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# Do Firms Change the Working Capital Management Policy During The Covid-19 Pandemic? Case of Transportation & Logistics and Healthcare Industries in Indonesia

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**ABSTRACT:** This study explores the crucial role of working capital management in balancing profitability and risk for companies. Economic conditions and sector-specific fluctuations in GDP influence working capital decisions. The transportation and logistics industry faced challenges with reduced demand, while the healthcare industry dealt with increased demand and longer payment collection periods during the pandemic. Using panel data regression on healthcare and transportation companies listed on the Indonesia Stock Exchange from 2017 to 2021, the study examines the impact of working capital management on profitability. Findings show significant correlations between working capital components and company profitability in both sectors. Specifically, before the pandemic, Days Sales Outstanding (DSO) positively affected Return on Assets (ROA), while Working Capital Financing Policy (WCFP) had a negative impact. During the pandemic, DSO and Working Capital Investment Policy (WCIP) positively influenced ROA in the transportation sector, while WCFP negatively affected it. In the healthcare sector during the pandemic, both DSO and Days Inventory Outstanding (DIO) positively affected ROA. For Net Profit Margin (NPM), the significance of working capital variables changed during the pandemic in the transportation sector, with DSO negatively impacting NPM, while WCIP and WCFP had a positive effect. In the healthcare sector during the pandemic, WCIP positively correlated with NPM, while WCFP had a negative correlation. Effective working capital management is essential for companies to navigate economic fluctuations and ensure uninterrupted operations.

**KEYWORDS:** Healthcare Sector, Pandemic, Profitability, Panel Data Regression, Transportation and Logistics Sector, Working Capital Financing Policy, Working Capital Investment Policy, Working capital management.

## I. INTRODUCTION

Inventories, accounts receivable, marketable securities, cash and current liabilities (notes payable, accruals and accounts payable) are all managed as part of working capital management (or short-term finance) to strike a balance between profitability and risk that adds value to the company. Working capital can also be likened to the blood flow in the company because working capital is the most liquid aspect in the company and also encourages the daily operation of the business. Therefore, working capital management is quite challenging where managers must choose between increasing profitability or reducing risk. By reducing working capital, companies can increase their profitability by reinvesting company earnings into profitable assets, but by reducing working capital the company will be riskier because the company will be more insolvent. Vice versa if companies increase their working capital, the profitability of the company will decrease and the risk will also decrease.

Indonesia's economic condition is certainly an important thing in decisions and policies that will be applied by companies for working capital management. One of the effects of global events affecting the economy can be observed recently when the Covid pandemic was followed by the Ukraine and Russia wars. Both of these events could affect the world's economy suddenly deteriorated due to a pandemic that killed off business processes in almost all sectors. After 2 years, after various efforts made by Indonesia, Indonesia's growth increased at the end of 2021 reaching 3.7% and economic growth of 5% (y-o-y) in the first quarter of 2022. After more than two years of the pandemic, continued by the impact of the Russian invasion to Ukraine sharply slowed global economic activity. As a result of the war in Ukraine, prices for most commodities have risen significantly higher in 2022. However, the positive impact of the trade exchange rate has benefited Indonesia in the near term through higher export and fiscal revenues.

By looking at the ups and downs of the Indonesian economy, companies certainly need to adapt to high economic fluctuations. Therefore, the working capital management policy is very important so that the company can operate. However, the working capital

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management policy does not really affect all sectors, there are some sectors that are not too dependent, but there are also sectors that are very dependent, especially the industrial sector which has a large portion of inventory and receivables in the statement of financial position, such as the retail and wholesale industries. In addition, not all sectors are affected negatively by the pandemic, so each sector has a different working capital management. This can be seen from the trend of GDP by sector, where there are several sectors such as information and healthcare sector increasing during the pandemic. Based on these data, it can be seen that the two industries that are very negatively affected, namely the transportation and warehousing sector and those that are positively affected are the health service and social activities sectors.

There are several factors that can affect demand and supply when Covid-19 first starts, where Covid itself affects demand because there are restrictions, not because of the ability to consume itself (Guerrieri, Lorenzo, Straub, & Werning, 2022). In addition, supply chain management is also one of the competitive advantages of a company (Barney, 2012) . According to Hofmann et al. (2022) oriented supply chain-oriented view of working capital management is an alternative management that is more favorable compared to prevailing self-orientation. Hofmann et al. (2022) found that companies with longer days of outstanding sales and shorter days of inventory have a relationship with better financial performance compared to days payable outstanding. In addition, according to Ujah et al. (2022) companies that have investment opportunities tend to be more efficient in managing their working capital.

In this study, the author will discuss the effect of working capital management of transportation and logistics sector and healthcare system sector on profitability ratio. The relationship to be examined is between the independent variables, namely the components of the cash conversion cycle (CCC) and also the working capital management policy (WMCP) with the profitability ratio, namely return on assets (ROA). The choice of these two sectors is because the author wants to see how the comparison between industry sectors that are positively or negatively affected by managing their working capital to continue to be able to run their operations during Covid-19.

## II. DATASET AND SAMPLE

This study uses purposive sampling, where samples are selected based on specific criteria. There were 23 healthcare companies and 28 transportation and logistics companies listed on the Indonesia Stock Exchange. The collected data then underwent outlier elimination to maximize the regression model to be used. From this process, the number of companies and observations for each period was obtained and presented in Table 3.1.

**Table II.1** Number of companies and observations

| No. | Criteria in research | Size |
|---|---|---|
| 1. | Companies in the Total Transportation and Logistics sector listed on the IDX 2017-2021 | 28 |
| 2. | Number of observations in the transportation and logistics sector before the pandemic | 68 |
| 3. | Number of observations in the transportation and logistics sector during a pandemic | 48 |
| 4. | Companies in the total Healthcare sector listed on the IDX 2017-2021 | 23 |
| 5. | Number of observations in the Healthcare sector before the pandemic | 51 |
| 6. | The number of observations in the Healthcare sector during the pandemic | 46 |

## III. VARIABLE AND EMPIRICAL MODEL

The data analysis method that will be used in this research is panel data regression. Panel data regression is a statistical method used to analyse data that includes observations on multiple entities (such as individuals, firms, or countries) over time. Panel data regression combines both cross-sectional and time-series dimensions in a single analysis. In panel data regression analysis, the dependent variable (the variable being predicted) and the independent variables (the predictors) are regressed against each other,

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taking into account the time-series and cross-sectional dimensions of the data. The goal is to estimate the effects of different factors on the dependent variable, while controlling for other factors that may be affecting the outcome. The independent variables in this study are:

- Days inventory outstanding
- Days sales outstanding
- Days payable outstanding
- Working capital investment policy
- Working capital financing policy

While the dependent variable that will be used in this study is return on asset.
Furthermore, in this study the model will use several control variables to eliminate bias. The several control variables that will be used in this research are as follows:

- Firm Size
- Firm Age
- Sales Growth

The recap of the definitions and symbols of each variable that will be used in this study is shown in Table 3.2.

**Table III.1** Definition of variables

| | Variable Name | Symbol | Variable Definition |
|---|---|---|---|
| **Independent Variable** | Days Sales Outstanding | DSO | $\frac{Account\ Receivable}{Revenue} \times 365\ Days$ |
| | Days Inventory Outstanding | DIO | $\frac{Inventory}{Cost\ of\ Good\ Sold} \times 365\ Days$ |
| | Days Payable Outstanding | DPO | $\frac{Account\ Payable}{Cost\ of\ Good\ Sold} \times 365\ Days$ |
| | Working Capital Investment Policy | WCIP | $\frac{Total\ Current\ Assets}{Total\ Assets}$ |
| | Working Capital Financing Policy | WCFP | $\frac{Total\ Current\ Liabilities}{Total\ Assets}$ |
| **Dependent Variable** | Return on Assets | ROA | $\frac{Net\ Income}{Total\ Assets}$ |
| | Net Profit Margin | NPM | $\frac{Net\ Income}{Revenue}$ |
| **Control Variable** | Firm Size | SIZE | $\ln(Total\ Assets)$ |
| | Current Ratio | AGE | *Age of the firm after IPO* |
| | Sales Growth | SG | $\frac{Current\ Period\ Sales - Prior\ Period\ Sales}{Prior\ Period\ Sales}$ |

All the variables mentioned will be used using the regression model as follows:
ROA=α+ β1 DSO+β2 DIO+β2 DPO+β3 WCIP+β4 WCFP+β5 SIZE+β6 AGE+β7 SG + ε
NPM=α+ β1 DSO+β2 DIO+β2 DPO+β3 WCIP+β4 WCFP+β5 SIZE+β6 AGE+β7 SG + ε
where:

α = model intercept
β = slope coefficient for each explanatory variable
ε = model's error term or residuals

The research will be divided into two periods, namely the covid and non-covid periods. Each will use panel data regression models. Each model will then be tested to determine the regression method. According to Widarjono (2005) there are three methods

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used to estimate the panel data regression model, namely the fixed effect, common effect, and random effect approaches. To determine the estimation technique, it is necessary to carry out the F statistical test, the Lagrange Multiplier test, and finally the Hausman test.

After determining the appropriate regression model, it is necessary to have a test that is required, namely the classical assumption test. Classical assumption tests are a set of statistical tests that are used to check the assumptions of some common statistical models, such as linear regression models. These assumptions include normality, linearity, multicollinearity, autocorrelation, and homoscedasticity. The classical assumption tests are important because they help to ensure that the statistical models being used to analysed data are appropriate for the data being analysed. These tests check for violations of assumptions that are often made when using statistical models, such as linear regression models. If the assumptions are not met, the results obtained from the model may be unreliable or biased. For example, if the normality assumption is violated, the p-values and confidence intervals calculated from the model may be incorrect. Similarly, if the homoscedasticity assumption is violated, the standard errors of the regression coefficients may be biased, leading to incorrect inference. The selected models have undergone several tests to obtain the appropriate model for each dataset. The tests conducted to determine the model include the Chow test, Hausman test, and Lagrangian Multiplier test.

## IV. DATA ANALYSIS AND DISCUSSION

### *A. Descriptive Statistic*

The results of descriptive statistics for overall timeline pre-Covid timeline and during Covid timeline are presented in Table 4.1, Table 4.2, Table 4.3, and Table 4.4 respectively.

**Table IV.1** Descriptive statistic healthcare covid period

| | ROA | NPM | DSO | DIO | DPO | WCIP | WCFP | SIZE | AGE | SG |
|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.09744 | 0.10603 | 70.08469 | 86.63539 | 75.91666 | 0.53518 | 0.27287 | 28.43136 | 11.43478 | 1.01261 |
| Median | 0.09133 | 0.08732 | 56.65511 | 40.74758 | 54.38449 | 0.55876 | 0.23640 | 28.62540 | 7.00000 | 1.00662 |
| Maximum | 0.39741 | 0.31358 | 169.9564 | 659.6022 | 668.3571 | 1.00000 | 0.75511 | 30.87621 | 40.00000 | 1.22773 |
| Minimum | -0.06266 | -0.22973 | 21.72355 | 10.58016 | 10.88546 | 0.08196 | 0.01406 | 21.90182 | 0.00000 | 0.98980 |
| Std. Dev. | 0.09276 | 0.10240 | 38.59510 | 114.77442 | 97.21598 | 0.22543 | 0.17093 | 1.59052 | 11.99009 | 0.03373 |

**Table IV.2** Descriptive statistic healthcare pre-covid period

| | ROA | NPM | DSO | DIO | DPO | WCIP | WCFP | SIZE | AGE | SG |
|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.06156 | 0.05936 | 73.5092 | 80.2625 | 47.2827 | 0.46795 | 0.24106 | 28.4114 | 12.23529 | 1.00178 |
| Median | 0.06635 | 0.06246 | 60.5992 | 68.93403 | 38.6344 | 0.51577 | 0.17701 | 28.3714 | 6.00000 | 1.00141 |
| Maximum | 0.228836 | 0.28399 | 195.57 | 276.68 | 104.733 | 0.82125 | 0.89672 | 30.6399 | 38.00000 | 1.02259 |
| Minimum | -0.05123 | -0.31952 | 27.3861 | 9.32489 | 6.29942 | 0.05211 | 0.02675 | 24.8046 | 0.00000 | 0.97871 |
| Std. Dev. | 0.00663 | 0.11553 | 36.84 | 74.1956 | 24.5137 | 0.22741 | 0.18969 | 1.20101 | 11.80269 | 0.00548 |

Working capital or the components of CCC in the healthcare sector, represented by DSO, DIO, and DPO, have experienced an increase, except for DSO. Among these three components, a significant increase in the average DPO during the pandemic can be observed. This indicates that, on average, companies in the healthcare sector are extending their payment periods. The following are some reasons for the increase in DPO during the pandemic:

1. With the increasing demand in the healthcare sector, companies need to balance that demand. Companies will require a significant supply during the pandemic. Due to the sudden and high demand, companies may not have sufficient liquidity to purchase supplies in large quantities. Therefore, the payables of the company will also increase along with the increased inventory.

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2. During the pandemic, many healthcare companies may face financial uncertainty, especially payment delays from insurance companies or patients. This can lead healthcare companies to utilize longer payment delay periods with their suppliers to maintain higher cash liquidity. By extending the payment period to suppliers, healthcare companies can preserve available cash funds to meet their operational needs.

When examining the DSO values, the decrease is not as significant, with only a 3-day decrease in the mean DSO. This indicates that during the Covid-19 period, the healthcare sector was able to collect payments from customers faster compared to the pre-Covid period. Furthermore, the decrease in DSO suggests that, on average, healthcare companies were able to accelerate payment terms from their customers. Some reasons for the decrease in DSO are as follows:

1. Many hospitals and healthcare providers experienced increased payments through insurance programs or government support, which accelerated the billing process and reduced DSO.
3. Non-emergency care, such as elective surgeries or routine check-ups, was postponed or cancelled during the pandemic. As a result, revenue from these services decreased, which in turn reduced the amount of billing and shortened the billing period.
4. Some healthcare providers adopted more flexible billing policies during the pandemic. They may have offered softer payment programs, extended payment terms, or reduced fees to assist patients affected by the economic impact of COVID-19. These policies accelerated cash flow and reduced DSO.

For DIO, similar to DPO, DIO also experiences an increase, although not as significant as DPO. With the increasing DIO, it indicates that companies in the healthcare sector require a larger inventory compared to before the pandemic. The following are some factors that can contribute to this:

1. During the pandemic, there is a significant increase in demand for healthcare services such as examinations, treatments, and vaccinations. This rise in demand may lead healthcare companies to increase their inventory levels to meet the higher patient needs. With the increase in inventory, DIO can also increase due to the time required to convert inventory into sales.
2. There is an imbalance between supply and demand in the healthcare sector during the pandemic. Demand may increase suddenly while the supply and production capacity to meet that demand may be limited. As a result, healthcare companies may experience an increase in inventory that is not proportional to the increase in sales or utilization. If inventory increases without a corresponding increase in sales or utilization, it can lead to an increase in DIO.
3. The pandemic may disrupt the supply chain, such as factory closures, transportation restrictions, or delivery delays. These disruptions can cause delays in receiving inventory or delayed shipments from suppliers. In such situations, healthcare companies may need to hold inventory longer than usual, which can affect DIO.

Looking at WCIP, the average WCIP increased during the Covid-19 period compared to the pre-Covid period. This increase indicates that healthcare companies tended to adopt a conservative policy during the Covid-19 period to reduce the risk of supply shortages during increased demand. Meeting these needs may require larger working capital investments to finance equipment procurement, hire additional staff, and ensure an adequate supply. Additionally, larger working capital investments may be necessary to acquire inventory from alternative sources or to pay early to prioritize delivery.

Similar to WCIP, WCFP in the healthcare sector also experienced an increase in its average value. This increase suggests that healthcare companies tended to adopt an aggressive policy during the Covid-19 period to increase working capital financing during increased demand. Additional working capital financing may be required to finance investments such as the acquisition of additional medical equipment and healthcare infrastructure needed to handle the surge in cases and meet patient needs.

**Table IV.3** Descriptive statistic Transportation and logistics covid period

| | ROA | NPM | DSO | DIO | DPO | WCIP | WCFP | SIZE | AGE | SG |
|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.002974 | 0.20239 | 95.7309 | 7.55229 | 46.0549 | 0.27093 | 0.33794 | 27.044 | 9.58490 | 0.99434 |
| Median | 0.007995 | 0.00582 | 51.8621 | 2.45288 | 21.4541 | 0.2045 | 0.20013 | 26.4572 | 7.00000 | 1.00001 |
| Maximum | 2,071,767 | 25.96903 | 927.051 | 53.8159 | 513.7 | 0.8968 | 2.39603 | 32.6456 | 31.00000 | 1.02491 |
| Minimum | -0.5803 | -3.73461 | 0.31956 | -51.837 | -1557003 | 0.0284 | 0.01437 | 24.5961 | 0.00000 | 0.92859 |
| Std. Dev. | 0.323861 | 3.69566 | 147.614 | 16.7498 | 83.8363 | 0.21333 | 0.40038 | 1.79469 | 9.37351 | 0.01853 |

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**Table IV.4** Descriptive statistic Transportation and logistics pre-covid period

| | ROA | NPM | DSO | DIO | DPO | WCIP | WCFP | SIZE | AGE | SG |
|---|---|---|---|---|---|---|---|---|---|---|
| Mean | -0.02321 | -0.10292 | 76.8987 | 10.65809 | 40.3341 | 0.29079 | 0.31795 | 27.0222 | 8.44117 | 1.00555 |
| Median | 0.01458 | 0.03078 | 50.6891 | 3,414,969 | 19.6601 | 0.22721 | 0.25079 | 26.5802 | 5.00000 | 1.00000 |
| Maximum | 0.251374 | 0.36462 | 455.159 | 218.7317 | 446.375 | 0.93445 | 1.50434 | 31.7445 | 29.00000 | 1.10515 |
| Minimum | -0.65942 | -3.46274 | 1.73975 | -40.2331 | -36.99 | 0.03485 | 0.01806 | 23.7946 | 0.00000 | 0.97757 |
| Std. Dev. | 0.14864 | 0.53815 | 30.5119 | 30.51189 | 75.2752 | 0.22151 | 0.27627 | 1.8035 | 9.00643 | 0.01615 |

The working capital or CCC components in transportation and logistics, proxied by DSO, DIO, and DPO, show variations in all three components. Among these components, DIO experiences a decrease in its average value from 10.6 to 7.5. This indicates that the transportation and logistics sector has improved its ability to convert inventory into sales. However, the decrease in DIO can also be influenced by company policies that adjust to the declining demand and operations.

The DPO and DSO variables have increased in the transportation and logistics sector. The increase in DSO may be caused by some customers in the transportation and logistics sector facing financial difficulties that affect their ability to pay bills on time. Decreased income, job losses, and other financially strained companies can result in payment delays. This can lead to an increase in DSO as companies have to wait longer to receive payment from customers. Additionally, the patterns of transportation and logistics usage can undergo significant changes. Travel restrictions and business closures can reduce transportation and logistics activities in certain sectors. Companies in this sector may experience a decrease in shipping volumes and revenue. In such situations, DSO can increase due to decreased income resulting in extended outstanding receivables.

The increase in DPO in the transportation and logistics sector may be due to decreased revenue or payment delays from customers, leading to an imbalance between cash inflows and outflows. By extending DPO, companies can utilize existing funds for a longer period before paying suppliers, thereby helping manage their cash flow in challenging situations. During uncertain circumstances like the COVID-19 pandemic, companies in the transportation and logistics sector may experience delays in receiving invoices from their suppliers or payments they need to make. Uncertainty and disruptions in the supply chain can cause delays in invoice processing or payment settlement. This can result in an increase in DPO.

When looking at WCIP, the average WCIP decreases during the COVID-19 period compared to the pre-COVID period. The demand for transportation and logistics can decrease due to travel restrictions, business closures, and economic downturns. This can lead to a decrease in companies' revenue in the sector. To cope with the decrease in demand, companies may reduce their working capital investments to cut operational costs and maintain liquidity. The COVID-19 pandemic has disrupted the global supply chain. Factory closures, logistics restrictions, and changes in shipping patterns can affect inventory turnover and working capital needs. Companies in the transportation and logistics sector may have adjusted their supply chain strategies to reduce the required working capital investment.

In contrast to WCIP, WCFP in the transportation and logistics sector experiences an increase in its average value. The COVID-19 pandemic has caused significant financial pressure for many companies in the transportation and logistics sector. Decreased revenue, decreased demand, and delayed customer payments can lead to liquidity shortages. In this situation, companies may require additional financing to meet their working capital needs.

### *B. Panel data regression result*

#### *1) ROA*

Based on the regression results presented in Table 4.5, the working capital components' impact on company ROA reveals changes in working capital policies in response to the COVID-19 pandemic in both sectors. Additionally, both sectors show significance and coefficients for different variables concerning ROA during the pandemic and pre-pandemic periods. In the transportation and logistics sector before the pandemic, the variables that significantly impact ROA are DSO and WCFP. DSO demonstrates a significant positive relationship, while WCFP exhibits a significant negative relationship. These findings indicate that an increase in DSO leads to an increase in ROA, while an increase in WCFP results in a decrease in ROA. The positive relationship between DSO and ROA aligns with the study conducted by Jakpar et al. (2017) and contradicts the findings of Karaduman et al. (2010) and

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Delima (2020). The inverse relationship between WCFP and profitability aligns with the research conducted by Wanguu (2015) and Ahmad et al. (2022).

**Table IV.5** Working capital management on ROA regression result

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| DSO | 0,000587<br>(0,0435) | 0,001058<br>(0,0000) | -1.17E-05<br>(0,9731) | 0,001031<br>(0,0001) |
| DIO | -4,59E-05<br>(0,8842) | 0,000526<br>(0,4601) | -9,33E-05<br>(0,6597) | 0,000428<br>(0,0019) |
| DPO | -0,000185<br>(0,5532) | -3.19E-05<br>(0,8354) | 3,64E-06<br>(0,9884) | -0,000165<br>(0,3865) |
| WCIP | -0,051498<br>(0,6382) | 0,293976<br>(0,0001) | 0,069620<br>(0,5661) | 0,082485<br>(0,2874) |
| WCFP | -0,381601<br>(0,0000) | -0,343895<br>(0,0000) | -0,036482<br>(0,1675) | 0,024744<br>(0,1165) |
| SIZE | -0,168950<br>(0,0008) | 0,006817<br>(0,2966) | -0,042355<br>(0,0224) | -0,144982<br>(0,0010) |
| AGE | -0,009258<br>(0,3547) | -0,004305<br>(0,0018) | 0,002772<br>(0,5080) | 0,052963<br>(0,0000) |
| SG | 2,732127<br>(0,0093) | 0,500928<br>(0,6081) | 2,379063<br>(0,0050) | 3,607331<br>(0,0002) |
| D(TRANSPORTATION) | 1 | 1 | 0 | 0 |
| D(HEALTHCARE) | 0 | 0 | 1 | 1 |
| D(COVID-19) | 0 | 1 | 0 | 1 |
| No. Obs | 68 | 48 | 51 | 46 |
| R-Sqr | 0,936345 | 0,871339 | 0,958727 | 0,999775 |
| Prob(F-stat) | 0,000000 | 0,000000 | 0,000000 | 0,000000 |

Similarly, during the pre-pandemic and pandemic periods, both DSO and WCFP have a significant relationship with ROA in the transportation and logistics sector. However, during the pandemic, an additional variable, WCIP, becomes significant. DSO also exhibits increased significance and coefficient towards ROA. These findings indicate that working capital management becomes more influential on company profitability during the pandemic. WCIP, on the other hand, demonstrates a significant negative relationship during the pandemic, consistent with the research conducted by Murugesu (2013). This implies that an increase in WCIP leads to a decrease in company ROA.

In the healthcare sector, none of the working capital components significantly affect ROA. However, during the COVID-19 pandemic, there is a notable change in the significance of the working capital components, with all components becoming more significant in relation to ROA. The working capital components that significantly impact ROA during the pandemic are DSO and DIO. Both DSO and DIO exhibit a positive and significant relationship with ROA, consistent with the findings of Jakpar et al. (2017). This implies that an increase in DSO and DIO during the pandemic leads to an increase in ROA.

*2) NPM*

Based on Table 4.6, it is evident that the working capital components' impact on company NPM in the healthcare and transportation and logistics sectors experienced changes during the COVID-19 pandemic. In the transportation and logistics sector before the pandemic, the only variable that significantly influenced NPM was WCFP. WCFP had a significant negative relationship with NPM before the pandemic, consistent with the findings of previous studies conducted by Wanguu (2015) and Ahmad et al. (2022).

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**Table IV.6** Working capital management on NPM regression result

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| DSO | 0,000374 | -0,005652 | -0,000363 | -0,000170 |
| | (0,7528) | (0,0000) | (0,5587) | (0,6836) |
| DIO | -6,33E-05 | 0,005133 | 0,000282 | 0,000138 |
| | (0,9619) | (0,1267) | (0,4563) | (0,4937) |
| DPO | 0,000723 | -0,001265 | -0,000507 | -3,59E-05 |
| | (0,5809) | (0,0834) | (0,2614) | (0,8877) |
| WCIP | -0,304370 | 0,866031 | -0,029342 | 0,277324 |
| | (0,5099) | (0,0075) | (0,8916) | (0,0046) |
| WCFP | -1,058914 | 0,952385 | -0,063419 | -0,271923 |
| | (0,0002) | (0,0000) | (0,1775) | (0,0347) |
| SIZE | -0,494864 | -0,010366 | -0,059772 | 0,004350 |
| | (0,0145) | (0,7320) | (0,0650) | (0,7851) |
| AGE | 0,065095 | -0,001223 | -0,003680 | -0,003392 |
| | (0,1264) | (0,8393) | (0,6209) | (0,0520) |
| SG | 4,961978 | 4,684429 | 7,375758 | 0,063156 |
| | (0,2424) | (0,3064) | (0,0002) | (0,8970) |
| D(TRANSPORTATION) | 1 | 1 | 0 | 0 |
| D(HEALTHCARE) | 0 | 0 | 1 | 1 |
| D(COVID-19) | 0 | 1 | 0 | 1 |
| No. Obs | 68 | 48 | 51 | 46 |
| R-Sqr | 0,926100 | 0,828366 | 0,957078 | 0,278804 |
| Prob(F-stat) | 0,000000 | 0,000000 | 0,000000 | 0,110937 |

During the COVID-19 pandemic in the transportation and logistics sector, it is apparent that all working capital components exhibited increased significance towards NPM. The variables that significantly influenced NPM during the pandemic were DSO, WCIP, and WCFP. DSO had a significant negative relationship with NPM during the pandemic, aligning with the findings of Karaduman et al. (2010) and Delima (2020). This suggests that an increase in DSO leads to a decrease in NPM. WCIP demonstrated a significant positive relationship with NPM, consistent with the findings of Murugesu (2013). This indicates that an increase in WCIP leads to an increase in NPM. Finally, WCFP exhibited a significant positive relationship with NPM, consistent with the findings of Mwangi et al. (2014) and Rasyid & Linda (2016). This implies that an increase in WCFP leads to an increase in NPM during the pandemic. Furthermore, there were changes in the relationships before and after the pandemic, with the relationship between DSO and NPM becoming negative during the pandemic, while the relationships between WCIP and WCFP with NPM turned positive during the pandemic.

In the healthcare sector, it is observed that two variables, WCIP and WCFP, significantly influenced NPM during the pandemic. Both variables experienced increased significance during the pandemic, with WCIP exhibiting a positive correlation with NPM and WCFP displaying a negative correlation with NPM. The positive correlation between WCIP and NPM aligns with the findings of Javid & Zita (2014), suggesting that an increase in WCIP leads to an increase in NPM. The negative correlation between WCFP and NPM is consistent with the findings of Wanguu (2015), implying that an increase in WCFP leads to a decrease in NPM.

## V. CONCLUSION

Working capital management plays a critical role in balancing profitability and risk for companies. Managers face the challenge of choosing between increasing profitability or reducing risk. Economic conditions, such as global events and sector-specific fluctuations in GDP, influence decisions related to working capital management. Different sectors exhibit varying degrees of

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dependence on working capital management, with some sectors being more affected by the pandemic than others. The transportation and logistics industry encountered difficulties in managing inventory and cash flow due to reduced demand, while the healthcare industry faced increased demand for essential supplies and longer payment collection periods. Effective working capital management is crucial for companies to navigate economic fluctuations and ensure uninterrupted operations. Therefore, this study aims to perform panel data regression to examine the impact of working capital management on profitability in both sectors.

The study uses a population of healthcare and transportation companies listed on the Indonesia Stock Exchange from 2017 to 2021. The data analysis method employed is panel data regression, which considers both cross-sectional and time-series dimensions. The study's model includes independent variables such as Days Sales Outstanding (DSO), Days Inventory Outstanding (DIO), Days Payable Outstanding (DPO), Working Capital Investment Policy (WCIP), and Working Capital Financing Policy (WCFP). The dependent variables are Return on Assets (ROA) and Net Profit Margin (NPM). Control variables include Firm Size, Age, and Sales Growth. The regression results indicate correlations between working capital management and company profitability. The following summarizes the findings obtained from the regression analysis:

1. In the transportation and logistics sector before the pandemic, the variable DSO has a significant positive relationship with ROA, while the variable WCFP has a significant negative relationship with ROA.
2. During the pandemic, both DSO and WCIP have a significant positive relationship with ROA in the transportation and logistics sector, while WCFP maintains a significant negative relationship with ROA.
3. In the healthcare sector, no working capital components significantly affect ROA before the pandemic. However, during the pandemic, both DSO and DIO have a significant positive relationship with ROA.
4. Regarding NPM, there are changes in the significance of working capital variables in the transportation and logistics sector during the pandemic. The significant components influencing NPM are DSO, WCIP, and WCFP. DSO has a negative relationship, while WCIP and WCFP have a positive relationship with NPM.
5. In the healthcare sector during the pandemic, two variables, WCIP and WCFP, significantly influence NPM. WCIP has a positive correlation with NPM, indicating that an increase in WCIP leads to higher NPM. On the other hand, WCFP has a negative correlation with NPM, suggesting that an increase in WCFP leads to a decrease in NPM.

However, there are limitations that may affect the results of the analysis. Firstly, the impact of net working capital management can vary across industries or companies, making the findings less universally applicable. Secondly, the analysis is limited to a specific time frame, potentially restricting the understanding of the firm's financial position over a longer period. Lastly, the choice of methodology employed for the analysis may introduce its own limitations, potentially influencing the results. These limitations highlight the need for further research to delve deeper into these factors and provide a broader understanding of the relationship between net working capital management and firm performance. Additionally, a future research recommendation would be to investigate the long-term effects of working capital management decisions on a company's profitability and risk. Examining data beyond the pandemic period could reveal how sustainable working capital strategies impact overall company performance.

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