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Comparison of Performance and Best Choice of Investment Instruments: A Study from Indonesia

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Abstract:
This research is based on the phenomenon of new investment trends by looking for which investment instrument is the best of four instruments, namely Antam Gold, LQ45 Shares, Reksa Dana, and Bitcoin Cryptocurrency. The research method used is a quantitative method with a comparative descriptive research type. The Sharpe, Treynor and Jensen index approaches are used to evaluate the performance of four investment instruments. the total sample size is 192 data. The results showed that LQ45 stocks produced the best performance during the Covid-19 pandemic. This condition is because LQ45 stocks can generate returns that are greater than the risk. The high return generated by LQ45 stocks even during the covid-19 pandemic was due to sectors that actually strengthened during the covid-19 pandemic. In addition, LQ45 stocks consist of stocks from the most liquid companies and have the largest market capitalisation so that these companies are resistant to crises.

Keywords: *Return, Risk, Shares, Reksa Dana, LQ45 Shares*

Perbandingan Kinerja dan Pilihan Instrumen Investasi Terbaik: Studi di Indonesia

Abstrak:
Penelitian ini dilatarbelakangi oleh fenomena tren investasi baru dengan mencari instrumen investasi mana yang terbaik dari empat instrumen yaitu Emas Antam, Saham LQ45, Reksa Dana, dan Bitcoin Cryptocurrency. Metode penelitian yang digunakan adalah metode kuantitatif dengan jenis penelitian deskriptif komparatif. Pendekatan indeks Sharpe, Treynor dan Jensen digunakan untuk mengevaluasi kinerja empat instrumen investasi. Total ukuran sampel sebanyak 192 data. Hasil penelitian menunjukkan bahwa saham LQ45 menghasilkan kinerja terbaik selama pandemi Covid-19. Kondisi ini dikarenakan LQ45 mampu menghasilkan return yang lebih besar dari risikonya. Tingginya return yang dihasilkan oleh LQ45 bahkan selama pandemi covid-19 dikarenakan sektor-sektor yang justru menguat selama pandemi covid-19. Selain itu, LQ45 terdiri dari saham-saham dari perusahaan yang paling likuid dan memiliki kapitalisasi pasar terbesar sehingga perusahaan tersebut tahan terhadap krisis.

Kata Kunci: *Return, Risiko, Saham, Reksa Dana, Saham LQ45*

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INTRODUCTION

The Covid-19 pandemic has caused a global crisis that goes beyond the health crisis alone, but also spreads to the social and economic sectors, including the impact felt in the financial sector. When the first case of the coronavirus was announced in Indonesia, the impact was not only limited to the health sphere, but also included its influence on capital market activity. The announcement brought with it information capable of changing investor decisions (Halimatusyadiyah, 2020). resulting in a less optimistic sentiment in the market and the impact accelerated the market into a negative direction in the form of a slowdown in economic growth (Nasution, Erlina, & Muda, 2020).

The decline in economic growth not only affects economic conditions directly, but also has a significant impact on the development of the capital market in Indonesia. This can be explained by the domino effect of economic growth which also affects the development of the capital market, considering that the capital market has an important contribution to a country's economy(Saraswati, 2020). The capital market in Indonesia has shown a negative reaction even before the confirmation of Covid-19 entering the country, as seen from the lowest point that occurred one month after Covid-19 was first confirmed in Indonesia. The Jakarta Composite Index (JCI) experienced a significant decline, reflecting the instability of the capital market in Indonesia. Before the pandemic, the JCI was stable from March 2019 to December 2019. However, the decline began in January 2020 and reached its lowest point in March 2022, coinciding with the announcement of the first case of the Covid-19 virus in Indonesia (Marino & Rohanah, 2021).

The enactment of the Restriction of Community Activities Policy has had a significant impact on stock prices in the market. The Restriction of Community Activities policy forced many companies to adjust their operations, some even being forced to reduce or stop production completely, which of course resulted in a decrease in sales. This decline will have a direct impact on sales turnover, which in turn will affect the overall performance of the company. A decline in company performance, as seen from a decline in sales turnover, can directly lead to a decline in share prices across industry sectors, as mentioned by (Saraswati, 2020). In addition, a decrease in share price will also have an impact on the performance of the stock itself, which can be reflected in the return generated. Stock price fluctuations can also trigger abnormal returns, which are returns that are not as expected by investors. Research by (Halimatusyadiyah, 2020) shows that the announcement of the Covid-19 virus case in Indonesia has caused significant differences in average abnormal returns before and during the Covid-19 pandemic.

Gold investment is seen as one of the safe investment instruments in the Covid-19 Pandemic situation, this is because gold prices tend to increase over time, especially because gold has low interest rates. In addition, the decline in stock prices that occurred during the pandemic encouraged investors to sell their stocks and switch to gold, which resulted in the demand for gold increasing beyond its supply (Ningsih, Sugiharto, & Utomo, 2021). Gold prices remained stable during the Covid-19 pandemic, although there was a decline in gold prices in March, but when Covid-19 was declared a pandemic, gold prices continued to increase in the following month.

Cryptocurrencies are also considered an attractive investment alternative for investors. Cryptocurrency assets have similar performance characteristics to gold, where both are relatively resistant to fluctuations in macroeconomic conditions. This makes

cryptocurrency a safe-haven asset that is able to maintain its investment value when economic conditions are unstable (Taniady, Permatasari, & Nugraha, 2021). However, investing in cryptocurrencies comes with a high risk. The volatility of cryptocurrencies is extreme, with price spikes that can happen quickly. This high volatility reflects the level of risk faced by investors. In addition, cryptocurrency price movements are often the result of temporary enthusiasm bubbles, which can lead to price fluctuations that are difficult to predict (Huda & Hambali, 2020).

Based on Indonesian Capital Market Statistics data by PT Kustodian Sentral Efek Indonesia (KSEI), although the Covid-19 pandemic has brought the capital market to a negative direction, the number of investors in the capital market has increased significantly. If in 2019 the number of investors was 2,484,354 investors, in 2020 it will be 3,880,753 investors or an increase of 56.21%. The increase occurred more rapidly in 2021, namely 92.99% during the pandemic. In contrast to the increase in the number of investors in the Indonesian capital market every year, the level of financial literacy in the capital market sector actually tends to be low and decreases every year. Based on the results of the 2022 National Survey of Financial Literacy and Inclusion, announced by the Financial Services Authority, the level of financial literacy in the Indonesian capital markets sector is low. In 2019 the level of financial literacy in the capital markets sector was 4.92%, very low compared to the level of literacy in other financial sectors. In 2022, the literacy rate in the capital markets sector will actually decrease to 4.11%. This condition shows that investors' understanding of the capital market is low and can cause investors to be trapped in fraudulent practices and illegal investments

Several studies have been carried out to prove which investment instruments have the best performance. Study (Maldini & Patrisia, 2022)which proves that the investment instrument with the highest performance as measured by the Sharpe, Jensen, and Treynor method is LQ45 Shares, then Gold, and the lowest is Bitcoin. This research also proves that there are significant differences in the performance of Gold, LQ45 Shares, and Bitcoin, whether measured using the Sharpe, Treynor, or Jensen methods. Meanwhile, according to research (Hamdika, Saragih, & Sinaga, 2022) proves that the best investment instrument as measured by the Sharpe method is Bitcoin, followed by LQ45 Shares, and the lowest is Gold. Meanwhile, the Jensen and Treynor method proves that the best investment instrument is Bitcoin, followed by Gold, and the lowest is LQ45 Shares. This research also proves that there is a significant difference between the performance of Gold, LQ45 Shares, and Bitcoin when measured using the Sharpe and Treynor method, while for the Jensen method there is no significant difference.

Study (Krisantana & Pratomo, 2022) adding an investment instrument that is rarely used in similar research, namely the Swiss currency or what is called the Swiss-franc. Researchers chose this investment instrument because during the pandemic they shifted part of their asset portfolio to Swiss francs as part of a hedge investment. The results of his research show that the Swiss-franc has the best performance when measured using the Sharpe and Jensen method, while when measured using the Treynor method, Bitcoin has the highest performance. Based on its significance value, each instrument also has a significant difference between the Treynor and Jensen ratios. In these studies, most of them used Gold, Stocks and Bitcoin investment instruments, while there are still many investment instruments that can be researched and their performance compared with these investment instruments, one of which is Mutual Funds.

This research will add investment instruments, namely Mutual Funds, especially Stock Mutual Funds. During the Covid-19 pandemic, investment in equity mutual funds was very popular because it provided a higher return on investment than other alternatives such as savings or deposits, but had lower risks than other alternatives such as shares or foreign exchange (Aprilianti, Nidar, & Saefullah, 2022). This research is intended to compare the performance of investment instruments, namely Antam Gold, LQ45 Shares, Stock Mutual Funds, and Bitcoin Cryptocurrency, using conditions during the Covid 19 pandemic. The results of this research are expected to help investors to determine the right choice of investment instruments, especially for investors. beginners who have just started investing.

METHODOLOGY

Location and Time of Research

The population in this research is the price of shares, gold and cryptocurrencies and the final net value of share mutual funds (Reksa Dana). The samples in this research are the monthly closing price of LQ45 Shares, Antam Gold, and Bitcoin Cryptocurrency as well as the monthly closing Net Value of Stock Mutual Funds (Reksa Dana) for the period 01 January 2019 - 31 December 2022.

Research Approach

The research approach was conducted with a quantitative approach

Data Collection Methods

The method of collecting data from annual reports and the IDX website so that 48 data are obtained from each investment instrument. And the total number of samples is 192 data. The data required is as follows:

1. Monthly closing prices of LQ45 Shares, Antam Gold, and Bitcoin Cryptocurrency 2019 – 2022
2. Final monthly net value of Equity Mutual Funds (Reksa Dana) 2019 – 2022
3. Composite Stock Price Index 2019 – 2022
4. CRIX Index (Crypto Index) 2019 – 2022
5. S&P/TSX Global Gold Index 2019 – 2022
6. BI Rate 2019 – 2022

The data that has been collected is then carried out to measure performance by calculating the return and risk of each investment instrument. Then performance measurements were carried out using the Sharpe, Treynor, and Jensen methods to better show the comparison and so that the data presented was more accurate.

Data Analysis

The Kruskal-Wallis test is used to test whether or not there is a significant difference in averages in two or more variables.

Research Variables and Operational Definitions

This research uses Return, Risk, Beta, Sharpe method, Treynor method, and Jensen method to measure the performance of each investment instrument. So the research variables used are Return, Risk, Beta, Sharpe, Treynor, and Jensen. The explanation of the operational definitions of the variables contained in this research is outlined in Table 1.

Table 1. Research Variables

Research variable	Object	Formulas	Scale
Return	- Gold - Share - *Bitcoins*	$R_t = \frac{P_t - P_{t-1}}{P_{t-1}}$	Ratio
	Stock Mutual Funds (Reksa Dana)	$R_t = \frac{NAB_t - NAB_{t-1}}{NAB_{t-1}}$	
Risk	- Gold - Share - Stock Mutual Funds (Reksa Dana) - *Bitcoins*	$\sigma = \frac{\sqrt{\sum_{i=1}^{n}(X_t - \bar{X})^2}}{N-1}$	Ratio
Beta	- Gold - Share - Stock Mutual Funds (Reksa Dana) - *Bitcoins*	$\beta = \frac{\sigma ij}{\sigma m^2}$	Ratio
Sharpe	- Gold - Share - Stock Mutual Funds (Reksa Dana) - Bitcoins	$S_p = \frac{\bar{r}_i - \bar{r}_f}{\sigma_{pi}}$	Ratio
Treynor	- Gold - Share - Stock Mutual Funds (Reksa Dana) - Bitcoins	$T_p = \frac{\bar{r}_i - \bar{r}_f}{\beta_{pi}}$	Ratio
Jensen	- Gold - Share - Stock Mutual Funds (Reksa Dana) - Bitcoins	$\alpha = \overline{r_{pi}} - [\overline{r_f} + \beta_{pi}(\overline{r_m} - \overline{r_f})]$	Ratio

Source: Researcher Data, 2024

RESULTS AND DISCUSSION

The results of descriptive statistics show that a total of 192 samples of investment instruments were used in this research. The normality test was carried out using the Kolmogronov-Smirnov method. The normality test results on the Sharpe, Treynor, and Jensen variables for Gold, Stocks, Stock Mutual Funds (Reksa Dana), and Bitcoin have a significance value greater than 0.05, meaning that the normality test results of the data in this study are not normally distributed. Furthermore, the results of the data homogeneity test in this study have different or inhomogeneous variances because the significance value is less than 0.05.

Based on the normality test and homogeneity test, the data used in this study is not normally distributed and has different variances or is not homogeneous. Thus, the

Kruskal-Wallis test is used to test whether or not there is a significant difference in averages in two or more variables. The results of the Mean Rank in the Kruskal-Wallis test which shows the average rank of each treatment can be seen in Table 10. In the Sharpe variable, Bitcoin has the highest average rank, namely 137.72, followed by Stocks as second place with a value of 93.25. The third rank is Gold with a value of 79.38 and the last rank is Stock Reksa Dana with a value of 75.66. In the Treynor variable, shares occupy the highest average rank, namely 106.58, which is then followed by Bitcoin as second place with a slight difference, namely 106.50. The third rank is Stock Reksa Dana with a value of 99.20 and the last rank is Gold with a value of 73.72.

Table 2. Mean Rank ranking from the results of the Kruskal-Wallis Test

	Instrument	**N**	**Mean Rank**
Sharpe	Gold	48	79.38
	Share	48	93.25
	Reksa Dana	48	75.56
	Bitcoins	48	137.72
	Total	192	
Treynor	Gold	48	73.72
	Share	48	106.58
	Reksa Dana	48	99.20
	Bitcoins	48	106.50
	Total	192	
Jensen	Gold	48	71.91
	Share	48	132.98
	Reksa Dana	48	68.06
	Bitcoins	48	113.05
	Total	192	

Source: Researcher Processed Data, 2024

In the Jensen variable, Stocks has the highest average rank, namely 132.98, followed by Bitcoin as second place with a value of 113.05. The third rank is Gold with a value of 71.91 and the last rank is Stock Reksa Dana with a value of 68.06. The next test is to find out whether the three investment instruments produce significant differences or not. The results of the Kruskal-Wallis test can be seen in table 3.

Table 3. Kruskal-Wallis test

	Sharpe	**Treynor**	**Jensen**
Kruskal-Wallis	37,885	11,316	46,925
df	3	3	3
Asymp. Sig.	<.001	0.010	<.001

Source: Researcher Processed Data, 2024

Comparison of the Performance of Sharpe Gold, LQ45 Shares, Stock Reksa Dana, and Bitcoin Cryptocurrency

Based on the results of tests carried out on investment instruments Gold, LQ45 Shares, Stock Reksa Dana and Bitcoin on Sharpe's performance, it produces a significance value of <0.001 or <0.05. Thus, H1 is accepted, which means there is a significant difference between the Sharpe performance of Gold, LQ45 Shares, Stock Reksa Dana, and Bitcoin. The results of this study are in line with research(Hamdika, Saragih, &

Sinaga, 2022) who found that there were significant differences in performance measurement using the Sharpe method from the investment instruments that were the subject of the research, namely Gold, LQ45 Shares, and Bitcoin. Apart from that, this research is also in line with research conducted by (Lumbantobing & Sadalia, 2021) who also found that there was a significant difference between the performance measured by the Sharpe method of investment instruments Gold, LQ45 Shares and Bitcoin.

Based on the ranking results of the Kruskal-Wallis test, the investment instrument that produces the highest Mean Rank value using the Sharpe method is Bitcoin with a value of 137.72. The results of the average ranking of the Sharpe method are also in line with research conducted by (Hamdika, Saragih, & Sinaga, 2022) and (Lumbantobing & Sadalia, 2021) who found that the investment instrument that had the highest average performance measured using the Sharpe method was Bitcoin. Judging from research data, Bitcoin produces the most positive Sharpe performance values among the three other investment instruments. A positive Sharpe performance value indicates that the investment instrument can produce returns above risk-free which are higher than the risk. This means that Bitcoin can generate high returns even though the risks are also high. Apart from that, Bitcoin also produces the highest Sharpe performance value, namely 2.30. Even though Bitcoin also produces a negative Sharpe performance value, this value is still low when compared to other investment instruments, namely -1.88. From this description, it can be concluded that Bitcoin has the best performance as measured by the Sharpe method.

In the Sharpe measurement method, the measuring instruments used are the return of each investment instrument, risk-free, and standard deviation. Bitcoin produces very large returns when compared to returns on other investment instruments, even exceeding risk-free. Even though the risks of bitcoin are very high, bitcoin can produce higher returns. Even during the Covid-19 Pandemic, the price of bitcoin tended to rise and even touched 400 million or a return of 47.85% in 2020 where the conditions of the Covid-19 Pandemic were still bad. This occurs due to increased demand for Bitcoin investment instruments. Bitcoin has become a popular alternative investment instrument or is of interest to investors because its value tends to increase over time. This increase can be explained by the fact that the Bitcoin market is still relatively new and continues to grow, with more and more new participants entering the market every day. This has given rise to the perception that crypto assets have the potential to be a relatively better investment compared to other traditional financial assets or even precious metals during the pandemic (Corbet, Larkin, Lucey, Meegan, & Yarovaya, 2020). Apart from that, the value of Bitcoin is also not influenced by things like monetary policy, inflation rates, and measures of economic growth. The value of Bitcoin is usually influenced by the amount of crypto assets in circulation and how many people are willing to pay more to get those assets (Bloomenthal, 2022). This is what causes investors' interest in investing in bitcoin investment instruments to be high even during the Covid-19 pandemic. This is different from research carried out before the Covid-19 Pandemic carried out by (Mahessara & Kartawinata, 2018) said that LQ45 Shares produced the best performance during the research period. This indicates that research with different period spans will also provide different results. So it can be concluded that Bitcoin Cryptocurrency Shares had the best performance during the Covid-19 Pandemic as measured by the Sharpe method.

Comparison of the Performance of Treynor Gold, LQ45 Shares, Stock Reksa Dana, and Bitcoin

Based on the results of tests carried out on investment instruments Gold, LQ45 Shares, Stock Reksa Dana and Bitcoin on Treynor's performance, it produces a significance value of 0.01 or <0.05. Thus, H2 is accepted, which means there is a significant difference between the Treynor performance of Gold, LQ45 Shares, Stock Reksa Dana, and Bitcoin. The results of this study are in line with research (Hamdika, Saragih, & Sinaga, 2022) who found that there were significant differences in measuring performance using the Treynor method from the investment instruments that were the subject of the research, namely Gold, LQ45 Shares, and Bitcoin. Apart from that, this research is also in line with research conducted by (Krisantana & Pratomo, 2022) who also found that there was a significant difference between the performance measured by the Treynor method of investment instruments Gold, LQ45 Shares and Bitcoin.

Based on the ranking results of the Kruskal-Wallis test, the investment instrument that produces the highest Mean Rank value using the Treynor method is LQ45 Shares with a value of 106.58. The average ranking results of the Treynor method are also in line with research conducted by(Maldini & Patrisia, 2022)and (Lumbantobing & Sadalia, 2021) who found that the investment instrument that had the highest average performance measured using the Treynor method was LQ45 shares. Judging from the data from performance calculations using the Treynor method, Gold produces very fluctuating performance and the resulting value is much different from the three other investment instruments so that Gold gets the lowest ranking. The three other investment instruments produced performance that was not much different, especially LQ45 Shares and Bitcoin. The ranking results of the two investment instruments are only 0.08 different. However, LQ45 Shares produced a more stable performance than Bitcoin, besides that LQ45 Shares also produced a lower negative value than Bitcoin, namely -0.21.

In the Treynor measurement method, the measuring instruments used are the return of each investment instrument, risk-free, and beta or the risk of an investment instrument on market risk so that in this method market conditions also have an influence. From the mean rank results, the difference between shares and bitcoin is very small. One of the things that makes stocks superior to bitcoin is that stock beta is not as volatile as bitcoin's beta. Stock beta is measured using the Composite Stock Price Index while bitcoin beta is calculated using the CRIX Index (Crypto Index). IHSG experienced a fairly large decline at the beginning of 2020 or when the Covid-19 virus began to enter Indonesia. Starting in January at -5.71% and in March at -8.20%. The biggest decline in the JCI was -16.76% in March 2020. However, after that, the JCI returned to positive performance. Although there is still a decline, it is not as big as before. This indicates that investors have expectations of the capital market. When the conditions of the Covid-19 Pandemic improved, they began to invest their funds back into stock instruments. Investors assume that if the share price is purchased when the market trend is declining, they will get big profits when the economy improves and the pandemic is over. Therefore, stock market conditions are starting to improve after experiencing a decline in the IHSG at the beginning of 2020 (Pradnyawati & Sinarwati, 2022).

The results of this study are different from research (Mahessara & Kartawinata, 2018)which was carried out before the Covid-19 Pandemic. This research states that Bitcoin produced the best performance during the research period measured by the

Treynor method. Different research period spans will provide different results. From these various descriptions, it can be concluded that LQ45 Shares had the best performance during the Covid-19 Pandemic as measured by the Treynor method.

Comparison of the Performance of Jensen Gold, LQ45 Shares, Stock Reksa Dana, and Bitcoin

Based on the results of tests carried out on investment instruments Gold, LQ45 Shares, Stock Reksa Dana and Bitcoin on Jensen's performance, it produces a significance value of <0.001 or <0.05. Thus, H3 is accepted, which means there is a significant difference between Jensen's performance of Gold, LQ45 Shares, Stock Reksa Dana, and Bitcoin. The results of this study are in line with research(Lumbantobing & Sadalia, 2021)who found that there were significant differences in measuring performance using the Jensen method from the investment instruments that were the subject of the research, namely Gold, LQ45 Shares, and Bitcoin. Apart from that, this research is also in line with research conducted by(Krisantana & Pratomo, 2022)who also found that there was a significant difference between the performance measured by the Jensen method of the investment instruments Gold, LQ45 Shares and Bitcoin.

Based on the ranking results of the Kruskal-Wallis test, the investment instrument that produces the highest Mean Rank value using the Jensen method is LQ45 Shares with a value of 132.98. This indicates that LQ45 shares have better performance compared to the other three instruments. The results of the average ranking of investment instrument performance using the Jensen method in this research are also in line with research conducted by(Maldini & Patrisia, 2022) and (Lumbantobing & Sadalia, 2021) who found that the investment instrument that had the highest average performance measured using the Jensen method was LQ45 shares. Judging from the data from Jensen's performance calculations, LQ45 shares produce the most positive values compared to other investment instruments. A positive value indicates that the excess return obtained exceeds the expected results. Apart from that, LQ45 shares produce a value that is not too volatile, in the range of -0.05 to 0.05. LQ45 shares also have the smallest difference between maximum and minimum values.

The Jensen method calculates excess return, the difference between return and risk-free obtained by an investment instrument which can exceed the expected results. With this method, investment instruments have the best performance even during the Covid-19 pandemic. According to Tambunan's (2020) research, investors can still gain profits from investing in shares during the Covid-19 pandemic if investors are careful in choosing their target sector. During the Covid-19 Pandemic, the sectors that strengthened were the consumer industry sector, the telecommunications sector such as data, towers and the health sector such as pharmaceuticals and hospitals(Tambunan, 2020). In addition, this research uses LQ45 Shares, where these shares come from the most liquid companies and have the largest market capitalization so that these companies are resistant to crises including the Covid-19 Pandemic so that LQ45 Shares produce the best performance compared to investment instruments other(Kusuma, 2022).

The results of this research are different from research conducted by (Mahessara & Kartawinata, 2018). This research period was before the Covid-19 pandemic and in this research it was stated that Antam Gold produced the best performance as measured by the Jensen method. This shows that research conducted in various time periods will also produce varying findings. From these various descriptions, it can be concluded that

LQ45 shares had the best performance during the Covid-19 pandemic as measured by the Jensen method.

Gold has long been recognized as a safe haven asset, particularly during economic downturns. Its intrinsic value and historical stability make it a preferred choice for risk-averse investors. Studies indicate that gold can serve as an effective hedge against inflation and currency fluctuations, thereby preserving wealth over time (Bouri et al., 2017; Shahzad et al., 2020). Furthermore, the performance of gold, as measured by the Sharpe and Treynor ratios, often reflects its ability to provide positive returns relative to its risk, making it a reliable component in diversified portfolios (Andreas & Basana, 2021; Darmayanti et al., 2018). Bitcoin, on the other hand, has emerged as a novel asset class with unique characteristics. Its decentralized nature and limited supply contribute to its appeal as "digital gold" (Li et al., 2022; Henriques & Sadorsky, 2018). Bitcoin has demonstrated significant potential for high returns, particularly in bullish market conditions, and has been shown to enhance portfolio performance through diversification benefits ("Optimal Portfolio Construction Using Bitcoin, Gold, LQ45 Index, and Indonesia Bond Index", 2023; Li et al., 2021). Empirical analyses suggest that Bitcoin can outperform traditional assets like gold and stocks in terms of risk-adjusted returns, as indicated by superior Sharpe ratios ("Optimal Portfolio Construction Using Bitcoin, Gold, LQ45 Index, and Indonesia Bond Index", 2023; Henriques & Sadorsky, 2018).

Despite its advantages, gold is not without drawbacks. Its performance can be negatively impacted by rising interest rates and a strong dollar, which can diminish its attractiveness as an investment (Dyhrberg, 2016; Shahzad et al., 2020). Additionally, gold does not generate income, such as dividends or interest, which can limit its appeal compared to income-generating assets like stocks or bonds (Selvam & Tunggal, 2021). Bitcoin's volatility is a significant disadvantage, characterized by dramatic price swings that can lead to substantial losses in short periods (Bouri et al., 2017; Dyhrberg, 2016). While it can serve as a diversifier, its unpredictable nature may deter conservative investors. Moreover, the regulatory landscape surrounding cryptocurrencies remains uncertain, which can introduce additional risks (Bouri et al., 2017; Shahzad et al., 2020).

LQ45 shares, representing the top 45 stocks on the Indonesia Stock Exchange, have shown varying performance levels. The analysis of these stocks using performance metrics like the Sharpe and Jensen ratios indicates that not all LQ45 stocks consistently outperform the market (Catherine & Robiyanto, 2020). This inconsistency can be attributed to market volatility and sector-specific risks. Stock Reksa Dana, or mutual funds, also present a mixed performance landscape. While some funds have demonstrated superior returns relative to benchmarks, others have underperformed, highlighting the importance of selecting funds managed by skilled investment managers (Andreas & Basana, 2021; Darmayanti et al., 2018). The use of performance evaluation metrics such as the Treynor and Jensen ratios can help investors identify funds that effectively manage risk while delivering competitive returns (Darmayanti et al., 2018; Roy, 2016). In conclusion, the comparative analysis of Gold, Bitcoin, LQ45 Shares, and Stock Reksa Dana reveals a complex interplay of advantages and disadvantages. Gold remains a stable investment choice, while Bitcoin offers high return potential but with increased risk. LQ45 shares and Stock Reksa Dana provide opportunities for diversification but require careful selection to optimize performance.

Investment Instruments with the Best Performance

Based on calculations in measuring performance using the Sharpe, Treynor, and Jensen methods, it shows that each investment instrument has different performance. In measuring performance using the Sharpe method, the investment instrument that has the best performance is Bitcoin, while using the Treynor and Jensen method, LQ45 shares have the best performance.

Overall, the investment instrument that has the best performance as seen from the results of the Mean Rank ranking in the Kruskal-Wallis test, which is the most consistent among the four investment instruments, is LQ45 Shares. This can be seen from measuring performance using the Treynor and Jensen method, pointing to LQ45 Shares as the investment instrument with the best performance. This means that it shows that LQ45 shares produce better performance than the market index and are able to produce returns that are greater than the expected return. A comparison of the performance of Gold, LQ45 Stocks, Stock Reksa Dana, and Bitcoin Cryptocurrency as measured by the mean rank from the Kruskal-Wallis test based on the Sharpe, Treynor, and Jensen methods can be seen in table 4.

Table 4. Comparison of the Performance of Gold, Stocks, Stock Reksa Dana and Bitcoin Cryptocurrency

	Sharpe	**Treynor**	**Jensen**
Gold	79.38	73.72	71.91
Share	93.25	106.58	132.98
Stock Reksa Dana	75.66	99.20	106.50
Bitcoins	137.72	106.50	113.05

Source: Researcher Processed Data, 2024

Stocks have superior performance because there are sectors that actually strengthened during the Covid-19 pandemic, such as the consumer industry sector, the telecommunications sector and the health sector. This situation is also supported by the performance of the Composite Stock Price Index which has increased during the Covid-19 pandemic, even though it had fallen at the start of the Covid-19 pandemic. This is what causes LQ45 shares to produce good performance by providing returns that are greater than the risks.

CONCLUSION

Based on research that has been conducted, it shows that each investment instrument produces significantly different performance. If you look at the Mean Rank in the Kruskal-Wallis test results, the investment instrument with the most consistent performance in first place is LQ45 Shares. LQ45 shares are ranked highest in performance measurement using the Treynor and Jensen method compared to other investment instruments, namely Gold, Stock Reksa Dana and Bitcoin. So it can be concluded that LQ45 shares produced the best performance during the Covid-19 pandemic.

Even though LQ45 shares are said to be the best investment instrument in this research, it does not rule out the possibility that other investment instruments can also provide the expected returns for investors. Future researchers are expected to add other variables as investment instruments such as foreign exchange, bonds, etc. over a longer period so that the information produced is more accurate.

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