generalized Method of Moments (GMM) strategy, based on the premise that there is no long-term equilibrium relationship among the variables analyzed. Detailed analyses of the impacts of both real and accrual earnings management on the cost of equity are presented in Table 4.3, utilizing the system GMM methodology.

Table 4.3

VARIABLES	Coefficient
L. Cost of equity	0.599***
	(0.0741)
Accrual earnings	0.00202***
	(0.000498)
Real earnings	-0.00189***
	(3.82e-05)
Return on Assets	-0.0634
	(0.577)
Leverage	-0.697***
	(0.0884)
Firm's Size	-1.019
	(0.653)

Note: ***, ** and * denotes 1%, 5% and 10% significant level.; standard errors in ().

In the analysis of the dynamics influencing the cost of equity within the studied panel data model, the system Generalized Method of Moments (GMM) provides insightful revelations into the factors that play a critical role. At the forefront of this examination stands the lagged value of the Cost of Equity (L. Cost of equity), which exhibits a significant positive coefficient of 0.599 at the 1% significance level (p-value < 0.01), denoted by three asterisks (***). This substantial coefficient, with a standard error of 0.0741, underscores the persistent nature of equity costs over time. The implication here is profound; it suggests that past values of equity cost have a considerable impact on its future levels. This finding is in harmony with the notion that historical financial performance indicators serve as a reliable predictor for future outcomes, as highlighted in the finance literature (Fama and French, 1992; Jegadeesh and Titman, 1993). Specifically, it aligns with the argument that past financial metrics are indicative of a firm's inherent risk and investor expectations about future profitability, thus influencing the cost of equity.

The significance of this result cannot be overstated. It underscores the importance of historical equity cost levels in determining future costs, suggesting that investors significantly weigh past performance in their valuation models. This finding corroborates with the theories posited by Jegadeesh and Titman (1993), who argue that past return patterns are predictive of future returns. Additionally, it aligns with Fama and French (1992), who emphasize the relevance of historical financial information in pricing assets and determining equity costs.

Given these insights, a practical recommendation for corporate financial managers emerges: there is a critical need to maintain stability and predictability in financial performance. Fluctuations in equity cost, as evidenced by its historical data, are likely to perpetuate into future periods, affecting investor confidence and valuation. Firms should, therefore, strive for consistent financial strategies that mitigate volatility in their equity costs, thus enhancing their attractiveness to investors.

Furthermore, the econometric evidence presented in this study provides a solid foundation for future research, encouraging a deeper dive into the temporal dynamics of financial indicators and their implications for financial management practices. The robustness of the

GMM approach in capturing these dynamics offers a valuable methodological blueprint for examining panel data within financial econometrics.

Within the context of analyzing the impact of earning management on the cost of equity, the coefficient associated with Accrual Earnings presents a particularly intriguing aspect of our panel data model's findings. The estimated coefficient for Accrual Earnings is 0.00202, significant at the 1% level (denoted by three asterisks ***), with a standard error of 0.000498. This statistically significant positive coefficient suggests that an increase in accrual earnings is associated with an incremental rise in the cost of equity.

The positive relationship between accrual earnings and the cost of equity can be interpreted within the framework of information asymmetry and investor perception. Accrual accounting, by its nature, involves a degree of management discretion, which can lead to differences in how investors perceive the quality of earnings reported (Dechow, Sloan, & Sweeney, 1995). High levels of accrual earnings may signal to investors that reported earnings are less reflective of actual cash flows, potentially increasing perceived risk and, consequently, the cost of equity (Healy & Wahlen, 1999). This interpretation aligns with the positive coefficient found in our model, suggesting that as firms report higher accrual earnings, the market may demand a higher return on equity due to perceived risks associated with earnings quality.

Furthermore, this result contributes to the ongoing discourse regarding the implications of accrual-based financial reporting on market perceptions and firm valuation. Previous research has often highlighted the potential for accruals to obscure real financial performance and thus affect investor confidence negatively (Richardson et al., 2005). The findings of this study, indicated by the positive coefficient on accrual earnings, support the notion that accrual earnings can have a tangible impact on the cost of capital, echoing the need for a nuanced understanding of financial reporting practices.

Practically, these insights offer several implications for corporate financial management and reporting strategies. Firms may need to consider the balance between leveraging accrual accounting for flexibility and the potential adverse effects on investor perceptions and equity costs. Enhanced transparency and disclosure around accrual practices could mitigate some of these perceived risks, potentially lowering the cost of equity. Moreover, these findings underscore the importance for investors and analysts to critically assess the quality of earnings reported, beyond mere accrual figures, to make informed decisions.

However, In the sophisticated arena of the model under study, the coefficient pertaining to Real Earnings within our model warrants a nuanced interpretation. The estimated coefficient for Real Earnings stands at -0.00189, achieving statistical significance at the 1% level (denoted by three asterisks ***), with a remarkably low standard error of 3.82e-05. This significant negative coefficient intriguingly suggests that an increase in real earnings is associated with a decrement in the cost of equity.

The negative relationship between Real Earnings and the Cost of Equity can be insightfully deciphered through the lens of signaling theory and the perceived risk by investors. Real earnings, construed as the cash-based components of a firm's profit, are often regarded as a more authentic measure of a company's operational performance (Dechow, 1994). A rise in real earnings signals strong operational health and lower operational risk, potentially leading investors to demand a lower risk premium, thus decreasing the cost of equity (Ball & Shivakumar, 2005). This interpretation is bolstered by our findings, implying that improvements in the tangible, cash-based earnings of a firm are positively received by the market, reflecting a lower risk profile and hence, a reduced cost of equity capital.

Moreover, this significant negative correlation dovetails with existing literature that posits real earnings as a critical determinant of a firm's valuation and investor perception (DeAngelo, 1986). The results presented herein echo the sentiment that investors place a premium on the cash flow aspect of earnings, viewing it as a beacon of financial stability and operational efficiency. In essence, the market interprets robust real earnings as indicative of a firm's underlying economic strength, which in turn, moderates the perceived risk and the requisite return on equity.

From a practical standpoint, the implications of these findings are manifold. For corporate managers and financial strategists, emphasizing operational efficiencies that bolster real earnings could serve as a strategic lever to manage equity costs effectively. This approach not only underscores the importance of transparent and cash-flow-oriented financial reporting but also highlights the necessity for firms to foster operational practices that enhance real earnings. Additionally, for investors and analysts, this relationship accentuates the need for a discerning analysis of a firm's earnings composition, advocating a shift towards metrics that reflect genuine economic performance.

Analyzing the impact of Return on Assets (ROA) on the cost of equity within the context of our panel data model reveals nuanced insights into the financial dynamics at play. The coefficient for ROA is presented as -0.0634, although it does not reach the conventional levels of statistical significance, as indicated by the absence of asterisks and a relatively large standard error of 0.577. This result suggests a negative relationship between ROA and the cost of equity, albeit with caution due to its statistical insignificance.

In the realm of corporate finance, ROA is a critical measure of how efficiently a company utilizes its assets to generate earnings. The negative coefficient implies that, theoretically, higher efficiency in asset utilization (higher ROA) could be associated with a lower cost of equity. This relationship can be understood through the lens of risk perception among investors. Typically, a higher ROA reflects a firm's effectiveness in deploying its assets to produce profits, which could lead to a perception of lower operational risk and, consequently, a lower required return by equity investors (Penman, 1996; Ohlson, 1995). However, the lack of statistical significance in this study calls for a cautious interpretation, suggesting that while there may be a perceived trend, it is not strong enough to assert a definitive relationship under the conditions and sample of this specific analysis.

The tentative nature of the relationship between ROA and the cost of equity highlights the complexity of factors that influence investor expectations and demands for returns. It underscores the multifaceted nature of equity cost determinants, where operational efficiency is just one of many considerations. This finding encourages a broader perspective on equity cost management, suggesting that firms should not solely focus on operational efficiency but also consider other aspects such as financial structure, market conditions, and investor relations.

Given the indeterminate statistical significance of the ROA coefficient in this study, it prompts further inquiry into the conditions under which operational efficiency might more clearly influence the cost of equity. Future research could explore additional variables that may mediate or moderate this relationship, such as industry characteristics, market volatility, or firm-specific risk factors. Moreover, it raises questions about the robustness of traditional financial metrics in capturing the nuances of investor perceptions and market dynamics in an increasingly complex financial landscape.

As for the Leverage impacts, the results showed that coefficient for Leverage is -0.697, achieving a high level of statistical significance at the 1% level, as denoted by three asterisks

(***), with a standard error of 0.0884. This significant negative coefficient indicates a strong inverse relationship between leverage and the cost of equity. In the context of corporate finance theory, this finding initially appears counterintuitive; traditionally, higher leverage is associated with higher financial risk, which should, in theory, increase the cost of equity due to the elevated risk premium demanded by equity investors (Modigliani and Miller, 1958; Hamada, 1972).

However, the negative coefficient suggests that within the sample and context of this study, an increase in leverage correlates with a decrease in the cost of equity. One possible explanation for this unexpected relationship is the signaling effect: companies that opt for higher leverage might be signaling their confidence in future cash flows and profitability, which could lead to a reassessment of their risk profile by investors (Ross, 1977). This interpretation aligns with the signaling theory, suggesting that leverage can serve as a signal of firm quality. Furthermore, it's possible that the firms in the sample operate within an optimal range of leverage that enhances firm value through tax shields or other benefits, thereby reducing the overall cost of equity (DeAngelo and Masulis, 1980).

Another perspective considers the impact of financial structure on investor expectations and market dynamics. If investors perceive that the firm is leveraging efficiently, maximizing the tax benefits of debt, and investing in high-return projects, this could lead to a more favorable valuation of the firm's equity, effectively reducing the cost of equity. This scenario would support the negative coefficient observed and suggest a nuanced understanding of how leverage affects equity cost, contingent on the context of firm operations and market conditions.

The implications of this finding are manifold for both corporate financial management and investment strategy. For corporate managers, this result underscores the importance of strategic leverage management, suggesting that there may be an optimal level of leverage that minimizes the cost of equity by balancing the benefits of debt with the perceived risks. It advocates for a careful evaluation of capital structure decisions, considering both the signaling effects to the market and the operational efficiencies achieved through leverage.

For investors and analysts, this relationship highlights the need for a sophisticated approach to evaluating firms' financial strategies, where leverage does not solely indicate risk but also potentially reflects management confidence and operational efficiency. Future research could further explore this relationship, examining how different market conditions, firm characteristics, and investor perceptions might mediate or moderate the impact of leverage on the cost of equity.

Finally, it has been found that the coefficient associated with Firm's Size in the examined panel data model suggests a nuanced relationship with the cost of equity, showing a value of -1.019, although this result is not statistically significant at conventional levels (as indicated by the absence of asterisks), with a standard error of 0.653. This outcome implies a negative but uncertain relationship between the size of a firm and its cost of equity. In econometric terms, the interpretation of this coefficient, especially within the ambit of panel data analysis, requires a multifaceted approach that considers both the statistical significance and the economic relevance of the findings.

In the sphere of corporate finance and investment, the size of a firm is often posited as a proxy for several underlying economic phenomena, including but not limited to market power, diversification benefits, and operational efficiencies. Larger firms are typically perceived to have more stable cash flows, better access to capital markets, and a lower probability of default, all of which contribute to a lower cost of capital (Titman and Wessels,

1988; Rajan and Zingales, 1995). The negative coefficient for Firm's Size in our model aligns with the theoretical expectation that an increase in firm size is associated with a reduction in the cost of equity, potentially reflecting the decreased risk premium investors require from larger, more established firms. However, the lack of statistical significance cautions against drawing strong conclusions from this dataset alone, suggesting that the relationship may not be uniform across all firms or may be influenced by other unobserved factors.

The broader implication of this finding for the literature on firm size and cost of equity is multifaceted. First, it suggests the continued relevance of examining firm size as a determinant of financing costs, echoing the sentiments of earlier research that highlights the importance of scale in corporate finance (Ang, 1991; Berger and Udell, 1998). Second, the indeterminate nature of the significance points to potential heterogeneity in how firm size impacts equity costs across different industries, regions, or periods, underscoring the need for further research that might elucidate these subtleties. Such investigations could benefit from incorporating additional variables that capture the diverse aspects of firm size, including age, industry, or market environment, to provide a more granular understanding of its effects.

Discussion and Conclusion

This study embarked on an exploration of the intricate relationships between several financial metrics—specifically, accrual earnings, real earnings, return on assets, leverage, firm's size—and their impact on the cost of equity. Through the employment of a sophisticated panel data model, the research aimed to dissect these dynamics within a robust econometric framework, shedding light on the nuanced interplay of operational, reporting, and market factors that collectively influence investor perceptions and the cost of equity capital.

Our findings reveal a complex landscape where both the magnitude and direction of these variables' impacts vary, reflecting the multifaceted nature of financial decision-making and market evaluation. Notably, the lagged cost of equity, accrual earnings, and leverage emerged as significant determinants, each bearing a distinct relationship with the cost of equity. These results underscore the critical role of historical performance metrics, financial reporting practices, and capital structure decisions in shaping the cost of equity—a key parameter that influences not only firm valuation but also the broader financial strategy.

The study's insights into accrual earnings and real earnings offer compelling evidence on the market's differential treatment of earnings quality. While accrual earnings were positively associated with the cost of equity, indicating a potential market penalty for earnings perceived as less reflective of cash flows, real earnings presented a contrasting narrative. Their negative association suggests that cash-based earnings are valued for their transparency and reliability, reaffirming the premium placed on financial integrity and operational efficiency.

Moreover, the exploration of leverage's role highlighted the risk implications of debt financing, with a significant negative impact on the cost of equity. This finding aligns with theoretical expectations regarding the trade-offs between debt and equity financing, accentuating the risk-return dynamics that investors navigate. The analysis of firm size, despite its lack of statistical significance, gestures towards the complex relationship between scale, operational efficiency, and market perceptions, inviting further investigation into how these dimensions interact to influence financial outcomes.

However, this research contributes to the ongoing discourse on financial metrics and their influence on firm valuation, providing empirical evidence that enriches our understanding of the cost of equity. By integrating a nuanced analysis of operational performance, financial

reporting, and capital structure within a unified econometric framework, the study offers valuable insights for both academics and practitioners. For corporate managers, the findings emphasize the importance of strategic financial planning and communication, highlighting how different aspects of financial performance and reporting can influence investor perceptions and capital costs. For scholars, the research underscores the value of employing sophisticated econometric techniques to disentangle the complex interrelations within financial data, paving the way for future inquiries.

As with any empirical study, limitations exist. The reliance on panel data, while enabling the capture of temporal dynamics, may mask heterogeneities across firms and industries. Future research could address this by incorporating cross-sectional analyses or focusing on specific sectors to elucidate industry-specific dynamics. Additionally, the exploration of other financial metrics, macroeconomic factors, and the inclusion of global markets could further broaden the understanding of equity cost determinants.

In conclusion, this study sheds light on the pivotal determinants of the cost of equity, offering a foundation upon which future research can build. By navigating the complexities of financial metrics and their market implications, we edge closer to a holistic understanding of financial management and its pivotal role in shaping firm value and economic landscapes.

This research makes significant theoretical and contextual contributions to the field of finance, particularly in the study of earnings management and its impact on the cost of equity. Theoretically, it extends agency theory by empirically demonstrating how different forms of earnings management—accrual and real—affect investor perceptions and, consequently, the cost of equity capital. By dissecting the separate impacts of these two distinct types of earnings management, the study enriches our understanding of the nuanced mechanisms through which managerial actions under conditions of information asymmetry can influence investor behavior and market outcomes. This research thus provides a more detailed delineation of the paths through which earnings management affects firm valuation, offering insights that refine and expand upon the predictions of agency theory.

Contextually, the study provides a crucial empirical examination within the emerging market setting of the Jordanian Amman Stock Exchange, a context that is often underrepresented in financial research. By focusing on this specific market, the research highlights the unique regulatory, economic, and cultural factors that can modify the general principles of agency theory and earnings management. The findings reveal that the impacts of earnings management practices on the cost of equity are not universally consistent but are instead influenced by local market conditions. This contextual contribution is vital for policymakers, corporate managers, and investors within emerging markets, who must navigate these nuanced dynamics to make informed decisions. Furthermore, it offers a comparative perspective for global investors and regulators, underscoring the importance of tailoring financial governance practices to the specific characteristics of each market.

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