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The Impacts of the COVID-19 Pandemic on the Movement of Composite Stock Price Index in Indonesia*

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Abstract

This study aims to determine the impact of the news coverage of the COVID-19 pandemic on the composite stocks' movement (IHSG) in Indonesia. This study used secondary data of daily time series with an observation range of March 2020-June 2020. This study used three main variables, namely, COVID-19 news, the daily price of a composite stock market index (IHSG), and interest rate. This study clarifies pandemic news into two forms to facilitate quantitative analysis, namely, good news and bad news. Both pandemic news conditions, which have been clarified, are then processed into the index and reprocessed along with two other variables using vector autoregressive (VAR). The results showed that the good news have a dominant effect on developing the composite stock price index (IHSG) in Indonesia during the COVID-19 pandemic. Although the good news dominates the composite stock price index (IHSG) movement in Indonesia, the bad news must also be anticipated. By implementing a series of macroeconomic policies that follow the conditions of the composite stock price index (IHSG) movements on the stock exchange floor, the bad news response can decrease the potential for a decline in investor confidence, so that the financial system's macroeconomic stability is maintained.

Keywords: Good News, Bad News, Time Series, VAR, Composite Stock Price Index, COVID-19

JEF Classification Code: E44, F62, G23

1. Introduction

The capital market has an essential role in the economy. Its role in providing access to foreign capital that will enter a country impacts the future investment climate and economic growth. Not only does it serve as a channel for foreign capital, but it also functions as a medium for investors and issuers to invest. Economic growth is often associated with the development of the capital market. This owes to the concept of economic theory, which states that the higher the economic growth, the higher the income owned by each individual in a country. With the increased income, more people will save funds, both in savings and securities. This increase in income ultimately shows that the community is getting more prosperous. Several factors influence investors' interest in investment, including currency exchange rates and market information. Theoretically, the impacts of changes in exchange rates and investment are uncertain. Investors avoid this situation because it pushes them to speculate. Currency value fluctuations will also affect the export and import trade activities of goods and services related to issuers that conduct international trade. The stability of currency values is essential. Suppose the US dollar depreciates the Indonesian

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Rupiah exchange rate. In that case, imported goods will become more expensive, and this will undoubtedly burden companies that need imported goods in their production process. Another impact of this is a decrease in profits and an increase in production costs.

The hypothesis that applies in the capital market is that asset prices must fully reflect all available information in the transaction (Caporale et al., 2016). Data do not entirely drive the basis for transactions in the stock market; indeed, the presence of information will provide new interpretations to investors. Research conducted by Goonatilake and Herath (2007) explain that news can impact investors' decisions in the stock market since they highly rely on this information. Only with precise and accurate information can they predict risks and expected return of the investment made to maximize return. Information in the form of news becomes new information in shocks that can influence the agents' behavior in future economic activity (Caporale et al., 2016). The information needed is limited to economic information and non-economic information that investors can change investment decisions. The information obtained by investors can be either public or private. One of the capital market's public information is the composite stock price index (IHSG), accessed on the Indonesia Stock Exchange (BEI).

Technically, there are two types of information applicable in the stock market: measurable and unmeasurable information (Caporale et al., 2017; Caporale et al., 2018; Dominguez & Panthaki, 2006); Galati & Ho, 2011). Unmeasured information can be said to be news that can affect future price expectations. Various studies have been conducted to describe in detail the relationship between news and stock prices. The study conducted by Caporale et al. (2016) explains that good news and bad news in macroeconomic conditions have an impact on the stock market. The relationship between macroeconomic news and the stock market is also confirmed by Birz and Lott (2011).

On the other hand, research conducted by Suleman (2012) explains that good news and bad news about politics will have an impact on the stock market. Good news, either macro or political news, is closely related to stock market fluctuations. News about the development of the coronavirus or COVID-19 has become the center of attention worldwide. Its spread is so fast that governments worldwide have to take action through working from home (WFH) and lockdowns. This policy has resulted in a slowing down of the economy at both macro and micro levels. The capital market has also been the one that has received the impact. As reported in Bloomberg, the global market fluctuates after the occurrence of the coronavirus or COVID-19. This is due to the decline in equity and bond yield when investors responded to China's manufacturing industry declined. This condition gives a narrow view regarding the impact of news on stock market conditions.

Indonesia is a developing country with an open economy that cannot be separated from world economic problems. The widespread transmission of COVID-19 has infected Indonesia with the virus. It was recorded that in March 2020, there were 790 cases with 58 deaths and 31 recovered. The spread of COVID-19 has affected the Indonesian economy, including the stock market. On March 20, 2020, the IHSG fell to 4,194.94, lower than that at the end of 2019, which was 6,299.54. The decline in Indonesia's IHSG is in line with the spread of COVID-19, worrying the world. COVID-19 affects investors' behavior, especially as related to the lockdown that can affect the world supply chain's real sector. Therefore, it is important to explore this matter deeper. The capital market as an indicator of a country's economic state reflected through the investors' behavior will explain the country's economic state's suitability for the investment climate, especially with the coronavirus' presence in Indonesia.

2. Literature Review

Several studies support research on pandemic news on the stock price index (IHSG) in Indonesia. The COVID-19 pandemic has a negative impact on the economy, and negative profitability and low capital ratio occurred during the pandemic period. These conditions have an opportunity to influence the formation of daily prices of shares on the exchange. Al-Kharusi and Murthy (2020) concluded that upheaval during the pandemic could be a factor in instability. The review of the impact of COVID-19 and the stock market was strengthened by Khan et al. (2020), which stated that all stock market indices react negatively to short-term and long-term news, including COVID-19 news. This indicates that the government's drastic measures taken during the pandemic are known to affect investor confidence. Suleman (2012) examines the impact of COVID-19 news more specifically. His research analyzes the impact of political news on stock market returns and volatility, divided into two categories (good news and bad news). According to this study, this classification similarly clarifies pandemic news into two categories: good news and bad news.

Furthermore, this study followed Suleman (2012), who processed the two categories of news into indexes. Gillam et al. (2002) conducted a similar study in which he found a potential correlation between news and the stock market. Caporale et al. (2017) also found similar research results that there is an influence of news on volatility in the stock market. Galati and Ho (2011) researched the influence of news in the European region's macroeconomic context and supported previous research results that news indeed affects stock market movements. Supporting Galati and Ho (2011), Birz and Lott (2011) showed the results of their research that macroeconomic news affects stock returns. Caporale et al. (2016) present the results of his more specific research where it is known that positive macroeconomic news affects the stock market, especially stock returns. Previous research concluded that macroeconomic news has the potential to affect the stock market. Because of this potential, researchers want to examine more the influence of economic news on the stock market, especially during pandemic times prone to lead to potential recessions in financial markets.

In addition to referring to the concept of economic theory, the conclusion of hypotheses by researchers is also derived from previous research. In theory, the relationship between interest rates and stock market prices is negative. According to investment theory, when interest rates rise, the return on shares will decrease, so that investors will reduce stock purchases and increase sales. Another hypothesis from Goh et al. (2020), which examines the determination of stock market indices using the FFT Curve, shows that interest rates have a positive effect on the capital market. Of course, this is the opposite hypothesis of the theory used by researchers. At this stage, stock market fluctuations will tend to decrease (increase) or lower (higher) or red (green). The news relationship with stock market movements is positive. Caporale et al. (2016) note that good news or macro positives affect stock returns. Caporale et al. (2018) also stated a significant impact of news influence on macroeconomic conditions. Dominguez and Panthaki (2006) also influenced the relationship between macroeconomic shocks and the emergence of this type of news in the media, following the objectives in this study.

3. Research Methods and Material

This research's object is Indonesia, one of the countries infected with COVID-19, recording the highest death rate in Southeast Asia. This condition makes the stock market fluctuate quite sensitively compared to the real economic sector, with evidence of economic growth of –5.32% during times of significant fluctuations in the stock market. The data used in this study is time-series data with a research period from January 1, 2020, to June 30, 2020. The data used as the basis for this research is financial market data related to COVID-19. One example is a sample of COVID-19 pandemic news that affects stock fluctuations in the capital market. Good news and bad news data are processed into index forms to facilitate the calculation and estimation of data. The type of data used is a daily form with a total of 182 observations. Data sources were obtained from Bank Indonesia, Indonesia Stock Exchange, and Bloomberg.

The formation of this model adopted the research by Birz and Lott (2011), Caporale et al. (2016), Gillam et al. (2002), and Suleman (2012), as follows:

$$x_t = f\,(\text{good}_{\text{news}}, \text{bad}_{\text{news}}, \text{news}_{\text{control}}) \tag{1}$$

Equation (1) can be described as follows:

$$x_t = a_1 + a_2\,\text{good}_t^{\text{news}} + a_3\,\text{bad}_t^{\text{news}} - a_4\,\text{var}_{\text{control}\,t} + \mu_t \tag{2}$$

Equation (2) explains that good news and bad news related to COVID-19 can affect the stock market. On the other hand, this study used a control variable, namely, the interest rate. The variable x_t is the share price in Indonesia. Meanwhile, the news variable is formed from the news index.

The use of news index is consistent with research conducted by Birz and Lott (2011), Caporale et al. (2016), Caporale et al. (2017), Caporale et al. (2018), and Suleman (2012). The formulation of index building is described as follows:

$$\text{Bad news index} = \left(\frac{\text{Bad news}}{\text{bad news} + \text{good news}}\right) \times 100 \tag{3}$$

$$\text{Good news index} = \left(\frac{\text{good news}}{\text{bad news} + \text{good news}}\right) \times 100 \tag{4}$$

The formation of the news index is more about forming the proportion of news. The news index's use is due to detailed visibility to see the impact of macroeconomic news in affecting the exchange rate rather than that in the form of a dummy.

Vector Autoregressive (VAR) is an analytical tool first proposed by Sims (1980), which minimizes the theoretical approach in explaining the relationship between variables to describe the occurred economic phenomena (Gujarati, 2009; Luetkepohl, 2011; Ekananda, 2016). VAR variables' simultaneous relationship assumes no exogen and endogen, so variables are considered endogenous (Stock & Watson, 2001; Ekananda, 2016). Thus, VAR analysis tools can minimize the problems in structured modeling only by determining the relationship between variables based on existing phenomena. The VAR modeling formed in the research is described as follows:

$$\begin{bmatrix} y_t \\ x_t \end{bmatrix} = \begin{bmatrix} b_{10} \\ b_{20} \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} \\ \gamma_{21} & \gamma_{22} \end{bmatrix} \begin{bmatrix} y_{t-n} \\ z_{t-n} \end{bmatrix} + \begin{bmatrix} \varepsilon_{yt} \\ \varepsilon_{zt} \end{bmatrix}, \tag{5}$$

two variable assumption

Equation (5) can be simplified as follows:

$$x_t = A_0 + A_1 x_{t-n} + e_t \tag{6}$$

It is the $n \times n$ polynomial matrix in the presence of lag. Thus, the modeling in equation (6) explains that past variables can affect the variable's movement at t.

4. Results and Discussion

4.1. Results

The VAR estimation results in this study indicate that there are significant variables. Based on the VAR estimation results, the good news index was a significant variable compared to other variables. The good news index had a big impact on the movement of the IHSG. By the dominance of good news, the IHSG will move more stably so that the financial system stability is achieved and the economic growth can be projected. Based on the research results, during the COVID-19 pandemic, good news turned out to play a big role in the movement of the IHSG in Indonesia. The more dominant emergence of good news caused investors to move again in the financial markets, which helped the real sector move.

The variables used in the study yield different responses. The impulse response factor from VAR predicts that the composite stock price index (JCI) has a more volatile response compared to other variables. This is because the composite stock price index trend is the number of responses obtained from other variables. In this study, the variables used in the study had different responses. The IHSG has a more volatile response than other variables. This is because the trend in IHSG is the number of responses obtained from the other variables. The interest rate continues to try to increase in a positive trend. It needs to be appreciated that the good news index continues to experience positive progress. In contrast, the case with bad news has decreased to numbers below the horizontal line. This condition shows that during the pandemic, which is the focus of research, bad news that continues to increase every day is suppressed by the response of other variables that come from interest rates.

Central bank policies during the pandemic provide room for the IHSG to fluctuate. By continuing to carry out the monetary expansion, liquidity policy, and mixing policy with macroprudential, the central bank succeeded in controlling volatility from external issues with the interest rate instrument. The central bank's interest rate policy instrument has an impact on controlling financial market conditions. Financial market players, namely, investors, are very sensitive to news and issues. The central bank will give recommendations if investors move into the financial market without paying attention to their advice. Besides, investors tend to be more speculative. Using such predictions and projections, investors who invested their capital in Indonesia during the COVID-19 pandemic tend to evaluate their projections from media coverage. The news from Bloomberg and others has an impact on the decision, which influences the market balance. Bad news provides speculation to investors to increase their offers. Investors respond more quickly to bad news, domestic and non-domestic, compared to short-term interest rate policy instruments. If explored deeper, bad news tends to make IHSG move downward to the red number in the short term.

Meanwhile, good news brings positive responses that will make market actors happier. During the COVID-19 pandemic, investors need certainty to release or hold their capital in financial markets. If the interest rate is fixed, investors will always develop and add information by reading the news. This is what causes the movement of IHSG to be green and move upward. The reserve plan for buying government bonds will be kept first.

4.2. Discussion

During the pandemic, the movement of the IHSG experienced a decline (Sharif et al., 2020). The declining real economic condition disturbed health levels. The paralysis of several economic activities in a country has caused people to choose to save money and be more careful in investing. In 2020, the IHSG experienced a decline almost all over the world. Bloomberg noted that stock price movements decreased along with the increase in the number of bonds sold. Observers concluded that, during the COVID-19 pandemic, the role of government spending was more significant so that to balance this amount of the expenditure, the government implemented a bond policy when stock prices decreased. The decline in stock prices that occurred during the pandemic was supported by the strengthening demand for bonds and the role of interest rates in determining the movement of the IHSG. In Indonesia, the role of interest rates in the movement of IHSG is very low compared to the amount of news received by investors in a certain time. The minimal part of interest rates on IHSG is presumably due to the investors' high knowledge about the investment theory. When the interest rate increases, the movement of the IHSG will increase (Vaz, Ariff, & Brooks, 2008). This also applies when the interest rate decreases. The dominant investment theory that occurred in the real world enables investors to set more valid projections.

Meanwhile, the influence of economic news from official media such as Bloomberg tends to be sensitive and unpredictable. Investors must be more observant in responding to news written by trusted economic media like Bloomberg. Each report written by Bloomberg tends to have a greater effect on the movements of IHSG.

Based on data-series daily price of IHSG, interest rate, and pandemic news (good news and bad news) during the COVID-19 pandemic, the volume of news regarding the stock market tends to influence the movement of IHSG more highly. To make it easier to analyze this trend, researchers classify stock market news into two types, namely, bad news and good news. The two types of news that have been determined are processed again in the form of an index to provide conclusions on the causes and effects of the shift in the stock price index. The bad news and good news indices have an equal contribution in influencing the movement of the IHSG. Bad news that has been processed in the form of an index provides an understanding that bad news on the stock market that has been published by Bloomberg has a bad impact on the development of the IHSG in Indonesia. The bad impact on the movement of the IHSG in Indonesia, like the increase in US stocks, causes the exchange rate to depreciate, so that investors will choose to invest in the United States (BCampus, 2020). At the same time, the increase in shares in the United States has prompted the stock market in China to increase so that share prices in Indonesia will tend to decline. This decline has ultimately pushed the IHSG down, approaching zero. The movement of the IHSG is also influenced by good news. Good news is a type of or selected news published by a certain official institution that positively affects the stock prices in Indonesia. The growth of good news for the movement of the IHSG in Indonesia has also continued to increase during the pandemic. However, the amount of good news that affects the IHSG in Indonesia is not comparable or as much as that of bad news. The amount of news on the stock market, which negatively affects the IHSG in Indonesia, contributes almost as large as bad news. With this good news, the movement of the IHSG in Indonesia has increased the IHSG, which later leads to an increase in the supply of assets on the financial market. The green symbol that is usually used as a benchmark for investors to encourage movement in the financial market increases the IHSG. To investigate further, the relationship between interest rates, news, and the movement of the IHSG is analyzed.

4.2.1. The Impact of Good News on the Composite Stock Price Index (IHSG) Movement

During the pandemic, financial market issues dominate investors' decisions to invest shortly or sell it as soon as possible to make a profit and minimize losses. Financial market issues that have a significant impact on investors' decisions are positive financial market issues. It cannot be denied that the public prefers certain and profitable things. Positive financial market issues or good news also apply. The good news that entered the financial market made investors willing to release the capital they owned or sell the capital they had invested shortly on other countries' financial markets. Bloomberg predicts that Indonesia is one of the countries with stable financial market performance and the best in Southeast Asia. Though Indonesia's financial market conditions are not as good as developed countries in Southeast Asia, Indonesia can provide certainty on its financial market conditions (World Bank, 2020). This is evidenced by the movement of the IHSG, which tends to increase and is stable during the pandemic.

The impacts of good news on the movement of the IHSG are two interrelated elements. The good news relates to investors' decisions, as discussed in the previous section. Meanwhile, the IHSG is a reflection of these investors' decisions. The movement of the IHSG will be positive if good news is indeed dominant in influencing investors' decisions. However, the movement of the IHSG cannot always be successful every time to help the movement of the IHSG move to green. There are certain conditions where good news does not respond to the positive movement of the IHSG. This condition is called the condition of loss of investor trust in financial market conditions in a country. Investors cannot make good news references as part of their projections and investment decisions in this condition. They will tend to doubt the unstable or prone financial market or prone to the IHSG though the good news is widely heard and appears on official news pages. Entering the pandemic period, investors are eagerly awaiting good news. The slowdown in the economy worries the investors about taking significant steps in giving their capital in a country that does not have good financial market conditions.

Regarding these problems, to anticipate negative trends from investors, the government can implement several policies to strengthen financial markets' issues. With the government's support in clarifications and appeals, investors will have more certainty. This needs further development.

4.2.2. The Impacts of Bad News on the Composite Stock Price Index (IHSG) Movement

The bad news in the composite stock price index (IHSG) movement tends to bring a movement in a negative direction. The bad impacts on the movement of the IHSG are that the volume of sales of shares on the financial market is higher than that of their purchases and that investors will conduct a survey by reading the projected news on which stocks will fall or will not survive in less conducive times during the pandemic (Dullien, Kotte, Màrquez, and Priewe, 2010). From the survey they obtained from news published by the official media, investors will decide to sell their shares to be safe from the effects of bad news, while the rest will try to be defensive. In this condition, the capital flow will run higher than before. Supply will be higher than demand because investors are worried that they will suffer losses. In this regard, during COVID-19, more bad news emerged than good news in recent months. The appearance of the bad news caused several financial markets to experience a decline. Stock prices in the United States declined, the dollar depreciated, and the public demanded more government bonds. When the United States' stock price decreased, it should be good news for Indonesia because many shares would be invested in Indonesia. In this condition, it was unsure whether the decline in shares in the United States would bring more shares to Indonesia or other countries. In a projection, capital flows will also flow to Indonesia with a certain amount of time. The easy thing is that the IHSG will be red if Indonesia cannot capture the decline in US stock prices.

The issue of news during the COVID-19 pandemic is a common problem. All decisions, price changes, and the IHSG happened in part because of the bad news on the financial market. In the era of COVID-19, it is difficult to determine if bad news will not lead to the movement of the IHSG to the red. Bad news mixed with geopolitical elements is also considered by investors (Wade, 2019). The bad news on the economy peppered with politics will exacerbate the movement of the IHSG to fall even more sharply for the financial market of a country that does not have good policy mitigation. Luckily, Indonesia has a macroprudential policy to pick up signals of bad news that threaten financial market stability. Liquidity policies and their reserves can help the movement of the IHSG not to decline immediately. The central bank (FASBI) has also begun to be considered and monitored by the central bank. FASBI cannot directly influence the movement of the IHSG, which is affected by bad news. However, FASBI can help stabilize financial markets by sterilizing the foreign exchange market (Sugiyono, 2004). An instrument that can effectively affect the movement of the IHSG is through buying and selling securities on the financial market or commonly known as open market operations (OMO). It is expected that the purchase of these securities can help reduce the bad effects during the COVID-19 pandemic as long as the government has not handled it optimally. The central bank also continues to provide accommodative policies by reducing its monetary expansion so that financial markets move more freely. The market itself can overcome bad news that is preventing the downward movement of the IHSG.

4.2.3. Impact of Good News and Bad News on the Composite Stock Price Index (IHSG) Movement During Pandemic

Financial market reporting has always been an important center of information for financial market players. The news reflects an economic condition that is closer and more accurate to the real economic situation. Both good news and bad news have their respective roles in the movement of the IHSG during the pandemic. The good news during the pandemic has influenced the IHSG to increase and motivated investors to enter and move the financial market. Good news is said to encourage the movement of the IHSG if it brings greater demand for stocks in a certain period.

Meanwhile, bad news will affect the IHSG if the news brings supply higher than demand, where investors sell their shares to minimize losses. In the end, the investors' decisions are the ultimate determinants as financial markets create their balance. Good news can help investors move broader and always in the market, but the emergence of bad news must be anticipated not to cause the IHSG to decline more sharply.

4.2.4. The Effect of Macroeconomic Policies on the Composite Stock Price Index (IHSG) Movement

Good news and bad news have consequences for the composite stock price index (IHSG) in a country. The effects of good news usually lead to the movement of the IHSG with a positive or increasing trend. The market and brokers will be busy responding quickly to an increase in the movement of the IHSG. As a result of the increase in supply and demand, the IHSG tends to turn green. To maintain the movement of the IHSG to be conducive, marked by the demand and supply of buying and selling securities to reach an equilibrium point in the market, macroeconomic policies are needed to achieve this goal. Macroeconomic policies adopted by the government in the stock market vary greatly depending on the conditions. Before the COVID-19 pandemic emerged, the government issued a looser macroeconomic policy package. In Indonesia, when JCI strengthened (green), the Indonesia Stock Exchange (BEI) implemented several policies such as monitoring investor buying and selling policies in anticipation of overspending. A number of interest rates and monetary policy also took over in increasing JCI.

Meanwhile, when JCI weakens (red), several policies such as economic stimulus, policy easing, and market sentiment anticipation are more dominant. In 2020, financial market conditions decreased due to COVID-19. In Indonesia, stock price movements tend to decrease (red). The closing price is lower compared to the previous year. Indonesia Stock Exchange (BEI) has issued several policies during the pandemic to maintain financial market stability. Trade stoppage policy (trading halt), change the bottom border rule auto rejection stock from 10% to 7%, and buyback relaxation is implemented in anticipation of the weakening of IHSG. Meanwhile, corporate bond-buying policy, economic stimulus, and anticipation of wall street index strengthening tend to be the policy focus on increasing IHSG (green).

5. Conclusion

During the COVID-19 pandemic, information is the main source for investors to make investment decisions. Both good news and bad news significantly influence investors' decisions. In addition to good news and bad news from an economic perspective, investors take good/bad news from a geopolitical perspective. In Indonesia, investors use the information to make buying and selling decisions on the stock market and predict market development after a series of central bank policies. The stock exchange is issued to maintain macroeconomic stability. During the COVID-19 pandemic, the IHSG tends to decline to strengthen the movement of the IHSG. It is suggested that policymakers anticipate market sentiment. This can be supported by implementing the buyback relaxation policy, the lower limit rule for stock auto rejection, trading halt, and removing the short-selling securities list to maintain the IHSG. For investors, both good news and bad news are essential to include in the analysis notes. When good news increases the IHSG at the stock exchange, investors can make a resale to minimize losses. The anticipation on policy issuance from the Central Bank Board of Governors Meeting should serve as a projection for further trading. The government's relaxation program is also put to the best possible use and tries to stick to LQ45 shares.

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