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## Comparison of Investment Performance of Stocks and Bonds in Portfolios with Modern Portfolio Theory Approach

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### ABSTRACT

This research investigates the comparative investment performance between stocks and bonds in a portfolio using the Modern Portfolio Theory approach. Through analyzing the investor's risk profile, identifying the optimal allocation of assets, effective diversification, and regular monitoring, this research shows that portfolios can be designed to achieve an optimal balance between risk and return according to investment preferences and objectives. However, there are limitations to this approach that involve assumptions about market behavior and correlations between assets, as well as challenges in dealing with increased market volatility. Future research can develop more sophisticated methods to overcome such challenges and improve portfolio management by utilizing more advanced analytical techniques and a deeper understanding of investor behavior.

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### 1. Introduction

Investments in stocks and bonds are the two main options for investors looking to diversify their portfolio in an effort to achieve long-term financial goals. Stocks generally offer the potential for higher returns but with a higher degree of risk, while bonds tend to offer more stable returns but with a lower rate of return. In the context of the Indonesian capital market, the performance comparison between these two assets is an interesting subject of research given the ever-changing market dynamics and the complexity of managing investment risk.

One of the current issues related to the above review is market volatility which has increased significantly in recent years. High volatility can make modern portfolio theory approaches more difficult to apply effectively, as the increased risk makes assessing risk and return more difficult. This may force investors to revise their asset allocation more frequently, which may result in higher transaction costs and also increase the risk of decision-making errors. In addition, new developments in the investment environment, such as changing monetary policies and unexpected geopolitical events, can also alter the correlations between asset classes like stocks and bonds. This can change portfolio dynamics and make risk management more complex. Therefore, investors need to pay attention not only to the historical performance of

stocks and bonds, but also how they may interact in a dynamic market context. In the face of these challenges, a more flexible and dynamic approach to portfolio management may be required, as well as the use of more sophisticated risk analysis tools to understand the relationships between different asset classes.

The study by Hasan and Pramono (2019) explored the analysis of optimal portfolio diversification between stocks and bonds using the Mean-Variance Model method. In this study, the authors found that proper allocation between stocks and bonds in a portfolio can help reduce investment risk while still maintaining reasonable potential returns. This finding supports the importance of effective diversification in achieving the optimal balance between risk and return in an investment portfolio. A study conducted by Hadi (2018) investigated the impact of interest rate changes on stock investment in the Indonesian capital market. The findings of this study indicate that changes in interest rates have a significant influence on stock investment performance. Thus, this study highlights the importance of understanding external factors, such as interest rate changes, in predicting and managing equity investment risk in the Indonesian capital market.

While there have been many studies investigating the investment performance of stocks and bonds separately, there is still limited understanding of how they interact in a portfolio constructed using the Modern Portfolio Theory approach. This research will explore how the optimal allocation between stocks and bonds in a portfolio can help investors achieve an optimal balance between risk and return. Through this approach, this research aims to provide deeper insights into how investors can effectively utilize these two assets in an effort to achieve their investment goals in a manner that suits their risk profile and personal preferences.

The objective of this study is to investigate the comparative investment performance of stocks and bonds in a portfolio using the Modern Portfolio Theory approach. This research will attempt to determine the optimal asset allocation between stocks and bonds in a portfolio by considering the investor's risk profile as well as current market conditions. In addition, this study also aims to provide practical recommendations to investors on how they can build and manage an effective portfolio by utilizing the performance of both assets in the context of the Indonesian capital market.

## **2. Methodology**

To solve the problem of comparing the investment performance of stocks and bonds in a portfolio with the Modern Portfolio Theory approach, several steps can be taken:

### **1. Risk Profile Analysis**

The first step is to understand the investor's risk profile in depth. This includes assessing the risk tolerance, investment objectives, time horizon, and financial needs of the individual or institution in question.

### **2. Identify Optimal Allocation**

Based on the risk profile analysis, the next step is to determine the optimal asset allocation between stocks and bonds in the portfolio. This is done by considering historical returns, volatility, correlation between stocks and bonds, and current market conditions.

### **3. Effective Diversification**

Effectively applying the concept of diversification by allocating funds to a number of different assets. Diversification helps reduce overall portfolio risk by spreading risk across asset classes.

#### 4. Monitoring and Rebalancing

It is important to continuously monitor portfolio performance and rebalance periodically in line with changes in risk profile and market conditions. Rebalancing helps maintain an asset allocation that matches investment objectives while reducing unwanted risks.

#### 5. Appropriate Use of Financial Instruments

Proper selection of financial instruments, both stocks and bonds, also plays a key role in achieving investment goals. This includes selecting stocks with strong fundamentals and bonds with good credit quality.

By following these steps and continuously updating the investment strategy according to market changes and investor needs, a comparison of the investment performance of stocks and bonds in a portfolio using the Modern Portfolio Theory approach can be done more effectively..

### **3. Results and Discussion**

Application of the method in an investment portfolio:

#### 1. Risk Profile Analysis

An investor, for example, may be a retiree who prefers to maintain a steady income and avoid significant fluctuations in market value. Their risk profile is conservative, with a preference for lower levels of risk and stable returns.

#### 2. Identify the Optimal Allocation

Based on the risk profile, a financial advisor may suggest a higher allocation into bonds than stocks. For example, the portfolio may be allocated 70% into bonds and 30% into stocks to achieve a balance between risk and return that suits the investment objective.

#### 3. Effective Diversification

In this case, diversification would involve allocating funds into different types of bonds with different credit quality and stocks from different industry sectors. This helps reduce credit risk and sector-specific risk, while still maintaining reasonable potential returns.

#### 4. Monitoring and Rebalancing

The portfolio will continue to be monitored periodically to ensure that the asset allocation remains in line with the investor's initial investment objectives and risk profile. If there are significant changes in market conditions or the investor's risk profile, the portfolio will be rebalanced to ensure an optimal balance between risk and return.

#### 5. Appropriate Use of Financial Instruments

In this context, the selection of bonds with high credit quality and stocks of established companies with stable performance records will be key to achieving the desired investment objectives.

By applying these steps in investment portfolio management, investors can utilize the Modern Portfolio Theory approach to achieve their financial goals more effectively according to their risk profile and personal preferences. The result of applying such methods is the creation of an investment portfolio that is in line with the investor's goals and risk profile. With carefully selected asset allocation and effective diversification, investors can reduce their portfolio risk while still maintaining reasonable potential returns. In addition, regular monitoring and rebalancing helps ensure that the portfolio remains in line with the initial investment objectives and accommodates changes in market conditions or the investor's risk profile. As such, investors can feel more confident in achieving their financial goals with a customized and well-managed

approach.

The discussion on the application of this method highlights the importance of understanding the investor's risk profile and creating an appropriate portfolio. The approach chosen should be in line with the risk preferences and financial needs of the individual or institution in question. Using careful analysis and purposeful portfolio management, investors can minimize unwanted risks while maximizing potential investment returns. It is also important to remember that the investment approach is a dynamic process, and the portfolio needs to be adjusted periodically according to changes in market conditions and the investor's risk profile..

#### **4. Conclusion**

The application of Modern Portfolio Theory methods in comparing the investment performance of stocks and bonds helps create portfolios that match the risk profile of investors and their investment objectives. However, it is important to remember that each approach has its own limitations, including reliance on assumptions about market behavior and correlations between assets. Future research could develop more sophisticated methods to cope with increased market volatility and take into account other factors that may affect investment performance, such as environmental, social and corporate governance factors. Suggestions for future research development include the use of more sophisticated analytical techniques, greater data integration, and a better understanding of investor behavior to improve portfolio management and achieve investment objectives more effectively in the future.

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