The moderating role of profitability in predicting financial distress in companies within the property and real estate sector

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Abstract

The purpose of this study is to provide empirical evidence through a purposive sampling approach to understand the role of profitability when a company is experiencing financial constraints and to predict the influence of leverage, company size, and sales growth. Data testing was conducted on 13 property and real estate companies listed on the Indonesia Stock Exchange (IDX) in the period 2014-2024. Data analysis used partial and moderation tests. The results of the data testing indicate that leverage and company size have an impact on financial distress, but this does not correspond to sales growth, which has no impact on financial distress. Furthermore, profitability is proven unable to moderate leverage and sales growth on financial distress, while company size weakens the impact on financial distress.

Keywords: *financial distress; leverage; firm size; sales growth*

Abstrak

Tujuan penelitian untuk memberikan bukti empiris melalui pendekatan purposive sampling mengetahui peran profitabilitas pada saat perusahaan sedang mengalami kendala keuangan dan memprediksi pengaruh leverage, ukuran perusahaan, pertumbuhan penjualan. Uji data dilaksanakan pada 13 perusahaan sektor property dan real estate yang terdaftar di BEI 2014-2024. Analisis data menggunakan uji parsial dan moderasi. Hasil dari uji data memberikan informasi bahwa Leverage dan ukuran perusahaan memiliki dampak pada financial distress, tetapi hal tersebut tidak sesuai dengan pertumbuhan penjualan yang tidak memberikan dampak terhadap financial distress. Selanjutnya Profitabilitas terbukti tidak mampu memoderasi leverage dan pertumbuhan penjualan terhadap financial distress, sedangkan ukuran perusahan memperlemah terhadap financial distress.

Kata Kunci: *financial distress; leverage; ukuran perusahaan; pertumbuhan penjualan; profitabilitas*

INTRODUCTION

The primary purpose of the owner in establishing the company is to generate maximum profit in order to cover the company's operational expenses, henceforth, a long-term strategy is essential to ensure the sustainability of the company amidst intense market competition. Nevertheless, several companies have yet to successfully realize the objectives they have set forth. (Sugiharto et al., 2021). The property and real estate sector constitute a strategic component of the national economy, contributing significantly to economic growth, employment generation, and the fulfillment of housing and commercial space needs. In recent years, the property sector in Indonesia has experienced considerable pressure. Between 2014

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and 2019, the overall property market exhibited signs of a slowdown, recording an average growth rate of only 1.77%. This was reflected in the commercial property price index, which increased by merely 0.32% year-on-year, a trend that may have been driven by weakening business sentiment, already inflated property prices, and a rise in the Bank Indonesia (BI) interest rate (BeritaSatu, December 27, 2014). Subsequently, the Covid-19 pandemic, which emerged at the end of 2019, further exacerbated the situation by causing a significant economic downturn in Indonesia. The resulting instability in both global and domestic economic conditions led many individuals to postpone property purchases in an effort to preserve liquidity. In some cases, individuals refrained entirely from investing in property due to the prevailing economic uncertainty (detikEdu, accessed April 24, 2021). It must be acknowledged that the recovery of Indonesia's property sector in the post-pandemic period has remained relatively weak. This is evident from the national expenditure-based Gross Domestic Product (GDP) data, which show that household consumption for housing and investment in building construction have continued to experience limited growth through to 2024. This trend is further reflected in the Residential Property Price Index (RPPI), which recorded a year-on-year increase of only 1.46% in the third quarter of 2024 (Bank Indonesia, November 26, 2024).

Unstable economic conditions and pressures also affect business activities, causing companies to experience financial distress, which in turn leads to a decline in their financial performance. When a business experiences financial distress, it means that the business is facing a crisis and showing signs of difficulty in generating profits, as well as suffering continuous losses in operations throughout the year, and is unable to pay its debts, which can reduce the amount of capital ownership (Annisa et al., 2021). Corporate failure is generally characterized by an inability to pay obligations to creditors, preferred shareholders, and other bills, which can ultimately be categorized as legal bankruptcy (Giannopoulos & Sigbjørnsen, 2019). Internal factors contributing to financial distress include leverage, company size, sales growth, and profitability. Therefore, companies need to monitor financial statements regularly to evaluate performance and take preventive measures to avoid financial crises (Suot & Koleangan, 2020).

Leverage is a ratio that provides an analysis of the extent to which a company uses debt to cover its operating costs (Ria, Bambang Subiyanto, & Arni Karina, 2022). Excessive use of debt can increase financial risk, causing companies to fall into the category of extreme leverage, where high debt burdens are difficult to repay. If companies are too dependent on debt, the risk of future payment difficulties increases, which can increase the likelihood of financial distress. According to the empirical evidence presented by (Jannah et al., 2021) state that leverage affects financial distress, where the higher the leverage ratio, the higher the possibility of a company experiencing financial distress. Meanwhile, this differs from the results of research by (Limajatini et al., 2022), which states that leverage does not affect financial distress because financial difficulties can be influenced by several factors, such as equity, cash flow, sales, and the quality of human resources.

Firm size is a scale for determining the size of a company, which is measured by total assets (Bahri, 2018;137). Large companies usually have large book values and large transaction developments, so their profits will also be greater. This result is supported by research (Aji & Anwar, 2022). Conversely, research (Sari & Wahyuni, 2023) states that firm size has no effect on financial distress. This means that the size of a company's total assets cannot predict financial distress. The size of total assets cannot predict financial distress because there is a possibility that the company also has large debts, so that at any time a large company can experience financial distress.

Sales growth is quantified by evaluating the comparative sales performance between the current fiscal period and the preceding one, serving as a key indicator of the firm's operational trajectory. It ostensibly reflects the efficacy of managerial strategies aimed at sustaining

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organizational continuity and mitigating the likelihood of financial distress. However, extant literature presents divergent findings regarding the influence of sales growth on financial distress. For example, Muslimin and Bahri (2023) identify a statistically significant relationship between sales growth and financial distress, whereas Miswaty and Novitasari (2023) report an absence of such an association. Therefore, the rate of sales growth should not be solely relied upon as a definitive metric for assessing financial distress risk. Notably, an increase in sales accompanied by a commensurate escalation in sales-related expenditures may result in stagnant or diminished profitability, thereby failing to alleviate the potential for financial distress.

Profitability is able to analyze financial conditions through profits obtained in financing various types of debt and other entities' operational costs so that unexpected financial distress can be overcome (Sukamulja, 2019;98). In this case, profitability is proxied by return on assets (ROA) and used as a moderating variable. The results of the study by (Sitorus et al., 2022) state that high profitability indicates that a company has sufficient income to cover operational expenses and financial obligations, thereby reducing the possibility of financial distress. However, this study contrasts with the results of a study by (Astuti & Dewi, 2024), which states that profitability has no effect on financial distress, that return on assets has no influence in predicting financial crises. This is because companies still have other available sources of funds to meet their debts. While many studies examine profitability as independent variable, this study considers profitability as a moderating variable and due to the inconsistent results of previous studies regarding the relationship between macro and microeconomic factors and financial distress, the author is interested in examining whether there are still theoretical gaps that can be proven empirically in companies in the property and real estate sector.

LITERATURE REVIEW

Financial distress

Financial distress is characterized by a company facing monetary difficulties that impair its operations, namely difficulties in meeting its obligations, so that the company is unable to manage its operations properly. The worst situation for a company facing financial difficulties is when it goes bankrupt (Mariano et al., 2021). Damodaran in Nailufar et al. (2018) states that a company is said to be experiencing financial distress due to several factors, namely cash flow difficulties, large amounts of debt, and operational losses.

In 1968, Altman successfully developed the first bankruptcy prediction model, which was named the First Altman model (Z Scores). The bankruptcy prediction analysis in Altman's initial model is based on the following original model is (Ihsan et al, 2019:222):

$$Z=1{,}2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

Where:
Z: bankruptcy index
X_1*: working capital / total asset*
X_2: *retained earnings / total asset*
X_3: *earnings before interest and taxes/total asset*
X_4: *market value of equity / book value of total debt*
X_5*: sales / total asset.*

Leverage

Leverage is approximated by the Debt to Total Asset Ratio (DAR). DAR is a ratio that shows the value of assets used to secure a company's liabilities. Analysis of the leverage level is

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important because a high debt ratio without a good management strategy can be a major factor in accelerating financial distress. Thus, companies need to balance the use of debt and equity to ensure business sustainability. Debt to asset ratio (DAR) is a ratio that compares total debt to total assets (Anita et al., 2023).

$$\text{Debt to asset ratio (DAR)} = \frac{\text{Total liabilities}}{\text{Total assets}}$$

Firm size

The greater the total assets, the larger the size of a company. An increase in assets reflects a higher level of invested capital, while greater sales indicate a higher volume of monetary circulation within the company. Therefore, company size can be defined as a measure of the scale or amount of assets owned by a firm (Elvira & Hotang, 2025). And measured by the formula of:

$$\text{Firm Size} = \ln(total\ assets)$$

Sales growth

Sales growth is commonly driven by one or more factors, including price adjustments, changes in sales volume, mergers and acquisitions or divestitures, and fluctuations in exchange rates. The *Management Discussion and Analysis* (MD&A) section of corporate financial reports typically provides a detailed explanation of the underlying causes of sales growth (Yeni et al., 2024, p. 47). Well-defined criteria for evaluating high-quality sales growth include the following:

$$\text{Sales growth} = \frac{Net\ sales_t - Net\ sales_{t-1}}{Net\ sales_{t-1}}$$

Where,
$Net\ sales_t$: Net sales (current period)
$Net\ sales_{t-1}$: Net sales (previous period)

Profitability

Profitability ratios refer to comparative measures used to assess a company's ability to generate profit over a specific period, derived from revenues related to sales, assets, and equity. These ratios also serve as indicators of managerial effectiveness, as evidenced by the profits generated from operating activities or investment income (Prihadi, 2020). Profitability may be proxied by the following indicators:

$$Return\ on\ asset = \frac{Net\ income}{Average\ total\ assets}$$

Hypothesis development

The impact of leverage on financial distress

Leverage refers to a financial ratio used to assess a company's ability to meet its short-term and long-term obligations (Kurniasih et al., 2020). A firm's future liabilities are directly correlated with the scale of its financial commitments. Companies that rely excessively on debt to finance their operations face the risk of being unable to meet debt and interest payments in

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a timely manner. This may lead to operational disruptions that negatively impact revenue generation (Fitri & Syamwil, 2020). Moreover, when a company's debt surpasses the value of its assets, high leverage increases its vulnerability to financial distress, particularly if such conditions are not effectively managed.

H_1: Leverage has a positive effect on financial distress.

The impact firm size on financial distress

Firm size refers to the magnitude of a company as measured by its total assets. A company with substantial total assets is generally considered to be in a stable financial condition, enabling it to generate consistent profits. This financial stability, in turn, reduces the likelihood of experiencing financial distress. According to Dirman (2020), larger firms are less likely to face financial distress, as their greater asset base enhances their ability to meet financial obligations and mitigates the risk of future financial difficulties.

H_2: Firm size has a positive effect on financial distress.

The impact sales growth on financial distress

A high rate of sales growth can contribute to improved cash flow, enhance a firm's capacity to fulfill its future obligations, and decrease the likelihood of experiencing financial distress (Junior & Wijaya, 2022). Conversely, low sales growth may increase the risk of financial distress due to declining revenues relative to previous quarters, which can adversely affect the firm's assets, profitability, and debt levels.

H_3: Sales growth has a positive effect on financial distress.

The moderating effect of probability on the relationship between leverage and financial distress

Profitable firms are generally more capable of meeting their debt obligations, thereby reducing the likelihood of encountering financial distress (Wilujeng & Yulianto, 2020). In the long term, increasing levels of profitability can enhance retained earnings, which may be reinvested to expand the company's assets. This reduces the firm's dependence on external financing, such as debt, due to the sufficiency of internal funding sources. Moreover, high profitability may mitigate the adverse effects of leverage, thus further decreasing the probability of financial distress (Naibaho & Natasya, 2023).

H_4: Profitability moderates the effect of leverage on financial distress.

The moderating effect of firm size on the relationship between leverage and financial distress

Firms with substantial total assets are generally considered to be in a mature stage, as indicated by stable and positive cash flows along with promising profitability prospects (Hidayat et al., 2024). The risk of financial distress tends to be lower in larger firms, particularly when supported by the ability to generate optimal profitability. Profitability contributes to firm growth, as retained earnings can be utilized to acquire additional assets. Consequently, profitability may serve as a moderating variable that reduces the strength of the relationship between firm size and financial distress.

H_5: Profitability moderates the effect of firm size on financial distress.

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The moderating effect of sales growth on the relationship between leverage and financial distress

Moreover, profitability enables firms to enhance sales growth by investing in innovation, product development, and product differentiation, which helps maintain competitiveness and business sustainability (Naibaho & Natasya, 2023). It is widely accepted that a company's ability to generate profits can mitigate financial distress by strengthening the positive impact of sales growth. Specifically, higher sales growth, supported by profitability, is associated with a reduced likelihood of experiencing financial distress (Naibaho & Natasya, 2023).

H_6: Profitability moderates the effect of sales growth on financial distress.

METHOD

This study utilizes a descriptive-verificative quantitative approach, focusing on theory testing through the measurement of research variables and the application of statistical methods for data analysis (Mulyanto & Wulandari, 2019). The data analysis procedure includes descriptive statistics, panel data linear regression analysis, classical assumption testing, coefficient of determination testing, and moderation ratio testing. Panel data regression analysis was performed using E-Views 12 to assess the effects of leverage (DAR), firm size (size), and sales growth as independent variables on financial distress (FD) as the dependent variable. Profitability (ROA) was incorporated as a moderating variable.

Sample criteria

The population of this study comprises all companies within the property and real estate subsector listed on the Indonesia Stock Exchange. Purposive sampling was employed to select the sample based on specific criteria, including:

1. Companies in the property and real estate subsector listed on the Indonesia Stock Exchange for the period 2014–2024. The rationale for selecting companies from the property and real estate sector has been thoroughly discussed in the background section.
2. The study focuses on companies within the property and real estate subsector listed on the Indonesia Stock Exchange during the period from 2014 to 2024. The rationale for selecting companies from the property and real estate sector has been thoroughly outlined in the background section.
3. Audited financial statements from the period 2014 to 2024, with no recorded losses during this timeframe;
4. Additionally, the companies included in the study must have issued financial statements denominated in Indonesian Rupiah.

Based on the established criteria, a sample of 13 companies was selected from a population of 45 companies spanning the period 2014 to 2024, yielding a total of 143 observations. The data will be analyzed using statistical methods in EViews 12, encompassing measurement model analysis, structural model analysis, and hypothesis testing.

RESULTS AND DISCUSSION

The analytical tool used in this study is E-Views, which provides three estimation models: the common effect model (CEM), the fixed effect model (FEM), and the random effect model (REM). According to the results of the Chow test conducted using EViews 9, the cross-section

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F statistic for the profitability variable is 0.000, which is below the significance level of 5% (α = 0.05). This suggests that the fixed effect model (FEM) is the most appropriate specification. Consequently, the analysis proceeds with the Hausman test. Subsequently, the Hausman test yields a probability value of 0.5288, which is higher than the 5% significance level (α = 0.05). This result suggests that the random effect model (REM) is the most suitable model to apply. The final test, the Lagrange Multiplier test, yielded a Breusch-Pagan significance value of 0.0000, which is below the 5% significance level (α = 0.05). This indicates that the random effect model (REM) is the most appropriate model to be employed.

Following the estimation process and model selection in this study, the random effect model (REM) was chosen. The testing results, based on the REM and using the criterion that Sig. > α (0.05), yielded the following findings from the data analysis

Table 1. T test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.3654	5.1156	-0.6579	0.5117
X_1_DAR	-11.1333	0.8041	-13.8457	0.0000
X_2_SIZE	0.3438	0.1729	1.9882	0.0488
X_3_PP	0.093	0.1448	0.6424	0.5217

Source: Results of data processing (2025)

Based on the results of the T-test presented in Table 1, the findings from the random effect model (REM) estimation can be described as follows:

1. The independent variable, Leverage, shows a probability value of 0.00, indicating a significance level below 0.05. This result implies that hypothesis H_1 is accepted, meaning that leverage has a significant effect on financial distress. A high level of Leverage reflects the company's heavy reliance on external funding sources in the form of debt, which ultimately increases its fixed financial obligations, such as interest payments and debt repayments. This condition sends a negative signal to the market, suggesting that the company faces higher financial risk and is more vulnerable to experiencing financial distress, as it must strive to meet its debt repayment obligations (Antoniawati & Purwohandoko, 2022).
2. The independent variable, firm size, has a probability value indicating a significance level of 0.04, which is less than 0.05. This result indicates that hypothesis 2 (H_2) is accepted, meaning that firm size has a positive effect on financial distress. Larger firms are considered more stable due to having greater resources, broader access to external financing, and better capabilities in managing business risks. This suggests that large firms are better equipped to withstand financial pressures, thereby reducing the likelihood of experiencing financial distress (Stepani & Nugroho, 2023).
3. The independent variable, sales growth, has a probability value indicating a significance level of 0.52, which is greater than 0.05. This result indicates that hypothesis 3 (H_3) is rejected, meaning that sales growth does not have a significant effect on financial distress. Sales growth serves as an indicator of a company's sales performance over time, reflecting whether the company has succeeded in increasing its transaction volume. Although a company may experience an increase in sales growth year over year, high costs such as administrative expenses and interest payments—deducted after the cost of goods sold—may prevent the company from achieving optimal profitability or may even result in losses. Consequently, the company may still experience financial distress despite positive sales growth.

Based on the results of the moderating regression analysis (MRA) test presented in Table 2, the findings from the random effect model (REM) estimation can be described as follows:

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Table 2. Moderating Regression Analysis Test (MRA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.8075	0.4363	15.6011	0.0000
DAR*ROA	2.5881	8.5251	0.3036	0.7619
Size*ROA	-2.399	1.172	-2.047	0.0425
PP*ROA	2.9656	1.7706	1.6749	0.0962

Source: Results of data processing (2025)

the results of the moderating regression analysis (MRA), can be described as follows:

1. The role of profitability as a moderating variable in the relationship between leverage and financial distress yielded a probability value of 0.76, which is greater than the significance level of 0.05. This result indicates rejection of H_4, implying that profitability does not significantly weaken or strengthen the effect of leverage on financial distress.

2. Profitability as a moderating variable in the relationship between firm size and financial distress yielded a probability value of 0.04, which is below the 0.05 significance level. This result indicates acceptance of H_5, suggesting that profitability significantly strengthens the effect of firm size on financial distress.

3. Profitability as a moderating variable in the relationship between sales growth and financial distress yielded a probability value of 0.09, which exceeds the 0.05 significance level. This result indicates rejection of H_6, suggesting that profitability does not significantly strengthen the effect of sales growth on financial distress.

Impact leverage on financial distress

The empirical findings indicate that leverage exerts a negative influence on financial distress. In other words, a higher leverage ratio is associated with a lower likelihood of financial distress. This suggests that the probability of a firm filing for bankruptcy decreases as its debt level increases. Such a condition may be attributed to the company's high total debt being supported by substantial assets and strong equity capital, which enable the firm to fulfill its debt obligations through internal funds and resources. This outcome reflects the firm’s ability to manage debt financing effectively, allowing it to generate sufficient operational income to service its debts. These findings are consistent with the study by Bukhari and Rozalinda (2022), which concluded that leverage has a negative effect on financial distress.

Impact firm size on financial distress

The study also reveals that financial distress is negatively correlated with firm size. That is, the larger the assets managed by a company, the lower its likelihood of experiencing financial distress. Conversely, smaller firms tend to face a higher risk of financial distress. Larger firms are generally associated with lower financial distress risk due to higher investor expectations, as their stock value in the capital market is often driven by relatively more stable conditions. The market price of a company’s shares may increase in response to higher demand, reflecting greater investor confidence in larger firms. These findings are consistent with prior research by Arya and Suhendah (2024), which concluded that firm size has a negative effect on financial distress.

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Impact sales growth on financial distress

Financial distress is not significantly affected by sales growth. This is because a company does not necessarily become more profitable by increasing or decreasing its sales growth, indicating that sales growth has minimal influence on financial distress. High expenditures may accompany increased sales growth, thereby reducing the amount of profit that contributes meaningfully to the company's financial health. Both high and low levels of sales growth may not be followed by an increase in profits. Moreover, rapid sales growth does not necessarily come with low operational costs, meaning that net income may be only marginally positive—or even negative. This situation can potentially worsen the company's financial condition and increase the likelihood of financial distress in the future. These findings are consistent with the studies by Suryani (2020) and Oktaviani & Lisiantara (2022), which state that sales growth does not have a significant effect on financial distress.

Profitability as a moderator in the relationship between leverage and financial distress

The test results indicate that profitability does not moderate the relationship between leverage and financial distress. This may be due to the company's profitability being insufficient to support the fulfillment of its financial obligations (Naibaho & Natasya, 2023). When a company fails to utilize its earnings to repay debt, financial problems may arise. If profits are primarily allocated to routine operational expenses without prioritizing debt repayment, the company may struggle to meet its obligations. Delayed debt payments can lead to penalties, fines, or even a downgrade in credit ratings, ultimately jeopardizing the overall financial health of the firm. These findings are consistent with the prior study by Naibaho and Natasya (2023).

Profitability as a moderator in the relationship between firm size and financial distress

Profitability acts as a moderating factor that weakens the relationship between firm size and financial distress. This indicates that large firms may still be vulnerable to financial distress, particularly when they fail to generate sufficient income. However, when profitability is high, this relationship becomes weaker, as profitability provides a significant financial buffer that can help minimize the risk of financial distress. Furthermore, the assets owned by the company may offer greater opportunities to enhance profitability, thereby reducing the likelihood of financial distress. This is in line with the argument presented by Suryani (2020) in her research findings.

Profitability as a moderator in the relationship between sales growth and financial distress

Profitability refers to the net income of an entity relative to its total assets, and is used to assess the effectiveness of a firm in generating profit from the utilization of its assets. However, profitability does not have the capacity to control or mitigate the impact of sales growth on financial distress, as only a small amount of profit is generated due to the high expenses that accompany sales—particularly after deducting the cost of goods sold. Moreover, the profit earned is not directed toward boosting sales growth but is instead allocated to other purposes, such as funding operational activities or increasing retained earnings. As a result, profitability fails to moderate the influence of sales growth on financial distress. This finding is consistent with the study by Zulfa (2018), which stated that profitability does not strengthen the effect of leverage on financial distress.

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CONCLUSIONS

Considering the various factors that contribute to financial distress, firms are advised to adopt a prudent approach to financial management, particularly with regard to leverage, firm size, sales growth, and profitability. The findings of this study reveal several key insights. First, leverage has a statistically significant positive effect on the likelihood of financial distress, indicating that higher leverage increases financial risk. In contrast, firm size shows a negative and direct relationship with financial distress, suggesting that larger firms are less susceptible to financial difficulties. Sales growth, however, does not have a statistically significant impact on financial distress. Regarding profitability, it does not moderate the relationship between leverage and financial distress nor between sales growth and financial distress. Profitability does, however, attenuate the direct effect of firm size on financial distress, reducing the strength of this association. The inconclusive findings related to profitability may be attributed to the proxies used and the measurement of other determinant variables. Therefore, future research should explore alternative proxies and methodologies to obtain more definitive insights. Furthermore, regular performance evaluations and the implementation of sound financial strategies are crucial for firms to mitigate bankruptcy risks and enhance their resilience in an increasingly dynamic economic environment.

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APPENDICES

Result from the EViews output

Table 1. t-test

Dependent Variable: Y_FD
Method: Panel EGLS (Cross-section random effects)
Sample: 2014 2024
Periods included: 11
Cross-sections included: 13
Total panel (balanced) observations: 143

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.365415	5.115596	-0.657874	0.5117
X1_DAR	-11.13334	0.804103	-13.84566	0.0000
X2_SIZE	0.343781	0.172908	1.988232	0.0488
X3_PP	0.093033	0.144817	0.642416	0.5217
	Effects Specification			
			S.D.	Rho
Cross-section random			0.857803	0.6158
Idiosyncratic random			0.677541	0.3842

Source: Results of data processing (2025)

Table 2. Moderating Regression Analysis Test (MRA)

Dependent Variable: Y_FD
Method: Panel EGLS (Cross-section random effects)
Sample: 2014 2024
Periods included: 11
Cross-sections included: 13
Total panel (balanced) observations: 143

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.807480	0.436348	15.60105	0.0000
DAR*ROA	2.588149	8.525149	0.303590	0.7619
Size*ROA	-2.399001	1.171964	-2.046992	0.0425
PP*ROA	2.965615	1.770630	1.674893	0.0962
	Effects Specification			
			S.D.	Rho
Cross-section random			0.925065	0.6473
Idiosyncratic random			0.682805	0.3527

Source: Results of data processing (2025)

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