The Impact of Working Capital Ratios on Operational Performance under Covid-19 Pandemic: Evidence from Listed Material Sector Firms in Sri Lanka

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Abstract

This paper investigates whether the Covid-19 pandemic impacts the association between working capital ratios and operational performance. Using comparison tests by taking a sample of listed material sector firms in Sri Lanka from 2019Q1 to 2021Q2, this study first examines whether working capital ratios have become statistically different between pre Covid-19 period and during the Covid-19 period. Secondly, this paper employs panel regression analysis for pre-Covid-19, during Covid-19 and the full samples to identify how Covid-19 has reshaped the association between working capital ratios and operational performance measured by return-on-sales (ROS). The results show that, apart from days-sales-outstanding (DSO), other working capital measures are similar between the pre-Covid-19 period and during the Covid-19 period. Further, the results suggest that ROS is higher when firms delay payments to suppliers during pre Covid-19 period. However, this paper finds that ROS is not responsive to working capital ratios during the Covid-19 period.

Keywords: Working Capital; Operational Performance; Returns on Sales; Covid-19 Pandemic

Introduction

Covid-19 started in Wuhan, China, in early 2020. It impacted the entire world in many ways slowing down economic activities and business operations (Song et al., 2021). Investigating the economic impact of Covid-19 remains as an important problem to resolve and it has attracted the attention of many finance and economics researchers. Further, the impact of working capital management on financial performance is still unclear. The literature shows that working capital management impacts financial performance both positively (Sharma and Kumar, 2011) and negatively (Singh et al., 2017). Further, Tsuruta (2019) shows that working capital and financial performance are negatively associated during the financial crisis. However, the impact of the Covid-19 crisis on different businesses is different due to its unprecedented nature. For example, Song et al. (2021) show that the economic impact of Covid-19 differs from the past crises. Accordingly, it is a current problem that needs further investigation. Therefore, the contribution of this paper is significant as this paper provides more clarity on whether the unprecedented Covid-19 crisis has reshaped the association between working capital management and financial performance.

In the case of Sri Lanka, in 2020, the economy contracted by 3.6% year-on-year damaging activities in many sectors due to Covid-19. For example, the manufacturing sector contracted 10.2% in 2020 compared to 2019 (CBSL, 2020). Therefore, the economic impact of Covid-19 has influenced the operations of many firms, such as firms that manufacture and supply materials to construction and other sectors.

Further, frequent lockdowns imposed with the fast-growing Covid-19 pandemic have limited day-to-day business operations. In this context, uninterrupted short-term financing and effective working capital management is the key to safeguarding a business's financial results. For example, Akgun and Memis (2021) show that working capital management, short-term financing decisions and maintaining an optimal balance between liquidity and profitability are crucially important for better financial results. Therefore, during the Covid-19 pandemic, the success of any firm depends on how they manage its working capital. Moreover, the working capital measures could significantly change due to the Covid-19 impact. Accordingly, this paper aims to investigate whether the working capital ratios are statistically different between before Covid-19 and during Covid-19.

Moreover, the efficiency of routine operations determines a firm's operational performance. Further, short-term financing and working capital management efficiency directly influence corporate sales return. Furthermore, Zimon and Tarighi (2021) show that the Covid-19 pandemic has impacted how efficiently firms convert sales into profit. Therefore, it is necessary to clarify how Covid-19 has shaped the impact of working capital measures on operational performance. Accordingly, secondly, this paper aims to investigate whether the Covid-19 crisis has reshaped the association between Return-On-Sales (ROS) and working capital measures.

To achieve these purposes, this study first uses comparison tests to examine whether the working capital measures have become statistically different pre and during the Covid-19 pandemic. Secondly, this study uses a panel regression model to examine whether Covid-19 has impacted the relationship between sales returns and working capital measures. The results show that days-sales-outstanding (DSO) become statistically different between pre-Covid-19 and during Covid-19. Moreover, the panel regression results find that days-payables-outstanding (DPO) positively impacts returns on sales through the pre-Covid-19 period, but this impact disappeared during the Covid-19 period.

The remainder of this paper is organized as follows. Section 2 reviews the related literature; Section 3 explains the methodology used in this study; Section 4 presents the results and findings and Section 5 provides the study's conclusion.

Literature Review

Importance of Proper Working Capital Management During Crisis

The Covid-19 pandemic impacts all industries, people and the way of usual life. The Covid-19 crisis has caused a reduction in most people's disposable income. Further, Covid-19 impacts sales and the ability to meet short-term obligations (Devi et al., 2020). Further, Achim et al. (2022) show that Romanian firms' total sales and net profit have declined by 13.86% and 37.43%, respectively, due to the Covid-19 pandemic. Furthermore, Shen et al. (2020) show that Covid-19 negatively impacts corporate performance. Siraj et al. (2020) show that the Covid-19 pandemic impacts the cash holding levels of the listed firms. Therefore, the firms are required to manage optimal levels of working capital to minimize the impact of the Covid-19 crisis and achieve sufficient profitability.

Working capital management strikes a balance between liquidity and profitability. If the firms adequately finance their working capital, it can help achieve higher performance by maintaining liquidity on day-to-day operations to meet the firm's current obligation (Akgun and Memis, 2021). Further, how working capital is managed determines whether the business continue for the foreseeable future (Prasad et al., 2019). Moreover, how working capital components such as inventory, account receivable, account payables and cash conversion cycle are managed is a significant determinant of a firm's profitability (Amponsah-Kwatiah and Asiamah, 2021). On the other hand, if a firm cannot manage working capital at an optimal level, it negatively influences the future growth of the business (Phuong and Hung, 2020).

Working Capital Measures

The Current Ratio (CR) is a liquidity ratio measuring a company's ability to pay short-term obligations. Higher the current ratio, the more capable the firm to pay its current obligation (Pandey, 2015).

Quick Ratio (QR) or acid-test ratio is the sum of debtors, bills receivables and marketable securities to the business's current liabilities. This ratio is a harsher measure of liquidity in comparison to the current ratio. Conventionally, a quick ratio 1:1 is considered satisfactory (Pandey ,2015).

Day Sale Outstanding (DSO) measures the average number of days a company takes to collect cash after selling a product or service.

A low number of day-sales outstanding means that the firm takes low period of days to collect its receivables.

DSO depends on sales, customers and finished goods (Costa, 2014).

Days Inventory Outstanding (DIO) depends on inventories and how the inventory is measured. This measure addresses the question of how long in days it takes for a firm to sell its entire inventory and represents the time in days for which inventories are held. A smaller DIO number is a better indicator (Costa, 2014).

Days Payable Outstanding (DPO) is a measure of days a firm takes to pay in cash for suppliers after purchasing products. The payable period varies from sector to sector. For example, the construction sector takes longer than the fast-moving consumer goods sector. (Costa,2014).

Cash Conversion Cycle (CCC) measures the time in the days that it takes for a company to convert resource inputs into cash flows. Also, the cash conversion cycle can help compare close competitors and assess management efficiency (Costa, 2014). A shorter DSO and DIO coupled with a longer DPO lead to a shorter cash conversion cycle (Yazdanfar and Ohman, 2014).

Empirical Review

Working Capital Ratios During and Pre-Covid 19

Recent studies show that liquidity and firm performance become statistically different before and during the Covid-19 periods. For example, Amnim et al. (2021) examine the impact of the Covid-19 pandemic on liquidity and firm's profitability in Nigeria. They use the Wilcoxon test to test their hypothesis. They find that liquidity ratio and ROE are statistically different after considering the Covid-19 period. Further, Devi et al. (2020) find that the liquidity ratio and leverage ratio of Indonesian firms become statistically different before and during the Covid-19 pandemic. They use the Wilcoxon test to test their hypothesis. This study develops the hypothesis (H1) below based on the above arguments.

H1: working capital ratios are statistically different between before Covid-19 and during the Covid-19 period.

Association between Profitability/ROS and Working Capital Measures

Previous studies conducted before the pandemic show a link between working capital ratios and firm profitability. For example, Altaf and Shah (2018) examine the relationship between working capital management and firm profitability using a sample of 437 non-financial companies. They find an inverted U shape relationship between working capital and firm profitability. They show that the lower the cash conversion cycle level, the higher the firm's profitability and vice versa. Further, Wanguu and Kipkirui (2015) take a sample of cement manufacturing companies in Kenya and show that the inventory days are positively associated with profitability, while accounts payables show a significant negative relationship with profitability.

Recent research investigates how working capital ratios impact return on sales (ROS) under Covid-19. For example, Zimon and Tarighi (2021) find a significant and positive relationship between the cash conversion cycle (CCC) and ROS concerning the firms in Poland. Further, they show that the Covid-19 pandemic does not change working capital management strategies significantly. Le et al. (2018) also show that ROS increases with longer CCC. Besides, Ching et al. (2011) show that Inventory Days negatively impact ROS. Further, Owolabi and Halimah (2021) show that Inventory Turnover is positively associated with ROS. Topal et al. (2013) also show a significant association between Inventory Turnover and ROS. Based on the above review, this study develops the hypothesis (H2) below.

H2: The Covid-19 pandemic has changed the association between working capital measures and ROS in the listed material sector firms in Sri Lanka.

Previous Studies in the Context of Sri Lanka

In the context of Sri Lanka, Delima (2020) show that CCC has a negative relationship with gross operating profit and ROA by considering a sample of 95 listed companies from 18 sectors in Sri Lanka over 5 years from 2013 to 2017. Further, Elangkumaran and Nimalathasan (2016) show that CCC and inventory conversion period are significantly associated with profitability. Furthermore, Ajanthan (2013) also finds that CCC has a negative relationship between net operating profit, ROE and ROA. Additionally, Vijayakumaran and Vijayakumaran (2017) show that the lower the working capital level, the higher the performance will be and vice versa. Further, in the context of Sri Lanka, research considering the return on sales as a dependent variable is rare. Therefore, it is a gap that needs to be addressed.

Methodology

This study is a quantitative deductive study. The methods mentioned below are used to test the hypotheses developed above.

Methods

Wilcoxon Signed Rank Test

Wilcoxon Signed Rank Test is a non-parametric test preferred when the samples are not normally distributed. This test is used to identify whether the working capital ratios are statistically different before Covid-19 and during Covid-19 (Devi et al., 2020). The null hypothesis assumes no statistical difference between the pre and during Covid-19 periods. The null hypothesis is rejected if the z stat of the test is less than 0.05. The z stat is calculated as follows.

$$z = \frac{W - \mu_w}{\sigma_w} \quad (1)$$

Where, W is the lower of the sum of positive differences or negative differences;

$$\mu_w = \frac{n(n+1)}{4} \qquad \text{and} \qquad \sigma_w = \sqrt{\frac{n(n+1)(2n+1) - \sum \frac{t_i^3 - t_i}{2}}{24}} .$$

Panel Regression

Secondly, this study runs a panel regression model below, considering ROS as the dependent variable and working capital ratios as independent variables while controlling for sales growth and firm size (Zimon and Tarighi, 2021).

$$ROS_{it} = c + \beta_1 CR_{it} + \beta_2 QR_{it} + \beta_3 DSO_{it} + \beta_4 DIO_{it} + \beta_5 DPO_{it} + \beta_6 CCC_{it} + \beta_7 Firm_{Size_{it}} + \beta_8 Sales_{Growth_{it}} + \beta_9 Covid - 19_{it} + \varepsilon_{it} \qquad (2)$$

Where,

CR is the current ratio of ith firm in quarter t; QR is the quick ratio of ith firm in quarter t; DSO is the days-sales-outstanding of ith firm in quarter t; DIO is the days-inventory-outstanding of ith firm in quarter t; DPO is the days-payables-outstanding of ith firm in quarter t; CCC is the cash conversion cycle of ith firm in quarter t; $Firm_{Size}$ is the natural logarithm of total assets

of ith firm in quarter t; $Sales_{Growth}$ is the revenue growth of ith firm in quarter t; $Covid-19_{it}$ is a dummy variable that equal 1 during the pandemic and 0 otherwise; ε_{it} is the error term and ROS is the return on sales of ith firm in quarter t.

However, this study omits QR and DIO when estimating models to address the multicollinearity issue.

Conceptual Framework

The study's First aim is to investigate whether the working capital ratios are statistically different before Covid-19 and during Covid-19. The H1 is tested under the first aim.

H1: working capital ratios are statistically different between before Covid-19 and during Covid-19 periods.

H1 is tested using the Wilcoxon Signed Rank Test.

Further, this study uses the conceptual framework below and it links with the second aim of the study.
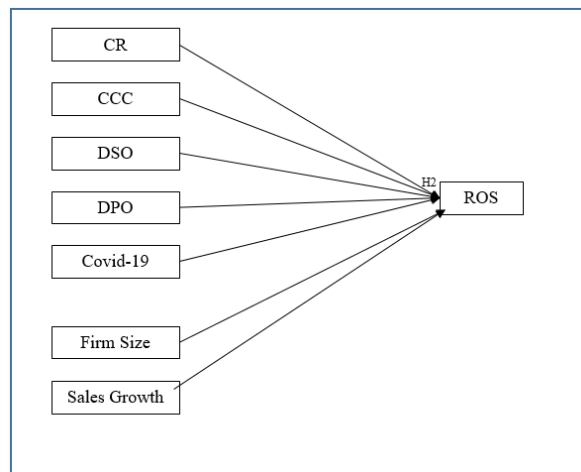

Figure I – Conceptual Framework *(Source: Authors Complied)*

The CR, CCC, DSO, DPO and $Covid-19$ are the independent variables of the study. The $Firm_{Size}$ and $Sales_{Growth}$ are control variables.

This study tests the H2 under the second aim of this study.

Second aim: Aims to investigate whether the association between Return-On-Sales (ROS) and working capital measures has reshaped by the Covid-19 crisis.

Hypotheses:

H2: The Covid-19 pandemic has changed the association between working capital measures and ROS in the listed material sector firms in Sri Lanka

The H2 is tested using a Panel Regression Model.

Variable Definition

The definitions of the variables used in this study are provided below. The table below identifies the all the variables tested under both Wilcoxon Signed Rank Test and Panel Regression Model.

Table I: Variable Definition

Variables	Indicators	Measures	Source
Independent Variables			
Current Ratio(CR)	This measures the company's ability to meet current liabilities.	$\dfrac{\text{Current Assets}}{\text{Current Liability}}$	(Devi et al., 2020)
Quick Ratio (QR)	This measures the firm's ability to settle its short-term obligation using assets convertible into cash.	$\dfrac{\text{Current Assets – Inventory}}{\text{Current Liabilities}}$	(Sathyamoorthi et al., 2018)
Cash Conversion Cycle (CCC)	This measures how quickly a firm can convert its goods into cash through sales.	CCC = Days Inventory Outstanding (DIO) + Days Sales Outstanding (DSO) - Days Payables Outstanding (DPO)	(Costa, 2014)
Day Sale Outstanding (DSO)	This measures the number of days a company needs to collect on sales.	DSO = (Accounts Receivables/ Sales)*365	(Vijayakumaran and Vijayakumaran, 2017)
Days Inventory Outstanding (DIO)	This measures how long in days it takes to sell a company's inventory.	DSO = (Inventory/Cost of Sales)*365	(Vijayakumaran and Vijayakumaran, 2017)
Days Payables Outstanding (DPO)	This measures how long it takes to pay the company's payables.	DSO = (Accounts Payables/ Cost of Sales)*365	(Vijayakumaran and Vijayakumaran, 2017)
Covid-19 pandemic	This is a dummy variable.	1= during the Covid-19 pandemic 0 = before the Covid-19 pandemic	(Zimon and Tarighi, 2021)
Control Variable			
Firm Size	This measures the size of the firm using total assets.	Natural logarithm of total assets	(Amponsah-Kwatiah and Asiamah, 2021)
Sales Growth	This is the ratio of changes in current	$(\text{Sales}_t- \text{Sales}_{t-1})/\text{Sales}_{t-1}$	(Vijayakumaran and

	year sales to previous year sales.		Vijayakumaran, 2017)
Dependent Variable			
Return on Sales (ROS)	This measures the corporate sales return	Earnings Before Interest Tax/ Total Revenue	(Zimon and Tarighi, 2021)

Source: Authors Complied

Data and Sample

This research study is carried out as quantitative research. The data are collected from 2019Q1 to 2021Q2 using annual reports of listed material sector firms. This study selects 16 material sector companies out of 20 based on information availability.

In comparison tests, this research identifies 2019Q1 as the period before Covid-19 and 2021Q1 during the Covid-19 pandemic. In panel regression models, this study identifies the period from 2019Q1 to 2019Q4 as the pre Covid-19 period and period from 2020Q1 to 2021Q2 as the period during Covid-19 pandemic.

Results

Descriptive Statistics

Table II presents the descriptive statistic of data collected for material sector companies before the Covid-19 pandemic (2019Q1) and during the Covid-19 pandemic (2021Q1) samples.

Table II: Descriptive Statistics of the Before and During the Covid-19 Pandemic

Sample	Observation	Mean	Std. Dev.	Min	Max
ROS_Before Covid-19	16	0.15168	0.13676	0.005	0.583
ROS_During Covid-19	16	0.20905	0.19293	0.017	0.7952
CR_Before Covid-19	16	3.10825	3.83431	0.62	13.874
CR_During Covid-19	16	3.057082	4.23498	0.52083	17.8781
QR_Before Covid-19	16	2.39275	3.30555	0.338	10.576
QR_During Covid-19	16	2.410658	4.07798	0.3271	16.9472
DSO_Before Covid-19	16	87.20912	29.7345	42.642	157.879
DSO_During Covid-19	16	75.13217	28.9019	33.3358	138.726
DIO_Before Covid-19	16	81.95250	37.439	18.77	145.305
DIO_During Covid-19	16	85.61985	26.2383	32.9112	121.973
DPO_Before Covid-19	16	48.18106	22.9821	12.035	94.461
DPO_During Covid-19	16	60.51552	32.033	3.23651	118.956
CCC_Before Covid-19	16	120.9806	50.0556	31.858	208.117
CCC_During Covid-19	16	100.2365	44.7632	6.96987	152.198

Source: Source: Author Complied

According to Table II, the mean value of return on sales (ROS) has increased during the pandemic period compared to before the pandemic period. The mean values of CR, QR and DIO have slightly changed between the two periods. However, the difference in mean values of DSO, DPO and CCC between the two periods is larger than in the case of CR, QR and DIO.

Data Normality Test

Table III: Shapiro-Wilk Normality Test for Before and During the Covid-19 Pandemic Samples

Sample	Observation	W	V	z	Prob>z
CR_Before Covid-19	16	0.65191	7.053	3.88	0.00005
CR_During Covid-19	16	0.56724	8.769	4.312	0.00001
QR_Before Covid-19	16	0.62563	7.586	4.025	0.00003
QR_During Covid-19	16	0.51337	9.86	4.545	0.00000
DSO_Before Covid-19	16	0.9625	0.76	-0.545	0.70729
DSO_During Covid-19	16	0.96306	0.748	-0.576	0.71758
DIO_Before Covid-19	16	0.91425	1.737	1.097	0.13627
DIO_During Covid-19	16	0.95226	0.967	-0.066	0.52637
DPO_Before Covid-19	16	0.97867	0.432	-1.666	0.95217
DPO_During Covid-19	16	0.95348	0.943	-0.117	0.54673
CCC_Before Covid-19	16	0.96145	0.781	-0.491	0.68823
CCC_During Covid-19	16	0.91257	1.771	1.136	0.12804

Source: Authors Complied

Table III presents the Shapiro-Wilk normality test results. The null hypothesis of the test is that the data are normally distributed. Accordingly, the results suggest that CR and QR samples are not normally distributed.

Wilcoxon signed rank test

The Table IV and Table V present the statistics linked to Wilcoxon signed rank test.

Table IV: Wilcoxon Signed Rank Test statistics

			N	Sum of Ranks
CR_Before_the_Covid19 CR_During_the_Covid19	-	Positive	6	60
		Negative	10	76
		Ties	0	
		Total	16	
QR_Before_the_Covid19 QR_During_the_Covid19	-	Positive	7	64
		Negative	9	72
		Ties	0	
		Total	16	
DSO_Before_the_Covid19 DSO_During_the_Covid19	-	Positive	13	108
		Negative	3	28

		Ties	0	
		Total	16	
DIO_Before_the_Covid19 DIO_During_the_Covid19	-	Positive	8	63
		Negative	8	73
		Ties	0	
		Total	16	
DPO_Before_the_Covid19 DPO_During_the_Covid19	-	Positive	5	43
		Negative	11	93
		Ties	0	
		Total	16	
CCC_Before_the_Covid19 CCC_During_the_Covid19	-	Positive	12	103
		Negative	4	33
		Ties	0	
		Total	16	

Source: Authors Complied

Table V: Wilcoxon Signed Rank Test Results

	CR_Before_the_Covid19 - CR_During_the_Covid19	QR_Before_the_Covid19 - QR_During_the_Covid19	DSO_Before_the_Covid19 - DSO_During_the_Covid19
Z	-0.414	-0.207	2.068
Prob > Z	0.6791	0.8361	0.0386

	DIO_Before_the_Covid19 - DIO_During_the_Covid19	DPO_Before_the_Covid19 - DPO_During_the_Covid19	CCC_Before_the_Covid19 - CCC_During_the_Covid19
Z	-0.259	-1.293	1.81
Prob > Z	0.796	0.1961	0.0703

Source: Authors Complied

Table V shows that DSO becomes statistically different between before the Covid-19 pandemic period and during the Covid-19 pandemic period at a 5% level. The CCC shows a marginally significant statistical difference between the pre-Covid-19 period and during the Covid-19 period. Further, Table II shows that CCC and DSO are lower during Covid-19 than pre-Covid-19. Therefore, these results imply that CCC and DSO are lower during the pandemic. Furthermore, Devi et al. (2020) also show that working capital ratios become statistically different before and during the crisis period. However, CR, QR, DIO and DPO show no difference between the pre-Covid-19 period and during the Covid-19 period. Therefore, these results weakly support H1.

Table VI presents panel regression results for pre-Covid 19 period, during Covid 19 period and the full sample.

This study performs the Hausman test and it prefers the Fixed Effect model and Random Effect model for Pre-Covid-19 sample and During Covid-19 sample, respectively. The Hausman test chooses the Random Effect model for the full sample, but the Breusch-Pagan Lagrange Multiplier test prefers the Pooled OLS model for the full sample. The models are estimated with robust standard errors when the heteroskedasticity problem exists.

Table VI: Panel Regression Results

	Pre-Covid-19	During Covid-19	Full Sample
	FE - ROS	RE- ROS	Pooled OLS-ROS
Covid	-	-	-0.0388544 (0.0368165)
CR	-0.0622648 (0.05815)	-0.0018411 (0.0066877)	0.0088836 (0.005858)
DSO	0.0000908 (0.0018427)	0.0005782 (0.0006212)	0.0005811 (0.0007472)
DPO	**0.0053797**** (0.0023189)	-0.0004812 (0.0004948)	0.0006025 (0.0005482)
CCC	-0.001611 (0.0014729)	-0.0004314 (0.0003668)	-0.0002045 (0.0004924)
FirmSize	1.108645 (0.9980001)	0.0107896 (0.0129929)	0.0063417 (0.0107167)
SalesGrowth	0.3406195 (0.329225)	0.0840768 (0.0523561)	**0.133529***** (0.0499301)
cons	-15.89477 (14.37545)	0.0338643 (0.2091788)	0.0011437 (0.1777248)
R^2	0.33	0.16	0.10

Note: robust standard errors are in ( ) and *** and ** denotes the significance level at 1% and 5% level. FE denotes the Fixed Effect Model, RE denotes the Random Effect Model
Source: Authors Complied

Table VI shows that DPO positively and significantly explains the quarterly ROS pre-Covid-19. A positive DPO coefficient indicates that the ROS increases when the firm delays supplier payments. Further, positive and significant DPO implies that firms with high operational performance have taken more time to pay for trade creditors before the Covid-19 period. This result aligns with the working capital management rule that the firms need to attempt to delay the payment for supplies without injuring the relationship between the firm and the supplier. Further, Ponsian et al. (2014) confirm the same.

However, the relationship between working capital measures and operational performance (ROS) is insignificant during the Covid-19 period. These results indicate that the Covid-19 pandemic has changed the association between working capital measures and ROS in the listed material sector firms in Sri Lanka. Therefore, these results support the H2 of this study. The full sample regression also indicates that when the Covid-19 period is added to the sample, the impact of working capital measures on operational performance weakens. Further, the Covid-19 variable in the full sample regression is negative and insignificant, indicating that Covid-19 has not impacted the ROS. However, Zimon and Tarighi (2021) show that firms in Poland with higher CCC managed to report a higher sales return during the Covid-19 pandemic.

Conclusion

This study investigates whether the working capital ratios are statistically different before Covid-19 and during Covid-19 periods and whether the Covid-19 crisis has reshaped the association between Return-On-Sales (ROS) and working capital measures. This paper finds that most working capital measures have not changed significantly between pre and during the Covid-19 pandemic. Further, the evidence uncovered in this study highlights that Covid-19 has reshaped the link between working capital and operational performance. The evidence shows that, as time passes from pre Covid-19 period to the Covid-19 period, the association between working capital measures and operational performance measured by return-on-sales has weakened with the changes occurring in the business environment. Specifically, this paper shows that, before the Covid-19 pandemic, the firms with higher DPO were operationally profitable before deducting the finance cost and taxes. However, the transformation that occurred with the Covid-19 pandemic has canceled the significance of DPO as a variable that explains ROS. These findings are confirmed by the regressions carried out for both during Covid-19 sample and full sample. Accordingly, this paper reveals another aspect that Covid-19 has influenced the business. However, this study is limited to the material sector. Therefore, future studies can extend this study to other sectors. Further, future studies can examine post-pandemic working capital management practices adopted by business firms to achieve higher profitability.

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