



Good news on public restriction and stock prices in Indonesia

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Abstract: This paper aims to investigate the impact that the news has on the public's ability to restrict stock prices on the Indonesia Stock Market. There are a total of 18,824 firm-day observations derived from 724 different firms that are listed, and that are observed 25 trading days. In order to validate the data, panel data regression was utilized, and additional regression on each industry was carried out. According to the findings of this paper, the number of specimens that were announced today does, in fact, affect the closed price on the following day. There is a correlation between the total number of cases recovered and stock prices. From an empirical standpoint, even a higher recovered case was unable to provide assurance that the following day's stock prices would remain stable.

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Introduction

The year of 2020 has brought many changes in daily activities and push us to adapt to the uncertain situation. Several studies mention the effect of pandemic situation to stock return (Al-Awadhi *et al.*, 2020; Ashraf, 2020), stock prices (Wei *et al.*, 2021), and domestic credit (Appiah-Otoo, 2020). To sustain the unpredictable number of cases day by day, there are restrictions and lockdowns take place and proven to be effective (Alfano & Ercolano, 2020). Massive unemployment (Ozili & Arun, 2020) can't be denied, sustainability growth is slower than expected (Hosseini, 2020).

There are some current research focuses on the pandemic effect to stock market in Indonesia. Some results shown that there is a decrease in daily transaction (Haryanto & Mawardi, 2021) in March and April of 2020 after the first announcement of covid case existence in Indonesia. The study (Mujib & Candraningrat, 2021) shown

that there is no irregular return on companies which are already listed in LQ45 with in five days after the official statement. And yet, since the first announcement of the case in 2020, government have tried to restrict meetings, work and school in the hope to reduce the spread of the virus to grow the economic. Public restriction is one of the best ways to contain the virus (Alfano & Ercolano, 2020) aside from wearing mask and social distancing. In Indonesia, there was a prolonged ban on public gatherings from June to July of 2020. It has a beneficial effect on Wuhan's lockdown and aids the government in reducing the strain of hospitals operating at full capacity (Lau *et al.*, 2020). Saturated with the public restriction, the year 2021 were expected to be better than 2020, and yet Covid-19 has a new variation that calls for increased awareness among citizens. Prior to being found in Indonesia in the early months of June 2021, the new delta-variant struck a number of other nations. Confirmed cases have increased daily by a factor of two, three, or more to the point where they are out of control due to the new strain that propagated more quickly than its predecessor. This has created a chaotic and busy environment not only in the hospital but also in the cemetery. Control of this scenario is necessary. Beginning on July 3 and lasting through July 20, 2021, the government has urgently imposed public restrictions on a popular Indonesian island. Employees must work remotely, students are expected to learn from home, at least fifty percent of employees in major industries should be available, shopping malls should really close, as well as restaurants should only ever accept dine-in customers as customers. The purpose of this paper is to investigate the impact that a latest public restriction caused by a new variant of covid had, specifically the impact that daily specimen testing, daily recovered cases, and daily additional deaths had on the Indonesian stock market. Figure 1 shown a summary of the announcements regarding the restrictions and the extensions of the announcements used in this study:

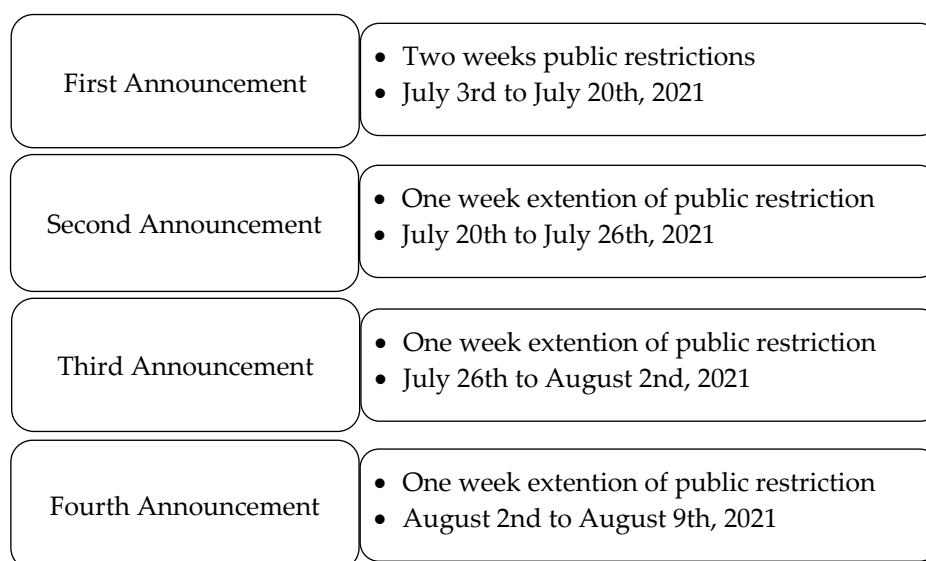


Fig. 1. Public Restrictions 2021 in Indonesia due to new delta variant spread

This study focuses on how announcements made during public limitations between July 3 and August 9 2021 affected Indonesian stock prices. There are numerous statistics released every day in the case of public limits. Li *et al.* (2020) mention that sentiments on news could predict what is going to happen in the stock market. Malandri *et al.* (2018) use a unique method to predict public moods to portfolio allocation.

My previous research study the bad news which proxied by: daily additional case announced (1), daily additional death announced (2) and positive rate percentage of case confirmed as positive (3). The result shown that bad news announced on the public activity restriction does drop the stock prices in the following day of the announcement. For further study, in this paper, I study the good news which are measured by: the daily specimen tested (1) and daily recovered case (2) statistics. In this investigation, panel data were used.

This study adds to the body of knowledge on how the COVID-19 pandemic crisis affects financial markets, particularly stock prices in Indonesia during the period of public disclosure restrictions. Following is how the paper continues. The data and procedures used to process the data are described in Section 2. The empirical findings and robustness testing are described in Section 3. Conclusions and the results' economic significance are provided in Section 4.

Methods

This study utilized data from companies listed on the Indonesia Stock Exchange between July 5 and August 9, 2021. Even though the restrictions began on July 3, the data was collected on the first market-opening business days. I eliminate additional listing firms during the sample date; the companies must be listed prior to July 3, 2021, and have close prices beginning July 5, 2021, resulting in 724 distinct firms. From July 5, 2021, to August 9, 2021, announcement data during public limitations were acquired from kawalcovid19's Instagram report. I use multiple proxies to measure announcement during public activity limitation. First proxy is the sample tested everyday. The second proximal measure is the daily recovered. Prices of stocks were retrieved from the website of the Indonesia Stock Exchange (IDX) over the course of a period of 25 days, beginning on July 5th, 2021 and ending on August 9th, 2021, for a total of 18,824 observations covering firm days.

Table 1. Variables Definition

| Variable | Definition |
|----------|--|
| ClosedP | Adjusted closing price $t+1$ |
| DST | Daily specimen tested announced at time t |
| DAR | Daily additional recovered announced at time t |

Source: Data processed by author

This study utilized panel data in accordance with (Baltagi, 2008) and (Hsiao & Yan, 2014) in order to lessen the effects of bias and multicollinearity, compensate in terms of individual variability, as well as the connection between independent as well as dependent variables. The following model is what I use to come up with my estimates of stock prices.:

$$\text{ClosedPi}_{i,t} = \beta_0 + \beta_1 \text{DST}(t-1) + \varphi t + \omega_j + \varepsilon \quad (1)$$

where the price is denoted by ClosedP at market close at time t. DAC is a daily additional case that is announced by the Ministry of Health and displayed on kawalkovid19's Instagram at t-1. For the purpose of controlling unobserved aspects of the company, I make use of date dummies(φ) in conjunction with a fixed effect model in order to account for the factors that influence all companies on the same day, and I use industry classification from IDX following (Fama & French, 1997) to control the industry fixed effect (ω_j) to capture all firms in the same industry. Every variable is winsorized between 1% and 99%.

$$\text{ClosedPi}_{i,t} = \beta_0 + \beta_1 \text{DAR}(t-1) + \varphi t + \omega_j + \varepsilon \quad (2)$$

where the price is denoted by ClosedP at which the market closed at time t. DAD stands for daily additional deaths, which are reported by the Ministry of Health and published on Instagram by kawalkovid19 at the specified hour. I make use of date dummies(φt) in conjunction with a fixed effect model in order to account for the factors that influence all companies on the same day. I then use the industry classification from IDX in accordance with Fama and French (1997) to control the industry fixed effect (ω_j), which captures all firms that belong to the same industry. This allows me to control unobserved factors that are associated with a firm. Every variable has its own 1% and 99% confidence intervals.

Results

Table 2 provides a summary of the statistical data gathered from 18,824 firm-day observations carried out during public restrictions. During the 25 days of observation that took place around July 5th and August 9th, the highest number of reported cases was 2,069 deaths, while the smallest total of daily death announcements was 555. During the course of 25 days of observation, the typical number of cases recovered is 31,523.

Table 2. Summary Statistics

| Variables | N | Mean | Std.Dev | Min | Max |
|-----------|--------|----------|-----------|---------|---------|
| ClosedP | 18,824 | 1,509.87 | 3,980.68 | 50 | 59,000 |
| DST | 18,824 | 199,433 | 50,331.61 | 110,115 | 294,470 |
| DAR | 18,824 | 31,521 | 10,908.16 | 13,127 | 48,508 |

Source: Stata was used by the author to process the data

The results of the panel regression are displayed in table 3. There are four different models being shown in each panel, each demonstrating a different fixed effect being used. The first model doesn't at all make use of any fixed effects. The date effect was implemented in Model 2. The industry effect was applied to Model 3. The fourth model taken into account both the date and the industry effect.

Table 3. Panel Regression

Panel A. Daily Specimen Tested

| | (1) | (2) | (3) | (4) |
|-----------------|------------------------|-------------------|----------------------|-------------------|
| Constanta | 19943.2*** (508.29) | 12083 (0.0001) | 19942*** (163.93) | 12083 (0.0001) |
| Closed Price | -0.0011 (-0.01) | 5.9315 (0.01) | 0.0077 (0.00) | -3.7715 (0.00) |
| Date Effect | No | Yes | No | Yes |
| Industry Effect | No | No | Yes | Yes |
| <i>N</i> | 18824 | 18823 | 11258 | 11258 |

t-statistics enclosed within parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Panel B. Daily Additional Recoverd

| | (1) | (2) | (3) | (4) |
|-----------------|-----------------------|-------------------|---------------------|---------------------|
| Constanta | 3152.2*** (370.70) | 13127 (0.0001) | 3151*** (119.55) | 13127.0 (0.0001) |
| Closed Price | -0.0009 (-0.05) | 1.37915 (.) | 0.0011 (0.05) | -8.9616 (0.01) |
| Date Effect | No | Yes | No | Yes |
| Industry Effect | No | No | Yes | Yes |
| <i>N</i> | 18824 | 18823 | 11258 | 11258 |

t-statistics enclosed within parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Panel A demonstrated that additional daily specimen testing during periods of public restriction resulted in significantly lower the stock prices in Indonesia on the next day, this could be the specimen tested are expected to be higher than what have been tested. The results of Panel B indicate that the daily additional recovered amount has a negative relation with both the date fixed effect and the industry fixed effect., empirically this shown that the more recovery announcement drops the stock prices during public restriction. Investors are expecting better news than recovery.

Further regression in Table 4, during the observation period of 25 days ranging from July 5th to August 9th, 2021, shown the effect of the official statement on public restrictions will be evaluated for each industry. The outcome demonstrates that DST,

and DAR do, in fact, actually impact each industry in their respective announcements. The daily announcement of additional cases has a negative impact on stock prices across almost all sectors.

Table 4. The effect of daily specimen tested and daily additional recovered to stock prices by industries

| | N | (1) DST | (2) DAR |
|---------------------------|------|--------------------|--------------------|
| <i>ClosedP</i> | | | |
| Energy | 1742 | -0.01 38.3*** | 0.06 82.8*** |
| Basic Materials | 2288 | 0.01 38.7*** | -0.06 87.0*** |
| Industrials | 1326 | -0.06 34.7*** | 0.05 85.4*** |
| Consumer Non-Cyclicals | 2288 | 0.0017 30.6*** | -0.0008 87.8*** |
| Consumer Cyclicals | 3224 | -0.0143 34.8*** | 0.00179 84.8*** |
| Healthcare | 546 | 0.0237 33.7*** | -0.0012 91.0*** |
| Financial | 2730 | -0.0051 33.6*** | 0.0004 85.3*** |
| Infrastructure | 1456 | -0.0081 32.3*** | -0.0012 87.4*** |
| Properties & Real Estate | 2054 | -0.0018 35.6*** | 0.0001 86.1*** |
| Technology | 494 | -0.0006 39.8*** | -0.0001 86.2*** |
| Transportation & Logistic | 676 | -0.184 38.6*** | 0.0091 12.9*** |

Discussion

This study tried to find out whether the news that was published on the public restriction timeline would empirically affect stock prices changes in Indonesia Stock Market. Only four period of public restriction was analyzed, further research could compare on the wider timeline. Good news often times increase stock prices (Zainuri *et al.*, 2021). Bad news often times drop the stock prices (Moradi *et al.*, 2021). This study shown that the number of specimens tested that were announced today does, in fact, have an effect on the price at which the market closed the day after. The total number of cases recovered has a relationship with the price of the stock market as a whole. Even a case with a higher recovered value was unable to provide assurance

that the following day's stock prices would remain stable, based on the findings of an empirical study. This study contributes to the literature review that good news doesn't always level up the stock prices. This result was based on the four period of public restriction, the result could be different when we expand the restriction date and look into deeper sentiment from the public and investor.

Conclusion

After conducting research on the fluctuations of stock prices on the Indonesia Stock Market during the announcement that the public restriction was going, which included the announcement of daily additional specimens tested, daily additional recovered cases, and daily additional deaths that showed a steady increase from one day to the next, I discovered that even positive news, such as the announcement of daily recovered cases, caused a drop in stock prices the following trading day. This demonstrates that news does in fact cause a reaction in the market. To provide conclusive evidence of the current result, additional research covering a longer time period is required.

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