Quản trị lợi nhuận trong giai đoạn khó khăn tài chính: Nghiên cứu tại các công ty niêm yết trên thị trường chứng khoán Việt Nam

TÓM TẮT

Nghiên cứu này phân tích ảnh hưởng của tình trạng khó khăn tài chính đến quản trị lợi nhuận của các doanh nghiệp niêm yết trên thị trường chứng khoán Việt Nam. Bằng việc kết hợp đồng thời hai hướng tiếp cận quản trị lợi nhuận dồn tích và quản trị lợi nhuận thực tế, nghiên cứu đánh giá phản ứng của nhà quản lý trước áp lực tài chính. Bộ dữ liệu dạng bảng động được xử lý bằng phương pháp GMM hai bước, nhằm khắc phục hiện tượng nội sinh và tự tương quan thường gặp trong mô hình tài chính. Kết quả cho thấy, các doanh nghiệp có tình hình tài chính ổn định có xu hướng thực hiện quản trị lợi nhuận thông qua các điều chỉnh kế toán dồn tích, trong khi những doanh nghiệp chịu áp lực tài chính thường lựa chọn thay đổi hoạt động kinh doanh thực tế, chẳng hạn như điều chỉnh sản xuất, chính sách bán hàng hoặc kiểm soát chi phí ngắn hạn. Nghiên cứu cung cấp bằng chứng thực nghiệm mới về mối quan hệ giữa khó khăn tài chính và quản trị lợi nhuận, đồng thời gợi mở hàm ý chính sách trong việc nâng cao tính minh bạch thông tin và hiệu quả giám sát tài chính của doanh nghiệp tại Việt Nam.

Từ khóa (Keywords): *Quản trị lợi nhuận, Khó khăn tài chính, Dồn tích kế toán, Quản trị lợi nhuận thực tế.*

Earnings Management during Financial Distress: Evidence from Listed Companies on the Vietnamese Stock Market

ABSTRACT

Earnings management under financial distress has attracted increasing attention in accounting and finance research, particularly within emerging markets where institutional quality and information transparency remain limited. This study investigates how financial distress shapes earnings management behavior among firms listed on the Vietnamese stock market. By integrating both accrual based and real activity manipulation approaches, the analysis offers a comprehensive view of managerial strategies in response to financial pressure. Using a dynamic panel dataset of 575 listed firms over the period 2005–2022 and employing a two step System Generalized Method of Moments (GMM) estimator, the study effectively mitigates endogeneity, heteroskedasticity, and autocorrelation concerns. The empirical results reveal a distinct substitution effect: financially sound firms are more inclined to engage in accrual based earnings adjustments, whereas financially distressed firms rely primarily on real activity manipulation through abnormal production, sales, or discretionary expense decisions to maintain short term profitability and signal stability to external stakeholders. These findings contribute to the literature by providing new evidence from an emerging market context, illustrating that earnings management under financial distress represents a strategic adaptation rather than a purely opportunistic act. The study further offers practical implications for policymakers, auditors, and investors in enhancing financial transparency, improving corporate governance mechanisms, and mitigating the risks associated with earnings manipulation in Vietnam's capital market.

Keywords: *Earnings Management; Financial Distress; Accrual based Management; Real Activity Manipulation; Vietnam.*

1. INTRODUCTION

In an increasingly volatile global economy characterized by uncertainty and heightened financial risk, firms are continually exposed to severe pressures on liquidity and performance. Among these challenges, financial distress stands out as one of the most critical threats to corporate survival, directly undermining firms' ability to sustain operations and pursue long term growth. When experiencing financial distress, firms often struggle to maintain liquidity, meet debt obligations, and preserve operational efficiency leading to declining firm value, deteriorating creditworthiness, and erosion of investor and stakeholder confidence.

Under such adverse financial conditions, financial reporting the primary mechanism through which firms communicate performance and position may be influenced by managerial discretion. One key manifestation of this discretion is earnings management, defined as the intentional use of accounting judgment or real operating decisions to influence reported earnings. The motives behind earnings management are multifaceted, ranging from the pursuit of earnings targets and the maintenance of a stable financial image to the avoidance of debt covenant violations. As liquidity constraints intensify or credit quality weakens, managers face stronger incentives to manipulate earnings as a means of signaling financial stability or securing external financing.

In developed economies, earnings management under financial distress has been extensively examined and is often interpreted as a strategic response to financial constraints rather than merely opportunistic or fraudulent behavior. In contrast, in emerging markets such as Vietnam where financial systems remain bank dependent, institutional frameworks are underdeveloped, and information transparency is limited earnings management practices are more complex and less easily detectable. Many Vietnamese firms rely heavily on short term bank borrowing, while access to long term capital through equity markets remains restricted. Consequently, the pressure to maintain liquidity and project favorable financial health can drive managers to adjust earnings to achieve short term financial objectives, particularly during periods of economic instability or credit tightening.

Earnings management is not a uniform process but typically occurs through two distinct mechanisms: accrual based earnings management

and real earnings management. These approaches differ in execution, cost implications, and associated risks. Accrual based manipulation relies on accounting estimates and recognition choices, which are often more visible to auditors and regulators. Conversely, real activities manipulation such as altering production levels, sales timing, or discretionary spending affects actual business operations and is more difficult to detect, though it may have adverse long term consequences for firm performance.

While international research has provided substantial insights into the interplay between financial distress and earnings management, evidence from Vietnam remains limited. Existing domestic studies largely focus on measuring the general extent of earnings management without differentiating between its two mechanisms or addressing endogeneity concerns. Yet, earnings management can influence a firm's financial condition, creating potential feedback effects that bias estimation results. To overcome these limitations, the present study adopts a dynamic panel data approach and applies the two step System Generalized Method of Moments (GMM) estimator to capture the dynamic nature of earnings management and mitigate endogeneity problems.

This research has three main objectives. First, it examines the impact of financial distress on the degree of earnings management among firms listed on Vietnam's stock exchanges. Second, it distinguishes between the effects of financial distress on accrual based versus real activity manipulation. Third, it derives policy implications aimed at strengthening financial reporting transparency, corporate governance, and risk supervision within Vietnam's capital markets.

From an academic standpoint, this study deepens the understanding of earnings management under financial constraints in emerging market contexts. By integrating both accrual based and real activity perspectives within a dynamic panel framework, it provides robust and generalizable evidence on how managers respond strategically to financial distress. From a practical perspective, the findings offer meaningful insights for regulators, auditors, and investors seeking to improve the quality of financial disclosure, enhance monitoring mechanisms, and promote sustainable corporate governance in Vietnam.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Theoretical Framework

2.1.1. Agency Theory

Agency theory asserts that the relationship between shareholders (principals) and managers (agents) is inherently characterized by conflicts of interest resulting from information asymmetry between the two parties.[1] When ownership and control are separated, managers may pursue actions that maximize their personal utility such as maintaining job security, reputation, or compensation rather than the overall wealth of shareholders. Under conditions of financial distress, these agency conflicts tend to intensify. Heightened financial pressure increases the likelihood that managers will engage in opportunistic behavior, including manipulating accounting figures or adjusting operational policies, to project a more favorable financial position than actually exists.

Within this context, earnings management emerges as a mechanism through which managers attempt to reconcile personal incentives with contractual and financial constraints. From the perspective of agency theory, such behavior represents a rational response to misaligned interests and monitoring inefficiencies, rather than purely deceptive intent. Consequently, agency theory provides a foundational framework for explaining why firms experiencing financial difficulties are more prone to earnings management, particularly when external oversight and governance mechanisms are weak.

2.1.2. Positive Accounting Theory

Positive Accounting Theory posits that managerial accounting choices are not arbitrary but are systematically influenced by underlying economic incentives and contractual obligations faced by the firm.[2] In this framework, accounting behavior reflects rational responses to institutional and market pressures rather than random decision making. The theory identifies three principal hypotheses that explain the motives behind earnings management.

First, the Bonus Plan Hypothesis suggests that managers are inclined to increase reported earnings to meet performance benchmarks or bonus thresholds that determine their compensation. Second, the Debt Covenant Hypothesis proposes that highly leveraged firms tend to manipulate earnings upward to avoid breaching debt covenants and maintain favorable relations with creditors. Third, the Political Cost Hypothesis posits that large or politically visible

firms may intentionally suppress reported profits to reduce regulatory scrutiny, public criticism, or taxation exposure.

Within the context of this study, the Debt Covenant Hypothesis serves as the primary theoretical foundation. When a firm's financial condition weakens, it faces heightened risks of covenant violations, credit downgrades, or constrained access to external financing. In such circumstances, managers may engage in accounting based or operational adjustments to convey financial stability and preserve lender confidence. Conversely, during debt restructuring negotiations, managers might strategically understate earnings to elicit leniency or concessions from creditors.

Accordingly, the relationship between financial distress and earnings management reflects a dynamic tension between financial constraints and managerial adaptability. Rather than viewing earnings manipulation solely as opportunistic behavior, this perspective interprets it as a strategic response to contractual pressures and market expectations, shaped by the firm's institutional and financial environment.

2.1.3. Earnings Management

Accrual based earnings management refers to the manipulation of accounting estimates and recognition policies to influence reported profits without modifying actual business activities. Typical techniques include accelerating revenue recognition, altering depreciation methods or rates, and adjusting provisions for doubtful accounts or inventory valuations. The defining feature of this approach is that it affects reported earnings through accounting discretion rather than through real economic transactions, thereby altering the appearance but not the substance of firm performance in financial statements.

In contrast, real earnings management involves altering actual operational decisions to achieve targeted earnings outcomes within a given reporting period. Examples include increasing production to reduce fixed costs per unit, curtailing discretionary expenditures such as advertising or R&D, or relaxing credit terms to stimulate short term sales. While these actions may temporarily enhance reported profits, they often impair operating cash flows and diminish long term firm value due to inefficiencies and resource misallocation.

When confronted with financial distress, managers' choice between these two forms of earnings management is shaped by the degree of financial flexibility, implementation costs, and external monitoring intensity. Firms with stronger financial positions typically favor accrual based adjustments, which are easier to execute and less disruptive to real operations. Conversely, liquidity constrained firms facing limited accounting discretion or tighter audit scrutiny are more likely to resort to real activity manipulation to generate immediate earnings improvements and signal financial stability to investors and creditors.

2.2. International Literature Review

A large body of international research documents a positive relationship between financial distress and earnings management, suggesting that as firms experience financial deterioration, managers often inflate reported profits to preserve stakeholder confidence. Evidence from New Zealand, for example, shows that during the global financial crisis, firms increased accounting earnings to reduce creditor scrutiny.[3] Similarly, studies on Spanish small and medium sized enterprises (SMEs) reveal that financially strained firms engaged in accrual based manipulation to strengthen financial indicators and avoid bankruptcy.[4] Empirical findings from China further demonstrate that worsening financial conditions are associated with higher levels of accrual based earnings management, reflecting managerial attempts to sustain liquidity and creditworthiness.[5] Using a cross country dataset of 20 emerging markets,[6] confirm that financial distress significantly intensifies earnings management, regardless of firm size or auditor type, reinforcing the notion that such practices often function as strategic responses to financial pressure.

Conversely, other studies report contrasting evidence, suggesting that financial distress may constrain rather than promote earnings manipulation. When firms face severe liquidity shortages or tighter monitoring, their capacity to alter earnings becomes limited. For instance, research in Indonesia finds that distressed firms reduce real earnings management due to cash flow constraints that restrict operational flexibility.[7] Likewise, evidence from Jordan indicates no statistically significant link between financial distress and earnings management, highlighting that the relationship depends heavily on institutional quality, governance mechanisms, and enforcement intensity.[8] These divergent findings emphasize that the impact of financial distress on earnings management is context dependent,

shaped by the economic environment, monitoring infrastructure, and legal framework of each country.

Since the 2010s, scholars have expanded this research stream by analyzing accrual based and real activity manipulation concurrently, offering a more comprehensive understanding of managerial behavior. [9] developed a seminal model measuring real earnings management through deviations in operating cash flow, production, and discretionary expenses. Building on this, subsequent studies reveal that firms nearing bankruptcy frequently adopt a dual strategy increasing accrual adjustments while simultaneously manipulating real activities to sustain reported earnings.[4] More recent evidence highlights that the choice between accrual based and real earnings management reflects a trade off between implementation cost and detection risk, illustrating the strategic adaptability of managers under varying financial constraints.[5]

In summary, the international literature indicates that the association between financial distress and earnings management is heterogeneous rather than uniform, driven by differences in institutional settings, governance quality, and financial structures. These contextual variations underscore the importance of investigating this relationship in emerging markets such as Vietnam, where bank dominated financing, limited disclosure transparency, and evolving governance practices may significantly shape managerial responses to financial pressure.

2.3. Research in Vietnam and Identified Research Gaps

Although the issue of earnings management has been widely investigated across different economies, empirical evidence from Vietnam remains scarce, particularly concerning its interaction with financial distress. Existing domestic studies have explored selective aspects of this relationship. For instance, one study on seasoned equity offerings found that capital raising pressures drive firms to inflate reported profits to meet investor expectations.[10] Another study reported that firms with weaker financial positions tend to increase earnings manipulation, aligning with the Debt Covenant Hypothesis.[11] Extending this line of inquiry, more recent evidence suggests that a high risk of financial distress intensifies both accrual based and real earnings management, reflecting managerial efforts to maintain positive financial signals amid deteriorating conditions. [12]

Despite these contributions, the current Vietnamese literature exhibits several methodological and conceptual limitations. First, most studies fail to adequately address endogeneity, a critical concern given that earnings management can simultaneously influence and be influenced by financial distress. Second, few studies distinguish between accrual based and real activity based mechanisms, thereby overlooking the potential substitution or complementary effects between the two. Third, the reliance on static regression models neglects the inherently dynamic nature of earnings management, which evolves over time as firms respond to prior performance outcomes and strategic pressures.

To overcome these gaps, the present study employs a dynamic panel data framework estimated through the two step System Generalized Method of Moments (GMM). This approach mitigates endogeneity bias, accounts for firm specific unobserved heterogeneity, and captures the temporal persistence of earnings management behavior. By integrating both accrual based and real activity dimensions within this econometric structure, the study provides a more robust and comprehensive assessment of how financial distress shapes managerial reporting behavior in the Vietnamese context.

2.4. Research Hypotheses

Drawing on the preceding theoretical discussion and empirical evidence, this study formulates two testable hypotheses concerning the relationship between financial distress and the forms of earnings management:

H1: Financial distress is positively associated with accrual based earnings management.

H2: Financial distress is negatively associated with real earnings management.

These hypotheses reflect the premise that as financial distress intensifies, firms are more inclined to manipulate accounting accruals to enhance the appearance of financial stability and signal credibility to external stakeholders. In contrast, firms experiencing liquidity constraints or restricted access to credit are more likely to engage in real activity manipulation, adjusting operational decisions such as production, sales, or discretionary expenditures to achieve short term profitability goals.

Together, these propositions establish the theoretical foundation for constructing the

empirical research model and selecting the appropriate estimation methodology, which are detailed in the following section.

3. RESEARCH MODEL AND METHODOLOGY

3.1. Research Model

The empirical analysis employs a dynamic panel data framework to examine the effect of financial distress on firms' earnings management behavior. Accordingly, the research model is specified as follows:

$$EM_{it} = \alpha_{+} \beta_1 FS_{it} + \beta_2 Control_{it} + \varepsilon_{it}$$

where EM represents the earnings management variable, measured alternatively through accrual based and real activity indicators; FS denotes the financial distress variable, capturing the firm's financial condition; and Control is a vector of firm specific control variables reflecting the effects of capital structure, liquidity, and cash flow performance. All variables are defined in detail in the subsequent subsection.

3.2. Data

The empirical analysis is based on data obtained from the FiinPro Database (Fiingroup), a highly regarded financial information platform in Vietnam that provides audited financial statements, cash flow statements, and detailed financial ratios for listed firms. The sample period spans 2005–2022, encompassing 18 consecutive fiscal years. This extended timeframe captures multiple economic cycles and major structural developments in Vietnam's financial market, thereby ensuring comprehensive temporal coverage.

The research sample includes all firms listed on the Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX) as of December 31, 2022. To ensure data consistency, only firms with audited financial statements and continuous reporting for at least three consecutive years were retained. Companies operating in industries with distinct financial structures such as banking, insurance, financial services, oil and gas, and telecommunications were excluded due to their specialized accounting practices and regulatory environments. After rigorous data screening and the elimination of missing or outlier observations, the final sample comprises 575 firms, corresponding to 8,508 firm year observations across the study period.

Industry classification follows the Industry Classification Benchmark (ICB) standard, with the following distribution: Industrials (41.6%), Basic Materials (16.7%), Consumer Goods (16.3%), Consumer Services (9.5%), Utilities (8.6%), Healthcare and Pharmaceuticals (4.3%), and Information Technology (3.0%). The sample's large size, sectoral diversity, and longitudinal design provide a robust empirical foundation for analyzing the relationship between financial distress and earnings management within the Vietnamese capital market.

Table 1. Industry distribution of sample observations for Vietnamese listed firms, 2005–2022

Industry	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Tổng
Industrials	65	96	131	177	183	198	204	209	211	221	225	227	227	233	233	231	234	233	3.538
Information Technology	7	10	12	15	16	16	16	15	14	15	15	15	15	15	15	15	15	16	257
Healthcare & Pharmaceuticals	6	10	15	18	20	20	20	22	21	21	22	23	23	24	25	25	25	24	364
Consumer Services	13	20	29	36	38	42	45	46	50	52	53	54	55	55	55	54	55	53	805
Consumer Goods	31	48	59	71	73	75	76	77	79	83	87	87	88	91	91	92	92	90	1.390
Basic Materials	20	34	51	65	71	72	76	81	85	88	93	96	97	98	97	98	99	98	1.419
Utilities	12	13	29	33	35	37	39	39	42	48	48	49	52	52	52	51	52	52	735
Total	154	231	326	415	436	460	476	489	502	528	543	551	557	568	568	566	572	566	8.508

3.3. Measurement of Research Variables

3.3.1. Earnings Management

Accrual based earnings management is quantified through discretionary accruals (DA), estimated using the Modified Jones Model and refined by Kothari, Leone, and Wasley. [13,14] This model is widely recognized for its ability to isolate the discretionary component of total accruals, thereby providing a robust measure of managerial accounting discretion. The estimation equation is expressed as follows:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \beta_2 \frac{PPE_{it}}{A_{it-1}} + \beta_3 ROA_{it\ (it-1)} + \varepsilon_{it}$$

Real earnings management (REM) is assessed through three distinct proxies abnormal operating cash flows (AbCFO), abnormal

production costs (AbPROD), and abnormal discretionary expenses (AbDISX) following the framework proposed by Roychowdhury. [9] These measures capture deviations from firms' normal operational behavior that are indicative of managerial intervention in real business activities to influence reported earnings. The following models are employed to estimate each component:

$$\frac{CFO_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{REV_{it}}{A_{it-1}} + \beta_2 \frac{\Delta REV_{it}}{A_{it-1}} + \varepsilon_{it}$$

$$\frac{PROD_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{REV_{it}}{A_{it-1}} + \beta_2 \frac{\Delta REV_{it}}{A_{it-1}} + \beta_3 \frac{\Delta REV_{it-1}}{A_{it-1}} + \varepsilon_{it}$$

$$\frac{DISEXP_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta \frac{REV_{it-1}}{A_{it-1}} + \varepsilon_{it}$$

where i denotes the firm, t represents the time period, TA is total accruals, ΔREV is the change in net revenue, ΔREC is the change in accounts receivable, PPE denotes net property, plant, and equipment, ROA represents return on assets, and A is total assets. CFO refers to operating cash flow; PROD equals the sum of cost of goods sold (COGS) and the change in inventory (ΔINV); and DISEXP represents discretionary expenses, including selling, general, and administrative costs.

3.3.2. Financial Distress

inancial distress is proxied by the Altman Z-score, a widely adopted model developed by Altman to evaluate a firm's likelihood of financial failure.[15] The Z-score integrates profitability, liquidity, leverage, and efficiency indicators into a single composite measure of financial health, and is expressed as follows:

$$Z - score_{it} = 1{,}2X_1 + 1{,}4X_2 + 3{,}3X_3 + 0{,}6X_4 + 1{,}0X_5$$

where X_1 represents working capital to total assets (a measure of short term liquidity); X_2 denotes retained earnings to total assets (an indicator of profitability retention); X_3 is earnings before interest and taxes (EBIT) to total assets (reflecting operating efficiency); X_4 indicates the market value of equity to total liabilities (capturing leverage structure); and X_5

corresponds to sales to total assets (measuring asset turnover efficiency).

3.3.3. Control Variables

Control variables are incorporated into the empirical model to capture firm specific characteristics related to financial structure, liquidity, and debt servicing capacity that may affect earnings management behavior. Including these controls helps isolate the impact of financial distress from other financial and operational factors that could influence managerial discretion in financial reporting.

Table 2. Definitions and expected signs of control variables

Variable	Symbol	Measurement	Expected Sign
Financial Leverage	FS	Total Liabilities / Total Assets	(+)
Liquidity	CR	Current Assets / Current Liabilities	(+ / −)
Interest Coverage	IC	EBIT / Interest Expense	(−)
Cash Flow to Debt	CFD	Operating Cash Flow / Total Debt	(−)

3.4. Estimation Method and Model Testing

Earnings management is shaped by a combination of internal managerial incentives and external financial conditions, with financial distress potentially acting as both a determinant and a consequence of such behavior. This reciprocal relationship introduces an endogeneity problem in the estimation process. Furthermore, earnings management often demonstrates dynamic persistence, as current manipulation practices are influenced by prior period adjustments and firm specific characteristics.

To address these econometric challenges, this study adopts the Generalized Method of Moments (GMM) approach for dynamic panel estimation. Both the Difference GMM (Arellano & Bond, 1991) and the System GMM (Blundell & Bond, 1998) estimators are initially considered. Following the diagnostic framework proposed by Bond (2002), the two step System GMM estimator is selected, as it is particularly well suited for large panel datasets and offers greater robustness in mitigating endogeneity, heteroskedasticity, and autocorrelation biases.

4. RESULTS

4.1. Descriptive Statistics

As reported in Table 3, the discretionary accruals variable (DA) exhibits a mean value of 0.17, indicating a moderate degree of accrual based earnings management among the sampled firms. The wide range of DA values from 0 to 3.51 reflects substantial heterogeneity in the extent of managerial discretion across companies.

For real earnings management (REM) proxies, the mean of AbCFO is –0.01, while AbPROD and AbSGA both center around zero. This pattern suggests that firms, on average, do not exhibit systematic tendencies toward either upward or downward manipulation through real activities. In essence, the degree of real activity manipulation appears limited and relatively balanced within the sample.

The Z-score, used to measure financial distress, has a mean of 2.12, placing most firms within Altman's "gray zone".[15] This indicates that, on average, listed firms are not yet in acute financial distress but remain exposed to moderate solvency risks.

Regarding control variables, the financial leverage ratio (FS) averages 0.55, consistent with a sample comprising primarily medium and large sized enterprises. The current ratio (CR) averages 2.24, reflecting generally sound short term liquidity positions. In contrast, the interest coverage ratio (IC) displays substantial variability, with a mean of –52.63, implying that several firms incur high interest expenses or experience insufficient operating income. Finally, the cash flow to debt ratio (CFD) averages 0.24, suggesting that firms can cover approximately one quarter of their total debt obligations from operating cash flows indicating moderate liquidity pressure.

Overall, the descriptive statistics reveal considerable variation in earnings management practices, financial health, and liquidity conditions among Vietnamese listed firms, underscoring the diversity of financial strategies and operational efficiency within the sample.

Table 3. Descriptive Statistics

Variable	Observations	Mean	Min	p25	Median	p75	Max
DA	7,568	0.17	0.00	0.04	0.08	0.17	3.51
AbCFO	7,580	–0.01	–1.09	–0.09	0.00	0.08	0.81
AbPROD	7,059	0.00	–1.28	–0.09	0.01	0.10	2.59
AbSGA	7,673	0.00	–0.88	–0.06	0.02	0.05	1.90
Z-score	7,476	2.12	–0.81	1.07	1.81	2.80	12.84
FS	7,709	0.55	0.01	0.32	0.53	0.75	3.72
CR	8,351	2.24	0.03	1.11	1.48	2.39	83.24
IC	7,335	–52.63	–9,102.16	–16.00	–2.93	–0.21	131.78
CFD	8,147	0.24	–4.77	–0.03	0.11	0.37	13.64

4.2. Regression Results of the Research Model

Table 4 presents the empirical results examining the relationship between financial distress and earnings management among Vietnamese listed firms. The coefficient of the financial distress variable (Z-score) is positive and statistically significant at the 1% level in the accrual based earnings management model (DA), while it is negative and significant across all real earnings management models (Ab_PROD, Ab_CFO, and Ab_SGA).

Specifically, in the DA model, the coefficient on Z-score (0.0188, $p < 0.01$) indicates that firms with stronger financial positions reflected by higher Z-scores tend to engage more actively in accrual based adjustments. In contrast, the negative coefficients in Ab_PROD (–0.0228, $p < 0.01$), Ab_CFO (–0.0073, $p < 0.05$), and Ab_SGA (–0.0073, $p <$

0.01) imply that firms experiencing greater financial pressure (lower Z-scores) are more likely to manage earnings through real operational activities.

Taken together, these results suggest a substitution effect between accrual based and real earnings management. Financially healthy firms tend to rely on accounting based mechanisms, which are less disruptive to actual operations, whereas financially constrained firms manipulate real activities such as production levels, sales policies, or discretionary expenditures to sustain short term profitability and convey a stable financial outlook to investors and creditors.

Table 4. Regression Results

Variable	DA	Ab_PROD	Ab_CFO	Ab_SGA
L.DA	0,413***			
	(8,806)			
L.Ab_PROD		0,0807*		
		(1,783)		
L.Ab_CFO			-0,129***	
			(-7,192)	
L.Ab_SGA				0,747***
				(32,84)
Zscore	0,0188***	-0,0228***	-0,00732**	-0,00732***
	(3,683)	(-4,878)	(-2,273)	(-5,648)
FS	0,0949***	0,183***	0,0424	-0,0280***
	(3,574)	(3,804)	(1,599)	(-4,353)
CR	0,0112**	0,00977**	0,0136	0,00133
	(2,242)	(2,024)	(1,642)	(1,156)
IC	-6,03e-05***	-4,89e-06	-3,30e-05**	1,54e-06
	(-2,806)	(-0,391)	(-2,176)	(0,420)
CFD	0,0394**	-0,0506***	-0,149***	-0,00478
	(2,342)	(-5,040)	(-6,003)	(-1,387)
Constant	-0,0393*	-0,0615**	-0,0138	0,0277***
	(-1,828)	(-1,979)	(-0,542)	(5,769)
Observations	6,149	5,703	6,149	6,217
Number of mack	575	570	575	575
Number of obs	6149	5703	6149	6217
Number of groups	575	570	575	575
Number of instruments	581	566	581	581
Arellano-Bond test for AR(1)	-4,910	-4,102	-8,469	-5,339
pAR(1)	9,09e-07	4,10e-05	0	9,36e-08
Arellano-Bond test for AR(2)	0,336	1,197	-4,437	0,674
pAR(2)	9,09e-07	4,10e-05	0	9,36e-08
Hansen test	572,2	560,3	570,9	563,9
pHannsen	0,514	0,477	0,529	0,610

z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The analysis of control variables reveals that the financial leverage ratio (FS) exhibits a positive and statistically significant coefficient at the 1% level in both the DA and Ab_PROD models, indicating that firms with higher leverage are more likely to engage in earnings management. This evidence corroborates the Debt Covenant Hypothesis of Positive Accounting Theory,[2] which suggests that as leverage increases, managers face greater pressure to maintain accounting ratios within acceptable thresholds to avoid breaching loan covenants or being perceived as financially unstable.

Given that bank credit remains the predominant source of financing for Vietnamese enterprises, the pressure to preserve a favorable financial image and sustain creditor confidence provides strong incentives for earnings manipulation. This result aligns with prior international findings from Spain, China, and New

Zealand,[3,5,16] which consistently report a positive association between leverage and the extent of earnings management.

Other control variables offer complementary insights. The current ratio (CR) demonstrates a positive and significant relationship with earnings management, suggesting that firms with greater short term liquidity may engage in mild earnings adjustments to signal financial stability, rather than resorting to aggressive manipulation to obscure risk. In contrast, the interest coverage ratio (IC) shows a negative and statistically significant coefficient in the DA model ($-6.03e-05$, $p < 0.01$), implying that firms with stronger interest paying capacity have less incentive to manage accruals.

The cash flow to debt ratio (CFD) exhibits mixed effects positive on DA (0.0394, $p < 0.05$) but strongly negative on Ab_PROD (-0.0506, $p < 0.01$) and Ab_CFO (-0.149, $p < 0.01$). These patterns suggest that firms with stable operating cash flows and stronger debt servicing ability prefer accrual based adjustments, whereas those with weaker cash positions rely more heavily on real activity manipulation to meet short term earnings targets.

From a statistical perspective, diagnostic tests confirm the robustness and validity of the two step System GMM estimation. The Arellano–Bond AR(1) and AR(2) tests indicate the presence of first order but not second order autocorrelation ($p_{AR(2)} > 0.05$), satisfying dynamic model requirements. Moreover, the Hansen test yields p-values between 0.48 and 0.61, confirming instrument validity and the absence of over identification issues. Collectively, these results affirm that the two step System GMM estimator provides consistent and reliable inference for the panel dataset.

From an academic standpoint, the findings extend the empirical literature on earnings management under financial distress in emerging markets. Unlike prior studies focusing solely on one form of manipulation, this study demonstrates that firms adopt strategically flexible approaches choosing between accrual based and real earnings management depending on their financial condition. Financially stable firms rely more on accounting based adjustments, while financially constrained firms manipulate real operations to sustain profitability and signal resilience. These findings reinforce the Debt Covenant Hypothesis and highlight that earnings management should be viewed as a strategic adaptation to financial constraints rather than merely opportunistic behavior.

From a practical perspective, the results yield several implications for policymakers, auditors, and investors. Financial supervisory authorities should broaden their focus beyond accrual based indicators to include potential signs of real activity manipulation, such as abnormal shifts in production, inventory, or selling expenses. Auditors and investors are encouraged to assess both accrual based and real earnings management jointly to obtain a more comprehensive view of earnings quality and long term financial risk. Firms with high leverage or weak cash flow positions are particularly prone to manipulation, underscoring the importance of early detection mechanisms in credit assessment and investment decision making.

Overall, the empirical evidence confirms that financial distress and capital structure play significant roles in shaping earnings management behavior among Vietnamese listed firms. As leverage and liquidity pressures intensify, firms tend to adjust reported earnings to maintain financial stability and mitigate credit risk. However, the chosen form of manipulation depends critically on each firm's financial capacity and operational characteristics. These findings provide valuable insights for enhancing financial oversight, corporate governance, and risk management within Vietnam's evolving capital market.

5. CONCLUSIONS

This study provides robust empirical evidence on the relationship between financial distress and earnings management among Vietnamese listed firms, while highlighting the roles of capital structure and liquidity in shaping managerial reporting behavior. Using a dynamic panel data model estimated via the two step System Generalized Method of Moments (GMM), the analysis effectively mitigates endogeneity and captures the dynamic persistence of earnings management over time. The results show that financially sound firms (with higher Z-scores) tend to rely on accrual based adjustments, whereas financially constrained firms (with lower Z-scores) are more likely to manipulate real operating activities to sustain short term profitability. The positive association between leverage (FS) and earnings management supports the Debt Covenant Hypothesis, while the effects of liquidity indicators (CR, IC, CFD) explain cross sectional variation in firms' manipulation strategies.

From an academic perspective, the study advances the understanding of earnings management in emerging markets, demonstrating that such behavior often represents an adaptive financial response to constraints rather than purely opportunistic or fraudulent conduct. From a practical standpoint, the findings underscore the need for regulators and auditors to broaden their oversight beyond accrual based measures and to monitor potential signs of real activity manipulation, particularly among highly leveraged or liquidity constrained firms. Investors are likewise encouraged to evaluate both accrual and real activity channels to obtain a more comprehensive assessment of earnings quality and financial risk.

The study's limitations primarily relate to the scope of the sample and the use of the Altman Z-score as the sole proxy for financial distress. Future research could enhance generalizability by incorporating alternative distress measures such as the Ohlson O-score or Zmijewski index and by integrating non financial dimensions, including audit quality, ownership structure, and governance mechanisms. Such extensions would further clarify the complex interplay between financial distress, earnings management, and long term firm performance in emerging market contexts.

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