

ANALYSIS OF RETURN AND RISK OF JAKARTA ISLAMIC INDEX STOCK IN INVESTMENT DECISION MAKING 2015-2019 PERIOD

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***Abstract** - This study aims to determine the returns and risks of shares that including the JII index (Jakarta Islamic Index), to determine the returns and risks of JII's shares portofolio, and to determine the right investment decisions based on the calculation of returns and risks of JII's stock portofolio in 2015-2019. This study uses the Value at Risk method of the Variant-Covariance Approach. Samples of this study is 5 companies of 15 companies in 4 different sectors was determined by purposive sampling method, and formed into two portofolio using daily stock's price data for 2015-2019 period. In this study, the first portofolio and the second portofolio contains the same 5 shares from 4 sectors with the different investment proportion for each shares. Which is EXCL share, JSMR, ADRO, WIKA, and ICBP. The first portofolio has the same investment proportion that's 20% each share. Meanwhile, the second portofolio has different investment proportions, EXCL shares 30%, JSMR shares 25%, ADRO shares 20%, WIKA shares 15%, and ICBP shares 10%. The results prove that the first portofolio which has the same proportion produces a return value of 0.0307% and a maximum risk value (VaR) or potential loss is 1.4293%. For the second Portofolio, which has different stock proportions, the return value is 0.0251% and the risk value (VaR) or maximum potential loss is 1.5454%. Based on the calculations of this study, it shows that the right investment decision for investor is invest in the first portofolio which has the same proportion compared to the*

second portofolio which has the different proportions of each.

Keyword : *Return , Risk, Value at Risk, JII*

I. INTRODUCTION

Investment is one of the important things to encourage the progress of a country's economy. Investment is the activity of allocating funds(*finance*)to get more value or profit in the future. Due to high investment, economic growth in a country will increase. Because of this, people's income will increase and people's welfare will also increase.

In addition, by investing the public can start preparing for future needs by utilizing the funds owned at this time. A person will not always be at a productive age to work while the need will always exist in the future, so that the need for other sources of income so that one can still meet his needs in the future and investment can be used as a source of income.

The need to invest is characterized by the purpose of the investment, whether the return is to be obtained short-term or long-term. The more aggressive an instrument will usually give you a high yield but has a high risk as well.

Based on the type of transaction, investment is divided into two, namely sharia investment and non-sharia or conventional investment. Sharia investment is an investment made by the community with the aim of obtaining profit in accordance with islamic principles and Islamic law. In Indonesia, conventional investment is directly supervised by the OJK while sharia investment is directly supervised by the Indonesian Ulama Council which forms the National Sharia Council and sharia supervisory board.

The Jakarta Islamic Index (JII) is a sharia stock index that was first launched on the Indonesian capital market on July 3, 2000. Jii constituents consist of only 30 of the most liquid sharia stocks listed in the IDX. Just like ISSI, *sharia stock reviews* that become JII constituents are conducted twice a year, May and November, following the DES *review* schedule by OJK.

Generally the purpose of investing is to earn a high *return*, as do novice investors. They tend to only see how much they will get from an investment without thinking about what risks they will face, while *the return goes* in the direction of the risk that will be received. The greater the desired reward will be the greater the risk, on the contrary the smaller the risk taken, the smaller the reward will be obtained (*High Risk High Return, Low Risk Low Return*).

Each investor has a different type of response to a risk, so the choice of the investor will depend on the extent of the investor's preference for the risk. Bolder investors will choose higher investment risk, followed by expectations of *higher returns*, as well as investors who do not want to bear too high risks, certainly will not be able to *expect too high a level of retun*(Tandelilin, 2017:11).

Risk is the possibility of unwanted results that can cause losses if not anticipated and not managed properly (Rustam, 2019:5). To measure such risk can use the Value at Risk (VaR) method, VaR is a method to measure losses in an asset or portfolio over a certain period for a certain level of confidence assuming the market is under normal conditions. Simply put, VaR wants to answer a question of how much an organization, company and individual can lose during a predetermined investment time with a certain level of trust (Heryanti, 2017).

Thus the relationship between rewards and risks is inseparable, where the greater the risk that must be borne, the greater the return that must be compensated. The author considers it quite difficult for investors to be able to provide guarantees in obtaining promising profits by investing in

Indonesia in the following years. A condition of uncertainty which will always exist and must be faced by investors in investment activities, therefore with the condition).

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II. LITELATUR STUDY

2.1. Capital Market

The capital market is a place from various parties, especially companies to sell stocks (stock) and bonds (bonds) with the aim of obtaining additional funds or to strengthen the company's capital derived from the proceeds of the sale (Fahmi, 2012:55). The capital market is also referred to as a market where the meeting place between the parties who have funds and the parties who need funds by trading securities that generally have a lifespan of more than one year and where the sale and purchase of such securities is called the Stock Exchange (Tandelilin, 2017:25).

2.2. Investment

Investment is a commitment to a number of funds or other resources made at this time, with the aim of obtaining a number of future profits (Tandelilin, 2017:2). Furthermore, according to Joyiganto (2015:5) Investment is a delay in current consumption to be put into productive assets over a certain period of time in the future.

2.3. Shares

Shares are securities issued by a company in the form of a public limited liability company or commonly referred to as an issuer, the shares mean that if someone is the owner of shares, it means that the person owns part of the company (Sjahrial, 2009: 22). Meanwhile, according to Tampubolon (2013: 152) shares are a source of finance that comes from individuals and agencies outside the corporation and is proof of ownership of the corporation by the holder, and is a securities that can be traded on the stock market.

2.4. Return

Stock return is one of the factors that motivates investors to invest and is also a reward for the courage of the investor to take the risk of investing it (Tandelilin, 2017: 9). Meanwhile, according to Halim (2015: 25) Return is the result that will be obtained from investment. This return is divided into two, namely the return that has occurred (actual return) which is calculated using historical data, and the expected return of investors in the future.

2.5. Risk

Risk is a state of uncertainty about a situation or event that will occur in the future with decisions taken based on various considerations at this time (Fahmi, 2012: 189). Meanwhile, according to Tandelilin (2017: 114) risk is a potential difference between the actual return received and the expected return, the bigger the difference, the greater the investment risk.

2.6. Portofolio

A portofolio is a collection of financial assets in a unit that is held or created by investors, companies or financial institutions (Joyiganto, 2014: 54). Meanwhile, according to Wira (2015: 10) Portofolio is a collection of investment assets such as property, deposits, stocks, gold, bonds, etc. that are owned by institutions or individuals which will later be managed to achieve investment goals. Market Value is the value of shares in the market, which is indicated by the price of these shares in the market.

2.7. Value At Risk

According to Demus (2013:10) Value at Risk is a tool to measure the potential loss of the value of a risky asset or portfolio over a certain period of time with a certain confidence interval given. Then according to the Indonesian Bankers Association (2016:87) by calculating VaR it will show how much potential loss of a position in a certain period and confident level.

2.8. Investment Decisions

An investment decision is a decision in allocating or placing a certain amount of funds into a particular type of investment to generate future returns with a certain period of time. Investment decisions involve a long period of time, so the decisions taken must be well considered, as they have consequences. An investment decision is a decision as a composition between the asset owned and the investment option in the future.

III. RESEARCH METHODS

The research strategy used in this research is a descriptive quantitative research that explains how to measure the potential level of risk and stock rewards that will result from an investment using the Value at Risk method of variance-covariance approach.

Research strategy or research design will briefly describe the research methods used such as an overview of the relationship between variables and population size and the following sample sample techniques selected, how to collect data, data analysis tools used etc. (Sanusi, 2014:13).

The research population is a group of data and subjects with a certain characteristic (Firdaus and Zamzam, 2018:99). Meanwhile, according to Lubis (2018:19) the population is as a whole research object where the object can consist of test scores, symptoms, vegetation, animals, humans, objects and events that can be used as a source of data that has certain characteristics contained in the research. Population is a generalization area consisting of objects or subjects that have a certain quantity and characteristics that can be determined by researchers to be studied and then drawn conclusions, the population is not just the amount that exists in the object or subject but covers all characteristics or properties owned by the subject or research object (Sugiyono, 2017:80)

According to Sugiyono (2017:81) Samples are part of the number and characteristics possessed by the population. Samples are part of a population that can give an idea of the state of a population. The conclusions resulting from the study will be applied to the population so that the samples taken must be truly representative. Sampling techniques used are purposive sampling techniques. According to Sudaryana (2017:44) purposive sampling is a sampling technique with a certain consideration.

Samples conducted by taking data on the company's shares in the infrastructure sector, mining sector, property sector, real estate and building construction, and consumer goods industry sector listed in jii index with a total of 15 companies.

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Sampling techniques in this study used purposive sampling method. Purposive sampling method is a method of determining samples based on certain criteria. Disellih sample dengan certain criteria that is by selecting five stocks from various sectors contained in the JII index (Jakarta Islamic Index). Sample criteria in this study include:

1. Companies in the infrastructure sector, mining sector, property sector, real estate and building construction, and the consumer goods industry sector are listed in the JII Index with a total of 15 companies.
2. JII shares are the most profitable or have the highest percentage increase in price.
3. During the period of observation the company has complete data to be used in this study.
4. Companies included in the JII index include:
 - a. Has a capitalization of over 17 trillion
 - b. Choosing a collection of shares with the main type of business that does not conflict with sharia principles
 - c. The infrastructure sector of two companies, the mining sector, the property sector, real estate and building construction, and the consumer goods industry sector, namely one company each with the largest market capitalization in each sector.

Based on these criteria, the sample needed is five stocks from four different sectors, namely two shares in the Infrastructure sector consisting of EXCL and JSMR shares. One mining sector share consisting of ADRO shares. One share in the property, real estate and building construction sectors is WIKA's stock. And one share in the consumer goods industry sector is ICBP shares.

Table 1. Market Capitalization Data For 2019

NO	Company Name	Market Capitalization
Infrastructure :		
1	PT XL Axiata Tbk	Rp22,12 triliun
2	PT Jasa Marga Tbk	Rp 37,20 triliun
Mining :		
3	PT Adaro Energy Tbk	Rp34,70 triliun
Property, real estate, and building construction :		
4	PT Wijaya Karya Tbk	Rp18,03 triliun
Consumer Goods Industry:		
5	PT ICBP Sukses Makmur Tbk	Rp 131,49 triliun

Several factors to consider in calculating Value At Risk :

1. Calculation of Individual Daily Stock Return (Jogiyanto, 2014)

$$R_i = \frac{P_t - P_{t-1}}{P_t} \quad (1)$$

Description :

R_i = Stock Return

P_t = Share Price year t

Pt-1 = Share price the year before

2. Calculation of Average Daily Individual Stock Return (Tandelilin, 2017)

$$\text{Average return} = \frac{\text{Return Saham 2015-2019}}{n} \quad (2)$$

3. Calculation of Standard Deviation of Individual Shares

$$\sigma = \frac{\sum_{t=1}^n [R_{it} - E(R_i)]}{n} \quad (3)$$

Description:

σ = Standard Deviation

R_{it} = Return Value of the 1st stock

$E(R_i)$ = Return Value of Expectation

n = Number of hitoris data observations

4. Calculation of Individual Stock Variants (Jogiyanto, 2014)

$$\sigma^2 = \frac{\sum_{t=1}^n [R_{it} - E(R_i)]^2}{n} \quad (4)$$

Description:

σ^2 = Variant of the 1st stock

R_{it} = Return Value of the 1st stock

$E(R_i)$ = Return Value of Expectation

n = Number of hitoris data observations

5. Calculation of Excess Return Individual (Jogiyanto, 2014)

$$\text{Excess Return} = \text{Return on stocks} - \text{Average Return on Shares} \quad (5)$$

6. Portofolio Formation

(6)

7. Calculation of Average Return Portfolio (Jogiyanto, 2014)

$$E(R_p) = \sum_{i=1}^n (w_i \cdot E(R_i)) \quad (7)$$

Description:

$E(R_p)$ = Return on portfolio expectations

w_i = Proportion of 1st assets to all assets in the portfolio

$E(R_i)$ = Return of assets 1

n = Sum of single assets

8. Calculation of Sigma Portfolio (Jogiyanto, 2014)

$$\sigma_p^2 = \sum_{i=1}^n w_i^2 \cdot \sigma_i^2 + \sum_{i=1}^n \sum_{j=1}^n w_i \cdot w_j \cdot \sigma_{ij} \quad (8)$$

Description:

σ_p^2 = variance return portfolio

σ_i^2 = variance return of i securities

σ_{ij} = covariance between return seuritas i and j

w_i = or portion of funds invested in securities i

$\sum_{i=1}^n \sum_{j=1}^n$ = double sum mark, meaning the number n will be added simultaneously (all values of pairs I and j that mungkin paired)

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9. Calculation of VaR (Kulali, 2016)

$$VaR = P \cdot \alpha \cdot \sigma \cdot \sqrt{t} \tag{9}$$

Description:

- VaR = Value at Risk
- P = Investment Proportion
- A = Confidence Level
- σ = Sigma Investment
- t = Holding Period

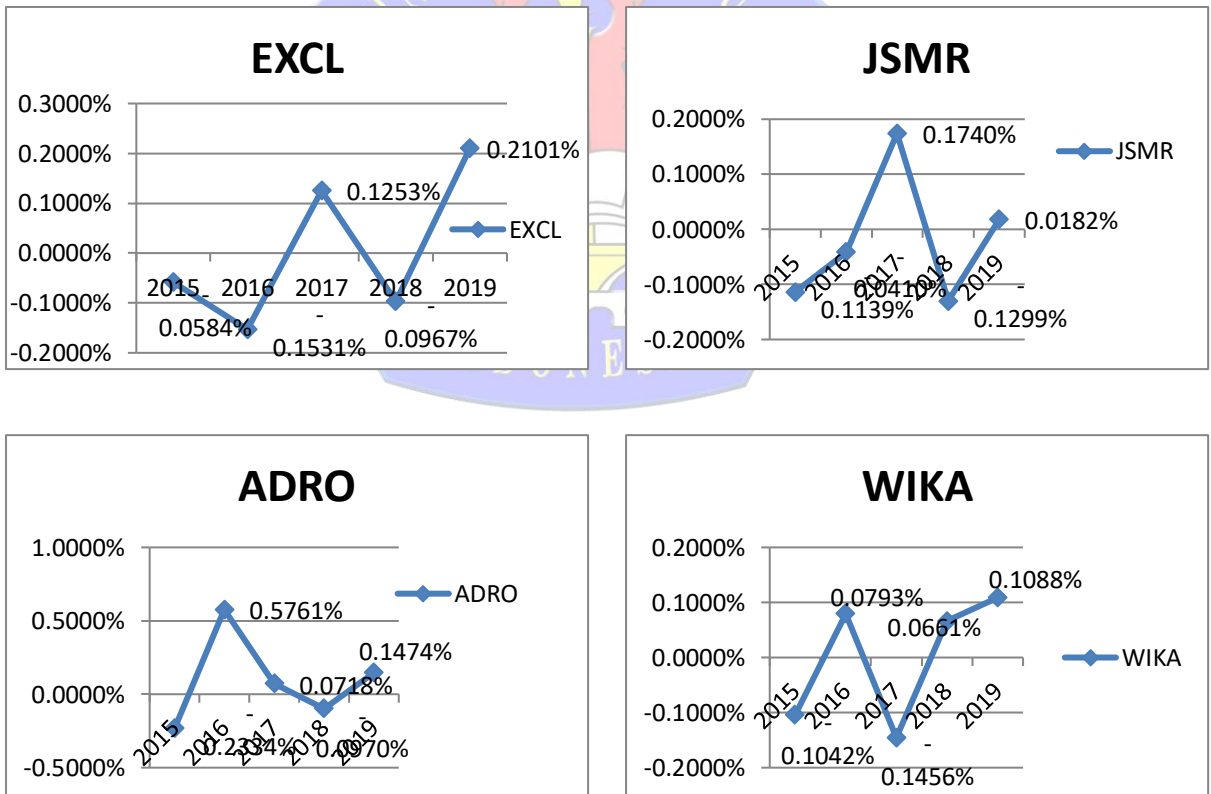
10. Comparison of Portfolio Rewards and Risks (10)

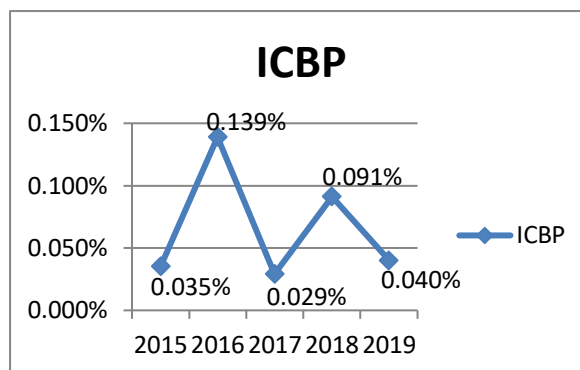
IV. RESEARCH RESULTS AND DISCUSSIONS

1. Individual Daily Stock Return

This daily share return shows how much the return or profit from each share per day during the last 5-year period of 2015-2019.

Daily Stock Return Movement per year period 2015-2019





Source : processed data (2020)

2. Average Return on Individual Daily Shares

A single daily stock average return indicates how much the average return (return) of each share is in 1 day with a predetermined period. And in this calculation the author uses daily stock data during a 5-year period, namely in the period 2015-2019. The average daily stock return is calculated by the average daily stock return that has been calculated previously.

Table 2. Daily Average Stock Return Results for the Period 2015-2019

Stock	Average Daily Stock Return
EXCL	0,0068%
JSMR	-0,0016%
ADRO	0,0913%
WIKA	-0,0099%
ICBP	0,0668%

Source : processed data (2020)

3. Individual Stock Variants

Individual stock variants will indicate the degree of deviation from an investment asset. The stock variant also reflects the maximum risk level of each share per day. The authors used a variant and covariant approach in this study. Stock variants are calculated using the daily stock return data that has been calculated, so that the variant can determine the risk of each stock. The higher the variance of a stock, the riskier it becomes.

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Table 3. Results of Individual Daily Stock Variants Period 2015-2019

Stock	Daily Stock Variants
EXCL	8,0054%
JSMR	3,7820%
ADRO	8,2685%
WIKA	5,4530%
ICBP	2.7634%

Source : processed data (2020)

4. Standard Deviation of Individual Daily Shares

Standard deviation of shares will describe the amount of deviation value or risk of a stock. The higher the standard deviation of a stock, indicating that the higher the risk of a stock

Table 4. Standard Result of Stock Deviation period 2015-2019

Stock	Standard Stock Deviation
EXCL	2,8283%
JSMR	1,9444%
ADRO	2,8747%
WIKA	2,3355%
ICBP	1,6617%

Source : processed data (2020)

5. Excess Individual Daily Stock Return

Excess return is the difference from daily stock returns with an overall average return of 5 years in the period 2015-2019. Excess return is also commonly referred to as abnormal return which is the difference between the expected return and the realization return or deviation of return from the return expected by investors.

Table 5. Average Daily Excess Stock Return data for the period 2015-2019

Stock	Average Excess Return
EXCL	-0,000000000000000003%
JSMR	0,000000000000000010%
ADRO	-0,000000000000000010%
WIKA	0,000000000000000008%
ICBP	0,000000000000000001%

Source : processed data (2020)

6. Portofolio Formation

In this study, the authors will create two portfolios. The portfolio contains five stocks each consisting of different sectors. The selected sectors are the infrastructure, mining sector, property sector, real estate, and building construction, and consumer goods industry sector. The formation of portfolios with different sectors to find out how big the risk and also the return of one portfolio is. For the formation of this portfolio the amount and composition depends on the wishes of each investor. In this study the authors used only five stocks in one potofolio.

Table 6. Stock Portfolio Data

Data Portofolio 1	Data Portofolio 2
EXCL	EXCL
JSMR	JSMR
ADRO	ADRO
WIKA	WIKA
ICBP	ICBP

Source : processed data (2020)

7. Determination of Investment Proportion

The proportion of investment indicates the amount of weight or proportion for each asset in an investment. This proportion will also show how much money is used in an investment and how much percentage the investor will give to each share he wants to invest. In this study, there were examples of the formation of 2 portfolios consisting of 4 equal stocks but with different compositions. Portfolio 1 consists of EXCL, JSMR, ADRO, WIKA, and ICBP shares of 20% each. While Portfolio 2 consists of the same shares as portfolio 1 with different compositions, each share has a proportion of 30%, 25%, 20%, 15%, and 10%.

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Table 7. Proportion Investment Portofolio 1

Stock	Proportion
EXCL	20%
JSMR	20%
ADRO	20%
WIKA	20%
ICBP	20%

Table 8. Proportion Investment Portofolio 2

Stock	Proportion
EXCL	30%
JSMR	25%
ADRO	20%
WIKA	15%
ICBP	10%

8. Average Return on Portfolio

Average return portfolio indicates the reward value of each portfolio consisting of a combination of different shares based on the criteria chosen by the author. Return This portfolio is calculated by multiplying the average return by the proportion of investment. For calculations the author uses formulas in Microsoft Excel programs.

Table 9. Calculation of Average Return of Portfolio 1

Stock	Average Return on Stocks	Proportion	Average Return on Stocks x Proportions
EXCL	0,0068%	0,20	0,0014%
JSMR	-0,0016%	0,20	-0,0003%
ADRO	0,0913%	0,20	0,0183%
WIKA	-0,0099%	0,20	-0,0020%
ICBP	0,0668%	0,20	0,0134%
Total Average Return on Portfolio			0,0307%

Source : processed data (2020)

Table 10. Calculation of Average Return of Portfolio 2

Stock	Average Return on Stocks	Proportion	Average Return on Stocks x Proportions
EXCL	0,0068%	0,30	0,0014%
JSMR	-0,0016%	0,25	-0,0003%
ADRO	0,0913%	0,20	0,0183%
WIKA	-0,0099%	0,15	-0,0020%
ICBP	0,0668%	0,10	0,0134%
Total Average Return Portofolio			0,0251%

Source : processed data (2020)

9. Sigma Portofolio

Sigma portfolios are referred to as standard deviations of portfolios that illustrate the degree of deviation or risk of a portfolio. The greater the sigma value of the portfolio, the greater the risk level of the portfolio. Sigma portfolios are also investment risks or losses in a portfolio. The larger the sigma portfolio, the greater the investment loss on the portfolio. Sigma portfolio is calculated by variant-covariant matrix of the result of excess return that has been calculated before, then the result is multiplied by each proportion. These Matrix variants are calculated using formulas in Microsoft Excel programs based on excess return data that has been calculated.

Table 11. Sigma Portofolio Calculation 1

	EXCL	JSMR	ADRO	WIKA	ICBP	Portfolio Proportions
EXCL	8,0054%	1,2895%	1,3170%	1,2264%	1,0423%	0,20
JSMR	1,2895%	3,7820%	1,3230%	1,5776%	0,7772%	0,20
ADRO	1,3170%	1,3230%	8,2685%	1,095%	0,6640%	0,20
WIKA	1,2264%	1,5776%	1,5095%	5,4530%	0,6771%	0,20
ICBP	1,0423%	0,7772%	0,6640%	0,6771%	2,7634%	0,20
Sigma Portofolio						1,4293%

Source : processed data (2020)

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Table 12. Sigma Portofolio Calculation 2

	EXCL	JSMR	ADRO	WIKA	ICBP	Portfolio Proportions
EXCL	8,0054%	1,2895%	1,3170%	1,2264%	1,0423%	0,30
JSMR	1,2895%	3,7820%	1,3230%	1,5776%	0,7772%	0,25
ADRO	1,3170%	1,3230%	8,2685%	1,095%	0,6640%	0,20
WIKA	1,2264%	1,5776%	1,5095%	5,4530%	0,6771%	0,15
ICBP	1,0423%	0,7772%	0,6640%	0,6771%	2,7634%	0,10
Sigma Portofolio						1,5454%

Source : processed data (2020)

10. Average investment

Average investment will show the amount of investment change that will be in the can if the investment is multiplied by the average return of the portfolio. This calculation also shows changes in initial investment added to the average return on the portfolio.

Table 13. Calculation of Average Investment Portofolio 1

(1+ Average Return Portofolio)	Investment	Average Investment
1,0307%	Rp. 100.000.000	Rp. 100.030.680

Source : processed data (2020)

Table 14. Calculation of Average Investment Portofolio 2

(1+ Average Return Portofolio)	Investment	Average Investment
1,0251 %	Rp. 100.000.000	Rp. 100.025.095

Source : processed data (2020)

11. Sigma Investment

Sigma investment is the risk or loss of investment resulting from the calculation between the investment and the sigma portfolio. The higher the sigma value of the portfolio, the greater the loss from the investment.

Table 15. Sigma Investment Portofolio Calculation 1

Investment	Sigma Portofolio	Sigma Investment
Rp. 100.000.000	1,4293%	Rp. 1.429.266

Source : processed data (2020)

Tabel 16. Perhitungan *Sigma Investment* Portofolio 2

Investment	Sigma Portofolio	Sigma Investment
Rp. 100.000.000	1,5454%	Rp. 1.545.566

Source : processed data (2020)

12. Cut off

Cut off is a change in the value of an investment caused by factors such as confidence levels, portfolio average returns, and portfolio sigma..

Table 17. Portofolio Cut Off Calculation 1

Confidence Level	Investment	(1+Average Return Portofolio)	Portofolio Sigma	Cut Off
99%	Rp. 100.000.000	1,0307%	1,4293%	Rp. 96.705.711

Source : processed data (2020)

Table 18. Portofolio Cut Off Calculation 2

Confidence Level	Investment	(1+Average Return Portofolio)	Portofolio Sigma	Cut Off
99%	Rp. 100.000.000	1,0251%	1,5454%	Rp. 96.429.570

Source : processed data (2020)

13. Value at Risk Portofolio

Value at Risk (VaR) means how much the estimated loss will be borne by investors when investing with a certain level of confidence and time period. VaR is calculated by multiplying sigma portfolios, confidence levels and predetermined holding periods.

Table 19. VaR Portfolio Calculation 1

Investment	Cut Off	VaR
Rp. 100.000.000	Rp. 96.705.711	Rp. 3.294.289 (VaR 1 Day)
Rp. 100.000.000	Rp. 96.705.711	Rp. 10.417.456 (VaR 10 Days)
Rp. 100.000.000	Rp. 96.705.711	Rp. 62.937.300 (VaR 365 Days)

Source : processed data (2020)

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Table 20. VaR Portfolio Calculation 2

Investment	Cut Off	VaR
Rp. 100.000.000	Rp. 96.429.570	Rp. 3.570.430 (VaR 1 Day)
Rp. 100.000.000	Rp. 96.429.570	Rp. 12.290.690 (VaR 10 Days)
Rp. 100.000.000	Rp. 96.429.570	Rp. 68.212.964 (VaR 365 Days)

Source : processed data (2020)

14. Portfolio Rewards and Risk Comparison

By comparing the rewards and risks of the two portfolios it is known how each portfolio performs. Portfolio 1 consists of five shares of the same proportion of each share of 20% proportion. While in portfolio 2 consisting of five stocks with different proportions. EXCL shares have a proportion of 30%, JSMR has a proportion of 25%, ADRO has a proportion of 20%, WIKA has a proportion of 15%, and ICBP has a proportion of 10%. Indicates that Portfolio Reward 1 is greater than portfolio 2. And portfolio risk 1 is also smaller compared to portfolio 2. Perbandingan Imbalan dan Risiko Portofolio.

Table 21. Portfolio Rewards and Risk Comparison 1 and 2

Description	Portofolio 1	Portofolio 2
Return	0,0307%	0,0251%
Risk	1,4293%	1,5454%

Source : processed data (2020)

V. SUMMATIONS AND SUGGESTIONS

5.1. Summation

Based on the results of the calculation of rewards and risks by using daily stock price data for five years, namely the period 2015-2019 and using the value at risk method of covariant variant approach for investment decisions, it can be concluded as follows:

1. Risk calculation using VaR method of covariant variant approach is able to give the result of potential losses that will occur if investors invest their funds in two portfolios containing several shares each. In this study, 5 stocks were given examples, namely EXCL, JSMR, ADRO, WIKA, and ICBP. Portfolio 1 has the same proportion of investment as 20% each. While portfolio 2 has different proportions of investment, namely EXCL 30% shares, JSMR shares 25%, ADRO shares 20%, WIKA shares 15%, and ICBP shares 10%.
2. For Portfolio 1 which has the same proportion yields a return of 0.0307% and a risk value (VaR) or maximum potential loss of 1.4293%. For Portfolio 2, which has a different proportion of shares, returns 0.0251% risk value (VaR) or maximum potential loss of 1.5454%.

3. Based on the results of the calculation above, it can be concluded that the right investment decision for investors is to invest in portfolio 1 which has the same proportion compared to portfolio 2 which has a different proportion of each share. Investors who dare to take risks or risk takers tend to choose high risk investments in the hope of obtaining high returns. As for investors who avoid risk or risk averse tends to choose investments that produce the smallest risk but the returns obtained are also small.

5.2. Suggestions

Based on the above conclusions, the suggestions that will be given by researchers are as follows :

1. For prospective investors when investing in stocks should first pay attention to what stocks to invest and what sectors whose shares are likely to have a high return.
2. For prospective investors who want to invest, it is best to provide the same proportion in one portfolio so as to optimize the investment portfolio that has been owned. The proportion of investment indicates the amount of weight or proportion for each asset in an investment. This proportion will also show how much funds are used in an investment and how much percentage the investor will give to each share he wants to invest.
3. For investors who want to invest can calculate the value of portfolio rewards and risks by using the Value at risk (VaR) method so that it can know the amount of rewards and risks or estimated the amount of losses from the portfolio of shares to be invested.
4. For Investors can calculate the amount of maximum rewards and risks or losses that will be borne from an investment portfolio that has been formed by the Value at Risk method so that later investors can consider what actions are appropriate in managing the investment portfolio so that if the investor invests will get a high reward.
5. For investors, investors should also start to be aware to not only have preferences based on profit, but investors should also think about other aspects of losses that may occur in investments, because not all investors have the same preferences, there are investors who are Risk Taker and Risk Averse. For investors who have Risk Taker preferences or who dare to take risks, can choose stocks with high risk in the hope of getting a high return as well. While investors who are Risk Averse ortend to avoid risk, then it is better to first calculate the level of risk that may occur, one of which is by using the Value at Risk method.
6. For researchers who want to conduct further research can calculate other investment assets in order to be known the amount of rewards and risks of each investment asset so as to provide references to investors and the public, and can complete this research and previous research.

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