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Analysis Of Stock And Gold Investment Returns During Covid-19 Pandemic In Indonesia

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Abstract:
The global financial markets were severely disrupted by the COVID-19 epidemic, posing a special challenge to investors everywhere. This study compares the performance of the stock market, as measured by the Jakarta Composite Index (JCI), and gold, two important asset classes in Indonesia, during the epidemic. We compute returns for gold and the JCI using weekly data from January 2020 to January 2022. We then do an independent sample t-test to see if there is a statistically significant difference in their investing performance. Our findings show that there was no statistically significant difference between the pandemic returns on the JCI and gold. This discovery casts doubt on long-held beliefs about gold as a safe-haven asset and points to a complicated investing climate in Indonesia during the crisis. The study emphasizes how important it is to have a sophisticated grasp of asset behavior and investor tactics in order to respond to hitherto unseen global concerns. To provide a more thorough examination of these investment dynamics, future study should include additional factors such as sectoral variances, government initiatives, and investor sentiment.

***Key Word**: Indonesian Stock market; Gold price; Covid-19 pandemic; Independent Sample t-test; Investment returns.*

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I. Introduction

The COVID-19 pandemic, caused by the novel coronavirus, emerged in late 2019 and swiftly escalated into a global health crisis. Because of the virus's quick spread, nations all around the world have responded with unprecedented lockdowns, travel bans, and economic shutdowns in an effort to stop its spread. Like many other countries, Indonesia struggled to address the complex issues brought forth by this unanticipated crisis.

Prior to the pandemic, Indonesia was a prominent actor in Southeast Asia, with a diversified and expanding economy. Its financial markets, including the IDX stock exchange, attracted interest from both local and global investors due to their varied degrees of stability and growth. Nevertheless this stability was upset by the COVID-19 pandemic, which caused significant swings in the world financial markets. A sharp shift in investor sentiments resulted in increased volatility and uncertainty. A number of asset classes were affected, most notably stock markets and commodities prices, which included gold, which is known to be a traditional safe-haven asset in times of crisis

Historically, economic crises have influenced investor behavior, prompting a reevaluation of investment and asset allocations. Understanding how investors responded to the challenges posed by the pandemic in Indonesia provides valuable insights into their risk appetite, risk aversion, and preferences for certain asset classes during times of uncertainty.

In light of this, it is imperative to perform a thorough investigation of the Indonesian stock and gold markets during the COVID-19 pandemic. This kind of analysis aims to clarify how well different investment options perform, how their movements are correlated, and what fundamental reasons affect investor decisions during a crisis. For investors, regulators, and other market players trying to negotiate and comprehend the ramifications of such extraordinary events, revealing these dynamics is crucial.

This study aims to investigate the investment returns and risks on gold and stocks in Indonesia (IDX) during the COVID-19 Pandemic and to investigate the difference in investment returns between Gold and Stocks in Indonesia (IDX) during the COVID-19 Pandemic. By fulfilling these goals, the study hopes to provide insights into the performance investments of stocks in Indonesia and Gold.

A thriving and expanding emerging market, Indonesia provides important insights into how developing economies deal with shocks from around the world. This research adds to our understanding of how investor strategies react in similar circumstances by carefully examining the pandemic performance of two distinct asset types. Its conclusions can help investors navigate similar tumultuous waters and provide guidance to policymakers in emerging economies who are trying to establish strong financial systems.

II. Literature Review

Global financial markets have been impacted by the COVID-19 epidemic, which has led to an increase in research on how various asset classes fared throughout the crisis. To create a solid basis for our examination of the Indonesian market, this survey of the literature delves deeply into the body of knowledge regarding the returns on investments in stocks and gold, especially in times of crisis.

Global Perspectives on Pandemic and Investment Returns

The market reacted quickly and harshly to the outbreak at first. COVID-19 instances and stock market returns in key economies are significantly correlated negatively, with decreases in stock market returns frequently surpassing those observed during the 2008 financial crisis, according to a study by Ji X. et al (2022). The rate and degree of recovery, however, differed. While some markets, like those in Europe, saw a longer fall, others, like those in the United States, showed a faster recovery rate. A number of variables, including differing levels of government intervention, economic resiliency, COVID-19 death rates and dependency on tourism and exports can be attributed for these variations in different countries. (Ünal S. Et al, 2021)

Investor expectations were shaped and market shocks were mitigated in large part by fiscal and monetary policies. According to Sarker et al. (2020), prompt government actions, like financial stimulus packages and liquidity facilties such as lowering borrowing costs, have stabilized markets and helped prevent a deeper economic recession. In the meantime, the US stock market recovered quickly thanks to the Federal Reserve's monetary easing policies such as a large financial stimulus package and direct financial support to firms (Unal S. et al, 2021).

The pandemic's impact on stock markets was not consistent across industries. The technology and healthcare industries frequently outperformed, owing to rising demand for digital services and health solutions (Jan Jakub A. et al., 2022). Tourism, hotel, and transportation sectors, on the other hand, faced major hurdles as a result of travel restrictions and social distancing measures. These sectoral differences underscore the interdependence of global supply chains as well as the vulnerability of certain businesses to changes in consumer behavior and economic activity.

The Safe Haven Appeal of Gold During Crises

Gold has always retained a special fascination as a symbol of stability in the midst of economic and political upheaval. Its long-term attractiveness as a safe haven asset arises from a combination of variables, including intrinsic worth, historical scarcity, and independence from traditional financial institutions. These traits have continuously attracted investors seeking refuge from the storms of crises, making gold an important component in understanding investing behavior during troubled times. Gold's image as a safe refuge may be traced back hundreds of years of financial instability. During times of economic depression, political unrest, and currency depreciation, gold has frequently held its value while other investments have collapsed. (Baur & Thomas, 2010). Its historical significance as an inflation hedge and wealth storage has cemented its place as a sought-after sanctuary in times of turmoil.

Several studies have shown that gold tends to yield better returns compared to other asset classes during times of crisis. Hood, M. and Malik, F. (2013), for example, discovered that gold consistently outperformed other asset classes during periods of increased market volatility. While this trend is universal, research reveals that gold's safe haven attraction may vary by area. For example, Ghazali et al.(2015) identified a greater safe haven effect in US, UK and India markets than in emerging countries such as Malaysia, indicating potential cultural or economic influences.

Investment Behavior during the COVID-19 Pandemic

Throughout the pandemic's phases, investor behavior has exhibited extraordinary adaptability. Initial reactions included increased risk aversion and a flight to safety assets, as shown by a rise in gold prices and a fall in equities markets (Feyen E. et al., 2021). However, when governments enacted stimulus measures and markets stabilized, investors eventually restored confidence, resulting in a rebound in stocks and the pursuit of fresh possibilities (Ashraf, 2020).

The epidemic has shifted investor preferences for some industries, reflecting changing economic realities and risk perceptions (Ünal S. Et al, 2021). Because of their resilience during lockdowns and increasing demand for their products and services, healthcare, technology, and consumer staples emerged as preferred alternatives (Mazur, M. et al, 2021). Tourism, hospitality, and transportation, on the other hand, faced severe issues, prompting investors to cut exposure or seek hedging techniques within those areas.

During the pandemic, investment behavior varied significantly across geographic regions and investor demographics. Cultural considerations, knowledge access, and economic frameworks have all influenced investing decisions and risk tolerance levels. Emerging markets, for example, have frequently demonstrated more volatility and greater sensitivity to exogenous shocks such as the rising infections during the pandemic (Harjoto et al., 2021).

The pandemic has highlighted the significant impact that psychological elements have on investor behavior. Fear of financial loss, uncertainty about the future, and heightened anxiety have influenced decision-making, leading to illogical behaviors and herd mentality (Aharon, 2021). The impact of media coverage and government messaging in shaping sentiment has also been highlighted, emphasizing the importance of clear and consistent communication during crises.

Investigating the Indonesian Market

The COVID-19 pandemic put Indonesia's economy to the test, exposing vulnerabilities while also demonstrating its resilience and adaptability. The country's reliance on foreign investment, notably in infrastructure, resulted in currency devaluation and financial instability at first. However, fast fiscal and monetary measures such as stimulus packages, bank lending programs, and interest rate decreases aided in market stabilization. Furthermore, the drop in tourism and global commodity prices had a severe influence on export profits. The government responded by providing targeted assistance to affected sectors, making temporary regulatory changes, and expanding social safety nets.

Existing research on the Indonesian market provides useful insights into its performance before the pandemic and potential vulnerabilities during the COVID-19 crisis. Syahri, A., & Robiyanto, R. (2020) discovered that the Covid-19 pandemic only had temporary effects on Indonesian gold prices, validating gold's perceived safe haven role. Marwanti & Robiyanto (2021) also examined gold's risk-hedging potential against the IDX, proving its usefulness in limiting losses during market downturns and acting as a safe haven.

III. Methodology

Data Collection

This research uses secondary data as a data source where this data is data that has been combined from articles, books and even websites that are related to research via IDX (www.idx.go.id), and Kitco Gold (www.logammulia.com) or (www.bps.go.id). The data collected for this research consists of Gold price data during the Covid-19 period and IDX data available on the Indonesian stock exchange during the Covid-19 period.

Table 1: Research Variables

Variable	Definition	Indicator
Investment Performance of Gold	the measurement and evaluation of how gold performs as an asset over time in terms of returns, volatility, and potential as an investment instrument. This evaluation often includes an examination of a variety of criteria, including changes in gold prices, market trends, historical returns, and its role as a hedge against inflation or economic uncertainty.	Gold Returns
Investment Performance of Stocks in Indonesian Stock Market	The assessment and evaluation of the performance of equities traded on Indonesian stock markets during a certain time period. This evaluation includes an examination of numerous aspects of these equities, such as their price movements, returns, volatility.	IDX Index Returns

Research Hypothesis

This research uses the independent t-test to statistically determine whether there is a difference between the performance of gold and stocks in the Indonesian stock market. The hypothesis are as follows:

- H_0 : No statistical difference between the investment performance of stock and gold during the COVID-19 pandemic
- H_1 : There is a statistical difference between the investment performance of stock and gold during the COVID-19 pandemic

Returns

After collecting all the data on the IDX prices and gold prices during the COVID-19 Pandemic. Then the weekly returns of each assets is then calculated using the equation below:

$$R = \frac{P_T - P_{T-1}}{P_{T-1}}$$

Where: R=Return, P_T=Current Stock Price, P_{T-1}=Stock Price at T-1

Normality test

The Normality test of the data is used to check whether the data used follows the normal distribution as a basis for testing the hypothesis and fulfilling the normality assumption.

- If sig p value > 0.05, then the data is normally distributed
- If sig p value < 0.05, then the data is not normally distributed

Independent t-test

This research uses the independent t-test to statistically determine whether there is a difference between the performance of gold and stocks in the Indonesian stock market. The steps used in the independent t-test are as follows:

1. Determine Hypothesis
- H0 : No statistical difference between the investment performance of stock and gold during the COVID-19 pandemic
- H1 : There is a statistical difference between the investment performance of stock and gold during the COVID-19 pandemic

2. Determine the investment performance of gold and stocks in the indonesian market during COVID-19 pandemic by calculating gold returns and IDX returns

3. Set Criteria:
- t-table < test statistic < t-table : H1 is rejected
- Test statistic > t-table: H0 is rejected

IV. Results & Analysis

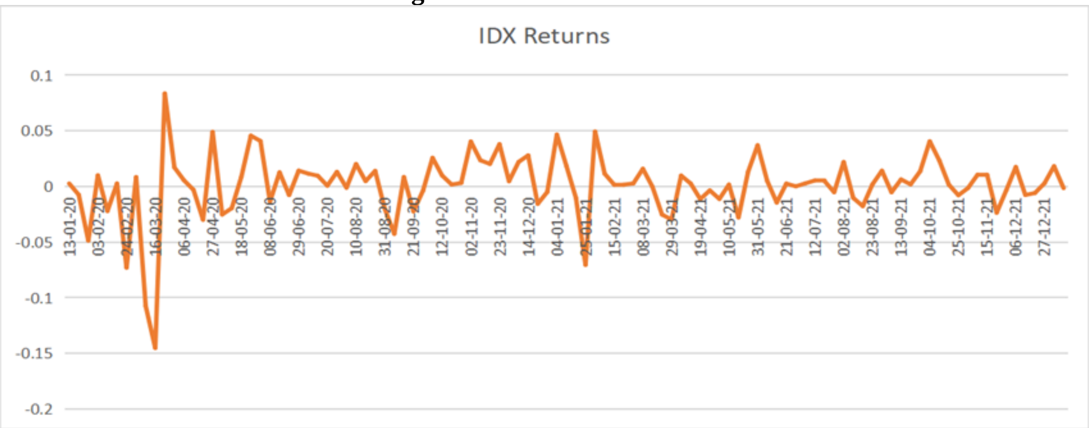
Stock Returns

Table 1 Below shows the Summary Statistics of the IDX Weekly Returns from 06 Jan,2020 - 03 Jan, 2022 and Figure 1 shows the chart representing the weekly returns of the IDX from 06 Jan,2020 - 03 Jan,2022.

Table 2: IDX Returns Summary

IDX Returns Summary	
Mean	0.00104
Median	0.00206
Max	0.08358
Min	-0.14521
Range	0.22879
Standard Deviation	0.02898
Sample Size	105

Figure 1: IDX Returns Chart



Gold Returns

Table 2 and figure 2 below shows the summary statistics and the line chart representing the returns of Gold from 06 Jan,2020 - 03 Jan,2022 respectively.

Table 3: Gold Returns Summary

Gold Returns Summary	
Mean	-0.0008
Median	-0.0034
Max	0.1023
Min	-0.0862
Range	0.1885
Standard Deviation	0.0262
Sample Size	104

Figure 2: Gold Returns Chart

From the table and graph above, we can see that the average weekly returns of Gold is -0.0011 which is lower than the average IDX weekly return. The highest weekly return is 0.1023 on the 1st week of March,2020 and the lowest return is -0.0002 on 2nd week of September, 2021.

Analysis Results of comparison between Gold and IDX stock index returns

To compare the weekly returns of Gold and IDX stock index and determine whether there is a difference between the return on investing in stocks and gold, the Independent sample t-test is used/

The normality test is performed to determine whether or not the dataset follows the normal distribution as one of the assumptions made before performing the Independent sample t-test is that the data follows the normal distribution. In this paper, the graphical method using histogram is used.

Figure 3: Gold Returns Histogram

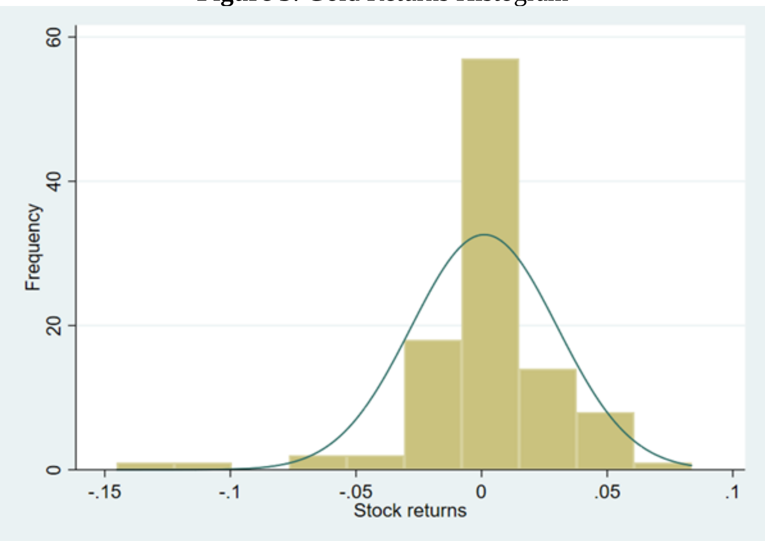
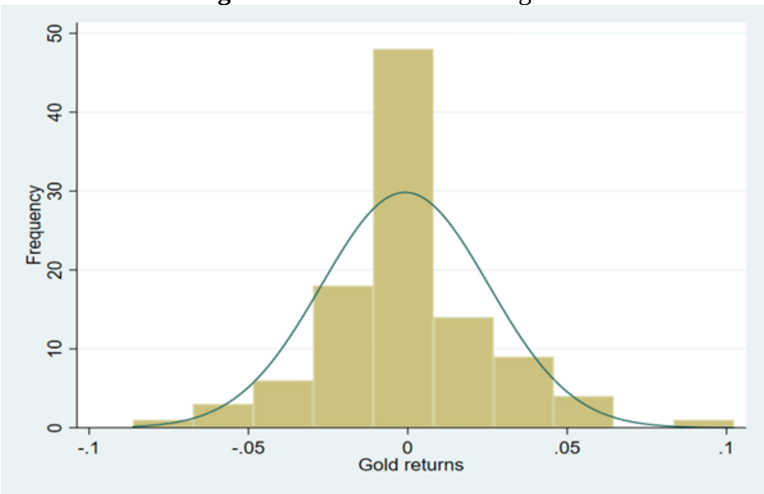


Figure 4: Stock Returns Histogram



From the Histogram of both the stock returns and gold returns, we can clearly see that both histograms form the bell shaped curve that a normal distribution would have. In conclusion, both datasets follow the normal distribution and therefore can be used to perform the independent sample t-test without any adjustments.

Table 4: Independent Sample t-test results

Variable	Obs	Mean	Std.Err	Std.Dev	[95% Conf. Interval]	
					Lower	Upper
GoldReturns	104	0.00083	0.00257	0.02622	-0.00593	0.00427
StockReturns	104	0.00107	0.00286	0.02912	-0.00460	0.00673
Diff		-0.00190	0.00384		-0.00947	0.00568

Figure 4: Independent Sample t-test results

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    diff = mean(goldreturns) - mean(stockreturns)                t =  -0.4942
Ho: diff = 0                                    degrees of freedom =      206

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.3109         Pr(|T| > |t|) = 0.6217          Pr(T > t) = 0.6891
```

The Figure above shows the results obtained from performing the Independent Sample t-test with equal variance assumed. The p-value shown by Pr(|T| > |t|) = 0.6217 is more than the 0.05 (based on a two-tailed significance level), which implies that our null hypothesis H_0 is not rejected, meaning there is no difference between the returns of the IDX stock index and gold during the COVID-19 pandemic.

V. Conclusion

Following the unique challenges given by the COVID-19 pandemic, this study intended to investigate and compare the investing performance of gold and the Indonesian stock index, the IDX. The study thoroughly investigated the returns of these two main investment assets during the pandemic-induced economic instability using the independent sample t-test as the analytical method.

Surprisingly, the independent sample t-test results show no statistically significant difference between gold and the IDX stock index returns during the COVID-19 epidemic. This conclusion defies the traditional perception of gold as a safe haven during times of economic turmoil often demonstrating inverse correlations with stock markets during times of crisis. On the other hand, the absence of a discernible return differential between gold and the IDX stock index during this particular time frame points to a complex investment environment in the Indonesian market during the pandemic.

The lack of a statistically significant difference stimulates more thought about the interaction of factors influencing investing behavior, market dynamics, and the evolving role of traditional safe-haven assets in the face of unprecedented global difficulties. The resiliency displayed by both gold and the IDX stock index throughout this period puts into question traditional wisdom about asset behavior during crises and argues the understandings inherent in modern financial markets.

It is crucial to acknowledge the limitations of this study, including the specific context of the COVID-19 pandemic and the relatively short-term focus of the analysis. Future research endeavors could explore additional factors, such as government interventions, sectoral variations, and investor sentiments, to provide a more comprehensive understanding of the observed patterns.

In conclusion, despite the lack of statistically significant diversification benefits observed in this study, gold remains a valuable asset class with unique characteristics and historical significance. Its intrinsic value, limited supply, and historical role as a hedge against inflation warrant further investigation and understanding, particularly in the context of evolving economic landscapes and potential future crises.

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