HOW WERE THE BIG BANK'S INVESTOR TRANSACTIONS ON THE IDX DURING THE EARLY PERIOD OF COVID-19? IS THERE JCI INFLUENCE?

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Abstract *The IDX's most extensive capitalized stocks are bank companies: BCA, BRI, Mandiri, and BNI. But, COVID-19 caused the JCI and stocks to fall, resulting in a loss for investors. This loss is the gap between the goal and reality of investing. How did JCI and investor transaction variables (volume, frequency, and buying value of foreign investors) affect the stock price of the four banks during the early period of COVID-19? Utilize the SPSS Amos program to analyze the structural model of research. The results show that the correlation between variables has a significant effect for the combined period and the increase period, except for the decline period, in which volume has no significant impact on buying value foreign investors, likewise the JCI on stock prices. The variables can describe approximately 92% of variations in stock prices. Volume has the most significant effect on the stock price. Also, JCI has a significant indirect influence on stock prices through the volume, frequency, and buying value of foreign investors.*

Keywords: Stock Price, Investor Transaction, Volume, Frequency, COVID-19

I. INTRODUCTION

Banking stocks still dominate IDX's market capitalization. Based on the IDX reports, the top ten IDX's most extensive capitalized stocks are members of four bank companies: BCA, BRI, Mandiri, and BNI. Because of their enormous part in JCI and IDX stocks, studying determinants of banking stock prices and their influenced factors is an important subject, especially under economic uncertainty in the early COVID-19 pandemic. The stock-related data also showed extreme downtrends and uptrends formed and have a high link.

BBCA became the stock with the largest market capitalization, followed by the second BBRI, the fourth BMRI, and the ninth BBNI, based on IDX annual data for 2019 and 2020, as shown in Figure 1 and the percentage of market capitalization in Figure 2. The total amount of the four banks is around 25% of the JCI market capitalization. When comparing 2019 and 2020 data, IDX's market capitalization was 7265 trillion IDR in 2019 and 6970 trillion IDR in 2020, a decrease in market capitalization that is quite large at around 295 trillion IDR. It happened due to the COVID-19 pandemic. The COVID-19 pandemic also caused the JCI and stocks to fall, such as the JCI fell by around -38%, BBCA by -39%, BBRI by -55%, BMRI by -55%, and BBNI by -63% (investing.com). The falling performance of IDX stocks could potentially cause losses for their investors. This loss is the gap between the goal and reality of investing and has become the problem. Because in investing, the goal is to get a profit (Hwang & Fong Lee Cheng, 2011).

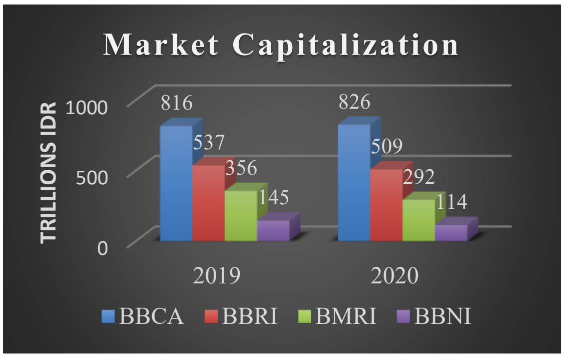

Figure 1. Market caps.

News about dangerous infectious diseases and warnings from the World Health Organization (WHO) influenced investors' perceptions, which resulted in an unstable stock market. Disease-related news (DRN) impacts investors, causing panic, fear, and anxiety (Donadelli et al., 2017). The outbreak and global spread of COVID-19 prove the tremendous effect of disease on society and the economy. The highest priority is health and saving people, but restrictive policies and social distancing tremendously affect the global economy (Schell et al., 2020).

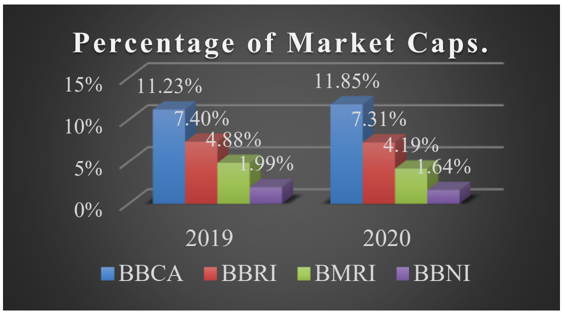

Figure 2. Percentage of market caps.

The COVID-19 pandemic has increased stock investment risk and stock performance uncertainty. On the contrary, in stable macroeconomics, company fundamentals significantly influence stock performance. The variables of net income, dividend policy, and equity significantly affect market capitalization. Also, the previous period's average stock price and volume influenced it (Indrayana et al., 2020). It was different when the pandemic occurred; investors must invest in uncertain conditions. In 1994, Avinash K. Dixit and Robert S. Pindyck popularized the 'Investment Under Uncertainty' theory, which describes investment decisions as having three characteristics: being irreversible, uncertain, and having leeway regarding investment time. So, there is no guarantee of profit for investors, and there is no return point when faced with uncertain conditions. Investors can only delay their decision by waiting for better conditions (Dixit & Pindyck, 1994).

The COVID-19 pandemic affects all countries around the world, causing a highly erratic and unpredictable market. It caused the reaction of the stock market in each country to be interrelated (D. Zhang et al., 2020). The significant and uniform reaction of the country's major stock indices to the first detection of the COVID-19 case in each country is because the pandemic has changed how investors feel, undermined their trust, and made them panic and worry about their assets (Adnan, 2022). This significant reaction occurs because the major indices between countries have tight correlations and persist over a certain period based on the cross-correlation function of the time series generated by the reciprocity of the world's important stock market indices (Janowicz et al., 2018). ASEAN-5 country stock exchanges, namely Indonesia, Malaysia, the Philippines, Singapore, and Thailand, have strong coherence to the DJIA. It happened because when the COVID-19 case was declared a pandemic, investors' perspectives showed high coherence and dependence on global stock exchanges, especially the DJIA. The pandemic caused uncertainty and volatility on worldwide stock exchanges (Kamaludin et al., 2021).

Investors have increased their interest in and attention to information and news related to the COVID-19 pandemic. It has influenced their perceptions and investment decisions (Smales, 2021). Not only that, but the country's stock index parameters are also important information for investors (J. Zhang et al., 2021). One of Indonesia's major stock indices is the JCI. JCI is an index that measures the price performance of all shares listed on the Indonesian Stock Exchange. The rise in the JCI indicates that the Indonesian stock market is enthusiastic. If the JCI is stagnant or does not change, it is stable. Apart from that, if the JCI experiences a decline, it is sluggish (Robiyanto, 2018).

In the stock market, there are not only foreign investors but also domestic investors. The domestic investor populations consist of individual (retail) and institutional investors. The most significant role of institutional investors is to prevent capital flight or sudden shutdowns caused by the speculative actions of foreign hedge funds during financial crises. Individual investors usually become interested and purchase shares as stock yields rise (Kim & Jo, 2019). Different from foreign investors, who are more interested in long-term future investments, individual investors are more interested in short-term investments (Park et al., 2019). On the IDX, individual investors are more active participants in transactions and have a propensity for making short-term investments (Yusgiantoro, 2018).

The role of foreign investors is significant because they help increase capital, valuable information, and trading liquidity on the stock exchange. They also stabilize prices because domestic investors trust them (Errunza, 2001). They are implementing contrarian strategies and are more interested in long-term investments (Park et al., 2019). Other views say that their characteristics tend to be momentum investors (Grinblatt & Keloharju, 2000). Or, it could even be a momentum or contrarian adjustment to the chosen stock market capitalization (Arroisi & Koesrindartoto, 2019), (Syamni et al., 2021).

What were foreign investors' transaction decisions when the COVID-19 pandemic occurred? This condition caused a significant fall in India's stock market because foreign investors sold off their stocks (Mehta & Jha, 2020). Their trading strategies and styles impact volatility (Naik et al., 2022). In Japan, companies with higher foreign investor holdings had a preponderant price decline compared to those with fewer (Takahashi & Yamada, 2021). Their trading activity in Indonesia has harmed stock performance during the COVID-19 pandemic (Nandaru & Wibowo, 2021). There is no positive role for foreign investors in determining stock prices; a destabilizing role was also not found. Before COVID-19, foreign investors tended to be loyal to their choices and strategies in Thailand (Khanthavit, 2020).

Variables that proxy investor transactions on the IDX include buying value and selling value (foreign investors), volume, frequency, and valuation (all investors). This research uses the buying value of foreign investors as a variable for measuring foreign investor transactions in IDX stocks. Meanwhile, volume and frequency are used as transaction variables of IDX stocks for all investors, both domestic and foreign. Volume is number of shares traded each day (McInish & Wood, 1991). Volume is a significant aspect of the economic interactions in stock markets among investors, with underlying economic forces encouraging volume and price correlation (Lo & Wang, 2010). Volume significantly and positively influences stock prices, as proxied by the market capitalization variable for shares listed on the LQ45 Index for the 2008–2018 period. The increased volume shows that there is high liquidity in these shares and also increased investor interest. It will increase the company's market capitalization (Indrayana et al., 2020). The flow of information influences the correlation between volume and stock prices and drives the market to its successive equilibria. Correlation volume-price increases because of assumptions about the nature of investors' reactions. The correlation between volume and prices varies depending on the speed of information received, with the strongest volume-price correlation in the market occurring when the flow of information is most volatile (Karpoff, 1987). For example, information about COVID-19 victims and its impact on society influences investors' reactions, strengthening the volume-price correlation.

Frequency is the number of transactions that occur in the market during a particular period of time. The number of transactions is generally affected by market conditions (including the size of the market) and other factors that influence buying and selling decisions. Frequency is easy to observe and is a primary indicator of liquidity in the market (Fisher et al., 2004).

Both variables, volume, and frequency positively and significantly affect stock price volatility in the LQ45 listed company period of 2017–2019. Volume can monitor the number of stocks traded on the market; increasing or decreasing volume is often used as a consideration for investors' decisions. On the other hand, frequency indicates the liquidity of a stock. Stocks with a high frequency mean that they are actively traded in the market, which also shows the high interest of investors in the stock. It will increase investor transactions to buy or sell stocks based on their strategies (Hamidah et al., 2022).

On the other hand, buying and selling transactions are influenced by several factors, including past returns, the effect of the price reference, the size of the holding period compared to the potential gain or loss, and the tax burden for sales. With the COVID-19 outbreak, the high loss potential has become one of the main drivers of buying and selling transactions (Grinblatt & Keloharju, 2001).

The buying value of foreign investors is dollar volume, the number of shares multiplied by the price, which is the valuation of purchases made by foreign investors on stocks. In understanding stock transactions, the dollar volume (transaction valuation) that occurs is not just the volume of shares traded. Apart from that, dollar volume can avoid understanding bias because a high dollar volume, in terms of valuation, requires extensive funds. Different from the volume, a high volume does not mean it uses jumbo funds if the stock price is low (Smirlock & Starks, 1985). Stoll (1978) conveys that dollar volume is related to the speed at which a dealer or broker determines a position or reverse transaction and is positively related to liquidity. Then Brennan and Subrahmanyam (1995) state that trading volume is a significant determinant of a stock's liquidity size. Furthermore, Chordia et al. (2000) document a strong cross-sectional relationship between dollar volume, various measures of bid-ask spread, and exchange depth (Chordia et al., 2001).

So, the impact of the COVID-19 pandemic occurred in nearly all country indices, including JCI. This research will use a sample of the great IDX banking stocks: BBCA, BBRI, BMRI, and BBNI. The JCI will be tested and analyzed with the investors' transactions and stock prices to discover their correlation. The investor transaction variables include the buying value of foreign investors, volume, and frequency. From these variables, we hope to get information and knowledge about the tendency of investors' transactions, specifically during the early COVID-19 or generally during a crisis period.

II. METHODS

This research's conceptual framework wants to analyze JCI's effect on investor transactions due to the COVID-19 pandemic on the top 4 IDX biggest bank stocks. The samples are BBCA (PT Bank Central Asia Tbk.), BBRI (PT Bank Rakyat Indonesia Tbk.), BMRI (PT Bank Mandiri Tbk.), and BBNI (PT Bank Negara Indonesia Tbk.). It uses JCI (IHSG) as an independent variable, then volume (VOLM), frequency (FREQ), and buying value of foreign investors (BELI) as mediating variables, and also stock price (HASA) as a dependent variable. Or be described as having one exogenous variable and four endogenous variables. JCI is data that proxies macroeconomic conditions. Volume and frequency are data that proxy all investor transactions, domestic and foreign. The buying value of foreign investors, as its name suggests, is a proxy for foreign investor transactions. Figure 3 shows the research framework model. It utilizes secondary quantitative panel data with a daily time frame from IDX, investing sites, and Mirae Securities. It applied the Structural Modeling method using the SPSS Amos program.

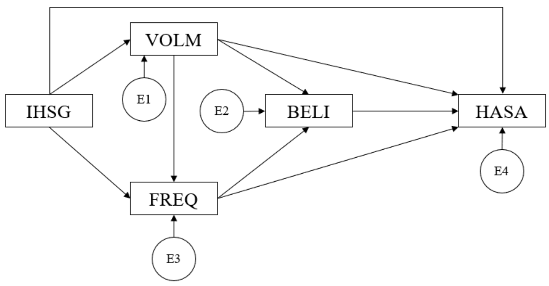

Figure 3. Research framework model

The data in this study are the daily closing prices for IHSG and HASA, while VOLM, FREQ, and BELI are the totals accumulated in one day. The data time period chosen takes into account the initial discovery of victims of the COVID-19 virus in December 2019 in Wuhan, China. Then final data for the research were adjusted to global data that returned to their initial values before the COVID-19 pandemic. So, the research data period is about one year, from October 1, 2019, to October 31, 2020.

In this research, in the first stage, we analyzed all data in one time period (the combined period), namely from October 1, 2019 to October 31, 2020. In the second stage, it will be tested on the period before the existence of COVID-19 until the determination of the COVID-19 virus as a pandemic and the fall of the JCI until the lowest point (the decline period), namely from October 1, 2019, to March 24, 2020. The third stage will analyze the period when JCI data and stock prices experienced a rebound and uptrend (the increase period), namely from March 25, 2020 to October 31, 2020. With this analysis method, investor transaction tendencies will be compared when the market is down, when the market is up, and when it goes down and then up.

III. RESULTS AND DISCUSSION

Based on the structural modeling test results using the IBM SPSS Amos program with α = 5%, on the whole, the correlation between variables has a significant effect for the combined period and the increase period, except for the decline period, in which volume has no significant impact on buying value foreign investors, as well as the JCI on stock prices. The results show that volume is the variable with the most influence on stock prices based on the unstandardized coefficient for all types of time periods, with a negative value. It means that volume has a negative and significant effect on stock prices. The more the volume increases, namely the number of shares traded, the lower the share price. It means the COVID-19 pandemic influenced investors' decisions due to macroeconomic uncertainty, making them worried and afraid.

Table 1. Regression Weights the Combined Period

			Estimate	S.E.	P
VOLM	<---	IHSG	-2.786	.239	***
FREQ	<---	IHSG	-2.553	.115	***
FREQ	<---	VOLM	.360	.014	***
BELI	<---	VOLM	-.083	.037	.024
BELI	<---	FREQ	.579	.053	***
HASA	<---	IHSG	.845	.076	***
HASA	<---	FREQ	.552	.017	***
HASA	<---	BELI	.360	.008	***
HASA	<---	VOLM	-.940	.010	***

Table 2. R^2 the Combined Period

	Estimate
VOLM	.114
FREQ	.622
BELI	.134
HASA	.922

Table 3. Regression Weights the Decline Period

			Estimate	S.E.	P
VOLM	<---	IHSG	-2.758	.440	***
FREQ	<---	IHSG	-2.241	.218	***
FREQ	<---	VOLM	.315	.022	***
BELI	<---	VOLM	.074	.048	.119
BELI	<---	FREQ	.722	.075	***
HASA	<---	IHSG	.012	.143	.931
HASA	<---	FREQ	.353	.029	***
HASA	<---	BELI	.449	.015	***
HASA	<---	VOLM	-.901	.016	***

Table 4. R^2 the Decline Period

	Estimate
VOLM	.075
FREQ	.472
BELI	.265
HASA	.895

Table 5. Regression Weights the Increase Period

			Estimate	S.E.	P
VOLM	<---	IHSG	-3.719	.747	***
FREQ	<---	IHSG	-1.223	.324	***
FREQ	<---	VOLM	.394	.018	***
BELI	<---	VOLM	-.363	.049	***
BELI	<---	FREQ	1.204	.084	***
HASA	<---	IHSG	.785	.142	***
HASA	<---	FREQ	.767	.021	***
HASA	<---	BELI	.280	.009	***
HASA	<---	VOLM	-1.022	.011	***

Table 4. R^2 the Increase Period

	Estimate
VOLM	.041
FREQ	.496
BELI	.274
HASA	.958

For the coefficient of determination (R^2), the highest stock prices occurred in the increased period, with a value reaching 95.8%, while the lowest in the decline period by 89.5%. It explains the magnitude of the influence of the JCI, volume, frequency, and buying value of foreign investors on stock prices. It can also be a consideration for investors in choosing shares with a daily time frame in general, especially during a crisis, namely by paying attention to the JCI movement and transactions carried out by investors, such as volume, frequency, and buying value of foreign investors.

Also, JCI has a significant indirect influence on stock prices through the volume, frequency, and buying value of foreign investors. For example, during the increase period, the increase in the JCI value has a negative impact on volatility in the form of a decrease in volume and frequency, indicating that investor transactions are starting to stabilize. The stability of investor transactions can be assumed because there is a positive and significant influence between volume and frequency. It means that the greater the number of shares traded, the greater the number of transactions involving more investors. This condition increases the buying action of foreign investors in the form of increasing buying value, ultimately enhancing stock prices.

Stock markets in other countries influenced JCI movements in the early period of COVID-19 (Kamaludin et al., 2021). The country's stock index parameters are significant information for investors (J. Zhang et al., 2021). From these results, JCI has a negative and significant effect on volume for the three types of periods. Volume describes trading carried out by local investors and foreign investors. When the JCI decreases during the decline period, volume increases, meaning that more shares are traded. It is because, at the beginning of the emergence of COVID-19, worry and fear influenced investors' decisions more. Volume increases when the JCI decreases, perhaps because many investors prefer to reduce and sell the number of their stocks. They no longer think about making a profit, only trying to reduce their losses so they don't fall when the stock market falls. It also has an impact on increasing stock price fluctuations and volatility.

A rather interesting thing happened during the increase period: JCI negatively and significantly affected volume. The increasing value of the JCI is in contrast to the volume movement, which is actually decreasing. Perhaps because the JCI rose, indicating that stock market conditions were improving, many investors began to change their trading direction because they were previously driven by selling and feelings of worry and panic (Adnan, 2022). They are careful, reduce their stock trading to wait and see, and evaluate their stock portfolio. They are waiting for what might happen tomorrow. It has an impact on decreasing volume when the JCI starts to increase. Next, they start to be optimistic about making profits again from the stock market. Then they trade stocks, driven by buying action and optimism, to make a profit. In accordance with previous research, JCI movements can influence the stock market to become enthusiastic or sluggish (Robiyanto, 2018).

However, based on the coefficient of determination (R^2), the JCI variation can describe 11.4% of the volume variation for the combined period, 7.5% for the decline period, and 4.1% for the increase period. It means there are other variables that have a more significant influence on volume. Other possible factors include news related to confirmed victims of COVID-19, government policies, or efforts to contain and treat COVID-19 victims (Smales, 2021), (Schell et al., 2020).

The next point relates to variables that influence trading frequency on IDX during the early phase of COVID-19. For the three periods in this study, JCI and volume significantly affect frequency, but JCI negatively affects frequency, while volume positively affects frequency. Volume and frequency indicate stock liquidity (Fisher et al., 2004). Increased volume and frequency also increase volatility, which impacts stock performance. It could be due to the increase in the number of individual or retail investors carrying out stock transactions because retail investor transactions positively affect volatility (Foucault et al., 2011), (Hamidah et al., 2022).

Meanwhile, liquidity can lead to a decline in stock performance if it is driven by negative sentiment and causes selling action. On the other hand, it can lead to increased performance if it is driven by positive sentiment and causes buying actions. It is in accordance with previous research results, which state that stock price movements are not only influenced by information related to fundamentals but are also influenced by investor sentiment (Randall Morck et al., 1990). Meanwhile, JCI has a negative effect on frequency, perhaps due to the same reasons as the effect of JCI on volume. Based on the coefficient of determination, the JCI and volume variations are able to explain 62.2% of the frequency variations for the combined period, 49.6% for the increase period, and 47.2% for the decline period.

The next stage is the results related to variables that influence foreign investor transactions, in this case, using the buying value of foreign investor variable. For the combined period and the increase period, volume and frequency significantly affect the buying value of foreign investors; volume has a negative influence, while frequency has a positive influence. For the decline period, volume has no significant effect on the buying value of foreign investors, while frequency has a positive and significant one. During the increase period, when the stock market starts to stabilize, volume declines, which results in fewer shares being traded by all investors. Foreign investors may be more optimistic about seeing opportunities and increasing share purchases. But in the same period, with decreasing frequency and decreasing the number of share transactions, foreign investors also reduced their share purchases. In this case, it can be assumed that the transaction trading of both domestic and foreign investors influences the decisions of foreign investors.

If we look at the unstandardized coefficient values, the influence of frequency is more than volume. Frequency value = 1.204 vs. -0.363 volume value for the increase period; 0.579 vs. -0.083 for the combined period. The decline period was not compared because volume had no significant influence. Thus, frequency is more dominant in influencing the buying value of foreign investors. It means that foreign investors pay more attention to frequency because of the increasing number of investors involved in trading dominated by retail investors. For the coefficient of determination, variations in volume and frequency can explain 27.4% of the variation in the buying value of foreign investors for the increase period, 26.5% for the decline period, and 13.4% for the combined period. The number is small, indicating that other variables significantly influence the buying value of foreign investors.

The last one is the results for the influence of JCI, volume, frequency, and buying value of foreign investors on stock prices. Only the JCI in the decline period had no significant effects on stock prices. Apart from that, only volume negatively affects stock prices, while the other variables affect positively. The influence of the JCI during the decline period was not significant, perhaps because investors' transactions were driven more by worry and panic due to COVID-19. The transmission of the COVID-19 virus occurred very quickly, and the impact could result in deaths. Besides that, there was still no idea of the solution, so investors were panic selling (Schell et al., 2020), (Adnan, 2022). But in the increase and the combined period, JCI positively and significantly affects stock prices. The higher the JCI, the higher the share price will be. It is clearly visible in the increase period.

Volume has a negative effect on stock prices. This is different from previous research, which stated that volume positively affects stock prices (Indrayana et al., 2020). In the decline period, volume increases due to negative sentiment, so an increase in volume indicates a selling action by investors that decreases the stock prices. During the increase period, when the JCI value increased, volume decreased because stock market conditions had begun to become conducive, resulting in a decrease in the number of shares traded. After all, investors were more careful and had reduced their selling actions. They wait and see for the upcoming information. Investors' decisions usually consider and react based on the information they receive (Karpoff, 1987). This behavior decreases volume, but on the other hand, stock prices start to rebound. This statement is also suitable for the test result of the variable buying value of foreign investors; it positively and significantly affects stock prices. Maybe there are good pieces of information and positive sentiments for foreign investors, so they increase their buying transactions, which impacts stock prices.

Regarding foreign investor transactions, the buying value of foreign investors variable has a positive effect on stock prices. In the decline period, foreign investors reduce their buying action, resulting in stock prices declining. Whereas in the increase period, their buying action increases, increase in stock prices. According to these results, foreign investors tend to be momentum investors because they transact following stock market trends (Grinblatt & Keloharju, 2000). The decline in the buying value of foreign investors during the decline period also illustrates the tendency of foreign investors to leave the stock market temporarily, which impacted declining stock performance (Mehta & Jha, 2020), (Takahashi & Yamada, 2021), (Nandaru & Wibowo, 2021).

Meanwhile, frequency has a positive effect on stock prices. So, during the decline period, the frequency decreases, meaning the number of transactions decreases, causing stock prices to fall. A decreasing frequency indicates that fewer investors are trading. This number of investors refers to retail investors, who significantly influence frequency. It illustrates that when the stock market is falling, foreign investors tend to sell, retail investors reduce their trading transactions, while domestic institutional investors try to maintain stock market stability. It follows previous research showing domestic institutional investors prevent sudden shutdowns during crises (Kim & Jo, 2019). Retail investors are interested in trading when the stock market begins to stabilize, such as during the increase period, so frequency increases, increasing stock prices. It confirms that retail investors are short-term investors (Park et al., 2019), (Yusgiantoro, 2018).

Overall, JCI has a significant indirect influence on stock prices through the volume, frequency, and buying value of foreign investors. This influence can be described sequentially as follows: JCI has a negative and significant effect on volume, then the volume to the frequency, frequency to the buying value of foreign investors, the buying value of foreign investors to the stock price; have a positive and significant correlation. In the increase period, this can mean that the increase in the JCI impact reducing volume and frequency because the stock market is gradually stabilizing. Because good sentiment drives market movements, an increase in volume and frequency increases the buying value of foreign investors, which in turn increases stock prices.

So, according to this research, investors tend to carry out trading transactions according to market conditions, using JCI as the parameter. The JCI has a significant influence on investor transactions and stock prices. Investors, both domestic and foreign, tend to apply momentum strategies, which have an effect on stock prices. During the decline period, they tend to sell, whereas during the increase period, they tend to buy. Also, there are dynamics and anomalies in the correlation between the variables used, as explained in the discussion section.

IV. CONCLUSION

Banking stocks still dominate IDX's market capitalization. Based on the IDX reports, the top ten IDX's most extensive capitalized stocks are members of four bank companies: BBCA, BBRI, BMRI, and BBNI, which will be used as samples for this research. It uses JCI (IHSG) as an independent variable, then volume (VOLM), frequency (FREQ), and buying value of foreign investors (BELI) as mediating variables, and also stock price (HASA) as a dependent variable. It utilizes secondary quantitative panel data with a daily time frame from IDX, investing sites, and Mirae Securities. It applied the Structural Modeling method using the SPSS Amos program.

The correlation between variables has a significant effect for the combined period and the increase period, except for the decline period, in which volume has no significant impact on buying value foreign investors, as well as the JCI on stock prices. The results show that volume is the variable with the most influence on stock price, with a negative value. The more the volume increases, namely the number of shares traded, the lower the share price. It means the COVID-19 pandemic influenced investors' decisions due to macroeconomic uncertainty, making them worried and afraid.

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For future research, researchers can use different samples with the same variables and models because IDX has hundreds of interesting stocks for research.

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