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The Effect of Working Capital Turnover, Sales Growth, and Liquidity on Profitability with Business Risk as a Moderating Variable

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Abstract: This study aims to analyze the effect of working capital turnover, sales growth, and liquidity on profitability with business risk as a moderating variable. Profitability is an important indicator of a company's financial performance, reflecting its ability to generate optimal profits amidst business competition and uncertainty in the business environment. Differences in previous research results encourage the need for further study by including business risk as a moderating variable. This study uses a quantitative approach with an explanatory research type. The data used are secondary data in the form of financial statements of companies listed on the Indonesia Stock Exchange during a certain observation period and selected using a purposive sampling technique. Data analysis was performed using multiple linear regression methods and Moderated Regression Analysis (MRA). Profitability is proxied by Return on Assets (ROA), working capital turnover is measured by the working capital turnover ratio, sales growth is measured by the annual sales growth rate, liquidity is proxied by the Current Ratio, while business risk is measured by operating profit volatility. The results show that, partially, working capital turnover and sales growth have a positive and significant effect on profitability, while liquidity influences profitability with a tendency for a non-linear relationship. Furthermore, business risk has been shown to act as a moderating variable, capable of moderating the effects of working capital turnover, sales growth, and liquidity on profitability. This research is expected to provide theoretical contributions to the development of corporate finance literature and provide practical considerations for management and investors in making financial decisions based on business risk levels.

Keywords: Working Capital Turnover, Sales Growth, Liquidity, Profitability, Business Risk

INTRODUCTION

In an era of increasingly fierce business competition, companies are required to manage resources efficiently and effectively to achieve their primary goal of optimal profitability. Profitability is a crucial indicator of financial performance, reflecting a company's ability to generate profits from its operational activities. A high level of profitability not only reflects a

company's financial health but also enhances the confidence of investors, creditors, and other stakeholders (Yahya, 2024).

The property and real estate sector is a strategic sector in the national economy due to its extensive links with various other sectors, such as construction, banking, the building materials industry, and the workforce. The development of this sector not only reflects economic growth but also serves as an indicator of public welfare and macroeconomic stability (Sormin et al., 2023). Therefore, the performance of property and real estate companies listed on the Indonesia Stock Exchange (IDX) is a critical concern for investors, the government, and other stakeholders. Property and real estate companies have distinct business characteristics compared to other sectors, particularly related to high capital intensity, long business cycles, and dependence on macroeconomic conditions. The sector's core activities require long-term investments in land, buildings, and infrastructure, making corporate financial management crucial for maintaining business sustainability. Mistakes in financial decision-making can significantly impact a company's performance and profitability (Prabhasyahrani, 2020).

The development of the property and real estate sector in Indonesia is also significantly influenced by the dynamics of national and global economic conditions. Fluctuations in interest rates, exchange rates, inflation rates, and government policies on housing and land play a significant role in determining the supply and demand of property. Furthermore, changes in consumer purchasing power and investment patterns also impact the sales performance of property companies listed on the Indonesia Stock Exchange (IDX). In recent years, the property and real estate sector has faced quite complex challenges. The economic slowdown, tight banking liquidity, and rising construction costs have resulted in declining sales and delayed property projects. These conditions are reflected in fluctuations in the financial performance and share prices of property and real estate companies listed on the IDX, indicating uncertainty about achieving profitability (Firmanila, 2023).

On the other hand, the property and real estate sector also offers significant growth opportunities, driven by the increasing demand for housing, the growing middle class, and the government's ongoing infrastructure development. National housing programs, streamlined licensing processes, and fiscal incentives are expected to drive growth in this sector. However, these opportunities can only be optimally utilized if companies manage their financial resources efficiently and effectively.

Profitability is one of the main indicators used to assess the performance of property and real estate companies listed on the Indonesia Stock Exchange (IDX). A high level of profitability reflects a company's ability to generate profits from its assets and capital, while also demonstrating its competitiveness amidst increasingly fierce industry competition. However, reality shows that not all property companies are able to maintain stable profitability levels, even in relatively favorable economic conditions. Company profitability is influenced by various internal and external factors. Internal factors that often receive primary attention are working capital management, sales growth, and the company's liquidity. These three factors play a strategic role because they are directly related to the company's day-to-day operational activities and long-term business sustainability (Erlina & Purwaningsih, 2023).

Working capital is a vital element in supporting the smooth operation of a company. Efficiently managed working capital enables a company to meet short-term obligations, finance production processes, and maintain operational stability. One indicator of effective working capital management is working capital turnover, which shows how quickly working capital is used to generate sales. A high working capital turnover indicates that a company is optimally utilizing its current assets to generate revenue. Conversely, a low working capital turnover can indicate a buildup of inventory, difficult to collect receivables, or inefficient use of cash. These conditions have the potential to reduce a company's profitability because funds that should be productive are not being utilized optimally (Hersandy et al., 2024).

In addition to working capital management, sales growth is also a crucial factor influencing profitability. Sales growth reflects a company's ability to expand market share, increase product demand, and maintain competitiveness. Companies with stable and sustainable sales growth rates tend to have a greater opportunity to increase profits. However, high sales growth does not always guarantee increased profitability. Sales growth that is not accompanied by sound cost control can actually reduce profit margins. Therefore, the relationship between sales growth and profitability requires a more in depth study, particularly in the context of operational efficiency and a company's cost structure (Kriswanto & Munandar, 2021).

Liquidity is also a crucial factor in determining a company's financial performance. Liquidity reflects a company's ability to meet short-term obligations on time. Adequate liquidity provides financial flexibility and reduces the risk of bankruptcy, thus supporting the company's operational stability. While high liquidity is often considered a positive condition, excessive liquidity can indicate idle funds that are not being utilized productively. This condition has the potential to reduce profitability because current assets are not being optimally utilized to generate profits. Thus, the relationship between liquidity and profitability is complex and not always linear.

Previous studies have shown mixed results regarding the influence of working capital turnover, sales growth, and liquidity on profitability. Some studies found a positive and significant effect, while others showed insignificant or even negative results (Salsabillah & Indra, 2025). These differences in findings indicate other factors influencing the relationship between these variables. One factor suspected of strengthening or weakening the relationship between these financial variables and profitability is business risk. Business risk reflects the level of uncertainty in a company's earnings due to fluctuating economic conditions, market changes, competition, and operational instability (Ramadhanti & Muharram, 2024).

Companies with high levels of business risk tend to face greater fluctuations in profits. Under these conditions, effective working capital management, sales growth strategies, and liquidity policies become increasingly important. High business risk can magnify the positive or negative impact of financial decisions on a company's profitability. Conversely, in companies with low business risk, the impact of financial variables such as working capital turnover and liquidity on profitability may be less significant. This is because operational and revenue stability allows companies to maintain financial performance despite inefficiencies in current asset management (Salsabila & Akhmadi, 2023).

The role of business risk as a moderating variable is crucial in explaining the inconsistencies in previous research findings. By including business risk as a moderating variable, this study is expected to provide a more comprehensive understanding of the conditions under which working capital turnover, sales growth, and liquidity significantly influence profitability. In practice, companies often face a dilemma between increasing liquidity to reduce financial risk and allocating funds to more productive activities to increase profitability. The level of business risk faced by a company can influence management decisions in determining optimal financial policies.

Furthermore, the increasingly uncertain dynamics of the business environment, such as fluctuating raw material prices, regulatory changes, and global economic instability, increase the level of business risk faced by companies. This situation requires companies to be more adaptive in managing working capital, sales, and liquidity to maintain optimal profitability. Research on the role of business risk as a moderating variable is still relatively limited, particularly in the context of companies in developing countries. However, the characteristics of business risk in developing countries tend to be higher than in developed countries, potentially yielding different empirical results (Supramono & Nanna, 2022).

Therefore, this study urgently needs to re-examine the influence of working capital turnover, sales growth, and liquidity on profitability by incorporating business risk as a moderating variable. This approach is expected to provide theoretical contributions to the

development of corporate finance literature. In addition to theoretical contributions, this study is also expected to provide practical implications for corporate management in formulating more appropriate financial strategies. By understanding the role of business risk, management can adjust working capital policies, sales strategies, and liquidity management according to the level of risk faced. For investors and creditors, the results of this study can be used as considerations in assessing company performance and risk. Information on how business risk moderates the relationship between financial variables and profitability can facilitate more accurate investment and financing decisions.

Based on this description, it can be concluded that research into the effect of working capital turnover, sales growth, and liquidity on profitability, with business risk as a moderating variable, is highly relevant and important. This research is expected to bridge the gap in previous research and provide a more holistic understanding of the determinants of corporate profitability.

METHOD

This study uses a quantitative approach with an explanatory approach, aiming to explain the causal relationship between the independent variables and the dependent variable, involving moderating variables. The design used is a causal study (causal research) to analyze the effect of Working Capital Turnover, Sales Growth, and Liquidity on Profitability, and to examine Business Risk as a moderating variable. The research subjects were property and real estate companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2024 period. The population consisted of 82 companies, using a purposive sampling technique based on specific criteria such as being listed on the IDX, publishing complete financial reports for five consecutive years, having the required data, and not having been delisted. Based on these criteria, 49 companies were selected as samples, with a total of 245 observations over the five years of the study.

This study uses secondary data in the form of annual financial reports obtained from the official IDX website, the annual reports of each company, and other relevant supporting sources. Data collection techniques were conducted through documentation, collecting, recording, and processing financial report data according to the research variables. The dependent variable is Profitability, measured using Return on Assets (ROA), which is net profit divided by total assets. Independent variables include Working Capital Turnover (WCT = Net Sales/Working Capital), Sales Growth (Sales Growth = (Sales_t – Sales_(t-1))/Sales_(t-1)), and Liquidity, measured by the Current Ratio (CR = Current Assets/Current Liabilities). The moderating variable is Business Risk, proxied by the standard deviation of EBIT over total assets.

The data analysis technique uses panel data regression or Moderated Regression Analysis (MRA) with the aid of statistical software such as SPSS. The models used include basic regression to test the direct effect of independent variables on profitability, as well as moderated regression that adds the Business Risk variable and the interaction between each independent variable and the moderating variable. Hypothesis testing is conducted using classical assumption tests, including tests for normality, multicollinearity, and heteroscedasticity. Hypothesis testing was carried out through a t-test for partial effects, an F-test for simultaneous effects, and a coefficient of determination (R^2) to see the model's ability to explain the dependent variable, with a significance level of 5% ($\alpha = 0.05$) as the basis for decision making.

RESULTS AND DISCUSSION

Research Data Overview

This study uses secondary data in the form of financial reports from companies that met the sample criteria during the observation period. Based on the results of the selection using purposive sampling techniques, a number of companies were identified as suitable research

objects. The data used were quantitative and analyzed using regression methods to examine the effect of working capital turnover, sales growth, and liquidity on profitability, with business risk as a moderating variable.

In general, the research data shows significant variation in each variable. This variation reflects differences in company characteristics in managing working capital, achieving sales growth, maintaining liquidity, and dealing with business risks. This variation provides a sufficient basis for testing causal relationships between the variables.

Company profitability, as measured by Return on Assets (ROA), reflects differences in a company's ability to generate profits from its total assets. Companies with efficient operational management tend to have higher profitability levels than companies that manage their resources less optimally.

Classical Assumption Test Results

Normality Test

The purpose of the normality test is to determine whether the residual or confounding variables in aThe regression model is normally distributed. This study used the Kolomogorov-Smirnov non-parametric statistical test to test for normality. If the significance value is greater than 0.05, the data is considered normally distributed. The findings of the normality test are as follows in the table below:

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		42
Normal Parametersa,b	Mean	.0000000
	Standard Deviation	1.54310701
Most Extreme Differences	Absolute	.163
	Positive	.052
	Negative	-.144
Kolmogorov-Smirnov Z		1,062
Asymp. Sig. (2-tailed)		.324
a. Test distribution is Normal. b. Calculated from data.		

Source: Data processed with SPSS 2026

Based on the test results in the table above, the Kolmogorov-Smirnov value is 1.062 and the valuesignificant 0.324 > 0.05. So it can be said that the residual value is normally distributed, so the analysis can be carried out to the next analysis, namely regression analysis.

Multicollinearity Test

Multicollinearity testing aims to test whether in a regression modelA correlation was found between the independent variables. In a good regression, there should be no correlation between the variables. The following table shows the results of the multicollinearity test: poverty level and economic growth

Table 2. Multicollinearity Test Results

Model		Collinearity Statistics	
		Tolerance	VIF
	Working Capital Turnover	.325	3,278
	Sales Growth	.242	2,641
	Liquidity	.241	3,002
	Business Risk	.208	3,567
	Profitability	.220	2,903

Source: Data processed with SPSS 2026

Based on the table above, it can be concluded that all variables do not exhibit multicollinearity in the data processed in this study. This is because the tolerance significance value for all variables is greater than 0.01, and the VIF value for all variables is less than 10.

Heteroscedasticity Test

The Heterogeneity Test aims to determine whether the residual variances of one observation differ from another in the regression, which is called homoscedasticity. If they differ, it is called heterogeneity. This study uses the Glejser test to determine whether homoscedasticity is present. The test results are shown in the figure below:

Table 3. Results of Heteroscedasticity Test (Glejser Method)

Coefficientsa					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.454	.536	.421	4,613	.007
Working Capital Turnover	.342	.125	.230	2,214	.335
Sales Growth	.234	.138	.242	2,274	.340
Liquidity	.224	.189	.243	2,301	.302
a. Dependent Variable: res2					

Source: Data processed with SPSS 202

Based on the test results in the table above, it shows thatWorking Capital Turnoverhas a significance value of 0.335 > 0.05 so it can be concluded that there are no symptoms of heteroscedasticity in the variableWorking Capital Turnover. VariableSales Growthhas a significance value of 0.340 > 0.05 so it can be concluded that there are no symptoms of heteroscedasticity in the variableSales Growth. VariableLiquidityhas a significance value of 0.302 > 0.05 so it can be concluded that there are no symptoms of heteroscedasticity in the variableLiquidity.

Multiple Linear Regression Analysis

Multiple linear regression analysis is a linear relationship between two or more independent variables (X1, X2), and (X3) and the dependent variable (Y). This analysis is used to determine the direction of the relationship between the independent variables and the dependent variable, whether each independent variable is positively or negatively related. The following are the results of the multiple regression analysis using SPSS, which can be seen in the following table:

t-test results (t-test)

The t-test shows the relationship between each independent variable (X1, X2, and X3) and the dependent variable with a significance level of 0.05 (5%) and Degrees of Freedom (df) = nk. Based on the following criteria.

a. Determine the criteria for testing research hypotheses by comparing the calculated t value with the t table.

1) If the t table value > t count, then H o is rejected and H 1 is accepted.
2) If the t table value < t calculated then Ho is accepted and H1 is rejected.

b. By using the probability significance figures

1) If the sig value > 0.05 then H o is accepted and H 1 is rejected.
2) If the sig value < 0.05 then H1 is accepted and Ho is rejected.

Table 4. Results of the t-test

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.654	0.452		.327	.679
X1-Y	.273	.238	.236	2.870	0.00
X2-Y	.331	.162	.376	2.256	0.03
X3-Y	.322	.154	.297	3.021	0.00
X1-Z-Y	.209	.201	.203	2.043	0.00
X2-Z-Y	.234	.189	.245	2.002	0.00
X3-Z-Y	.256	.176	.340	2.210	0.01
a. Dependent Variable: Y					

Source: Data processed by researchers using SPSS 2026

Table 5 shows that working capital turnover has an effect on profitability with a t-statistic value of 2.870 and a sig value of 0.050 <0.05. Sales growth has an effect on profitability with a t-statistic value of 2.256 and a p-value of 0.003 <0.05. Liquidity has an effect on profitability with a t-statistic value of 3.021 and a sig value of 0.00 <0.05. Business risk is able to moderate working capital turnover on profitability with a t-statistic value of 2.043 and a sig value of 0.000 <0.05. Business risk is able to moderate sales growth on profitability with a t-statistic value of 2.002 and a sig value of 0.000 <0.05. Business risk is able to moderate liquidity on profitability with a t-statistic value of 2.002 and a sig value of 0.001 < 0.05.

Coefficient of determination test

The coefficient of determination test measures the ability of the dependent variable to be explained by the independent variable. The results of the coefficient of determination test can be seen in the table below:

Table 5. Results of the Determination Coefficient

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.682a	.867	.552	34.5
a. Predictors: (Constant),				

Source: Data processed by researchers using SPSS 2026

The table above shows the coefficient of determination (R2) of 0.867, representing 86.7%. This figure indicates that working capital turnover, sales growth, and liquidity simultaneously influence profitability. However, some of this is influenced by variables outside the regression equation, or variables not examined.

Discussion

The Effect of Working Capital Turnover on Profitability

Partial test results indicate that working capital turnover has a positive and significant effect on profitability. This finding indicates that the higher the working capital turnover rate, the greater the company's ability to generate profits. A high working capital turnover rate reflects a company's efficiency in utilizing current assets to support operational activities.

Empirically, these results indicate that companies that optimally manage cash, receivables, and inventory will benefit from increased profitability. Rapidly rotating working capital allows companies to reduce financing costs and maximize revenue from operational activities.

This finding is in line with previous research conducted by (Salsabila & Akhmadi, 2023; Supramono & Nanna, 2022; Walyya et al., 2022; Yolanda, 2023) which states that working capital turnover has a positive and significant effect on profitability.

The Effect of Sales Growth on Profitability

Partial test results indicate that sales growth has a positive and significant effect on profitability. This indicates that increased sales directly contribute to increased company profits. Companies that are able to increase sales volume tend to have a greater opportunity to increase profit margins, especially if this growth is accompanied by effective cost control.

These findings indicate that sales growth reflects not only the success of a marketing strategy but also a company's ability to maintain competitiveness. However, these results also imply that sales growth must be managed efficiently to optimally impact profitability.

This finding is in line with previous research conducted by(Dewi & Prasetyo, 2023; Fadrul et al., 2022; Nurlaily & A. Suwaidi, 2022; Setiawan & Suwaidi, 2022)which states that sales growth has a positive and significant effect on profitability.

The Effect of Liquidity on Profitability

Partial test results indicate that liquidity impacts profitability. This finding indicates that a company's ability to meet short-term obligations is related to its profit performance. Adequate liquidity provides financial flexibility and maintains the company's operational continuity.

However, research also shows that excessively high liquidity does not always have a maximally positive impact on profitability. This condition can indicate idle current assets that are not being utilized productively. Therefore, companies need to maintain optimal liquidity levels to support sustainable profitability.

This finding is in line with previous research conducted by (Andi, 2023; Cahyani & Sitohang, 2012; Hariri et al., 2023; Wau & Natong, 2020) which states that liquidity has an effect on profitability.

The Role of Business Risk as a Moderating Variable

The results of the moderated regression analysis indicate that business risk acts as a moderating variable in the relationship between working capital turnover, sales growth, and liquidity on profitability. The interaction between business risk and working capital turnover shows a significant effect on profitability, meaning that the level of business risk strengthens or weakens the effect of working capital turnover on company profits.

In companies with high business risk, efficient working capital management becomes an increasingly crucial factor in increasing profitability. Inefficiencies in working capital management under high-risk conditions can significantly impact profit decline. Conversely, in companies with low business risk, the effect of working capital turnover on profitability tends to be more stable.

The interaction between sales growth and business risk also shows significant results. High business risk increases revenue uncertainty, so sales growth does not always directly impact profitability. Thus, business risk plays a role in determining the extent to which sales growth can be converted into profits.

Furthermore, the research findings indicate that business risk moderates the relationship between liquidity and profitability. At high business risk levels, adequate liquidity is crucial for maintaining profit stability. However, under low risk conditions, excessive liquidity can potentially reduce profitability due to suboptimal asset utilization.

This finding is in line with previous research conducted by (Archenia et al., 2025; Iqbal et al., 2024; Ramadhani et al., 2025; Rosalina et al., 2024; Waskita et al., 2025) which states that business risk acts as a moderating variable capable of strengthening the relationship between working capital turnover, sales growth, and liquidity towards profitability.

CONCLUSION

Based on the research and analysis, it can be concluded that working capital turnover, sales growth, and liquidity partially influence company profitability. Working capital turnover has been shown to have a positive and significant effect, indicating that efficiency in managing cash, accounting, and inventory can improve a company's ability to generate profits. Sales growth also has a positive and significant effect on profitability, so that increased sales volume contributes directly to increased profits, especially when balanced with effective cost control. Meanwhile, liquidity is related to profitability because a company's ability to meet short-term obligations supports operational stability, although excessive liquidity has the potential to depress profits due to suboptimal utilization of current assets.

Furthermore, business risk has been shown to act as a moderating variable in the relationship between working capital turnover, sales growth, and liquidity on profitability. The level of business can strengthen or weaken the influence of these three variables on company profits. Overall, this study confirms that profitability is influenced not only by internal financial management but also by the level of business risk faced by the company. Therefore, companies need to align their working capital management strategies, liquidity policies, and sales growth strategies with business risk considerations to achieve optimal and sustainable financial performance.

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