

# The COVID–19's Impact on Stock Prices of Healthcare Sector Firms in Indonesia

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**Abstract:-** The COVID-19 pandemic is emergency event that has shaken the capital markets in the world which is an unexpected and unprecedented event. Stock price indices on stock exchanges in various countries experienced. The purpose of this study is to analyze the impact of the COVID-19 pandemic on the performance of the stock prices of the healthcare sector firms. During the COVID-19 pandemic, the health sector is a sector is believed to be one of the very few sectors to benefit from this pandemic. By employing the test of difference, the result of this study shows that the stock prices of the healthcare sector firms increase after the pandemic. Based on this result, this study documents a positive impact of the COVID-19 pandemic on the healthcare sector firms. This study is expected to provide a better understanding for investors and the government regarding capital market behavior and the economic impact of COVID-19 events so that appropriate investment and policy decisions can be made in order to achieve good economic growth.

**Keywords:-** Stock Price, Healthcare Sector, Covid-19 Pandemic.

## I. INTRODUCTION

The outbreak of coronavirus disease 2019 (COVID-19) is one of the emergency events that has as a tremendous impact on global stock markets (Yarovaya, Matkovskyy, & Jalan, 2022). Various exchanges around the world experienced unprecedented decline in their stock performances. The global stock market reported the biggest one-week loss on February 24-28 and the US S&P Index also lost around US\$5 trillion in the same week (Štifanić, et al., 2020; Ozili & Arun, 2023). Various indices on the IDX have also recorded declines since the initial announcement of the COVID-19 case and reached their lowest point at the end of March 2020 (Purnaningrun & Ariyanti, 2020).

This decline in stock performance has then become the focus of several studies to obtain empirical evidence of the economic impact of COVID-19. Previous studies analyzing stock performance during the COVID-19 pandemic in various countries, generally conclude that capital markets tend to react

negatively to the COVID-19 pandemic event (Asraf, 2020; He, et al., 2020; Zulfitriah, 2020). However, not all countries experience the same impact and each stock market may react differently (Capelle-Blancard & Desroziere, 2020). Prior studies also suggested that the impact of the COVID-19 pandemic on stock performance does not apply uniformly to all industrial sectors, where there are industrial sectors that are adversely affected, but there are industrial sectors that actually benefit from the COVID-19 pandemic (He, et al., 2020; Ellili, 2021). The healthcare sector is believed to be one of the few sectors that can benefit from the pandemic (Phuong, 2021).

This study will analyze the impact of the COVID-19 pandemic on health sector stocks on the Indonesia stock exchange. This is important to do because previous studies have concluded that the effects of the COVID-19 pandemic event can be different depending on the phase in which the pandemic occurs (Phan & Narayan, 2020). This research is expected to help investors and also the government to better understand capital market behaviour so that they can make the right investment and policy decisions in order to achieve good economic growth.

## II. LITERATURE REVIEW

Research surrounding the impact of the COVID-19 pandemic generally shows that capital markets react negatively to the pandemic with falling prices of various companies on various exchanges in the world. The results of previous studies concluded that there was a decrease in the rate of return on the stock index with each increase in the number of confirmed positive cases of COVID-19 on various stock exchanges in 64 countries (Asraf, 2020). The Philippine stock market index was also negatively affected by the daily infection rate of COVID-19 (Camba &Camba, 2020).

Other studies have also shown that 21 stock market indices around the world, including Japan, Germany, France and Korea experienced negative and significant effects from confirmed cases of COVID-19 (Liu, et al., 2020). Furthermore, on 13 days in the beginning of April 2020, there was a substantially decrease in stock prices on Indonesia Stock Exchange main indices, such as the LQ45 Index,

Finance Index, Manufacture Index, and Consumer Goods Index, when compared to the period in 2019 (Zulfitriah, 2020).

In Indonesia, Covid-19 pandemic creates a severe contraction in the economy in 2020, which affected the investor confidence and capital market performance (Nurchahyo, Hanum dan Sukesti, 2021). Nurchahyo et al (2021) further conclude that the the market returns declined as the number of positive cases and deaths increased and although the growth of recovered cases is encouraging for the capital market, it hasn't helped drive up stock prices or market returns. Additionally, Pratama (2022) suggests that the amount of transactions in Indonesia Stock Exchange fell precipitously, from 35,534,971,048 in 2019 to 27,495,947,445 in 2020. This decline was attributed to investors' wait-and-see mentality, which was fuelled by concerns about the future direction of the market.

Previous studies that specifically investigate the impact of COVID-19 events on various industrial sectors show that the impact of the COVID-19 pandemic on stock performance does apply heterogeneously depending upon the industry and the capital market, where the stock prices are traded. Research on the Abu Dhabi stock exchange examine the impact of the COVID-19 pandemic found that while consumer staples industry stocks actually experience positive reactions, industrial, real estate, energy, finance and investment services, and transportation sector stocks experience negative reactions, while (Ellil, 2021).

Research related to the outbreak of COVID-19 in various countries generally concludes that health sector stock prices respond positively to news of the COVID-19 pandemic (Al-Awadhi et al, 2020; Alam et al., 2021) Pharmaceutical industry stocks in China outperformed market returns (Al-Awadhi et al, 2020). Research in Australia showed positive returns on shares of companies in the health and pharmaceutical industry at the time of the announcement of the COVID-19 outbreak (Alam et al., 2021).

### III. RESEARCH METHOD

This study focuses on all health sector firms listed in Indonesia Stock Exchange in 2020 and 2021. By expanding the sample period to cover both year 2020 and 2021, this allows a more comprehensive comparison of the stock prices of the firm between pre- and post- COVID-19 pandemic events in Indonesia.

The population of this study is all health sector firms listed in Indonesia Stock Exchange. There are 15 healthcare sector firms listed on the main board and 8 healthcare sector firms listed on the development board. To be included in the analysis, the stock prices data from 100 days before 2 March 2020 to 30 days after 2 July 2021. After deducting 6 firms that do not have complete stock prices data, the final sample of this study consists of 17 healthcare sector firms, as illustrated in Table 1.

This study examined five COVID-19 pandemic event dates. Each pandemic event date indicates the phase of the pandemic in Indonesia and the government policy response to

the pandemic. The first pandemic event date (ED1) is 2 March 2020, which is the date of announcement of the first confirmed positive COVID-19 cases in Indonesia. The second event date (ED2) is 10 April 2020, which is the date of the first government intervention to control the spreading of COVID-19 through the imposing of the Large Scale Social Restriction (PSBB I). The imposition of new normal policy on 1 June 2020 is the third even date (ED4). The fourth event date is the launch of first vaccination program on 13 January 2021. Finally, the emergency public activity restriction imposition on 2 July 2021 is the fifth event date (ED5).

TABLE I. FINAL SAMPLE: 17 HEALTHCARE SECTOR FIRMS LISTED IN INDONESIA STOCK EXCHANGE

| No. | Name                                | Code |
|-----|-------------------------------------|------|
| 1   | Darya-Varia Laboratoria Tbk         | DVLA |
| 2.  | Medikaloka Hermina Tbk.             | HEAL |
| 3.  | Indofarma Tbk                       | INAF |
| 4.  | Itama Ranoraya Tbk                  | IRRA |
| 5.  | Kimia Farma Tbk                     | KAEF |
| 6.  | Kalbe Farma Tbk.                    | KLBF |
| 7.  | Merck Tbk.                          | MERK |
| 8.  | Mitra Keluarga Karyasehat Tbk.      | MIKA |
| 9.  | Phapros Tbk.                        | PEHA |
| 10. | Prodia Widyahusada Tbk.             | PRDA |
| 11. | Royal Prima Tbk.                    | PRIM |
| 12. | Pyridam Farma Tbk                   | PYFA |
| 13. | Sarana Meditama Metropolitan Tbk    | SAME |
| 14. | Industri Jamu dan Farmasi Sido Tbk. | SIDO |
| 15. | Siloam International Hospitals Tbk. | SILO |
| 16. | Sejahteraraya Anugrahjaya Tbk.      | SRAJ |
| 17. | Tempo Scan Pacific Tbk.             | TSPC |

To analyze the impact of the COVID-19 pandemics on the stock prices of Healthcare sector firms, this study recorded the closing stock prices of the firms for each of the 30 consecutive trading days before (Pb) and after (Pa) each pandemic event. The day where the event took place is Day 0. In order to examine the impact, the average stock prices of all firms in the sample during 30 days before each pandemic event date (Day 0) were compared to the average stock prices of the firms during the 30-day period after each event date (Day 0). The impact of COVID-19 is captured by the changes of stock prices of prior- and post- event dates. To test the significance level of the stock price differences between the period pre-event date and the period post-event date, due to the non-normality of the dataset distribution, this study employs Wilcoxon signed-rank test.

### IV. RESULTS AND DICUSSION

#### A. Descriptive Statistics

Table 1 provides descriptive statistics of the research variable used as a proxy for stock performance, namely stock price (P) which is the daily closing stock price of Health sector companies listed on the Indonesia Stock Exchange (IDX). In this table, the first column, namely event date, is the date of the COVID-19 pandemic event in Indonesia, which consists of 6 event dates as explained in the previous section. The Before column in this table describes the mean, standard deviation, minimum and maximum values of variable P

before the COVID-19 pandemic event using a 30-day estimation period, while the After column in this table is the mean, standard deviation, minimum and maximum values after the COVID-19 pandemic event in Indonesia using the same estimation period of 30 days.

Based on table 1, in general, the average share price of healthcare sector firms in the period after the event date (Pa) increased when compared to the period before the event (Pb) on the COVID-19 pandemic event date. The mean value in

the table shows that on the five event dates, the mean share price of health sector firms in the 30-day period after each event date tends to increase, from 997,729 on ED1 (the announcement of first confirmed case in Indonesia) to 1087,173 on ED2, which is at the time of implementation of PSBB I. The value of the stock price kept on increasing to 1178,167 at the time of the new normal (ED3), rising to 1779,572 on ED4, and then continuing to increase to 1963.222 on ED5.

TABLE II. DESCRIPTIVE STATISTICS

| Event Dates                                       | Var       | N   | Mean | Std Dev  | Min      | Max     |      |
|---------------------------------------------------|-----------|-----|------|----------|----------|---------|------|
| <b>Panel A. 30 Days Prior Pandemic Event Date</b> |           |     |      |          |          |         |      |
| (ED1)                                             | 02-Mar-20 | Pb1 | 510  | 1172.112 | 971.526  | 104.130 | 4000 |
| (ED2)                                             | 10-Apr-20 | Pb2 | 510  | 997.637  | 811.531  | 86.560  | 3680 |
| (ED3)                                             | 01-Jun-20 | Pb3 | 510  | 1087.326 | 848.941  | 62.480  | 3550 |
| (ED4)                                             | 13-Jan-21 | Pb4 | 510  | 1803.450 | 1379.511 | 124.960 | 6975 |
| (ED5)                                             | 02-Jul-21 | Pb5 | 510  | 1652.028 | 1104.511 | 151.000 | 4550 |
| <b>Panel B. 30 Days Post Pandemic Event Date</b>  |           |     |      |          |          |         |      |
| (ED1)                                             | 02-Mar-20 | Pa1 | 510  | 997.729  | 802.515  | 86.560  | 3600 |
| (ED2)                                             | 10-Apr-20 | Pa2 | 510  | 1087.173 | 848.942  | 62.480  | 3550 |
| (ED3)                                             | 01-Jun-20 | Pa3 | 510  | 1178.167 | 895.860  | 44.910  | 3340 |
| (ED4)                                             | 13-Jan-21 | Pa4 | 510  | 1779.572 | 1279.418 | 149.000 | 6050 |
| (ED5)                                             | 02-Jul-21 | Pa5 | 510  | 1963.222 | 1697.193 | 288.000 | 8750 |

In contrast to the trend shown in the period after the event date, the average share price of the firms in the 30-day period before each event date tends to fluctuate. the mean stock price in the 30-day period before March 2, 2020, which is the date of the announcement of the first confirmed case of COVID-19 in Indonesia (ED1), amounting to 1172,112. This number decreased to 997,637 on ED2, then increased to 1087,326 and 1803,450 on ED3 and ED4 consecutively and finally decreased to 1652,028 on ED5.

*B. The Impact of COVID-19 on the Stock Prices of Healthcare Sector Firms*

Table 3 presents the results the empirical results from Wilcoxon Signed Rank Test. The results of the study presented on Table 3 are the comparison of the stock prices between the 30-day period before the event date and 30-day after the event date.

The results of Table 3 suggest thar namely:

- On ED1, the event of the first case announcement is confirmed positive COVID-19, there are 440 observations in the 30-day period after March 2, 2020 whose stock prices are smaller than (negative ranks) compared to the stock price in the 30-day period before, there are 67 observations in the 30-day period after which the stock price is greater than (positive ranks) the stock price in the 30-day period before and there are 3 observations in the 30-day period after which the stock price is the same as (ties) the stock price in the 30-day period before the event date, namely the first case announcement is confirmed positive COVID-19 with a significance level at the 1% level;
- During The implementation of PSBB I (ED2), the test of difference using Wilcoxon Signed Ranked Test between

the period before and after April 10 2020 shows that there are 291 observations in the 30-day period after which the share price is greater than (positive ranks) the share price in the 30-day period before the event date, there are 216 observations in the 30-day period after April 10, 2020 whose share price is less than (negative ranks) the share price before and there are 3 observations whose share prices are the same (ties) when compared between the share prices before and after with a significance level at the 1% level;

- On ED 3, the imposing of new normal policy, there are 190 observations in the 30-day period after June 1, 2020 whose stock price is smaller than (negative ranks) the stock price in the 30-day period before, and there are 305 observations after June 1, 2020 whose stock price is greater than (positive ranks) the stock price in the 30-day period before the event date and there are 15 observations in the 30-day period after June 1, 2020 whose stock price is equal to (ties) the stock price in the 30-day period before with a significance level at the 1% level;
- During the launch of first vaccination program (ED4), the result is insignificant.
- On the implementation of the emergency public activity restriction (ED5), there are 141 observations in the 30-day period after July 2, 2021 whose stock price is less than (negative ranks) the stock price in the 30-day period (5 days) before, there are 364 observations after July 2, 2021 whose stock price is greater than (positive ranks) the stock price in the 30-day period before and and there are 5 observations in the 30-day period after whose stock price is equal to (ties) the stock price in the 30-day period before with a significance level at the 1% level.

TABLE III. RESULTS OF WILCOXON SIGNED RANKED TEST ON STOCK PRICES OF HEALTHCARE SECTOR FIRMS PRE- VERSUS POST THE COVID-19 PANDEMIC EVENTS

| Event Date | Pair      | Ranks          | N                | Mean Rank | Sum of Ranks | Z                       |
|------------|-----------|----------------|------------------|-----------|--------------|-------------------------|
| ED1        | Pa1 – Pb1 | Negative ranks | 440 <sup>a</sup> | 258.52    | 113747       | -14.95 <sup>e****</sup> |
|            |           | Positive Ranks | 67 <sup>b</sup>  | 224.34    | 15031        |                         |
|            |           | Ties           | 3 <sup>c</sup>   |           |              |                         |
|            |           | Total          | 600              |           |              |                         |
| ED2        | Pa2 – Pb2 | Negative ranks | 216 <sup>a</sup> | 190.92    | 41239.5      | -7.01 <sup>d****</sup>  |
|            |           | Positive Ranks | 291 <sup>b</sup> | 300.82    | 87538.5      |                         |
|            |           | Ties           | 3 <sup>c</sup>   |           |              |                         |
|            |           | Total          | 510              |           |              |                         |
| ED3        | Pa3 – Pb3 | Negative ranks | 190 <sup>a</sup> | 178.95    | 34001        | -8.59 <sup>d****</sup>  |
|            |           | Positive Ranks | 305 <sup>b</sup> | 291.01    | 88759        |                         |
|            |           | Ties           | 15 <sup>c</sup>  |           |              |                         |
|            |           | Total          | 510              |           |              |                         |
| ED4        | Pa4 – Pb4 | Negative ranks | 276 <sup>a</sup> | 251.34    | 69369.5      | -1.67 <sup>e</sup>      |
|            |           | Positive Ranks | 229 <sup>b</sup> | 255.00    | 58395.5      |                         |
|            |           | Ties           | 5 <sup>c</sup>   |           |              |                         |
|            |           | Total          | 510              |           |              |                         |
| ED5        | Pa5 – Pb5 | Negative ranks | 141 <sup>a</sup> | 181.02    | 25524        | -11.69 <sup>d****</sup> |
|            |           | Positive Ranks | 364 <sup>b</sup> | 280.88    | 102241       |                         |
|            |           | Ties           | 5 <sup>c</sup>   |           |              |                         |
|            |           | Total          | 510              |           |              |                         |

The empirical results in Table 3 show that the stock performance of health sector companies, proxied by stock prices, generally increased during each COVID-19 pandemic event. These results confirm the claim that the Health sector is one of the few sectors that can benefit from the pandemic (Phuong, 2021). With empirical evidence that there is an increase in stock prices on several pandemic event dates in Indonesia, the results of this study support previous research which concludes that in general stock prices react positively to announcements related to the COVID-19 pandemic (Al-Awadhi et al., 2020; Alam et al., 2020; Mittal & Sharma, 2021).

## V. CONCLUSION AND RECOMMENDATION

Based the results of this research, it can be concluded that there are differences in the stock price performances of healthcare sector firms between the period before and after the COVID-19 pandemic event dates:

- There is a decrease in stock prices in the period after the announcement of the first confirmed positive case of COVID-19 on March 2, 2020
- There is an increase in stock prices in the period after the announcement of the implementation of PSBB I on April 10, 2020
- There is an increase in stock price during the implementation of the new normal on June 1, 2020
- There is an increase in stock price during the implementation of emergency PPKM on July 2, 2021

Based on these results, it is then suggested:

- As the policy maker, the government should be careful in formulating the policy on COVID-19 pandemic due to the effect of the policy on the stock price

- In making investment decisions, investors are expected not to overreact to information before analyzing in more detail the impact of the COVID-19 pandemic event. In addition, investors need to consider external factors that are not directly related to the economic environment of the capital market to get optimal returns.

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