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The Effect of Covid-19 on Working Capital Strategy and Profitability

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ABSTRAK

Covid-19 mengganggu semua sektor dan menyebabkan ketidakpastian di pasar, krisis likuiditas perusahaan, utang tinggi, volatilitas saham yang lebih tinggi, dan profitabilitas yang lebih rendah, maka penelitian ini menyelidiki pengaruh strategi modal kerja terhadap profitabilitas sebelum dan selama Covid-19 perusahaan tercatat di Bursa Efek Indonesia. Populasi yang digunakan dalam penelitian ini adalah sektor pariwisata, sektor farmasi, dan telekomunikasi. Total sampel yang digunakan adalah 20 perusahaan yang dipilih dengan metode purposive sampling. Data ini dikumpulkan dari laporan keuangan kuartal 2 2018 hingga kuartal 3 2021 (14 periode). Data dianalisis menggunakan analisis regresi linier berganda dengan variabel dummy. Hasil penelitian menunjukkan bahwa Cash Conversion Cycle (CCC), Working Capital Investment Approach (WCIA), dan Working Capital Financial Approach (WCFA) berpengaruh signifikan terhadap Return on Assets (ROA) dan Return on Equity (ROE). Hasilnya menyiratkan bahwa perusahaan harus mempertahankan kas yang cukup dan memiliki manajemen modal kerja yang baik sehingga, jika terjadi bencana, perusahaan dapat mempertahankan kinerjanya. Implikasi penelitian ini adalah perusahaan harus memperhatikan dan mengelola dengan baik modal kerja mereka untuk mencapai tingkat profitabilitas yang lebih tinggi di tengah ketidakpastian pasar.

ABSTRACT

Covid-19 disrupted all sectors and caused uncertainty in the market, corporate liquidity crisis, high debt, higher stock volatility, and lower profitability, so this study investigated the effect of working capital strategies on profitability before and during Covid-19 companies listed on the Indonesia Stock Exchange. The populations used in this study are the tourism sector, pharmaceutical sector, and telecommunications. The total sample used was 20 companies selected by purposive sampling method. This data is collected from the financial statements of Q2 2018 to Q3 2021 (14 periods). The data were analyzed using multiple linear regression analysis with dummy variables. The results showed that Cash Conversion Cycle (CCC), Working Capital Investment Approach (WCIA), and Working Capital Financial Approach (WCFA) had a significant effect on Return on Assets (ROA) and Return on Equity (ROE). The result implies that the company must maintain sufficient cash and have good working capital management so that, in the event of a disaster, the company can maintain its performance. The implication of this study is that companies must pay attention and manage their working capital well to achieve higher levels of profitability amid market uncertainty.

1. INTRODUCTION

At the end of 2019, the world was shocked by the emergence of new infectious and dangerous diseases. This disease is called the Coronavirus Disease of 2019, also known as Covid-19. Covid-19 was first discovered at the end of 2019, precisely in Wuhan City, Hubei Province, China. On 02 March 2020, Joko Widodo, President of Indonesia, stated that Indonesia had been exposed to the coronavirus; this was stated by the presence of two Indonesian citizens who were positively infected with the Covid-19 virus. Finally, on March 11th, 2020, WHO characterized Covid 19 as a global pandemic. This global pandemic brought impact and changes to every sector and has put numerous countries into recession. Businesses and different industry sectors were severely impacted with their future condition are in jeopardy while

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investors suffered the heavy effect of this disaster and left with uncertainty in the market (Laing, 2020; Salisu et al., 2020). Currently, Covid-19 is affecting the economy of many companies. It caused many companies to suffer when it was seriously affected and it also affected the stock market around the world. It can do to the problem length of the company as liquidity crisis, high debt, higher stock volatility, profitability lower stock dividends and high cooperative cases (Akhtaruzzaman et al., 2021; Al-Awadhi et al., 2020; De Vito & Gómez, 2020; Zaremba et al., 2020; Zhang et al., 2021). Moreover, the sectors that consequential destructed are related to services, for instance, tourism, education, sports events, and public transport services (Donthu & Gustafsson, 2020; Mascarenhas et al., 2021). Haryadi, as General Chair of the Indonesian Hotel and Restaurant Association (PHRI), assessed that working capital incentives could provide resilience for the business world directly in tackling the impact of the Covid-19 pandemic due to the implementation of restrictions on community activities (PPKM) which has made the tourism industry deserted.

In contrast to the restaurant, hotel and tourism industries. The pharmaceutical industry and the telecommunications industry can survive the Covid-19 pandemic (Atmojo, 2020; Setiawan & Sumirat, 2021). They stated that PT. Kalbe Farma Tbk. is one of the companies in the pharmaceutical industry that has had a positive impact due to the Covid-19 pandemic because it saw an increase in sales wherein the first quarter of 2020 it got sales of 5,796 billion or an increase of 8.0% compared to the first quarter of 2019. The telecommunications industry has also become one of the industries to survive the Covid-19 pandemic. Director and Chief Financial Officer of PT. Tower Bersama Infrastructure Tbk. (TBIG), Helmy Yusman Santoso said, "the telecommunications industry has the potential to increase because the number of smartphone users in 2021 will increase rapidly; of course, it will also increase internet users. This is because 80% of the 160 million internet access in Indonesia comes from smartphones". Thus, it can be concluded that various industries such as the restaurant, hotel & tourism industry, pharmaceutical industry, as well as telecommunications industries have been negatively and positively affected by the Covid-19 pandemic.

According to the data obtained from Indonesia Stock Exchange (2021), the restaurant, hotel & tourism industries; pharmaceutical industry; as well as telecommunications industries experienced fluctuation in their networking capital. The networking capital of PT. Jakarta International Hotel & Development Tbk. as a sample from the restaurant, hotel & tourism industry, their networking capital decreased from 2019 to 2020 by Rp. 0.05 trillion. On the other hand, the pharmaceutical and telecommunications industries experienced an increase in their networking capital. At PT. Kalbe Farma Tbk. Experienced an increase in working capital of Rp1.26 trillion. PT. Axiata Tbk. as a sample from the telecommunications industry, the working capital also experienced an increase of Rp.2.85 trillion. Working Capital which shows a negative number at PT. Jakarta International Hotel & Development Tbk. and PT. Axiata Tbk. Because the company's current debt is more significant than its current assets (negative net working capital), the company will have a high level of profitability because its total current assets are smaller than the funds embedded in its fixed assets (Dewi & Fachrurrozie, 2021; Setianto & Pratiwi, 2019). Due to the fluctuation of the working capital during the period of observation, thus it is important to investigate the effect of the working capital strategy on profitability.

Previous research stated working capital is defined as capital used to finance the company's daily operations, especially those that have a short period (Basyith et al., 2021; Tangngisalu et al., 2022). In other words, working capital is an investment invested in current assets or short-term assets such as cash, banks, securities, receivables, inventories, and other existing assets. Companies with too few current assets will cause the company difficulty meeting day-to-day operations (Basyith et al., 2021; Knauer & Wöhrmann, 2013). Apart from being seen from the component of current assets, the cash conversion cycle is also one of the measurements of working capital management. CCC is used to measure how long the company collects cash from the company's operating results which will affect the number of funds stored in current assets. In managing working capital, of course, there is a need for a strategy. Every company needs working capital. Several studies have examined the effect of working capital strategy on profitability across countries. Investigated listed firms on Bombay Stock Exchange (BSE) using ROA, Account Receivable (AR), inventory (INV), Account payable (AP), cash conversion cycle (CCC), company size, sales growth, leverage, and current ratio as variables. The sample used in the study were 263 non-financial BSE companies listed on Bombay Stock (BSE) from 2000 to 2008. The analytical technique used in this research is multiple regression analysis. The results show that working capital management and profitability are positively correlated in Indian companies. This study furthe reveals that INV and AP negatively correlate with firm profitability, while AR and CCC positively correlate with strong profitability (Bhatia & Srivastava, 2016; Paul & Mitra, 2018; Sawarni et al., 2020). In addition, investigated Nigerian insurance firms. The variables used in this study are ROA, CCC, and CR, DAR, the ratio of total financial assets, company size, company growth as control variables. The sample used in this study were 20

insurance companies registered in Nigeria from 2000-to 2011. The technique used in this research is the multiple regression techniques. The results showed that CCC had a negative and significant effect on profitability. Based on this, the researcher recommends that insurance companies in Nigeria always try to reduce their number of days at CCC to increase profitability (Ponsian et al., 2014; Roni et al., 2018).Furthermore, Pham, Nguyen and Nguyen (2020) investigated Steel Companies on Vietnam Stock Exchanges using DIO, DPO, DSO, CCC, SIZ, CR, LEV, GRO, and ROA as variables. The sample used in this study was 20 companies with data analyzed from the 2010-2019 period. The analysis technique used in this study is a multivariate regression model. The results show that WCM has a strong impact on business profitability. DPO, DIO, DSO, CR, SIZ, and GRO positively impact profitability. At the same time, CCC and LEV have a negative impact on profitability (Amponsah-Kwatiah & Asiamah, 2021; Pham et al., 2020). The listed firms on Indonesia Stock Exchange using ROA, GPM, WCIA, WCFA, CCC, DSO, DIO, DPO, DR, TA, AGE, and CR as variables. The sample used in the study is 135 non-financial companies using financial statement data from 2009 to 2019. The results revealed that the working capital investment approach has a positive and significant effect on return on assets (ROA) meanwhile the working capital financing approach has a negative effect on ROA but not significant (Basyith et al., 2021; Firmansyah et al., 2018).

Previous researchers examined the small and medium sized enterprises in Jordan and found that the working capital investment approach had a positive and significant effect on return on assets (ROA) in all regression models used; the working capital financing approach has a negative impact on ROA but not significant; the working capital investment approach and the working capital financing approach to the gross profit margin in all models show a negative and significant coefficient (Lyngstadaas & Berg, 2016; Pais & Gama, 2015; Tran et al., 2017). Based on the type of industry, companies that mainly use an aggressive working capital investment approach are the agriculture industry and the infrastructure, utilities, and transportation industries. Meanwhile, companies that primarily use a conservative investment approach are the consumer goods industry, primary and chemical industries, and others. The variables used in this study are ROA, ACP, AAI, APP, CCC, company risk, WTO, working capital investment policy, working capital financing policy, company size, sales growth, and debt. The sample used in this study was 11 SMEs in Jordan from 2005 to 2018. Analysis of the data used is balanced panel data regression. The results showed that the cash conversion cycle and financial leverage had a significant negative effect on the ROA of Jordanian SMEs. However, the working capital investment approach, working capital financing approach, company size, sales growth, and company risk have a significant positive effect on the ROA of Jordanian SMEs (Basyith et al., 2021; Tran et al., 2017).

Researchers previously examined 577 companies from Malaysia, Thailand and Pakistan. This study aims to compare the effect of COVID-19 and the 2008 crisis on working capital policies and company performance using data from 2004 - 2020. Overall, working capital management and company performance were more affected during the Covid 19 period than during the 2008 crisis period. The results showed a difference in the effect of working capital management on company performance during the Covid-19 period compared to the 2008 crisis period. During Covid-19, WCIA's results with current assets to total assets indicators had a significant and ncegative influence on ROA but had a positive and significant impact on TQ. In contrast, the Working Capital Financing Strategy with indicators of current liabilities to total assets and CCC has a significant positive influence on ROA. However, it has a negative and significant impact on TQ (Ahmad et al., 2022). Based on these problems, this study aims to identify the impact of the Covid-19 pandemic on various industrial sectors, including the impact on working capital and company profitability. Analyze changes in the working capital of companies in different sectors during the Covid-19 pandemic period. Investigate the relationship between working capital strategies (such as accounts receivable, inventory, and payable) management and the company's profitability. By achieving these goals, this research will make an important contribution to our understanding of the importance of effective working capital management in the face of unstable economic situations and provide valuable insights for corporate decision-making in managing their financial resources to achieve sustainable profitability.

2. METHODS

This study uses a quantitative analysis and the data uses a financial statement from the Indonesian listed firms. The company's financial data was obtained from PT. Indonesia Stock Exchange is accessed through the website www.idx.co.id. The data used consists of 2 parts of working capital data before covid from the 2nd quarter of 2018 to the 4th quarter of 2019 (7 periods) and working capital data during Covid-19 starting from the 1st quarter of 2020 to the 3rd quarter of 2021 (7 periods). The objects of research are companies in the restaurant, hotel & tourism sub-sector, pharmaceutical sub-sector, and the telecommunications sub-sector listed on the Indonesia Stock Exchange in 2018-2021. The sample

used is as many as 20 companies with a sampling technique using the purposive sampling method. To calculate the company's working capital needs, companies can use the cash conversion cycle (CCC) concept. (Adekola et al., 2017) CCC or cash turnover cycle is a cycle that occurs from the start of the company issuing cash (cash) until the company gets cashback. The formula for calculating the cash conversion cycle used the following formula:

CCC=AAI+ACP-APP ………………………………………………. (1)

The average age of inventory (AAI) is the average age of the company's inventory in a period. AAI= Inventory/(Cost Sold) ×365 days. The average collection period (ACP) is the average length of time the company collects collectible receivables. ACP= Accounts Receivable/(Net Sales) ×365 days. The average payment period (APP) is the average length of time a company pays its debts to suppliers. APP = (Debt divide Purchases) × 365 days According to (Brigham & Houston, 2019), the formula used to calculate the average payment period is APP= Accounts Payable/(Cost Sold) ×365 days.

The strategy to fulfil working capital needs can divided into two, namely: (1) Aggressive funding strategy is a strategy to achieve working capital with long-term funding sources used to meet permanent working capital needs. Short-term financing sources are used to meet seasonal working capital; (2) Conservative funding strategy. A conservative funding strategy is a strategy to fulfil working capital by using long-term financing sources to meet all the company's working capital needs (Basyith et al., 2021). To measure the working capital strategy used by a company, it can use the ratio of working capital investment approach (WCIA) and working capital financing approach (WCFA). WCIA= (Total Current Assets) divide (Total Assets). If the WCIA ratio is less than 0.5, the company tends to have an aggressive working capital investment strategy; if the WCIA ratio is more than 0.5, the company tends to use a conservative working capital investment strategy. WCFA= (Total Current Debt) divide (Long-Term Debt) If the WCFA ratio is less than 1, then the company tends to have an aggressive working capital financing strategy and vice versa; if the WCFA ratio is more than 1, then the company tends to use an aggressive working capital financing strategy. This analysis technique uses OLS regression using a dummy one equation. Where the dependent variable is profitability, and the independent variable is working capital strategy consisting of cash conversion cycle (CCC), working capital investment approach (WCIA), and working capital financial approach (WCFA). For conditions before and during covid-19 using a dummy, the situation before covid-19 was 0 and when covid-19 was 1. The regression equation model with dummy variables in this study was.

$$\mathrm{ROA} = b_0 + b_1\mathrm{CCC} + b_2\mathrm{WCIA} + b_3\mathrm{WCFA} + b_4\mathrm{D} + e \quad (2)$$

$$\mathrm{ROE} = b_0 + b_1\mathrm{CCC} + b_2\mathrm{WCIA} + b_3\mathrm{WCFA} + b_4\mathrm{D} + e \quad (3)$$

Information: ROA = Return on Assets; ROE = Return on Equity; CCC = Cash Conversion Cycle; WCIA = Working Capital Investment Approch; WCFA = Working Capital Investment Approach; D = Dummy... 0 = before Covid-19, 1 = during Covid-19.

3. RESULTS AND DISCUSSIONS

Results

The results section of this study will present descriptive statistics from the data and OLS regression results. Table 1 is the result of descriptive statistics from research data; it can be seen in the Table 1.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	280	-.14	1.00	.0325	.09826
CCC	280	-13521.66	16185.45	235.0337	1851.07427
WCIA	280	.02	.85	.3664	.23831
WCFA	280	.10	29.09	2.3054	3.21363
DUMMY	280	.00	1.00	.5000	.50090
ROE	280	-.37	2.24	.0430	.17021
Valid N (listwise)	280				

Source: processed data

Table 1 explains that the average ROA value is 0.0325 or -3.25%, with the lowest ROA value being -0.14 or -14% and the highest ROA value being 1 or 100%. This indicates that the spread of ROA is more skewed to the left. The average ROE value is 0.040 or 4.30%, with the lowest ROA value being -0.37 or -37% and the highest ROE value being 2.24 or 224%. This shows that the ROE spread is more left-sloping.

The average value of the cash conversion cycle (CCC) is 235 days, meaning that the turnover of assets from cash to cashback is 776 days or more than 25 months. The fastest CCC collection is -13,521.66 days, and the most symbolic CCC value is 18,927 days. The average value of the working capital investment approach (WCIA) is 0.3664; this indicates that companies use an aggressive working capital investment approach more than a conservative one. The minimum value of WCIA is 0.02, and the maximum value of WCIA is 0.85, or the ratio of the value of current assets to total assets is 85%. The average value of the working capital financial approach (WCFA) is 2.3054, the value of current liabilities is 2.3 times higher than long-term debt. This shows that companies use an aggressive working capital financing approach more than a conservative one. The minimum WCFA value is 0.10, with the maximum WCFA value being 29.09, meaning that the current debt value is 29.09 greater than long-term debt. Table 2 describes the results of the dummy regression using a single equation.

Table 2. Regression Result

Variables	ROA			ROE		
	Coefficient	t-value	Sig	Coefficient	t-value	Sig
Constant	-.033	-4.654	.000	-.042	-2.233	.026
CCC	8.755E-6	.524	.601	-3.916E-6	-.819	.414
WCIA	.112	8.438	.000	.165	3.906	.000
WCFA	.030	4.054	.000	.019	5.915	.000
DUMMY	-.017	-3.780	.000	-.035	-2.000	.046
R^2	.377			.273		
F		46.166	.000[b]		25.835	.000[b]

Source: processed data

Based on the results of a single equation regression, for CCC, the CCC coefficient value on ROA has a positive sign but is different from ROE; the CCC value is negative. This positive CCC indicates that the longer the turnover will increase the ROA. It means that a decrease in CCC will increase ROE. On the other hand, the decrease in WWW will decrease the ROA value; this result is contrary to the theory. As for WCIA, the greater the WCIA value or the more towards using a conservative strategy, the ROA and ROE will increase. For WCFA, the greater the WCFA value or the more companies use an aggressive approach, the greater the ROA and ROE values. The regression equation for each dependent variable by separating the conditions before covid and during covid-19 can be seen in Table 3.

Table 3. Regression Results Before and during Covid

Variables	ROA		ROE	
	Before Covid-19 (0)	During Covid-19 (1)	Before Covid-19 (0)	During Covid-19 (1)
Constant	-.033	-.05	-.042	-.077
CCC	8.755E-6	8.755E-6	-3.916E-6	-3.916E-6
WCIA	.112	.112	.165	.165
WCFA	.030	.030	.019	.019

Source: processed data

The value of the constant when the covid-19 outbreak has a loss value is more significant than before the existence of covid-19. Without a working capital strategy, ROA and ROE will suffer more significant losses. The condition can indicate that COVID-19 has had an impact on company profitability. CCC values for both profitability indicators, namely ROA and ROE, do not have a significant positive effect. Based on Table 2 shows that the significant value of F value 46.166 > F table 2.4014 and sig. alpha 0.000 < sig. 0.05, then H0 is rejected, and Ha is accepted, which means that all independent variables CCC, WCIA, WCFA, and DUMMY influence the dependent variable ROA. Based on Table 6 shows that the significant value of F value 25.835 > F table 2.4014 and sig. alpha 0.000 < sig. 0.05, then H0 is rejected, and Ha is accepted, which means that all independent variables CCC, WCIA, WCFA, and DUMMY influence the dependent variable ROE.

Discussion

Even though the Covid-19 disaster hit the country, the business operations must continue, as seen in the company's daily operations. The company's daily operations can be seen from the company's available working capital. The availability of working capital can determine the company's profitability as reflected in ROA and ROE. Table 3 shows that the constant values for ROA and ROE before Covid-19 showed a more significant negative value than the ROA and ROE values when Covid-19 hit. It is due to an aggressive working capital investment strategy and an aggressive working capital financing strategy that has successfully reduced ROA and ROE levels. Compared with previous research, this research has similarities to WCFA, where the results obtained are both positive and significant for ROA. For WCIA, although they both significantly affect ROA, they have different signs. This study produced a positive value, but previous research produced a negative sign (Ahmad et al., 2022). The result for the CCC is positive but not significant, which is contradictory with the previous research having a significant effect. It shows that the working capital management strategy has an important effect on profit during the Covid-19 period. While cash turnover, although positive but not significant, can be caused by many companies not working optimally, so cash turnover also slows down.

The results reveal that the aggressive working capital investment strategy and aggressive capital financing strategy positively affect profitability for both ROA and ROE which is consistent with (Pham et al., 2020; Tran et al., 2017). However, the level of cash conversion collection does not have a significant positive effect on both profitability indicators. This result follows the theory of previous research which stated that working capital is property owned by a company used to run business activities or finance company operations without sacrificing other assets to obtain optimal profits (Braimah et al., 2021; Ponsian et al., 2014). The higher the working capital, the higher the company's profitability (Braimah et al., 2021; Ponsian et al., 2014). The positive value of CCC is the same as the results of research conducted by AK Sharma & Satish Kumar, where CCC shows a positive relationship with company profitability (Paul & Mitra, 2018; Ponsian et al., 2014). However, the results of this study differ from the results of other research which stated that negative CCC value and a significant effect on profitability (Pham et al., 2020; Roni et al., 2018; Tran et al., 2017). Same with similar research which stated for the value of WCIA, which has a significant positive effect. The results show that the working capital investment approach (WCIA) positively affects return on assets (ROA). In contrast to the results of previous studies, the results had a negative effect on ROA but not significant, and a conservative strategy had a negative effect on company profitability (Basyith et al., 2021; Ponsian et al., 2014).

Based on the results of the calculations in the table, the value of R Square is 37.7%. For ROA and 27.3% for ROE. The result means that the variables CCC, WCIA, WCFA, and DUMMY can contribute to ROA with the magnitude of the change caused by 37.7%. and 27.3 to ROE Results are the main part of scientific articles, containing: final results without data analysis process, hypothesis testing results. Results can be presented with tables or graphs, to clarify the results verbally. Based on the results, Covid-19 does not affect the working capital strategy, which is consistent with previous research conducted before Covid-19. This result is also similar to CCC; this study's result is consistent with similar research asserted that Covid-19 does not affect CCC. The different results for different financial performance approaches and data lengths signal that corporate decision-makers must adjust working capital policies that benefit companies and owners. Thus, companies in various industrial sectors can optimize working capital following economic conditions. Therefore, the research results provide important information for decision-makers to make managerial decisions.

4. CONCLUSION

Based on the results of research and discussion, the following conclusions can be drawn: The cash conversion cycle, working capital investment strategy, and working capital financing strategy are fit models to explain the effect on profitability before and during the Covid-19 pandemic on the Indonesia Stock Exchange. It can be concluded that during or before Covid-19, the cash conversion cycle, working capital investment strategy, and working capital financing strategy affected the firm's profitability which ROE and ROA measure. Moreover, the duration period of an asset turns into cash, as measured through a cash conversion cycle, is not affected by the presence of covid-19. The cash conversion cycle partially has no insignificant effect on return on assets and return on equity before and during the Covid-19 pandemic. The cash conversion cycle partially has no insignificant effect on return on assets and return on equity before and during the Covid-19 pandemic. Though there was only a slight change in the ROA and ROE, the cash conversion cycle, working capital investment strategies, working capital financing strategies, and dummy variables significantly contributed to the ups and downs of asset returns before and during the Covid-19 pandemic.

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