



Analysis of Investment Performance of Islamic Mutual Funds in Indonesia Using Sharpe, Treynor and Jensen Methods

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Indonesia as the largest Muslim country in the world is a very important market for the development of the Islamic finance industry. Sharia mutual funds are one of the non-banking Islamic financial products, which can be used as an investment alternative for investors. This study aims to analyze the performance of Fixed Income Sharia Mutual Funds and Mixed Sharia Mutual Funds using the Sharpe, Treynor and Jensen methods. The type of research used in this study is a type of descriptive research and the Sharpe, Treynor and Jensen performance measurement method with the Microsoft Excel application. The research population is Fixed Income Sharia Mutual Funds and Mixed Sharia Mutual Funds for the 2017-2019 period. The research sample consisted of 20 mutual funds with 10 fixed income Islamic mutual funds and 10 mixed Islamic mutual funds using a purposive sampling technique. The results of this study indicate that in the 2017-2019 period using the Sharpe method there were 5 Fixed Income Sharia Mutual Funds that consistently had outperformed performance while Mixed Sharia Mutual Funds did not consistently have outperformed. Based on the Treynor method, there is 1 mutual fund that consistently outperforms, and the Jensen method, there are 2 Fixed Income Sharia Mutual Funds that consistently outperform while Mixed Islamic Mutual Funds all consistently outperform. There was 1 Fixed Income Sharia Mutual Fund that consistently outperformed during the study period, namely Bahana Sukuk Syariah.

OPEN ACCESS

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Received: 27 April 2024

Accepted: 30 May 2024

Published: 12 June 2024

Citation:
 (2024) Analysis of Investment
 Performance of Islamic Mutual
 Funds in Indonesia Using Sharpe,
 Treynor and Jensen Methods.
 Islamic Capital Market.
 2.1.

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Keywords: Sharia Mutual Funds; Sharpe; Treynor and Jensen

INTRODUCTION

The growth of the capital market in Indonesia is also developing to the Islamic capital market sector in order to accommodate the needs of Muslims in Indonesia who want to invest in capital market products that are in accordance with sharia principles. With the presence of sharia products in the Indonesian capital market, it is expected that the community will have an alternative investment as a vehicle for financing sources for companies and also bring investment opportunities for people who believe that conventional investment products contain elements that are forbidden by religious law. Mutual funds are designed as a means to raise funds from people who have capital, have the desire to invest, but only have limited time and knowledge. In addition, mutual funds are also expected to increase the role of local investors to invest in the Indonesian capital market.

The need for sharia investment products in the Indonesian capital market was marked by the launch of Danareksa products on July 3, 1997 by PT Danareksa Investment Management, where at that time PT Danareksa issued mutual fund products based on sharia principles with a type of mixed mutual fund called Danareksa Islam Berimbang (Heykal, 2012). However, Indonesian capital market products were officially declared present on March 14, 2003, with the signing of a Memorandum of Understanding between the Capital Market and Financial Institutions Supervisory Agency (Bapepam and LK) and the National Sharia Board of the Indonesian Ulema Council (DSN-MUI). The signing of the Memorandum of Understanding between Bapepam and LK (currently the Financial Services Authority) and DSN-MUI became a strong foothold of support for the development of sharia-based capital markets in Indonesia which agreed on a pattern of coordination, consultation, and cooperation for effective and efficient regulation in order to accelerate the growth of Islamic financial products (Soemitra, 2014). Furthermore, the Jakarta Stock Exchange (BEJ) together with PT Danareksa Investment Management (DIM) launched the Jakarta Islamic Index (JII) which includes 30 types of shares from issuers whose business activities meet the provisions of sharia law. The determination of the criteria of the JII components is based on the approval of the Sharia Supervisory Board (Huda and Mustafa, 2007).

Mutual funds are defined as containers used to raise funds from the investor community to be invested in securities portfolios by investment managers.

Referring to the Capital Market Law No. 8 of 1995, article 1 paragraph (27) is defined that Mutual Funds are containers used to collect funds from the investor community to be invested in securities portfolios by investment managers.

In mutual funds, measuring mutual fund performance is very important in order to determine performance and consider choosing an investment manager to manage the portfolio. In mutual fund performance that is used as a benchmark is the amount of NAV (Net Asset Value) and the resulting return. NAV is a value that describes the total assets or how much asset value is managed by the mutual fund investment manager (Abi, 2016).

Some methods that are often used in evaluating the performance of mutual funds that specifically measure the risk and return of the investment portfolio (mutual funds) concerned include the Sharpe method, Treynor method and Jensen method. According to the Sharpe method, future portfolio performance can be predicted using measurements made by dividing the excess return by the variability of the portfolio return. Sharpe measurement uses a variability divider measured by the standard deviation of portopolio returns. Treynor method in evaluating portopolio performance by dividing the excess return with the volatility of the portopolio. Treynor measurement uses a volatility divider measured by systematic risk or beta portopolio. While the Jensen index method is an index that shows the difference between the actual level of return obtained by the portfolio and the expected level of return if the portfolio is in the capital market line (Anggraeni, 2018).

Based on data reported by OJK (Financial Services Authority) revealed that in 2017 there were around 182 sharia mutual fund products and had an NAV of 28,311.77 billion until November 2019 there were around 263 sharia mutual fund products that had been registered with an NAV value of 55,300.47 billion which showed an increase. the value of mutual fund investment in Indonesia has increased significantly in recent years. This can also have a good impact on the economy in Indonesia. In addition to attracting investors, mutual funds have a return that is quite convincing for people who invest. The number of mutual funds in Indonesia makes investors have to choose the right type of mutual fund to invest some of their money. Therefore, this research is needed to determine the performance of mutual funds which

include fixed income Islamic mutual funds and mixed Islamic mutual funds during 2017-2019.

THEORETICAL FOUNDATION

Investment Definition

Investment is a word that we often and widely hear on various occasions. The word investment itself is a language that comes from English, namely investment. In the Websters Dictionary, the word invest can be defined as "to make use of for future benefits or advantages and to commit money in order to earn a financial return". In terms of capital markets and also money markets, investment can mean investing money or capital in a company or investing funds in a project in order to make a profit. Investment can also be said to be an activity of exchanging money to obtain other forms of wealth such as shares or other immovable assets that are expected to be held for a period in order to generate income (Huda, Nurul & Mustafa Edwin Nasution, 2007).

Investment activities carried out by humans in the present are usually divided into two, namely investments made in financial assets and investments made in real assets, or tangible assets. Investment in financial assets is usually done in the money market, such as in certificates of deposit, Money Market Securities (SBPU), and also in stock instruments, bonds, warrants, and other derivative products in the capital market. Investments made in real assets can be made in the form of factory construction, plantation and agricultural land development, or building construction (Heykal, 2012).

Investment in Islamic Perspective

In Islam, investment is a highly recommended muamalah activity, because by investing the assets owned become productive and also bring many benefits to others. The Quran strictly prohibits hoarding activities (iktinaz) against the property owned (Q.S 9:33). In a hadith, the Prophet Muhammad SAW said, "Know that whoever takes care of an orphan, while the orphan has property, then he should invest it (do business), do not let the property, so that the property continues to decrease because of zakat" (Sutedi, 2011).

Islamic principles in terms of investing are all things that are in accordance with sharia and refer to all halal and all parties involved in investing receive profits and losses fairly. In conducting investment activities, it

is necessary to pay attention to the halalness of the investment assets, namely investments that do not contain elements of gharar, maysir, usury, tadbis, talaqqi rukban, taghrir, ghabn, qarar, risywah, sin, zalim in it and not for profit alone. Halal stocks are stocks that have received screening from the government, in this case the IDX, DSN-MUI and OJK.

Net Asset Value

Net Asset Value (NAV) is the fair market value of a mutual fund's securities and other assets less all of its liabilities. The investment performance of mutual fund portfolio management is reflected in the Net Asset Value (NAV). Net Asset Value is one of the benchmarks in monitoring the results of mutual funds. Net asset value per unit of participation is the fair price of the portfolio of a mutual fund after deducting operational costs then divided by the number of shares / participation units that have been outstanding at that time (Iman, 2008).

Mutual funds

Mutual *fund* comes from the word "reksa" which means keep or maintain and "dana" which means money. In accordance with the Capital Market Law (PM Law) No. 8 of 1995, mutual funds are a forum for collecting funds from the investor community which are then reinvested in a securities portfolio by the Investment Manager.

Mutual funds can be defined as a number of funds collected from the public to be managed by investment managers in portfolios in securities such as stocks, bonds, money market instruments, deposits, cash, or a combination of the above instruments (Iman, 2008). Rudiyanto (2019), defines mutual funds as products from companies included in the capital market category that are supervised by the OJK so that they can carry out collection activities from the public.

Based on the above definition, mutual funds are a place to collect funds from the investor community and invested in various investment products managed by investment managers into a mutual fund.

Islamic Mutual Funds Definition

Islamic mutual funds according to the MUI National Sharia Council Fatwa No. 20/DSN-MUI/IV/2001 are mutual funds that operate according to the provisions and principles of Islamic Sharia, both in the form of contracts between investors as owners of assets (*sahib al-mal / Rabb al mal*) and investment

managers as representatives of *shahib al-mal*, as well as between investment managers as representatives of *shahib al-mal* and investment users. In its management, Islamic mutual funds allocate their capital to Islamic securities. Sharia securities are securities as referred to in the capital market law and its implementing regulations whose contracts, methods, and business activities on which the issuance is based do not conflict with the principles of sharia in the capital market.

Dr. Andri Soemitra (2017), explains that sharia mutual funds are mutual funds whose management and investment policies refer to Islamic law. Islamic mutual funds do not invest their products that are contrary to Islamic law. Activities that are not in accordance with Islamic law include using the usury / interest system, such as interest-based banks and financing companies, companies that produce cigarettes and liquor, the pig farming industry, gambling, and businesses that contain immorality.

One of the objectives of Islamic mutual funds is to meet the needs of investor groups who want to obtain investment income from clean sources and methods that can be accounted for religiously and in line with sharia principles. There are 3 principles of mutual fund management that are in accordance with sharia principles, namely (Rudiyanto, 2019):

1. Invest only in sharia securities as referred to in the capital market law.
2. The cleansing process is the process of cleaning mutual funds from income that is not in accordance with sharia principles.
3. The existence of a Sharia Supervisory Board that oversees the fulfillment of sharia principles in a mutual fund.

The three management principles above are the difference between conventional mutual funds and Islamic mutual funds. In terms of investors, Islamic mutual funds can be purchased by anyone, both Muslim and non-Muslim. In terms of management, conventional mutual funds and Islamic mutual funds are basically the same. The same applies to the way they are purchased and transacted.

Legal Basis and Islamic Mutual Fund Agreements

Basically, Islam strongly encourages its people to carry out economic activities (mu'amalah) in the right and good way, and prohibits hoarding goods, or let the treasure (money) unproductive, so that economic activities carried out can improve the economy of the people.

The muamalah aspect is a general rule for humans to practice their social life and the basis for building an economic system that is in accordance with Islamic values. The teaching of muamalah will prevent people from legalizing all means to find food. Muamalah teaches people to eat good and halal food.

Guidelines regarding the implementation of investments for Islamic mutual funds in Indonesia are contained in the MUI National Sharia Council Fatwa No. 20/DSN-MUI/IV/2001. In the word of Allah QS. Surat An-Nisa' Verse 29

يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا أَمْوَالَكُمْ بَيْنَكُمْ بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِنْكُمْ وَلَا تَقْتُلُوا أَنْفُسَكُمْ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا.....

"O you who believe, do not eat each other's wealth by unlawful means, except by way of a mutually beneficial trade between you...." (QS. Surat An-Nisa' Verse 29)

Furthermore, it is found in QS. Al-Ma'idah Verse 1

يَا أَيُّهَا الَّذِينَ آمَنُوا أَوْفُوا بِالْعُقُودِ.....

"O you who believe, fulfill those contracts...." (QS. Al-Ma'idah Verse 1)

This verse explains the prohibition of consuming other people's wealth through unlawful means, in which there is harm for them, both for the eater and the one whose wealth is taken. Allah permits them all that is beneficial to them such as various forms of trade and various types of business and skills. In conducting commerce, it is required that the trade be based on mutual consent and that it be done by choice and not by force. If the trade is not conducted in cash, a written contract must be made.

Then in the hadith of the Prophet s.a.w mentioned

"Peace can be made among the Muslims except that which prohibits the lawful or makes the unlawful lawful; and the Muslims are bound by their terms except that which prohibits the lawful or makes the unlawful lawful" (narrated by Tirmidhi from 'Amr bin 'Auf).

Types of Islamic Mutual Funds

Based on the provisions of the Financial Services Authority Regulation Number 19/POJK.04/2015 concerning the Issuance and Requirements of Islamic Mutual Funds, the types of Islamic mutual funds include:

- 1) Money Market Sharia Mutual Fund
- 2) Fixed Income Sharia Mutual Fund
- 3) Sharia Equity Mutual Fund
- 4) Balanced Islamic Mutual Fund
- 5) Sharia Protected Mutual Fund

- 6) Sharia Index Mutual Fund
- 7) Offshore Sharia Securities-Based Islamic Mutual Funds
- 8) Sukuk-based Islamic Mutual Fund
- 9) Sharia Mutual Funds in the Form of Collective Investment Contracts whose Participation Units are traded on the Stock Exchange
- 10) Sharia Mutual Fund in the Form of Collective Investment Contract with Limited Participation

Benefits and Risks of Islamic Mutual Funds

Investing in mutual funds certainly contains aspects of profit. Investing in mutual funds can provide several advantages, including being able to invest with relatively small capital, getting dividends from mutual funds, *capital again* obtained from the sale of mutual fund portfolios, spreading risk through securities portfolio diversification, more investment access even with limited funds, mutual fund shares for open mutual funds can be resold at any time, periodic cash distributions, and free from administrative work and investment analysis because mutual funds have been managed by investment managers (Soemitra, 2017).

The advantages of investing in mutual fund products include the following (Santoni, 2020):

1) Managed by Professional Management

The portfolio management of a mutual fund is carried out by an Investment Manager who specializes in capital market expertise. The role of the Investment Manager is very important considering that individual investors generally have limited time, so they cannot conduct research directly in analyzing securities prices and accessing information to the capital market.

2) Investment Diversification

Diversification or investment spread realized in the portfolio will reduce risk (but cannot eliminate), because mutual fund funds or wealth are invested in various types of securities, so the risk is also spread. To reduce investment risk, the securities portfolio is diversified to the most optimal level, so that even small investors with limited funds can benefit from investment diversification.

3) Information Transparency

Mutual funds are required to provide information on the development of their portfolios and costs on an ongoing basis, so that unit holders can

monitor their profits, costs and risks at any time. Mutual fund managers are required to announce their Net Asset Value (NAV) every day in newspapers and publish annual financial reports and prospectuses regularly, so that investors can monitor the development of their investments regularly.

4) High Liquidity

In order for the investment to be successful, each investment instrument must have a high level of liquidity. Thus, investors can redeem their Participation Units at any time according to the provisions made by each mutual fund, making it easier for investors to manage their cash. Open mutual funds are obliged to buy back their Participation Units so that they are very liquid.

5) Low Cost

Mutual funds are a collection of funds from many investors and then managed professionally, so in line with the large ability to invest it will also result in transaction cost efficiency. Transaction costs will be lower than if individual investors make their own transactions at the stock exchange.

6) Many Investment Options

Mutual funds have many product classifications, especially Islamic mutual funds. There are 10 types of Islamic mutual fund products, including money market Islamic mutual funds, fixed income Islamic mutual funds, equity Islamic mutual funds, mixed Islamic mutual funds, protected Islamic mutual funds, index Islamic mutual funds, foreign sharia securities-based Islamic mutual funds, sukuk-based Islamic mutual funds, Islamic mutual funds in the form of collective investment contracts whose participation units are traded on the stock exchange, Islamic mutual funds in the form of collective investment contracts with limited participation. Each type of product has different characteristics, return rates and risk levels.

Mutual fund investment has bright prospects as well as risks. The risk of price fluctuations faced in investing in the capital market is in principle the same as the risk that may be experienced in investing in mutual funds. However, the risk of investing in mutual funds is relatively lower than investing in stocks on the stock exchange. The risks in investing in mutual funds are as follows (Soemitra, 2017):

1) Risk of Decrease in Unit Value

This risk is influenced by falling prices of securities (stocks, bonds, and other securities) included in the mutual fund portfolio.

2) Liquidity Risk

This risk concerns the difficulties faced by the fund manager if most unit holders *redeem* their units. The fund manager will have difficulty in providing cash for such *redemptions*.

3) Political and Economic Risks

Changes in political economy policies can affect the performance of the stock market and companies at the same time. As such, security prices will be affected which in turn affects the portfolio held by the mutual fund.

4) Market Risk

This happens because the value of securities in the securities market fluctuates in accordance with general economic conditions. Fluctuations in the securities market will directly affect the net value of the portfolio, especially if there is a correction or negative movement.

5) Inflation Risk

The occurrence of inflation will lead to a decrease in the total *real return on investment*. Income received from investments in mutual funds may not be able to cover losses due to a *loss of purchasing power*.

6) Exchange Rate Risk

This risk can occur if there are foreign securities in the portfolio. Exchange rate movements will affect the value of securities that include *foreign investments* after conservation in domestic currency.

7) Specific Risk

This risk is the risk of each security held. In addition to being affected by the market as a whole, each security has its own risk. Each security can decline in value if the company is not performing well, or there is also the possibility of *default*, unable to pay its obligations.

Mutual Fund Benchmarks

A *benchmark* is a reference point for measuring a portfolio's performance. The role of *benchmarks* in evaluating portfolio performance is to compare the rate of return that can be obtained from other balanced investment alternatives. Thus, the *benchmark* in evaluating portfolio performance must truly represent

the investment policy of the portfolio, as well as in accordance with the investor's investment objectives (Suketi, 2011).

In Indonesia there are several stock indices used to measure market indices, such as JCI, LQ45, JII, ISSI and Sectoral Indices. The use of benchmarks in measuring mutual fund performance is intended to compare whether the performance of mutual funds managed by investment managers can "beat" (outperform) the market or even "lose" (underperform)" from the market (Kholidah, 2019). In this study, the Islamic mutual fund market index used is the Jakarta Islamic Index (JII).

The Jakarta Islamic Index (JII) is a stock index based on Islamic sharia. The Jakarta Islamic Index currently consists of 30 stocks selected from stocks that comply with Islamic sharia. The Jakarta Islamic Index is intended to be used as a *benchmark* to measure the performance of an investment in sharia-based stocks. Through the index is expected to increase investor confidence in developing investments in sharia equities (Sholihin, 2013).

BI 7-Day (Reserve) Repo Rate

BI 7-Day (Reserve) Repo Rate is a new policy from Bank Indonesia to replace BI Rate as the benchmark interest rate or monetary policy effective since August 19, 2016. This strengthening of the monetary operating framework aims to strengthen policy effectiveness in achieving the set inflation target. With the BI 7-Day (Reserve) Repo Rate replacing the BI Rate as a new policy, it can quickly affect the money market, banking, and real sector. With the implementation of this new policy, it can strengthen the relationship between monetary policy signals and interest rates as the main reference in financial markets, increase the effectiveness of policy transmission in the movement of money market interest rates and bank interest rates, and the formation of deeper financial markets.

BI 7-Day (Reserve) Repo Rate has an influence on the development of mutual funds, namely if the interest rate increases, the interest rate on time deposits becomes more attractive, so that investors are more interested in investing in deposits rather than mutual funds. As a result, the total Net Asset Value (NAV) of mutual funds will also decrease and vice versa (Sari, 2016).

RESEARCH METHODS

Research Methods

This research uses a comparative descriptive approach and quantitative methods. Qualitative research is a type of research that produces new findings that cannot be achieved using statistical procedures or other means of measurement (Jaya, 2020). Research data is taken from the Financial Services Authority website, namely www.ojk.co.id, Bank Indonesia through the website www.bi.go.id and information data service sites and investment product research, namely Indopremier through www.indopremier.com. The population of this research is Mixed and Fixed Income Sharia Mutual Funds registered with the Financial Services Authority and declared actively operating on the Indonesia Stock Exchange reporting Net Asset Value on Indopremier.com. The sample for this study were 10 Mixed Sharia Mutual Funds and 10 Fixed Income Sharia Mutual Funds from 22 Mixed Sharia Mutual Funds and 45 Fixed Income Sharia Mutual Funds at www.Indopremier.com. Sampling was done using purposive sampling technique. Purposive sampling is a sampling technique that is carried out based on the characteristics set against the target population elements tailored to the research objectives or problems (Tanjung, 2018). This means that each unit / individual taken from the population is selected deliberately based on certain considerations. The sample criteria in this study, namely consisting of 10 Mixed Sharia Mutual Funds and 10 Fixed Income Sharia Mutual Funds registered with the Financial Services Authority and reporting Net Asset Value at www.Indopremier.com during the 2017-2019 period, present Net Asset Value reports during the 2017-2019 period.

The methods used to collect data in this study are: Library Research, library research or library research, namely data obtained from books, journals and other written materials related to measuring mutual fund performance using the Sharpe, Treynor and Jensen methods. In this case citing several theories that help the discussion in the study. The data source used in this research is secondary data obtained from electronic media documentation, namely by collecting Net Asset Value (NAV) report data uploaded on the [Indopremier.com](http://www.Indopremier.com) web.

Operational Definition of Research Variables

Mutual Fund Return

The return of Islamic Mutual Funds is obtained from the value of NAV per unit for each Islamic Mutual Fund, the formula used is:

$$R = {}_{RD} \frac{NAB_t - NAB_{t-1}}{NAB_{t-1}}$$

Where:

Return_{RD} = average performance of a particular sub-period mutual fund

NAV_t = Net Asset Value / end-of-month units

NAV_{t-1} = Net Asset Value/unit end of the previous month.

Average Risk Free Investment Return (*return risk free rate*)

Return Risk free rate is an investment in financial instruments that have zero or least risk. In this case the data used is the BI 7 day (reserve) repo rate. Risk free can be known in the following way:

$$\overline{Rf} = \frac{\sum(Rf)}{n}$$

Where:

R_f = risk free return

$\sum(Rf)$ = the sum of interest rates in a given period

n = number of calculation periods

Market Rate of Return

A measure of the ability of market performance as a comparison, in showing a performance that has been achieved in a certain period calculated from the value of the JII, the formula used is :

$$R = {}_M \frac{JII_t - JII_{t-1}}{JII_{t-1}}$$

Where:

R_M = Stock market return (JII)

JII_t = Current stock market return (JII)

JII_{t-1} = Previous stock market return (JII)

Standard Deviation

Standard deviation is generated using the Microsoft excel program with the formula (=STDEV) or using the following formula:

$$\sigma = \frac{\sqrt{\sum(x - \mu)^2}}{n - 1}$$

Where:

- S = sample standard deviation
- Σ = symbol of the addition operation
- X = return value that is in the sample
- μ = sample mean count
- n = amount of data

Beta (β)

Beta is measured by dividing the covariance between market returns and mutual fund returns by the *benchmark* variance. Beta can be formulated as follows:

$$\beta p = \frac{\sigma_{ij}}{\sigma_{m2}}$$

Where:

- B = Beta of the portfolio
- σ_{ij} = Covariance between market return and portfolio return
- σ_{m2} = Market variance

Data Analysis Method

Data analysis method or technique is a method used to process research results in order to obtain a conclusion (Priyatno, 2011). By looking at the theoretical framework, the data analysis technique used in this research is descriptive analysis. The data analysis method used in this research is quantitative method.

Sharpe Method

Developed by William Shape, the Sharpe method is based on the so-called risk premium or *risks premium*. The *risks premium* is the difference between the average performance generated by a mutual fund and the average performance of a risk-free investment. The Sharpe measurement is formulated as the *ratio of the risk premium* to its standard deviation:

$$S = \frac{RD}{\sigma} \frac{Kinerja_{RD} - Kinerja_{RF}}$$

Where,

- S_{RD} = Sharpe ratio value
- Performanc_{RD} = average performance of a particular subperiod mutual fund

- Performanc_{RF} = average performance of risk-free investments of a given subperiod
- σ = standard deviation of mutual funds for a particular subperiod

Treynor Method

The Treynor method is a measure of portfolio performance developed by Jack Treynor, measurement with the Treynor method is also based on *risk premium*, as is done by Sharpe. However, the Treynor method uses a beta divisor (β) which is the risk of fluctuations relative to market risk. Measurement with the Treynor method is formulated as follows:

$$T = \frac{RD}{\beta} \frac{Kinerja_{RD} - Kinerja_{RF}}$$

Where,

- T_{RD} = Treynor ratio value
- Performanc_{RD} = average performance of a particular subperiod mutual fund
- Performanc_{RF} = average performance of risk-free investments of a given subperiod
- β = slope of the linear regression equation

Jensen Method

Similar to the Treynor method, Jensen uses the beta factor in measuring the investment performance of a portfolio. Measurement with the Jensen method assesses the performance of investment managers based on how much the investment manager is able to provide performance above market performance according to the risk it has. Jensen's method is a powerful tool in various fields of mathematics and applied sciences, providing essential bounds and relationships between expected values and convex functions. The formulation proposed by Jensen is as follows:

$$\text{Alpha} = \text{Performanc}_{RD} - [(\text{Performance}_P - \text{Performanc}_{RF}) \times \beta + \text{Performanc}_{RF}]$$

Where:

- Alpha = Jensen intersection value
- RD performance = mutual fund performance
- RF performance = risk-free investment performance
- P performance = market performance
- β = Beta or systematic risk

RESULTS AND DISCUSSION

Discussion of Fixed Income Mutual Fund Performance Analysis with Sharpe, Treynor, and Jensen Methods

Table 1. Fixed Income Sharia Mutual Fund Using Sharpe Method 2017-2019

Fixed Income Sharia Mutual Fund	2017	2018	2019
	Sharpe	Sharpe	Sharpe
Avrist Sukuk Income Fund	0.5371	-2.7168	0.3923
Bahana MES Syariah Fund	1.9627	-1.8120	1.8631
Bahana Sukuk Syariah	2.6654	-1.4555	2.4212
BNI Dana Syariah	0.5125	-1.7554	2.7042
Sharia Hajj	6.1028	0.5174	3.1936
MNC Dana Syariah	7.7184	-1.3255	-1.1927
Mandiri Investa Dana Syariah	0.8935	-0.8632	0.1294
PNM Amanah Syariah	0.5039	-2.8045	-0.7921
Premier Fixed Income Syariah	2.5788	-1.3914	2.3265
SAM Sukuk Syariah Sejahtera	2.0529	-1.4420	1.6158
Jakarta Islamic Index	0.7588	-1.7295	-0.9729

Based on the table data above, the Sharpe method of Fixed Income Sharia Mutual Funds in 2017 all Sharia Mutual Funds showed positive performance, meaning that all Fixed Income Sharia Mutual Funds were able to provide *returns* greater than risk-free investment *returns*. In this period the best performance was achieved by MNC Dana Syariah (7.7184) from Investment Manager PT MNC Asset Management. In 2018 there was 1 Fixed Income Mutual Fund showing positive

performance. In this period the best performance was achieved by Haji Syariah (0.5174) from the Investment Manager of PT Insight Investments Management. In 2019 there were 8 Fixed Income Mutual Funds showing positive performance. In this period the best performance was achieved by Haji Syariah (3.1936) from Investment Manager PT. Insight Investments Management.

Table 2. Performance of Mixed Sharia Mutual Funds Using Sharpe Method 2017-2019

Balanced Islamic Mutual Fund	2017	2018	2019
	Sharpe	Sharpe	Sharpe
Avrist Balanced Amar Syariah	0.4966	-1.5378	-0.7192
Cipta Syariaiah Balanced	0.5890	-1.9397	-1.2651
Danareksa Syariah Balanced	1.3502	-3.2950	-1.8812
Insight Syariah Balanced	0.4219	-0.7685	2.7415
Mandiri Investa Syariah Berimbang	0.0118	-1.1488	0.4890
PNM Syariah	0.7615	-2.1019	-1.1345
SAM Syariah Balanced	-1.3447	-2.1985	-0.2742
Schroder Syariah Balanced Fund	0.5272	-2.1732	-1.7938
Simas Syariaiah Berkembang	-1.0380	-0.8846	-0.3548
TRIM Syariah Balanced	-0.0360	-1.6370	0.1342
Jakarta Islamic Index	0.7588	-1.7295	-0.9729

Based on the table data above, the Sharpe method of Mixed Sharia Mutual Funds in 2017 obtained the results of 7 Mixed Sharia Mutual Funds

that have positive performance. In this period the best performance was achieved by Danareksa Syariah Berimbang (1.3502) from the Investment Manager of

PT Danareksa Investment Management. In 2018 the results showed that all Balanced Sharia Mutual Funds had negative performance. In this period the best performance was achieved by Insight Syariah Balanced (-0.7685) from Investment Manager PT Insight Investments Management. In 2019, the results obtained

were 3 Mixed Sharia Mutual Funds that had positive performance. In this period the best performance was achieved by Insight Syariah Berimbang (2.7415) from Investment Manager PT. Insight Investments Management.

Table 3. Performance of Fixed Income Sharia Mutual Fund Using Treynor Method in 2017-2019

Fixed Income Sharia Mutual Fund	2017	2018	2019
	Treynor	Treynor	Treynor
Avrist Sukuk Income Fund	-17.3028	-2.5397	4.6722
Bahana MES Syariah Fund	-0.9140	-0.8011	-0.6222
Bahana Sukuk Syariah	0.1386	1.2417	1.6343
BNI Dana Syariah	0.0493	0.0892	0.1234
Sharia Hajj	-0.1736	-0.2268	-0.4087
MNC Dana Syariah	-0.0748	-0.1727	-0.2219
Mandiri Investa Dana Syariah	-0.1556	-0.5325	0.7056
PNM Amanah Syariah	0.2194	-11.1757	-0.4610
Premier Fixed Income Syariah	4.6416	-0.5047	1.2255
SAM Sukuk Syariah Sejahtera	-2.7884	-0.8315	0.7177
Jakarta Islamic Index	0.0654	-0.1922	-0.1006

Based on the table data above, the Treynor method of Fixed Income Sharia Mutual Funds in 2017 obtained the results of 4 Fixed Income Mutual Funds showing positive performance. In this period the best performance was achieved by Premier Fixed Income Syariah (4.6416) from Investment Manager PT Indo Premier Investment Management. In 2018 there were 2 Fixed Income Mutual Funds showing positive

performance. In this period the best performance was achieved by Bahana Sukuk Syariah (1.2417) from Investment Manager PT Bahana TWC Investment. In 2019 there were 6 Fixed Income Mutual Funds showing positive performance. In this period the best performance was achieved by Avrist Sukuk Income Fund (4.6722) from Investment Manager PT. Avrist Asset Management.

Table 4. Performance of Mixed Sharia Mutual Fund Using Treynor Method in 2017-2019

Balanced Islamic Mutual Fund	2017	2018	2019
	Treynor	Treynor	Treynor
Avrist Balanced Amar Syariah	-0.2359	-1.0381	-3.8817
Cipta Syariaiah Balanced	-0.9819	-0.1206	0.3063
Danareksa Syariah Balanced	0.8351	1.2179	0.2332
Insight Syariah Balanced	0.0432	0.0166	0.0724
Mandiri Investa Syariah Berimbang	-0.1962	-0.2621	-0.2407
PNM Syariah	0.8612	0.0666	-0.1221
SAM Syariah Balanced	-0.1710	-0.3215	-0.0430
Schroder Syariah Balanced Fund	0.0472	-0.2587	-0.2024
Simas Syariaiah Berkembang	-0.1810	-0.4399	-0.0576
TRIM Syariah Balanced	-0.0031	-0.2392	0.0163
Jakarta Islamic Index	0.0654	-0.1922	-0.1006

Based on the table data above, the Treynor method of Mixed Sharia Mutual Funds in 2017 obtained the results of 4 Mixed Sharia Mutual Funds that have positive performance. In this period the best

performance was achieved by PNM Syariah (0.8612) from the Investment Manager of PT PNM Investment Management. In 2018, the results of 3 Mixed Sharia Mutual Funds had positive performance. In this period,

the best performance was achieved by Danareksa Syariah Berimbang (1.2179) from the Investment Manager of PT Danareksa Investment Management. In 2019, the results of 4 Mixed Sharia Mutual Funds had

positive performance. In this period the best performance was achieved by Cipta Syariaah Balanced (0.3063) from Investment Manager PT. Principal Asset Management.

Table 5. Performance of Fixed Income Sharia Mutual Fund Using Jensen Method 2017-2019

Fixed Income Sharia Mutual Fund	2017	2018	2019
	Jensen	Jensen	Jensen
Avrist Sukuk Income Fund	0.0286	-0.1453	0.0104
Bahana MES Syariah Fund	0.0817	-0.0866	0.0746
Bahana Sukuk Syariah	0.1132	-0.0833	0.1080
BNI Dana Syariah	0.0154	-0.0490	0.0390
Sharia Hajj	0.0552	0.0030	0.0061
MNC Dana Syariah	0.0238	-0.0073	-0.1827
Mandiri Investa Dana Syariah	0.0144	-0.0419	0.0053
PNM Amanah Syariah	0.0162	-0.0488	-0.0165
Premier Fixed Income Syariah	0.1197	-0.0791	0.1105
SAM Sukuk Syariah Sejahtera	0.0642	-0.0534	0.0858
Jakarta Islamic Index	0.1109	-0.1404	-0.0433

Based on the data table above, the Jensen method of Fixed Income Sharia Mutual Funds in 2017 shows that all Fixed Income Mutual Funds show positive performance. In this period the best performance was achieved by Premier Fixed Income Syariah (0.1179) from Investment Manager PT Indo Premier Investment Management. In 2018 there was 1 Fixed Income Mutual Fund showing positive

performance. In this period the best performance was achieved by Haji Syariah (0.0030) from the Investment Manager of PT Insight Investments Management. In 2019 there were 8 Fixed Income Mutual Funds showing positive performance. In this period the best performance was achieved by Premier Fixed Income Syariah (0.1105) from Investment Manager PT. Indo Premier Investment Management.

Table 6. Performance of Mixed Sharia Mutual Funds Using Jensen Method 2017-2019

Balanced Islamic Mutual Fund	2017	2018	2019
	Jensen	Jensen	Jensen
Avrist Balanced Amar Syariah	-0.5037	-0.5826	-0.4615
Cipta Syariaah Balanced	-0.6795	-0.6535	-0.5914
Danareksa Syariah Balanced	-0.4190	-0.4202	-0.4927
Insight Syariah Balanced	-0.4105	-0.3230	-0.3692
Mandiri Investa Syariah Berimbang	-0.3756	-0.1678	-0.1040
PNM Syariah	-0.5201	-0.5627	-0.6613
SAM Syariah Balanced	-0.7144	-0.6237	-0.5747
Schroder Syariah Balanced Fund	-0.4262	-0.3429	-0.3506
Simas Syariaah Berkembang	-0.1402	-0.1014	-0.5225
TRIM Syariah Balanced	-0.5029	-0.5067	-0.6296
Jakarta Islamic Index	-0.9936	-0.9930	-0.9924

Based on the table data above, the Jensen method of Mixed Sharia Mutual Funds in 2017 shows that all Mixed Sharia Mutual Funds have negative performance. In this period the best performance was achieved by PNM Syariah (0.8612) from the Investment Manager of PT PNM Investment

Management. In 2018 it was found that all Mixed Sharia Mutual Funds had negative performance. In 2019 it was found that all Mixed Sharia Mutual Funds had negative performance.

Best Performance of Fixed Income Sharia Mutual Funds and Mixed Mutual Funds with Sharpe, Treynor and Jensen Methods

Table 7. Fixed Income Sharia Mutual Funds with the best performance using the Sharpe method in 2017 - 2019

Mutual Fund Name	2017	2018	2019	Sharpe average	Status
	Sharpe	Sharpe	Sharpe		
Bahana Sukuk Syariah	2.6654	-1.4555	2.4212	1.2104	<i>Outperform</i>
Sharia Hajj	6.1028	0.5174	3.1936	3.2713	<i>Outperform</i>
Mandiri Investa Dana Syariah	0.8935	-0.8632	0.1294	0.0532	<i>Outperform</i>
Premier Fixed Income Syariah	2.5788	-1.3914	2.3265	1.1713	<i>Outperform</i>
SAM Sukuk Syariah Sejahtera	2.0529	-1.4420	1.6158	0.7422	<i>Outperform</i>

Based on the results of calculations using the Sharpe method in 2017 - 2019 there were 5 fixed income Islamic mutual funds that had *outperformance* against *benchmark performance* fluctuating from year to

year. Mutual funds that consistently have positive performance and *outperform* the *benchmark* performance are Haji Syariah with an average *Sharpe* value of 3.2713.

Table 8. Fixed Income Sharia Mutual Funds with the best performance using the Treynor method in 2017 - 2019

Mutual Fund Name	2017	2018	2019	Treynor average	Status
	Treynor	Treynor	Treynor		
Bahana Sukuk Syariah	0.1386	1.2417	1.6343	1.0049	<i>Outperform</i>

Based on the results of calculations using the *Treynor* method in 2017 - 2019 there are fixed income mutual funds that consistently have positive

performance and *outperform* the *benchmark* performance, namely Bahana Sukuk Syariah with an average *Treynor* value of 1.0049.

Table 9. Mixed Sharia Mutual Funds with the best performance using the Treynor method in 2017 - 2019

Mutual Fund Name	2017	2018	2019	Treynor average	Status
	Treynor	Treynor	Treynor		
Danareksa Syariah Balanced	0.8351	1.2179	0.2332	0.7621	<i>Outperform</i>

Based on the results of calculations using the *Treynor* method in 2017 - 2019 there are mixed mutual funds that consistently have positive performance and

outperform the *benchmark* performance, namely Danareksa Syariah Berimbang with an average *Treynor* value of 0.7621.

Table 10 Fixed Income Sharia Mutual Funds with the best performance using the Jensen method in 2017 - 2019

Mutual Fund Name	2017	2018	2019	Jensen average	Status
	Jensen	Jensen	Jensen		
Bahana Sukuk Syariah	0.1132	-0.0833	0.1080	0.0459	<i>Outperform</i>
Premier Fixed Income Syariah	0.1197	-0.0791	0.1105	0.0503	<i>Outperform</i>

Based on the results of calculations using the *jensen* method in 2017 - 2019 there are 2 fixed income Islamic mutual funds that have *outperformed* the *benchmark performance* fluctuating from year to year. The mutual fund that has the highest performance is Premier Fixed Income Syariah with an average *jensen* value of 0.0503.

The following are Mixed Sharia Mutual Funds with the best performance using the Jensen method in 2017 - 2019. The following is also the performance status of each institution included in the research object.

Table 11. Mixed Sharia Mutual Funds with the best performance using the Jensen method in 2017 - 2019

Mutual Fund Name	2017	2018	2019	Jensen average	Status
	Jensen	Jensen	Jensen		
Avrist Balanced Amar Syariah	-0.5037	-0.5826	-0.4615	-0.5159	<i>Outperform</i>
Cipta Syariaiah Balanced	-0.6795	-0.6535	-0.5914	-0.6414	<i>Outperform</i>
Danareksa Syariah Balanced	-0.4190	-0.4202	-0.4927	-0.4439	<i>Outperform</i>
Insight Syariah Balanced	-0.4105	-0.3230	-0.3692	-0.3675	<i>Outperform</i>
Mandiri Investa Syariah Berimbang	-0.3756	-0.1678	-0.1040	-0.2158	<i>Outperform</i>
PNM Syariah	-0.5201	-0.5627	-0.6613	-0.5813	<i>Outperform</i>
SAM Syariah Balanced	-0.7144	-0.6237	-0.5747	-0.6376	<i>Outperform</i>
Schroder Syariah Balanced Fund	-0.4262	-0.3429	-0.3506	-0.3732	<i>Outperform</i>
Simas Syariaiah Berkembang	-0.1402	-0.1014	-0.5225	-0.2547	<i>Outperform</i>
TRIM Syariah Balanced	-0.5029	-0.5067	-0.6296	-0.5464	<i>Outperform</i>

Based on the results of calculations using the *jensen* method in 2017 - 2019 there were 10 mixed Islamic mutual funds that had *outperformance* against *benchmark performance* fluctuating from year to year. The mutual fund that has the highest performance is Mandiri Investa Syariah Berimbang with an average *jensen* value of -0.2158.

CONCLUSIONS

Based on the results of the performance assessment of Fixed Income *Sharia* Mutual Funds in the 2017-2019 period using the *Sharpe*, *Treynor* and *Jensen* methods, there are mutual funds that have the best performance and are able to *outperform* compared to the JII market performance. The most consistent Fixed Income *Sharia* Mutual Fund that has consecutive *outperformance* against *benchmark performance* is Bahana Sukuk Syariah from Investment Manager PT. Bahana TWC Investment Management.

Based on the results of the Mixed *Sharia* Mutual Fund performance assessment in the 2017-2019 period using the *Treynor* and *Jensen* methods, there are mutual funds that have the best performance and are able to *outperform*, while if using the *Sharpe method* there is none that consistently has *outperform performance* compared to JII market performance. The most consistent Balanced *Sharia* Mutual Fund that has *outperformed* the *benchmark performance* is Danareksa Syariah Berimbang from Investment Manager PT Danareksa Investment Management.

Suggestions

Some suggestions that can be given by the author after this research are as follows:

1. For future research it is recommended to expand the sample of mutual funds, and it

is expected not only to use the *Sharpe*, *Treynor* and *Jensen* methods but can be added with other measurement methods and types of mutual funds in measuring performance with a longer and more *up to date* period. As well as using market return *benchmarks* other than the JII such as the JCI or LQ45 index so that the results obtained are more accurate.

Investors should choose Islamic mutual funds that have *outperform* status value against *benchmark* performance, investors can use this report as a reference material to decide to invest in Fixed Income *Sharia Mutual Funds* can choose Bahana Sukuk Syariah mutual fund products that have the highest and better *sharpe*, *treynor* and *Jensen* values in 2017-2019. Investors who choose to invest in Balanced *Sharia* Mutual Funds can choose Danareksa Syariah Berimbang mutual fund products that have the highest and better *treynor* and *Jensen values* in 2018-2019.

REFERENCES

- Abi, F. P. P. (2016). Getting Closer to the Indonesian Capital Market. Yogyakarta: Deepublish.
- Alam Sari, T. W. (2016). Performance Analysis of Islamic Stock Mutual Funds with Sharpe, Treynor, Jensen and M² Methods on the Indonesia Stock Exchange.
- Anggraeni, R., Widiyanti, M., & Taufik, T. (2018). Comparative Analysis of Sharia Mutual Fund Performance and Conventional Mutual Fund Performance Registered in the Financial Services Authority. Thesis. Palembang: Sriwijaya University.

- Heykal, M. (2012). *Sharia Investment Guidelines and Applications A Practical Guide for Laymen*. Jakarta: PT Elex Media Komputindo.
- Huda, N., & Nasution, M. E. 2007. *Investment in Sharia Capital Market*. Jakarta: Kencana.
- Iman, N. 2008. *A Short and Practical Guide to Starting Mutual Fund Investment*. Jakarta: PT Elex Media Komputindo.
- Jaya, I. M. L. M. (2020). *Quantitative and Qualitative Research Methods: Theory, Application, and Real Research*. Jogjakarya: Anak Hebat Indonesia.
- Kasanah, R., & Worokinasih, S. (2018). Analysis of Sharia Mutual Fund Performance with the Sharpe Method (Study on Fixed Income and Mixed Mutual Funds for the Period 2015-2017). *Journal of Business Administration*, 60(1), 18-27.
- Kholidah, N., Hakim, M. R., & Purwanto, E. (2019). Performance Analysis of Islamic Stock Mutual Funds with Sharpe, Treynor, Jensen, M², and Tt Methods. *Indonesian Interdisciplinary Journal of Sharia Economics (IJJSE)*, 1(2), 29-40.
- Rudiyanto. 2019. *Mutual Funds Understand Enjoy!* Jakarta: PT Elex Media Komputindo.
- Sahliyah, F. (2019). *Analysis of Islamic Mutual Fund Performance in Indonesia Using the Sharpe Method (Case Study of Sharia Mutual Fund Shares and Mixed Sharia Mutual Funds in 2015-2016)*. *Qiema Journal (Qomaruddin Islamic Economics Magazine)*, 5(1), 46-62.
- Santoni, RT. 2020. *Comparative Analysis of the Performance of Stock Mutual Funds and Fixed Income Mutual Funds Registered in the Financial Services Authority (Ojk) for the Period June 2018 - May 2019*. Thesis. Bandar Lampung: University of Lampung.
- Suketi, N. A. (2011). *Comparative Analysis of Mutual Fund Returns with its Benchmark Returns Based on Sharpe, Treynor, Jensen and M2 Methods*. Thesis. Semarang: Diponegoro University.
- Sholihin, A, I. 2013. *Smart Book of Sharia Economics*. Jakarta: Gramedia Pustaka Utama.
- Soemitra, A. (2014). *The Future of Sharia Capital Market in Indonesia*. Jakarta: Kencana.
- Sutedi, A. 2011. *Sharia Capital Market: Financial Investment Tools Based on Sharia Principles*. Jakarta: Sinar Grafika.
- Tanjung, H., & Devi, A. (2018). *Islamic Economic Research Methodology*. Bekasi: Gramata Publishing.
- Yudawanto, A., Hidayat, R. R., & Sulasmiyati, S. (2017). *Analysis of Fixed Income Mutual Fund Performance with Sharpe, Treynor and Jensen Methods*. Brawijaya University.
- Zuhra, F. (2018). *Performance Analysis of Sharia Mixed Mutual Funds and Conventional Mixed Mutual Funds Using Sharpe, Treynor, and Jensen Methods in Indonesia (Bachelor's thesis, Jakarta: Faculty of Economics and Business UIN Syarif Hidayatullah)*.
- Nasution Y. 2015. *Peranan Pasar Modal Dalam Perekonomian Negara*. *Human Falah*. 2(1). 95-112
- [OJK] Otoritas Jasa Keuangan. 2019. *Statistik Pasar Modal Syariah 2015 -2020* [Internet]. [diunduh 2020 Agustus 24]. Tersedia pada: <http://www.ojk.go.id>.
- Pardiansyah E. 2017. *Investasi dalam Perspektif Ekonomi Islam: Pendekatan Teoritis dan Empiris*. *Economica: Jurnal Ekonomi Islam*. 2(2): 337 – 373.
- Pratama, Cendy Andrie, dkk. (2019). *Pengaruh Return On Equity (ROE), Earning Per Share (EPS), Current Ratio (CR) dan Debt To Equity Ratio (DER) Terhadap Harga Saham (Studi pada Perusahaan Jakarta Islamic Index yang Terdaftar di Bursa Efek Indonesia Tahun 2014- 2017)*. *Jurnal Administrasi Bisnis (JAB)* Vol. 66 No. 1 Januari 2019.
- Rahmi, Pebri, Andi Irfan, (2012). *Analisis Dampak Penerapan Corporate Governance Terhadap Kinerja Perusahaan Yang Termasuk Dalam Jakarta Islamic Index di Bursa Efek Indonesia : The 1st Islamic Economic and Finance Research Forum UIN Sultan Syarif Kasim*.
- Reka A. D. 2014. *Analisis Fundamental tehnikal dan Makroekonomi harga saham sektor pertanian*. Penelitian tersebut menggunakan metode analisis regresi data panel. Bogor (ID): Institut Pertanian Bogor
- Reni F. A. 2018. *Pengaruh Fundamental dan Makroekonomi terhadap return saham syariah dalam kelompok JII*. Jember (ID): Universitas Jember
- Rodoni A, Yong O. 2002. *Analisis Invstasi dan Teori Portofolio*. Jakarta (ID): PT. Interpretama Offset.
- Rodoni, Ahmad.2009. *Investasi Syariah*. Jakarta: Lembaga Penelitian UIN Jakarta Samsul M. 2006. *Pasar Modal & Manajemen Potofolio*. Jakarta (ID): Erlangga.

- Samsul, Mohamad. 2015. Pasar Modal dan Manajemen Portofolio Edisi 2. Surabaya: Penerbit Erlangga.
- Shidiq AH, Setiawan AB. 2015. Analisis Pengaruh Suku Bunga SBI, Uang Beredar, Inflasi dan Nilai Tukar Terhadap Indeks Harga Saham Jakarta Islamic Index (JII) .Jurnal Ekonomi dan Perbankan Syariah Vol. 3. No.2, Oktober 2015, hal. 25-46.
- Suad Husnan. 2001. Manajemen Keuangan Teori dan Penerapan. Yogyakarta: BPFPE
- Suhadak. Nuzula. 2015. Pengaruh suku bunga terhadap aktivitas perdagangan saham (studi kasus pada Bursa Efek Indonesia periode 2005 -2014). Malang (ID). Universitas Brawijaya.
- Sunariyah. 2006. Pengantar Pengetahuan Pasar Modal. Yogyakarta (ID): UPP STIM YKPN.
- Sutedi A. 2011. Pasar Modal Syariah: Sarana Investasi Keuangan Berdasarkan Prinsip Syariah. Jakarta (ID): Sinar Grafika.
- Syamsuddin, Lukman. 2011. Manajemen Keuangan Perusahaan : Konsep Aplikasi dalam Perencanaan, Pengawasan, dan Pengambilan Keputusan. Jakarta (ID): Rajawali Pers.
- Tandelilin E. 2010. Portofolio dan Investasi. Ed ke-1. Yogyakarta (ID): Kanisius Widarjono A. 2013. Ekonometrika Pengantar dan Aplikasinya: Disertai Panduan Eviews. Yogyakarta (ID): UPP STIM YKPN.
- [WPR] World Population Review. 2020. Muslim Population by Coutry 2020 [Internet]. [diunduh 2020 Des 28]. Tersedia pada: <https://worldpopulationreview.com/country-rankings/muslim-population-by-country>
- Utami ML, Dharmastuti CF. 2014. Faktor Eksternal dan Internal yang Memengaruhi Return Investasi Produk Reksa Dana Campuran di Indonesia. Media Ekonomi dan Manajemen. 29(2): 97-110.
- Yustina dan Tiara. 2017. Pengaruh Earning Per Share, Price to Book Value, Return on Asset, dan Return on Equity Terhadap Harga Saham Sektor Keuangan. Surakarta (ID): Universitas Sebelas Maret.