



---

## **The Impact of Covid-19 Global Crisis on the Firm's Performance: Evidence from Listed Material Sector Companies in Sri Lanka**

R. M. U. R. Rathnayaka <sup>1</sup> and A. L. Gunasekara <sup>2\*</sup>

<sup>1,2</sup> Department of Finance, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka

\*Corresponding Author: gunasekaral@kln.ac.lk

---

### **ABSTRACT**

The purpose of this study is to examine the impact of Covid-19 on the profitability of the material sector firms in Sri Lanka using ROA and ROE as the profitability measures. The commendable performance of the material sector equity index during Covid-19 period motivates this study to investigate whether the profitability of the sector backs the observed performance in the equity index. For this purpose, this study performs both parametric and non-parametric comparison tests on quarterly data gathered using annual reports from 2018Q1 to 2021Q1. Further, this study employs panel regression models to identify whether the differential effect of Covid-19 on profitability is immune to other controlling effects. Additionally, this study investigates the reasons behind the profitability patterns by analyzing annual reports' content. The results of this study confirm that during the first quarter of the year 2021, the ROA and ROE are greater than the per Covid period ROA and ROE. The major external reason for the higher profitability is the relaxed government policies implemented during the Covid-19 period. Accordingly, the findings of this study imply that supportive government policies enhance the performance of firms during crisis periods.

**Keywords:** Covid-19, Firm Performance, ROA, ROE.

---

### **INTRODUCTION**

The impact of the Covid-19 pandemic is well documented on the labor market (Mayhew & Anand, 2020), the stock market (Ashraf, 2020), the financial sector (Baicu et al., 2020), small and medium-sized entities (Zimon & Tarighi, 2021), and other sectors (Abate et al., 2020; Song et al., 2021). Hence, the importance of researching how Covid-19 shapes business operations and performance has attracted considerable attention from many global financial and economic researchers. According to the documented evidence, Covid-19 has

impacted the economy in a negative way at both the macro level and the firm level. At the macro level, evidence suggests that the economic and financial crisis raised by Covid-19 is completely different from past financial crises in terms of range and severity (Song et al., 2021; Ding et al., 2020). The current studies linked to Covid-19 find that, even in the early stages of Covid-19, its impact on the real economy has already been reflected (Wu & Hui, 2021). At the firm level, Zizi et al. (2020) show that businesses with low profitability fail. Therefore, Covid-19 can cause business failure as it impacts profitability.

However, the impact of Covid-19 is not always negative because it has impacted various business sectors in the economy in different ways. For example, Mazur et al. (2020) show that the return of healthcare, food, natural gas and software sectors are well performed during the pandemic.

Covid-19 affected the Sri Lankan industries in several ways. Most industries in Sri Lanka are experiencing declining performance and a very few industries could increase their performance under new normal conditions. In this context, we are motivated to examine the Covid-19 impact on the 'Material Sector' as it is one of the sectors that performed better during the Covid-19 pandemic. According to Figure 1, the material sector in Sri Lanka has performed well during the pandemic. At the end of the 4th quarter of 2019 (Before the Covid-19 impact), the closing sector index of the material sector in the Colombo Stock Exchange (CSE) was 681.21 and as of the 1st quarter of 2021 (During the Covid-19 impact), it was 1476.82. Based on the sector indices, the material sector's performance has increased by 117% throughout the pandemic period (Figure 1).

However, it is unclear whether it is the improved profitability during the pandemic or other factors that back its equity index performance, as there can be many reasons other than profitability supporting equity index performance. Therefore, it is crucial to clarify how the profitability of the sector has been impacted by Covid-19, allowing a link to high performance in the sector equity index. Because profitability is a major determinant of the equity market's performance and it is still unclear what has made the material sector perform better during the pandemic. Accordingly, this study examines whether the material sector profitability is statistically different between pre Covid-19 and during Covid-19 periods and attempts to identify whether there is a differential effect of Covid-19 on the material sector firms' profitability. Additionally, this study intends to identify the reasons behind the reported profitability during Covid-19 by analyzing the contents of the annual reports. These findings help develop policies for the future. Therefore, the contribution of this paper is significant as this paper uncovers another unrevealed aspect that Covid-19 has influenced.

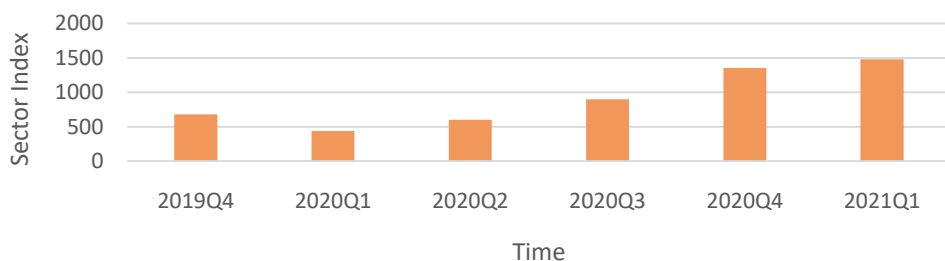


Figure 1: Material Sector Stock Index

Source: CSE

For this purpose, this study uses quarterly data from 2018Q1 to 2021Q1 and employs parametric and non-parametric comparison tests. Additionally, this study employs a panel regression model while controlling for documented other effects. The study's findings suggest that profitability is higher in 2021Q1, during the Covid-19 pandemic, and low interest rates and relaxed tax policies largely back it. The remainder of this paper is organized as follows. Section 2 reviews the literature and develops the hypotheses. Section 3 explains the methods used for analysis, section 4 uncovers and discusses the study's results and finally, section 5 highlights the study's conclusions.

## LITERATURE AND HYPOTHESIS DEVELOPMENT

Covid-19 has impacted the business environment in many ways. Recent research reveals that Covid-19 has negatively impacted the real economy even at the very outset. Its negative impact has spread across many sectors, such as trade, transportation and tourism (Wu & Hui, 2021). The rapid transformation of this health crisis to an economic crisis has injured the economy at a considerable rate. For example, Sri Lanka's Gross Domestic Product (GDP) is expected to grow at a level of 2.2% due to the pandemic, which is far below the previous expectation of 4.5% to 5% growth rate following the 2019 Easter Sunday attack (Amaratunga et al., 2020).

Further, consumer behavior is another aspect influenced by the pandemic that changes the spending patterns of consumers (Yuen et al., 2020). Weerathunga and Samarathunga (2020) show that the impact of Covid-19 will vary from industry to industry due to the heterogeneous consumer buying patterns during the pandemic. Furthermore, the lockdowns have negatively impacted the

firms' revenue (Devi et al., 2020). The business supply channels are restricted by the slowdown in the logistics sector (Kökény et al., 2022). Therefore, the turbulent environment created by the pandemic has made it difficult for businesses to achieve the profitability they had prior to the pandemic (Shen et al., 2020). For example, Weerathunga et al. (2020) show that the pandemic has negatively impacted services sector firms such as travel and tourism.

Covid-19 weakens the firm performance by damaging investment and income (Makni, 2023). Further, the interconnection among the sectors worsens the situation, causing one sector to suffer due to the poor performance in the other linked sector. Recent studies show that the sectors such as construction have been impacted negatively by the pandemic (Ayat et al., 2021). This situation makes sectors such as the material sector vulnerable as these firms provide supplies to the construction sector. However, developments such as technological adaptation could curtail the negative Covid-19 impact on profitability (Qadri et al., 2022). Therefore, the real Covid-19 impact on material sector needs to be examined.

Based on the above arguments, this study proposes the hypothesis below.

H1: The profitability of listed material sector companies is statistically different between before Covid-19 and during Covid-19.

Further, there are several factors affecting the profitability of firms. By taking evidence from Indonesian manufacturing firms, Susilo et al. (2020) show that working capital and firm size are positively associated with profitability. Regarding the Sri Lankan context, several studies have identified different factors affecting the profitability of different sectors. For example, Dias (2021) shows that liquidity ratios and

leverage ratios impact the profitability of real estate firms in Sri Lanka. Anojan (2016) findings confirm that the liquidity position of listed manufacturing firms in CSE was negatively correlated with profitability. This study covered 32 listed manufacturing firms in CSE. However, Hamsagini, (2021) shows a positive association between liquidity and profitability by taking a sample from 2016 to 2020 of 15 listed manufacturing firms. Further, Ramasamy et al. (2005) find that size negatively impacts the profitability of the Malaysian palm oil industry. In this study, 30 companies have been used as the sample. However, Besong (2017) shows that firm size measured as the natural logarithm of sales has a statistically significant positive relationship with ROA. In Sri Lankan context, Pratheepan (2014) shows that manufacturing sector companies' ROA is positively associated with firm size. Recent studies focused on Indian firms also confirm that firm size and profitability are positively associated (Al-Homaidi, 2021). Regarding leverage, there are two views concerning its effects on the firm's profitability. Decemrie (2011) claims that leverage positively impacts the firm's profitability showing that debt financing forces managers to use resources more efficiently, thus not wasting them on unprofitable investments. On the other hand, Besong (2017) and Rahman et al. (2020) find a negative impact of leverage on the firm's profitability. They concluded that the need of continuing servicing the debt would reduce the ability to invest, reducing profitability. Further, Ravindran and Kengatharan (2021) show that financial leverage negatively impacts the profitability of non-financial firms in Sri Lanka. The next important factor is the tangibility of the firms. Tangibility acts as a significant catalyst in reducing financial distress and increases financial performance (İltaş & Demirgüneş, 2020). Pratheepan (2014) shows that Sri Lankan

manufacturing companies with higher tangible assets tend to have lower profitability and the impact is statistically significant.

Accordingly, it is clear that there are various other factors that impact the profitability of firms. Therefore, controlling for the effects mentioned above is essential in testing whether the Covid-19 impact is stable. Accordingly, this study proposes the hypothesis below based on the above arguments.

H2: The differential effect of Covid-19 on profitability is statistically significant after controlling for Liquidity, Firm Size, Leverage and Tangibility.

The section below presents the methodology followed to test these hypotheses.

## METHODOLOGY

### Data and Sample

The population of this study is the companies listed in the CSE under the material sector. Accordingly, the total population of this study consists of 21 companies. The sample is selected based on the availability of interim financial statements. Based on this provision, the sample is limited based on the availability of the interim financial statements from 2018Q1 to 2021Q1. Accordingly, the sample consists of 18 companies. The data are gathered from the published quarterly financial statements.

This study considers both the first and second waves of Covid-19 as the sample period. According to the World Bank data, the first wave in Sri Lanka began in January 2020 and the second wave ended close to April 2023.

## Methods

### Comparison tests

This study uses comparison tests to identify whether the profitability is statistically different between pre Covid-19 and during the Covid-19 period. Further, this study uses the sample t-Test as a parametric test and Wilcoxon Rank Sum Test as a nonparametric test for hypothesis testing. The test statistic of the sample t-Test is as follows.

$$Z - stat_{5,i}^{mean} = \frac{\mu_1 - \mu_i}{\sqrt{\sigma_1^2/n_1 + \sigma_i^2/n_i}}$$

where,  $\mu_1, \sigma_1^2$  and  $n_1$  are the mean, variance and number of observations in sample 1 and  $\mu_i, \sigma_i^2$  and  $n_i$  are the mean, variance and number of observations in sample i.

The test statistic of Wilcoxon Rank Sum Test is as follows.

$$Z - stat = \frac{T_1 - \left[ \frac{n_1 n_2 + n_1 (n_1 + 1)}{2} \right]}{\sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}}$$

where the  $T_1$  is the sum of the ranks of the group 01 and  $n_1$  and  $n_2$  are the number of observation in the group 01 and 02. The Mean is represented by  $\frac{n_1 n_2 + n_1 (n_1 + 1)}{2}$  and  $\sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}$  represents the Standard Deviation.

The Wilcoxon Rank Sum Test is performed using RStudio and the sample t-Test is performed using MS Excel.

### Regression Model

This study uses STATA for panel regression estimation. First, the Hausman Test is performed to identify whether to go with the fixed or random effect models. Then, Breusch and Pagan Lagrangian Multiplier test is carried out

to identify whether Pooled OLS model is preferred. Finally, the diagnostics tests are performed to identify whether remedies for autocorrelation and heteroscedasticity are required.

Table 1 shows the variables in the panel regression model that are used to capture the impact of Covid-19 on the profitability of material sector firms while controlling for the other effects. This method confirms whether the Covid-19 impact is statistically strong. It can be concluded that the Covid-19 impact is weak if the Covid-19 coefficient becomes statistically insignificant after controlling for other effects.

This study uses the following equation in the panel regression model and uses the parameters in Table 2.

$$ROA_{it} \text{ or } ROE_{it} = \beta_0 + \beta_1 Covid_{it} + \beta_2 Liq_{it} + \beta_3 Fsize_{it} + \beta_4 Lev_{it} + \beta_5 Tang_{it} + \varepsilon_{it}$$

### Additional Analysis

This study investigates the external reasons behind high performance during the Covid-19 period by analyzing the content in the annual reports of material sector firms. For this purpose, the Management Reviews in the firms' annual reports are identified. We screen firms that have reported above-average profitability in the group of 18 material sector firms during the pandemic period. Next, we identify the keywords related to profitability and count the frequency of mentioning them in the reviews.

**Table 1: Variables and Measurements**

Variable Type	Variable Name	Measurement	Source
Dependent variable	Financial Performance	Return on Assets	Devi et al. (2020)
		Return on Equity	Qadri et al. (2022)
Control Variables	Liquidity position	Current ratio	Devi et al. (2020)
	Firm Size	Natural Logarithm of Sales	Shen et al. (2020)
	Leverage	Debt-to-total assets ratio	Shen et al. (2020)
	Tangibility	Fixed assets-to- total assets ratio	(İltaş&Demirgüneş, 2020)
Independent Variable	Covid	Time period dummy variable that equals 1 in 2021Q1 and zero otherwise.	Shen et al. (2020) <sup>1</sup>

Source: Authors Complied

**Table 2: Description of the parameters**

$ROA_{it}$	Return on Assets of the company i in quarter t.
$ROE_{it}$	Return on Equity of the company i in quarter t.
$\beta_0$	Intercept
$Covid_{it}$	Time period dummy variable of the company i.
$Liq_{it}$	Current ratio of company i in quarter t.
$Fsize_{it}$	Natural logarithm of sales of company i in quarter t.
$Lev_{it}$	Debt to assets ratio of company i in quarter t.
$Tang_{it}$	Fixed assets to total assets ratio of company i in quarter t.
$\varepsilon_{it}$	Error term of company i in quarter t.

1A dummy variable is considered as the independent variable to incorporate the Covid-19 impact. Pre Covid-19 period is between 1st quarter of 2018 to 4th quarter of 2019 and the Covid-19 pandemic period is from 1st quarter of 2020 to 1st quarter of 2021 ((Shen et al., 2020). Further, prior analysis of this study shows that the Covid dummy from 2020Q1 to 2021Q1 is insignificant, indicating no differential effect in profits during this period. However, the comparison tests clearly show higher profitability during 2021Q1. Therefore, in the panel regression model, this study considers 2021Q1 for the Covid dummy variable to identify whether this effect is still significant after controlling for the other effects. This statistical application is further explained in the results section.

## RESULTS

**Table 3: Descriptive Statistics**

	LEVERAGE	LIQUIDITY	LNSIZE	TANGIBILITY	ROA	ROE
Mean	0.048244	3.637854	20.5932	0.459075	0.0250	0.03702
Median	0.016327	1.523715	20.5986	0.432073	0.0151	0.02723
Maximum	0.357985	51.71802	23.3474	1.065852	0.7570	0.91039
Minimum	0.000000	0.107026	16.2017	0.120164	-0.0510	-0.271610
Std. Dev.	0.067911	6.636891	1.57475	0.175711	0.0575	0.08196
Skewness	1.677298	4.165159	-0.214773	0.509223	9.0672	5.00978
Kurtosis	5.302374	23.14929	2.64382	3.028164	113.57	57.9581
Jarque-Bera	161.4039	4635.034	3.03583	10.12073	12242	30427.7
Probability	0.000000	0.000000	0.21916	0.006343	0.0000	0.00000
Sum	11.28909	851.2579	4818.81	107.4235	5.8625	8.66258
Sum Sq. Dev.	1.074570	10263.26	577.807	7.193745	0.7712	1.56517
Observations	234	234	234	234	234	234

*Source: Authors Complied*

Table 3 shows the descriptive statistics of the variables employed in this study. The sample includes 234 observations. ROA and ROE mean values are 2.5% and 3.7%, respectively. The mean values of LEVERAGE, LIQUIDITY, LNSIZE and TANGIBILITY are 4.82%, 3.63, 20.59 (LKR. 878 million) and 45%, respectively. Further, ROA and ROE are not normally distributed. Therefore, this study considers the non-parametric Wilcoxon Rank Sum Test and the parametric sample t-test when comparing the pre Covid-19 and during Covid-19 ROA and ROE. Moreover, all the control variables, except LNSIZE, are also not normally distributed.

The Table 4 presents the ROA comparison results.

Panel 01 in Table 4 shows the comparison tests' results linked to ROA. Panel 02 shows the descriptive statistics of different groups. Further, panel 02

indicates that Pre Covid, 2020Q1 and 2021Q1 groups are not normally distributed with significant J.Bera statistics. Therefore, this study employs parametric and non-parametric tests to obtain the results.

The results presented in panel 01 in Table 4 confirm that, under both comparison tests, the ROA is statistically different between pre Covid period and 2021Q1. However, the notion that the ROA in other quarters is greater than the pre Covid ROA has weak support as t-Test results are insignificant though the Wilcoxon Test results are significant.

**Table 4: Comparison test results of ROA during and pre Covid-19**

<b>Panel 01</b>					
	<b>2020Q1 Vs. Pre Covid</b>	<b>2020Q2 Vs. Pre Covid</b>	<b>2020Q3 Vs. Pre Covid</b>	<b>2020Q4 Vs. Pre Covid</b>	<b>2021Q1 Vs. Pre Covid</b>
<b>t-Test</b>					
<b>t stat</b>	-0.15902	-1.53903	0.70831	1.33109	1.90057
P val One tail	0.43739	0.06406	0.24159	0.09386	<b>0.03350</b>
P val two tail	0.87479	0.12812	0.48318	0.18773	0.06700
<b>Wilcox</b>					
<b>P val</b>					
greater	0.53500	0.73090	<b>0.01135</b>	<b>0.00078</b>	<b>0.00031</b>
two tail	0.93420	0.54170	<b>0.02271</b>	<b>0.00156</b>	<b>0.00062</b>
<b>Panel 02</b>					
	<b>Mean</b>	<b>Variance</b>	<b>Observations</b>	<b>J-Bera</b>	
<b>Pre Covid (2018Q1 - 2019Q4)</b>	0.02314	0.00462	144	53642.10***	
<b>2020Q1</b>	0.02124	0.00197	18	21.21586***	
<b>2020Q2</b>	0.01147	0.00046	18	1.41858	
<b>2020Q3</b>	0.03007	0.00115	18	0.47746	
<b>2020Q4</b>	0.03352	0.00052	18	0.10045	
<b>2021Q1</b>	0.04430	0.00165	18	14.98417***	

Note: The comparison is based on the t-Test and Wilcoxon test. Both tests are used due to the non-normality reported in panel 02. Panel 01 compares ROA between the Pre-Covid-19 period and the five quarters during the Covid-19 period.

Source: Authors Compiled

**Table 5: Comparison test results of ROE during and pre Covid-19**

<b>Panel 01</b>					
	<b>2020Q1 Vs. Pre Covid</b>	<b>2020Q2 Vs. Pre Covid</b>	<b>2020Q3 Vs. Pre Covid</b>	<b>2020Q4 Vs. Pre Covid</b>	<b>2021Q1 Vs. Pre Covid</b>
<b>t-Test</b>					
<b>t stat</b>	-0.50265	-1.44810	1.06242	1.63739	1.90177
P val One tail	0.31021	0.07977	0.14872	0.05552	<b>0.03518</b>
P val two tail	0.62043	0.15954	0.29745	0.11104	0.07037



<b>Wilcox</b>					
<b>P val</b>					
greater	0.66220	0.80380	<b>0.01029</b>	<b>0.00075</b>	<b>0.00020</b>
two tail	0.67960	0.39530	<b>0.02058</b>	<b>0.00151</b>	<b>0.00041</b>
<b>Panel 02</b>					
	<b>Mean</b>	<b>Variance</b>	<b>Observations</b>	<b>J-Bera</b>	
<b>Pre Covid (2018Q1- 2019Q4)</b>	0.03386	0.00757	144	30667.17***	
<b>2020Q1</b>	0.02202	0.00904	18	18.19341***	
<b>2020Q2</b>	0.00961	0.00410	18	53.91611***	
<b>2020Q3</b>	0.05075	0.00361	18	0.91776	
<b>2020Q4</b>	0.05574	0.00227	18	13.99288***	
<b>2021Q1</b>	0.07228	0.00640	18	6.755734**	

Note: The comparison is based on the t-Test and Wilcoxon test. Both tests are used due to the non-normality reported in panel 02. Panel 01 compares ROE between the Pre-Covid-19 period and the five quarters during the Covid-19 period.

*Source: Authors Compiled*

Further, panel 02 in Table 4 clearly shows that the mean ROA ascends from 2020Q1 to 2021Q1. Moreover, the mean ROA in 2021Q1 is 4.43% and it is greater than the mean of pre-Covid ROA of 2.32%. Therefore, the statistical evidence suggests that the ROA in 2021Q1 is greater than pre-Covid ROA because the mean difference between pre-Covid ROA and ROA in 2021Q1 is significant.

Table 5 presents the ROE comparison results.

Panel 01 in Table 5 shows the comparison tests' results linked to ROE. Panel 02 shows the descriptive statistics of different groups. Further, panel 02 indicates that Pre Covid, 2020Q1, 2020Q2, 2020Q4 and 2021Q1 groups are not normally distributed with significant J.Bera statistics.

The results in panel 01 in Table 5 show that the difference between 2021Q1 ROE

and pre-Covid ROE is significant under both tests. Further, the descriptive statistics in panel 02 in Table 5 show that ROE has gradually increased from 2020Q1 to 2021Q1. Moreover, the mean ROE in 2021Q1, 7.22%, is greater than the mean pre-Covid ROE of 3.28%. This finding indicates that ROE in 2021Q1 is greater than pre Covid ROE.

The notion that ROE in other quarters is different or greater than pre Covid ROE has weak support as the two comparison test provides different conclusions.

According to the results presented above, it is clear that ROA and ROE are greater in 2021Q1, which falls between January 2021 to March 2021. However, it is unclear whether the positive Covid-19 impact on the profitability of material sector firms is immune to other controlling conditions. Therefore, this study estimates a panel regression model while controlling for other effects

considering 2021Q1 as the Covid-19 period. Further, two samples are identified in this process as the pre Covid and full samples. This method helps to identify whether the significance levels of the controlling variables have changed with the pandemic. The pre Covid sample prefers a fixed effect model under the Hausman Test.

This study uses the Full Sample to examine the stability of the positive Covid impact in 2021Q1. Further, this study uses FE/RE/Pooled OLS approach as both T and N are less than 25 in the panel. Accordingly, the Hausman Test is performed to choose between the fixed effect model and the random effect model. The results of the Hausman Test confirm that both the ROA and ROE models should go with the Random Effect model. Next, Breusch and Pagan Lagrangian Multiplier (LM) test is carried out to identify whether Pooled OLS or Random Effect models are preferred. The results of the LM test confirm that the Random Effect model is preferred. Finally, this study performs the diagnostics test to check the assumptions and the results reveal that autocorrelation and heteroscedasticity are present. Further, the VIF test confirms the absence of multicollinearity. However, Pesaran's test of cross-sectional independence shows a significant P-value. Therefore, this study estimates the Panel Regression Models using Driscoll-Kraay standard errors to obtain the results.

The results of the panel regression model are presented in Table 6 below.

The results in Table 6 show that the differential effect of Covid-19 on ROA and ROE is positive and significant.

Further, the firm size is negative and significant during pre Covid period. However, it loses its significance under the Full Sample estimation.

Accordingly, the results of comparison tests and panel regression confirm the existence of a positive Covid-19 impact on material sector firms' profitability in 2021Q1. Further, Mazur et al. (2020) show that the performance of the healthcare, food, natural gas and software sectors is also commendable during the pandemic.

Next, this study investigates the external reasons behind high performance during the Covid-19 period by analyzing the content in the annual reports of material sector firms. For this purpose, this study identifies that 13 firms have reported above-average profitability in 18 material sector firms during 2021Q1. This study excluded the internal reasons as they do not impact the sector as a whole. Therefore, only seven annual reports effectively contributed to finding an external reason. Further, some firms attribute more than one reason for the higher performance during the pandemic. Table 7 summarizes these findings.

Table 7 shows the number of firms (frequency) that have stated the corresponding reason. For example, five firms have attributed low interest rates to better performance. According to Table 7, the major contributing external reasons are low interest rates which reduce the cost of finance and relaxed corporate tax policies. Therefore, it is clear that relaxed government policies implemented during the Covid-19 period have contributed to the higher profitability of material sector firms during the pandemic.

**Table 6: Panel regression model results for ROA and ROE**

	Pre Covid sample		Full Sample with Driscoll-Kraay standard errors	
	FE - ROA	FE- ROE	ROA	ROE
<b>Covid</b>	-	-	0.0213104*** (0.0026007)	0.038473*** (0.0063718)
<b>Liquidity</b>	-0.0011363 (0.0016072)	-0.001249 (0.001982)	-0.000333 (0.0003965)	-0.0007312 (0.0008362)
<b>Insize</b>	-0.0935924*** (0.0202357)	-0.1121488*** (0.0249546)	-0.0055399 (0.0123164)	-0.0045225 (0.0238508)
<b>Tangibility</b>	0.0601052 (0.1096013)	0.0404119 (0.1351602)	0.037955 (0.0901185)	0.0233697 (0.130979)
<b>Leverage</b>	-0.3438631 (0.2207601)	-0.3567544 (0.2722411)	-0.0962193 (0.0983713)	-0.0868111 (0.1353119)
<b>cons</b>	1.944544*** (0.4345376)	2.347635*** (0.5358714)	0.1259283 (0.2257639)	0.1233122 (0.4549073)
<b>R<sup>2</sup></b>	0.0479	0.0198	0.0321	0.0123

Note: robust standard errors are in ( ) and \*\*\* denotes the significance level at 1%. FE denotes the Fixed Effect Model. Due to the cross-sectional dependence issue, the full sample regression uses the Driscoll-Kraay standard errors.

Source: Authors Complied

**Table 7: External reasons attributed to high financial performance**

External Reason	Frequency	Per cent
Low interest rates	5	36%
Relaxed tax policies	3	21%
Relaxed travel restrictions	2	14%
Reduced imported material cost	2	14%
Increasing demand with import restrictions	2	14%
<b>Total</b>	14	99.9%

Note: Table 7 shows the frequency of mentioning the keywords that explain a reason for profitability in the Management Reviews of the annual reports.

Source: Authors Complied

## CONCLUSION

The impact of Covid-19 on different business sectors is different. Further, it is interesting to investigate the undelaying reasons that have resulted in positive or negative circumstances. Accordingly, this study aims to uncover the impact of Covid-19 on the profitability of the listed material sector firms that have performed well in the CSE during the pandemic. For this purpose, this study examines whether the ROA and ROE of listed material sector firms are statistically different between the pre Covid-19 and during the Covid-19 periods under the study's first hypothesis. Under the second hypothesis, this study attempts to identify whether the differential effect of Covid-19 on

profitability is stable. The results of the study reveal that adequate statistical support prevails for the notions that the ROA and ROE of material sector firms are higher and stable during the Covid-19 period, particularly in the 2021Q1.

Moreover, the management of the material sector companies attributes this success to the relaxed government policies that prevailed during the pandemic period as the major external reason. These findings imply that supportive government policies enhance the firms' performance during crises. Pianta et al. (2021) confirm the same but highlight the importance of those policies to be futuristic.

in Selected Listed  
Manufacturing Companies in  
Colombo Stock Exchange (CSE).  
ICCM.

## REFERENCES

- Abate, M., Christidis, P., & Purwanto, A. J. (2020). Government support to airlines in the aftermath of the COVID-19 pandemic. *Journal of Air Transport Management*, 89.
- Al-Homaidi, E. A., Farhan, N. H., Alahdal, W. M., Khaled, A. S., & Qaid, M. M. (2021). Factors affecting the profitability of Indian listed firms: a panel data approach. *International Journal of Business Excellence*, 23(1), 1-17.  
<https://doi.org/10.1504/IJBEX.2021.111928>
- Amaratunga, D., Fernando, N., Haigh, R., & Jayasinghe, N. (2020). The COVID-19 outbreak in Sri Lanka: A synoptic analysis focusing on trends, impacts, risks and science-policy interaction processes. *Progress in Disaster Science*, 8, 100133.  
[doi:https://doi.org/10.1016/j.pdisas.2020.100133](https://doi.org/10.1016/j.pdisas.2020.100133)
- Anojan, V. (2016). Determinants of Profitability and Their Impact on Financial Performance: A Case Study
- Ashraf, B. N. (2020). Economic impact of government interventions during the COVID-19 pandemic: International evidence from financial markets. *Journal of Behavioral and Experimental Finance*, 27, 100371.  
[doi:https://doi.org/10.1016/j.jbef.2020.100371](https://doi.org/10.1016/j.jbef.2020.100371)
- Ayat, M., Ullah, A., & Kang, C. W. (2021). Impact of the Coronavirus disease 2019 and the post-pandemic construction sector (Pakistan). *International Journal of Managing Projects in Business*, ahead-of-print (ahead-of-print).
- Baicu, C. G., Gârdan, I. P., Gârdan, D. A., & Epuran, G. (2020). The impact of COVID-19 on consumer behavior in retail banking: Evidence from Romania. *Management and Marketing*, 15(s1), 534–556.  
[doi:https://doi.org/10.2478/mmcks-2020-0031](https://doi.org/10.2478/mmcks-2020-0031)

- Besong, R. N. (2017). The Determinants of probability: Evidence from Japanese Automobile and Parts Industry. Master's thesis, Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ).
- Decemrie, C. B. (2011). Factors Influencing The Companies' Profitability. *Annales Universitatis Apulensis Series Oeconomica*, 2(13), 1-3.
- Devi, S., Warasniasih, N. S., Masdiantini, P. R., & Musmin, L. S. (2020). The Impact of COVID-19 Pandemic on the Financial Performance of Firms on the Indonesia Stock Exchange. *Journal of Economics Business and Accountancy Ventura*, 23(2).
- Dias, K. N. (2021). Determinants of profitability in the real estate industry: a comparative study between Sri Lanka and Japan. *IOSR Journal of Economics and Finance*, 11(6), 26-34.  
<https://doi.org/10.9790/5933-1106022634>
- Ding, W., Levine, R., Lin, C., & Xie, W. (2021). Corporate immunity to the COVID-19 pandemic. *Journal of Financial Economics*, 141(2), 802-830.
- Hamsagini, T. (2021, April 29-30). Impact of liquidity on firm's profitability: a case of listed manufacturing companies in srilanka. 6th International Conference on Contemporary Management, Jaffna, Sri Lanka.  
<http://192.248.56.27:8080/jspui/bitstream/123456789/3209/2/IMPACT%20OF%20LIQUIDITY%20ON%20FIRM%27S%20PROFITABILITY.pdf>
- İltas, Y., & Demirgunes, K. (2020). Asset tangibility and financial performance: A time series evidence. *Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 6(2), 345-364.  
[doi:https://doi.org/10.31592/aeusbed.731079](https://doi.org/10.31592/aeusbed.731079)
- Kökény, L., Kenesei, Z., & Neszveda, G. (2022). Impact of COVID-19 on different business models of European airlines. *Current issues in tourism*, 25(3), 458-474.  
[doi:https://doi.org/10.1080/13683500.2021.1960284](https://doi.org/10.1080/13683500.2021.1960284)
- Makni, M. S. (2023). Analyzing the impact of COVID-19 on the performance of listed firms in Saudi market. *Technological Forecasting and Social Change*, 187, 122171.  
<https://doi.org/10.1016/j.techfore.2022.122171>
- Mayhew, K., & Anand, P. (2020). COVID-19 and the UK labour market. *Oxford Review of Economic Policy*, 36, S215–S224.  
[doi:https://doi.org/10.1093/oxrep/gra-a017](https://doi.org/10.1093/oxrep/gra-a017)
- Mazur, M., Dang, M., & Vega, M. (2020). COVID-19 and the march 2020 stock market crash: Evidence from S&P1500. *Finance Research Letters*, 38(1), 101690.
- Pianta, M., Lucchese, M., & Nascia, L. (2021). The Italian government's economic-policy response to the Coronavirus crisis. *Contemporary Italian Politics*, 13(2), 210-225.  
<https://doi.org/10.1080/23248823.2021.1908696>
- Pratheepan, T. (2014). A Panel Data Analysis of Profitability Determinants: Empirical Results from Sri Lankan Manufacturing

- Companies. *International Journal of Economics, Commerce and Management*, 2(12).
- Qadri, S. U., Ma, Z., Raza, M., Li, M., Qadri, S., Ye, C., & Xie, H. (2022). COVID-19 and financial performance: Pre and post effect of COVID-19 on organization performance; A study based on South Asian economy. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.1055406>
- Rahman, M. M., Saima, F. N., & Jahan, K. (2020). The impact of financial leverage on firm's profitability: an empirical evidence from listed textile firms of Bangladesh. *Asian Journal of Business Environment*, 10(2), 23-31.
- Ramasamy, B., Ong, D., & Yeung, M. C. (2005). Firm size, ownership and performance in the Malaysian palm oil industry. *Asian Academy of Management Journal of Accounting and Finance*, 1, 181-104.
- Ravindran, M. and Kengatharan, L. (2021). Impact of Financial Leverage on Firm Profitability: Evidence from Non-Financial Firms Listed in Colombo Stock Exchange- Sri Lanka, *South Asian Journal of Finance*, 1(1), 80 – 91. <http://doi.org/10.4038/sajf.v1i1.29>
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The impact of the COVID-19 pandemic on firm performance. *Emerging Markets Finance and Trade*, 56(10), 2213-2230. [doi:https://doi.org/10.1080/1540496X.2020.1785863](https://doi.org/10.1080/1540496X.2020.1785863)
- Song, H. J., Yeon, J., & Lee, S. (2021). Impact of the COVID-19 pandemic: Evidence from the U.S. restaurant industry. *International Journal of Hospitality Management*, 92, 102702. [doi:https://doi.org/10.1016/j.ijhm.2020.102702](https://doi.org/10.1016/j.ijhm.2020.102702)
- Susilo, D., Wahyudi, S., & Demi Pangestuti, I. R. (2020). Profitability determinants of manufacturing firms in Indonesia. *International Journal of Economics and Business Administration*, 8(2), 53-64
- Weerathunga, P. R., Xiaofang, C., Samarathunga, W. S., & Jayathilake, P. B. (2020). The relative effect of growth of economy, industry expansion, and firm-specific factors on corporate hotel performance in Sri Lanka. *SAGE Open*, 10(2), 215824402091463. [doi:https://doi.org/10.1177/2158244020914633](https://doi.org/10.1177/2158244020914633)
- Weerathunga, P., & Samarathunga, W. (2020). Are We Ready for An Economic Meltdown? The Impact of COVID19 on Sri Lanka Economy. *SageAdvance*, (Preprint). [doi:https://doi.org/https://doi.org/10.31124/advance.12230765.v1](https://doi.org/https://doi.org/10.31124/advance.12230765.v1)
- Wu, X., & Hui, X. (2021). The impact of covid-19 on the dependence of Chinese stock market. *Discrete Dynamics in Nature and Society*. [doi:https://doi.org/10.1155/2021/5588562](https://doi.org/10.1155/2021/5588562)
- Yuen, K. F., Wang, X., Ma, F., & Li, K. X. (2020). The psychological causes of panic buying following a health crisis. *International Journal of Environmental Research and Public Health*, 17(10), 3513.
- Zimon, G., & Tarighi, H. (2021). Effects of the COVID-19 global crisis on the working capital management policy:

Evidence from Poland. Journal of  
Risk Financial Management, 14(4),  
169.  
doi:<https://doi.org/10.3390/jrfm14040169>

Zizi, Y., Oudgou, M., & El Moudden, A.  
(2020). Determinants and predictors  
of smes' financial failure: A logistic  
regression approach. Risks, 8(4),  
107.  
<https://doi.org/10.3390/risks8040107>