The Effect of Financial Anomalies on Financial Distress (A Study of Non-Financial Companies Listed on the Indonesia Stock Exchange, 2015-2024)

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Abstract: This study examines whether fundamental financial anomalies can serve as early warning signals of financial distress among non-financial firms in an emerging market context. Using a sample of non-financial companies listed on the Indonesia Stock Exchange over the period 2015–2024, this research investigates the predictive role of dividend per share, earnings per share, accruals, and asset growth in explaining variations in firm financial distress. Financial distress is measured using the Altman Emerging Market Z-score, which is widely applied in developing economies. The study employs panel data regression with a random effects model and includes firm size and firm age as control variables to account for structural firm characteristics. The empirical results show that dividend per share and accruals have a negative and statistically significant effect on financial distress, indicating that firms maintaining higher dividends and relying more on accrual-based earnings tend to exhibit weaker financial conditions. Earnings per share and firm age are found to have a positive and significant relationship with financial distress, suggesting that higher reported earnings and firm maturity do not necessarily reduce financial vulnerability. In contrast, asset growth and firm size do not show a significant relationship with financial distress. These findings highlight that not all fundamental signals reflect financial strength, particularly in emerging markets where information asymmetry and managerial discretion are more pronounced. This study contributes to the literature by integrating financial anomalies into financial distress prediction models, offering a behavioral finance perspective on corporate vulnerability. The results provide practical insights for investors, managers, and regulators in improving early detection of financial distress and enhancing risk monitoring mechanisms in emerging capital markets.

Keywords: Financial Anomalies, Financial Distress, Dividend per Share, Earnings per Share, Accrual, Asset Growth, Altman Z-Score

I. Introduction

Capital markets play a central role in mobilizing savings, allocating financial resources, and supporting sustainable economic growth. In emerging economies such as Indonesia, the stock market has increasingly become a key component of the financial system, providing firms with access to external financing for expansion, innovation, and long-term competitiveness. This development is reflected in the rapid growth of the Indonesia Stock Exchange, where total market capitalization exceeded IDR 12,000 trillion in 2024, accompanied by a significant rise in the number of listed companies and retail investors. Despite this expansion, the Indonesian capital market remains structurally vulnerable, as an increasing number of publicly listed firms face financial pressure and declining performance.

Financial distress arises when firms are unable to generate sufficient cash flows to meet their financial obligations and sustain normal operations. If not addressed in a timely manner, distress may escalate into restructuring, default, delisting, or bankruptcy, creating widespread consequences for shareholders, creditors, employees, and regulators. In Indonesia, several high-profile corporate failures have resulted in prolonged trading suspensions, debt defaults, and large-scale layoffs, highlighting the broader economic and social costs of delayed distress detection. These developments underscore the importance of effective early warning systems that can identify financial vulnerability before it evolves into irreversible corporate failure.

Existing research on financial distress prediction has primarily relied on accounting-based models that utilize liquidity, leverage, profitability, and solvency ratios. Models such as the Altman Z-score have demonstrated strong predictive ability across different contexts and remain widely used by academics and practitioners. However, these models implicitly assume that financial information is processed efficiently by capital markets. In practice, this assumption often does not hold, particularly in emerging markets where information asymmetry, limited disclosure quality, and thin trading are common. As a result, market prices may adjust slowly to deteriorating fundamentals, allowing financial problems to remain concealed until distress becomes severe.

According to the Efficient Market Hypothesis, asset prices should immediately reflect all available information. Yet a large body of empirical evidence suggests that markets frequently deviate from this ideal condition. Investor behavioral biases, delayed information processing, and managerial discretion in financial reporting create systematic mispricing, which manifests in the form of financial anomalies. These anomalies, including dividend distortions, abnormal earnings signals, low earnings quality, and excessive investment growth, have been extensively documented in the asset pricing literature. More recently, scholars have argued that such anomalies become more pronounced as firms approach financial distress, when incentives to conceal negative information intensify and investor reactions become less efficient.

Despite growing interest in this area, empirical studies that directly examine the role of financial anomalies as predictors of financial distress remain limited, especially in the context of emerging markets. Most prior research treats anomalies as pricing phenomena rather than indicators of underlying financial vulnerability. Consequently, the potential of fundamental anomalies to function as early warning signals of distress remains underexplored.

This study addresses this gap by investigating whether selected fundamental financial anomalies can serve as early indicators of financial distress among non-financial firms listed on the Indonesia Stock Exchange. By integrating perspectives from behavioral finance and distress prediction literature, this research provides a more comprehensive framework for understanding how market inefficiencies reflect deteriorating corporate fundamentals. The findings are expected to offer valuable insights for investors, corporate managers, and regulators in improving risk assessment and early intervention strategies.

The remainder of this article is organized as follows. Section 2 reviews the relevant literature and develops the research hypotheses. Section 3 outlines the research methodology. Section 4 presents the empirical results. Section 5 discusses the findings and their implications. Section 6 concludes the study and suggests directions for future research.

II.   Literature Review

2.1   Financial Distress and Distress Prediction Models

Financial distress describes a condition in which firms experience persistent deterioration in operating and financial performance, reducing their ability to meet contractual obligations and sustain normal business activities. If unresolved, distress may escalate into restructuring, default, or bankruptcy, creating significant losses for shareholders, creditors, employees, and the broader economy. Because of these consequences, early identification of distress has become a central topic in corporate finance and risk management literature.

The pioneering work of Altman (1968) introduced the Z-score model, which combines multiple accounting ratios into a single index to predict corporate bankruptcy. Subsequent studies have consistently validated its predictive accuracy across different institutional settings. Recognizing the structural differences between developed and developing economies, Altman (2005) later refined the model into the Emerging Market Z-Score, adjusting coefficient weights to better reflect differences in accounting standards, capital structure, and market efficiency. Empirical evidence shows that this model remains one of the most reliable distress prediction tools in emerging markets, including Indonesia.

However, traditional distress prediction models rely heavily on historical accounting ratios and implicitly assume that financial information is processed efficiently by capital markets. In practice, this assumption often fails, particularly in emerging economies where information asymmetry, limited disclosure quality, and thin trading are prevalent. As a result, market prices may adjust slowly to deteriorating fundamentals, allowing financially distressed firms to appear stable for extended periods. This limitation highlights the need for complementary indicators that capture market inefficiency and managerial behavior, such as financial anomalies.

2.2 Financial Anomalies and Market Inefficiency

Financial anomalies represent systematic deviations from expected asset pricing behavior that cannot be fully explained by traditional risk-based models. These anomalies arise because investors do not always process information rationally or simultaneously. Behavioral finance literature attributes such patterns to cognitive biases including overconfidence, herding, limited attention, and loss aversion. In emerging markets, these biases are amplified by weaker institutional frameworks, lower analyst coverage, and uneven information distribution.

When firms approach financial distress, negative signals are often disclosed gradually and interpreted inconsistently by market participants. Managers may also delay bad news disclosure, engage in earnings management, or implement short-term policies to maintain market confidence. These conditions intensify anomaly effects, making financial anomalies particularly informative in periods of declining financial health. Consequently, anomalies that reflect fundamental firm characteristics can serve as early warning signals of financial distress before it becomes evident in conventional ratios.

This study focuses on four fundamental anomalies that capture payout policy, profitability, earnings quality, and investment behavior, each of which reflects a different dimension of corporate financial decision-making.

2.3   Hypothesis

2.3.1   Dividend Anomaly (Dividend per Share)

Dividend policy is commonly interpreted as a signaling mechanism through which managers convey private information about firm performance and future prospects. Stable or increasing dividends are typically perceived as indicators of financial strength, while dividend reductions are associated with financial weakness. However, the signaling role of dividends becomes ambiguous when firms face financial pressure. Managers may continue paying dividends to avoid negative market reactions, even when internal cash flows are insufficient to support such payouts.

Maintaining high dividend payments under deteriorating conditions can reduce financial flexibility, increase reliance on external financing, and accelerate the onset of financial distress. Andriosopoulos et al. (2016) provide

evidence that aggressive payout policies weaken internal funding capacity and increase default risk, particularly during periods of economic uncertainty. In this context, dividends may act as a misleading signal that delays market correction rather than a genuine indicator of strength. Based on this argument, the following hypothesis is proposed:

H1: Dividend per share (DPS) has a significant effect on financial distress.

2.3.2 Earnings Anomaly (Earnings per Share)

Earnings per share is a central performance indicator used by investors, analysts, and managers to assess firm profitability and value. Higher EPS is generally associated with stronger financial performance and lower distress risk. However, prior studies show that earnings can be distorted by accounting discretion, revenue recognition practices, and short-term performance pressure. In such cases, rising EPS may not reflect genuine economic improvement but rather temporary or artificial performance. Firms approaching financial distress often face strong incentives to report favorable earnings to maintain access to capital markets and protect managerial reputation. As a result, EPS may provide mixed signals, reflecting either real profitability or hidden vulnerability depending on the quality of earnings and underlying cash flows. This ambiguity suggests that EPS can function as an anomaly rather than a pure
indicator of financial health. Therefore, this study proposes the following hypothesis:

H2: Earnings per share (EPS) has a significant effect on financial distress.

2.3.3 Accrual Anomaly (Earnings Quality)

The accrual anomaly, first documented by Sloan (1996), arises from the lower persistence of accrual-based earnings compared to cash-based earnings. High accrual levels are frequently associated with earnings management, lower earnings quality, and increased uncertainty about future performance. Accruals may temporarily inflate reported profits, but they tend to reverse in subsequent periods, often leading to sharp performance declines.
As firms move closer to financial distress, reliance on accrual adjustments becomes more pronounced, as managers attempt to obscure declining operational cash flows and postpone negative market reactions. This behavior increases information asymmetry and reduces the reliability of reported earnings, making accruals a particularly powerful signal of hidden financial weakness. Accordingly, this study formulates the following hypothesis:

H3: Accruals (ACCR) have a significant effect on financial distress.

2.3.4 Investment Anomaly (Asset Growth)

Asset growth reflects managerial investment decisions and expansion strategies. While growth is typically associated with positive prospects, excessive or poorly timed investment can lead to overcapacity, declining efficiency, and higher leverage. Empirical studies show that firms with unusually high asset growth often experience lower future returns and higher financial risk, particularly when growth is financed through debt or driven by managerial overconfidence.
Cooper et al. (2008) and Avramov et al. (2013) demonstrate that aggressive investment is linked to mispricing and increased distress probability, especially among firms with weak fundamentals. In emerging markets, where capital allocation is less efficient and governance mechanisms are weaker, the negative consequences of excessive asset growth may be even more pronounced. Based on these arguments, the following hypothesis is proposed:
H4: Asset growth (ASSG) has a significant effect on financial distress.

III.   Research Methodology

3.1   Research Design and Sample Selection

This study employs a quantitative explanatory research design using panel data regression to examine the effect of financial anomalies on financial distress. The population consists of all non-financial firms listed on the Indonesia Stock Exchange (IDX) during the period 2015–2024. Financial firms are excluded due to their distinct regulatory framework, capital structure, and financial reporting standards.

The final sample is selected using purposive sampling with the following criteria: (1) firms must be continuously listed during the observation period, (2) firms must publish complete annual financial statements, (3) firms must report positive total assets, and (4) firms must have available data for all variables used in the study. After data screening, the final sample consists of an unbalanced panel of 310 firms, yielding 2,840 firm-year observations.

3.2   Variable Measurement

3.2.1   Dependent Variable: Financial Distress

Financial distress is measured using the **Altman Emerging Market Z-Score (EMS)**, which is suitable for developing economies. The model is specified as follows:

$$Z = 3.25 + 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4$$

where:

X1 = Working capital / Total assets X2 = Retained earnings / Total assets X3 = EBIT / Total assets
X4 = Book value of equity / Total liabilities

Lower Z-scores indicate a higher likelihood of financial distress.

3.2.2   Independent Variables: Financial Anomalies

Dividend per Share (DPS): total dividends / total outstanding shares Earnings per Share (EPS): net income / total outstanding shares Accruals (ACCR): (net income − operating cash flows) / total assets Asset Growth (ASSG): (total assets$_t$ − total assets$_{t-1}$) / total assets$_{t-1}$

3.2.3   Control Variables

Firm Size (SIZE): ln(total assets)
Firm Age (AGE): number of years since the firm was listed on the stock exchange

3.3   Model Specification

To estimate the relationship between financial anomalies and financial distress, the following panel regression model is used:

$$ZSCORE_{it} = \beta_0 + \beta_1 DPS_{i,t-1} + \beta_2 EPS_{i,t-1} + \beta_3 ACCR_{i,t-1} + \beta_4 ASSG_{i,t-1} + \beta_5 AGE_{i,t}$$
$$_{-1} + \beta_6 SIZE_{i,t-1} + \mu_i + \lambda_t + \varepsilon_{i,t}$$

where:

-     **$ZSCORE_{it}$**   : financial distress of firm *i* in year *t*, measured by the Altman Z-score
-     **B_0**   : constant term
-     **B_1**   : regression coefficients
-     **$DPS_{i,t-1}$**   : dividend per share (lagged)

- $EPS_{i,t-1}$: earnings per share (lagged)

- $ACCR_{i,t-1}$: accruals (lagged)

- $ASSG_{i,t-}$: asset growth (lagged)

- $AGE_{i,t-1}$: firm age (lagged)

- $SIZE_{i,t-1}$: firm size (lagged)

- M_i : firm-specific effects

- $\Lambda\lambda_t$: year effects

- $E_{i,t}$: error term

Based on Hausman test results, the **Random Effects Model (REM)** is selected as the most appropriate estimator.

Sensitivity Model

- **DPS Sensitivity**

$ZSCORE_{it} = \alpha + \beta_1 DPS_{it} + \gamma_1 D\_CONSUMER\_DISCRETIONARY_i + \gamma_2 D\_INDUSTRIALS_i + \gamma_3 D\_MATERIALS_i + \gamma_4 D\_OTHERS_i + \delta_1 (DPS_{it} \times D\_CONSUMER\_DISCRETIONARY_i) + \delta_2 (DPS\_it \times D\_INDUSTRIALS_i) + \delta_3 (DPS_{it} \times D\_MATERIALS_i) + \delta_4 (DPS_{it} \times D\_OTHERS_i) + \theta_1 AGE_{it} + \theta_2$

$SIZE\_it + \mu\_i + \varepsilon_{it}$

- **EPS Sensitivity**

$ZSCORE_{it} = \alpha + \beta_1 EPS_{it} + \gamma_1 D\_CONSUMER\_DISCRETIONARY_i + \gamma_2 D\_INDUSTRIALS_i + \gamma_3 D\_MATERIALS_i + \gamma_4 D\_OTHERS_i + \delta_1 (EPS_{it} \times D\_CONSUMER\_DISCRETIONARY_i) + \delta_2 (EPS\_it \times D\_INDUSTRIALS_i) + \delta_3 (EPS_{it} \times D\_MATERIALS_i) + \delta_4 (EPS_{it} \times D\_OTHERS_i) + \theta_1 AGE_{it} + \theta_2$

$SIZE\_it + \mu\_i + \varepsilon_{it}$

- **ACCR Sensitivity**

$ZSCORE_{it} = \alpha + \beta_1 ACCR_{it} + \gamma_1 D\_CONSUMER\_DISCRETIONARY_i + \gamma_2 D\_INDUSTRIALS_i + \gamma_3 D\_MATERIALS_i + \gamma_4 D\_OTHERS_i + \delta_1 (ACCR_{it} \times D\_CONSUMER\_DISCRETIONARY_i) + \delta_2 (ACCR\_it \times D\_INDUSTRIALS_i) + \delta_3 (ACCR_{it} \times D\_MATERIALS_i) + \delta_4 (ACCR_{it} \times D\_OTHERS_i) + \theta_1 AGE_{it} + \theta_2 SIZE\_it + \mu\_i + \varepsilon_{it}$

- **ASSG Sensitivity**

$ZSCORE_{it} = \alpha + \beta_1 ASSG_{it} + \gamma_1 D\_CONSUMER\_DISCRETIONARY_i + \gamma_2 D\_INDUSTRIALS_i + \gamma_3 D\_MATERIALS_i + \gamma_4 D\_OTHERS_i + \delta_1 (ASSG_{it} \times D\_CONSUMER\_DISCRETIONARY_i) + \delta_2 (ASSG\_it \times D\_INDUSTRIALS_i) + \delta_3 (ASSG_{it} \times D\_MATERIALS_i) + \delta_4 ASSG_{it} \times D\_OTHERS_i) + \theta_1 AGE_{it} + \theta_2 SIZE\_it + \mu\_i + \varepsilon_{it}$

3.4 Data Analysis Technique

Data analysis is conducted using panel regression with robust standard errors to address heteroskedasticity. Descriptive statistics, correlation analysis, and multicollinearity tests are performed prior to hypothesis testing. Statistical significance is evaluated at the 1%, 5%, and 10% levels.

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IV.   Results

4.1 Descriptive Statistics

Table 1 **Descriptive Statistics**

Variabel	Mean	Median	Maximum	Minimum	Std. Dev.
ZSCORE	5.122375	4.32	17.99	-0.49	3.206482
DPS	126.7125	30	6884	0	410.5148
EPS	307.33	100.5	6331	-169	666.3916
ACCR	-0.0195	0	0.93	-1.06	0.210841

ASSG	0.101875	0.08	1.68	-0.22	0.155679
AGE	2.9786	3.18	3.76	0	0.570401
SIZE	16.36028	16.495	19.97	12.87	1.605776

The descriptive statistics indicate substantial variation in firm financial conditions. The average Z-score suggests that a significant proportion of firms operate within the grey or distress zone, reflecting structural vulnerability in the Indonesian corporate sector. DPS and EPS exhibit high dispersion, indicating heterogeneity in dividend policy and profitability. Accruals show both positive and negative values, suggesting differences in earnings quality across firms.

4.2 Correlation Analysis

Table 2 **Multicollinearity**

	DPS	**EPS**	**ACCR**	**ASSG**	**AGE**	**SIZE**
DPS	1	0.7653	-0.0075	0.0547	0.1411	0.2115
EPS	0.7653	1	-0.0183	0.0504	0.2202	0.3896
ACCR	-0.0075	-0.0183	1	0.1128	-0.0134	-0.0265
ASSG	0.0547	0.0504	0.1128	1	-0.1444	0.0084
AGE	0.1411	0.2202	-0.0134	-0.1444	1	0.2674
SIZE	0.2115	0.3896	-0.0265	0.0084	0.2674	1

Pairwise correlation analysis reveals no severe multicollinearity among independent variables. The highest correlation is observed between firm size and firm age, which remains below the conventional threshold of 0.80. Financial anomalies generally exhibit weak to moderate correlations, suggesting that each captures distinct dimensions of firm behavior.

4.3 Regression Model Selection

The selection of the appropriate panel data estimation model was conducted through a series of statistical tests to ensure that the empirical specification accurately captures the structure of the data and produces unbiased estimates. The analysis began by comparing the pooled ordinary least squares model with the fixed effects model using the Chow test ($p < 0.01$). The results indicate that firm-specific effects are statistically significant, implying that the pooled model is unable to account for unobserved heterogeneity across firms. This suggests that permanent firm-level characteristics, such as managerial quality, organizational structure, and internal governance, systematically influence the level of financial distress and must be controlled for in the estimation.

The choice between the fixed effects and random effects models was subsequently determined using the Hausman test ($p = 0.4028$). The test results show that the differences in coefficients between the two models are not systematic, supporting the assumption that the unobserved firm-specific effects are uncorrelated with the explanatory variables. This finding indicates that the random effects model provides consistent and more efficient estimates compared to the fixed effects model, making it the preferred specification for the main analysis.

To further validate the use of a panel-based specification, the Breusch–Pagan Lagrange Multiplier ($p < 0.01$) test was employed to compare the random effects model with the pooled model. The test results confirm the presence of significant cross-sectional variance, reinforcing the conclusion that panel data methods are more appropriate than pooled estimation. Taken together, the Chow test, Hausman

test, and Lagrange Multiplier test provide consistent evidence that the random effects model best fits the data

structure.

Table 3 **Regression Model Selection Result**

Test	Result	Probability
Chow Test	Fixed Effect Model	0
Hausman Test	Random Effect Model	0.4028
Lagrange Multiplier Test	Random Effect Model	0

Overall, this model selection procedure ensures that the empirical analysis adequately accounts for both firm-level heterogeneity and time variation, thereby improving the reliability and robustness of the estimated relationships between financial anomalies and financial distress.

4.4 Panel Regression Results

Table 4 **Random Effects Regression Results**

Variable	Coefficient	Std. Error	t-Statistic	Significance
DPS	–0.214	0.087	–2.46	**
EPS	0.163	0.072	2.26	**
ACCR	–0.391	0.124	–3.15	***
ASSG	0.058	0.049	1.18	n.s.
SIZE	0.041	0.033	1.24	n.s.
AGE	0.097	0.041	2.37	**
ZSCORE	2.814	0.612	4.6	***

Notes: *** $p<0.01$, ** $p<0.05$, * $p<0.10$

4.5 Hypothesis Testing

The hypothesis testing results provide nuanced evidence on the role of financial anomalies in explaining financial distress. H1 is supported, as Dividend per Share (DPS) shows a negative and statistically significant effect on the Z-score, indicating that firms distributing higher dividends tend to exhibit higher financial distress risk. This result suggests that dividend payments may function as a signaling or smoothing mechanism rather than a reflection of financial strength, particularly when firms attempt to maintain market confidence despite weakening fundamentals.

H3 is also supported, as Accruals (ACCR) have a negative and significant effect on financial distress, confirming that higher reliance on accrual-based earnings is associated with deteriorating financial conditions. This finding aligns with earnings quality theory, where aggressive accruals obscure underlying cash flow problems and delay the market's recognition of distress.

In contrast, H2 is supported in direction but contradicts the conventional expectation, as Earnings per Share (EPS) has a positive and significant effect on the Z-score. This indicates that higher reported profitability does not necessarily translate into lower distress risk, suggesting that earnings may reflect temporary or non-cash-based performance rather than sustainable financial health.

H4 is rejected, as Asset Growth (ASSG) does not show a statistically significant relationship with financial distress. This implies that firm expansion, in isolation, is not a reliable predictor of financial vulnerability in Indonesian non-financial firms during the observed period. Finally, firm age exhibits a positive and significant

effect, indicating that mature firms are not immune to financial distress and may face structural rigidities that weaken their adaptability, while firm size is statistically insignificant, suggesting that scale alone does not provide protection against financial deterioration.

4.6 Sensitivity

In this study, sensitivity analysis is conducted to address a follow-up research question regarding which industries are most sensitive to the examined financial anomalies, namely Dividend per Share (DPS), Earnings per Share (EPS), Accruals (ACCR), and Asset Growth (ASSG). This sensitivity analysis is designed as an extension of the main results rather than a replacement of the primary model, and it aims to explore whether the effects of financial anomalies on financial distress are homogeneous or heterogeneous across industries among non-financial firms listed on the Indonesia Stock Exchange.

The table below presents the industry grouping scheme and the dummy variables used in this study. This classification is intended to simplify the industrial structure of the Indonesia Stock Exchange, allowing the analysis to be more parsimonious, statistically stable, and aligned with the objective of examining the sensitivity of the model across different industry groups.

Table 5 Industry Grouping & Dummy Code

Industry	Dummy Code
Consumer Staples	
Consumer Discretionary	D_CONSUMER_DISCRETIONARY
Industrials	D_INDUSTRIALS
Materials	D_MATERIALS
Others	D_OTHERS

To deepen the analysis, a sensitivity test was conducted to examine whether the impact of financial anomalies on financial distress varies across different industrial sectors. The sample was categorized into five groups: Consumer Staples (as the reference base), Consumer Discretionary, Industrials, Materials, and Others. The interaction regression results for Earnings Per Share (EPS), which showed the most distinct sectoral variations, are presented in Table 6, while the summarized interaction coefficients for all variables are displayed in Table 7.

Table 6 EPS Sensitivity

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.401891	3.651673	1.479292	0.1399
EPS (Main Effect)	0.000813	0.000237	3.427426	0.0007***
D_CONSUMER_DISC.	0.567031	1.52801	0.371092	0.7108
D_INDUSTRIALS	0.360066	1.477678	0.243671	0.8076
D_MATERIALS	-0.44424	1.717356	-0.258682	0.796
D_OTHERS	0.500067	1.432489	0.34909	0.7272
EPS X D_CONSUMER_DISC.	-2.65089	1.843075	-1.43829	0.1511

EPS X D_INDUSTRIALS	-1.15025	0.43102	-2.668681	0.0079***
EPS X D_MATERIALS	9.197107	4.949666	1.858127	0.0639*
EPS X D_OTHERS	-1.82766	1.969963	-0.927764	0.3541
AGE	1.47539	0.350362	4.211043	0.0000***

As shown in Table 5, the impact of EPS on financial distress is highly sensitive to industry characteristics. While the main effect of EPS remains positive, the interaction term for the Materials sector is positive and substantial (β = 9.197, p < 0.10). This suggests that in the Materials sector—which is capital-intensive and cyclical—profitability is a critical determinant of solvency; higher earnings in this sector translate more effectively into financial stability (higher Z-Score) compared to the Consumer Staples sector. Conversely, the Industrials sector shows a significant negative interaction (β = -1.150, p < 0.01), indicating that the protective effect of EPS on financial distress is weaker in this sector.

Table 7 **Sensitivity Result**

Industry	Code	DPS Coeff.	EPS Coeff.	ACCR Coeff.	ASSG Coeff.
Consumer Staples (Base)	CS	-0.0002	0.0008	-1.2876	-0.3437
Consumer Discretionary	CD	0.0016	-2.6509	1.0021	-5.2032
Industrials	IND	3.469	-1.1503	7.2951	-1.9753
Materials	MAT	0.0022	9.1971	-1.8889	-1.253
Others	OTH	-0.0092	-1.8277	2.6722	0.0001

Table 7 summarizes the directional sensitivity of all tested anomalies. For Dividend per Share (DPS), the Industrials sector exhibits a strong positive coefficient (3.469), implying that dividend payouts in this sector are a valid signal of financial health, unlike in the "Others" category where dividends correlate with higher distress risk. Regarding Accruals (ACCR), while the baseline effect is negative (indicating that higher accruals generally increase distress risk), the Industrials sector shows a notable positive coefficient (7.295). This anomaly suggests that industrial firms may have the operational capacity to manage high accruals without immediate threats to solvency. Finally, Asset Growth (ASSG) consistently shows negative coefficients across most major sectors, particularly in Consumer Discretionary (-5.203), reinforcing the finding that aggressive asset expansion without matching profitability exacerbates financial vulnerability.

Overall, the sensitivity analysis confirms that financial anomalies are not uniform across the market. The relationship between financial indicators and distress risk is context-dependent, with the Materials and Industrials sectors showing the most distinct responses to earnings and accrual anomalies.

4.7 Discussion

The empirical results provide strong evidence that financial anomalies contain meaningful information about corporate financial vulnerability in emerging markets. The findings consistently show that dividend policy, earnings signals, accrual behavior, and firm maturity are not merely pricing irregularities but also reflect underlying financial fragility as firms approach distress. This supports the argument that market inefficiencies intensify when fundamentals deteriorate, making anomalies observable well before formal failure occurs. In the Indonesian context, where information asymmetry, delayed disclosure, and limited market discipline remain prevalent, these anomalies function as early warning signals rather than neutral accounting or market artifacts.

The negative relationship between dividend per share and the Z-score indicates that dividend payments lose their traditional signaling role when firms face financial pressure. Instead of reflecting strength, higher dividends appear to represent managerial attempts to preserve investor confidence and delay negative market reactions despite weakening internal capacity. Dividend smoothing and payout persistence may therefore amplify financial vulnerability, particularly when dividends are not supported by sustainable cash flows. In emerging markets, reputational pressure and investor expectations often encourage firms to maintain dividends at the expense of balance-sheet resilience, accelerating the path toward distress rather than preventing it.

Earnings per share shows a positive association with financial health, confirming that earnings signals still retain informational value regarding internal firm stability even when markets do not immediately price them correctly. This suggests that earnings improvements often precede observable recovery in financial condition and that investors require time to distinguish between earnings driven by genuine operational performance and those arising from transitory accounting adjustments. As a result, EPS functions as a leading indicator of improving fundamentals rather than a contemporaneous market signal, reinforcing the relevance of earnings-based anomalies in distress prediction. At the same time, this finding highlights the importance of separating earnings level from earnings quality, as high reported profitability may still coexist with growing financial fragility.

Accruals emerge as the strongest and most economically meaningful predictor of financial distress. The magnitude and statistical significance of the accrual coefficient indicate that earnings quality deterioration is a central mechanism through which financial distress develops. Firms with high accrual components exhibit weaker cash-flow backing, lower earnings persistence, and greater exposure to earnings manipulation, all of which erode financial resilience. This confirms that accrual-based earnings management is not only a valuation anomaly but also a structural vulnerability that becomes visible before distress is captured by traditional financial ratios. The results reinforce the view that accrual anomalies are fundamentally linked to credit risk and operational fragility rather than mere investor mispricing.

Asset growth, although negatively associated with financial health, does not exhibit statistical significance in the baseline model, suggesting that investment behavior in Indonesia is highly heterogeneous. Asset expansion may reflect productive capacity building in some firms and inefficient capital allocation in others, causing opposing effects to offset each other at the aggregate level. This renders asset growth an unreliable standalone indicator of distress, particularly in an emerging market environment where expansion is often tied to structural transformation rather than speculative overinvestment alone. Firm age significantly improves financial stability, indicating that organizational maturity, accumulated experience, and established stakeholder relationships reduce distress risk. In contrast, firm size does not provide a protective effect, implying that scale alone does not guarantee resilience, as large firms may face operational rigidity and greater exposure to systemic risk.

While the baseline results confirm that financial anomalies are closely linked to distress, they do not fully capture the structural heterogeneity of firms operating in different industries. This creates an important analytical gap, as the transmission of financial vulnerability is likely to differ across sectors with distinct cash flow structures, asset intensity, and demand cyclicality. To address this limitation, this study extends the analysis using sensitivity tests that disaggregate the sample by industry groups, allowing for a more refined examination of how anomalies operate under different structural conditions.

The sensitivity analysis provides deeper insights by demonstrating that the effects of financial anomalies are not uniform across industries but vary substantially in both magnitude and direction. Dividend per share, for example, exhibits opposing effects depending on sectoral characteristics. In the Industrials and Materials sectors, higher dividends are associated with improved financial conditions, reflecting relatively stable cash flow generation and operational predictability. In contrast, in other sectors, dividend payments intensify financial vulnerability, suggesting that dividends are more likely to be residual, unsustainable, or disconnected from long-term cash flow capacity. This confirms that

dividend policy becomes a misleading signal of financial health when sectoral cash flow stability is weak, reinforcing the need for industry-adjusted interpretation.

Earnings per share also displays strong sectoral heterogeneity. In the Materials sector, EPS is positively associated with financial stability, indicating that earnings are more closely linked to operational performance and cash flow realization, likely due to the direct connection between profitability and commodity price cycles. Conversely, in Consumer Discretionary and Industrials sectors, higher EPS is associated with greater financial distress, implying that reported earnings may reflect short-term performance management, cyclical demand fluctuations, or accounting discretion rather than sustainable financial strength. These findings show that earnings signals are highly context-dependent and that profitability can mask vulnerability in sectors with volatile demand or intense competitive pressure.

Accruals remain the most consistent distress signal across both baseline and sensitivity models, although their impact is strongest in asset-intensive industries. In the Materials sector, high accruals significantly worsen financial conditions, as capital intensity and exposure to commodity cycles magnify the consequences of earnings manipulation. In contrast, the negative effect of accruals is attenuated in Industrials and Consumer Discretionary sectors, where operational flexibility and diversified revenue streams allow firms to absorb temporary accounting distortions. This pattern indicates that accruals function as a distress signal primarily when combined with structural constraints such as limited cash flow flexibility and high fixed investment.

Asset growth, while insignificant in the baseline model, shows a clear negative relationship with financial stability across most sectors in the sensitivity analysis, particularly in Consumer Discretionary, Industrials, and Materials. This suggests that aggressive expansion becomes a source of risk when growth is not aligned with sector-specific demand stability and financing capacity. In cyclical industries, rapid asset accumulation during favorable periods often leads to excess capacity and financial strain when conditions reverse. The near-zero effect in other sectors indicates that growth in these industries is more regulated, incremental, or less capital-intensive, reducing its impact on financial vulnerability. These results highlight that investment-related distress risk is fundamentally conditional on industry structure rather than firm size or growth alone.

Overall, the integrated findings demonstrate that financial anomalies influence financial distress through heterogeneous, industry-specific mechanisms rather than uniform firm-level channels. Earnings per share emerges as the most sector-sensitive anomaly, while accruals and asset growth consistently signal risk in capital-intensive and cyclical industries. Dividend policy, although significant in the aggregate model, becomes highly context-dependent once sectoral heterogeneity is considered. This confirms that the predictive power of anomalies depends not only on managerial behavior but also on the structural environment in which firms operate.

From a theoretical perspective, this study strengthens the integration of behavioral finance and corporate distress literature by showing that mispricing, earnings distortion, and managerial signaling intensify differently across industries as firms approach distress. The findings challenge the universal applicability of traditional ratio-based distress models and demonstrate the importance of incorporating industry context into early warning systems. In practical terms, the results imply that investors, analysts, and regulators must adopt industry-adjusted monitoring frameworks, as identical financial indicators may convey opposite meanings across sectors. By showing that financial distress is transmitted through heterogeneous anomaly mechanisms, this study provides a more realistic and comprehensive understanding of corporate vulnerability in emerging capital markets.

V.   Conclusion

This study provides strong evidence that fundamental financial anomalies contain important information regarding the early stages of financial distress among non-financial firms in emerging markets. Using a comprehensive panel dataset of firms listed on the Indonesia Stock Exchange during the period 2015–2024, the findings demonstrate that dividend per share, accruals, earnings per share, and firm age significantly influence financial distress, while asset growth and firm size do not show

statistically significant effects. These results indicate that traditional interpretations of corporate financial indicators may be misleading in environments characterized by information asymmetry and delayed market adjustment. Indicators that are commonly perceived as signals of financial strength, such as high dividend payouts and rising earnings, may instead reflect managerial attempts to maintain market confidence in the presence of weakening fundamentals. This study therefore confirms that financial distress is not only a function of poor performance but also of distorted information and inefficient market responses.

The evidence further highlights the role of accounting quality and managerial discretion in shaping firms' apparent financial health. The negative relationship between accruals and financial distress indicates that firms approaching distress rely more heavily on accrual-based earnings to obscure declining operational cash flows, thereby delaying external recognition of financial problems. Similarly, the positive relationship between earnings per share and distress suggests that reported profitability alone cannot be relied upon as an indicator of firm stability, particularly when earnings are not supported by strong cash flow performance. The significance of firm age also suggests that organizational maturity does not necessarily guarantee resilience, as older firms may face structural rigidity, declining competitiveness, or slower adaptation to economic and technological changes. Collectively, these findings reveal that financial distress emerges through a gradual process in which informational distortion, managerial behavior, and market inefficiency interact to mask underlying vulnerability.

From a theoretical perspective, this study extends the financial distress literature by integrating insights from behavioral finance and asset pricing into corporate failure prediction. Financial anomalies, which have traditionally been analyzed as sources of abnormal returns, are shown to function as forward-looking indicators of deteriorating financial conditions. This finding challenges the conventional separation between asset pricing anomalies and corporate finance outcomes, demonstrating that both are driven by similar underlying mechanisms of mispricing, delayed information processing, and incentive-driven reporting behavior. The results also contribute to emerging market research by showing that the behavior of earnings, dividends, and firm maturity differs from patterns commonly observed in developed markets, where information environments are more transparent and market discipline is stronger.

The practical implications of these findings are substantial. For investors, the results emphasize the importance of moving beyond surface-level financial indicators and incorporating earnings quality, payout sustainability, and firm lifecycle characteristics into risk assessment frameworks. High dividends and strong reported earnings should be evaluated cautiously, especially when cash flows and balance sheet conditions do not provide consistent support. For corporate managers, the findings underscore the risks of short-term financial signaling strategies that rely on accrual adjustments or dividend smoothing, as such actions may temporarily stabilize market perceptions but ultimately increase long-term financial vulnerability. Transparent reporting and conservative financial policies are therefore essential for maintaining sustainable financial health. For regulators and market supervisors, the study suggests that early warning systems should integrate anomaly-based indicators alongside traditional ratio-based models to improve detection of latent distress and reduce the likelihood of systemic corporate failures.

Although this study focuses on fundamental anomalies and employs the Altman Z-score as a single proxy for financial distress, the conclusions provide a clear foundation for future research. Subsequent studies may extend this framework by incorporating market-based anomalies, macroeconomic conditions, alternative distress measures, and cross-country comparisons to enhance generalizability and robustness. Overall, this study demonstrates that financial anomalies are not merely pricing irregularities but reflect deeper structural weaknesses in firm fundamentals, offering valuable insights for improving early detection and prevention of corporate financial distress in emerging markets.

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