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A lesson from COVID-19 pandemic: Developing a survival investment strategy to deal with crisis conditions

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ABSTRACT

This study introduces the novel concept of a stock investment strategy tailored to crises. It adopts a quantitative approach that tests various factors influencing stock price dynamics. In the first stage of the study, a multiple regression analysis is conducted, encompassing macroeconomic indicators such as Southeast Asian, Chinese, and American stock indexes, gold prices, and the impact of COVID-19 on stock prices. Subsequently, an additional examination assesses the influence of LQ-45 company performance on stock price formulation. Finally, a qualitative analysis is employed to scrutinize government policies implemented during the pandemic and their impact on Jakarta Composite Index (JCI) movements. As a result, it is found that all macroeconomic factors exert a significant negative influence on stock prices. Additionally, as COVID-19 cases surge, stock indexes in Southeast Asia, China, and America exhibit a substantial positive effect on stock prices. In contrast, firm performance and gold prices do not significantly affect stock price movements. Moreover, the market also reveals a more favorable response to government initiatives aimed at relaxing activity restrictions and positive developments in vaccination efforts. Lastly, based on the extensive analyses conducted in this study, we have identified four distinct investment strategies tailored explicitly for effectively navigating crises. These strategies encompass diversification, a prudent wait-and-see approach, the Richman party, and the Guerrilla strategy.

Keywords: COVID-19; Stock Investment; Gold Price; Macroeconomic Factors; Firm Performance

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Introduction

This study aims to formulate crisis strategies for stock investors in response to the COVID-19 pandemic, serving as a valuable reference for investors during future crises. Stock investors should conduct a comprehensive evaluation of various factors, including macroeconomic conditions, industry dynamics, firm performance, and pandemic-related developments, spanning from March 2020 to the present day, within the Indonesian context. It is well-established that the COVID-19 pandemic exerted a profound impact on both societal and economic activities. Numerous studies have explored the pandemic's influence on stock market performance. For instance, Louhichi et al. (2021) highlighted its effects on currency and capital markets, while Dong et al. (2021) found significant repercussions on the capital market. Aharon & Siev (2021) underscored the substantial impact of public panic induced by the pandemic on the capital market. Concurrently, the pandemic adversely affected companies' solvency levels, leading to sales declines and reduced market capitalization across manufacturing, mining, and retail sectors (Mirza et al., 2020).

Analyzing the Jakarta Composite Index (JCI) movement from 2020 to 2021 reveals a sharp decline in March 2020, coinciding with President Joko Widodo's announcement on March 2, 2020, confirming the COVID outbreak's presence in Indonesia. The nadir in JCI value occurred on March 24, 2020, at RP 3,937.63. Subsequently, the index exhibited a gradual ascent, with Figure 1 illustrating an upward trajectory. On December 14, 2020, the JCI reached Rp 6,012.52, marking its return to pre-pandemic levels. This relatively swift recovery in the JCI is attributed to proactive regulatory roles played by the government and the Indonesia Stock Exchange (IDX). The government implemented a slew of policies aimed at curbing the virus's spread and bolstering the economy during the pandemic, encompassing tax reductions, electricity subsidies, financial aid for vulnerable populations, and accommodative monetary measures designed to enhance the social and economic well-being of the Indonesian populace. Additionally, IDX issued various regulations, including restrictions on short-selling, margin trading, and the streamlining of transaction processing times, all of which contributed to stabilizing Indonesia's capital market performance throughout the pandemic.

Several stock investment studies were conducted during the pandemic to investigate the influence of COVID-19 on the capital market and investment. Mahata et al. (2021) found the COVID-19 pandemic caused investors to be in high uncertainty, so they needed to restructure their stock investment portfolios. According to Zaremba et al. (2021), the stock markets in

countries with low unemployment and low valuations relative to expected profits tend to be more resilient from the pandemic crisis. Additionally, to minimize the impact of the pandemic, the government's role in determining the right policies to counter COVID-19 positively impacts the stock market. Tong et al. (2022) investigated the relationship between the pandemic and stock movements in the short and long term. They discovered a positive association in the short term but a negative correlation in the long term. Huynh et al. (2021) even added that countries with higher levels of financial uncertainty are more likely to experience financial market turmoil, whereas countries with superior health systems are more likely to experience better financial market circumstances during a pandemic. Salisu et al. (2020) observed that developing country stock markets are more vulnerable than developed country stock markets during a pandemic. Disli et al. (2021) and Salisu et al. (2021) ended the argument with investment diversification advice for gold investment to reduce financial risks during the pandemic. Furthermore, Islamic equities can be an alternative investment. Salisu and Shaik (2022) discovered that Islamic stocks outperform conventional stocks.

Therefore, drawing upon previous studies, it can be deduced that the COVID-19 pandemic exerts a predominantly negative impact on the stock market, especially in the short term, with greater vulnerabilities manifesting in developing economies. Such circumstances underscore the imperative need for an investment strategy. However, prior studies have yet to furnish comprehensive strategies tailored to investors grappling with pandemic-induced crises. Consequently, this study endeavors to construct a strategic model applicable as a guiding framework for investors encountering similar challenges in the future. The strategic model will take shape by evaluating several factors assumed to influence the Jakarta Composite Index's (JCI) movements during the pandemic, aiming to elucidate the critical considerations for investors when crafting their investment strategies. Furthermore, an analysis will scrutinize the multitude of regulatory policies introduced by authorities amid the pandemic to ascertain their potential for significant impact on stock price dynamics, ensuring coherence between the test outcomes and the analysis. These multifaceted criteria and regulatory guidelines will underpin the development of an investment strategy model, ultimately serving as a valuable resource for investors.

Literature Review

The grand theory underpinning this study is investment theory, which encompasses a diverse range of assets, including financial and real assets. As defined by Tandelilin (2017), investment is the strategic allocation of current resources to yield future returns. He further

characterizes investment as a present commitment of various resources, both financial and non-financial, to generate future profits. Both tangible and financial assets serve as potential investment avenues, with the capital market representing one such option for financial asset investment.

However, during the COVID-19 pandemic, there was a notable decline in capital market investments, particularly at the onset of the crisis. This decline can be attributed to heightened caution among investors, some even opting to cancel investments. The severity of the market downturn was directly correlated with the extent of the COVID-19 spread, which in turn had far-reaching effects on the overall economic landscape (Zhang & Tong, 2021; Tong et al., 2022; Huber et al., 2021; Alexakis et al., 2021; Jiang et al., 2021; Hoang et al., 2022; Tut, 2022; Mzoughi et al., 2022; Agustin, 2021). Government-mandated lockdowns aimed at curbing the virus's spread further contributed to negative investor sentiments and posed obstacles to investment growth. International investors, in particular, exhibited heightened concerns regarding the pandemic's impact. It is essential to acknowledge that these circumstances had ramifications for capital market investment during the COVID-19 era (Buchheim et al., 2022; Mzoughi et al., 2022; Sha et al., 2022).

Macroeconomic Factors

The relationship between macroeconomic variables and stock returns has attracted considerable attention from researchers and professionals. In recent decades, this area of study has produced a substantial body of literature that has explored these potential associations through various analytical approaches, with the common factors used being inflation, interest rates, and exchange rate movements. As defined by Nessen (2002), inflation refers to the continuous increase in the general price level of goods and services, typically measured by the percentage change in price levels. As per Ekananda's (2014) definition, the exchange rate signifies the currency's price relative to other countries' currencies. It holds a pivotal role in international trade and finance since fluctuations in exchange rates can profoundly affect a nation's competitiveness in the global market for both exports and imports. Conversely, interest rate pertains to the cost incurred when using money for a specified duration or the price of immediate money utilization with a commitment to future repayment. As explained by Al-Azizah (2019), interest rates denote the return ratio on various investments, serving as a form of reward to investors. It is worth noting that inflation can substantially influence interest rates, as central banks often make interest rate adjustments to control inflation levels effectively.

Employing cointegration and the Vector Error Correction Model (VECM) on monthly data from the United States, Ratanapakorn & Sharma (2007) discovered that the S&P 500 exhibits a positive relationship with inflation, exchange rates, and short-term interest rates and a negative association with long-term interest rates. Bhuiyan & Chowdury (2020) also has a similar finding that the S&P 500 and all sector indices for the US for the 2000-2018 period exhibit a negative relationship with long-term interest rates. Angesti & Setyadharma (2022) reported their findings, indicating that the variable associated with the Covid-19 pandemic in the short term exhibits a negative and statistically insignificant impact on the Jakarta Islamic Index. However, in the long term, this pandemic-related variable negatively and significantly influences the Jakarta Islamic Index. Additionally, in both the short and long terms, the BI Rate variable negatively and significantly affects the Jakarta Islamic Index.

Regarding inflation, the results suggest a positive yet insignificant impact on the Jakarta Islamic Index in the short term. In contrast, in the long term, inflation has a positive and significant effect on the Jakarta Islamic Index. Furthermore, in both the short and long terms, the relationship between the Rupiah exchange rate and the dollar demonstrates a negative and significant effect on the Jakarta Islamic Index—similar findings also found by Moya-Martínez et al. (2015) and Andries et al. (2014).

H_1: Inflation, interest rates, and exchange rate movements significantly negatively impact the Jakarta Composite Index.

Global Stock Market

Global equity markets and regional markets often exhibit strong correlations with one another, particularly during periods of financial crises when contagion and spillover effects become pronounced. Even during relatively stable periods, similarities in trending behavior across these markets are observable. Investigating the interconnectedness of equity markets can offer valuable insights for foreign investors seeking overseas diversification opportunities. This is because the interlinkages among stock markets suggest that they tend to move in tandem, potentially diminishing the benefits of international diversification for investors (Jayasuriya, 2011). Several factors can influence public engagement in the stock market. Good government policies, as highlighted by Latipulhayat (2012), can attract investors, including the legal, economic, and tax environment, the availability of information, market participant behavior and knowledge, competition with other markets, market depth and liquidity, and globalization, are considered by investors when making investment decisions Pocius et al. (2014). Furthermore, a study by Albu et al. (2015) demonstrates that

consumer perceptions of capital market risk significantly affect capital market investment performance. Additionally, the presence of Sharia products in Malaysia's capital market impacts public investment enthusiasm (Shafron, 2019). As discovered by Jalilvand et al. (2018), effective financial education improves individual investment decision-making quality and increases investor confidence and involvement in Iran's capital market. Chen et al. (2021) study with US data reveals that macroeconomic indicators and corporate performance significantly affect market sentiment. Monetary policy, knowledge availability and economic rewards, and fluctuating price also influences market sentiment, as indicated by the findings of a study by Debata et al. (2021), Wang et al. (2021), and Que & Zhang (2021). Other factors influencing investment decisions include investment planning, company governance, and corporate social responsibility image, and international investment (Özkan, 2021; Gao et al., 2020; Shahid & Abbas, 2019; Khalfaoui et al., 2019).

International investment, in particular, plays a crucial role in diversifying investment portfolios. By investing in international markets, investors can reduce their exposure to domestic market fluctuations and spread risk across different economies and industries. This diversification can enhance the overall risk-return profile of an investment portfolio and potentially lead to better desired long-term returns. Traditionally, low correlations among international equity markets have provided the foundation for reducing overall portfolio risk. However, recent trends have shown increased correlations among equity markets globally. Despite this rise, substantial evidence still supports significant diversification benefits in both developed and emerging markets. For instance, Mukherjee & Bose (2008) have noted that Indian stock returns in recent years have been influenced by the returns of U.S. and other Asian markets, particularly Japan. Furthermore, their findings highlight the significant impact of Indian stock returns on the broader Asian markets. A recurring observation in these studies is the prominent role played by the U.S. market, often acting as a significant leader of other equity markets. Additionally, some studies attribute these apparent interdependencies to factors such as foreign investor restrictions, market characteristics (e.g., market capitalization and liquidity), and geographical proximity.

A comprehensive study by Singh et al. (2010) explored stock return and volatility spillover effects across fifteen North American, European, and Asian stock markets. Among their key findings was the observation that information flows between markets as they open and close, with earlier-opening markets exerting more significant influence on those opening later. Notably, within the Asian region, the equity markets of Japan, Singapore, and Hong Kong consistently exhibited substantial influence, regardless of their respective open/close

times. Additionally, the U.S. stock market emerged as the most influential in the sample, demonstrating strong integration with other influential markets in Asia and Europe.

Li et al. (2005) identified unidirectional solid causality from the U.S. to Japan and Korea, although not to China and Taiwan. Furthermore, they determined that the Chinese stock market did not exhibit significant interdependence with the other markets in their sample. Janakiramanan and Lamba (1998) conducted a VAR analysis, investigating the financial linkages between the U.S. and various Pacific-Basin stock markets, including Indonesia and Thailand. Their findings revealed the influence of the U.S. market on all other markets in the sample, except for the relatively segmented Indonesian market. Even without direct U.S. influence, interlinkages persisted, attributed to the indirect impact of U.S. markets closing earlier in the day on those closing later. The study also highlighted the influence of geographically and economically proximate markets, such as Australia–New Zealand and Singapore–Malaysia, on each other. Therefore, the first of hypotheses of the study can be formulated as below.

H_2: The stock index movements of Southeast Asian countries, America, and China significantly influence the Jakarta Composite Index, with a positive correlation.

The Gold Role in the Pandemic Crisis

Numerous studies have investigated the intricate relationship between gold prices and stock markets. Smith (2001) examined the United States stock price index and gold price, revealing a small, short-term, and negative correlation between the two. Patel (2013) delved into the Indian stock market index and gold price, finding a long-term connection with Granger causality directed from gold prices to stock prices. In contrast, Khan et al. (2016) explored the Pakistani stock market index and gold price, concluding that no long-term relationship exists between these variables. Al-Ameer et al. (2018) studied the Frankfurt Stock Exchange and gold prices across different periods, discovering varying correlations and establishing a long-term relationship through cointegration tests. Kharusi and Başci (2019) investigated GCC stock markets and gold prices, revealing several Granger causality links between them. Meanwhile, Yamaka and Maneejuk (2020) identified significant causal relationships between gold price shocks and fluctuations in Asian stock markets, with a heightened correlation during the global financial crisis. Amid the COVID-19 health crisis, Atri et al. (2021) provided extensive evidence of the pandemic's impact on commodity prices, highlighting opposing effects on oil and gold prices. They found that COVID-19-related

deaths and panic negatively affected crude oil prices, while gold prices remained resilient, reacting differently from other asset classes during the health crisis.

H_3: Gold prices have a significant positive impact on the Jakarta Composite Index

Methods

This research will look into the numerous elements that influence stock performance. In the first stage, macroeconomic factors such as inflation, interest, and exchange rates will be tested. Furthermore, in this first stage, the gold price and the rise of COVID-19 cases, as well as stock indexes in Southeast Asia (Malaysia, Thailand, the Philippines, Singapore, and Vietnam), China stock indexes, and US stock indexes were tested against the Jakarta Composite Index (JCI). The results of this test will identify macro factors as well as other factors outside of the company's performance that have a major impact on the stock index. Following that, additional testing on the company's performance variables with the net profit margin indicator on the company's shares is performed to determine whether the company's performance is a predictor of stock prices during the pandemic, so that it can be determined whether the company's performance is the primary consideration in making investment decisions during the pandemic. In the third stage, an analysis of various policies issued by the government and the IDX, as well as an analysis of stock price movements during this pandemic, will be carried out in order to determine which policies are effective in stabilizing stock prices during a pandemic and to identify patterns of stock price movements. The outcomes of variable testing at each stage of the research will be used to construct investment strategy models during the COVID-19 crisis.

Secondary data is used in the research, such as inflation, exchange rates, gold prices, stock indexes for Indonesia, Malaysia, Thailand, the Philippines, Singapore, and Vietnam, stock indexes for China, and the Dow Jones. The data used in Phase 2 includes net profit margins and share prices of companies that are members of the LQ45, Indonesia's most liquid stock index of corporations. Data on policies issued by the government and the IDX during the COVID-19 pandemic for the 2020–2021 timeframe will be used in phase 3 testing and will be employed in JCI data.

In this study, we employed the linear regression method to analyze the dependence structure of the studied variables under varying market conditions. The study was divided into three stages. First, a multiple regression test was conducted to assess the influence of macroeconomic variables on the Jakarta Composite Index (JCI). Second, a simple regression test was employed to examine the impact of company performance on stock prices.

Result and Discussion

Macroeconomic Analysis

Table 1. Multiple Regression of Macroeconomic Factors

Relationship	Coefficient	Sig.	Decision	
Interest Rate -> Stock Values	-929.571	0.000	Significant Negative	H_1 Supported
Inflation Levels -> Stock Values	-522.695	0.035	Significant Negative	H_1 Supported
Exchange Rate -> Stock Values	-.806	0.001	Significant Negative	H_1 Supported

According to Table 1, interest rates have a considerable negative impact on stock prices; consequently, the higher the interest rate, the lower the stock price. Several prior studies have found the same results, including one by Balogun et al. (2016), which discovered that interest rates negatively affect stock values. According to Assefa et al. (2017), interest rates have a large negative effect on stock values in developing countries with capital markets that are also still developing. Andries et al. (2014) discovered that changes in interest rates had a considerable impact on stock price movements. A study conducted by Jammazi et al. (2017) revealed a substantial two-way causal association between interest rates and stocks. Furthermore, Papadamou et al. (2017) discovered a causal association between long-term interest rates and stock returns, particularly during the global financial crisis, implying that tight monetary policy reduces market returns. The response of stock prices in Thailand's capital market, which is a developing capital market, is inversely related to the movement of interest rates. Salisu and Vo (2021) discovered that interest rates had a negative short-term association with stocks. The existence of this negative influence will encourage investors to reduce their leverage in the market to a minimum to maximise their profits. Investors choose instruments that are more stable and safe in times of economic turmoil (Gong & Dai, 2017). According to empirical evidence, higher interest rates and the devaluation of the Chinese currency (CNY) will drive stock returns.

In addition to interest rates, inflation, and exchange rates are also used as macroeconomic indicators. Essentially, these two indicators are diametrically opposed to the Jakarta Composite Index; if inflation rises, people's purchasing power falls, and it is possible that people will restrict the distribution of cash for investment (Heer & Süssmuth, 2007; Díaz & Jareño, 2009; Apergis & Eleftheriou, 2002). Inflation has a detrimental impact on investment, leading to decreased stock market participation. As we compare the movement of the inflation graph to that of the Indonesian Composite Index, we see that when inflation falls, the Indonesian

Composite Index begins to rise. The statistical test results also show a significant negative effect of inflationary variables on the Indonesia composite index, implying that various related parties, such as the government and the IDX as regulators, should consider various policies that can suppress inflation, while for investors, inflation should be one of the indicators that need to be considered in formulating an investment strategy, especially during times of crisis. When inflation begins to stabilize, investors can begin buying shares; risk-tolerant investors (risk-takers) can buy when inflation begins to fall for two consecutive months; when inflation falls in March and April, equities begin to fall. Moving up, it is recommended that investors make purchases while paying close attention to the company's performance to reduce the risk of excessive stock volatility. Purchases made during this time period may also provide investors with the opportunity to earn a significant return from capital gains. Stock purchases can also be begun during periods of low and stable inflation, such as August and September. During this period, stock prices continued to climb, though not as quickly as in the preceding period, because stock prices had begun to stabilize, resulting in lower earnings from capital gains but also a lower risk of stock price swings, particularly an uncontrolled decline in stock prices.

The currency rate is another macro element to consider; a weak rupiah against the dollar will lead the Jakarta Composite Index to fall. This is because many imported components are still used in Indonesian companies' manufacturing, so when the exchange rate falls, the cost of production rises, which, of course, will be charged to prices, causing inflation and a drop in investment in numerous industries, including stocks. According to Iyke & Ho (2021), exchange rate exposure is usually damaging to the sector and industry. Lim and Sek (2014) discovered a substantial two-way association between exchange rate volatility and stock returns in Indonesia, Korea, and Thailand. Mahapatra and Bhaduri (2019) show evidence that currency exchange rates have a major impact on the post-crisis period. According to Ojea Ferreiro (2020), the exchange rate swings opposite to the stock price. Bai & Koong (2018) also claim that there is a significant negative relationship between the US stock market and the US dollar, as well as the Chinese stock market and the Asian currency exchange rate. Ding (2021) shows a growth in US prices with a dollar appreciation (depreciation). This is also mentioned by Wong (2017) in his research, which demonstrates that returns on real exchange rates and returns on real stock prices are negative and significant for Malaysia, Singapore, Korea, and the United Kingdom. Furthermore, according to Yang (2017), an exchange rate shock causes an immediate adjustment in stock values.

Figure 1. Comparison of Stock Price, Inflation, Exchange Rates, and Interest Rates

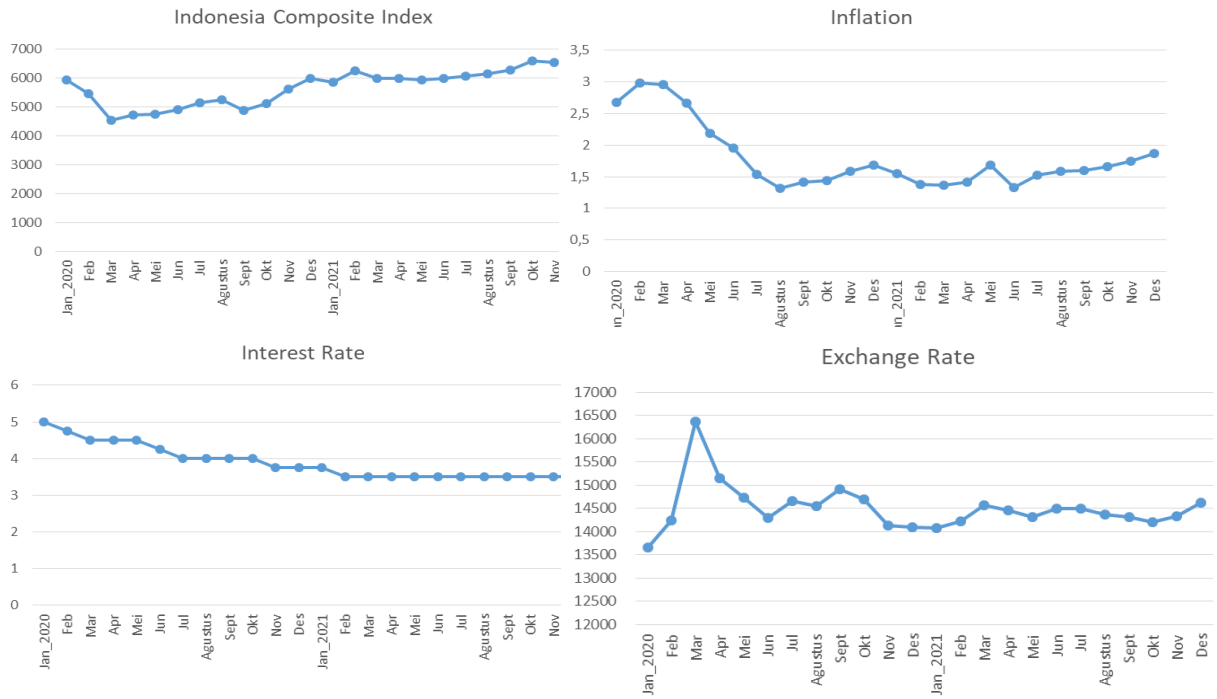


Table 2. Multiple Regression of Global Stock Markets on Jakarta Composite Index

Relationship	Coefficient	Sig.	Decision	
Malaysia Stock Price Index	6.338	0.001	Significant Positive	H_2 Supported
Singapore Stock Price Index	19.685	0.000	Significant Positive	H_2 Supported
Philippines Stock Price Index	12.410	0.007	Significant Positive	H_2 Supported
Thailand Stock Price Index	3.736	0.000	Significant Positive	H_2 Supported
Vietnam Stock Price Index	2.273	0.000	Significant Positive	H_2 Supported
American Stock Price Index	0.134	0.000	Significant Positive	H_2 Supported
China Stock Price Index	1.821	0.000	Significant Positive	H_2 Supported

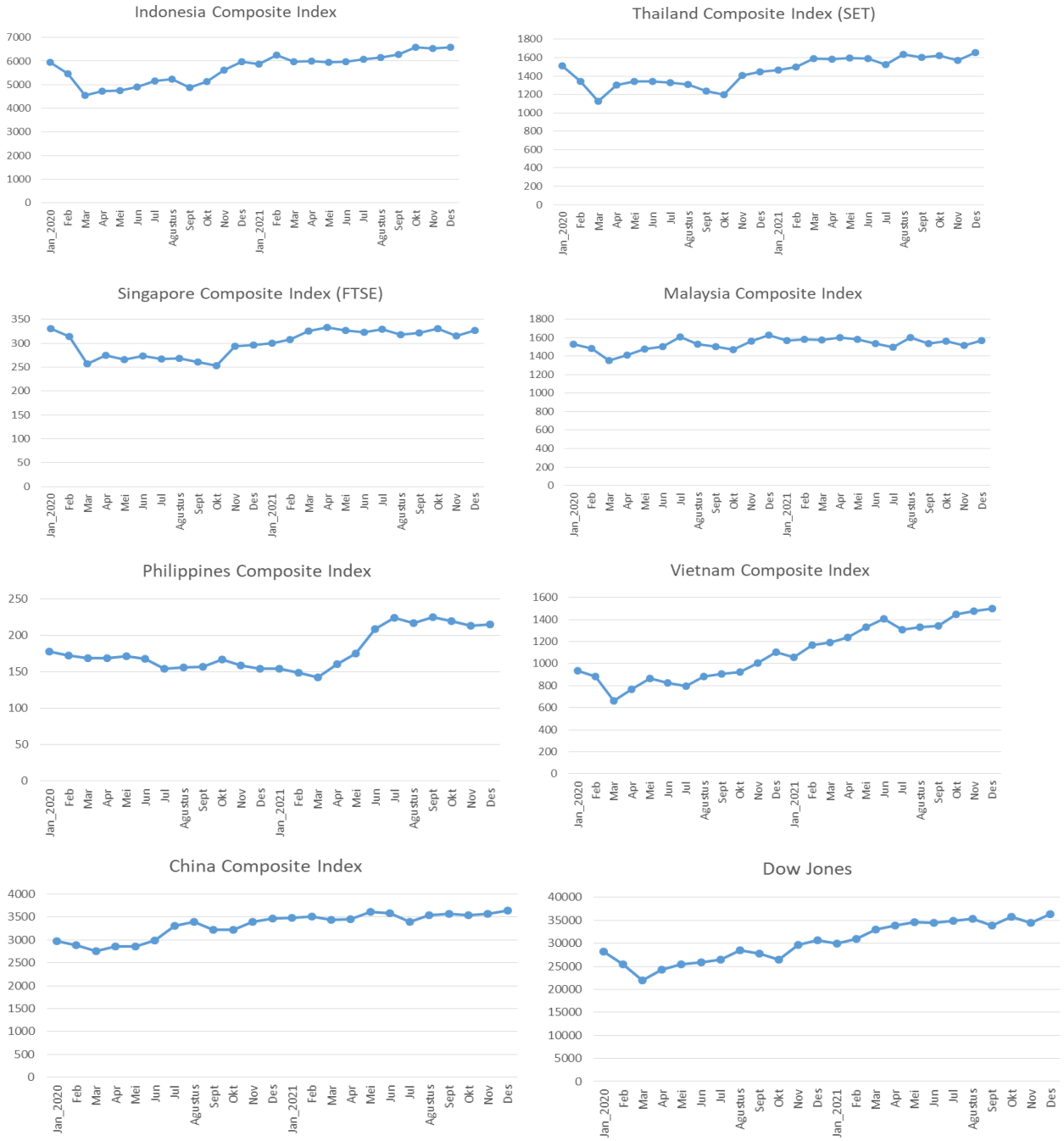
Figure 1 shows the opposite movement occurred when, in March 2020, the stock price decreased from Rp. 5452.7 in February to Rp. 4538.93 in March. The interest rate was initially decreased from 4.75% to 4.5%, but when interest rates gradually fell in the period September to November 2020, then more stable in 2021, the stock price index increased, so for investors in the early p If you want to secure assets during a pandemic, consider transferring cash from stocks to savings, then gradually buying stocks back when the government begins to cut interest rates. Therefore, it can be argued that macroeconomic indicators such as interest rates, inflation, and exchange rates can be used as proxies for stock

prices, allowing these variables to be utilized in constructing investment strategies during the COVID-19 pandemic crisis.

Global Stock Market Analysis

In addition to macroeconomic variables, capital market developments in specific nations such as Southeast Asia, where Indonesia is located, China and America in which represent the two greatest economies today, has huge impact to the Indonesia's composite stock prices.

Figure 2. Stock Indexes of Southeast Asian Countries, China and America



Click and Plummer (2005) state the ASEAN stock market is interconnected. According to Loh (2013), there is a continuous, long-term, simultaneous movement between most Asian stock markets and those of Europe and the United States. Zhang et al. (2019) discovered that the Dow Jones index impacts global stock movements. China has a greater worldwide commercial influence than the United States.

Table 2 revealed that the movements of the JCI were considerably influenced by the stock indexes of Southeast Asian countries, America, and China. Thus, investors must examine the movement of the stock price index of other nations when making decisions and developing investment strategies; when the stock price index of these nations moves positively, it is time for investors to make a move to acquire shares. The graph of each stock index shows that from January to March 2020, all stock price indexes in each country fell and instead began to rise in April. The movement of Southeast Asian stocks, including Indonesia, is driven by America and China, two countries with highly robust economies. According to Dow Jones statistics, it began to strengthen on March 24, 2020, and the stock indexes of Southeast Asian countries followed suit 1-2 days later. Between January and March 2020, the stock price indexes of Southeast Asian countries experienced a decrease; eventually, in April 2020, simultaneously, the stock indexes of these countries experienced an increase. The Vietnam stock index increased by 16%, followed by Thailand (SET), which increased by 15%, Singapore by 7.3%, Malaysia by 4.2%, and Indonesia by 3.9%, with only the Philippines stock index up by 0.0005%. The market's optimism that the pandemic may be ended with the discovery of a coronavirus vaccine drove the stock index's rise; in April 2020, China reported that a coronavirus vaccine would be available in September, and various vaccines developed have been tested on humans. Furthermore, America declared that it had discovered a coronavirus vaccine formula, which encouraged a positive market perception during the development of coronavirus cases at the time.

Gold Price Analysis

Gold is often considered a stable alternative investment, known for retaining its value even during periods of economic uncertainty such as a pandemic. In a time of crisis, when stock values have plummeted dramatically, gold can be an alternative diversion of investment funds. Figure 3 depicts a highly constant gold price throughout a pandemic, underscoring the idea that gold can be used as a hedge when stock prices collapse. According to Chkili (2017), gold can function as a strong protection against excessive stock market volatility, and Drake (2021) likewise sees gold as a safe haven when the stock market falls. Iqbal (2017) added that

Table 3. Linear Regression of Gold Prices on the Jakarta Composite Index

Relationship	Coefficient	Sig.	Decision	
Gold Price	-.002	.458	Insignificant Negative	H_3 Supported

there is strong evidence that gold acts as a secure base against exchange rate risk in Pakistan and India. This stability makes it an attractive option for investors looking to hedge against market volatility. However, the statistical analysis conducted on the relationship between gold and the Jakarta Composite Index (JCI) in Table 3 showed that gold had a negative and insignificant effect on stock prices. This suggests that, in the context of the JCI, gold prices did not significantly impact stock price movements during the period under study. Despite its stability as an investment, gold's influence on the JCI appears to be limited. Hence, gold price movement will be inversely proportionate to stock price movement. Given gold's historical reputation as a safe-haven asset, this result may appear counterintuitive. During the COVID-19 pandemic, gold exhibited resilience and maintained relatively stable prices, which could lead one to assume it might positively impact stock prices. However, the statistical analysis suggests that other factors, such as macroeconomic variables and government policies, may have had more pronounced effects on the JCI during this particular period.

Net Profit Margin Analysis

This paper examines numerous government policies during the pandemic, in addition to assessing the components above. According to Latipulhayat (2012), government policies can influence market perceptions. Government policies are analyzed to see whether they have been favorably received by the market, which will then be used to develop investment strategies. The following are various events and policies that occurred in Indonesia during the pandemic.

1. When the coronavirus affected China but had not yet reached Indonesia in 2019, the market began to respond, and Indonesia also began to take precautions by tightening its workforce from China, but the policy was still unable to prevent the decline in the JCI. The Indonesia Composite Index was at 6,283.58 on January 2, 2020, and when the Indonesian government issued a policy of tightening labor from China on February 21, 2020, the JCI continued to experience a decline to 5,882.25, which is likely due to investors beginning to secure their funds by withdrawing funds from the capital market. To invest in safer instruments.

Figure 3. Gold Prices Movement Index

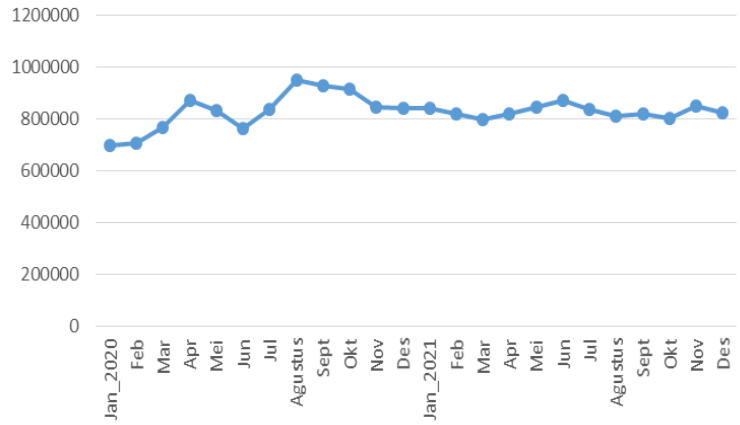
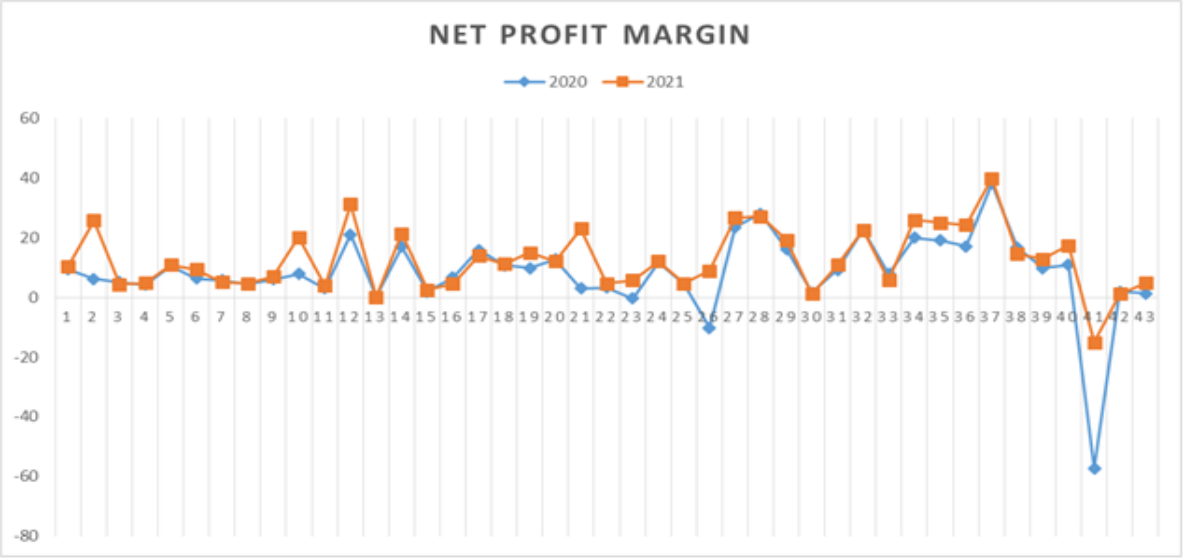


Figure 4. NPM During Pandemic



2. On March 2, 2020, the Indonesian government stated that COVID-19 had arrived in the country. Previously, some investors had anticipated by withdrawing funds in stages from the capital market since January 2020, and on March 2, 2020, when it was announced that COVID had entered Indonesia, investors who had been holding back funds also made withdrawals, resulting in a market panic and a significant drop in the JCI. To avoid a sharp decline, the IDX enforced a short shelling ban and modified the auto rejection limit; nonetheless, this policy proved ineffective in halting the JCI's rapid descent during March 2020. The Indonesia Composite Index reached its lowest point on March 24, 2020, at 3937.63.
3. The March 30, 2020, IDX policy, which imposed a change in trading time to become shorter, was quite effective in preventing a sharp decline in the JCI, as evidenced by the movement of the JCI, which tended to be stable in the range of 4,400–4700 during April-

May 2020 and even experienced a significant strengthening of 4,778.64 on April 7, 2020, compared to the JCI value at the beginning of policy implementation of 4,414.50 on March 30.

4. The implementation of PSBB in Jakarta on April 7, 2020, drew a negative response from the market, causing the JCI to fall further, reaching its lowest point of 4480.61 on April 16, 2020. Because most business sectors in Indonesia, including small enterprises, SMEs, and MSMEs, as well as the education sector, are unfamiliar with online commerce, the passage of PSBB has created an unfriendly business climate. The existence of this PSBB for certain tourism-related sectors, such as hotels and restaurants, has had a significant impact on numerous firms' closing.
5. To stabilize economic conditions, the government used numerous stimulus measures that were effective in stabilizing the JCI from April to June, when the PSBB was enacted. The implementation of the PSBB, which has a negative reaction, has the potential to diminish the JCI. The stimulus for community assistance is intended to build a positive perception that boosts market confidence in the economy's ability to run under government-imposed limits. The JCI proved constant over this period and strengthened on June 8, 2020, reaching a level of 5,070.56.
6. The government established a policy of lowering the BI rate in July 2020, which is expected to move the economy's wheels. The market reaction to this policy was similarly encouraging; the JCI was stable in July and inclined to rise on July 1, 2020, when it was at 4,914.39, and it strengthened on July 30, 2020, when it was at 5,149.63. The discovery of vaccinations in China also had a significant impact on the strengthening of the JCI, which reached 6435.21 after the administration of the phase 1 vaccine to the Indonesian people on January 13, 2021.
7. In the form of an emergency PPKM, limitations on community activities (PPKM) were resumed on February 11, 2021 and prolonged until August 2, 2021. The implementation of restrictions in various regions of Indonesia has resulted in negative opinions, as seen by the weakening of the JCI from 6435.21 on January 13, 2021 to 5700–6100 during April–October. The government agreed to lower the PPKM level on August 24, 2021, which had a beneficial impact on the business climate in Indonesia and resulted in the JCI returning to over 6000.
8. On October 5, 2021, the government relaxed the PPKM once further, announcing that no regions or cities were subject to the highest degree of PPKM requirements. This increases

public confidence and contributes to a more favourable business climate. The JCI has also started to rise, reaching a level of 6417.32 on October 6, 2021.

9. On October 14, 2021, the government enabled Indonesian residents to travel internationally; this move sent a good signal to investors, boosting the JCI to 6626.11.

Looking at the various government policies, the implementation of limits on community activities has a significant impact on the investment climate, and PPKM has a negative impact on the JCI. This finding is consistent with prior research, which found that the lockdown policy contributed to poor investor views and became an impediment to investment growth. (Buchheim et al., 2022; Mzoughi et al., 2022; Sha et al., 2022). However, when the COVID case is not under control, the policy of limiting community activities must remain; when it is under control, the PPKM level can be reduced so that the economy can continue to operate. The development of effective vaccines and drugs is also good news for the JCI; thus, when a pandemic occurs, related parties must find effective vaccines and drugs as soon as possible to support community activities and keep the economy running; additionally, the stock exchange policy of limiting trading hours appears to be effective in preventing sharp declines early in the pandemic. Based on the study findings, four solutions for capital market investors to survive the pandemic can be designed: diversion, conservative wait and see, active guerrilla, aggressive Richman, and analyst strategies.

Diversion is a strategy to divert funds from one investment instrument to another that is considered safe. According to the study's findings, stock price movements declined dramatically at the beginning of the pandemic and then steadily increased even if COVID-19 instances remained high, indicating that investors required temporary diversion instruments. According to the findings, gold has a negative link with stocks, and bank interest rates are likewise rather constant. At the start of the pandemic, gold prices increased significantly as stock prices fell. Previous research has also shown that gold may be used as a hedging tool during a crisis; therefore, gold and savings can be an alternate mechanism for diverting investment capital.

Wait and see is a strategy for holding funds and not making trades for a period of time while waiting for the appropriate moment to gain. Observations of stock price movements during the pandemic show that stock prices respond positively to certain regulatory policies and that several factors, such as the strengthening of stock indexes in Southeast Asian countries, China, and America, as well as a decrease in macroeconomic variables, encourage positive stock price movements. As a result, an investor with a conservative or moderate risk profile can implement this technique by waiting (without making a transaction) at the start of

the pandemic and studying the elements that affect the stock price to be used as a basis for making transaction decisions.

Active guerrilla is a strategy of purchasing shares in small quantities and reselling them when the price has increased. This strategy doesn't necessitate waiting for substantial margins. It's rooted in research findings indicating that stock values exhibit fluctuations. However, during the pandemic, particularly around April, they showed a tendency to gradually rise. Even if short-term declines occur, the overall trajectory remains positive. This scenario enables investors to make modest purchases and swiftly resell, aiming for profits with reasonable margins. However, given the volatile nature of the market, investors employing this strategy must vigilantly monitor the various factors influencing stock price fluctuations. These include positive news regarding vaccines, government policies related to movement restrictions (PPKM), inflation rates, interest rates, exchange rates, as well as stock indexes of Southeast Asian countries, Chinese stock indexes, and American stock indexes, all of which are highlighted in the research findings.

The "Aggressive Richman" strategy is tailored for risk-tolerant individuals with substantial available capital. Investors subscribing to this approach anticipate the eventual resolution of the pandemic, displaying a willingness to commit their funds for an extended period, understanding that stock investments inherently entail long-term and volatile prospects. This strategy derives its foundation from research indicating that Indonesian stock prices exhibited a significant decline from June to March, followed by a gradual recovery starting in April. Subsequently, as various government policies were implemented and vaccines became available, stock prices continued their upward trajectory, presenting an enticing opportunity for aggressive investors to realize substantial gains. To mitigate risks, investors are advised to acquire stocks from companies with exceptional performance, ensuring that when the market conditions improve, stock prices will regain their customary positions. Analyzing the Jakarta Composite Index's movement between 2020 and 2021, proponents of the Aggressive Richman strategy would opt to acquire shares in substantial quantities in March or April 2020, with a focus on industries least affected by the pandemic, allowing for significant profits by July 2020. For those seeking even greater returns, holding onto their investments until the vaccine's distribution to the general population on January 13, 2021, when the Jakarta Composite Index rebounded to 6435.21, could be a viable strategy.

Lastly, the Analyst approach calls for a more cautious stance, with investors closely monitoring various factors influencing stock values during the pandemic, including inflation, interest rates, exchange rates, capital market trends in Southeast Asian countries, China, and

the United States, government policies, especially those pertaining to community activity restrictions, and progress in vaccine development. This strategy also incorporates elements of aggressiveness when circumstances permit, effectively combining aspects of the previous strategies. Notably, while the Analyst strategy offers reduced risk compared to the Guerrilla and Richman approaches, it may yield comparatively lower profit opportunities. Analysts are categorized into three risk profiles: (1) aggressive analysts, (2) moderate analysts, and (3) conservative analysts, each defined by their willingness to assume investment risk.

These strategies must be tailored to the investor's risk profile and the crisis time during the pandemic, as each type of investor will employ different strategies throughout each crisis period, as shown in table 4. In the Question Mark (QM) phase, as economic indicators like the Jakarta Composite Index (JCI) start to decline, the crisis has yet to reach its peak. Although the possibility of a full-blown crisis looms uncertain, the identification of core problems and potential solutions remains crucial. Aggressive investors can opt to retain their funds while monitoring developments, while moderate and conservative investors should promptly transition their assets to more stable options, such as gold and savings.

While the transition to "The Beginning of Crisis" (BC) in February 2020 is marked by a pronounced fall in the JCI and mounting indications of the pandemic's entry into Indonesia (aggressive investors still inequities have the choice to shift to safer havens, while moderate and conservative counterparts, who ideally acted earlier, may maintain their chosen stable instruments). The “Out of Control“ Crisis (OCC) is a period that is characterized by two sub-phases. Firstly, an uncontrolled crisis triggers widespread panic due to the virus's spread, lack of positive vaccine news, and stringent government lockdowns. Aggressive investors in this phase adopt a guerrilla approach, making modest purchases to mitigate high uncertainty risks.

Table 4. Matrix of Investor Strategies, Period of Crisis During a Pandemic, and Risk Profile.

	QM	**BC**	**OCC**	**UCC**	**BN**	**N**
	Jan 20	**Feb 20**	**Mar-Jun 20**	**Jul 20-Jan 21**	**Feb-Oct 21**	**Oct 21-Present**
Aggressive	D / WS	D / WS	G / R	R	R	AA
Moderate	D	WS	WS	G	R	MA
Conservative	D	WS	WS	WS	G	CA

Note: QM: Question Mark, BC: The Beginning of Crisis, OCC: The 'Out of Control' Crisis, UCC: The 'Under Control' Crisis, BN: The Beginning of Normalization, N: Normalization, D: Diversion, G: Active Guerilla, WS: Wait and See, R: The Richman Party, AA: Aggressive Analyst, MA: Moderate Analyst, CA: Conservative Analyst.

Moderate and conservative investors maintain their holdings. Second, the crisis remains severe, but panic in the public has started to diminish. Economic activity gradually resumes in some areas, but vaccine and drug certainty is absent. Capital markets show improvement, prompting aggressive investors to make significant purchases for future gains. Moderate and conservative investors remain cautious due to the lingering risk.

As the crisis transitions into The “Under Control" Crisis (UCC) from July to January 2021, positive vaccine news begins to surface, boosting investor confidence. Stock prices ascend, with the JCI surpassing the 5000 mark after languishing around 4000. Ambitious investors may continue accumulating stocks for the long term, while moderate investors can opt for a combination strategy. Conservative investors, prioritizing risk aversion, opt for prudent fund management due to lingering downside risks. Moving "The Beginning of Normalization" (BN) despite Phase 1 vaccinations, continued community activity restrictions cause a contraction in the economy, temporarily pushing the JCI below 6000. Aggressive investors may employ profit-taking or purchasing tactics, while moderate investors are less affected by the stock price dip, given the vaccine's presence and government caution. Finally, investors return to more conventional strategies tailored to their risk profiles in the "Normalization" (N) era, commencing on October 20, 2021, with widespread vaccination and eased restrictions. Purchases can be made more traditionally, with thorough analysis of factors influencing stock price movements, including the performance of companies less affected by the initial pandemic period until the crisis was under control. This phase signals a return to relative normalcy, prompting a reversion to customary investment practices.

Conclusion and Suggestion

This study aims to build the correct approach for investors during the crisis period by investigating several elements that influence stock price changes throughout the pandemic period. According to the findings of macroeconomic research, inflation, interest rates, and currency rates all have a major negative impact. Furthermore, the capital market performance characteristics of Southeast Asia, China, and America have a favorable and important influence. Therefore, every investor must consider these elements while developing a plan during a pandemic. Furthermore, because gold price movements are inversely proportionate to stock price movements when equities face a downturn during a pandemic, investors can shift their funds to gold, and conservative investors can also transfer their funds to savings. The company's performance and the increase in COVID cases have little effect on stock prices. However, the public is more responsive to government policies, particularly the policy

of limiting the movement of community activities, as well as positive news about the development of the COVID-19 vaccine.

Based on the study's findings, four techniques can be implemented, including diversion, wait and see, Ricman party, guerilla, and analyst strategy. A diversion strategy devised based on research findings showing gold prices tend to remain steady and rise when stock prices fall, allowing gold to be utilized as a means of diverting stock investors' funds Wait and see refers to the movement of stock prices that fell freely at the start of the pandemic and sometimes continues to fall during the crisis period that has not been controlled, so investors with a moderate or conservative risk profile can hold their funds and continue to observe various factors that affect stocks in the future, The Ricman party strategy: if you look at the results of research where stock prices have increased quite quickly despite the fact that it is still far from normal conditions, which is only 1 month from the official announcement of COVID-19 entering Indonesia, aggressive investors can buy shares when the price is slowly starting to rise. The guerrilla strategy is another option for bold investors in the early stages of the pandemic. The study's findings show that liquid stocks move positively gradually and declines occur only for a brief period of time, allowing aggressive investors to take action with a thin margin target in a very short period of time. The analyst is a careful investment technique. Investors closely monitor the numerous elements that influence stock price changes. This strategy is based on research findings that show stock price movements are more influenced by positive news related to the government's easing of PPKM (Community Activity Restrictions) policies, vaccine discovery, economic conditions in other countries, and capital market conditions in Southeast Asian countries, China, and America, than company performance and cases of COVID infection, so investors must be very careful and smart in their investments. Every crisis moment that happens during a pandemic, as well as every investor's risk profile, will influence the strategy chosen.

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