


Comparative Analysis of Stock and Bond Performance in The Indonesian Capital Market

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received April 15, 2024 Revised April 22, 2024 Accepted May 15 2024</p> <p>Keywords:</p> <p>Stock Performance Bond Capital market</p>	<p>This research aims to analyze and compare the performance of shares and bonds in the Indonesian capital market during a certain period. This research will use qualitative methods and also a literature review. The aim is to gain knowledge about stock and bond trading on the Indonesian stock exchange, as well as carry out a comparative analysis between the two. Literary research is carried out by studying various sources such as books, journals, company annual reports, and websites to obtain information about financial theories and concepts, bonds, and capital markets. Apart from that, we also examine fundamental and external factors that influence stock prices, business operations and bonds on the Indonesian stock exchange. Our analysis shows that factors such as macroeconomic conditions, monetary policy, and market sentiment play an important role in determining company performance. In conclusion, this research provides valuable insights for investors and financial decision makers in understanding and exploiting investment opportunities in the Indonesian capital market. By understanding the differences and performance characteristics of stocks and bonds, investors can develop diverse and effective portfolio strategies to achieve long-term investment goals.</p> <p><i>This is an open access article under the CC BY-NC license.</i></p> 

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1. INTRODUCTION

The Indonesian capital market has become one of the dynamic and attractive markets in Southeast Asia, offering various investments to market players. In this context, stocks and bonds have become the most important factors for investors seeking growth and portfolio diversification. Stock and bond analysis has an important role in understanding the dynamics of the Indonesian financial market. Both are types of financial instruments that differ in terms of characteristics and risks, but each has a significant impact on an investment portfolio. Therefore, research comparing the working conditions of the two is becoming increasingly important for investors and those seeking financial security. In this context, the aim of this research is to analyze and compare business practices and bonds in the Indonesian capital market. By utilizing analytical and statistical approaches, we seek to uncover the factors that influence their performance as well as the implications for investors.

The Indonesian capital market, as a popular investment destination, consistently provides various opportunities and challenges. The primary investment instruments, stocks and bonds, play an important role in determining the direction and success of an investment portfolio. The first step in this research is to collect and analyze historical stock and bond price data from various sources, so that we can identify trends and patterns. With statistical analysis, we want to find out more about the factors that influence the performance of these two investment instruments.

However, when it comes to understanding business and bond developments, we believe that this information cannot be understood solely through numbers and graphs. Fundamental and external factors, such as macroeconomic conditions, monetary policy, and, in some cases, market sentiment, also have a crucial impact. Therefore, we look deep behind the scenes, seeking answers to deeper questions.

Our research results confirm that, although stocks and bonds have different characteristics and risks, they both promise potential as profitable investment instruments. Our analysis also highlights the importance of external factors that influence the performance of these two instruments, providing a more comprehensive view for investors and financial decision makers. From these findings, we hope to provide valuable insights for those involved in the Indonesian capital markets. With a deeper understanding of the differences and performance characteristics of stocks and bonds, it is hoped that investors can develop smart and effective portfolio strategies to achieve their long-term investment goals.

2. RESEARCH METHOD

This research will use a qualitative approach with a literature study method. The aim is to gain an in-depth understanding of the performance of shares and bonds in the Indonesian capital market and carry out a comparative analysis between the two. Literature studies are carried out by studying various written sources such as books, journals, company annual reports and related websites to obtain information regarding theory and concepts related to stocks, bonds, and capital markets.

The collected data will be analyzed qualitatively using content analysis techniques and data triangulation. Content analysis will be carried out to identify patterns, themes and insights from the data obtained. Data triangulation will be carried out by comparing and combining data from various sources to ensure the validity and reliability of the research findings. The research results will be presented in the form of a comprehensive narrative description of the performance of shares and bonds in the Indonesian capital market, as well as a comparative analysis between the two. It is hoped that the findings of this research will provide in-depth understanding and new insights regarding the topic under study.

3. RESULTS AND DISCUSSIONS

Comparison of investment performance between shares and bonds in the Indonesian capital market in the last five years?

Shares can be defined as securities as proof of individual or institutional participation or ownership in a company. A bond is a letter of acknowledgment of debt issued by the government or company or other institution as the debtor, which has a certain nominal value and the ability to pay interest periodically on the basis of a certain fixed percentage.

Stock Performance

2018

The performance of the Indonesian capital market in the last five years has experienced fluctuations. At the end of 2018, the Composite Stock Price Index (IHSG) fell by 2.54%, the biggest decline in the last three years. However, compared to 2015, this decline was still smaller, because in 2015 the JCI fell by 12.13%. Several negative factors that influence the JCI include slow economic growth, depreciation of the Rupiah exchange rate, trade balance deficit, as well as external sentiment such as trade wars and interest rate increases by the US central bank. Foreign investors also made a net selling action of IDR 45.65 trillion on the Indonesian stock market. Nevertheless, President Joko Widodo (Jokowi) stated that the current performance of the Indonesian capital market is still good. Indonesia is ranked second best in the world in terms of year-to-date index decline, only behind India.

In 2018, the number of companies listed on the Indonesia Stock Exchange reached 57 companies, an increase from 37 companies in the previous year.

2019

In 2019, the Financial Services Authority (OJK) reported positive developments in the Indonesian capital market. Despite the slight growth, the Composite Stock Price Index (IHSG) increased by 2.18% and reached 6,329.31 at the close of trading on the Indonesia Stock Exchange. The number of stock investors increased to 2.48 million, an increase of 40% from the previous year. Foreign investor funds also experienced a significant increase, reaching IDR 49.19 trillion year-to-date. Apart from that, the Government Securities (SBN) market also strengthened, with the average SBN yield falling by 96.57 bps throughout 2019.

2020

This year has been a very challenging year, causing the JCI to reach a new level of 3,937.63 on March 24 2020. Stock prices fell, especially cyclical stocks which are vulnerable to the business cycle and economic conditions. IDX is collaborating with OJK and the Self Regulatory Organization (SRO) to take various steps to reduce losses. The impact of the Covid-19 pandemic has raised several issues such as asymmetric auto rejection, trading suspension, short selling, share buybacks without a GMS, and trading sessions before trading hours. Trading stop is used to prevent further decline in share prices due to panic selling, carried out when the JCI falls 5%. Asymmetric auto rejection aims to reduce share price volatility by up to 7%. At the end of the year, investor confidence increased thanks to free vaccines from the government.

Even though the Covid-19 pandemic is ongoing, the JCI continues to grow. In trading this Wednesday, the JCI was at the level of 6,008.7. Since 2020, the total number of bonds and sukuk recorded has reached 469 issuances with notional outstanding of IDR 431.57 trillion and USD 47.5 million, issued by 128 issuers. There are 138 series of SBN listed on the IDX with a nominal value of IDR 3,861.26 trillion and USD 400 million. Market capitalization reached IDR 7,101 trillion, while Asset Backed Securities (EBA) recorded 10 emissions with a value of IDR 7.13 trillion.

Year 2021

After experiencing a setback during the pandemic in 2020, the IHSG rose to 6,581.5 or an increase of 10.1% (year on year) in 2021. Total stock market capitalization is estimated to reach IDR 8,255.62 trillion in 2021, an increase of 18.4 % from the previous year. BEI succeeded in listing 54 new companies with total funds collected of IDR 62.61 trillion, the highest record in BEI history. The capital market managed to collect funds amounting to IDR 363.28 trillion, also the highest record in IDX history. By the end of 2021, the number of companies registered on the IDX reached 766. The number of investors in the capital market is estimated to increase by 93% in 2021, with the OJK estimating the number of investors to reach 7.49 million. Retail investors under 30 years old increasingly dominate, with the proportion increasing from 54.9% in 2020 to 60.02% in 2021.

Year 2022

In 2022, the Indonesian capital market will experience positive growth. The Composite Stock Price Index (IHSG) reached 6,850.52 on December 28 2022, up 4.09% from the end of 2021. IHSG even set a new record at 7,318,016 on September 13 2022. Market capitalization increased to IDR 9,509 trillion, up 15.2% compared to the end of 2021, and reached a new record of IDR 9,600 trillion on December 27 2022. Throughout 2022, as many as 59 companies conducted Initial Public Offerings (IPO) and listed their shares on the Indonesia Stock Exchange (BEI), so The total number of companies listed on the IDX is 825 companies. Funds raised from the IPO reached IDR 33.06 trillion, recording the highest record since the privatization of BEI in 1992 and was the most active IPO in ASEAN since 2019. This growth was driven by increasing public interest in investing in the Indonesian stock market. The number of investors in the Indonesian stock market as of 28 December 2022 increased 37.5% to 10.3 million investors, compared to 7.48 million investors in December 2021. The number of institutional investors has also increased and they dominate daily trading

activity on the IDX with 44.9 %. In the world of investment, bonds and savings are two of the most popular instruments, although they have different characteristics that affect their respective performance.

Movement of deposits and Indonesian government bonds

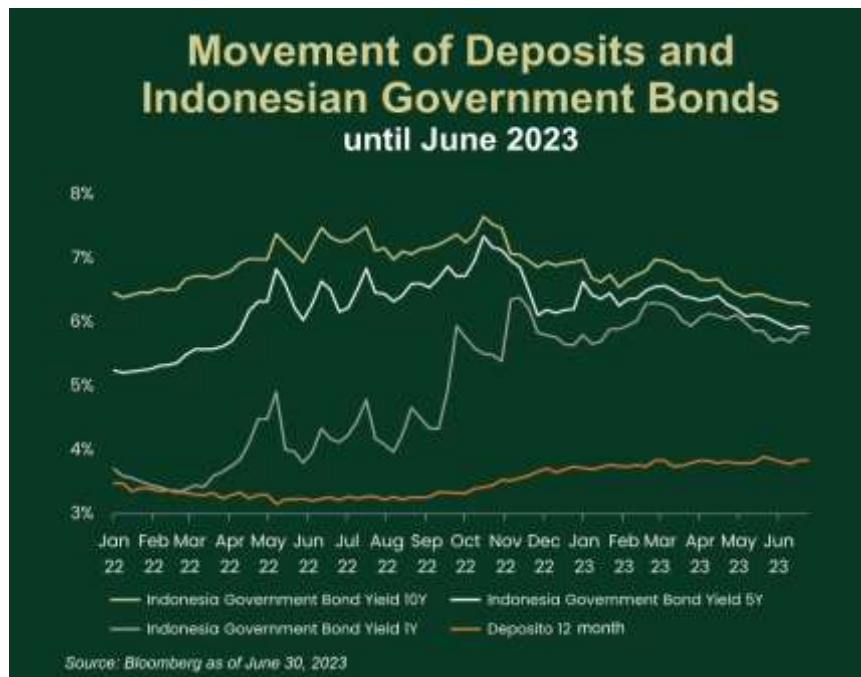


Diagram 1

Based on the diagram above, we can conclude the following:

- Indonesia Government Bond Yield 10Y was at 6.26%, down 11 bps compared to 6.37% in May 2023.
- Indonesia Government Bond Yield 5Y was at 5.91%, down 12 bps compared to 6.03% in May 2023.
- Indonesia Government Bond Yield 1Y was at 5.83%, up 13 bps compared to 5.70% in May 2023.
- The average Indonesian banking deposit interest (TD Rate 12M) is 3.84%.

Overall, bonds have performed better than shares in investment in the Indonesian capital market over the last five years. However, it is important to remember that past performance is not always an indicator of future performance, and investors should consider their investment objectives, time horizon, and risk tolerance before making an investment decision.

Factors that influence the performance of shares and bonds in the Indonesian capital market?

The factors that influence the performance of shares and bonds in the Indonesian capital market are quite diverse and include macro and micro economic aspects. Here are some main factors:

a) Factors :

- **Inflation:** Inflation rates can affect the future value of money and purchasing power, which impacts stock and bond prices.
- **Interest Rates:** Changes in Bank Indonesia's benchmark interest rates can affect the performance of capital markets, including shares and bonds.
- **Economic Growth:** High levels of economic growth are usually associated with good capital market performance.
- **Currency Exchange Rates:** Fluctuations in exchange rates can affect export- or import-oriented companies, which in turn affects their stock prices.

- b) Microeconomic Factors:
- Company Performance: Financial reports and company growth prospects directly influence share prices.
 - Issuer Rating: A bond issuer's credit rating provides an idea of the risk of default and influences bond prices.
 - Liquidity: High liquidity in the financial system increases the demand for bonds.
 - Government Regulations: Changes in tax regulations and other government policies may affect capital markets.
- c) Other Factors:
- Auditor Reputation: The auditor's reputation can influence investors' perceptions of the credibility of the company's financial reports.
 - Company Size (Size): The size of the company can influence the good and bad of the bond rating.
 - Guarantee (Secure) and Bond Age (Maturity): Although not always, guarantee and bond age can be a consideration for investors.

These factors interact with each other and can influence the performance of shares and bonds in the Indonesian capital market in a complex way. Investors need to consider all of these factors when making investment decisions.

Foreign capital flows affect the value of shares and bonds in the Indonesian capital market.

Migration to developing countries, such as Indonesia, has become a widespread phenomenon in the last two decades. As a developing country with a monetary policy that has relatively high interest rates compared to other countries, Indonesia offers more attractive returns for investors. This gives Indonesia a significant advantage as a major investment destination. As a result, there was an increase in domestic economic activity due to turmoil in capital countries. In the context of the stock market, this can increase the risk of investing in Indonesia or create a relatively high level of volatility. Volatility indicates the relative risk of a stock price, where increasing volatility means increasing risk. Typically, stock prices will rise when volatility increases because sharp movements in price offer the potential for greater returns for investors.

According to theory, foreign workers can have a positive and negative impact on the wages of domestic workers (Andriansyah et al., 2008). The influx of foreign workers will create non-debt-based foreign investment, which is profitable for developing countries that lack capital. Foreign capital flows are considered to have a positive impact on the economy in several ways. This will increase domestic savings for investment, thereby narrowing the gap between savings and investment in the long run. In addition, foreign investment will increase liquidity and the availability of foreign exchange in developing countries, resulting in stable exchange rates and reducing exchange rate differences between countries. Increasing foreign exchange reserves will reduce the cost of capital, increasing investment and output. Information also becomes more accessible and less asymmetric, making markets more efficient and transparent and increasing investor confidence. In addition, an increase in share prices through the stock exchange will increase the company's price-earnings ratio (P/E ratio).

In brief, in the last ten years, developing countries such as China and India have experienced growth in foreign exchange earnings through domestic manufacturing. In America, company acquisitions by developing countries also have a positive and significant impact, especially on share prices and post-acquisition asset returns. The influence of foreign ownership, especially by Asian countries, is increasingly recognized in influencing share price movements on the securities market. Studies show that fundamental and economic factors also play a role in international stock movements.

Foreign investment in the Indonesian stock market has increased since 1989 thanks to the Ministry of Finance's policy of allowing foreign ownership of up to 49% of shares on the Indonesian Stock Exchange through Memorandum No. 1055/KMK.013/1989. Since this liberalization, interest has increased, especially after the government allowed foreign investors to own 100% of shares traded on the exchange in 1997 (Ministry of Finance, 2008). Subsequent deregulation allowed

foreign investors to keep up to 100% of their profits and own up to 100% of companies listed on the stock exchange in 1997 and 99% of the shares in 2003. As a result, the number of foreign buyers in the Indonesian capital market increased significantly.

Foreign share ownership is dominated by institutions, especially financial institutions, while local investors are dominated by individuals and public companies. Even though the number of foreign investors is lower than local, the value of their investment is usually greater, so the proportion of foreign investment value is higher than local.

Since 1989, Indonesia has enjoyed stability thanks to the implementation of the Minister of Finance's Declaration. Foreign investor activity on Asian stock exchanges, including Indonesia, has increased. Much research has been carried out to analyze the relationship between foreign investment and return or volatility, generally using Granger Causality. Chai-Anant and Ho (2008) used Granger Causality and VAR to analyze the relationship between foreign investors' daily transactions and financial markets in Asia, including India, Indonesia, Korea, the Philippines, Taiwan, and Thailand, and found that returns had a positive relationship with purchases. shares by foreign investors.

Wang's (2007) research also uses Granger Causality and finds that foreign ownership can reduce stock volatility in Indonesia, in contrast to developed countries where foreign ownership tends to increase volatility. Wang also pointed out that stocks with foreign ownership have a high degree of volatility persistence, allowing better adjustment to changes than other stocks. This shows that foreign shares are driving transactions which are then followed by local investors.

Another study by Bappepam-LK (2008a) using impulse response function analysis shows that the IHSG responds positively to foreign capital flows, where an increase in foreign capital tends to increase the IHSG.

Correlation between the performance of property issuers' shares with fluctuations in the Rupiah exchange rate and bond market performance?

1. Currency Exchange Rates

The exchange rate is the rate at which one currency is exchanged for another currency and often experiences relatively unstable fluctuations. When the dollar strengthens and the rupiah weakens, investors tend to turn to securities, which affects company share prices. Fluctuations in the rupiah exchange rate also affect foreign investor confidence and have a negative impact on stock trading in the capital market. A decline in the rupiah exchange rate indicates poor economic conditions, thereby reducing investor interest in shares. On the other hand, the increase in the exchange rate in 2017 showed a positive economy and attracted investors' interest in investing in shares.

2. Definition of Exchange Rate

The exchange rate is the ratio of market prices to domestic prices which represents the exchange rate between two currencies in international transactions such as trade, tourism and investment.

3. Correlation between Property Issuance and Rupiah Price Fluctuations

A study of the relationship between property issuance and rupiah price fluctuations can provide valuable insights for investors. Generally, an increase in the price of the rupiah has a negative impact on equity values due to increased import costs and decreased purchasing power. Conversely, bond market performance can indicate interest rate trends that affect the property industry.

4. The influence of the Rupiah exchange rate on share prices

Previous research results show mixed results. Some studies find that the rupiah exchange rate has a positive and significant influence on stock prices, while others find the opposite. There is a gap between theory and research results, so further research is needed to examine the influence of inflation and exchange rate variables on stock prices, especially in companies registered with sharia securities during the 2010-2020 period.

Based on the research results, there is a **correlation between the performance of property issuers' shares with fluctuations in the Rupiah exchange rate and bond market performance**. Unstable exchange rate fluctuations can reduce the level of confidence of foreign

investors in the Indonesian economy, thereby affecting the share performance of export-oriented property issuers. On the other hand, bond market performance is influenced by interest rates, inflation and the Rupiah exchange rate, which also affects the shares of property issuers with dependence on exports or imports. Therefore, **pay attention to this correlation in investment analysis and decision making**.

In conclusion, the correlation between the performance of property issuers' shares with fluctuations in the Rupiah exchange rate and bond market performance can be quite complex and can be influenced by various factors. Here are several factors that can influence this correlation:

1. **Rupiah Exchange Rate (IDR) :**

- If the Rupiah exchange rate weakens against foreign currencies, for example the US dollar, this could cause an increase in the price of imported raw materials used in the property industry such as steel or wood. This can reduce property company profit margins and result in a decline in share prices.
- However, if the Rupiah exchange rate strengthens, this could provide benefits for property companies that have debt in foreign currencies because their interest costs can be lower.

2. **Bond Market Performance :**

- Bond market performance can influence capital flows. When the bond market performs strongly, investors may prefer to invest in bonds rather than stocks. This can reduce demand for shares of property issuers and result in a decline in share prices.
- On the other hand, if the bond market experiences a decline, investors may turn to shares as an investment alternative, which can increase demand for shares of property issuers.

3. **Market Sentiment and other Macroeconomic Factors :**

- Apart from exchange rates and bond market performance, macroeconomic factors such as economic growth, interest rates and monetary policy will also influence the performance of property issuers' shares.
- Market sentiment can also play an important role. If the market has a positive view of the property industry because, for example, there are supportive government policies or positive trends in property demand, then the performance of property issuers' shares can strengthen even though the exchange rate or bond market is not supporting it.

Thus, the correlation between the performance of property issuers' shares, fluctuations in the Rupiah exchange rate, and bond market performance is the result of a complex interaction between these factors and can also change over time according to changing market and economic conditions.

What is the impact of global economic changes, such as trade wars and changes in the Fed Funds Rate, on the performance of stocks and bonds in Indonesia?

Global economic changes, such as trade wars and changes in the Fed Funds Rate, can have a significant impact on the performance of stocks and bonds in Indonesia, although the impact may vary depending on other factors. The following are some of the impacts that may occur:

1. **Stock Performance :**

- Trade wars between large countries such as the United States and China can create global market uncertainty. This uncertainty can reduce investor confidence and cause a decline in share prices on global markets, including in Indonesia.
- However, the impact can vary. Some sectors in Indonesia may be more affected than others. For example, shares of companies that depend on exports could feel a greater impact than shares of companies that focus more on the domestic market.
- Changes in the Fed Funds Rate can also affect stock performance. An increase in interest rates in the US could cause capital outflows from developing countries, including Indonesia, because investors are more interested in investing in the US which offers higher returns. This could cause a decline in share prices in Indonesia.

2. **Bond Performance :**

- Changes in the Fed Funds Rate can have a direct impact on the bond market in Indonesia. An increase in interest rates in the US could cause an increase in global interest rates, including in

Indonesia. This could cause bond prices to fall due to the lower yields on existing bonds compared to the new interest rates.

- However, Indonesian government bonds may be safer than corporate bonds, as they have a stronger standing in terms of credit risk.
3. **Market Uncertainty and Investor Sentiment :**
- Global economic changes can create market uncertainty and increase volatility. This can make investors more careful in making investment decisions, which can have an impact on the performance of shares and bonds in Indonesia.
 - Investor sentiment can also be influenced by global economic developments. For example, if there are signs of improvement in the trade war or economic stimulus measures from major central banks, this could increase investor confidence and support the performance of Indonesia's financial markets.

Changes in the global economy, such as fluctuations in the Fed Funds Rate, can have a significant impact on businesses and bonds in Indonesia through global financial market mechanisms and investor sentiment. Therefore, it is very important for investors and traders to monitor global economic growth to understand its potential impact on the Indonesian currency market.

Based on the research results, there is **a correlation between the performance of property issuers' shares with fluctuations in the Rupiah exchange rate and bond market performance** . Unstable exchange rate fluctuations can reduce the level of confidence of foreign investors in the Indonesian economy, thereby affecting the share performance of export-oriented property issuers. On the other hand, bond market performance is influenced by interest rates, inflation and the Rupiah exchange rate, which also affects the shares of property issuers with dependence on exports or imports. Therefore, **pay attention to this correlation in investment analysis and decision making** .

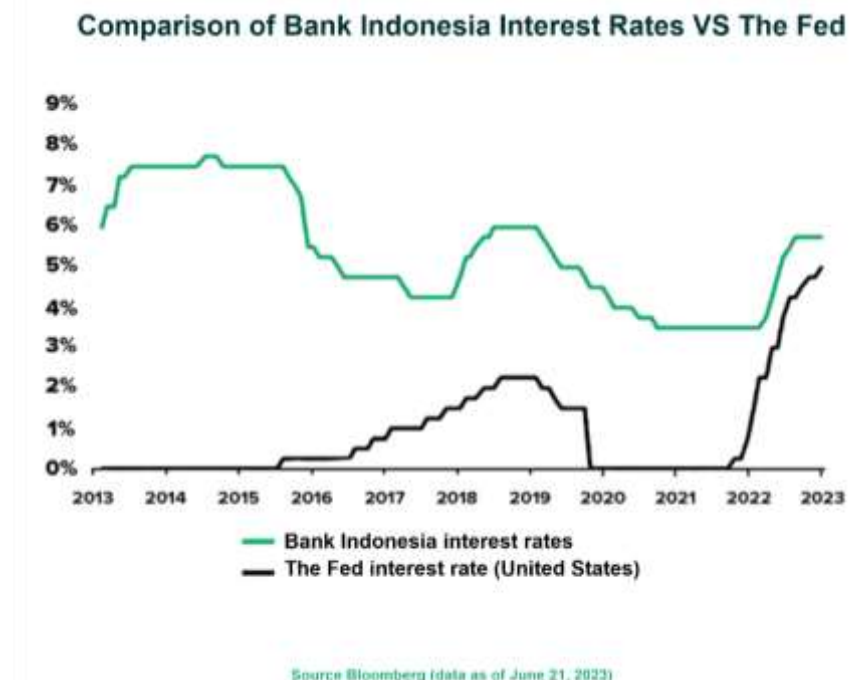


Diagram 2

Interest rates have a significant impact on various investment instruments. Here are some things to pay attention to:

1. **FR Bonds and Bond Mutual Funds** : Bond prices tend to rise when interest rates are expected to fall. This affects the overall performance of the bond.

2. **Stocks and Stock Mutual Funds** : Interest rates affect stocks indirectly. Reducing interest rates can reduce interest expenses for companies and increase profitability. However, investors also consider risk when choosing investment instruments. In the long term, a decrease in interest rates can provide positive sentiment to stock prices.

4. CONCLUSION

The aim of this research is to analyze and compare savings and bonds on the Indonesian stock market over a certain period of time using qualitative research methods. The research results show that in the last five years, the use of bonds has increased significantly in the Indonesian stock market, although the COVID-19 pandemic has disrupted the use of these two instruments. Factors that influence the performance of the stock and bond markets in Indonesia include macroeconomic factors such as inflation, bond yields, economic growth and money supply, as well as microeconomic factors such as company performance, company ratings, liquidity and government regulations. Foreign capital flows have a significant influence on the value of shares and bonds in the Indonesian capital market, where incoming foreign capital flows can increase prices, while outgoing foreign capital flows can cause prices to decrease. There is a correlation between property production and fluctuations in Rupiah prices, where higher Rupiah prices have a negative impact on real estate production. Global economic developments, such as inflation and changes in the Federal Funds Rate, can also impact Indonesian businesses and bonds through global financial markets and investor sentiment. Overall, this research provides valuable information for investors and financial planners by examining risk and bond characteristics, as well as factors that should be considered when investing in the Indonesian stock market.

REFERENCES

- Abdullah, R. (2021). Sharia Capital Market Financial Literacy Education for Village-Owned Enterprise Management in Kolese District, Baubau City. *Abdidas Journal* , 2 (2), 323–328. doi: 10.31004/abdidas.v2i2.254
- Alfu Laila, ZPEJ (2020). Differences in Share Prices Before and After Dividend Distribution in Property and Real Estate Sector Companies Listed on the Indonesian Stock Exchange for the 2014-2019 Period. *Idj* , 02 (01).
- Arifah, MI (2023). *DIFFERENCES IN STOCK PRICES AND STOCK RETURNS BEFORE AND AFTER THE COVID-19 PANDEMIC* .
- Batubara, Y., & Negeri Sunan Kalijaga Yogyakarta, I. (2020). *Maslahah Analysis: Sharia Capital Market as an Investment Instrument in Indonesia* . Yogyakarta.
- Endang Purwanti. (2022). ANALYSIS OF DIFFERENCES IN IHSG BEFORE AND AFTER THE CABINET RESHUFFLE PERIOD JUNE 2022. *Among Makarti* , 15 (3).
- Epty Hidayati, D., Wangi, P., Gustianing Tias, D., Nurunnisa, I., Management Studies, P., Economics and Business, F., & Buana Perjuangan Karawang, U. (2022). YUME: Journal of Management Comparison of Sharia and Conventional Capital Markets in Indonesia. *YUME : Journal of Management* , 5 (3), 519–524. doi: 10.2568/yum.v5i3.2162
- Halimatussyadiyah, N., & Article, H. (2020). *INDONESIAN CAPITAL MARKET REACTION TO THE EVENT OF THE ANNOUNCEMENT OF THE FIRST CASE OF CORONA VIRUS IN INDONESIA (Case Study on Lq45 Shares)* . Earnings. Retrieved from <https://ojs.stiesa.ac.id/index.php/prisma>
- Handayani, TU, Santosa, PW, & Setianingrum, A. (2019). Comparison of the Performance of Conventional Mutual Funds with Sharia Article Information. In *Journal of Economics and Business ASEANomics* (Vol. 4, Issue 2). Retrieved from <http://academicjournal.yarsi.ac.id/jeba>
- Hartono. (2018). Comparison of Returns on Gold Investments, Deposits, Mutual Funds, Bonds and Shares in the Banking Sector for the 2013-2018 Period. In *Economic Journal* (Vol. 20, Issue 2). Retrieved from <https://goldprice.org/gold-price-chart.html>
- Using, I., Sharpe, M., Jensen, D., Karim, A., Hamid, A., & Cahyadi, IF (2019). Analysis of the Performance of Sharia Stock Mutual Funds in the Capital Market. *MALIA: Journal of Islamic Banking and Finance* , 3 (2).
- Novita, D., & Mahmudah, SA (2022). Comparison of the Performance of Conventional Mutual Funds with Sharia Mutual Funds in the Indonesian Capital Market. *JEBI: Journal of Islamic Economics and Business* , 01 (01). Retrieved from <https://ejournal.stais.ac.id/index.php/j-ebi>
- Suputra, GA (2021a). *JUIMA: Journal of Management Science COMPARATIVE ANALYSIS OF STOCK RISK BEFORE AND DURING THE COVID19 PANDEMIC CRISIS IN 2020 (CASE STUDY: CLOSING PRICES OF BANKING SHARES INCLUDED IN THE LQ45 INDEX)* . 11 . Retrieved from <http://www.bni.co.id>

- Suputra, GA (2021b). *JUIMA: Journal of Management Science* COMPARATIVE ANALYSIS OF STOCK RISK BEFORE AND DURING THE COVID19 PANDEMIC CRISIS IN 2020 (CASE STUDY: CLOSING PRICES OF BANKING SHARES INCLUDED IN THE LQ45 INDEX) . 11 . Retrieved from <http://www.bni.co.id>
- Untoro, A.B. (2020). Stock Price Prediction Using Artificial Neural Networks. *Journal of Information and Computer Technology* , 6 (2), 103–111. doi: 10.37012/jtik.v 6i2.212