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The Effect of Profitability, Leverage, And Liquidity on Financial Distress

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ABSTRACT

This study aims to analyze the effect of profitability, leverage, and liquidity on financial distress in property and real estate sector companies listed on the Indonesia Stock Exchange (IDX) in 2024. A quantitative approach with an associative research design was employed, involving 72 companies as the sample, selected through purposive sampling from a total population of 92 companies. Data analysis was conducted using multiple linear regression with the assistance of SPSS software version 24. Prior to hypothesis testing, classical assumption tests were performed, comprising normality, multicollinearity, and heteroscedasticity tests, all of which were satisfied. The results of the partial test (t-test) show that profitability has a negative and insignificant effect, leverage has a positive and insignificant effect, and liquidity has a positive and insignificant effect on financial distress. Meanwhile, the coefficient of determination (R Square) of 2.4% indicates that profitability, leverage, and liquidity simultaneously explain 2.4% of the variation in financial distress among property and real estate sector companies listed on the IDX in 2024, while the remaining 97.6% is explained by other factors outside this research model.

INTRODUCTION

As business entities, companies cannot be separated from the motivation to achieve stable and sustainable profitability as the foundation for business continuity. The generation of profit enables companies to accumulate additional capital from their operational activities, whereas an inability to adapt to the dynamics of the business environment has the potential to cause a decline in financial performance, losses, and financial distress leading to bankruptcy [1]. Financial distress represents a major threat to the continuity of property and real estate businesses, in which companies experience difficulty meeting short-term obligations due to declining asset sales and rising financing costs [2].

The phenomenon of financial distress is not an issue confined to a single country or sector. Empirical evidence from the financial services sector in Ethiopia shows that capital structure, liquidity, and profitability consistently constitute the primary determinants of corporate financial difficulty across developing countries [3], indicating that the pattern of relationships between financial ratios and bankruptcy risk is relatively universal even though industry and regulatory contexts differ. At the global level, the property sector has also not been immune to this risk; the liquidity crises experienced by several major developers in the Asian region in recent years illustrate how the aggressive use of leverage to finance project expansion can lead to default when market demand slows, thereby reinforcing the relevance of examining leverage in relation to financial distress in this sector more broadly.

Recent international studies published between 2024 and 2026 further extend this line of inquiry beyond the conventional ratio-based approach adopted in earlier research. In China's real estate sector, [37] show that developers' capital structure and subsequent financial distress are shaped not only by internal financial ratios but also by supply-side factors, such as sales-ranking-driven access to bank credit, indicating that the determinants of financial distress in property-related industries extend beyond the financial statement variables commonly used in conventional models. In a transition-economy context, [38] employ several classification techniques, including logistic regression, support vector machines, and neural networks, together with the synthetic minority oversampling technique, to address the scarcity and imbalance that typically characterize financial distress data in emerging markets such as Vietnam. Meanwhile, [39]

demonstrate that machine-learning-based models applied to Indonesian firms substantially outperform conventional ratio-based regression in predicting financial distress, with liquidity and asset-management variables emerging as stronger predictors than profitability alone. These recent developments confirm that financial distress prediction remains an active and rapidly evolving research area at the international level, and they reinforce the relevance of the present study while pointing to methodological directions, such as the incorporation of supply-side and non-ratio variables and the use of machine-learning approaches, that could be pursued in future extensions of this research.

Property and real estate companies play an important role in driving the national economy, both through their direct contribution to Gross Domestic Product (GDP) and through the multiplier effect on hundreds of related industries such as building materials, construction services, and financing institutions. Nevertheless, this sector is a capital-intensive industry with a high dependence on external financing. Companies in this sector frequently face declining sales performance and project delays during periods of economic disruption, which result in decreased cash inflows and increased risk of financial deterioration [4]. When revenue declines, business liquidity decreases and unpaid debt increases financial pressure [5], and property and real estate companies with high leverage and low profitability have been shown to be more vulnerable to financial difficulty [6].

According to data from the Central Statistics Agency (Badan Pusat Statistik) [7], Indonesia's macroeconomic conditions slowed throughout 2024, with annual national economic growth of 5.03% and the construction sector's contribution to fourth-quarter 2024 GDP amounting to 10.43% as the backbone of the property industry. Pressure on the property sector was clearly evident on the demand side, where, according to the Residential Property Price Survey for the fourth quarter of 2024, sales of residential property in the primary market contracted by 15.09% (year-on-year), a deeper contraction than the 7.14% (yoy) recorded in the third quarter of 2024 [8]. On the price side, the Residential Property Price Index grew by only 1.39% (yoy) in the fourth quarter of 2024, slowing from 1.46% in the previous quarter, reflecting weakening market absorption and worsening companies' liquidity position, as property inventory is difficult to convert into cash quickly.

In terms of financing, the same survey also recorded that the primary source of funding for residential property development still relies heavily on developers' internal funds, with a share of 74.38%, while bank loans contributed only 15.18% [8]. Mortgage credit growth, which had reached 14.26% (yoy) in 2024, was projected to slow to 8.89% (yoy) in the following period [9], reflecting tighter financing access for consumers while simultaneously depressing developers' sales and increasing the leverage risk of property and real estate companies. The combination of high dependence on internal funds, slowing credit growth, and sales contraction places companies in a structurally more vulnerable position with respect to cash flow pressure, making the monitoring of financial distress through financial ratios increasingly relevant and urgent during this period.

To identify and analyze the condition of financial distress in property and real estate companies listed on the IDX, this study employs three main financial ratios, namely profitability, leverage, and liquidity. Profitability is proxied by Return on Assets (ROA) and Net Profit Margin (NPM), which together provide a comprehensive picture of a company's efficiency in managing its assets and equity in order to prevent financial distress [10]. A company's profit-generating ability is also inseparable from the overall efficiency of resource use, as demonstrated in studies on the relationship between financial ratios and firm value that emphasize the importance of profitability as an indicator of long-term financial health [11].

Leverage is proxied by the Debt to Asset Ratio (DAR) and the Debt to Equity Ratio (DER), where higher values of both ratios indicate a greater risk of financial distress faced by the company [12], [13]. A number of studies across various sectors further confirm the central role of leverage in increasing corporate financial vulnerability, including in property and real estate companies that structurally rely on debt-based financing to fund long-term projects [14], [15]. Meanwhile, liquidity is proxied by the Current Ratio (CR) and the Cash Ratio, where low values of both ratios serve as a strong signal of a company's potential financial distress [16], [17]. These three ratios were selected because they theoretically represent three complementary dimensions of financial health, namely profit-generating ability, capital structure, and short-term obligation-meeting ability, so that their combination is expected to provide a more complete picture of financial distress risk than would be obtained by relying on a single dimension alone.

Although research on financial distress in property and real estate companies has been widely conducted, prior findings still show inconsistencies that represent an important research gap to be addressed. [18] found that profitability had a significant negative effect on financial distress, liquidity had no effect, while leverage had a significant positive effect. [5] found that leverage had no effect on financial distress in property and real estate companies during the 2016-2021 period, while [19] found that profitability and leverage had no effect, but liquidity had a significant effect. Varied findings also emerge from other studies: [14] found that profitability, leverage, and liquidity jointly affected financial distress, while [15] showed that profitability and liquidity had an effect but leverage was not significant. In more specific research contexts, [20] found that firm size, leverage, profitability, liquidity, and efficiency jointly influenced financial distress, while [21], which examined property and real estate companies during the 2021-2023 period, showed that profitability and cash flow had a significant effect, but leverage and firm size did not. Research by [22] on the same object also found that financial performance and firm size did not consistently affect financial distress from year to year. A summary of relevant prior research is presented in Table 1.

Table 1. Summary of Relevant Prior Research

Researcher (Year)	Object/Period	Variables	Main Findings
Yoganata & Fitria (2024)	Manufacturing companies	Profitability, leverage, liquidity	All three variables affect financial distress
Jessie & Tannia (2023)	Property & real estate, 2019-2022	Liquidity, activity, profitability, leverage	These variables affect financial distress
Kudus & Meidiyustiani (2022)	Property & real estate, 2016-2021	Profitability, leverage, liquidity	Leverage has no significant effect
Nisa et al. (2025)	Property & real estate, 2018-2020	Profitability, leverage, liquidity	High leverage and low profitability increase risk
Saraswati et al. (2020)	Property & real estate	Profitability, liquidity, leverage	Profitability significant negative; leverage significant positive; liquidity not significant
Masiri et al. (2023)	Property & real estate	Profitability, liquidity, leverage	Liquidity significant; profitability and leverage not significant
Darmawan & Triyono (2025)	Various sectors	Firm size, leverage, profitability, liquidity, efficiency	All five variables jointly affect financial distress
Hutapea et al. (2025)	Property & real estate, 2021-2023	Profitability, leverage, cash flow, firm size	Profitability & cash flow significant; leverage & firm size not
Syuhada et al. (2020)	Property & real estate	Financial performance, firm size	Inconsistent effect across years
Isayas (2021)	Insurance companies, Ethiopia	Capital structure, liquidity, profitability	All three are main determinants of financial distress

Table 1 shows that although the three independent variables in this study have been widely tested across various research contexts and periods, the results obtained remain varied and have not shown a consistent pattern of influence. This recurring divergence in findings indicates that the effect of profitability, leverage, and liquidity on financial distress is highly context-dependent, being influenced by the observation period, sector characteristics, and the macroeconomic conditions surrounding the research sample. Combined with the absence of prior research specifically examining the 2024 period, when the property and real estate sector experienced its deepest sales contraction as described earlier, this condition reinforces the urgency of the present study in generating more up-to-date and relevant empirical evidence. The novelty of this study lies in its use of 2024 financial statement data as a single observation period that has not previously been specifically examined, as well as in its use of two measurement proxies for each independent variable (ROA and NPM for profitability; DAR and DER for leverage; CR and Cash Ratio for liquidity) in order to obtain a more comprehensive picture than prior studies, which generally employ only a single proxy for each variable.

Based on the description above, this study aims to (1) analyze the effect of profitability on financial distress, (2) analyze the effect of leverage on financial distress, and (3) analyze the effect of liquidity on financial distress in property and real estate companies listed on the IDX in 2024. The results of this study are expected to provide practical contributions for investors and creditors in assessing companies' financial risk prior to making investment or credit decisions, as well as academic contributions in the form of updated empirical evidence on the determinants of financial distress in the Indonesian property and real estate sector. This topic is also relevant to the discussion agenda of economic, financial, and creative industry forums such as the International Conference on Economics, Finance and Creative Industry (ICEFCI), given that the property and real estate sector is one of the main drivers of economic growth whose sustainability is highly dependent on the financial health of its business actors. A better understanding of the determinants of financial distress in this sector is beneficial not only for academics and industry practitioners, but also for policymakers in formulating regulations that support the stability of the property and real estate sector amid ever-changing economic dynamics.

Financial Distress

Financial distress is a condition in which a company experiences financial difficulty characterized by an inability to meet its financial obligations, whether operational obligations or maturing debt [23]. [24] explains that financial distress can be identified through declining financial performance, rising operating costs, and a decreasing ability of the company to generate profit. This condition arises from an imbalance between cash inflows and obligations that must be paid, such that the company is unable to meet either its operational needs or its debt obligations [25]. Factors influencing financial distress may originate from internal aspects, such as liquidity, leverage, activity, profitability, and firm growth [1], as well as external aspects, such as economic conditions and industry competition.

In general, financial distress can be classified into several stages according to its severity, ranging from mild performance decline (early warning), short-term liquidity difficulty, technical insolvency in which the value of liabilities exceeds the value of assets, to bankruptcy conditions that result in company liquidation. Understanding these stages is important because appropriate mitigation strategies differ at each stage, making early detection through financial ratios, as used in this study, crucial for management and external stakeholders in taking corrective action before the company's financial condition deteriorates further.

Financial distress also imposes costs on a company, both direct costs, such as legal and administrative costs arising when a company must undertake debt restructuring or bankruptcy proceedings, and indirect costs, such as the loss of trust from customers, suppliers, and

key employees, declining share prices, and limited access to new financing due to a decline in the company's credit reputation. In the property and real estate sector, these indirect costs can be highly significant, as consumer trust in a developer's ability to complete projects on time is a key determinant of purchasing decisions, such that publicly known indications of financial distress have the potential to trigger a chain of transaction cancellations and worsen the cash flow pressure faced by the company.

One of the most widely referenced models for measuring financial distress in the literature is the Altman Z-Score model, which was originally developed based on discriminant analysis of five financial ratios reflecting liquidity, cumulative profitability, operating profitability, capital structure, and asset-use efficiency [24]. This model has since undergone various modifications to enable its application across different types of industries, including non-manufacturing industries such as property and real estate. In this study, the financial distress indicator also incorporates a modified Altman Z-Score approach as one of its proxies, alongside the Interest Coverage Ratio, to provide a more comprehensive picture of the financial health of the sample companies.

Profitability

Profitability reflects a company's ability to generate income by utilizing its available resources [20], and serves as a measure of an organization's ability to generate profit at a given level of sales, assets, and capital [11]. Profitability is measured through Return on Assets (ROA), which standardizes profit relative to total assets [26], and Net Profit Margin (NPM), which measures a company's ability to generate net profit from each rupiah of sales revenue [27]. From the perspective of signalling theory, high profitability indicates a healthy financial condition and promising business prospects, whereas low profitability serves as an early warning signal of potential financial distress [21]. The simultaneous use of two profitability proxies in this study is based on the consideration that ROA and NPM capture different dimensions of efficiency: ROA reflects a company's efficiency in utilizing its entire asset base to generate profit, while NPM reflects the efficiency of cost control relative to sales revenue. A property and real estate company with a high NPM but low ROA, for instance, may indicate that the company has a large asset base (land and property inventory) but has not yet optimally turned these assets into sales, such that the combination of both ratios provides a sharper picture than would be obtained by using either proxy alone.

Leverage

Leverage is a measure of the proportion of debt financing relative to a company's equity or total assets, reflecting the capital structure and level of financial risk undertaken [28]. Leverage is measured through the Debt to Asset Ratio (DAR) and the Debt to Equity Ratio (DER) [29]. The higher the level of leverage, the greater the interest expense and debt obligations that must be paid, thereby increasing the likelihood that a company will experience financial distress [14]. In accordance with trade-off theory, a company will take on debt up to the point at which the tax benefit derived from debt interest (tax shield) still exceeds the bankruptcy cost and financial distress risk arising from an increasingly high debt burden [30]. In the property and real estate industry, leverage exhibits characteristics distinct from other sectors, as most debt is used to finance long-term project construction, secured by the land or buildings under development. This structure means that a high DAR or DER ratio in property companies does not always reflect a high risk of bankruptcy, so long as the cash flow generated from the sale or lease of the properties being developed is able to gradually cover debt obligations in line with the project completion schedule.

Liquidity

Liquidity is a company's ability to meet its short-term obligations in a timely manner using its available current assets [31]. Liquidity is proxied using the Current Ratio (CR) and the Cash Ratio [27]. Companies with good liquidity tend to be able to finance their operations and settle their short-term obligations, thereby facing a lower risk of financial distress [32]. Within the framework of signalling theory, a high level of liquidity can be interpreted by investors and creditors as good news that increases confidence in a company's financial health [33]. It should be noted that the current asset component of property and real estate companies largely consists of inventory in the form of land and buildings that are either under construction or completed but not yet sold, which, although classified as current assets for accounting purposes, in reality possess a much lower level of liquidity (marketability) than cash or receivables. Therefore, a high Current Ratio in companies within this sector needs to be interpreted with caution, and the use of the Cash Ratio as an additional proxy in this study aims to provide a more conservative picture of liquidity that more closely approximates a company's actual cash condition.

Signalling Theory and Trade-off Theory

Signalling theory, introduced by [33], explains that companies send signals to outside parties, particularly investors, through financial statements and financial ratios such as profitability, leverage, and liquidity, in order to minimize information asymmetry between management and external stakeholders. Positive signals, such as strong profitability and adequate liquidity, indicate financial stability, whereas negative signals, such as excessive leverage, indicate a greater likelihood of financial difficulty [4]. Trade-off theory explains how a company determines the optimal combination of debt and equity by balancing the tax shield benefit of debt interest against the bankruptcy risk and agency costs arising from increased leverage [30], [34]. In addition to trade-off theory, the capital structure literature also recognizes pecking order theory, which explains that companies tend to prioritize internal funding sources (retained earnings) first, followed by debt, and issue new equity only as a last resort, as a consequence of information asymmetry between management and outside investors [30]. In the context of property and real estate companies, which are highly dependent on external financing to fund large-scale projects, a tendency to follow pecking order theory may explain why leverage levels in this sector are generally relatively high compared with other sectors, without necessarily indicating an equally high risk of bankruptcy.

Hypothesis Development

The relationship between profitability and financial distress can be explained through signalling theory, in which a high level of profitability serves as a positive signal to investors and creditors regarding a company's ability to generate profit and maintain financial stability [33], thereby reducing the risk of financial distress [15]. Based on the foregoing, the following hypothesis is proposed: H1: Profitability has a negative and significant effect on financial distress in property and real estate companies in 2024. The effect of leverage on financial distress can be explained through trade-off theory, in which excessive use of debt increases interest expense and fixed obligations, thereby placing greater pressure on cash flow and increasing the risk of default [30], [3]. Based on the foregoing, the following hypothesis is proposed: H2: Leverage has a positive and significant effect on financial distress in property and real estate companies in 2024. The risk of a company experiencing financial distress tends to decline as its level of liquidity increases, since its financial position becomes more secure in meeting short-term obligations [22], and a high level of liquidity is interpreted as a positive signal by investors and creditors [33]. Based on the foregoing, the following hypothesis is proposed: H3: Liquidity has a negative and significant effect on financial distress in property and real estate companies in 2024.

Conceptual Framework

Based on the theoretical review and hypothesis development above, the conceptual framework of this study depicts the relationship between profitability (X1), leverage (X2), and liquidity (X3) as independent variables, and financial distress (Y) as the dependent variable, as presented in Figure 1.

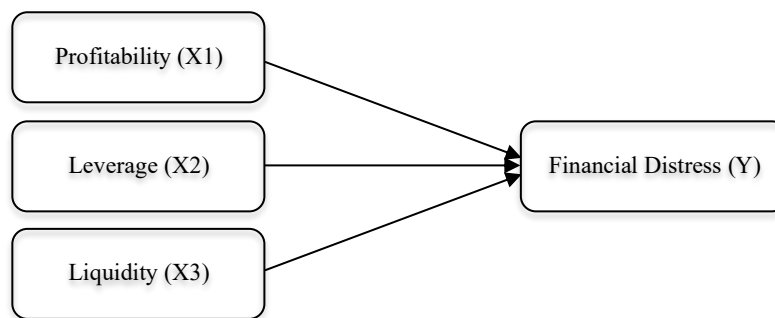


Figure 1. Conceptual Framework of the Study

METHODS

Research Type and Approach

This study employs a quantitative approach using a verificative method and an explanatory research design to examine the effect of profitability, leverage, and liquidity on financial distress in property and real estate companies [35]. The quantitative approach was chosen because this study aims to test the causal relationships between variables that have been formulated as hypotheses, relying on numerical data obtained from company financial statements and analyzed using inferential statistical techniques. The explanatory research design was employed because this study seeks not only to describe the financial distress condition of the sample companies, but also to empirically explain and test the cause-and-effect relationship between profitability, leverage, and liquidity on financial distress based on the theoretical framework developed in the literature review.

Population and Sample

The study population consists of 92 property and real estate companies listed on the Indonesia Stock Exchange (IDX) in 2024. The sampling technique used was purposive sampling, a technique for determining samples based on specific criteria relevant to the research objective. The criteria used in sample selection were as follows: (1) property and real estate companies consecutively listed on the IDX throughout 2024; (2) companies that published complete, audited annual financial statements for the 2024 period; (3) companies that presented complete data related to the variables examined in this study, namely profitability, leverage, liquidity, and financial distress; and (4) companies that were not delisted during the research period. Based on these criteria, a sample of 72 companies was obtained. The sample includes companies with diverse market capitalizations, ranging from large-scale developers with diversified residential, commercial, and industrial estate project portfolios to medium-scale companies focusing on the residential segment in specific regions, so that the sample used is expected to be sufficiently representative of the general condition of Indonesia's property and real estate sector in 2024.

Data Type and Source

The data used in this study are secondary data in the form of annual reports of property and real estate companies listed on the Indonesia Stock Exchange in 2024, officially obtained and accessed through the IDX website (www.idx.co.id) as well as the official websites of the respective companies. The data collected include net profit, total assets, total sales, total debt, equity, current assets, current liabilities, cash and cash equivalents, interest expense, and operating profit for each sample company. Data collection was carried out

through documentation techniques, namely by searching for and downloading the annual financial statements of each sample company in their officially published format, then extracting the relevant account items into a spreadsheet to subsequently be calculated into financial ratios in accordance with the established operational definitions. To maintain data accuracy, each extracted figure was cross-checked against the financial performance summary presented in the financial highlights section of each annual report.

Operational Definitions of Variables

The independent variables in this study are profitability (X1), leverage (X2), and liquidity (X3), while the dependent variable is financial distress (Y). The operational definitions and measurement indicators for each variable are presented in Table 2.

Table 2. Operational Definitions and Variable Indicators

Variable	Indicator	Formula
Profitability (X1)	Return on Assets (ROA)	Net profit after tax / Total assets x 100%
	Net Profit Margin (NPM)	Net profit / Sales
Leverage (X2)	Debt to Asset Ratio (DAR)	Total debt / Total assets
	Debt to Equity Ratio (DER)	Total debt / Equity
Liquidity (X3)	Current Ratio (CR)	Current assets / Current liabilities
	Cash Ratio	Cash and cash equivalents / Current liabilities x 100%
Financial Distress (Y)	Interest Coverage Ratio (ICR)	Operating profit / Interest expense
	Altman Z-Score (modified)	$Z = 6.56(X1) + 3.26(X2) + 6.72(X3) + 1.05(X4)$

Data Analysis Technique

The collected data were subsequently analyzed using multiple linear regression analysis with the assistance of IBM SPSS Statistics version 24 [36]. Prior to hypothesis testing, the data were first tested using classical assumption tests aimed at ensuring that the regression model satisfies the Best Linear Unbiased Estimator (BLUE) requirements. The classical assumption tests conducted included: (1) a normality test using the One-Sample Kolmogorov-Smirnov Test to ensure that the residual data were normally distributed, with data considered normally distributed if the Asymp. Sig. (2-tailed) value exceeded 0.05; (2) a multicollinearity test examining the Tolerance and Variance Inflation Factor (VIF) values, with the model considered free of multicollinearity if the Tolerance value exceeded 0.10 and the VIF value was below 10; and (3) a heteroscedasticity test using the Glejser test, with the model considered free of heteroscedasticity if the significance value of each independent variable relative to the absolute residual value exceeded 0,05.

Hypothesis testing was subsequently conducted in several stages. First, multiple linear regression analysis was used to determine the direction and magnitude of the effect of the independent variables on the dependent variable, using the equation $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$, where Y is financial distress, a is the constant, b₁, b₂, and b₃ are the regression coefficients of the respective independent variables, X₁, X₂, and X₃ are profitability, leverage, and liquidity respectively, and e is the error term. Second, the coefficient of determination (R²) test was used to determine the extent to which the independent variables were able to explain the variation in the dependent variable. Third, the t-test (partial test) was used to test the effect of each independent variable individually on the dependent variable at a significance level of $\alpha = 0.05$, with the testing criterion that if the significance value was less than 0.05, the independent variable was considered to have a significant effect on the dependent variable, and vice versa.

RESULTS AND DISCUSSION

Descriptive Analysis

This study used 72 property and real estate companies as its sample. The results of the descriptive statistical analysis are presented in Table 3.

Table 3. Descriptive Statistics of Research Data

Variable	Minimum	Maximum	Mean	Std. Deviation
Profitability	-16,488.00	5,658.00	-142.8028	2,067.93969
Leverage	-284.98	390.00	44.5944	82.06092
Liquidity	0.00	820.00	77.9311	145.57710
Financial Distress	-347.00	883.00	284.0694	212.07442

The wide range of values for the profitability and financial distress variables indicates a high degree of variation in the financial condition of the sample companies in 2024, ranging from companies experiencing substantial losses to companies with relatively good profit performance. This high variation also indicates that the research sample includes companies of varying business scale and project

life-cycle stages, ranging from large companies with diversified project portfolios to small companies still dependent on one or two main projects.

The negative mean value of profitability (-142.8028) indicates that, in aggregate, a considerable number of sample companies experienced losses in 2024, consistent with the sales contraction condition described in the introduction. The mean leverage value of 44.5944 indicates that, on average, the sample companies financed approximately 44 percent of their total funding through debt, a proportion considered moderate for a capital-intensive industry such as property and real estate. Meanwhile, the mean liquidity value of 77.9311, together with a minimum value close to zero, indicates that a number of sample companies faced fairly serious limitations in current assets relative to their short-term obligations.

Classical Assumption Tests

The results of the normality test using the One-Sample Kolmogorov-Smirnov Test yielded an Asymp. Sig. (2-tailed) value of 0.075, greater than the 0.05 significance level, so that the residual data in this study were declared normally distributed. The multicollinearity test results show that the profitability variable has a Tolerance value of 0.997 and a VIF of 1.003; the leverage variable has a Tolerance value of 0.984 and a VIF of 1.016; and the liquidity variable has a Tolerance value of 0.982 and a VIF of 1.018. All Tolerance values exceed 0.10 and all VIF values are below 10, so the regression model does not exhibit multicollinearity. The heteroscedasticity test results using the Glejser test show a significance value of 0.644 for profitability, 0.237 for leverage, and 0.642 for liquidity. Because all significance values exceed 0.05, the regression model is declared free of heteroscedasticity. With all three classical assumption tests satisfied, the multiple linear regression model in this study is declared feasible (BLUE) for use in hypothesis testing. In addition to the statistical tests, a visual inspection of the normal probability plot (P-P Plot) and the residual scatterplot was also conducted as further confirmation, and the results showed a pattern of points following the diagonal line on the P-P Plot as well as a random scatter of points with no discernible pattern on the scatterplot, each reinforcing the conclusion that the residual data are normally distributed and that the regression model is free of heteroscedasticity.

Multiple Linear Regression Analysis Results

Based on the Unstandardized Coefficients (B) values, the regression equation $Y = 260.263 - 0.006X_1 + 0.372X_2 + 0.082X_3 + e$ was obtained. The constant value of 260.263 indicates that if profitability, leverage, and liquidity are assumed to be zero, the value of financial distress is estimated at 260.263. The profitability regression coefficient of -0.006 indicates a negative relationship with financial distress, while the leverage coefficient of 0.372 and the liquidity coefficient of 0.082 both indicate a positive relationship with financial distress.

Coefficient of Determination

Table 4. Coefficient of Determination Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,156	0,024	-0,019	214,04192

Based on Table 4, the results of the coefficient of determination test show an R Square value of 0.024. This value indicates that the independent variables jointly explain only 2.4% of the variation in the dependent variable, financial distress, while the remaining 97.6% is explained by other factors outside the variables used in this study. It can therefore be concluded that the explanatory power of the regression model with respect to the variation in financial distress remains relatively low, indicating that other variables beyond this research model also contribute to changes in financial distress.

Hypothesis Testing (Partial)

The coefficient of determination test results show an R Square value of 0.024, meaning that profitability, leverage, and liquidity jointly explain only 2.4 percent of the variation in financial distress, while the remaining 97.6 percent is explained by other factors outside this research model, such as operating cash flow, firm size, sales growth, and macroeconomic conditions not included as variables in this study. This low R Square value is also commonly found in other studies on financial distress in the property and real estate sector, indicating that the determinants of financial distress in this sector are multidimensional and cannot be fully explained by conventional financial ratios alone. The Adjusted R Square value, which accounts for the number of independent variables in the model, further reinforces this conclusion, given that its value is in a similarly low range as the R Square, indicating that the inclusion of these three independent variables in the regression model does not provide a meaningful improvement in explanatory power compared with a model without independent variables. The t-test (partial) results are presented in Table 4.

Table 5. t-Test Results (Partial)

Variable	Coefficient (B)	Sig.	Remarks
Profitability (X1)	-0.006	0.644	Not significant
Leverage (X2)	0.372	0.237	Not significant
Liquidity (X3)	0.082	0.642	Not significant

Based on Table 4, all independent variables have a significance value greater than 0.05, so that profitability, leverage, and liquidity partially have no significant effect on financial distress in property and real estate companies in 2024. A summary of the results of testing the three research hypotheses is presented in Table 5.

Table 6. Summary of Hypothesis Testing Results

Hypothesis	Statement	Result
H1	Profitability has a negative and significant effect on financial distress	Rejected
H2	Leverage has a positive and significant effect on financial distress	Rejected
H3	Liquidity has a negative and significant effect on financial distress	Rejected

Accordingly, H1, H2, and H3 are all rejected, indicating that the direction of the effect of the three independent variables on financial distress is consistent with the initial expectation for leverage and liquidity (positive), but is not statistically strong enough to be declared significant at the 0.05 level.

The Effect of Profitability on Financial Distress

Profitability shows a negative direction of effect but no significant effect on financial distress in property and real estate companies in 2024, so H1 is rejected. This result is inconsistent with the hypothesis developed based on signalling theory, which explains that companies with high profitability send a positive signal to investors and creditors, thereby lowering the risk of financial distress. The insignificant effect of profitability indicates that the profit generated by companies in 2024 was not yet sufficient to adequately explain the condition of financial distress, given that the property and real estate sector is a capital-intensive industry with long project cycles and cash flows that do not always align with reported profit, such that companies recording profit are not necessarily free from financial pressure if they still face large obligations or limited operating cash flow. This finding is consistent with [19], who found that profitability had no significant effect on financial distress in property and real estate companies on the IDX. However, this result differs from [18], who found that profitability had a significant negative effect on financial distress in the same research object. This divergence in findings shows that the effect of profitability on financial distress remains inconsistent and may be influenced by company characteristics, the observation period, and the economic conditions surrounding the research sample. From a managerial perspective, this finding indicates that the management of property and real estate companies cannot rely solely on achieving profit targets as a guarantee against financial distress. Management needs to ensure that reported profit is genuinely converted into adequate operating cash flow, for example by monitoring the cash conversion ratio and accelerating the receivables collection cycle from property sales transactions, so that sound accounting profitability is also reflected in the company's actual cash health.

The Effect of Leverage on Financial Distress

Leverage shows a positive direction of effect but no significant effect on financial distress in property and real estate companies in 2024, so H2 is rejected. This result is inconsistent with the hypothesis developed based on trade-off theory, which explains that excessive use of debt increases the risk of financial difficulty. The insignificant effect of leverage indicates that the magnitude of a company's debt in 2024 does not necessarily cause the company to experience financial distress, as companies are still able to manage their long-term obligations through debt restructuring, asset management, or other financing support. In the property and real estate sector, the use of debt is a common characteristic for financing project construction, so that high leverage does not always reflect poor financial condition. This finding is consistent with [5] and [19], who found that leverage had no significant effect on financial distress. However, this result differs from [18], who found that leverage had a significant positive effect on financial distress. This divergence in findings shows that the effect of leverage on financial distress remains varied and is influenced by industry characteristics and economic conditions during different research periods. The managerial implication of this finding is that the use of debt in property and real estate companies needs to be managed based on maturity matching between funding sources and project cash flow cycles, rather than solely on the basis of aggregate leverage ratios. Management is advised to structure debt repayment schedules to align with projected cash receipts from property sales or leasing, and to maintain the proportion of short-term debt at a reasonable level to avoid sudden liquidity pressure during particular periods.

The Effect of Liquidity on Financial Distress

Liquidity shows a positive direction of effect but no significant effect on financial distress in property and real estate companies in 2024, so H3 is rejected. This result is inconsistent with the hypothesis developed based on signalling theory, which explains that high liquidity signals a company's ability to meet its short-term obligations, thereby lowering the risk of financial distress. The positive, albeit insignificant, direction of effect indicates that an increase in liquidity in property and real estate companies in 2024 is not necessarily followed by a decrease in the risk of financial distress, given that most current assets in this industry consist of inventory or projects in progress that require relatively long periods to be converted into cash, so that a high liquidity figure does not necessarily reflect sufficient cash availability to meet obligations in a timely manner. This finding is consistent with [18], who found that liquidity had no significant effect on financial distress. However, this result differs from [19], who found that liquidity had a significant effect on financial distress. This divergence in findings shows that the effect of liquidity on financial distress remains varied and is influenced by company conditions, the research period, and the characteristics of the sector studied. In practical terms, this finding suggests that management and financial analysts should not use the Current Ratio as the sole indicator of liquidity health in property and real estate companies, but should complement it with a more detailed analysis of current asset composition, for example by separating property inventory according to its stage of project completion and estimated cash conversion time, so that investment and credit decisions can be based on a more realistic picture of liquidity.

General Discussion

Overall, the results of this study show that profitability, leverage, and liquidity cannot yet serve as adequate predictors of financial distress in Indonesia's property and real estate sector in 2024. The very low coefficient of determination (2.4 percent) indicates that most of the variation in financial distress in this sector is explained by factors beyond these three financial ratios. This condition can be understood given the unique characteristics of the property and real estate industry, namely long project cycles, revenue recognition that does not always align with actual cash flow (a mismatch between accrual and cash), and considerable variation in funding strategies among companies, ranging from companies relying on outright property sales to companies applying installment payment schemes or joint operation arrangements with third parties. This structural variation causes conventional financial ratios such as ROA, NPM, DAR, DER, CR, and Cash Ratio not to always accurately capture a company's financial health condition at a single point in time (cross-section), unlike the manufacturing or trading sectors, which have shorter and more homogeneous operational cycles across companies.

This finding also indicates that signalling theory, which underlies most of the hypotheses in this study, may require contextual adjustment when applied to sectors with complex cash flow characteristics such as property and real estate. Signals conveyed through annual financial ratios may be less informative for investors and creditors if not accompanied by additional information regarding project structure, handover schedules, and long-term funding commitments. Accordingly, the interpretation of financial distress risk in this sector should ideally not rely solely on aggregate annual financial ratios, but should also consider industry-specific operational indicators, such as the level of recognized property sales revenue, the ratio of marketing sales to targets, and the composition of debt by maturity. Compared with research in the manufacturing sector, such as that conducted by [1], in which profitability, leverage, and liquidity were jointly shown to affect financial distress, the difference in results in this study further confirms that sectoral characteristics play an important role in determining the relevance of financial ratios as predictors of financial distress. The manufacturing sector generally has shorter production and sales cycles and more immediate revenue recognition compared with the property and real estate sector, so that annual financial ratios are more representative of companies' actual financial condition in that sector. This cross-sector comparison confirms that financial distress prediction models should ideally be developed on a sector-specific basis rather than using a single generic model for all industries.

From a methodological standpoint, the insignificance of all independent variables in this study may also be influenced by the choice of a single-year cross-sectional observation period in 2024. Panel data covering several years of observation has the potential to provide greater data variation and enables control for firm fixed effects and time effects, neither of which can be accounted for in a cross-sectional research design such as that used in this study. Therefore, the results of this study should be interpreted as a snapshot of conditions at a particular point in time, rather than as a conclusion that holds generally across time. Beyond sample-period and sectoral considerations, the low explanatory power obtained in this study is also consistent with a broader body of recent international evidence indicating that conventional financial ratios alone are insufficient to capture the full mechanism of financial distress, so that the low R Square in this study is better read as a sign of omitted-variable and functional-form limitations than as evidence that profitability, leverage, and liquidity are irrelevant. For instance, [37] find that a substantial portion of the variation in real estate developers' financial distress is explained by supply-side factors, such as banks' credit-allocation behavior linked to firms' sales-ranking position, factors entirely absent from standard profitability-leverage-liquidity models such as the one applied in this study. Likewise, [39] show that models capable of capturing nonlinear interactions among liquidity, asset-management, and governance variables achieve markedly higher predictive accuracy than linear ratio-based regression, implying that the omission of nonlinear relationships and of variables outside the conventional financial ratio framework, rather than measurement error alone, is a plausible source of the low R Square value obtained in this study. These findings suggest that future refinements of the present research model should not be limited to adding more financial ratios, but should also consider incorporating industry-specific supply-side indicators, such as access to project financing and marketing sales realization, and exploring nonlinear or machine-learning-based estimation techniques, as demonstrated by [38] and [39], in order to more comprehensively capture the determinants of financial distress in the property and real estate sector.

CONCLUSIONS

Conclusion

Based on the results of this study regarding the effect of profitability, leverage, and liquidity on financial distress in property and real estate companies listed on the Indonesia Stock Exchange in 2024, it can be concluded that profitability has a negative but insignificant effect on financial distress, leverage has a positive but insignificant effect on financial distress, and liquidity has a positive but insignificant effect on financial distress. The F-test results further show that the three independent variables also have no significant simultaneous effect on financial distress. Accordingly, the three independent variables jointly explain only 2.4 percent of the variation in financial distress among the sample companies, while the remaining 97.6 percent is explained by other factors outside this research model.

Theoretical Implications

Theoretically, these findings contribute empirical evidence that the application of signalling theory and trade-off theory in the property and real estate sector is not always consistent with their application in other sectors such as manufacturing or banking, so that the generalization of financial theories across sectors needs to be undertaken more carefully, taking into account the characteristics of the industry under study. This study also reinforces the argument that aggregate annual financial ratios have limitations in capturing financial distress risk in industries with long operational cycles and complex cash flow structures, such that the future development of financial distress prediction models for the property and real estate sector needs to consider indicators more specific to the industry's characteristics, rather than merely adopting generic models developed for other sectors. This is consistent with recent international evidence from China's real estate market, where [37] show that supply-side factors, such as banks' credit-allocation behavior, shape developers' capital structure and financial distress independently of standard demand-side ratios, suggesting that theoretical frameworks for financial distress in

property-related industries need to be extended beyond firm-level financial ratios to also account for external credit-supply and market-recognition mechanisms.

Practical Implications

The results of this study have implications for investors and creditors as a basis for assessing management performance in stock market transactions and investment decision-making, for management as motivation to improve financial management performance as reflected in prepared financial statements, and for decision-makers as a basis for assessment and consideration in future decision-making. Management of property and real estate companies is advised not to focus solely on profitability, leverage, and liquidity as indicators for anticipating financial distress, but also to pay attention to other factors such as operating cash flow, asset management efficiency, funding structure, good corporate governance, and economic conditions that may affect a company's financial health. Investors and creditors are advised to use the results of this study as one consideration in making investment or credit decisions, but not to rely on profitability, leverage, and liquidity as the sole indicators for assessing financial distress risk, and instead to also consider industry-specific operational indicators such as the composition of property inventory and debt maturity schedules.

For regulators and industry associations, such as the Financial Services Authority (Otoritas Jasa Keuangan) and the Real Estate Indonesia (REI) association, the finding that conventional financial ratios are not yet adequate for detecting financial distress in this sector may serve as input for developing additional, more specific reporting guidelines for property and real estate issuers, such as disclosure requirements regarding project completion levels, marketing sales, and detailed debt maturity schedules in the notes to financial statements, so that market participants have more comprehensive information for assessing the financial risk of issuers in this sector. In line with recent machine-learning-based evidence from Indonesian firms, which finds that liquidity and asset-management indicators carry stronger predictive power than profitability alone [39], analysts and rating agencies are further encouraged to weight liquidity-quality and asset-composition indicators more heavily, rather than relying primarily on profitability figures, when assessing distress risk in this sector.

Research Limitations

This study has several limitations. First, this study uses only profitability, leverage, and liquidity as independent variables, without involving moderating or other control variables that may also affect financial distress. Second, the observation period used covers only one year, namely 2024, so it has not been able to capture long-term patterns of relationships between variables or the impact of the business cycle on financial distress. Third, this study is limited to a single sector, namely property and real estate companies, so the results may not necessarily be generalizable to other sectors with different operational characteristics and funding structures. Fourth, the low coefficient of determination (2.4 percent) indicates that this research model has not captured most of the factors that actually influence financial distress in this sector. Fifth, this study relies on a linear regression specification and therefore does not capture potential nonlinear relationships or supply-side factors, such as credit-access dynamics, that recent international studies have shown to be relevant to financial distress in the real estate sector [37], [39].

Suggestions

Future researchers are advised to add other independent variables with the potential to affect financial distress, such as operating cash flow, firm size, sales growth, firm activity, good corporate governance, and macroeconomic variables such as benchmark interest rates and inflation, as well as to use a longer observation period (multi-year panel data) and a larger sample size in order to obtain more representative results, given that the coefficient of determination in this study was only 2.4 percent. Future research may also consider using alternative analytical methods, such as panel data regression or machine-learning-based prediction models, which have the potential to capture nonlinear relationship patterns between variables that cannot be detected by conventional multiple linear regression models. Recent studies provide concrete precedents for this direction: [38] apply the synthetic minority oversampling technique together with several classification models to address imbalanced financial distress data in an emerging transition economy, while [39] show that ensemble and deep-learning models substantially outperform linear regression in predicting financial distress among Indonesian firms, both of which offer methodological templates that future research on the Indonesian property and real estate sector could adapt.

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