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The Effect of Inventory Turnover, Working Capital Turnover, Current Ratio, and Asset Tangibility on Profitability in the Industrial Sector

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Abstract

This study analyzes the effects of inventory turnover, working capital turnover, current ratio, and asset tangibility on the profitability of industrial sector companies listed on the Indonesia Stock Exchange (IDX) for 2020–2024. A quantitative associative approach was applied using secondary data from the companies' financial statements. From a population of 65 companies, purposive sampling yielded 36 companies and 180 firm-year observations. Data were analyzed using multiple linear regression in SPSS 22, with classical assumption tests, t-tests, an F-test, and the coefficient of determination. The results show that, individually, inventory turnover, working capital turnover, and asset tangibility have no significant effect on profitability, whereas the current ratio has a positive and significant effect. Simultaneously, the four variables significantly affect profitability. The adjusted R^2 of 10.7% indicates that the four variables explain 10.7% of the variation in profitability, while 89.3% is explained by factors outside the model.

Keywords: *Inventory Turnover; Working Capital Turnover; Current Ratio; Asset Tangibility; Profitability*

I. INTRODUCTION

Continuous changes in the economy force companies to adjust their operational and financial strategies to sustain performance. This has been especially visible since the COVID-19 pandemic in 2020, which disrupted production and distribution, reduced purchasing power, and obstructed supply chains. The resulting uncertainty made businesses more cautious in economic decisions and ultimately pressured corporate financial performance (Ozili, 2021). The industrial sector, which depends heavily on smooth production and distribution, felt these conditions: raw-material disruptions, higher operating costs, and shifting demand kept its performance from stabilizing fully even during the recovery (Fathmaningrum & Renaldo, 2024).

This pressure is reflected in changes in corporate profitability. Profitability shows a firm's ability to generate profit and is influenced by internal factors such as inventory management, use of working capital, liquidity, and asset management. During the pandemic, falling sales, inventory build-up, and suboptimal working capital turnover could squeeze profit (Alfathan & Wiliyanti, 2025). The mean profitability of industrial sector companies over 2020–2024 is shown in Fig. 1. It fluctuated: -0.015 in 2020, rising to 0.049 in 2021 and 0.055 in 2022, then falling to 0.046 in 2023 and 0.045 in 2024. The 2021–2022 increase suggests improved performance as economic activity recovered after the pandemic, but the renewed decline in 2023–2024 shows that firms' ability to generate profit still faces pressure and is not yet stable. Effective management of inventory, working capital, liquidity, and assets is therefore important for profitability (Yusup & Harian, 2024).

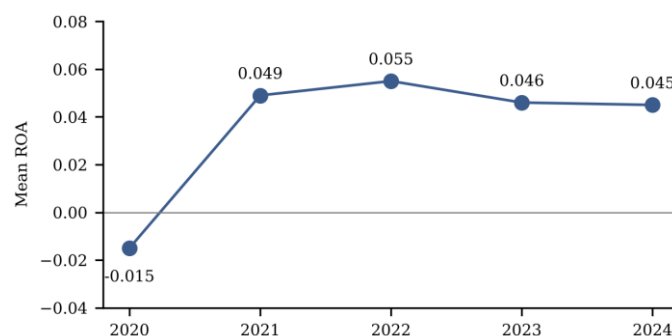


Fig. 1. Mean Profitability of the Industrial Sector, 2020–2024

One aspect of resource management is inventory turnover, which reflects how well a firm manages its inventory; more effective turnover reduces the risk of stock build-up and the holding costs that can depress profit (Saputri & Pitri, 2024). Working capital turnover reflects how effectively working capital supports operations. The current ratio shows the ability to meet short-term obligations, and asset tangibility describes the proportion of tangible assets that support operations and serve as a basis for obtaining funds (Naibaho & Kristanti, 2024).

Previous studies report mixed results. Sihombing et al. (2021) found that inventory turnover has a positive and significant effect on profitability while the current ratio has no significant effect; Sinaga et al. (2020) found that working capital turnover and the current ratio both have positive and significant effects; and Sirait et al. (2024) found that asset tangibility has a negative and significant effect. These inconsistent findings mean that the relationships among inventory turnover, working capital turnover, current ratio, asset tangibility, and profitability still need to be retested on industrial sector companies listed on the IDX in 2020–2024.

A. Literature Review

Signaling theory. Signaling theory, introduced by Spence (1973), explains the information asymmetry between parties who hold information and those who receive it. Management has more complete information about a firm's condition and prospects than outsiders, so it can use financial statements as signals to investors and other stakeholders. Information on profitability and on how well the firm manages inventory, working capital, liquidity, and assets can signal its internal condition.

Theory of the firm. The theory of the firm explains how companies manage and allocate their resources to reach their goals. Coase (1937) explained that firms exist because of transaction costs, so some economic activity is more efficiently coordinated within a firm. Here, the theory frames decisions on inventory, working capital, current assets, and fixed assets as efforts to optimize resources; effective resource management supports operations and the ability to generate profit.

Profitability. Profitability is a firm's ability to generate profit from its resources; profitability ratios are used to assess the ability to earn profit (Kasmir, 2016). In this study profitability is measured by Return on Assets (ROA), which shows the profit generated from all assets used.

Inventory turnover, working capital turnover, current ratio, and asset tangibility. Inventory turnover shows how effectively a firm manages inventory through the number of times it turns over in a period; good turnover reduces funds tied up in inventory and supports operating efficiency (Yusup & Harian, 2024). Working capital turnover shows how well working capital is used to generate sales (Kasmir, 2016). The current ratio measures the ability to meet short-term obligations from current assets and reflects liquidity (Sudana, 2015); adequate liquidity supports smooth operations, whereas idle current assets reduce the effectiveness of resource use (Yusup & Harian, 2024). Asset tangibility is the proportion of tangible assets to total assets (Chang & Sufiyanti, 2024). Tangible assets such as machinery, buildings, and equipment support operations, particularly in industrial firms, but they also incur depreciation and maintenance costs, so high tangibility does not necessarily raise profitability if the assets are not used optimally.

II. METHOD

This study uses a quantitative approach of the associative type. It uses secondary data from the published financial statements of industrial sector companies listed on the IDX over 2020–2024. From a population of 65 companies, purposive sampling yielded 36 companies meeting the criteria, with 180 observations. Data were analyzed using multiple linear regression in SPSS 22. The analysis comprised descriptive statistics, classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation), the coefficient of determination (R^2), and partial (t) and simultaneous (F) hypothesis tests. The model is $ROA = \alpha + \beta_1 ITO + \beta_2 WCT + \beta_3 CR + \beta_4 AT + e$, where ITO is inventory turnover, WCT is working capital turnover, CR is the current ratio, and AT is asset tangibility.

III. RESULTS AND DISCUSSION

A. Descriptive Statistics

TABLE I. DESCRIPTIVE STATISTICS (N = 180)

Variable	N	Minimum	Maximum	Mean	Std. Deviation
ROA	180	-0.679	0.514	0.0364	0.1058
ITO	180	0.011	235.052	10.7320	31.3424
WCT	180	-296.489	204.189	0.9583	40.3663
CR	180	0.127	48.115	2.5662	4.0576
AT	180	0.020	0.781	0.3464	0.2084

Source: SPSS 22 output (2026).

Table I shows that ROA ranges from -0.679 to 0.514, with a mean of 0.036 (3.6%), indicating that firms' ability to generate profit from their assets is relatively low, being below 5%. Inventory turnover ranges from 0.011 to 235.052 times with a mean of 10.731, meaning inventory turns over about 10.7 times per period on average. Working capital turnover ranges from -296.489 to 204.189 times with a mean of 0.958, i.e., working capital turns over less than once per period on average. The current ratio ranges from 0.127 to 48.115 with a mean of 2.566, meaning that each Rp1 of current liabilities is covered by about Rp2.566 of current assets, above the common 2:1 benchmark, so short-term liquidity is generally good. Asset tangibility ranges from 0.020 to 0.781 with a mean of 0.346, meaning that about one-third of total assets are tangible. The standard deviations of ITO, WCT, and CR far exceed their means, indicating very wide dispersion across firms and years.

B. Classical Assumption Tests

The Kolmogorov-Smirnov test ($n = 173$) gives an asymptotic significance of 0.000, but the Monte Carlo significance is 0.065 (99% CI: 0.058–0.071), which is above 0.05, so the residuals are considered normally distributed. All tolerance values (0.942–0.999) exceed 0.10 and all VIF values (1.001–1.062) are below 10 (Table II), so there is no multicollinearity. The Glejser test gives significance values of 0.648 (ITO), 0.308 (WCT), 0.850 (CR), and 0.544 (AT), all above 0.05, so there is no heteroscedasticity. The Durbin-Watson statistic is 1.995, which lies between d_U (1.7988) and $4 - d_U$ (2.2012), so there is no autocorrelation.

C. Multiple Linear Regression and Hypothesis Tests

TABLE II. MULTIPLE LINEAR REGRESSION RESULTS

Variable	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	-0.003	0.007		-0.393	0.695	
ITO (X1)	0.000	0.000	0.072	0.976	0.330	1.035
WCT (X2)	3.595E-6	0.000	0.003	0.040	0.968	1.001
CR (X3)	0.013	0.003	0.357	4.882	0.000	1.028
AT (X4)	0.037	0.031	0.088	1.189	0.236	1.062

Source: SPSS 22 output (2026). Dependent variable: profitability (ROA). N = 173; tolerance 0.942–0.999.

The regression equation is $ROA = -0.003 + 0.000 ITO + 0.0000036 WCT + 0.013 CR + 0.037 AT + e$. The coefficients of inventory turnover and working capital turnover are practically zero, whereas the current ratio (0.013) and asset tangibility (0.037) have positive coefficients. At the 5% level (t -table = 1.974), only the current ratio is significant ($t = 4.882$; Sig. = 0.000). Inventory turnover ($t = 0.976$; Sig. = 0.330), working capital turnover ($t = 0.040$; Sig. = 0.968), and asset tangibility ($t = 1.189$; Sig. = 0.236) are not significant.

TABLE III. F-TEST AND COEFFICIENT OF DETERMINATION

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.071	4	0.018	6.138	0.000
Residual	0.483	168	0.003		
Total	0.554	172			

Source: SPSS 22 output (2026). R = 0.357; R² = 0.128; adjusted R² = 0.107; standard error of the estimate = 0.05363.

The simultaneous test gives $F = 6.138$, above the F -table value of 2.43, with Sig. = 0.000, so the four variables jointly have a significant effect on profitability. The adjusted R² of 0.107 means they explain 10.7% of the variation in profitability, while 89.3% is explained by other factors outside the model, such as leverage, firm size, and capital structure.

D. Discussion

Inventory turnover. Inventory turnover has no significant effect on the profitability of industrial sector firms listed on the IDX in 2020–2024. Changes in inventory turnover are not yet a determining factor, probably because profitability is more strongly influenced by cost efficiency, market demand, and operating policy (Salim et al., 2025). From the signaling perspective, inventory turnover could convey how effectively inventory is managed, but here it does not serve as a signal of the ability to earn profit, so the result does not support signaling theory. It is consistent with Yusup and Harian (2024), indicating that inventory turnover is not the only determinant of profitability.

Working capital turnover. Working capital turnover also has no significant effect on profitability, possibly because profitability is also driven by how efficiently working capital is used, cost management, and operating activities (Ramadhani & Lestari, 2024). Working capital turnover does not act as a signal of profit-generating ability, so the result does not support signaling theory. It is consistent with Yusup and Harian (2024) and Saputri et al. (2024), showing that working capital turnover is not yet a main factor in raising profit.

Current ratio. The current ratio has a positive and significant effect on profitability. A firm's ability to meet short-term obligations supports profit attainment, and optimal management of current assets such as cash and receivables helps keep operations running smoothly while increasing profitability (Yusup & Harian, 2024). Good liquidity management can be a positive signal to outsiders about financial condition, so the result supports signaling theory. It is consistent with Utami and Manda (2021), Gusparini and Tipa (2022), and Sinaga et al. (2020), indicating that maintaining liquidity supports performance and profit growth.

Asset tangibility. Asset tangibility has no significant effect on profitability: a larger proportion of fixed assets is not a determining factor, because more fixed assets are not always followed by more revenue, so firms must attend to how effectively assets are used (Purwantoro et al., 2025). The proportion of fixed assets does not signal profit-generating ability, so the result does not support signaling theory. It is consistent with Chang and Sufiyanti (2024), Putri et al. (2025), and Sirait et al. (2024), indicating that profitability relates more to the effectiveness of asset management than to the proportion of tangible assets.

Simultaneous effect. The four variables jointly affect profitability significantly. Profitability is thus not determined by a single financial aspect but results from the integrated management of inventory, working capital, liquidity, and assets,

which together support operations and the ability to generate profit. The low adjusted R^2 (10.7%) nevertheless shows that most of the variation in profitability is explained by other factors.

IV. CONCLUSIONS

Among industrial sector companies listed on the IDX in 2020–2024, inventory turnover, working capital turnover, and asset tangibility have no significant effect on profitability, whereas the current ratio has a positive and significant effect, indicating that the ability to meet short-term obligations supports higher profit. Simultaneously, the four variables significantly affect profitability, with an adjusted R^2 of 10.7%, so most of the variation in profitability is explained by factors outside the model. The study is limited to industrial sector companies listed on the IDX over 2020–2024 and to four independent variables.

Industrial sector companies are advised to improve liquidity management, since the current ratio was shown to raise profitability, and to optimize the management of inventory, working capital, and assets to support operating performance. Future research may add variables such as leverage, firm size, and capital structure, and extend the objects and period of study for more comprehensive results.

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