

THE IMPACT OF EARNINGS MANAGEMENT ON CAPITAL STRUCTURE DECISION-MAKING FROM THE PERSPECTIVE OF ACCOUNTING INFORMATION QUALITY: A CASE STUDY OF LONGI GREEN ENERGY TECHNOLOGY CO., LTD*

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Abstract

This study took LONGi Green Energy Technology Co., Ltd. as a case to explore how earnings management (including through accounting estimates, operating activities, income smoothing, and target-oriented approaches) affects capital structure decision-making via accounting information quality. Based on financial theories and empirical findings, an integrated analytical model was constructed and rigorously tested, analyzing the distinct impacts of four types of earnings management on capital structure decisions. Employing a quantitative approach with 400 questionnaires (82.0% valid response rate), the results revealed significant effects of all four types on the company's capital structure decisions. this study proposes strategic recommendations for LONGi Green Energy Technology Co., Ltd. and related enterprises from the perspective of enhancing accounting information quality to optimize capital structure decision-making:

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(1) Strengthen the identification and monitoring mechanisms for earnings management; (2) Optimize the design of financial management and decision-making processes; (3) Enhance external information communication and transparency management.

Keywords: Two-Factor Theory, Taobao company, Employee job satisfaction, Influencing factors

Introduction

Financial decision-making, with capital structure decisions at its core, is vital for enterprise survival and development, relying heavily on high-quality accounting information. Earnings management, a common corporate practice where executives adjust earnings via accounting policies or operational activities, can impact accounting information quality. While moderate earnings management can smooth profits and enhance market image, excessive manipulation distorts information, misleading stakeholders and affecting capital structure decisions. Earnings management comes in various forms, including through accounting estimates, operating activities, income smoothing, and target-oriented adjustments, each with distinct impacts on accounting information and capital structure decisions (Graham et al., 2024).

This study focuses on LONGi Green Energy Technology Co., Ltd., a leading solar technology firm facing challenges in capital operations and financial decision-making amid fierce competition. By examining LONGi's earnings management behaviors, the research explores their influence on accounting information quality and capital structure decisions, aiming to uncover intrinsic connections and mechanisms. The findings offer theoretical support and practical guidance for LONGi to optimize financial decision-making, enhance corporate value, and provide insights for similar enterprises, enriching research on earnings management and capital structure decisions with significant theoretical and

practical implications (Tucker & Zarowin, 2020).

Objective

- 1) To explore the impact of earnings management through accounting estimates on LONGi's capital structure decision-making.
- 2) To explore the impact of earnings management through operating activities on LONGi's capital structure decision-making.
- 3) To explore the impact of income smoothing management on LONGi's capital structure decision-making.
- 4) To explore the impact of target-oriented earnings management on LONGi's capital structure decision-making.

Hypotheses

- H1: Earnings management through accounting estimates has a significant positive impact on LONGi 's capital structure decision-making.
- H2: Earnings management through operating activities has a significant positive impact on LONGi 's capital structure decision-making.
- H3: Income smoothing management has a significant positive impact on LONGi 's capital structure decision-making.
- H4: Target-oriented earnings management has a significant positive impact on LONGi's capital structure decision-making.

Literatures Review

Capital Structure Theory

Capital structure, the ratio of debt to equity capital in a company, has been extensively studied since 1958, leading to four mainstream theories: MM Theory, which evolved from asserting corporate value's independence from capital structure under strict assumptions to recognizing debt's tax shield

benefits; Trade-Off Theory, which balances these benefits against financial distress costs; Agency Cost Theory, which considers the costs and benefits of debt in mitigating agency conflicts; and Pecking Order Theory, which prioritizes internal financing, followed by debt, and finally equity due to information asymmetry. These theories, accounting for real-world conditions like transaction costs, agency costs, and taxes, underscore the practical significance of pursuing an optimal capital structure, providing a theoretical basis for policies like "deleveraging" and guiding the calculation of excessive debt indicators (Myers and Majluf, 2021).

Accounting Information Quality

The concept of accounting information quality has evolved from early emphasis on relevance and reliability by the Financial Accounting Standards Board to a broader, multidimensional construct incorporating comparability, verifiability, understandability, faithfulness, transparency, and adaptability to modern demands like big data and sustainability reporting, as highlighted by subsequent research and the International Accounting Standards Board; however, debates persist regarding measurable proxies, with ongoing scholarly discourse stressing the need for definitions that balance theoretical rigor with practical applicability across diverse economic contexts (Healy & Wahlen, 2019).

Earnings Management

Earnings management, defined by scholars as managerial discretion in financial reporting to mislead stakeholders or influence contractual outcomes, is viewed both opportunistically as deliberate manipulation for gain and neutrally as a tool for signaling private information or smoothing earnings volatility; while managerial discretion is central to its practice, ethical concerns persist over its impact on financial statement reliability and investor trust, prompting regulatory efforts, and highlighting a tension between its informational benefits and distortive risks, necessitating further research into contextual factors influencing its value-enhancing or deceptive nature (Cohen et al., 2018). Walker (2023)

suggested that certain forms of earnings management, such as income smoothing, may enhance the informativeness of earnings by reducing short-term volatility, thereby benefiting long-term investors.

Capital Structure Decision-Making

Capital structure decision-making, a core corporate finance topic, has evolved from Modigliani and Miller's irrelevance theorem under perfect markets to frameworks incorporating real-world frictions: the Trade-off Theory balances debt's tax benefits against financial distress costs, the Pecking Order Theory prioritizes internal financing over debt and equity due to information asymmetry, Agency Cost Theory examines conflicts between stakeholders influencing leverage, and Behavioral Finance introduces managerial biases and market timing, such as equity issuance during high stock prices, as factors causing deviations from optimal leverage, reflecting a complex interplay of rational and behavioral influences on firms' financing choices (Harris & Raviv, 2021).

Earnings Management through Accounting Estimates

Earnings management through accounting estimates involves managerial discretion within GAAP to influence reported earnings via subjective adjustments like bad debt provisions or depreciation methods, enabling firms to smooth results, meet targets, or avoid covenant violations; while motivated by contractual incentives and capital market pressures, its ethical and economic impacts are debated—some argue moderate smoothing enhances reporting quality, whereas excessive use erodes transparency and investor trust, prompting regulatory efforts like Sarbanes-Oxley to curb opportunistic behavior while balancing flexibility in financial reporting (Healy & Wahlen, 2019). Watts and Zimmerman (2020) argued that contractual incentives, such as executive compensation tied to earnings targets, drive managers to manipulate estimates opportunistically.

Earnings Management through Operating Activities

Earnings management through operating activities involves firms deliberately altering real business decisions—such as aggressive sales promotions, cutting R&D expenditures, or timing asset sales—to meet short-term earnings targets, differing from accrual-based manipulation by directly impacting cash flows and economic performance; motivated by regulatory scrutiny and capital market pressures, this practice is often driven by executives sacrificing long-term value for short-term gains, leading to negative consequences like lower future performance and higher stock price crash risk, while its detection faces methodological challenges due to difficulties distinguishing normal business fluctuations from manipulation, prompting ongoing refinements in measurement approaches (Zang, 2022). Dechow et al. (2023) highlighted how capital market pressures, particularly the need to meet or beat analyst forecasts, create strong incentives for real earnings management, even when such actions may be value-destroying in the long run.

Income Smoothing Management

Income smoothing management involves executives strategically reducing earnings volatility through accounting or operational decisions to present stable financial performance, with theoretical explanations ranging from agency theory's risk reduction benefits (Demski, 2018) to concerns about obscuring true performance (Kirschenheiter & Melumad, 2022); measurement methods have evolved from simple variance analysis to sophisticated econometric models distinguishing discretionary components, while its economic consequences remain debated—moderate smoothing may enhance informativeness and valuation (Tucker & Zarowin, 2020), whereas aggressive practices correlate with lower earnings persistence (Barth et al., 2019); regulatory efforts like Sarbanes-Oxley have constrained some methods, yet firms adapt through operational adjustments or subtler accrual tactics, ensuring its persistence in corporate reporting (Zang, 2022).

Target-Oriented Earnings Management

Target-oriented earnings management involves firms deliberately manipulating financial reporting to meet specific benchmarks (e.g., avoiding losses or achieving analyst forecasts), driven by prospect theory's emphasis on threshold salience and psychological reference points (Kahneman & Tversky, 2019); empirical methods have evolved from distributional analyses to sophisticated accrual and real activities models (Roychowdhury, 2016), revealing a paradox where short-term market rewards for benchmark achievement (Bartov et al., 2012) often mask long-term costs like suboptimal investments and higher crash risk (Graham et al., 2024); regulatory responses, such as Sarbanes-Oxley, have shifted manipulation toward less detectable real activities (Cohen et al., 2018), while emerging research highlights cognitive and organizational factors—like internal target-setting and managerial communication—that complicate its detection and understanding (Dichev et al., 2023).

Methodology

The study combines theoretical analysis and a case study of LONGi Green Energy Technology Co., Ltd., constructing a framework linking earnings management behaviors (through accounting estimates, operating activities, income smoothing, and target-oriented strategies) to capital structure decisions via accounting information quality. Variables are defined to measure these behaviors and their impact on financing strategies. LONGi was chosen for its industry representativeness, typical financing behavior, and research value. Data were collected via structured questionnaires distributed randomly to 400 employees, with 328 valid responses analyzed using SPSS and AMOS. Quantitative methods, including descriptive statistics, reliability tests, correlation analysis, and multiple regression, were employed to assess relationships and model explanatory power.

The study population included all current employees at LONGi's Xi'an headquarters across departments like finance, strategy, operations, and R&D. Simple random sampling was used, selecting 400 participants from the company's employee roster to ensure equal selection probability. The sample size was determined based on statistical power requirements for structural equation modeling, feasibility constraints, and a desired 95% confidence level with $\pm 5\%$ sampling error, ensuring robust and representative insights into earnings management and capital structure decision-making at LONGi.

Results

Reliability and Validity Analysis of the Scale

Table 1 Variable Reliability Test

Variables	Cronbach's Alpha	CR	Reliability Assessment
Earnings Management through Accounting Estimates	0.811	0.857	Good
Earnings Management through Operating Activities	0.795	0.847	Good
Income Smoothing Management	0.803	0.825	Good
Target-Oriented Earnings Management	0.814	0.835	Good
Capital Structure Decision-Making	0.822	0.841	Good

All variables in this study exhibited Cronbach's α coefficients exceeding the critical threshold of 0.7, and the composite reliability (CR) values were all above 0.8. These results indicate high internal consistency reliability across all scales in the questionnaire, confirming the stability and reliability of the

measurement tools.

Table 2 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.974
Bartlett's Test of Sphericity	Approx. Chi-Square	2012.604
	df	35
	Sig.	0.000

The KMO measure (0.974) and Bartlett's Test of Sphericity ($p < 0.001$) confirm the sample data's high quality and strong structural validity, providing a robust statistical foundation for factor analysis and validating the research design's theoretical and measurement effectiveness.

Correlation Analysis

Table 3 Correlation Between Variables

	Earnings Management Through Accounting Estimates	Earnings Management Through Operating Activities	Income Smoothing Management	Target-Oriented Earnings Management	Capital Structure Decision-Making
Earnings Management Through Accounting Estimates	1	.720	.734	.808	.755
Earnings Management Through		1	.725	.838	.717

Operating Activities					
Income Smoothing Management			.712	.817	.707
Target-Oriented Earnings Management			1	.825	.718
Capital Structure Decision-Making					1

Table 3 reveals significant positive correlations among the five variables, with capital structure decision-making showing the strongest link to earnings management through accounting estimates ($r = 0.755$) and the weakest to income smoothing management ($r = 0.707$). High intercorrelations (all > 0.80) among earnings management dimensions, particularly target-oriented earnings management, suggest strong synergy, with the latter potentially serving as a central driver influencing other earnings management behaviors and their collective impact on capital structure decisions.

Multiple Regression Analysis

Table 4 Multiple Regression Analysis

Item	B	Beta	t	Sig.	VIF	F	Durbin- Watson
C	2.401	-	8.80	0.000		54.01	1.511
Earnings Management Through Accounting Estimates	0.434	0.466	3.82	0.000	1.12		
Earnings Management Through Operating Activities	0.324	0.335	3.74	0.000	1.15		
Income Smoothing Management	0.574	0.572	6.56	0.000	1.17		
Target-Oriented Earnings Management	0.531	0.535	6.74	0.000	1.11		
R Square	0.643						
Adjusted R Square	0.651						

Table 4 shows that the multiple regression model explains 65.1% of the variation in capital structure decision-making (adjusted $R^2 = 0.651$), with all four earnings management behaviors significantly and positively influencing it ($p < 0.001$). Income smoothing management exerts the strongest impact (Beta = 0.572), followed by target-oriented, accounting estimate-based, and operating activity-based earnings management, indicating that profit-stabilizing behaviors are most critical for financing decisions at LONGi Green Energy Technology Co., Ltd. The absence of multicollinearity ($VIF < 1.17$) and residual autocorrelation (Durbin-Watson ≈ 1.511) confirm the model's robustness, supporting hypotheses

H1–H4 and highlighting income smoothing as a key mechanism linking earnings management to capital structure amid industry cyclicity.

Therefore, according to the results of the data analysis, earnings management through accounting estimates has a significant positive impact on LONGi's capital structure decision-making, which supports Hypothesis 1. Earnings management through operating activities has a significant positive impact on LONGi's capital structure decision-making, which supports Hypothesis 2. Income smoothing management has a significant positive impact on LONGi's capital structure decision-making, which supports Hypothesis 3. Target-oriented earnings management has a significant positive impact on LONGi's capital structure decision-making, which supports Hypothesis 4.

Discussion

Reliability and Validity of the Measurement Model

The reliability and validity analyses confirm that the measurement instruments employed in this study are statistically robust and theoretically sound. All constructs demonstrated Cronbach's alpha coefficients above the recommended threshold of 0.70, indicating strong internal consistency reliability. According to Hair et al. (2022), values above 0.70 suggest that scale items consistently measure the same latent concept. Similarly, composite reliability (CR) values exceeding 0.80 further validate construct stability and precision, reinforcing that the questionnaire items reliably capture earnings management behaviors and capital structure decision-making.

Construct validity was supported by the Kaiser–Meyer–Olkin (KMO) statistic of 0.974, which substantially exceeds the minimum acceptable level of 0.60 and is considered “excellent” for factor analysis (Kaiser, 1974). Additionally, Bartlett's Test of Sphericity was statistically significant ($p < 0.001$), indicating sufficient inter-item correlations for meaningful factor extraction. Together, these

results confirm both convergent validity and sampling adequacy, ensuring that subsequent correlation and regression analyses rest on a strong psychometric foundation.

Correlation Analysis

The correlation results reveal significant positive relationships among all earnings management dimensions and capital structure decision-making. These findings suggest that different forms of earnings management do not operate independently but rather function synergistically. Notably, target-oriented earnings management exhibited particularly strong correlations with other earnings management behaviors, indicating that managerial efforts to meet performance benchmarks may drive broader financial reporting strategies.

The strong positive association between earnings management through accounting estimates and capital structure decisions ($r = 0.755$) suggests that discretionary accounting choices are strategically used to influence external perceptions of financial stability. This aligns with the theoretical arguments of Healy and Wahlen (1999), who posit that managers manipulate accounting numbers to shape stakeholder expectations and reduce financing constraints.

Furthermore, income smoothing displayed consistent correlations across variables. Income smoothing theory argues that managers reduce earnings volatility to lower perceived risk, thereby improving creditworthiness and financing opportunities (Fudenberg & Tirole, 1995). The present findings empirically support this view, suggesting that smoother earnings streams facilitate more favorable capital structure decisions.

Regression Analysis and Hypothesis Testing

The multiple regression model explains a substantial proportion of variance in capital structure decision-making (adjusted $R^2 = 0.651$), indicating that earnings management behaviors collectively serve as strong predictors of

financing strategies. This explanatory power is considered high in behavioral and financial research contexts (Cohen et al., 2010).

All four earnings management dimensions significantly and positively affect capital structure decisions, thereby supporting Hypotheses H1–H4. Among these predictors, income smoothing management exerted the strongest influence ($\beta = 0.572$), followed by target-oriented earnings management ($\beta = 0.535$), earnings management through accounting estimates ($\beta = 0.466$), and operating activities ($\beta = 0.335$). This hierarchy suggests that stabilizing reported profits is more influential for financing decisions than purely operational or accounting manipulations.

These results are consistent with signaling theory, which proposes that firms attempt to present stable financial performance to reduce information asymmetry between management and external investors (Spence, 1973). By smoothing earnings, companies can signal lower risk and enhance their ability to secure debt or equity financing at favorable terms.

Importantly, diagnostic statistics confirm model robustness. Variance Inflation Factors ($VIF < 1.17$) indicate no multicollinearity concerns, while the Durbin–Watson statistic (≈ 1.511) suggests independence of residuals. These indicators strengthen confidence in the reliability of the estimated coefficients.

Organizational Implications

In the context of **LONGi Green Energy Technology Co., Ltd.**, a firm operating in the highly cyclical renewable energy industry, financial stability is critical for maintaining investor confidence and securing long-term capital. The findings indicate that management strategically uses earnings management—particularly income smoothing and target-oriented approaches—to reduce volatility and enhance financing outcomes. This behavior may reflect industry characteristics such as fluctuating demand, policy uncertainty, and high capital

intensity, which make consistent earnings performance especially valuable for capital acquisition.

Theoretical Contributions

This study contributes to the earnings management and capital structure literature in three ways:

First, it empirically integrates multiple dimensions of earnings management rather than examining them separately, demonstrating their combined influence on financing decisions.

Second, it highlights income smoothing as the dominant mechanism linking reporting behavior and capital structure strategy.

Third, it provides firm-level evidence supporting agency and signaling theories, confirming that financial reporting practices serve strategic financing purposes.

Recommendations

Strengthen the Identification and Monitoring Mechanisms for Earnings Management

Enterprises should establish a systematic framework for identifying and evaluating earnings management, using multi-dimensional indicators to monitor adjustments in accounting estimates and abnormal operating activities, particularly in areas involving subjective judgment. The internal audit department should incorporate earnings management risk assessments into annual audits, reviewing management's judgments and transaction substance, while IT tools like AI-based systems can enhance detection efficiency through real-time data analysis. The board and audit committee should oversee earnings management by regularly reviewing reports, evaluating internal control effectiveness, and demanding explanations for significant behaviors to ensure alignment with accounting quality objectives.

Optimize the Design of Financial Management and Decision-Making Processes

Financial processes should differentiate between legitimate earnings management and opportunistic practices by setting clear standards for accounting policy changes and approval hierarchies, balancing reporting flexibility with long-term value. Capital structure decisions should incorporate sensitivity analyses of earnings management impacts, ensuring debt and equity timing reflect objective earnings quality assessments. Performance metrics should discourage short-termism by extending evaluation cycles, integrating non-financial indicators, and preventing behaviors that harm core competitiveness. A risk framework should systematically assess and address high-risk earnings management, with improvement plans for identified issues.

Enhance External Information Communication and Transparency Management

Management should engage regularly with capital market participants through detailed briefings that explain the operational logic behind financial performance, moving beyond superficial figures to clarify accounting policy choices. Financial disclosures should transparently detail the basis for significant accounting estimates, sensitivity analyses, and retrospective adjustments, while management discussions should openly address earnings management policies and their effects. Tailored communication strategies should address creditors' focus on debt capacity, investors' emphasis on long-term value, and regulators' compliance concerns. Governance disclosures, such as audit committee oversight opinions and independent director evaluations, can build stakeholder trust, fostering a stable external environment for capital structure decisions.

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