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The Effect of Portfolio Diversification, Systematic Risk, and Stock Liquidity on Individual Investor's Portfolio Performance

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ABSTRACT

This study aims to analyze the influence of portfolio diversification, systematic risk, and stock liquidity on the portfolio performance of individual investors. The research approach used is quantitative with primary data obtained through the distribution of questionnaires to individual investors active in the Indonesian capital market. Sampling was carried out using the purposive sampling method with the criteria of respondents who have at least six months of investment experience. The collected data was analyzed using SPSS through validity, reliability, classical assumption tests, and multiple linear regression analysis. The results of the study show that simultaneously the variables of portfolio diversification, systematic risk, and stock liquidity have a significant effect on the portfolio performance of individual investors. Partially, systematic risk has a positive and significant effect on portfolio performance, while portfolio diversification and stock liquidity do not show a significant effect. These findings indicate that the characteristics of the Indonesian capital market, which are still sensitive to external factors, cause systematic risk to become the dominant factor in determining portfolio performance. This research is expected to contribute to individual investors in understanding the importance of market risk management and the implementation of effective diversification strategies.

Keywords: Portfolio diversification, Systematic risk, Stock liquidity, Portfolio performance

1. INTRODUCTION

The rapid development of Indonesia's capital market, supported by advances in financial technology and increasing access to digital investment instruments, has driven significant growth in individual investor participation. However, market volatility, limited liquidity in a number of stocks, and challenges in risk management make achieving optimal portfolio performance not easy for retail investors (Liestyowati, 2023). In that context, it is important to understand the factors that affect the performance of a portfolio, in particular diversification strategies, systematic market risk, and the level of liquidity of stocks.

In an effort to understand these factors, the portfolio theory proposed by Markowitz (1952) affirms that diversification is a fundamental strategy to reduce total risk through optimal asset combinations. Thus, investors can earn a more stable rate of return. Empirical findings also support this theory, where several studies show that effective diversification can reduce portfolio volatility as well as increase risk-return ratios (Liestyowati, 2023). However, the effectiveness of

diversification is greatly influenced by market characteristics and investor behavior. Therefore, the relevance of diversification strategies needs to be reviewed in the context of the Indonesian capital market, which has different levels of volatility and liquidity compared to developed markets.

In addition to diversification, systematic risk, namely market risk that cannot be eliminated through diversification, also plays an important role in determining the expected level of return. Previous research has shown that changes in macroeconomic conditions and investor sentiment can affect stock returns, so exposure to systematic risk is a factor that needs to be taken into account in portfolio preparation (Syamsudin & Gaddafi, 2024). A good understanding of these risks allows investors to balance the potential returns and risk tolerance they have.

Another factor that is no less important is stock liquidity. Liquidity reflects the ease with which a stock is traded without causing significant price changes. Stocks with high liquidity levels allow investors to make transactions with lower fees and higher execution speeds, thus potentially improving portfolio performance (Oktaviani, 2025). On the other hand, markets with limited liquidity can hinder investors, especially retail investors, from making portfolio adjustments (*rebalancing*) efficiently.

Based on the theoretical study and empirical findings, this study aims to simultaneously examine the influence of portfolio diversification, systematic risk, and stock liquidity on the portfolio performance of individual investors. In particular, this study examines the extent to which diversification strategies are able to improve portfolio performance, how exposure to systematic risk affects the rate of return earned, and the extent to which equity liquidity plays a role in determining the effectiveness of portfolio management by retail investors.

Thus, the results of this study are expected to make a theoretical contribution by enriching the literature on the factors that determine portfolio performance in individual investors, as well as offering practical contributions for retail investors and investment managers in designing asset allocation strategies that are adaptive to domestic market dynamics.

2. LITERATURE REVIEW

Portfolio Diversification

The Portfolio Diversification Theory was first introduced by Harry Markowitz (1952) through his work *entitled "Portfolio Selection"*. In this theory, Markowitz explains that rational investors should not only focus on the expected level of return, but also consider the risks of the investment made. The main goal of portfolio formation is to maximize the expected return for a given level of risk, or conversely, minimize the risk for the expected level of return.

Portfolio diversification is done by combining various assets that have different risk characteristics and return rates, especially those that have low or negative correlations with each other. Thus, price fluctuations in one asset can be offset by the price movements of other assets, so that the total risk of the portfolio can be suppressed without having to sacrifice the expected rate of return. Markowitz states that portfolio risk is not only determined by the risk of each asset individually, but also by the relationships between assets (correlations) in the portfolio.

Systematic Risk

Systematic risk is a type of risk that cannot be eliminated through diversification, because it comes from external factors that affect the entire market as a whole. This risk is also known as market risk, which arises from changes in macroeconomic conditions such as inflation, interest rates, exchange rates, government policies, political conditions, and global economic crises. These factors impact almost all investment instruments in the capital market, so it cannot be avoided simply by increasing the number or variety of assets in the portfolio.

According to the theory of the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964), Lintner (1965), and Mossin (1966), the relationship between the level of risk and the rate of

return on investment is positive and linear. The CAPM model explains that investors will only be compensated for systematic risks that cannot be eliminated through diversification, while unsystematic risks are considered to be eliminated by forming an efficient portfolio.

Stock Liquidity

Stock Liquidity Theory (Amihud & Mendelson, 1986) explains that liquidity is the ability of a stock to trade quickly and in large quantities without significantly affecting the price. Stocks that are liquid have lower risk and low transaction costs, so they have the potential to improve portfolio performance. In contrast, illiquid stocks demand higher returns to compensate for large liquidity risks.

Portfolio Performance

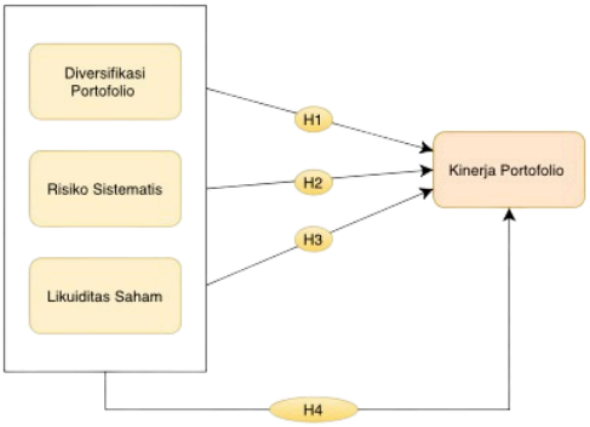
Portfolio Performance Theory (Sharpe, 1966; Treynor, 1965; Jensen, 1968) explained that portfolio performance is measured based on the relationship between returns and risks incurred. An efficient portfolio is one that is able to generate *higher excess returns* for each level of risk. Therefore, the measurement of portfolio performance must consider both total risk (Sharpe), systematic risk (Treynor), and ability to generate above-market returns (Jensen's Alpha).

Intervariable Relationships

Based on modern portfolio theory and recent empirical evidence, diversification, systematic risk, and stock liquidity are interrelated factors in determining the portfolio performance of individual investors (Maulana, 2024; Yuliana, 2024). Good diversification will reduce unsystematic risk, while high systematic risk tends to depress portfolio performance (Prasetyo & Rahman, 2021). Meanwhile, adequate liquidity supports the effectiveness of diversification strategies and makes it easier for investors to adjust their portfolios according to market conditions (Nawangsih, 2023; Mufidah, 2024).

Thus, improving the portfolio performance of individual investors can be achieved through optimal management of an optimal combination of asset diversification, systematic risk control, and stock selection with good liquidity levels.

Conceptual Framework



Hypothesis

H1 :D portfolio diversification has no significant effect on the portfolio performance of individual investors in Indonesia.

H2 : Systematic risk has a significant effect on the performance of individual investors' portfolios in Indonesia.

H3 : Stock liquidity has no significant effect on the performance of individual investors' portfolios in Indonesia.

H4 :D portfolio diversification, systematic risk, and stock liquidity simultaneously have a significant effect on the portfolio performance of individual investors in Indonesia.

3. RESEARCH METHODS

This study uses a quantitative approach because it aims to determine the influence between independent variables, namely portfolio diversification, systematic risk, and stock liquidity, on dependent variables, namely the portfolio performance of individual investors.

The data used is primary data obtained through the distribution of questionnaires (Google Form) to respondents who are active individual investors in the Indonesian capital market. The sampling technique used is purposive sampling, which is the selection of respondents based on certain criteria such as having at least six months of experience investing in stocks and understanding the basics of investment portfolios.

The selection of respondents with at least six months of investment experience is intended to ensure that they have a better understanding of market dynamics and can make more rational investment decisions. Previous research (Liestyowati, 2023) indicates that more than six months of experience allows investors to adapt better to market volatility and risk factors affecting their investment decisions. Thus, this experience provides more relevant and reliable data for analyzing the influence of variables such as portfolio diversification, systematic risk, and stock liquidity on portfolio performance.

The data obtained from the questionnaire was then analyzed using the SPSS program. The analysis was carried out with the stages of questionnaire validity and reliability test, classical assumption test, and multiple linear regression analysis to find out how much portfolio diversification, systematic risk, and stock liquidity affect portfolio performance.

Multiple linear regression was chosen as the analytical method in this study because it allows for the evaluation of the simultaneous effect of several independent variables (portfolio diversification, systematic risk, and stock liquidity) on the dependent variable (portfolio performance). This method is appropriate because it can measure the contribution of each factor while controlling for other influencing factors. Previous studies (Syamsudin & Gaddafi, 2024) have demonstrated that MLR is effective for examining the relationships between these variables in investment portfolio performance research.

In addition, the t-test is also used to test the influence partially, the F-test to test the influence simultaneously, and the determination coefficient (R^2) to determine how much the three independent variables contribute to the dependent variables.

4. RESULTS AND ANALYSIS

Result

Based on the results of multiple regression analysis, an R value of 0.457 with an R^2 of 0.209 was obtained. This shows that approximately 20.9% of the variation in portfolio performance can be explained by independent variables consisting of portfolio diversification, systematic risk, and stock liquidity, while the remaining 79.1% is explained by other factors outside of this research model. The Adjusted R^2 value of 0.172 indicates that the regression model has a fairly good ability to explain the dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,457[a]	,209	,172	,6737	,209	5,558	3	63	,002

a. Predictors: (Constant), Likuiditas_Saham, Risiko_Sistematis, Diversifikasi_Portofolio

b. Dependent Variable: Kinerja_Portofolio

Table 1. R Test Results

Furthermore, the results of the ANOVA test showed an F value of 5.558 with a significance value of 0.002 < 0.05, which means that the regression model used is fit to explain the relationship between independent variables and portfolio performance. Thus, simultaneously portfolio diversification, systematic risk, and stock liquidity have a significant effect on the performance of individual investors' portfolios.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7,569	3	2,523	5,558	,002[b]
	Residual	28,596	63	,454		
	Total	36,164	66			

a. Dependent Variable: Kinerja_Portofolio

b. Predictors: (Constant), Likuiditas_Saham, Risiko_Sistematis, Diversifikasi_Portofolio

Table 2. F Test Results

Furthermore, the results of the partial test (t-test) in the Coefficients table are used to determine the influence of each independent variable on the performance of the portfolio individually. The results of the analysis are presented in the following table:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,091	,495		4,221	<,001		
	Diversifikasi_Portofolio	,054	,135	,064	,399	,691	,481	2,078
	Risiko_Sistematis	,290	,129	,361	2,239	,029	,483	2,070
	Likuiditas_Saham	,119	,126	,112	,947	,347	,891	1,123

a. Dependent Variable: Kinerja_Portofolio

Table 3. Test Results t

Based on the test results in Table 3, it is known that portfolio diversification does not have a significant effect on the portfolio performance of individual investors with a significance value of 0.691 (> 0.05). This condition indicates that the spread of investment to various stocks has not been able to significantly improve portfolio performance. This is likely due to the correlation between

stocks in the Indonesian capital market which is still quite high, so the benefits of diversification in reducing risk are not fully optimal.

On the other hand, systematic risk showed a positive and significant influence on the performance of the portfolio with a significance value of 0.029 (< 0.05). This means that the higher the market risk faced by investors, the greater the potential returns. These findings are in line with the principle of the relationship between risk and return in the CAPM model,
Where risks that cannot be eliminated through diversification will compensate in the form of increased returns. Meanwhile, the liquidity of stocks has a significance value of 0.347 (> 0.05), which means that it has no significant effect on the performance of the portfolio. These results show that the level of ease of trading stocks has not been the main factor determining investment returns. Possibly, individual investors in the Indonesian capital market are more oriented towards the potential for medium to long-term profits, so the liquidity aspect has not been the main consideration in investment decision-making.

Discussion

a. The Effect of Portfolio Diversification on Portfolio Performance

The results of the study show that portfolio diversification does not have a significant effect on the portfolio performance of individual investors. A significance value of 0.691 (> 0.05) indicates that the spread of investment to various types of stocks has not been able to improve the performance of the portfolio in a real way. Theoretically, Markowitz (1952) through *Modern Portfolio Theory* explains that diversification functions to reduce total risk by combining assets that have a low correlation. However, in the context of the Indonesian capital market, the high correlation between stocks causes the benefits of diversification to be limited (Puspitasari & Wulandari, 2018). Many stocks on the Indonesia Stock Exchange (IDX) are still moving in unison following macroeconomic factors such as interest rates, inflation, and exchange rates, so that the spread of investment is not able to fully reduce risk (Wijaya et al., 2022).

In addition, retail investor behavior in Indonesia tends to be less rational and is still influenced by psychological factors, such as *herding behavior* or the tendency to follow market trends without in-depth analysis (Sari & Putra, 2021). This condition causes the portfolio to be formed not really diversified efficiently, but rather only spread based on the popularity of the stock. Liestyowati's research (2023) also supports these findings by showing that many investors focus more on large-cap stocks (*blue chips*), so the composition of their portfolios is less varied. As a result, the diversification carried out does not make a real contribution to improving portfolio performance. Although the results of the study show insignificant influence, diversification strategies remain important as part of long-term risk management (Rahmawati & Tanuwijaya, 2020). Diversification can serve as a protection when there is an extreme downturn in certain sectors, especially for investors with a long investment horizon.

b. The Effect of Systematic Risk on Portfolio Performance

The results showed that systematic risk had a positive and significant effect on portfolio performance, with a significance value of 0.029 (< 0.05). These results support the *Capital Asset Pricing Model* (CAPM) theory which states that the greater the market risk (beta), the higher the expected rate of return (Sharpe, 1964; Alamsyah & Pradana, 2020). Systematic risk reflects external risks that cannot be eliminated through diversification, such as changes in government policies, global economic conditions, and interest rate movements. In the context of the Indonesian capital market, macro factors such as inflation fluctuations, rupiah exchange rate movements, and global geopolitical tensions are the main triggers for stock price changes (Syamsudin & Gaddafi, 2024).

This research shows that investors who have a tolerance for high market risk tend to obtain better portfolio performance. These findings are consistent with (Liestyowati, 2023) which found

that sectors with high volatility such as energy and technology provide greater returns as market risks increase. In addition, these results are in line with (Wijaya et al. 2022) who affirm that systematic risk is the main determinant of portfolio *returns* in emerging markets. Investors who are smart in reading the direction of macroeconomic movements and adjusting their portfolios to market risks will get more optimal results compared to passive investors.

Thus, the results of this study strengthen the concept of a linear positive relationship between risk and *return*, where systematic risk is the main indicator that investors must pay attention to in managing their investment portfolios.

c. The Effect of Stock Liquidity on Portfolio Performance

The results of the t-test showed that stock liquidity had no significant effect on the performance of individual investors' portfolios, with a significance value of 0.347 (> 0.05). These findings show that the level of ease of trading stocks has not been the main consideration in determining investment performance. According to (Setyowati 2019), liquidity tends to be more important for institutional investors or short-term traders because they require a high transaction speed. On the other hand, individual investors are more oriented towards medium- to long-term investments, so liquidity factors do not play a major role in determining portfolio results (Oktaviani, 2025).

This result is also strengthened by (Rahmawati & Tanuwijaya 2020) which states that most retail investors are more focused on the issuer's capital gain potential and fundamentals compared to the level of stock liquidity. This is because investors value the company's long-term prospects more than the ease of daily transactions. In addition, Indonesia's uneven capital market structure in the distribution of trading volumes causes most of the liquidity to be concentrated only in certain stocks (*blue* chips). Meanwhile, tier two and three stocks that are less liquid often provide higher *returns* in the long run due to lower valuations (Wijaya et al., 2022).

Thus, although liquidity does not have a significant influence directly, it still plays an indirect role in maintaining portfolio flexibility, especially when there is market turmoil.

d. The Simultaneous Effect of Diversification, Systematic Risk, and Stock Liquidity on Portfolio Performance

The results of the simultaneous test (F test) show that portfolio diversification, systematic risk, and equity liquidity together have a significant effect on the portfolio performance of individual investors. An F-value of 5.558 with a significance of 0.002 (< 0.05) shows that the regression model constructed can explain the relationship between the three independent variables on portfolio performance simultaneously.

This shows that although not all variables have a partially significant effect, they still contribute to the improvement of portfolio performance when considered together. Research (Wijaya et al. 2022) states that the effectiveness of a portfolio is influenced by the synergy between diversification strategies, systematic risk management, and stock selection with liquidity that suits the investor's profile.

Thus, the results of this study confirm the importance of balance in portfolio management. Investors need to implement a scalable diversification strategy, understand market risk exposure, and pay attention to liquidity in order to maximize returns without neglecting the stability aspect.

Interpretation of Results

The overall results of the study indicate that systematic risk is the most dominant variable in determining the performance of individual investors' portfolios. This illustrates the characteristics of the Indonesian capital market which are still influenced by external factors and sensitive to global changes. Meanwhile, diversification and liquidity play more of a supporting role as supporting factors that strengthen the stability of the portfolio in the long term.

This research has important implications for individual investors, namely the need for an in-depth understanding of market risks and the implementation of rational diversification strategies. By understanding the relationship between these variables, investors can develop investment strategies that are more adaptive to economic dynamics and changing market conditions.

5. CONCLUSION

Based on the results of data analysis and discussions that have been conducted, this study concludes that simultaneously the variables of portfolio diversification, systematic risk, and stock liquidity have a significant effect on the portfolio performance of individual investors. This shows that the combination of these three factors has an important role in determining the effectiveness of portfolio management, where a balance between investment spread, understanding of market risks, and attention to liquidity aspects is key in achieving optimal investment returns.

However, partially, the results of the study show that portfolio diversification does not have a significant effect on the portfolio performance of individual investors. These findings indicate that the spread of investment to various stocks has not been able to significantly improve portfolio performance. This may be due to the high correlation between stocks in the Indonesian capital market and the behavior of retail investors which are still influenced by psychological factors such as herding behavior, which is the tendency to follow market trends without conducting in-depth analysis. This condition causes the portfolio formed to not be efficiently diversified and tends to be concentrated in popular stocks.

On the contrary, systematic risk has been proven to have a positive and significant influence on portfolio performance. These results are in line with the Capital Asset Pricing Model (CAPM) theory which confirms the existence of a positive relationship between market risk and the expected rate of return. The higher the systematic risk faced by investors, the greater the potential returns. These findings show that investors' ability to understand market dynamics and adjust their portfolios to macroeconomic changes has an important role in improving investment performance.

Meanwhile, stock liquidity has no significant effect on the performance of individual investors' portfolios. This shows that the level of ease of trading stocks has not been the main consideration in investment decision-making. Most individual investors. tends to have a medium to long-term investment orientation, so the liquidity aspect has not been considered as a factor that directly determines the results of the portfolio. Nonetheless, liquidity still has an indirect role in maintaining portfolio flexibility, especially during market turmoil.

A determination coefficient value (R^2) of 0.209 indicates that the three independent variables in this study were only able to explain 20.9% of the variation in portfolio performance, while the remaining 79.1% was influenced by other factors outside the model, such as macroeconomic conditions, investor behavior, asset allocation strategies, and the development of certain industrial sectors. Overall, the results of this study indicate that systematic risk is the most dominant factor in determining the performance of individual investors' portfolios. This reflects the characteristics of the Indonesian capital market which is still sensitive to external changes and influenced by global economic fluctuations. Thus, a deep understanding of market risks is the main key for investors in managing their portfolios optimally.

REFERENCES

Alamsyah, R., & Pradana, I. (2020). Risk Analysis and Stock Returns Based on the CAPM Model on the Indonesia Stock Exchange. *Scientific Journal of Accounting and Finance*, *12*(3), 233–245.

Fitriana, D. A. W., Anggraeni, D., & Santoso, B. (2023). The Effect of Liquidity, Solvency, Profitability and Market Risk on Stock Returns in Financial Sector Companies on the IDX. *Journal of Finance and Investment*, *11*(2), 145–157.

Kurniawan, A., & Dewi, R. (2023). The Effect of Diversification and Portfolio Size on Investment Performance on the Indonesia Stock Exchange. *Indonesian Journal of Economics and Business*, *9*(1), 88–99.

Liestyowati, L., Possumah, L. M., Yadasang, R. M., & Ramadhani, H. (2023). The Effect of Portfolio Diversification on Risk Management and Investment Performance: An Analysis on Individual Investors. *Western Science Journal of Accounting and Finance*, *2*(03), 187–194. https://doi.org/10.58812/jakws.v2i03.642

Maulana, A. (2024). Diversification Strategy and Business Portfolio Development in Indonesia. *Journal of Strategic Management*, *8*(3), 200–213.

Mufidah, M. N. (2024). The Effect of Inflation and Liquidity on Stock Returns on the Indonesia Stock Exchange. *Financial Journal*, *15*(2), 55–66.

Nawangsih, A. D. (2023). The Influence of Liquidity and Capital Structure on the Financial Performance of Public Companies. *Journal of Accounting and Finance*, *10*(1), 45–59.

Oktaviani, S., Aulia Azzura Bilqis, & Perwito. (2023). Stock Investment Risk Analysis Through Portfolio Diversification Domestically and Internationally. *El-Mal: Journal of Islamic Economic & Business Studies*, *4*(5), 1330–1351. https://doi.org/10.47467/elmal.v4i5.2895

Prasetyo, H., & Rahman, D. (2021). The Effect of Systematic Risk on the Performance of Individual Investor Portfolios in Indonesia. *Journal of Capital Markets and Finance*, *8*(2), 101–112.

Puspitasari, E., & Wulandari, S. (2018). The Effectiveness of Portfolio Diversification on Investment Performance on the IDX. *Indonesian Journal of Management Research*, *5*(2), 120–130.

Putra, R., & Lestari, P. (2021). Stock Liquidity and Portfolio Returns during the COVID-19 Pandemic Period. *Journal of Economics and Investment*, *7*(4), 77–89.

Rahmawati, L., & Tanuwijaya, S. (2020). The Effect of Diversification and Market Risk on Stock Returns in the Indonesian Capital Market. *Journal of Economics and Business*, *8*(3), 102–115.

Ramadhan, M., Suharti, T., & Nurhayati, I. (2020). DIVERSIFY STOCKS IN PORTFOLIO FORMATION TO MINIMIZE RISK. *Manager: Journal of Management Science*, *3*(4), 450. https://doi.org/10.32832/manager.v3i4.3914

Sari, M., & Putra, Y. (2021). Individual Investor Behavior and Stock Portfolio Strategy in Indonesia. *Journal of Economics and Business*, *13*(1), 50–62.

Setiawan, R., & Pratiwi, S. (2022). Stock Diversification and Its Impact on Retail Investor Portfolio Performance on the IDX. *Journal of Investment Management*, *5*(2), 133–144.

Setyowati, L. (2019). The Effect of Liquidity on the Stock Return of Financial Sector Companies. *Journal of Accounting and Investment*, *20*(3), 189–202.

Sidiq, M. S. (2025). The Effect of Portfolio Diversification Strategy on Investment Performance in Indonesia. *Journal of Financial Management*, *12*(1), 1–14.

Syamsudin, S., & Khaddafi, M. (2024). Comparative Analysis of Risk and Return on Stocks and Bonds on the Indonesia Stock Exchange: Implications for Investors. *Journal of Economics, Business and Management*, *3*(2), 61–76. https://doi.org/10.58192/ebismen.v3i2.2209

Wijaya, A., Santoso, H., & Dewi, L. (2022). Determinants of Portfolio Performance among Retail Investors in Emerging Markets. *Journal of Finance and Investment Studies*, *14*(4), 245–259.

Wijaya, L., & Suryanto, T. (2020). Market Risk Analysis and Portfolio Returns on Individual Investors. *Journal of Finance and Banking*, *14*(1), 88–98.

Yuliana, R. (2024). Determinants of Investment Portfolio Performance: Evidence from Individual Investors in Indonesia. *East & South Institute Journal*, *5*(1), 22–34.