INDONESIAN JOURNAL OF MULTIDISCIPLINARY SCIENCE

P-ISSN: 2808-5957
E-ISSN: 2808-6724
ijoms.internationaljournallabs.com

WORKING CAPITAL MANAGEMENT, FIRM PERFORMANCE, FINANCIAL CONSTRAINTS IN BUILDING CONSTRUCTION SUB-SECTOR DURING COVID-19 PANDEMIC

Mega Tri Rahmawati[1*], Tony Irawan[2], Moch. Hadi Santoso[3]
[1,3] *School of Business, Institut Pertanian Bogor, Bogor, West Java, Indonesia*
[2] *Faculty of Economics and Management, Institut Pertanian Bogor, Bogor, West Java, Indonesia*
[*] *mega.trirahma@gmail.com*

ARTICLE INFO

Published: June 28th, 2023

Keywords: *covid-19 pandemic, financial constraints, firm performance, working capital management*

This work is licensed under CC BY-SA 4.0

ABSTRACT

The building construction sub-sector companies have the lowest profitability with company value continuing to decline but the most efficient working capital turnover compared to other sub-sectors in the infrastructure sector during 2018-2020. Two construction company ownership, namely BUMN and private companies, facing different financial constraints in financing working capital. The purpose of this research is to find out the differences in working capital management, firm performance, and financial constraints before and during the Covid-19 pandemic in the private companies and BUMN. Furthermore, the research attempts to see the influence of working capital management with and without the interaction of financial constraints on firm performance. This study used 12 samples of building construction sub-sector companies listed on the IDX in the 2018q-2021q using paired tests and panel data regression. The results showed that both private and BUMN experienced significant changes in the working capital management component, decreased firm performance, and increased financial constraints during the pandemic. The working capital management has a negative and significant impact on firm performance. The results of interaction between working capital management and financial constraints show that companies experience financial constraints have lower investment levels on working capital due to the expensive cost of funding. The interaction variable strengthens the effect of the cash conversion cycle on firm performance.

INTRODUCTION

The value of State Budget (APBN, *Anggaran Pendapatan dan Belanja Negara*) for infrastructure has the highest value in 2020 with the lowest value because the project was delayed during Covid-19 and it increased again in 2021 so it becomes an opportunity for companies to be able to increase company profits again.

Table 1. Profitability of Infrastructure Sector

Sub-Sector	ROA (%)				Mean
	2018	*2019*	*2020*	*2021*	
Utility	3,2	-0,4	3,0	1,0	1,7
Tolls, Airports and Seaports	3,6	2,0	-0,2	2,2	1,9
Building Construction	2,9	1,1	-4,9	-1,5	-0,3
Non-Building Construction	1,9	2,9	2,6	2,6	2,5
Telecommunication	-2,7	1,9	1,9	6,0	1,8

The profitability of the non-building construction sub-sector has the highest average value, while the building construction sub-sector has the lowest average value compared to other infrastructure sectors.

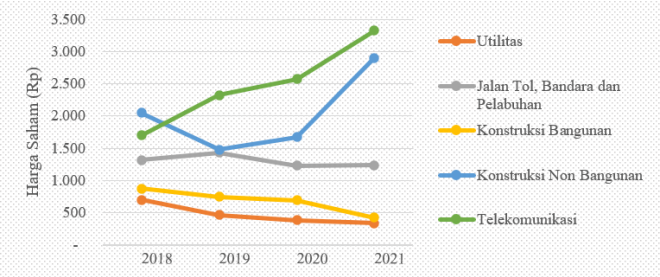

Figure 1. 2018-2020 Infrastructure Sector Share Price

The telecommunications and non-building construction sub-sectors show good stock price movements, especially during the Covid-19 pandemic in 2020 and 2021. Firm value is closely related to stock prices, the higher the stock price, the higher the firm value (Sambora et al., 2014). The lowest share prices were in the utility subsectors, but the decline in share prices in the building construction subsector in the last four years was very clear, especially during pandemic.

Table 2. WCTO Infrastructure Sector

Sub-Sector	WCTO (Times)				Mean
	2018	***2019***	***2020***	***2021***	
Utility	2,0	0,5	-0,2	1,2	0,9
Tolls, Airports and Seaports	2,8	-0,3	3,7	-1,8	1,1
Building Construction	3,4	2,4	2,0	9,7	4,4
Non-Building Construction	-3,2	5,4	0,7	-8,2	-1,3
Telecommunication	-10,8	-3,2	-3,1	-6,2	-5,8

The building construction subsector has the highest WCTO and has a significant increased in 2021. The high WCTO value is a good thing because the faster working capital is turned into finished goods, it will increase profits and increase firm value (Apritasari et al., 2013). This is a phenomenon in this study, namely building construction sub-sector companies that have declining profitability and firm value but have the most efficient working capital turnover. Companies in the building construction sub-sector consist of private companies and BUMN (*Badan Usaha Milik Negara*/state-owned companies). Both have the same opportunities to work on infrastructure projects (Milyardi, 2020) but project auctions are still dominated by BUMN and the private sector are faced with obstacles to project payments when carrying out joint operations with BUMN, and there are still many projects being worked on by BUMN subsidiaries (Idris, 2017). It difficults for the private sector to survive with limited working capital conditions.

Construction companies generally invest their funds in current assets to maintain liquidity so that operational activities and business expansion remain smooth (Kehinde & Mosaku, 2006). Large investments in working capital can increase sales and make it easier for companies to get discounts from early payments (Deloof, 2003) and it will reduce the expenses of depreciation costs in calculating profit and loss thereby increasing profitability (Arisadi & Djazuli, 2013). The amount of investment in working capital also have several risks so that financial managers must consider the right decisions in managing it. The amount of working capital is reflected in the length of the receivables and inventory turnover period, which is an important aspect of the proportion of company assets, especially the building construction sub-sector and trade payables, which are an important source of funding for the company. Investment in working capital can affect the value of the company. Keeping a large inventory will bring additional costs such as increased warehouse rental costs, additional costs for warehouse employees, and insurance and security costs (Kim & Chung, 1990). High trade receivables mean that the company makes a lot of sales on credit which have not yet become cash or there are some old receivables that have become *bad debts* because they are difficult to collect (Brigham & Houston, 2021). These two things will encourage companies to increase funding from external sources.

Higher investment in working capital will increase funding costs and credit risk, in the end companies that cannot manage it will face bankruptcy. Shareholders will routinely identify the company's working capital because it can significantly affect the performance and value of the company (Kieschnick et al., 2013). Effective working capital management (Short cash cycle) is an attempt to reduce investment in working capital to improve firm performance due to the possibility of firms facing financial difficulties and high cost of external financing (Baños-Caballero et al., 2014).

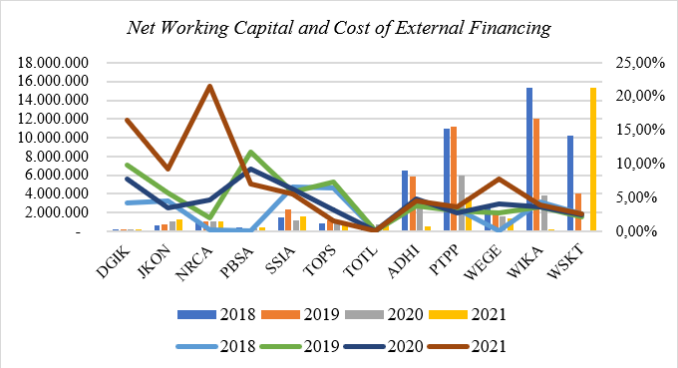

Figure 2. Net Working Capital and Cost of External Financing Building Construction Sub-Sectors

In figure 2, BUMN have larger net working capital than private companies and the cost of external financing of private companies is dominantly high. This shows that firms faced with disadvantages cost of finance do not have the ability to invest at low cost (Fazzari et al., 1988). Companies that face more financial costs compared to other companies in one industry have more

financial constraints. This company will have a lower investment level compared to companies that have lower funding costs (Kaushik & Chauhan, 2019). Companies that have larger and positive net working capital will require additional costs to finance in current assets and this additional funding cost will be more expensive for companies that have financial constraints. Companies that have a large investment in working capital will affect the decline in stock returns and will further decline in companies that have difficulty in obtaining external financing (Kieschnick et al., 2013). Each company has different access to external funding. This imperfection information may create different external financing costs so investing in working capital will be riskier for the companies that have more financial constraints. That is why there is a need to know how big the role of financial constraints on the ability of construction subsector companies to invest in working capital and its effect on firm performance.

The objectives to be achieved in this study include: (1) To analyze the components of working capital management, firm performance, and financial constraints in the BUMN and private companies construction sub-sector before and during the Covid-19 pandemic. (2) To analyze the effect of working capital management on firm performance in the building construction subsector. (3) To analyze the role of financial constraints on the influence of working capital management on firm performance in the building construction subsector.

METHOD

The data used in this study were secondary data from the financial reports of building construction companies in the first quarter of 2018 to the fourth quarter of 2021 by using quantitative approach. The financial statements themselves are obtained through the company's website and the Indonesian Stock Exchange website, share prices are obtained through the website www.finance.yahoo.com. The sample selection used purposive sampling with the criteria of building construction sub-sector companies registered on the IDX and the website www.idnfinancials.com for the 2018-2021 period and having published full quarterly financial reports from 2018 to 2021. Based on these selection criteria, out of a total of 21 building construction sub-sector companies listed on IDX obtained 14 research samples, then eliminated two companies because of outliers which can damage the model, so that 12 companies are obtained. Comparative analysis and panel data regression were used to find out the purpose of this research. As for stages in regression data panel starting with determination model estimate then testing classic assumption, testing model suitability and hypothesis testing. There is two the research model used in Kaushik and Chauhan's (2019) research.

1) Model 1: $Q = \alpha_0 + \alpha_1 CCC_{it} + \alpha_2 ROA_{it} + \alpha_3 Size_{it} + \alpha_4 Leverage_{it} + e_{it}$
2) Model 2: In order to test whether or not different level investement working capital of more financially constrained firms differs from that of less constrained one, model 1 is extended by dummy financial constraints called DFC takes a value of 1 for firms more financially constrained, and 0 otherwise.

   $Q = \alpha_0 + \alpha_1 CCC_{it} + \alpha_2 CCC*DFC_{it} + \alpha_3 ROA_{it} + \alpha_4 Size_{it} + \alpha_5 Leverage_{it} + e_{it}$

Description: Q (Firm Performance); CCC (Cash Conversion Cycle); DFC (Dummy Financial Constraints); ROA (Return on Assets); Size (Company Size); Leverage (debt ratio); i (i- company); t (t-period); e (error).

The operational variables in this study consist of the dependent variable (Q), the independent variable (CCC), the moderating variable financial constraints = interaction (CCC*DFC), and the control variables (ROA, Size and Leverage). Tobin's Q is calculated based on research by Hou (2019), namely Market Value of Equity + Short-Term Debt + Long-Term Debt)/Total assets. Cash Conversion Cycle (CCC) is calculated based on research by Enqvist et al. (2012), namely (Account Receivables/sales) x 365 + (Inventory/Cost of Goods Sold) x 365 – (Account Payables/Cost of Goods Sold) x 365. Dummy Financial Constraints uses oneof the constraints calculations based on Baños-Caballero et al. (2014), namely Cost of External Financing = Total Financial Costs/Total Debt. Companies with larger financial constraints will be given a score of 1 (above average), and companies with smaller financial constraints will be given a score of 0 (below average). Return on Assets (ROA) = (Net profit/Total assets) × 100%. Size = Ln (Total Assets). Leverage = Total Debt/Total Assets.

This research begins with a comparative test analysis between private companies and BUMN before and during the Covid-19 pandemic on the components of working capital management, firm performance, and financial constraints. Then panel data regression analysis to see the effect of independent variables on the dependent. Finally formulated managerial implications based on the results of the analysis. The framework of thought is presented in Figure 3.

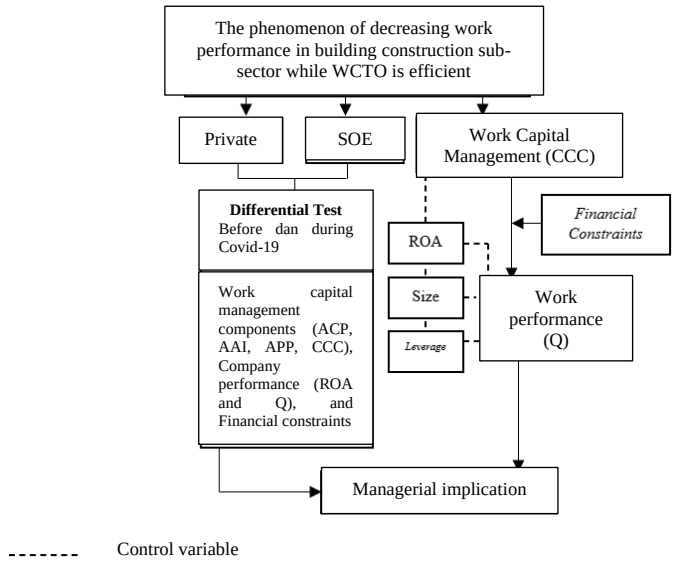

Figure 3. Research Framework

Based on theory and supported studies earlier, the research hypothesis are:

1) Reducing CCC will improve firm performance (Ahmad et al., 2022; Bhatia & Srivastava, 2016). H1: CCC has a negative effect on firm performance.

2) The amount of working capital investment also provides benefits because companies that have low funding costs will not worry about increasing their investment for improving their firm performance (Fazzari et al., 1988). Therefore, there is a positive relationship between financial constraints on the effect of working capital management on firm performance (Afrifa, 2016; Khan et al., 2016). Companies that have greater financial constraints will face high external funding costs so they tend to avoid funding from debt. Therefore, it is expected that companies with financial constraints will have lower level of working capital investment to reduce funding costs to improve company performance (Baños-Caballero et al., 2014; Handoko & Violeta, 2020; Kaushik & Chauhan, 2019). H2: Financial Constraints have a positive effect on the relationship of the cash cycle to firm performance and companies that have greater financial constraints will try to reduce the level of working capital investment to improve firm performance.
3) The greater the profitability value of a company, it will be a good signal for investors to consider (Baños-Caballero et al., 2014; Handoko & Violeta, 2020; Kaushik & Chauhan, 2019). H3: ROA has a positive effect on firm performance.
4) The bigger the company, the more operational activities it will have so that the company's performance increases (Bhatia & Srivastava, 2016). H4: Size has a positive effect on firm performance.
5) The greater the use of debt will increase the company's risk so that if it is used inappropriately it will worsen profitability and share prices, which means the value of shares will decrease (Bhatia & Srivastava, 2016; Brigham & Houston, 2021). H5: Leverage has a negative effect on firm performance.

RESULT AND DISCUSSION

The comparative test begins with the normality test. The amount of data on private companies is more than 50 (before and during the pandemic), the normality test used is the Kolmogorov-Smirnov test and because there are fewer BUMN companies with less than 50 data (before and during the pandemic), the normality test used is Shapiro-Wilk test. Then the results obtained for private companies were that all data were not normally distributed (Sig. <0.05) so that the test was carried out using the Wilcoxon signed rank test. The results of BUMN companies only Q which is normally distributed (Sig. >0.05) will be tested using a paired t test. whereas ACP, AAI, APP, CCC, ROA, and FC data were not normally distributed (Sig. <0.05) were tested using the Wilcoxon signed rank test.

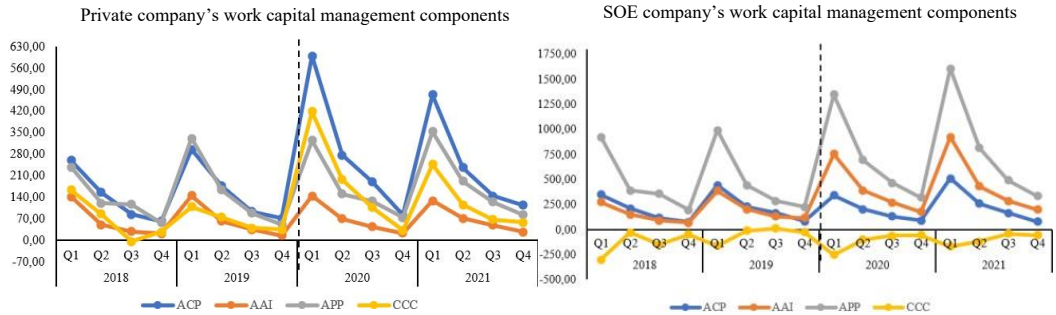

Figure 4. Period of Receivables, Inventories, Payables, and Cash Conversion Cycle of Private Companies and BUMN Quarter I 2018 to Quarter IV 2021

Based on the value of Sig. (2-tailed) on the different test, Average Collection Period (ACP) private companies is 0,002 (0.05) there is no significant difference. During the pandemic, private companies' receivables turnover periode was much longer compared to before the pandemic, while BUMN only experienced a little additional collection time during the pandemic. From the average value, private companies have a faster receivables turnover period (207.37 days) than BUMN (216.82 days). Based on the value of Sig. (2-tailed) on the different test, the Average Age of Inventory (AAI) of private companies is 0.202 (> 0.05) there is no significant difference and the value of Sig. (2-tailed) AAI is 0.000 (0.05), there is no significant difference. Even though there was no statistically significant difference, from the average CCC value before the pandemic (66.54 days) and during the pandemic (155.63) there was a difference of 89.09 days. This can happen because the comparison of the variance before and during the pandemic is very large. In BUMN the value of Sig. (2-tailed) CCC is 0.206 (>0.05), there is a significant difference. Overall, during the pandemic the CCC was longer (24.65 days) than before the pandemic (-10.98 days) in line with research by Tarkom (2022) that the effect of covid-19 caused the level of CCC to be higher because companies keep more inventory and delay company sales collection.

Private companies and BUMN have the same pattern in the period of inventory turnover and debt turnover. The company completes the production process first and then pays off payables both before and during the pandemic. This can be advantageous because they use raw materials without having to pay in advance with the aim of reducing operational costs without additional interest from external loans. During the pandemic, the AAI for BUMN was very long, exceeding the one-year receivables turnover period. The large inventory at BUMN is due to carrying out large project work that is not yet attractive to private businesses and this triggers high stocks with the length of the project so that it moves slowly. The private receivables turnover period was very high during the pandemic which caused the cash conversion cycle to increase. During a pandemic there were private customers who did not pay their receivables on time and caused potential losses to the company. This high debt has the potential to form an impairment of receivables (bad debts) and becomes a burden on the company. BUMN have a stable receivables turnover period where companies are aggressively collecting receivables from government projects to maintain the company's cash flow.

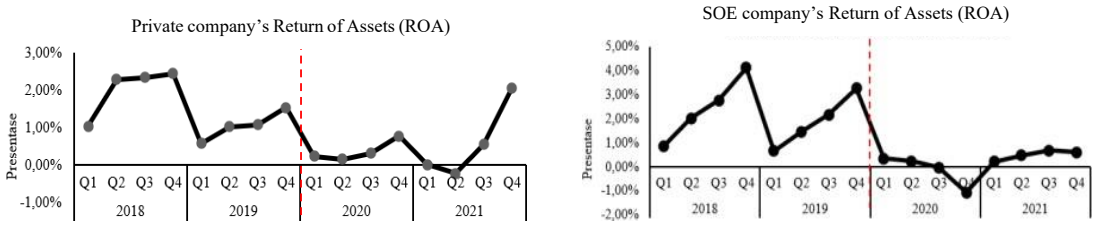

Figure 5. ROA of private and BUMN Companies

Based on the value of Sig. (2-tailed) on the different test, the ROA of private companies is 0.000 (<0.05), the difference is significant and the value of Sig. (2-tailed) ROA is 0.000 (<0.05), there is a significant difference. Declining sales and gross profits for private companies and BUMN during the pandemic were unable to cover other expenses.

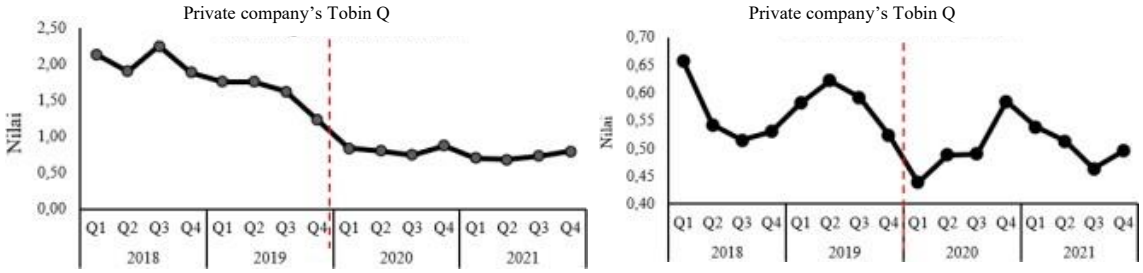

Figure 6. Q Private companies and BUMN

Based on the value of Sig. (2-tailed) on the different test, the private company's Q value is 0.000 (<0.05), the difference is significant and the SOE company's value is Sig. (2- tailed) ROA is 0.004 (<0.05), there is a significant difference. Private companies and BUMN have experienced a decline in company performance on a market-based basis where share prices have decreased during the pandemic along with a decrease in company profitability. This is in line with the research of Ahmad et al. (2022) company performance as measured by Q experienced a decline during the Covid-19 pandemic.

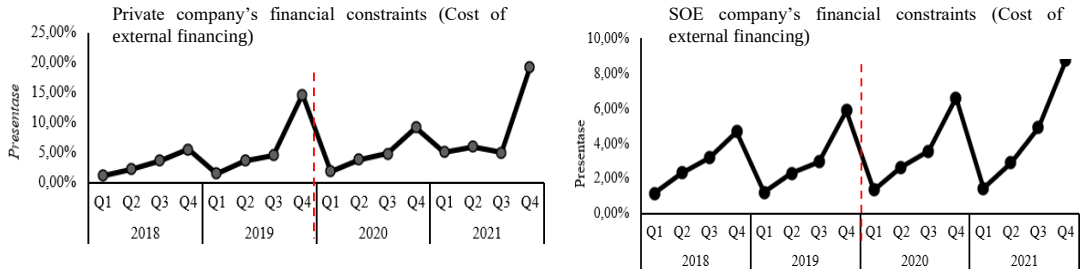

Figure 7. FC of private companies and BUMN

Based on the value of Sig. (2-tailed) in the different test, the FC value of private companies is 0.105 (>0.05), there is no significant difference and the value of Sig. (2- tailed) FC is 0.018

(<0.05), there is a difference. Private companies are always faced with large funding costs for funding with debt (Kanamori & Zhao, 2004) compared to BUMN.

Panel Data Regression Analysis Results

In model 1, based on the results of the Hausman test, a probability value of 0.0000 (<0.05) is obtained, so the best model is FEM. In model 2, based on the results of the Hausman test, a probability value of 0.0000 (<0.05) is obtained, so the best model is FEM.

Table 3. FEM Model Panel Data Regression Results in Model 1 and Model 2

Variabel	Model 1		Model 2	
	Coef.	***Prob.***	***Coef.***	***Prob.***
C	-117.9055	0.0000	-119.2826	0.0000
CCC	-0.000901	0.0181**	-0.001187	0.0057***
CCC*DFC			0.001603	0.0330**
ROA	5.242202	0.0360**	5.773431	0.0202**
SIZE	4.029985	0.0000***	4.072431	0.0000***
LEVERAGE	-3.689938	0.0008***	-3.440171	0.0013***
R-squared	0.667		0,677	
Adjusted R-squared	0.638		0,647	
F-statistic	23,483		22,905	
Prob(F-Statistic)	0,000		0,000	

Note: ***) significant at 1% level of significance; **) significant at 5% level of significance

Based on table 3, it is known that in model 1 R-Square value is 0.667 with Prob. F statistics <0.05. This shows that simultaneously the independent variables affect Q in the building construction sub-sector company with an effect of 66.7% while 33.3% is influenced by other variables outside the research model. T-test is used to test the parameters partially. CCC, ROA, SIZE, and LEVERAGE variables have a significant effect on Q. For model 2, it is known R-Square value is 0.677 with Prob. F statistics <0.05. This indicates that simultaneously the independent and interaction variables have an effect on Q in building construction subsector companies with an effect of 67.7% while 32.3% are influenced by other variables outside the research model. T test is used to test the parameters partially. CCC, CCC*DFC, ROA, SIZE, and LEVERAGE variables have a significant effect on Q.

The Effect of Working Capital Management on Firm Performance

The results of model 1 testing indicate that the cash conversion cycle has a significant effect on firm performance in the building construction sub- sector companies. These results are consistent with the research hypothesis which predicts that the cash conversation cycle has a negative effect on firm performance. By shortening the cash conversion cycle, the company's performance will improve, meaning that the time lag between the operational cycle and payments

to suppliers will be faster, it will be easier for the company to utilize its internal capital sources as a source of financing to continue its operational activities. This is in line with the most studies looking at the effect of working capital on firm performance, such as Baños-Caballero et al. (2014), Kaushik and Chauhan (2019), Bhatia and Srivastava (2016), and Ahmad et al. (2022). To reduce cash cycles, companies can reduce accounts receivable and inventory turnover periods, and slow down payment of debts to suppliers. Financial costs that will arise at low levels of the cash cycle will be reduced and the availability of these funds can be used to invest in old projects or add new value to the company. In addition, this will increase compensation to shareholders (Sawarni et al., 2021).

During the pandemic, the average company added short-term bank loans which caused a large financial burden and in proportion the company's current liabilities increased. This will cause the difference from net working capital to get smaller so that the WCTO will get bigger. The existence of idle capital and increased bank loans will cause a decrease in profits (Ratnasari & Tarimin, 2021) and can answer the phenomenon that occurs in the building construction subsector that a large WCTO value is obtained from investment in large working capital with additional external financing, causing poor performance.

The Role of Financial Constraints on the Effect of Working Capital Management on Firm Performance

To test the moderating variable, the interaction between CCC and DFC is carried out to see the effect of the cash cycle on firm performance in companies. The test results of model 2 show that the interaction of financial constraints variables on working capital management is significant and financial constraints variables moderating the relationship between cash cycle and firm performance. The increasing R-Square value indicates that the moderating variable can strengthen the relationship between the independent and dependent variables (Rahadi & Farid, 2021). It means with interaction, the relationship between CCC and firm performance is stronger. Working capital is sensitive to the amount of the company's funding costs. The amount of investment in working capital will depend on the condition of the company's financing ability. Companies with more financial constraints have a lower level of working capital investment, companies try to accelerate the decline in the cash cycle to improve company performance. This is consistent with research by Baños-Caballero et al. (2014), Kaushik and Chauhan (2019), and Handoko and Violeta (2020). This can be evidenced in the calculation of ACP, AAI, and APP which reflect working capital investment in each company that has greater financial constraints compared to smaller ones.

Table 4. The value of ACP, AAI, and APP

Company	Average ACP (Days)	Average AAI (Days)	Average APP (Days)
Constraints	179,58	78,09	157,81
Unconstraints	233,97	227,63	491,44

Companies that have more financial constraints have a lower time in the turnover period of accounts receivable, inventory, and payables. This is in accordance with research by Kaushik and Chauhan (2019) where companies that have financial constraints will have lower ACP and AAI because there are limitations in investing in working capital and lesser delaying payments to suppliers. From the result of regression analysis, companies that have more financial constraints have lower working capital than companies with lesser financial constraints. They will face expensive external sources so that they tend to avoid funding from interest-bearing debt and if forced to use external funding to finance their working capital, they will experience greater interest expense and reduce company performance. The company will try to accelerate the cash cycle so that the funds embedded in working capital will rotate quickly so that it can use internal funds to reduce credit risk. According to Kieschnick et al. (2013) companies that invest heavily in working capital (net operating working capital) will reduce investors' stock returns and the risk will increase by companies that facing financial constraints.

The Effect of Other Factors on Firm Performance

High firm performance means that it can be seen from the high ROA value. This is in line with research conducted by Jihadi et al. (2021) that the ability to generate profits by using existing assets is one of the determinants in improving company performance. Companies that have large assets reflect that the company is in a good performance condition because with large assets the company will easily carry out operational activities so that it can be productive in generating sales and being a positive signal for investors. This is in line with research conducted by Altaf and Ahmad (2019) that company size as measured by the size of assets can improve company performance. The use of debt will cause additional interest costs so that it will reduce company profits. The pecking order theory states that internal financing is better than debt.

In private companies, significant changes in working capital during the Covid-19 pandemic, the main improvements are the management of account receivables and accounts payables. First, the company should consistently pay attention to the aging of trade receivables and pay attention to the increase or decrease in the amount of trade receivables at each aging interval. To speed up billing on new customers or new invoices is to offer purchase discounts so they can reduce cost of good sold and seller will receive faster cash. Second, companies can cooperate with banks to facilitate receivable financing. The second focus is for companies to look for suppliers that have a lenient payment policy and pay at the end of the due date. As a result, the private companies will have shorter cash conversion cycle so the firm performance will increase. From the results of the interaction between the cash cycle and financial constraints, private companie have higher financing costs. Companies are recommended to stay focused with a lower investment in working capital by accelerating the cash cycle to reduce the use of external financing. Reducing the use of external financing will increase profits due to reduced funding costs and ultimately improve company performance.

In BUMN, significant changes in working capital during the Covid-19 pandemic, the main improvements are inventory management and accounts payable that are too long, especially during

the Covid-19 pandemic. The strategy of BUMN to accelerate inventory turnover is first, the division of inventory management authority with two levels, centralized purchasing level and project purchasing level and just in time management. Second, Companies and suppliers are still required to establish good partnership cooperation to facilitate operational activities by not making late payments. Late payments will give the company a bad reputation, so the company will have difficulty in meeting the needs of subcontractor stock or labor. By accelerating inventory turnover and delaying payments to suppliers with industry average time limits, BUMN will be able to improve their performance. BUMNs have cheaper funding costs compared to private companies, but this does not mean that companies can go into debt using as much external financing as possible. Companies still avoid debt because leverage is proven to reduce company performance.

CONCLUSION

During the Covid-19 pandemic, there were several significant differences in the components of working capital management in private companies, namely the receivables and debt turnover period became longer, firm performance as measured by profitability and company value decreased, financial constraints increased but the difference was not significant. In state-owned companies there are several significant differences, namely the period of inventory and debt turnover is longer, firm performance as measured by profitability and company value decreases, financial constraints increase.

The results of the study show that working capital management (CCC) has a negative and significant effect on firm performance. By shortening the company's cash conversion cycle, it has an impact on increasing firm performance.

The results of this research show that the role of financial constraints strengthens the relationship between the cash conversion cycle and firm performance. Companies that have greater financial constraints, have limitations in investing in working capital. Companies must take advantage of the use of internal funds by accelerating the cash conversion cycle as a cheap source of funds to improve firm performance.

Any attempt to accelerate the cash cycle will have its own risks, giving sales discounts and using financing institutions will reduce revenue and low inventory levels will cause the company to deal with fluctuations in raw material prices. Utilizing supplier discounts to reduce cost of goods sold must consider the liquidity of the company. The company must compare the discount from the supplier with the benefits or those obtained if using external financing. This is a manager's decision in all situations of financial problems to determine the minimum and optimum level of the company's working capital while maintaining liquidity but still being productive in generating profits.

From the results of the analysis, in investing in working capital, the company must consider the cost of funds which is different for each company because too much usage will prove to be a risk to the decline in company performance. Companies that are forced to use external financing to fund their working capital must adjust the company's needs with consideration of the costs and risks of short-term and long-term financing.

REFERENCE

Afrifa, G. A. (2016). Net working capital, cash flow and performance of UK SMEs. *Review of Accounting and Finance*, *15*(1). https://doi.org/10.1108/RAF-02-2015-0031

Ahmad, M., Bashir, R., & Waqas, H. (2022). Working capital management and firm performance: are their effects same in covid 19 compared to financial crisis 2008? *Cogent Economics and Finance*, *10*(1). https://doi.org/10.1080/23322039.2022.2101224

Altaf, N., & Ahmad, F. (2019). Working capital financing, firm performance and financial constraints: Empirical evidence from India. *International Journal of Managerial Finance*, *15*(4). https://doi.org/10.1108/IJMF-02-2018-0036

Apritasari, Rizky, W., & Oetomo, H. W. (2013). Pengaruh financial leverage , ITO, WCTO terhadap nilai perusahaan pada perusahaan farmasi swasta. *Jurnal Ilmu & Riset Manajemen*, *2*(12).

Arisadi, Y. C., & Djazuli, A. (2013). Pengaruh ukuran perusahaan, umur perusahaan, current ratio, debt to equity ratio dan fixed asset to total asset ratio terhadap kinerja keuangan pada perusahaan manufaktur di bursa efek Indonesia. *Jurnal Aplikasi Manajemen*, *11*(4), 567–574.

Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2014). Working capital management, corporate performance, and financial constraints. *Journal of Business Research*, *67*(3). https://doi.org/10.1016/j.jbusres.2013.01.016

Bhatia, S., & Srivastava, A. (2016). Working capital management and firm performance in emerging economies: Evidence from India. *Management and Labour Studies*, *41*(2). https://doi.org/10.1177/0258042X16658733

Brigham, E. F., & Houston, J. F. (2021). *Fundamentals of financial management: Concise*. Cengage Learning.

Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance and Accounting*, *30*(3–4). https://doi.org/10.1111/1468-5957.00008

Enqvist, J., Graham, M., & Nikkinen, J. (2012). The impact of working capital management on firm profitability in different business cycles: Evidence from Finland. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1794802

Fazzari, S. M., Hubbard, R. G., Petersen, B. C., Blinder, A. S., & Poterba, J. M. (1988). Financing constraints and corporate investment. *Brookings Papers on Economic Activity*, *1988*(1). https://doi.org/10.2307/2534426

Handoko, L., & Violeta, C. (2020). Working capital management, company performance, and funding barriers on Indonesian Firms. *Sebelas Maret Business Review*, *5*(1). https://doi.org/10.20961/smbr.v5i1.41190

Hou, T. C. T. (2019). The relationship between corporate social responsibility and sustainable financial performance: firm-level evidence from Taiwan. *Corporate Social Responsibility and Environmental Management*, *26*(1). https://doi.org/10.1002/csr.1647

Idris, M. (2017, October 7). *Saat Rini tersinggung karena BUMN dituding kuasai proyek pemerintah*. DetikFinance.

Jihadi, M., Vilantika, E., Hashemi, S. M., Arifin, Z., Bachtiar, Y., & Sholichah, F. (2021). The effect of liquidity, leverage, and profitability on firm value: Empirical evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, *8*(3). https://doi.org/10.13106/jafeb.2021.vol8.no3.0423

Kanamori, T., & Zhao, Z. (2004). *Private sector development in the People's Republic of China* (Issue 5). Asian Development Bank Institute Manila.

Kaushik, N., & Chauhan, S. (2019). The role of financial constraints in the relationship between working capital management and firm performance. *IUP Journal of Applied Finance*, *25*(1), 60–82.

Kehinde, J. O., & Mosaku, T. O. (2006). An empirical study of assets structure of building construction contractors in Nigeria. *Engineering, Construction and Architectural Management*, *13*(6). https://doi.org/10.1108/09699980610712418

Khan, N., Akbar, M., & Akbar, A. (2016). Does an optimal working capital exist ? The role of financial constraints does an optimal working capital exist ? *Research Journal of Finance and Accounting*, *7*(9).

Kieschnick, R., Laplante, M., & Moussawi, R. (2013). Working capital management and shareholders' wealth. *Review of Finance*, *17*(5). https://doi.org/10.1093/rof/rfs043

Kim, Y. H., & Chung, K. H. (1990). An integrated evaluation of investment in inventory and credit: A cash flow approach. *Journal of Business Finance & Accounting*, *17*(3). https://doi.org/10.1111/j.1468-5957.1990.tb01192.x

Milyardi, R. (2020). Perbandingan karakteristik manajemen risiko konstruksi pada kontraktor BUMN dan swasta. *Jurnal Teknik Sipil*, *16*(1). https://doi.org/10.28932/jts.v16i1.2399

Rahadi, D. R., & Farid, M. M. (2021). *Analisis variabel moderating*. CV. Lentera Ilmu Mandiri.

Ratnasari, S. D., & Tarimin, T. (2021). Efek perilaku individu terhadap kinerja karyawan. *Jurnal Administrasi Bisnis*, *10*(2), 165–175. https://doi.org/10.14710/jab.v10i2.36685

Sambora, M. N., Handayani, S. R., & Rahayu, S. M. (2014). Pengaruh leverage dan profitabilitas terhadap nilai perusahaan (Studi pada perusahaan food and beverages yang terdaftar di BEI periode tahun 2009-2012). *Jurnal Administrasi Bisnis S1 Universitas Brawijaya*, *8*(2).

Sawarni, K. S., Narayanasamy, S., & Ayyalusamy, K. (2021). Working capital management, firm performance and nature of business: An empirical evidence from India. *International Journal of Productivity and Performance Management*, *70*(1). https://doi.org/10.1108/IJPPM-10-2019-0468

Tarkom, A. (2022). Impact of COVID-19 exposure on working capital management: The moderating effect of investment opportunities and government incentives. *Finance Research Letters*, *47*. https://doi.org/10.1016/j.frl.2021.102666