JEBIMAN: Jurnal Ekonomi, Bisnis, Manajemen dan Akuntansi
Vol. 3 No. 4, Juli (2025), Hal. 157-169 e-ISSN: 2985-654X

OPTIMAL PORTFOLIO FORMATION USING THE SINGLE INDEX MODEL (A STUDY ON IDXPROPERT STOCKS LISTED ON THE INDONESIA STOCK EXCHANGE FROM JANUARY 2020 TO DECEMBER 2024)

Dewi Hasrina
Faculty of Economics and business, Makassar State University
Corespondensi author email: dewihasrina36@gmail.com

Anwar
Faculty of Economics and business, Makassar State University
anwar@unm.ac.id

Annisa Paramaswary Aslam
Faculty of Economics and business, Makassar State University
annisa.paramaswary @unm.ac.id

Anwar Ramli
Faculty of Economics and business, Makassar State University
anwar288347@yahoo.com

Nurman
Faculty of Economics and business, Makassar State University
nurman_divia@yahoo.co.id

Abstract

This study aims to determine the formation of an optimal portfolio on IDXPROPERT stocks using the Single Index Model from January 2020 to December 2024. The research method used is quantitative research with a descriptive approach. The population in this study includes all IDXPROPERT stocks listed on the Indonesia Stock Exchange, and the research sample was determined using purposive sampling method. The data used in this study are secondary data collected through documentation techniques and then analyzed using the Single Index Model. The results show that from 64 stocks used as research samples, 7 stocks form the optimal portfolio. The stocks that form the optimal portfolio and the proportion of funds allocated to each stock are GMTD (2.95%), LPLI (2.65%), MKPI (6.36%), NIRO (71.59%), PAMG (1.15%), RISE (13.07%), and SATU (2.23%). From the formed optimal portfolio, the expected return for investors is 0.0052 or 0.52% with a risk of 0.0116 or 1.16%. This study also shows that the portfolio risk is smaller compared to the risk of each individual stock before being grouped into a portfolio. Additionally, the expected return of the portfolio is not significantly different from the expected return of individual stocks. This indicates that the use of the Single Index Model is effective in minimizing stock investment risk through diversification, while maintaining a certain level of return.

Keywords: *IDXPROPERT, Optimal Portfolio, Single Index Model.*

INTRODUCTION

In this era of digitalization, there are various investment options that can serve as alternatives in determining the allocation of funds or resources for development that is beneficial both now and in the future. Investment has become an important element in the financial strategies of both individuals and companies, due to the potential profits that can be generated in the future. Basically, investment is the placement of a certain amount of funds at present with the hope of gaining profits in the future. The investment process involves careful analysis and decision-making to ensure that the invested funds will provide maximum returns in accordance with the established investment objectives (Adnyana, 2020).

In the world of investment, the term capital market is known as one of the main places where various financial securities are traded. The capital market plays a crucial role in supporting the economy because it can bridge the gap between those who need funds and those who have excess funds. In addition, the existence of the capital market can encourage the creation of efficient fund allocation, as investors with excess funds can choose investment alternatives that provide the most optimal returns (Mappadang, 2021). One of the most sought-after instruments in the capital market is stocks. Shares are ownership documents that include nominal value, company identification, as well as detailed rights and obligations for each holder (Khaidir, 2024).

Figure 1.1 Growth of Indonesian Stock Investors

Based on data published by PT Kustodian Sentral Efek Indonesia from 2020 to 2024, the number of stock investors in Indonesia has consistently increased each year. In 2020, the number of recorded investors was 1.69 million people. This figure surged by 103.60% in 2021 to 3.45 million people. This growth continued in 2022 with an increase of 28.64%, bringing the number of investors to 4.43 million people. In 2023, growth occurred again, albeit with a smaller percentage, namely 18.37%, bringing the total number of investors to 5.25 million

people. In 2024, the number of stock investors in Indonesia reached 6.37 million people, with an increase of 21.33% compared to the previous year. Where this shows that the stock performance in Indonesia is very good because it has providing easier facilities for the community that wants to become investors (Febrianti, 2018).

The increase in the number of investors is the result of joint efforts between financial services authorities and self-regulatory organizations in socializing and educating the public about investing in the capital market. In addition, the ease of opening accounts online through financial technology platforms also provides convenience for prospective investors to invest in stocks in the capital market. However, the large number of stocks listed on the capital market can make it difficult for investors to choose stocks for their investment decisions. If an investor chooses the wrong stock to invest in, the investor may incur losses (Syam, 2021).

In Indonesia, stocks are traded on the Indonesia Stock Exchange. The Indonesia Stock Exchange has several stock indices. In the world of capital markets, stock indices are used as a tool to measure price changes in a market or a portion of that market. By observing the movement of the stock index, investors can understand the general price performance of the stocks they own. In addition, investors can also understand the overall condition of the stock market if there are policy changes, whether from within the country or abroad, making the index an important reference for investors in investing in the capital market (Syam, 2021).

On the Indonesia Stock Exchange, there are various indices used as the basis for forming an optimal portfolio. The Jakarta Composite Index (JCI) is the most well-known index in Indonesia, which reflects the movement of all stocks listed on the Indonesia Stock Exchange. In addition, there is also a sectoral index, one of which is the property and real estate sector (IDXPROPERT). IDXPROPERT is a stock index that encompasses the property and real estate sector listed on the Indonesia Stock Exchange (IDX). This index includes companies engaged in the development, sale, rental, and operation of property & real estate (such as residential housing, office buildings, shopping centers, and other infrastructure properties), as well as companies that offer related support services (www.idx.co.id).

Table 1.1 Sectoral Index Return for the Years 2020-2024

No	Index	Year					
		2020	2021	2022	2023	2024	Average
1.	IHSG	-5,10%	10,08%	4,09%	6,16%	3,25%	3,70%
2.	IDXENERGY	-5,00%	45,56%	100,05%	80,75%	26,53%	49,58%
3.	IDXBASIC	4,00%	0,12%	-1,48%	7,51%	-5,41%	0,95%
4.	IDXINDUST	4,60%	11,60%	13,28%	-6,86%	-6,88%	3,15%
5.	IDXNONCYC	-11,90%	-16,04%	7,89%	0,82%	-1,27%	-4,10%
6.	IDXCYCLIC	-16,10%	21,21%	-5,50%	-3,46%	-0,01%	-0,77%

7.	IDXHEALTH	17,80%	8,37%	10,20%	-12,07%	4,73%	5,81%
8.	IDXFINANCE	-2,30%	21,14%	-7,33%	3,07%	-4,24%	2,07%
9.	IDXPROPERT	-24,30%	-19,11%	-8,00%	0,41%	5,70%	-9,06%
10.	IDXTECHNO	-12,80%	707,56%	-42,61%	-14,07%	-12,51%	125,11%
11.	IDXINFRA	-10,50%	11,23%	-9,45%	80,75%	-6,40%	13,13%
12.	IDXTRANS	-17,10%	67,78%	3,91%	-3,64%	-19,26%	6,34%

(Source: IDX.co.id, data processed 2025)

Based on the data in table 1.1, it can be seen that the average performance of the property and real estate sector index (IDXPROPERT) from 2020 to 2024 is the lowest among other sector indices, at -9.06%. On In 2020, the IDXPROPERT return was recorded at -24.30%, influenced by the impact of the COVID-19 pandemic. This global crisis slowed down the economy, limited construction activities, and suppressed property demand due to economic uncertainty. Large-scale social restrictions (PSBB) and financial pressures on the public further worsen the condition of the property sector.

Entering the year 2021, the IDXPROPERT return increased by 5.19%, although it was still negative at -19.11%. The government began implementing economic stimulus, but the property sector continued to face significant challenges. New variants of COVID-19, such as Delta, as well as the slowdown in the global economic recovery, are hindering investment and property purchases. Many projects have been delayed or even canceled, further slowing down the industry's recovery.

In 2022, the condition of the property sector began to show improvement with an increase of 11.11%, although the return was still negative at -8.00%. The easing of social restrictions and mass vaccination have pushed economic activities back to normal. However, the rise in inflation and interest rates due to global instability, including the impact of the Russia-Ukraine war, remain factors hindering the growth of this sector.

The year 2023 became a turning point for IDXPROPERT, which finally recorded a positive return of 0.41%, an increase of 7.59% from the previous year. A more stable economic recovery, government policy support such as home purchase incentives, and lower interest rates have helped revive the property market. Companies have started launching new projects, which has boosted investor confidence in this sector.

In 2024, IDXPROPERT grew more significantly with a return of 5.70%, an increase of 5.29% from the previous year. Stability of inflation and low interest rates are the main driving factors of economic growth. In addition, increasing urbanization and the need for housing have heightened the demand for property. Innovations such as the development of eco-friendly properties and the integration of modern technology also attract investor interest. Although the average return of IDXPROPERT over the past five years is still negative, its performance shows gradual improvement each year. If compared to other sectors, IDXPROPERT reflects a stable growth trend, indicating positive long-term prospects.

The main goal of an investor making an investment is to obtain profit. This profit becomes one of the factors that encourage investors to invest, while also serving as compensation for the investor's courage in bearing the investment risks they undertake. In addition to calculating profits, investors must also consider the level of investment risk as a basis for decision-making. Investment risk is the deviation between the expected return and the actual return obtained. The greater the deviation that occurs, the greater the risk that must be borne (Halim, 2023).

In the context of a portfolio, there are two types of risks: systematic risk and unsystematic risk. Systematic risk or market risk is the risk that cannot be eliminated through diversification because its fluctuations are influenced by macro factors that affect the entire market. On the other hand, unsystematic risk is a risk that can be eliminated through diversification because it is only related to a single company or specific industry (Halim, 2023).

One method to analyze or assess investment instruments to reduce risk is through diversification. Diversification can be defined as an investment strategy where an investor's funds are divided into various assets or instruments to reduce the specific risk of a single asset or group of assets, thereby creating an optimal portfolio (Budiman, 2024).

In forming an optimal portfolio, investors need to conduct a portfolio analysis to determine the appropriate fund allocation for each stock to be included in the portfolio. The process of forming an optimal portfolio can be carried out using various approaches, one of which is the Single Index Model. In this study, the approach used to determine the optimal portfolio is the Single Index Model.

Single Index Model is a method designed as a simplification of the Markowitz portfolio model that can be used to calculate expected returns and portfolio risk (Hartono, 2023). This model describes the relationship between the return of each individual security and the return of the market price index, thus eliminating the need for complex covariance matrix calculations as in the Markowitz model (Prasetyo & Suarjaya, 2020).

In addition, the use data with a long period and a larger sample provides more accurate analysis results, thereby helping investors face uncertainty in stock investments in the capital market (Harfitriana, 2022). The assumption used in the Single Index Model is that securities will only be correlated if they have the same response to market returns (Tandelilin, 2017). This analysis is conducted by comparing the Excess Return to Beta (ERB) with the cut-off point of each stock. In this method, Excess Return to Beta (ERB) is used as the basis for selecting stocks to be included in the optimal portfolio, while the cut-off point is the threshold value used to determine the highest value of Excess Return to Beta (ERB) (Pratama, 2019).

Various previous studies on the formation of optimal portfolios using the Single Index Model have been conducted, such as the research by Irwan et al. (2023), which examined

five telecommunications sector stocks during the period from January 2018 to December 2020. The result was that two stocks, namely ISAT and FREN, successfully formed an optimal portfolio with an expected return of 5.08% and a risk of 8.02%. Next, a study conducted by Aqidah (2021) on pharmaceutical sector stocks for the period 2016-2020 found that six stocks, namely PYFA, SIDO, KLBF, DVLA, KAEF, and INAF, formed an optimal portfolio with an expected return of 2.165% and a risk of 9.756%. Another study conducted by Sari & Nuzula (2017) revealed that from 15 Property, Real Estate, and Building Construction stocks listed on the Indonesia Stock Exchange for the period 2013-2015, it was obtained 4 stocks selected in the optimal portfolio are GMTD, MKPI, PTPP, and WSKT, with a return rate from the established portfolio of 5.633% and a risk to be borne from the investment in that portfolio of 0.3002%.

Based on the research that has been conducted regarding the formation of optimal portfolios across various sectors. In this study, the Single Index Model was re-applied to the stocks included in the property and real estate sector (IDXPROPERT) for the period January 2020 - December 2024. The property and real estate sector (IDXPROPERT) was chosen because based on data from 2020 to 2024, IDXPROPERT showed the lowest average return (even negative) but demonstrated recovery each year. Where this is interesting to research in order to identify stocks that can form an optimal portfolio among the stocks in IDXPROPERT.

RESEARCH METHOD

The variable of this research is the Single Index Model in forming an optimal portfolio. This research falls under the category of descriptive research with a quantitative approach. Descriptive research is a type of research that provides a structured and detailed explanation of facts and characteristics from various aspects relevant to a particular phenomenon, from the perspective of individuals, organizations, industries, or other viewpoints. The main characteristics of descriptive research include providing descriptions of situations or events, systematically collecting basic data, and not discussing relationships, hypothesis testing, predictions, meanings, or implications of the obtained data (Leon et al., 2023).

This research adopts a quantitative approach. The quantitative approach is a systematic analysis of phenomena by collecting and measuring data using statistical, mathematical, or computational methods. This approach was chosen because this research focuses on primary data in numerical form (Abdullah et al., 2021). The data used in this study are secondary data collected using documentation techniques, which were then analyzed using the Single Index Model to produce the optimal portfolio formation on IDXPROPERT for the period January 2020-December 2024.

Population is all research objects that can be living beings, objects, phenomena, test scores, or events, which serve as a source of data that describes certain characteristics in a study (Abdullah et al., 2021). In this study, the population being examined includes all IDXPROPERT stocks listed on the Indonesia Stock Exchange.

A sample is a group of elements that represent the quantity and characteristics of the

entire population (Abdullah et al., 2021). The sample in a study must reflect the population being researched (Kasanah, 2018). Therefore, an accurate sampling method is needed so that the selected sample can well represent the population. In this study, purposive sampling method was used. Purposive sampling is a technique for selecting samples based on specific criteria. The criteria for sample selection in this study include:

a. Company stocks that did not experience suspension (temporary halt of stock trading on the stock exchange) during the period January 2020 - December 2024.
b. Complete closing price data for the period January 2020 - December 2024.

Based on the criteria that have been explained previously, out of all the IDXPROPERT stocks listed on the Indonesia Stock Exchange, there are 64 stocks that are included in the research sample.

The data collection method in this study uses documentation techniques, which involve the collection and analysis of various documents related to the data to be researched. The data required for this research includes:

1. Stock data and monthly closing prices of stocks listed on IDXPROPERT for the period January 2020-December 2024, obtained from the website www.yahoofinance.co.id.
2. Monthly closing price data for the Composite Stock Price Index (IHSG) for the period January 2020-December 2024, which can also be accessed through www.yahoofinance.co.id.
3. BI Rate interest rate data for the period January 2020-December 2024, obtained from www.bi.co.id.

In this study, the data analysis technique applied is the Single Index Model, with calculations performed using Microsoft Excel. The analysis process involves the following steps:

1. Collecting monthly closing price data for stocks included in IDXPROPERT during the period from January 2020 to December 2024.
2. Collecting monthly closing price data of the Composite Stock Price Index (IHSG) for the same period.
3. Collecting BI Rate data from January 2020 to December 2024.
4. Calculating realized return, expected return, and variance (risk) of individual stocks using equations (3.1), (3.3), and (3.5). Stocks with an expected return value > 0 will proceed to the next calculation, and stocks with an expected return value < 0 will not proceed to the next calculation.
5. Calculate the realized return, expected return, and market variance (risk) using equations (3.2), (3.4), and (3.6).
6. Calculating the risk-free rate.
7. Calculating beta, alpha, and variance error residual (unsystematic risk) of individual stocks using equations (3.7), (3.8), and (3.9).
8. Calculating the Excess Return to Beta (ERB) of individual stocks using

equation (3.10).

9. Calculate the cut-off rate and determine the cut-off point using equation (3.13).
10. Determining the optimal portfolio by comparing the Excess Return to Beta (ERB) ratio of each stock with the cut-off point value.
11. Calculating the fund proportion for each individual stock included in the optimal portfolio using equation (3.14).
12. Calculate the alpha and beta of the portfolio using equations (3.16) and (3.17).
13. Calculate the expected return and risk (variance) of the optimal portfolio using equations (3.18) and (3.19).

RESULT AND DISCUSSION

Based on the results of data analysis conducted using the Single Index Model from 64 IDXPROPERT company stocks during the period of January 2020-December 2024, which is the sample of the study, includes 32 stocks with positive returns, 7 stocks with zero returns, and 25 stocks with negative returns. Stocks with positive returns mean that these stocks provide profits for investors because their selling prices are higher than their buying prices. This indicates that the company has good performance, bright business growth prospects, or positive market sentiment towards the stock. Whereas stocks with zero return mean that investors neither gain nor lose, because the selling price of the stock is exactly the same as the price at which the stock was bought. This condition indicates that during the observation period, there was no significant change in the stock price, which is generally caused by the absence of market sentiment or information that influences investors' perception of the company's performance. As for stocks with negative returns, it means that investors incur losses because the selling price of the stock is lower than the buying price. These stocks usually indicate that the company is facing a decline in performance, negative market sentiment, or unfavorable economic conditions, causing investors to tend to sell their shares at a lower price to reduce potential further losses.

In this study, the stock that provides the highest expected return is Fortune Mate Indonesia Tbk (FMII) at 0.0787 or 7.87%, which means that investing in FMII will yield an expected return of 7.87% from 100% of the invested funds. The high return rate achieved by Fortune Mate Indonesia Tbk (FMII) is due to FMII successfully reducing dependence on a single property sector by diversifying, such as developing housing, offices, and shopping centers. Despite facing the COVID-19 pandemic, the company was able to adapt by managing risks and seizing opportunities to continue growing. FMII also adjusted its strategy to align with government policies, such as the exemption of VAT and the relaxation of Loan to Value (LTV) regulations, which boosted consumer purchasing power. Additionally, the company focuses on managing existing assets and maintaining cash flow to remain stable in the long term.

The stock with the smallest expected return is Andalan Perkasa Abadi Tbk (NASA)

at -0.0388 or -3.88%. The low return rate obtained by Andalan Perkasa Abadi Tbk (NASA) was due to the fact that in early February 2020, NASA's stock price fell by 72.55% due to global and domestic economic uncertainty, as well as a lack of positive sentiment towards the company. Delays in the submission of financial reports also added uncertainty among investors, contributing to the decline in stock prices. Additionally, in 2023, NASA's stock fell to the level of Rp50, known as "gocap," due to poor fundamental performance, bleak business prospects, and negative investor perception of the company's management.

The higher the expected return from a stock, the higher the risk faced. The stock with the highest risk based on the variance calculation of each individual stock is Metro Realty Tbk (MTSM) with a risk of 0.4332 or 43.32%, indicating significant price fluctuations, thus carrying high risk and greater potential returns.

On the other hand, City Retail Development Tbk (NIRO) with a variance of 0.0514 or 5.14% has smaller price fluctuations, thus lower risk, although its profit potential is also smaller. In other words, high-risk stocks like MTSM can provide greater returns, but they are also more susceptible to losses, whereas low-risk stocks like NIRO are more stable, but with more moderate returns.

In this study, the expected return for the IHSG was also produced at 0.0028 or 0.28% per month with a variance (risk) of 0.0403 or 4.03%. The positive expected market return indicates that, despite fluctuations in market return movements, investing in the capital market still has the potential to provide profits for investors, especially in the long term. In other words, although risks are always present, on average, the market continues to show a tendency to generate positive returns, which attracts investors to invest their capital.

This research also produces a risk-free rate obtained from the average BI rate for the period January 2020-December 2024. For a one-year period, the risk-free rate is recorded at 0.0474 or 4.74%, while for the monthly period, the return rate is 0.0039 or 0.39% per month. In other words, if investors choose to invest in Bank Indonesia certificates (SBI), they will receive an average return of 0.0039 or 0.39% per month without facing any risk. This is due to the nature of SBI, which is considered a risk-free financial instrument. When the market return is higher than the risk-free rate, this indicates that investing in the stock market has the potential to provide greater profits. Although stock investments carry a higher level of risk, the potential returns are expected to surpass the profits from risk-free instruments such as SBI. Therefore, for investors who are willing to face risks, investing in stocks can be a more profitable choice compared to keeping funds in assets with fixed and risk-free returns.

Based on the analysis results using the Single Index Model from 64 IDXPROPERT stocks used as the research sample, there are 7 stocks that have a positive Excess Return to Beta (ERB) value. A positive ERB value indicates that these stocks have an expected return higher than the return on risk-free assets. In investment decision-making, rational investors will tend to choose stocks with a positive ERB because it indicates a higher potential return. However, having a positive ERB alone is not enough; investors also

need to consider the magnitude of the returns generated by the stock. Therefore, a cutoff point is needed to help determine whether the stock with a positive ERB is worth including in the optimal portfolio or not. In the Single Index Model, the determination of the optimal portfolio is done by comparing the ERB value of a stock with the cut-off point. This cut-off point serves as a boundary point, where only stocks with an ERB greater than the cut-off point can be considered as candidates for the optimal portfolio. The advantage of using the ERB value and cut-off point in selection An optimal portfolio is its ability to consider systematic risk (beta). Systematic risk is a risk that cannot be eliminated through diversification, so it is important to consider it in investment decision-making.

Based on the results of data analysis conducted on IDXPROPERT stocks for the period January 2020-December 2024, there are 7 stocks that form the optimal portfolio, namely Gowa Makassar Tourism Development Tbk (GMTD), StarPacific Tbk (LPLI), Metropolitan Kentjana Tbk (MKPI), City Retail Development Tbk (NIRO), Bima Sakti Pertiwi Tbk (PAMG), Jaya Sukses Makmur Sentosa Tbk (RISE), and Kota Satu Properti Tbk (SATU).

In an optimal portfolio, investors can allocate each fund they possess from the total funds to be used for investment in the stocks included in the portfolio. The proportion of funds for each stock that forms the optimal portfolio in this study is 2.95% for Gowa Makassar Tourism Development Tbk (GMTD), 2.65% for Star Pacific Tbk (LPLI), 6.36% for Metropolitan Kentjana Tbk (MKPI), 71.59% for City Retail Development Tbk (NIRO), 1.15% for Bima Sakti Pertiwi Tbk (PAMG), 13.07% for Jaya Sukses Makmur Sentosa Tbk (RISE), and 2.23% for Kota Satu Properti Tbk (SATU). The allocation of these fund proportions indicates the ideal amount of funds to be invested by investors in each stock so that the resulting portfolio can provide optimal investment returns.

The largest proportion of funds is in City Retail Development Tbk (NIRO) shares, which is 71.59%, meaning that investing in NIRO requires 71.59% of the total funds to be invested in the 7 stocks included in the optimal portfolio. On the other hand, the smallest proportion of funds is in Bima Sakti Pertiwi Tbk (PAMG) shares, which is 1.15%. The difference in proportion is closely related to the level of risk associated with each stock. NIRO stock has a relatively lower risk, which is 0.0514 or 5.14%, while PAMG stock has a much higher risk, which is 0.2400 or 24.00%. From the analysis results, it can be seen that the proportion of funds allocated in the optimal portfolio is greatly influenced by the risk level of each stock. The lower the risk of a stock, the greater the likelihood that the stock will receive a higher allocation of funds in the optimal portfolio. Conversely, high-risk stocks tend to receive smaller allocations of funds. In addition, the expected return of a portfolio also depends on the proportion of funds allocated to each stock. The larger the amount of funds allocated to a particular stock, the greater its contribution to the overall expected return of the portfolio.

The stocks that form the optimal portfolio have an expected return of 0.0052 or 0.52% and a risk of 0.0116 or 1.16%. If compared to the expected return of individual stocks, there are several company stocks that offer a higher expected return. However,

those stocks are also accompanied by a higher level of risk.

The stocks that have a higher expected return compared to the expected return of the portfolio are Gowa Makassar Tourism Development Tbk (GMTD), Star Pacific Tbk (LPLI), Metropolitan Kentjana Tbk (MKPI), Bima Sakti Pertiwi Tbk (PAMG), Jaya Sukses Makmur Sentosa Tbk (RISE), and Kota Satu Properti Tbk (SATU). However, although these six stocks offer greater potential returns, they also have a higher level of risk compared to the optimal portfolio risk. These findings support the results of the research conducted by Aqidah (2021), which states that the risk of a portfolio is smaller compared to the risk of each individual stock before being grouped into a portfolio. This indicates that the formation of an optimal portfolio can help reduce the level of risk borne by investors, while simultaneously optimizing the balance between risk and expected returns.

In this study, the expected return of the portfolio is greater than the market return and the risk-free rate. These findings are consistent with the research conducted by Wilda (2022), which shows that market return and risk-free return are smaller compared to the expected return of the portfolio. This means that investing in the stocks that make up an optimal portfolio can provide greater potential returns compared to just investing in the market or risk-free assets. In other words, the strategy of forming an optimal portfolio allows investors to achieve higher returns while still considering the existing risks.

CONCLUSION

Based on the analysis results of forming an optimal portfolio using the Single Index Model on IDXPROPERT stocks listed on the Indonesia Stock Exchange for the period January 2020-December 2024, there are 7 stocks that form the optimal portfolio from the 64 stocks sampled in the study. The stocks that form the optimal portfolio are Gowa Makassar Tourism Development Tbk (GMTD) with a fund proportion of 2.95%, Star Pacific Tbk (LPLI) with a fund proportion of 2.65%, Metropolitan Kentjana Tbk (MKPI) with a fund proportion of 6.36%, City Retail Development Tbk (NIRO) with a fund proportion of 71.59%, Bima Sakti Pertiwi Tbk (PAMG) with a fund proportion of 1.15%, Jaya Sukses Makmur Sentosa Tbk (RISE) with a fund proportion of 13.07%, and Kota Satu Properti Tbk (SATU) with a fund proportion of 2.23%. From the optimal portfolio that has been formed, the expected return that investors will receive is 0.0052 or 0.52% with a risk of 0.0116 or 1.16%. This study also shows that the portfolio risk is smaller compared to the risk of each individual stock before being grouped into a portfolio. Furthermore, the expected return of the portfolio is not significantly different from the expected return of individual stocks. This shows that the use of the Single Index Model has proven effective in minimizing stock investment risk through diversification, while still maintaining a certain level of return.

BIBLIOGRAPHY

Abdullah, K., Jannah, M., Aiman, U., Hasda, S., Fadilla, Z., Taqwin, Masita, Ardiawan, K. N., & Sari., M. E. (2021). Metodologi Penelitian Kuantitatif Metodologi Penelitian Kuantitatif. In Metodologi Penelitian Kuantitatif (Nomor May).

Adnyana, I. M. (2020). Manajemen Investasi dan Protofolio. In Lembaga Penerbitan Universitas Nasional (LPU-UNAS). Lembaga Penerbitan Universitas Nasional (LPU-UNAS)

Aqidah, N. (2021). Analisis Portofolio Moel Indeks Tunggal untuk Memilih Saham Optimal pada Perusahaan Sektor Farmasi yang terdaftar di Bursa Efek Indoensia. Universitas Negeri Makassar.

Astutik, W. S. (2020). MANAJEMEN INVESTASI. Media Nusa Creative. BEI. (2025). Laporan Tahunan Bursa Efek Indonesia.

Budiman, R. (2024). Strategi Manajemen Portofolio Investasi Saham. PT Alex Media Komputindo.

Febrianti, S. (2018). Analisis Perbandingan Kinerja Indeks Saham Syariah dengan Indeks Saham Konvensional Periode 2015-2017 (Studi Kasus pada JII dan LQ45). Proceeding Sendi_U, 2017, 546–551.

Hakim, D., & Sudaryo, Y. (2022). Manajemen Investasi dan Teori Portofolio. Penerbit ANDI.

Halim, A. (2023). Analisis Investasi dan Aplikasinya Dalam Aset Keuangan dan Aset Riil Edisi 2 (2 ed.). Penerbit Salemba Empat.

Handini, S., & Astawinetu, E. D. (2020). TEORI PORTOFOLIO DAN PASAR MODAL INDONESIA. Scopindo Media Pustaka.

Harahap, K. (2024). Manajemen Investasi dan Portofolio (I). PT Media Penerbit Indonesia.

Harfitriana, A. (2022). Analisis Penggunaan Single Index Model Dalam Pembentukan Portofolio Optimal Untuk Menurunkan Risiko Investasi. 1–88.

Hartono, J. (2023). Teori dan Praktik Portofolio dengan Excel (Edisi Digi).Salemba Empat.

Irwan, I., Abdy, M., Salsabila, N. K., & Ahmar, A. S. (2023). Analysis of Stock Portfolio Optimization in the Telecommunications Sector Using the Single Index Model. ARRUS Journal of Mathematics and Applied Science, 3(1), 1–10. https://doi.org/10.35877/mathscience1734

Kasanah, H. R. (2018). Analisis Perbandingan Return Dan Risk Saham Syariah Dengan Saham Konvensional. In Fakultas Ilmu Administrasi Universitas Brawijaya.

Khaidir, A. B. D. (2024). PERBANDINGAN RISK DAN RETURN SAHAM SYARIAH DENGAN SAHAM KONVENSIONAL (STUDI PADA JAKARTA ISLAMIC INDEX DAN BISNIS-27 PERIODE 2018-2022).

Leon, F. M., Suryaputri, R. V., & P., tri K. (2023). metode Penelitian Kuantitatif: manajemen, keuangan, dan Akuntansi. Penerbit Salemba Empat.

Mappadang, A. (2021). Buku Ajar Manajemen Investasi & Portofolio.

Muslim, M., Sobarsyah, M., & Aswan, A. (2023). ANALYSIS OPTIMAL PORTFOLIO FORMATION USING SINGLE INDEX MODEL IN

BANKING SECTOR (LQ-45) 2020-2021. Management Dynamics Conference 8, 8(1), 77–82.

Nutami, S. D. (2023). Analisis Pembentukan Portofolio Optimal Menggunakan Single Index Model Pada Pasar Lq45 Di Bursa Efek Indonesia (Periode Tahun 2017-2022).

Prasetyo, I. F., & Suarjaya, A. A. G. (2020). Pembentukan Portofolio Optimal Dengan Menggunakan Model Indeks Tunggal. E-Jurnal Manajemen Universitas Udayana, 9(2), 553.https://doi.org/10.24843/ejmunud.2020.v09.i02.p08

Pratama, L. A. (2019). ANALISIS PEMBENTUKAN PORTOFOLIO SAHAM OPTIMAL MENGGUNAKAN METODE SINGLE INDEX MODEL (Studi
Empiris pada Saham Indeks LQ 45 di Bursa Efek Indonesia). Jurnal Ilmu Manajemen, 16(1), 48–60.

Sari, F., & Nuzula, N. (2017). PEMBENTUKAN PORTOFOLIO OPTIMAL
DENGAN MODEL INDEKS TUNGGAL (Studi Pada Perusahaan Property, Real Estate And Building Construction Yang Tercatat Di Bursa Efek Indonesia Periode 2013-2015). Jurnal Administrasi Bisnis S1 Universitas Brawijaya, 45(1), 1–9.

Susanti, A., & Saputra, E. T. (2023). MANAJEMEN INVESTASI DAN PASAR MODAL (CARA MUDAH PAHAM INVESTASI). Deepublish Publisher.

Syam, S. (2021). Transisi Model Markowitz Menuju Single Index Model untuk Proyeksi Investasi pada Saham Indeks LQ45 di Bursa Efek Indonesia. Universitas Negeri Makassar.

Tandelilin, E. (2017). Pasar Modal anajemen Portofolio & Investasi. Penerbit PT Kanisius.

Wilda. (2022). Pengunaan Single Index Model dalam Pembentukan Portofolio Optimal Saham Syariah (Studi pada Saham Jakarta Islamic Index (JII) di Bursa Efek Indonesia). Universitas Negeri Makassar.