COMPARATIVE RATIO ANALYSIS OF FINANCIAL PERFORMANCE BETWEEN TRANSPORTATION AND LOGISTICS SUB-SECTOR COMPANIES REGISTERED ON THE BEI BEFORE AND DURING THE COVID-19 PANDEMIC

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Abstract

This study aims to examine disparities in liquidity, leverage, profitability, and activity ratios between transportation and logistics sub-sector firms listed on the IDX before and during the COVID-19 epidemic. Employing a quantitative descriptive research design, the study encompasses companies listed from 2017 to 2019 (pre-pandemic) and from 2020 to 2022 (during the pandemic), totaling 37 companies. Through purposive sampling, 14 companies met the inclusion criteria. Data collection involved documentation techniques and utilized secondary data. The analysis was conducted through descriptive and inferential statistics, with the paired sample test applied for statistical evaluation. The findings reveal no significant differences in liquidity ratios (measured by "Current Ratio, Quick Ratio, Cash Ratio, Cash Turnover Ratio, and Inventory to Net Working Capital)" before and during the pandemic. Similarly, leverage ratios (assessed via DER, DAR, and LTDtER) and profitability ratios (measured by ROA, ROE, and NPM) showed no significant differences. However, the profitability ratio, as indicated by GPM, did exhibit a difference before and during the pandemic. There were no notable disparities in activity ratios, as assessed by WCTO, TATO, FATO, Receivable Turnover, and Inventory Turnover) across the two periods.

Keywords: Liquidity Ratio, Leverage Ratio, Profitability Ratio, Activity Ratio, Covid-19

INTRODUCTION

The economy is negatively impacted by moreover, the COVID-19 epidemic to human health. At the end of December 2019, this virus was first identified in Wuhan, China, and it swiftly spread to other nations, including Indonesia. Following the first case's announcement in March 2020, the Indonesian government swiftly imposed pervasive societal constraints (PSBB) to stop the virus's spread and restrict citizens' freedom of movement. Numerous industries have been impacted by the COVID-19 outbreak, including logistics and transportation, which are crucial to the nation's economy. The implementation of restrictive rules led to a reduction in the growth of this sector, which is essential for the transportation of commodities and mobility. The effect is evident in the revenue and financial standing of businesses in this sector (Lahallo & Rupilele, 2022).

According to (L. Rahmawati & Sembiring, 2022), one of the main concerns is the financial performance of the corporation during the pandemic. Liquidity, solvency, activity, and profitability are all included in financial ratio analysis, which is used to evaluate the financial health of an organization. Liquidity ratios measure a firm's ability to meet short-term obligations, while solvency ratios assess how much of a corporation is backed by debt. Various liquidity indicators are commonly employed to assess a company's capacity to meet its short-term liabilities. These measures encompass “the current ratio, quick ratio, cash ratio, cash turnover ratio, inventory to net working capital ratio, and cash ratio” (Wijaya & Novianto, 2024). (Solvency ratios that help determine how much debt a company has about its capital and assets include the “Debt to Equity Ratio (DER), Debt to Assets Ratio (DAR), and Long-Term Debt to Equity Ratio (LTDtER)”. These ratios are quite pertinent given the difficult pandemic scenario (Mahagiyani & Sari, 2019). Activity ratios, such as “Working Capital Turnover (WCTO), Total Assets Turnover (TATO), Fixed Assets Turnover (FATO)”, Account Receivable Turnover, and Inventory Turnover, evaluate how well a company uses its assets. Profitability ratios assess a company's ability to generate profits by efficiently utilizing its money and resources. Among these ratios are “Return on Equity (ROE)” as an example, “Return on Assets (ROA)”, “Net Profit Margin (NPM)”, and “Gross Profit Margin (GPM)”. Businesses in the transportation and logistics industry encountered significant difficulties keeping their cash and profits stable during the pandemic (Arnan et

al., 2024). Signal Theory explains that financial information submitted by a company can provide signals to investors about the company's health. Businesses that were listed on the IDX during the pandemic used financial reports to show their performance to investors. However, the pandemic caused significant fluctuations in financial performance, with sharp declines in revenue and profits (Arnan et al., 2024).

Data on average gross profit and net profit of businesses for the years 2017–2022, within the organization of the logistics and transport industry as represented on the IDX have fluctuated significantly. The pandemic caused profits to fall sharply in 2020 and 2021, but signs of recovery are emerging in 2022. However, the consequences of the epidemic are still being felt in the long term. According to research from (Soleha et al., 2022), the pandemic shows the complexity and varied results experienced by different companies. This research found that companies' financial performance during the pandemic experienced significant variations, reflecting various challenges and adaptations made by companies (Dianita et al., 2024).

Companies' financial health and productivity have taken a major hit because of the COVID-19 outbreak across a range of industries, including logistics and transportation, according to research (Rababah et al., 2020). This report emphasizes that to handle the economic difficulties brought on by the pandemic, cooperation between governments, regulatory agencies, banks, and central banks is necessary (Fadjar et al., 2021). The financial difficulties experienced by most companies in Indonesia due to losses during the pandemic underscore the gravity of the situation and the urgent need for strategic intervention to prevent further economic impact (Handayati et al., 2022). This research emphasizes the importance of anticipating and mitigating financial difficulties to avoid bankruptcy and minimize risks during periods of economic upheaval such as the COVID-19 pandemic.

According to research (Hardi Mulyono, 2018), companies that have implemented environmental, social, and governance (ESG) practices demonstrated resilience and maintained profitability during the crisis, which highlights the importance of sustainable business practices in navigating a challenging economic environment. Various measures of financial success both before and after the pandemic provide valuable insight into a company's resilience and adaptability in facing unprecedented challenges (U. Rahmawati &

Kholilah, 2023). Companies' liquidity, solvency, profitability, and financial activity show marked differences when assessed in these two different periods, reflecting the dynamic nature of financial markets during the crisis. According to research (Nurwitasari et al., 2023), the inequality of financial performance in various sectors, such as tourism, hospitality, and manufacturing, shows the challenges and vulnerabilities of certain sectors exposed by the pandemic. The part played by logistics firms in meeting the pandemic's demands is critical to ensuring operational continuity and adapting to new restrictions and demands (Herold et al., 2021). Logistics providers focus on revenue generation, operational flexibility, digitalization, infrastructure optimization, and workforce management to increase resilience and responsiveness during the crisis (Rokicki et al., 2022).

REVIEW OF LITERATURE

Financial Statements

Financial reports, as explained by (Hantono, 2018) are informative documents used to evaluate the success of a company, this is particularly true for publicly traded corporations. Facts included in a business's annual report can be used to analyze company performance and evaluate company fundamentals so that this information can provide a basis for investment decisions (Osadchy et al., 2018). There are parts of financial reports that investors often don't pay attention to, such as reports from directors or company management. In fact, in this section, management often explains the company's journey so far, its prospects, and plans (Berthilde & Rusibana, 2020). A company's financial report is a snapshot of its performance captured by its numbers and its management's ability to manage the business (Hasanaj & Kuqi, 2019). These figures can also be used as a basis for projecting what will happen.

Signaling Theory

Companies should provide signals to financial report users, according to signaling theory (Bafera & Kleinert, 2023). This signal consists of data related to actions that have been taken by the organization or management to meet the owner's needs and can take the shape of advertisements or other content that claims one business is superior to another (Ernst et al., 2022) (Ratnasari & Ramadhani, 2022).

Financial Performance

One measure of a company's success is its financial performance activities that produce healthy finances. To help everyone have healthy results from these business activities, companies need to do positive things in their activities (Barauskaite & Streimikiene, 2021). An organization's financial performance can be considered good or not by examining the company's financial reports, starting from looking at money turnover events and conditions as well as the results of organizational activities that have been achieved from the past to the present (Siswati, 2021) (Mukhtaruddin et al., 2019).

Ratio Analysis

Ratio analysis involves using comparative calculations derived from quantitative data in balance sheets and profit and loss statements (Zorn et al., 2018). Generally, these calculations help evaluate a company's historical and current performance, as well as potential future outcomes. To gain insight into a company's financial progress, one must interpret and analyze its financial data, which is represented in financial statements (Novita Syarifah Nur et al., 2023). Financial ratios are a common tool used for these measurements in financial analysis (Hantono, 2018).

RESEARCH METHOD

In this analysis, the transportation and logistics companies traded on the Indonesia Stock Exchange (BEI) are compared both before and after the COVID-19 outbreak in terms of financial performance ratios, from 2017 to 2022. It takes a quantitative approach with a descriptive strategy. This time frame was chosen to provide comprehensive data on financial performance over at least six years before and after the COVID-19 pandemic. In this investigation, we zero in on financial statements, particularly balance sheets and profit, and documents detailing losses, belonging to the IDX-listed transportation and logistics subsector. Income Statements are used to compute several financial ratios, including: “Current Ratio, Quick Ratio, Cash Ratio, Inventory to Net Working Capital Ratio, Return on Assets, Net Profit Margin, Gross Assets Turnover, Fixed Assets Turnover, Working Capital Turnover, Receivables Turnover, and Inventory Turnover”.

Data collection involved downloading annual financial reports from the Indonesian Stock Exchange (BEI) website and the official websites of the companies included in the research population. Financial ratios that were pertinent both before and after the COVID-19 epidemic are part of the data set that was collected. All companies listed on the Indonesia Stock Exchange that are involved in transportation and logistics make up the research population. Companies with full data linked to the financial ratios under study and that regularly submit annual financial reports throughout the research period were selected for the research sample using a purposive sampling technique. Fourteen businesses operating in the logistics and transportation subsector made up the research sample. Among them were:

Table 1
Sample List of Transportation and Logistics Sub-Sector Companies Listed on the Indonesian Stock Exchange for the 2017-2022 Period

No	Code	Company
1	ASSA	PT Adi Sarana Armada Tbk
2	BIRD	PT Blue Bird Tbk
3	BLTA	PT Berlian Laju Tanker Tbk
4	CMPP	AirAsia Indonesia tbk
5	GIAA	Garuda Indonesia Tbk
6	IMJS	Indomobil Multi Services Tbk
7	LRNA	Ekasari Lorena Transport Tbk
8	MIRA	Mitra International Resources Tbk
9	NELY	Nelly Dwi Putri Tbk Sailing
10	SDMU	Sidomulyo Selaraas Tbk
11	SMDR	Samudera Indonesia Tbk
12	TAXI	Express Transindo Utama Tbk
13	TMAS	Pelayaran Tempuran Emas Tbk
14	WEHA	Weha Transportation Indonesia Tbk

Source: Data Processed by Researchers, 2024

The data analysis is performed using financial ratio analysis, encompassing liquidity, solvency, activity, and profitability ratios. Liquidity ratios are evaluated through “the Current Ratio, Quick Ratio, Cash Ratio, Cash Turnover Ratio, and Inventory to Net Working Capital”. Solvency ratios are assessed using “the Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), and Long Term Debt to Equity Ratio (LTDtER)”. The Working Capital

Turnover (WCTO), "Total Assets Turnover (TATO), Fixed Assets Turnover (FATO)", Receivables Turnover, and Inventory Turnover are the variables that are used to calculate activity ratios. The four main profitability ratios are "Net Profit Margin (NPM), Gross Profit Margin (GPM), Return on Equity (ROE), and Return on Assets (ROA)".

The data analysis is conducted with IBM SPSS 25 software. Subsequently, the data undergoes inferential statistical analysis to test for normality in distribution and to distinguish notable changes between the eras preceding and encompassing the Coronavirus pandemic. If the data follows a normal distribution, a paired sample parametric test (t-test) is used; otherwise, a nonparametric "test (Wilcoxon Signed Rank Test)" is employed.

RESULTS AND DISCUSSION

Statistical Analysis of Sample Data

Table 2
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BeforeCovCurrent	42	.16	6.04	1.3106	1.53417
DuringCovCurrent	42	.03	7.68	1.4653	1.83687
BeforeCovQuick	42	.14	5.55	1.2073	1.39516
DuringCovQuick	42	.02	7.59	1.3418	1.73654
BeforeCovCash	42	.01	2.29	,3659	,57375
DuringCovCash	42	.00	3.35	,4976	,68094
BeforeCovPutaranks	42	-7.56	30.98	2.1406	9.10253
DuringCovCash Rounds	42	-42.07	582.40	14.1803	90.44962
BeforeCovINWC	42	-,26	2.27	,0970	,44650
DuringCovINWC	42	-1.37	53.41	1.3359	8.24423
BeforeCovDAR	42	.08	1.95	,6016	,37454
DuringCovDAR	42	,11	3.14	,7149	,63881
BeforeCovDER	42	-4.55	82.38	3.6621	12.75554
DuringCovDER	42	-90.30	41.65	-,1847	16.06514
BeforeCovLTDER	42	-1.05	23.73	1.2475	3.65007
DuringCovLTDER	42	-7.67	32.68	,9195	5.36145
BeforeCovROA	42	-.66	.17	-,0509	,15898
DuringCovROA	42	-.58	2.07	,0191	,38575
BeforeCovROE	42	-13.84	1.43	-,3390	2.18683
DuringCovROE	42	-5.60	5.14	,1360	1.34704
BeforeCovGPM	42	-1.19	.81	,1557	,36603
DuringCovGPM	42	-3.43	.84	-,1755	,96830
BeforeCovNPM	42	-3.46	1.13	-,1415	,72590
DuringCovNPM	42	-5.06	25.97	,1951	4.27396
BeforeCovTAT	42	.15	2.57	,5811	,43272
DuringCovTAT	42	.04	1.11	,4255	,26955
BeforeCovFAT	42	.22	5.69	1.1855	1.21611
DuringCovFAT	42	.13	6.04	1.0398	1.12940

BeforeCovWCT	42	.38	9.55	3.2223	2.31091
DuringCovWCT	42	.04	16.69	2.9899	2.80376
BeforeCovART	42	.81	168.79	19.7658	34.34069
DuringCovART	42	.20	277.21	23.1760	50.81181
BeforeCovInvent	42	10.69	348.97	72.9670	75.73215
DuringCovInvent	42	3.30	361.97	71.6497	89.56749
Valid N (listwise)	42				

Source: Data Processed by Researchers, 2024

The test results show that transportation and logistics companies' financial performance varied both before and after the COVID-19 pandemic. Increases were observed in liquidity measures including current, quick, cash, inventory to net working capital, and cash turnover. This points to better liquidity management and enhanced working capital. On the other hand, if a large percentage of working capital is invested in inventory, it could mean that liquidity is a concern.

The companies' financial structures changed during the epidemic, as shown by leverage ratios such as “debt to assets, debt to equity, and long-term debt to equity”. This period saw increased reliance on debt and unstable financial conditions. Nevertheless, some companies managed to maintain relatively stable debt levels, indicating effective debt management.

The gross profit margin shrank, on the other hand, profitability metrics like ROE, net profit margin, and return on assets all rose. This indicates that companies were able to generate better profits from their assets and equity but faced higher costs or other challenges in maintaining their profitability.

Activity ratios, such as receivable turnover, increased, demonstrating high efficiency in collecting receivables. At the same time, there was a decrease in the turnover of total assets, fixed assets, working capital, and inventory. Despite this downturn, companies were able to maintain relatively high ratios in challenging conditions, showcasing their flexibility and adaptability.

Normality Test Results

Liquidity Ratio Normality Test Results

Table 3
Liquidity Ratio Normality Test Results

		Current Ratio	Quick Ratio	Cash Ratio	Round Cash	INWC
N		84	84	84	84	84
Normal Parameters [a, b]	Mean	1.3880	1.2745	,4318	8.1605	,7164
	Std. Deviation	1.68387	1.56707	,62932	64.17856	5.83618
Most Extreme Differences	Absolute	,241	,237	,260	,378	,441
	Positive	,241	,237	,260	,378	,441
	Negative	-,209	-,211	-,248	-,356	-,410
Statistical Tests		,241	,237	,260	,378	,441
Asymp. Sig. (2-tailed) [c]		<.001	<.001	<.001	<.001	<.001

Source: Data Processed by Researchers, 2024

All liquidity ratios examined have a value of 0.001 < 0.050, as shown clearly in the normality test table that was shown earlier (2-tailed). According to these findings, none of the liquidity ratios that were examined had a normal distribution. Therefore, an alternative analysis was conducted with the Wilcoxon Signed Rank Test an alternative test when the data was not normally distributed.

Leverage Ratio Normality Test Results

Table 4
Leverage Ratio Normality Test Results

		DAR	DER	LTDER
N		84	84	84
Normal Parameters [a, b]	Mean	,6582	1.7387	1.0835
	Std. Deviation	,52356	14.54667	4.56156
Most Extreme Differences	Absolute	,159	,324	,326
	Positive	,159	,315	,326
	Negative	-,134	-,324	-,287
Statistical Tests		,159	,324	,326
Asymp. Sig. (2-tailed) [c]		<.001	<.001	<.001

Source: Data Processed by Researchers, 2024

Based on the normality test table mentioned above, the Asymp. Sig. (2-tailed) values for all leverage ratios tested are 0.001 < 0.050. According to these findings, the leverage ratios that were investigated do not all adhere to a normal distribution. As a result, when dealing with data that did not follow a normal distribution, the Wilcoxon Signed Rank Test was employed instead of the original approach.

Profitability Ratio Normality Test Results

Table 5
Profitability Ratio Normality Test Results

		ROA	ROE	GPM	NPM
N		84	84	84	84
Normal Parameters [a, b]	Mean	-,0159	-,1015	-,0099	,0268
	Std. Deviation	,29535	1.82090	,74640	3.05161
Most Extreme Differences	Absolute	,230	,377	,291	,403
	Positive	,230	,250	,193	,403
	Negative	-,164	-,377	-,291	-,314
Statistical Tests		,230	,377	,291	,403
Asymp. Sig. (2-tailed) [c]		<.001	<.001	<.001	<.001

Source: Data Processed by Researchers, 2024

According to the normality test table mentioned above, the Asymp. Sig. (2-tailed) values for all profitability ratios tested are 0.00 < 0.050. This indicates that none of the tested profitability ratios adhere to the principles of normality. Therefore, when the data is not normally distributed, the Wilcoxon Signed Rank Test is another option for comparing the results.

Activity Ratio Normality Test Results

Table 6
Activity Ratio Normality Test Results

		TAT	FAT	WCT	ART	InventTurn
N		84	84	84	84	84
Normal Parameters [a, b]	Mean	,5033	1.1126	3.1061	21.4709	72.3083
	Std. Deviation	,36676	1.16876	2.55633	43.13753	82.44033
Most Extreme Differences	Absolute	,147	,275	,129	,394	,231
	Positive	,147	,275	,129	,394	,231
	Negative	-,112	-,200	-,115	-,311	-,203
Statistical Tests		,147	,275	,129	,394	,231
Asymp. Sig. (2-tailed) [c]		<.001	<.001	,002	<.001	<.001

Source: Data Processed by Researchers, 2024

According to the normality test table mentioned above, the Asymp. Sig. (2-tailed) values for all activity ratios tested are 0.001 < 0.050. This indicates that none of the tested activity ratios adhere to the principles of normality. In situations when the data is not normally distributed, an alternate technique for detecting differences was employed: the Wilcoxon Signed Rank Test.

Different Test Results

Liquidity Ratio - Current Ratio

Table 7
Current Ratio Difference Test Results

	DuringCovCurrent - BeforeCovCurrent
Z	-,131 [b]
Asymp. Sig. (2-tailed)	,896

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test has an Asymp. Sig. (2-tailed) value of 0.896 > 0.050, according to the data in the table when taken as a whole. Because of this, we can conclude that there is no significant difference.

Liquidity Ratio - Quick Ratio

Table 8
Quick Ratio Difference Test Results

	DuringCovQuick - BeforeCovQuick
Z	-,181 [b]
Asymp. Sig. (2-tailed)	,856

Source: Data processed by researchers, 2024

With the data in the table, it's possible to observe that the Wilcoxon Signed Rank Test shows an Asymp. Sig. (2-tailed) value of 0.856 > 0.050. This means that the data evaluated did not show a meaningful difference.

Liquidity Ratio - Cash Ratio

Table 9
Cash Ratio Difference Test Results

	DuringCovCash - BeforeCovCash
Z	-1,682 [b]
Asymp. Sig. (2-tailed)	,093

Source: Data Processed by Researchers, 2024

With the data in the table, it's possible to observe that the Wilcoxon Signed Rank Test has an Asymp. Sig. (2-tailed) value of 0.093 > 0.050. This means that the data evaluated did not significant difference in the data tested.

Liquidity Ratio - Cash Turnover Ratio

Table 10
Cash Turnover Ratio Difference Test Results

	DuringCovPutaranKas - BeforeCovPutarankas
Z	-,119 [b]
Asymp. Sig. (2-tailed)	,905

Source: Data Processed by Researchers, 2024

With the data in the table, it's possible to observe that the Wilcoxon Signed Rank Test shows an Asymp. Sig. (2-tailed) value of 0.905 > 0.050. This means that the data evaluated did not significant difference in the data tested.

Liquidity Ratio - Inventory to Net Working Capital Ratio

Table 11
Inventory to Net Working Capital Difference Test Results

	DuringCovINWC - BeforeCovINWC
Z	-1.107 [b]
Asymp. Sig. (2-tailed)	,268

Source: Data Processed by Researchers, 2024

With the data in the table, it's possible to observe that the Wilcoxon Signed Rank Test has an Asymp. Sig. (2-tailed) value of 0.268 > 0.050. This means that the data evaluated did not significant difference in the data tested. When comparing liquidity ratios before, during, and after the COVID-19 infection, the Wilcoxon Signed Rank Test found no statistically significant differences. Therefore, hypothesis 1, which asserts a notable disparity in cash flow ratios before to and after the epidemic lacks supporting evidence.

Leverage Ratio - Debt to Assets Ratio

Table 12
Debt to Assets Ratio Difference Test Results

	DuringCovDAR - BeforeCovDAR
Z	-1.382 [b]
Asymp. Sig. (2-tailed)	,167

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.167 > 0.050. This demonstrates that the tested data do not differ significantly.

Leverage Ratio - Debt to Equity Ratio

Table 13
Debt to Equity Ratio Difference Test Results

	DuringCovDER - BeforeCovDER
Z	-1,269 [b]
Asymp. Sig. (2-tailed)	,204

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.204 > 0.050. This demonstrates that the tested data do not differ significantly.

Leverage Ratio - Long-Term Debt to Equity Ratio

Table 14
Long Term Debt to Equity Ratio Difference Test Results

	DuringCovLTDER - BeforeCovLTDER
Z	-,925 [b]
Asymp. Sig. (2-tailed)	,355

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test displays the Asymp value based on the above table. The 2-tailed significance level of 0.355 > 0.050. This demonstrates that the examined data did not differ significantly. As a result, hypothesis 2, which claims that leverage ratios varied significantly before and throughout the COVID-19 pandemic, is unsupported.

Profitability Ratio - Return on Assets Ratio

Table 15
Results of Different Ratio Test Results for Return on Assets

	DuringCovROA - BeforeCovROA
Z	-,100 [b]
Asymp. Sig. (2-tailed)	,920

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.920 > 0.050. This demonstrates that the examined data did not differ significantly.

Profitability Ratio - Return on Equity Ratio

Table 16
Return on Equity Ratio Difference Test Results

	DuringCovROE - BeforeCovROE
Z	-,700 [b]
Asymp. Sig. (2-tailed)	,484

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.484 > 0.050. This demonstrates that the examined data did not differ significantly.

Profitability Ratio - Gross Profit Margin Ratio

Table 17
Gross Profit Margin Ratio Difference Test Results

	DuringCovGPM - BeforeCovGPM
Z	-2,832 [b]
Asymp. Sig. (2-tailed)	,005

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.005 < 0.050. This demonstrates that the examined data differ significantly.

Profitability Ratio - Net Profit Margin Ratio

Table 18
Net Profit Margin Ratio Difference Test Results

	DuringCovNPM - BeforeCovNPM
Z	-1,582 [b]
Asymp. Sig. (2-tailed)	,114

Source: Data Processed by Researchers, 2024

Taken together, the data in the table, the Wilcoxon Signed Rank Test shows an Asymp. Sig. (2-tailed) value of 0.114 > 0.050, showing that the tested data does not differ significantly. The profitability ratio tests for ROA, ROE, and NPM reveal there were no notable changes before or during the COVID-19 pandemic, thus hypothesis 3 is not supported. However, the GPM ratio showed significant differences, supporting hypothesis 3.

Activity Ratio - Total Asset Turnover Ratio

Table 19
Total Asset Turnover Ratio Difference Test Results

	DuringCovTAT – BeforeCovTAT
Z	-1,730 [b]
Asymp. Sig. (2-tailed)	,084

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.084 > 0.050. This demonstrates that the examined data did not differ significantly.

Activity Ratio - Fixed Asset Turnover Ratio

Table 20
Fixed Asset Turnover Ratio Difference Test Results

	DuringCovFAT - BeforeCovFAT
Z	-,519 [b]
Asymp. Sig. (2-tailed)	,604

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.904> 0.050. This demonstrates that the examined data did not differ significantly.

Activity Ratio - Working Capital Turnover Ratio

Table 21
Working Capital Turnover Ratio Difference Test Results

	DuringCovWCT - BeforeCovWCT
Z	-1.069 [b]
Asymp. Sig. (2-tailed)	,285

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.284 > 0.050. This demonstrates that the examined data did not differ significantly.

Activity Ratio - Account Receivable Turnover Ratio

Table 22
Test Results for Different Account Receivable Turnover Ratios

	DuringCovART - BeforeCovART
Z	-,269 [b]
Asymp. Sig. (2-tailed)	,788

Source: Data Processed by Researchers, 2024

The Wilcoxon Signed Rank Test difference test has an Asymp value, as can be seen from the preceding table. The 2-tailed significance level of 0.788 > 0.050. This demonstrates that the examined data did not differ significantly.

Activity Ratio - Inventory Turnover Ratio

Table 23.
Test Results for Different Inventory Turnover Ratios

	DuringCovInvent BeforeCovInvent
Z	-1.557 [b]
Asymp. Sig. (2-tailed)	,120

Source: Data Processed by Researchers, 2024

An Asymp. Sig. (2-tailed) value of 0.120, which is greater than 0.050, was obtained using the Wilcoxon Signed Rank Test, as shown in the table above. In other words, the activity ratios that were measured both before and during the COVID-19 pandemic did not change much. As a result, we do not have evidence to support hypothesis 4, which states that activity ratios were significantly different leading up to and including the COVID-19 pandemic.

Liquidity Ratio Difference Test

Current Ratio

The findings of the Wilcoxon Signed Rank Test indicate that the current ratio has an Asymp. Sig. (2-tailed) value of 0.896, which is greater than 0.050. This indicates that there is no significant difference in the current ratio of transportation sub-sector companies before and during the COVID-19 pandemic. Therefore, when measured using the current ratio, based on the data, it appears that the liquidity of transportation sub-sector enterprises was unaffected by the COVID-19 epidemic. Consequently, hypothesis 1, lacks evidence to

support the claim that liquidity ratios were significantly different before and during the COVID-19 outbreak.

Studies performed by (Alamsyah, 2022) state that the present ratio did not change noticeably between the pre-and during-COVID-19 eras. Additional studies were carried out by others (Indiraswari & Rahmayanti, 2022) (Lahallo & Rupilele, 2022). (Alamsyah, 2022) explained that even though it was affected by the pandemic, the company managed to maintain its liquidity well. This research was conducted for 3 years before and 3 years during the pandemic, showing the company's efforts to maintain liquidity stability. Even though there was an increase in the average current ratio, the change was relatively small, only around 11.8%. So, it looks like the business has effectively managed its current assets and liabilities, even during challenging economic conditions. Consequently, these findings send a positive signal to investors, suggesting that liquidity within this sub-sector has been preserved despite the impacts of the COVID-19 pandemic.

Quick Ratio

The Wilcoxon Signed Rank Test results show that the quick ratio has an Asymp. Sig. (2-tailed) value of 0.856, which exceeds 0.050. This suggests that the fast ratio of transportation sub-sector enterprises showed no discernible change between pre-and during-COVID-19. Thus, when evaluated using the quick ratio, it can be concluded that liquidity in transportation sub-sector companies has remained unchanged throughout the pandemic. As a result, hypothesis 1, it asserts that liquidity ratios fluctuate significantly before and during the epidemic, but fails to provide evidence to substantiate this assertion.

Research by (Urip Wardoyo et al., 2022) showed the rapid ratio was unchanged from the time before the COVID-19 epidemic to the time after it ended, this finding was also found in research by (Alcander & Nuraini, 2022) and (Misbahudin et al., 2020). This indicates that companies on the IDX are increasing their risk appetite to anticipate economic uncertainty during the pandemic. Nevertheless, the company continues to strive to maintain its liquidity stability with proactive steps, as is seen from a distance average difference in quick ratio, around 11.13%. This stability demonstrates the company's diligence in managing its current financial resources and debts, as well as its capacity that is due shortly. Consequently, these

findings offer an encouraging message for shareholders, indicating that the company's liquidity has been preserved, even amidst the COVID-19 outbreak.

Cash Ratio

Asymp. Sig. (2-tailed) for the cash ratio is 0.093, which is higher than 0.050, according to the findings of the Wilcoxon Signed Rank Test. This indicates that the cash ratios of transportation sub-sector enterprises did not change noticeably between the pre-and during-COVID-19 eras. Therefore, when assessed using the cash ratio, it is safe to say that liquidity has not changed. for these companies throughout the pandemic. As such, hypothesis 1, which claims liquidity ratios changed dramatically from pre- and during-epidemic times, does not have any evidence to back it up.

Research by (Alcander & Nuraini, 2022) signifying showed there was no discernible change in the cash ratio between the pre-and during-COVID-19 periods. This result agrees with studies done by (Lowardi & Abdi, 2021) and (Yanto & Frymaruwah, 2022). Research shows that companies managed to maintain their liquidity well during the pandemic, choosing to hold more cash to weather economic uncertainty. This reflects the company's efforts to manage cash efficiently to ensure financial security in an unstable situation. This cash ratio stability shows the company's resilience and adaptability in maintaining financial health during the pandemic, providing maintaining the company's liquidity sends a positive signal to investors.

Cash Turnover Ratio

A significance level of 0.905 (higher than 0.050) was found for the cash turnover ratio in the Wilcoxon Signed Rank Test. Companies in the transportation subsector did not see a change in their cash turnover ratio before or during the COVID-19 epidemic, according to research. Thus, it can be inferred from the cash turnover ratio that these companies' liquidity remains unchanged during the epidemic. Therefore, the first hypothesis, which states that liquidity ratios fluctuate significantly before and during the pandemic, cannot be accepted.

Research by (Labbaika Filan Agyata & Julianto, 2023) verifies that the average cash turnover ratio value was unchanged both before and after the COVID-19 pandemic. This finding is consistent with research conducted which also reported similar results by (Ilahude et al., 2021). This can be caused by efficient cash management, strict spending policies, as

well as income diversification, and good receivables management. Even though the data shows a dramatic spike in the ratio of cash to total assets during the epidemic, this is due to an anomaly in one company. Thus, the consequences of the epidemic on the cash turnover ratio is not large enough to create a significant difference overall. This conclusion provides promising news for those looking to invest that the organization's liquidity is unaffected by the COVID-19 pandemic.

Inventory To Net Working Capital

A ratio of inventory to net working capital with an Asymp. Sig. (2-tailed) value of 0.268-greater than 0.050-was found in the Wilcoxon Signed Rank Test. Companies in the transportation subsector did not significantly alter their inventory to net working capital ratio before or during the COVID-19 epidemic, according to this. Liquidity for these companies remains constant during the epidemic, according to this ratio's evaluation. That being the case, we cannot accept hypothesis 1, which states that liquidity ratios were significantly different amid the height of the COVID-19 pandemic.

According to these findings, the business successfully maintained stability in inventory levels and net working capital throughout the COVID-19 pandemic. Despite economic disruptions, the company effectively managed inventory and working capital, ensuring that these ratios remained stable. This consistency reflects the implementation of efficient inventory management practices. Additionally, companies in the transportation sub-sector generally maintain smaller inventories, except for an anomaly in 2021 involving Eka Sari Lorena Transport Tbk. Liquidity ratios showed no discernible change between pre-and during-epidemic periods, even though inventory values rose, highlighting the company's ability to optimize revenue through efficient use of inventory and working capital. Investors should take heart from this steadiness, as it shows that the company's financial performance is still robust.

Leverage Ratio Difference Test

Debt to Assets Ratio

The Debt to Assets Ratio's Asymptotic value has been determined by multiple tests that included the Wilcoxon Signed Rank Test. Significant (2-tailed) value of 0.167 > 0.050. Asymp Results. A significance level (Sig., 2-tailed) higher than 5% suggests that the debt-

to-assets ratio of transportation subsector enterprises was the same both before and following the conclusion of the COVID-19 pandemic. As a result, the second hypothesis, which states that there is a significant difference in the leverage ratio before and during the COVID-19 outbreak, the use of the Debt to Assets Ratio to assess the indebtedness of transportation subsector enterprises is not supported.

These results corroborate those of research conducted by (Gunawan, 2021) (Andriana et al., 2023) since the average value of the Debt to debt-assets ratio was the same before and after the COVID-19 epidemic. This happens because even though there are changes in debt and assets in several companies during the pandemic, the proportion of these changes can be balanced so that the value is not much different from before, therefore overall, there is no difference, indicating that the company has good financial management and is capable of keeping its debt-to-asset levels stable despite economic disruption from the pandemic. Thus, these outcomes give investors hope for the future of the company's finances.

Debt to Equity Ratio

We know that the debt-to-equity ratio has an Asymp value because of the results of various tests that used the Wilcoxon Signed Rank Test. Significant (2-tailed) value of 0.204 > 0.050. Dispute Resolution. Companies in the transportation subsector did not see a change in their debt-to-equity ratio between the pre-and during-Covid phases, according to Sig. (2-tailed), which is higher than the significance level of 5%. Hypothesis 2, the claim that the leverage ratio was significantly different before and during the COVID-19 pandemic, is not supported. This is because, when considering the debt-to-equity ratio as a measurement, it is concluded that transportation subsector companies' leverage was the same before and during the pandemic.

These findings are in line with observations made by other researchers (Andriana et al., 2023)(Indiraswari & Rahmayanti, 2022) (Ramadhani et al., 2022) Based on the findings, it can be concluded that the average debt-to-equity ratio (DER) did not exhibit any significant differences between the time before and after the COVID-19 outbreak, as previous research has shown. A total of four companies PT Sidomulyo Selaras Tbk, PT AirAsia Indonesia, PT Garuda Indonesia, and PT Express Transindo Utama had anomalies that led to a substantial shift in DER, but the overall shift was caused by low equity and big losses. Unlike the

majority of companies in this area, which have strong financial positions and manage to keep a good mix of debt and equity, our testing has revealed that this is not the case. Thus overall, from the perspective of signal theory, DER did not change before or during the pandemic testing shows to a large extent Companies in this sub-sector have stable financial policies and can maintain a consistent capital structure despite facing economic pressure due to the pandemic, so this can send a positive signal to investors (Arnan et al., 2024).

Long-Term Debt to Equity Ratio

A large number of tests using the Wilcoxon Signed Rank Test have shown that the long-term debt-to-equity ratio has an Asymp value. With 0.355, the two-tailed significance level exceeds the cutoff of 0.050. Asymp Results. Businesses in the transportation sector maintained their long-term debt-to-equity ratio both before and during the COVID-19 epidemic, according to Sig. (2-tailed), which is higher than the significant value (5%). Thus, it can be inferred that transportation subsector companies' leverage was similar before and throughout the COVID-19 epidemic, as indicated by the long-term debt-to-equity ratio. Therefore, the second hypothesis posits that there exists a substantial disparity in the leverage ratio prior to and during the pandemic, is not supported.

The company succeeded in managing its long-term debt well during the pandemic. Most businesses in this industry share this view, which tends to reduce their long-term debt during the pandemic in 2021 and 2022. Due to the length of the maturity period, long-term debt had no impact on the company's financial situation during the pandemic. The lack of a statistically significant change in leverage ratios between the pre-and during-COVID-19 eras is indicative of the stability and competence of management in handling long-term debt, which is good news for investors.

Test of Different Profitability Ratios

Return on Assets Ratio

The Wilcoxon Signed Rank Test produced an Asymp. Sig. (2-tailed) value of 0.920, indicating that the ROA ratio is higher than 0.050. According to these numbers, there was no discernible change in the ROA ratios of transportation subsector enterprises between the pre- and during-COVID-19 periods. Thus, it can be inferred from the ROA ratio that these companies' profitability remained constant throughout the pandemic. This disproves

hypothesis 3, which asserts that the profitability ratios were significantly different before and during the pandemic.

These findings align with research by (Ramadhani et al., 2022) and (Wibowo et al., 2022), in which it was shown that there was no discernible change in the ROA ratio before or throughout the outbreak, consistent with previous studies. Companies that successfully maintained profitability may have employed effective strategies such as cost reduction and enhancing the efficiency of asset utilization. Although ROA during the pandemic was slightly higher, the overall change was not significant, potentially indicating that the strategies implemented were not fully optimized, thereby limiting their effect on the bottom line of the business (Wijaya & Novianto, 2024). Nonetheless, this modest increase suggests that companies were able to sustain their performance and financial health during the pandemic, which is crucial for investors and other stakeholders.

Return on Equity Ratio

Results from the Wilcoxon Signed Rank Test show that the ROE ratio has an asymptotic significance level (as measured in degrees of freedom) greater than 0.050, at 0.484. Businesses in the transportation subsector did not see a substantial change in their return on equity ratio either before or during the COVID-19 pandemic. Accordingly, the return on equity (ROE) ratio indicates that these companies' profitability remained unchanged throughout this time, disproving hypothesis 3, which states that there was a notable disparity in the rates of profits before and after the pandemic.

This confirms what previous studies by (Ramadhani et al., 2022) (Andira et al., 2023) which showed that before and after the outbreak, there was no discernible change in the return on equity ratio. Most companies experienced losses both before and during the pandemic, and the slight increase during this period indicates that management has effectively minimized losses and mitigated negative impacts, preventing substantial adverse effects on overall performance. Therefore, these results suggest that management has successfully maintained the company's financial stability, which helps preserve investor confidence (Dianita et al., 2024). This outcome serves as a positive signal, demonstrating that the company has been able to sustain stable ROE and performance throughout the pandemic, which is crucial for investors.

Gross Profit Margin Ratio

According to the Wilcoxon Signed Rank Test, the GPM ratio is less than 0.050, with an Asymp. Sig. (2-tailed) value of 0.005. This shows that the GPM ratio for transportation sub-sector enterprises was significantly different before and during the COVID-19 epidemic. According to hypothesis 3, which asserts that there is a notable disparity in profitability ratios before and during the pandemic, the GPM ratio evaluation indicates that these companies' profitability changed significantly during this period.

This confirms what previous studies by (Nadhip et al., 2022), Researchers tracked the COVID-19 epidemic and found that gross profit margin fell sharply, consistent with earlier studies. This decline can be attributed to factors such as reduced economic activity and increased operational costs, which posed profitability challenges for companies during the pandemic. With a decrease in GPM of 212.75%, the statistical results confirm a marked contrast between the pre-and during-pandemic eras. This presents a negative signal to investors, according to signaling theory.

Net Profit Margin Ratio

The Wilcoxon Signed Rank Test found that the NPM ratio is more than 0.050, with an Asymp. Sig. (2-tailed) value of 0.114. Companies in the transportation subsector did not significantly alter their NPM ratio before or during the COVID-19 epidemic, according to this. Accordingly, the NPM ratio evaluation disproves hypothesis 3, which asserts a notable disparity in profitability ratios before and during the pandemic, since it finds no change in the profitability of these enterprises throughout this time.

This confirms previous studies by (Gunawan, 2021) (Hartini et al., 2023), they also found no statistically significant change in the NPM ratio between pre- and during-pandemic periods. The pandemic compelled companies to reduce operating costs, potentially helping to maintain or even increase net profit margins. Although there was a slight rise in the NPM ratio during the pandemic, statistical analysis revealed that this increase was not significant overall. This can be attributed to an anomaly in one company that experienced a notable rise in NPM, while most others saw a decline. Consequently, the variations were not substantial enough to yield statistically significant results, reflecting the challenges faced by companies in navigating adverse external conditions and sending a negative signal to investors

Activity Ratio Difference Test

Total Asset Turnover Ratio

The Wilcoxon Signed Rank Test found that the TAT ratio is greater than 0.050 with an Asymp. Sig. (2-tailed) value of 0.248. These findings suggest that there was little change in the transportation subsector's TAT ratio between the pre-and during-COVID-19 eras. There is little evidence to support Hypothesis 4, which posits that activity ratios differ significantly before and during the epidemic because, when evaluating these companies using the TAT ratio, it is concluded that their operational efficiency remains unchanged during this period.

This confirms what previous studies (Ningsih, 2024), in addition to the fact that the total asset turnover ratio was not significantly different between the pre-and during-pandemic periods. This shows that businesses have kept up their profit-generating efficiency in the face of the pandemic. Despite some slight average variations, the TAT value was mostly the same, indicating that the pandemic had no major impact on the efficiency of asset utilization for income production. This consistency may reassure investors, indicating that the company has managed to navigate challenging economic conditions effectively.

Fixed Asset Turnover Ratio

It is clear from the findings of the Wilcoxon Signed Rank Test that the fixed asset turnover (FAT) ratio is higher than the significance level (Asymp. Sig., 2-tailed) of 0.604, which indicates that the ratio is statistically significant. This suggests that among transportation sub-sector enterprises, the FAT ratio did not change significantly before or during the COVID-19 epidemic. Thus, it may be inferred from the FAT ratio that these enterprises' operational efficiency remained constant during the period under consideration, casting doubt on hypothesis 4, which proposes a notable disparity in activity ratios before and during the pandemic.

This confirms previous studies by (Hartati et al., 2022), who similarly discovered no statistically There was a meaningful shift in the FAT ratio between the pre-pandemic and during-pandemic periods. This suggests that companies have effectively managed and utilized their fixed assets, maintaining operational efficiency throughout the pandemic. Although there was little change in the fixed asset turnover values, the average changes were

too small to be considered statistically significant, indicating that the pandemic did not greatly impact the efficiency of fixed asset utilization for revenue generation. Such reliability can give investors more faith in the firm's stability and asset management skills.

Working Capital Turnover Ratio

The work capital turnover (WCT) ratio has Asymp. Sig. (2-tailed) value of 0.285, The results of the Wilcoxon Signed Rank Test indicate that this is more significant than the 0.050 level. Companies in the transportation subsector did not significantly alter their WCT ratio between the pre-and during-Covid periods. So, it seems that the operational activity of these enterprises has remained the same during this period, according to the WCT ratio. This contradicts hypothesis 4, which asserts that the activity ratios were significantly different prior to and after the epidemic.

These findings are consistent with research by (Andriana et al., 2023), which also demonstrated that the WCT ratio remained relatively unchanged both before and after the pandemic, aligning with previous studies. Although the ratio did decline during the pandemic, companies still managed to fulfill their short-term obligations and sustain daily operations. As a result of careful management of working capital, the company's turnover in working capital is reasonably stable, suggesting the implementation of sound strategies in this area. From the perspective of signaling theory, these modest differences may potentially mean positive indicators of a company's resilience and operational efficiency amid economic hardships.

Account Receivable Turnover Ratio

The accounts receivable turnover ratio exceeded the significance limit of 0.050 with an Asymp. Sig. (2-tailed) value of 0.788, as shown in the Wilcoxon Signed Rank Test study. That means there wasn't much of a change in the accounts receivable turnover ratio for transportation sector businesses before and after the COVID-19 pandemic. Therefore, based on this ratio, we can conclude that the activity levels of transportation sector companies remained unchanged during the pandemic, thus not supporting hypothesis 4, which posits a significant difference in activity ratios during this time.

This confirms what previous studies by (Nyoman Rianti Apriliasari & Aisyah Hidayati, 2024), which also came up empty-handed difference in the accounts receivable

turnover ratio pre- and during-pandemic. Despite the challenges faced in managing receivables during the pandemic, transportation companies were able to enhance efficiency through improved receivables management practices. The statistical evidence indicates that the changes in the accounts receivable turnover were minimal throughout the pandemic, reflecting stability in their operational and financial performance. From the perspective of signaling theory, this stability can be interpreted as something that shows how strong a corporation is and how well it can handle tough times while maintaining operational effectiveness.

Inventory Turnover Ratio

With an Asymp. Sig. (2-tailed) value of 0.120, the inventory turnover ratio is statistically substantial at the 0.050 level, according to the Wilcoxon Signed Rank Test analysis. According to these results, transportation sector enterprises' inventory turnover pre- and during-COVID-19 ratios were not substantially changed. So, we can deduce from the inventory turnover ratio that transportation sector companies' activity levels were stable throughout the pandemic. This contradicts hypothesis 4, which states that activity ratios would have varied significantly during this time.

This confirms what previous studies by (Gunawan, 2021) and it also discovered that the inventory turnover ratio was unaffected by the pandemic, aligning with earlier studies. The companies exhibited effective inventory management practices, allowing them to sustain optimal inventory levels. Despite shifts in consumer behavior due to the pandemic, those firms that adapted their product offerings managed to keep their inventory stable. The statistical data reveals consistent inventory turnover with negligible variations during the pandemic. This demonstrates the companies' capacity to manage their inventory efficiently and respond to evolving economic conditions. Overall, this stability serves as a positive indicator of the companies' adeptness in navigating economic challenges.

CONCLUSION

The study comes to several important conclusions. First off, analyses of liquidity ratios, such as inventory to “net working capital, cash ratio, quick ratio, current ratio, and cash turnover ratio”, show no appreciable variations between information gathered both

before and throughout the COVID-19 pandemic. Second, there are no appreciable changes between the two periods when examining leverage ratios using the "debt to assets, debt to equity, and long-term debt to equity ratios". Thirdly, there are noticeable variations in the gross profit margin between the pre-pandemic and pandemic periods, even though profitability ratios like "return on equity, return on assets, and net profit margin does not reveal any significant differences". There are also no discernible variations in activity ratios, which include those for total "asset turnover, fixed asset turnover, working capital turnover, accounts receivable turnover, and inventory turnover".

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