



# The Impact Of Corona Virus On Share Prices In All Company Sectors In The Indonesia Stock Exchange

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## ARTICLE INFO

**Keywords:**  
Covid-19,  
Stock Price,  
nonparametric Manova

## ABSTRACT

The purpose of this study is to analyze the impact of the corona virus on stock prices in all company sectors on the Indonesia Stock Exchange. This study examines whether there are differences in stock prices before and after Covid-19 was announced in Indonesia. The data consists of stock prices at the end of January 2020 (30 days before the announcement of covid-19) and stock prices at the end of March 2020 (30 days after the announcement of covid-19) for all company sectors on the IDX. The method used is descriptive quantitative. The analysis technique in this study consists of descriptive statistics and hypothesis testing using the nonparametric MANOVA method on the STATCAL software. The results showed that there was a significant difference in stock prices before and after the announcement of the first case of covid-19 in Indonesia, indicated by a significant value per company sector in all sectors  $<0.05$ . The value of the permutation test p-value is 0.01, i.e.  $<0.05$  significance level, it can be concluded that overall, there is a significant difference in stock prices 30 days before and after the announcement of COVID-19, based on 9 company sectors and all company sectors.

**Keywords:** covid-19, Stock Price, nonparametric MANOVA

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## 1. Introduction

The corona virus, also known as Covid-19, was identified for the first time on December 8, 2019 in Wuhan, China. The spread of this virus is very fast, so in a short time this virus can spread throughout the world, including in Indonesia (Wicaksono & Adyaksana, 2020). This phenomenon not only has a severe impact on economies around the world, but on all societies as well as is affected, which has led to dramatic changes in business methods and consumer behavior (Donthu & Gustafsson, 2020).

The spread of the very dangerous corona virus has attacked the human respiratory system which can result in loss of life. So quickly spread from human to human throughout the world, including Indonesia. On March 2, 2020, it was announced to all Indonesian people that the Corona virus had spread to the State of Indonesia. The preventive measure taken by the Indonesian government so that the spread of the corona virus does not spread too quickly is physical distancing by staying at home and doing WFH. The spread of the corona virus has an impact on the Indonesian economy. Indonesia has imposed restrictions on going out of the house, so that many certain economic sectors have been negatively affected by the virus. There are also several companies that have laid off. (Nurmasari, 2020).

Companies listed on the Indonesia Stock Exchange (IDX) are divided into nine industrial sectors by the Jakarta Industrial Classification (Manurung & Subekti, 2021). All sectors experienced a decline, the global economy was also affected by COVID-19 (Muliati, 2020). The impact of the Covid-19 pandemic not only has an impact on public health, but also affects the Indonesian economy, such as Islamic financial institutions in the sharia modular market, namely the Composite Stock Price Index and the weakening of the rupiah exchange rate. The pandemic has proven to be difficult for the world economy, including Indonesia (Alfira, Fasa, & Suharto, 2021).

To keep market conditions from continuing to decline, OJK and IDX issued several policies, such as reducing 1.5 hours of stock trading from normal trading hours that have been in effect since March 30, 2020, OJK also gave the Issuer the freedom to buy back shares without asking for prior approval in the process. GMS, Implemented a policy of pausing trading for 30 minutes in the event of a 5% decrease in intraday trading. (Putri, 2020)

Economic conditions, regulatory changes and trends in one stock sector can affect the fluctuations in the price of all the individual stocks in it. In this section, a description of the total number of companies listed on the Indonesia Stock Exchange from 9 corporate sectors is explained, as many as 691 companies. The following is the distribution of companies by company subsector :

The data shows that the largest number of companies in the trade, service and investment sectors is 172 companies, while the smallest number of companies is the agriculture sector as many as 22 companies. The specific purpose of this study is to find out how the impact of the corona virus on stock prices before and after the announcement of the Corona Virus in all corporate sectors on the IDX. How does the impact of the coronavirus on stock prices compare between one company sector and another.

Research results (Anggraini, 2021), there is a significant difference in stock returns before and after the announcement of the entry of the Covid-19 Virus in Indonesia on March 2, 2020. Changes that occur in one of the macroeconomic variables also have a different impact on stock prices. A stock can be positively impacted while other shares can be negatively affected (Muklis, 2016) (Nasib, 2019).

## 2. Literature Review and Submission of Hypotheses

The stock market price is the unit price of shares during the market. Stock prices are very vulnerable to change which encourages investors to be more observant of the shares to be bought. Information about stock prices is very valuable information and is needed for investors as a basis for making investment decisions (Indarti & Purba, 2011). The stock price owned by the company is one indicator in achieving the company's success (Takarini & Hendrarini, 2011). Companies with high stock prices can certainly have good business sustainability. The changes in the value of stock prices in a country are caused by micro factors and macroeconomic factors. The current Covid-19 pandemic has almost suppressed all micro and macroeconomic sectors, where market movements have become very sluggish as a result of government regulations that prohibit people from doing activities outside their homes. The pressure of micro and macro conditions that occur continuously will slowly affect the company's share price in the capital market (Siswantoro, 2020).

The researcher's hypothesis is to test whether there is a significant difference in stock prices before and after the first case of the corona virus was announced in each company sector on the IDX and all company sectors. Stock prices after the corona virus tend to decrease drastically when compared to before the corona virus.

## 3. Research Methods

This type of research is a comparative study because the study was conducted by comparing the stock prices of companies traded before and after the first case of the corona virus was announced. The population in this study are all companies listed on the Indonesia Stock Exchange with a total of 691 companies. The sample in this study was determined using purposive sampling technique. Non-Probability Sampling is a sampling technique that does not provide equal opportunities or opportunities for each element or member of the population to be selected as a sample. This sampling technique includes, systematic sampling, quota, accidental, purposive, saturated, snowball. In this study the sampling technique used is non-probability sampling with purposive sampling technique. The data used in this study are secondary data obtained through the website [www.idx.com](http://www.idx.com). The data consists of stock prices at the end of January 2020 (30 days before the announcement of covid-19) and stock prices at the end of March 2020 (30 days after the announcement of covid-19) for all companies on the IDX. The method used is descriptive quantitative. The analysis technique in this study consists of descriptive statistics and hypothesis testing.

Descriptive analysis technique where to look for the mean or average value of the data, the maximum value of the data, the minimum value of the data and the standard deviation can be met through descriptive statistical analysis techniques (Gio & Caraka, 2021).

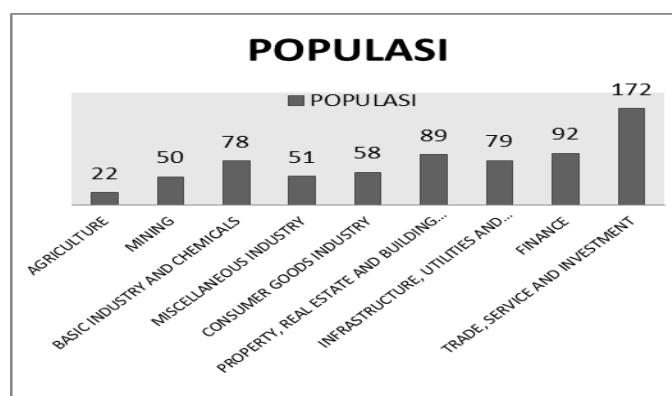


Figure 1: Number of Companies per Company Sector

Table 1 Population and Sample Data

NO SEKTOR	SEKTOR NAME	POPULATION	TS	SAMPLE
1	AGRICULTURE	22	1	21
2	MINING	50	1	49
3	BASIC INDUSTRY AND CHEMICALS	78	1	77
4	MISCELLANEOUS INDUSTRY	51	0	51
5	CONSUMER GOODS INDUSTRY	58	2	56
6	PROPERTY, REAL ESTATE AND BUILDING CONSTRUCTION	89	4	85
7	INFRASTRUCTURE, UTILITIES AND TRANSPORTATION	79	2	77
8	FINANCE	92	0	92
9	TRADE, SERVICE AND INVESTMENT	172	2	170
		691	13	678

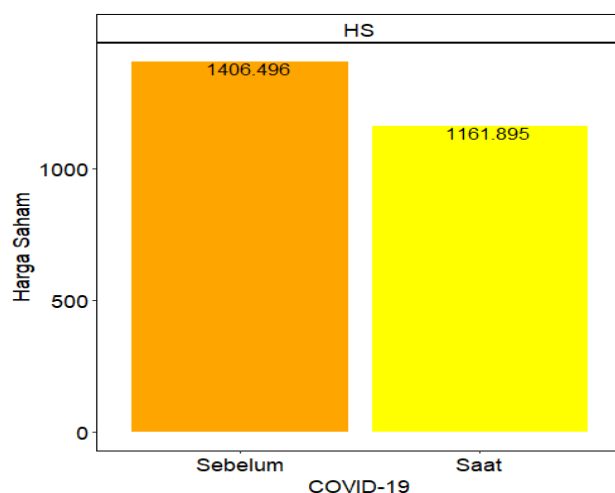
This research method is a comparative study because the research was conducted by comparing the prices of shares traded in companies before and after the first case of Covid-19 was announced. The nonparametric multivariate analysis of variance (nonparametric MANOVA) method was used to test whether there was a significant difference in stock prices before and after the first case of Covid-19 was announced. (Ellis, Burchett, Harrar, & Bathke, 2017).

*STATCAL software is used in this study because the nonparametric MANOVA method is available in the STATCAL software (Gio & Caraka, 2021). MANOVA nonparametric method in STATCAL software using R nrmv . package (Ellis et al., 2017). The nonparametric MANOVA does not use the assumption of multivariate normality. Wilcoxon's nonparametric method was used to test whether there was a significant difference in stock prices before and after Covid-19 was announced.*

#### 4. Result and Discussion

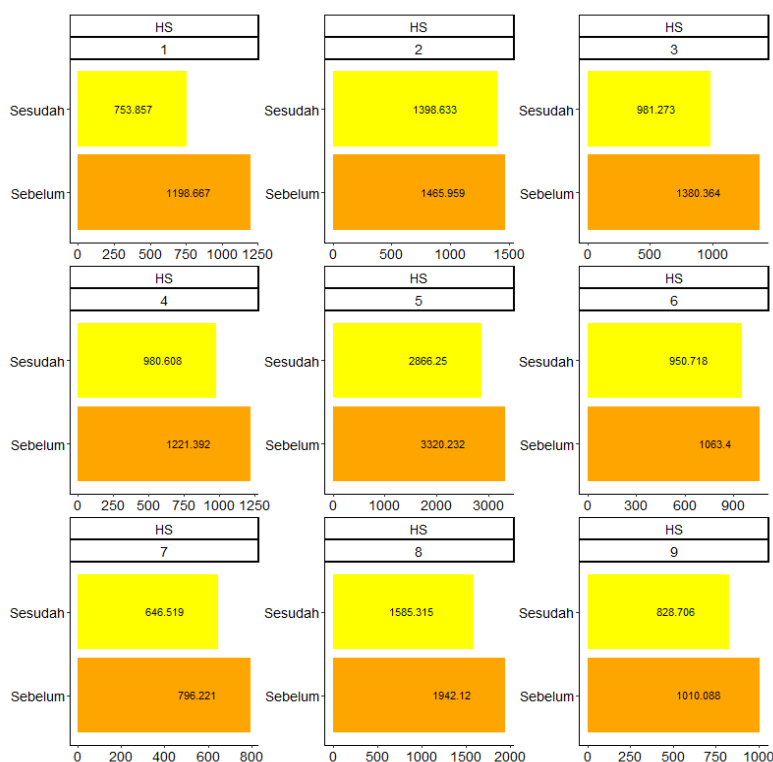
##### Descriptive Analysis

In this section, the stock price situation before and during COVID-19 will be explained based on 9 company sectors. Figure 1 shows the average value of stock prices, using stock price data for 9 company sectors, before and after Covid-19 was announced.



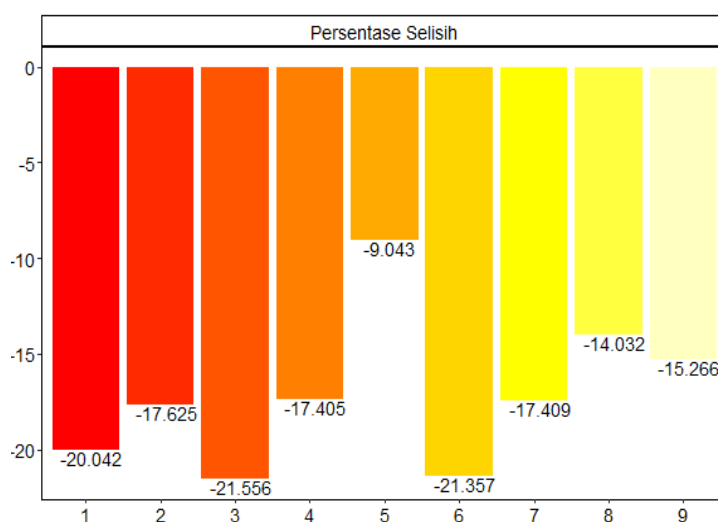
**Figure 3: Differences in Stock Prices of All Sectors Before and After Covid-19 was announced.**

In Figure 3, it can be seen that on average there was a decline in stock prices before and after Covid-19 was announced.



**Figure 4: The difference in the average share price per sector before and after the Covid-19 announcement.**

In Figure 4 Average Stock Prices Based on 9 Company Sectors Before and After Covid-19 was announced.



**Figure 5: Average Percentage of Share Price Difference per Sector Before and After Covid-19 was announced.**

Figure 5 Percentage of Average Stock Price Difference before and after the announcement of Covid-19 based on 9 Company Sectors.

Based on Figures 3 and 4, it can be seen that before and after Covid-19 was announced, on average there was a decline in stock prices from 9 company sectors. In Figure 5, it can be seen that companies in the 3rd place in the Basic Industry And Chemicals sector were most severely affected by a decline in stock prices of -21.556%, while companies in the 5th position in the Consumer Goods Industry sector which were the most lightly affected experienced a share price decline of -9.043%.

**Hypothesis Testing**

**Wilcoxon Test: Effect of COVID-19 Announcements on Stock Prices based on 9 Company Sectors.**

Furthermore, it will be tested whether there is a significant difference in stock prices before and after Covid-19 is announced, based on 9 company sectors. The Wilcoxon nonparametric method was used to test whether there was a significant difference in stock prices before and after Covid-19 was announced based on 9 company sectors.

**Table 2 Wilcoxon Test: Significance Test of Stock Price Differences before and after Covid-19 was announced based on 9 company sectors**

Comparison	P-Value of Wilcoxon Test
1: Before vs After	0.00418
2: Before vs After	0.00000
3: Before vs After	0.00000
4: Before vs After	0.00000
5: Before vs After	0.00015
6: Before vs After	0.00000
7: Before vs After	0.00000
8: Before vs After	0.00000
9: Before vs After	0.00000

Based on the results of the Wilcoxon test in Table 2, all probability values are <0.05, which means that there is a significant difference in stock prices, 30 days before and after the announcement of COVID-19, for each sector.

### Nonparametric Multivariate Analysis of Variance: Effect of COVID-19 on Stock Prices based on 9 Company Sectors

Furthermore, it will be tested whether there is a significant difference in stock prices before and after COVID-19 was announced, based on 9 company sectors. The nonparametric multivariate analysis of variance (nonparametric MANOVA) method was used to test whether there was a significant difference in stock prices 30 days before and after the COVID-19 announcement, based on 9 company sectors.

STATCAL software is used in this study because the nonparametric MANOVA method is available in the STATCAL software (Gio & Caraka, 2021). MANOVA nonparametric method in STATCAL software using R `npmv` package (Ellis et al., 2017).

The nonparametric MANOVA does not use the assumption of multivariate normality. Table 1 presents the results of nonparametric MANOVA.

**Table 3 Nonparametric MANOVA: Effect of COVID-19 on Share Prices by 9 Company Sectors**

	Test Statistic	df1	df2	P-value	Permutation Test p-value
ANOVA type test p-value	2.914	15.59 7	1949.35 3	0	0.01

Based on the nonparametric MANOVA results in Table 3, it is known that the permutation test p-value is 0.01, i.e.  $< 0.05$  level of significance, it can be concluded that overall, there is a significant difference in stock prices 30 days before and after the announcement of COVID-19, based on 9 corporate sectors. In other words, COVID-19 has a significant effect on stock prices based on 9 company sectors.

### 5. Conclusion

The impact of the corona virus on stock prices before and after Covid-19 was announced in each company sector, was significantly very influential as seen from the results of the Wilcoxon Test test all probability values  $< 0.05$ , which means there is a significant difference in stock prices, 30 days before and after COVID-19 announcement.

The impact of the corona virus on stock prices before and after Covid-19 was announced in all company sectors was significantly and very influential, as seen from the results of the Nonparametric MANOVA test the value of the permutation test p-value was 0.01, i.e.  $< 0.05$  significance level.

It was found that companies in the 3rd place in the Basic Industry And Chemicals sector were most severely affected by the decline in stock prices that before and after Covid-19 was announced by -21.556%.

It was found that companies in the 5th position in the Consumer Goods Industry sector were the least affected by a decline in stock prices of -9.043%.

There is further research related to researching companies that are stable and not too affected by the impact of the corona virus, from the results it can be seen that the 5th sector of the Consumer Goods Industry sector was the most lightly affected by a decline in stock prices.

### Acknowledgments

The authors thank the member authors. In addition, the authors would like to express special thanks to the Director of Research and Community Service (DRPM) who has provided research funding support through the novice lecturer research grant program.

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