

**CRITICAL ANALYSIS OF STOCK FROM AN
OPTIMAL PORTFOLIO PERSPECTIVE
(Case Study of Sharia Banking Companies Listed on the IDX)**

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Abstract

This study aims to conduct a comprehensive evaluation of the shares of Islamic banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2020 to 2022, focusing on the optimal portfolio perspective. The method used in this research is a descriptive quantitative approach. The population studied was all Islamic banking companies listed on the IDX during the period mentioned. The sample was selected using purposive sampling technique, with certain criteria to select Islamic banking companies listed on the IDX during the period 2020 to 2022. As a result, three stocks were selected as samples of this study. This study uses a single index model to analyze the data. The results of the analysis showed that of the three stocks sampled, none met the criteria to be included in the optimal portfolio. These stocks are considered not meeting the standards set because the expected return value is smaller than the systematic risk value. Nonetheless, these findings provide valuable insights into the performance of stocks of Islamic banking companies on the IDX during the study period. In addition, it also highlights the importance of conducting periodic portfolio evaluations to identify potential changes in stock performance and optimize the allocation of financial resources. This study makes an important contribution to the understanding of optimal investment strategies in the context of Islamic banking companies in the Indonesian capital market.

Keywords: Analysis, Expected Return, Optimal Portfolio, Return, Risk

1. INTRODUCTION

In this modern era, the role of banks has become very important in advancing economic growth in a country. Almost all business branch sectors and individuals need banks as partners in financial transactions. Seeing how widespread the existence of banking in a country is, it is said to be one of the agents in the development of 'agent of development' as in Article 4 of Law of the Republic of Indonesia Number 7 of 1992 concerning banking, it is stated: "Indonesian banking aims to support the implementation of national development in the context of increasing equality, economic growth and national stability towards increasing the welfare of the people at large."

With the rapid development of banking, it can change people's mindset so that trust in banks increases. The development of Islamic banks in Indonesia is a form of the needs of the community who want a banking system that can provide financial services that are considered healthy and can fulfill the true basic principles of sharia.

Sharia banks are a type of bank that operates in accordance with sharia principles and consist of two types, namely Sharia Commercial Banks and Sharia People's Financing. Sharia banking was established due to encouragement from the Muslim

community and various parties to create banking transactions that meet Islamic principles and moral values.

Sharia shares are securities in the form of shares that do not conflict with sharia principles in the Capital Market. The definition of shares in the context of sharia shares refers to the definition of shares in general as regulated in law and other OJK regulations. Shares listed as sharia shares by issuers or sharia public companies based on OJK regulation no. 17/POJK.04/2015 concerning Issuance and Requirements for Sharia Securities in the form of Shares by Sharia Issuers or Sharia Public Companies

The global trend that is occurring is the proliferation of brands or products that promote sharia, for example: halal make-up, shampoo products for women wearing the hijab, and so on. This trend is also starting to spread from the retail realm to investment. One of them is sharia stock investment.

Sharia shares are special because they are able to accommodate the wishes of investors who want to own shares in accordance with Islamic religious principles. The following is a further review of sharia shares for beginner investors.

Currently, investment in the form of ownership of financial assets is more promising, so people in Indonesia prefer financial assets to real assets. The place or activity that is used to market financial assets is the capital market. The capital market is an activity related to the public offering and trading of issued public company securities as well as institutions and professions related to securities (Jalil, 2016).

One of the optimal portfolio analysis techniques used by Elton et al (2009) is to use a single index. Analysis of securities is carried out by comparing the excess return to beta with the cut-off rate for each stock. Stocks that have an excess return to beta greater than the cut off rate are used as portfolio candidates, while on the other hand, namely a cut off rate greater than the excess return to beta, are not included in the portfolio. Excess return to beta is the excess of stock returns over the return of risk-free assets (risk free rate) which is called the return premium per unit of risk as measured by beta. Excess return to beta is used to measure the stock return premium relative to one unit of risk that cannot be diversified as measured by Beta. Excess return to beta shows the relationship between return and risk which is a determining factor in investment. Meanwhile, the cut-off-rate is the result of market variance and return premium on stock error variance with market variance on the sensitivity of individual stocks to stock error variance.

The analysis used provides many advantages because the approach uses a single stock (Khotim, 2014). Through this approach, it is hoped that you will obtain a list of stock portfolios to be purchased. The approach method that can be used to determine the diversification principle is the Single Index Method (Kamal, 2012). The Single Index Model is a simplification of the Index model previously developed by Markowitz. This model explains the relationship between the return of each individual security and the return of the market price index. This model provides an alternative for calculating the variance of a portfolio. The advantage of this model is that it is simpler and easier to calculate when compared to the Markowitz model calculations (Markowitz, 1959). This alternative approach is used as a basis for solving problems in preparing portfolios. Portfolio theory uses the assumption that capital markets are efficient. The single index method is a relatively simple method and reduces the variables calculated, with a longer period and more samples, more accurate results will be obtained and can answer the problem of stock investment uncertainty. The single index model was chosen because it is simpler to implement, namely by simplifying the Markowiz model calculations by

providing the input parameters needed in the Markowitz model calculations (Jogiyanto, 2013). Besides that, the single index model can be used to calculate the return from the risk of a stock or portfolio (Zubir, 2011). This model assumes that stock return movements are only related to market movements. If the market moves up, meaning that the movement in shares increases greatly, then the share price in the market will rise too. Conversely, if the market moves down, share prices will fall too.

2. LITERATURE REVIEW

2.1. Investment Theory

According to Tandelilin (2017), investment is a commitment of a certain amount of funds or other resources made at this time, with the aim of obtaining profits in the future. Meanwhile, investors buy a number of shares now with the hope of gaining profits from rising share prices or a number of dividends in the future. In return for the time and risk associated with the investment. The investment decision process consists of 5 (five) decision stages that run continuously until a good investment decision is made. According to Tandelilin (2017), the investment decision stages are as follows: a) Determining investment objectives; b) Determination of investment policy; c) Selection of portfolio strategy; d) Asset selection; e) Measurement and evaluation of portfolio performance.

2.2. Portfolio Theory

Portfolio theory was first coined by Markowitz (1952), stating that the risk and return of both must be considered with the assumption that a formal framework is available to measure both in forming a portfolio. In its basic form it starts with the assumption that the future rate of return on securities is estimated and then determines the risk by varying the distribution of returns. With certain assumptions, portfolio theory produces a linear relationship between risk and return (Li et al., 2021).

Markowitz outlines how to combine assets into an efficient diversified portfolio. In this portfolio, it can be reduced by increasing the number of types of assets in the portfolio and the level of expected return can increase if the investment has differences in movements that are formed accidentally or are decided through design supported by rational calculations and considerations to maximize investment risk (Sulistiyowati, 2017).

2.3. Return

Return is the goal of investors in investing to maximize the expected return. Investors usually use stock portfolios and one way to reduce the risk of stock investment can be done by diversifying stock ownership, namely by combining various stocks in their investment or by forming a portfolio. Stock return is the rate of return obtained through a number of investments in shares, stock returns are calculated using the formula (Jogiyanto, 2014):

$$R_i = \frac{p_t - p_{t-1} + D_t}{p_{t-1}}$$

Risk is the possibility of a loss or negative return from an investment (Napitupulu & Syahyunan, 2013). Investment risk in the capital market basically consists

of systematic risk and unsystematic risk. Systematic risk is a risk that cannot be eliminated because the risk that occurs is caused by macro factors that influence the market as a whole, while unsystematic risk is a risk whose level of risk can be minimized.

Jogiyanto (2014) shows that in general risk may be reduced by combining several single securities into a portfolio. The main requirement to be able to reduce risk in a portfolio is that the returns for each security are not positively and perfectly correlated.

2.4. Single Index Model

Jogiyanto (2014) said that the single index model is a systematic risk measurement method (beta) where the influencing factors on stock prices are represented by a variable, namely the market return variable. This model was specifically developed to simplify the calculation of the variables needed in calculating the average deviation of market returns. This simplification model was developed by Markowitz. Sharpe (1963) developed a market model which is a form of relationship between the level of profit on individual assets and the average level of profit on the market (market index).

Jogiyanto (2014) said that the single index model is based on the observation that the price of a security fluctuates in the same direction as the market price index. In particular it can be observed that most tend to experience an increase in prices if the stock price index increases. On this basis, the return of a security and the return of a general market index can be written:

$$R_i = \alpha_i + \beta_i \cdot R_m$$

3. RESEARCH METHODS

The research approach used in this research is quantitative research with a descriptive approach. The data in question is stock price data, the composite stock price index and interest rates during the 2020-2022 research period.

The population of sharia companies listed on the Indonesia Stock Exchange during the research period was 4 sharia banking companies. Sample selection was determined using a purposive sampling technique with the criteria being 1). The listed sharia banking companies are listed on the Indonesian Stock Exchange from 2020-2022 so that a sample of 3 shares is obtained, namely Bank Syariah Indonesia (BRIS), Bank Panin Dubai Syariah (PNBS) and Bank BTPN Syariah (BTSPS).

4. RESULTS AND DISCUSSION

4.1. Research Results (Sub-chapter)

The research results in the process of forming an optimal stock portfolio based on a single index model are as follows:

Table 1. Calculation Results of Expected Return, Variance, α , β and Residual Variance

Saham	ER	Varians	α	β	Varians Residual
BRIS	0,06738	0,07102	0,058593	2,173895	0,086963
BTPS	-0,00107	0,01955	-0,004811	0,925354	0,02244
PNBS	0,02073	0,04481	0,01726	0,85749	0,047288

Stock returns are calculated by subtracting the current period's share price from the previous period's share price divided by the previous period, where the individual share price is based on changes in the monthly closing price of shares.

The highest return value at Bank Syariah Indonesia (BRIS) in August 2020 was 0.78558 and the lowest in February 2020 was -0.28808. The highest return value at Bank BTPN Syariah (BTPS) in May 2020 was 0.31507 and the lowest in March 2020 was -0.43351. The highest return value at Bank Panin Dubai Syariah (PNBS) in February 2021 was 0.56250 and the lowest in August 2021 was -0.25676.

One of the factors that influences the rise and fall of a stock's return is the interest rate. An increase in interest rates will result in a decrease in stock returns and vice versa. In the face of rising interest rates, shareholders will hold their shares until interest rates return to levels that are considered normal. Conversely, if long-term interest rates increase, shareholders tend to sell their shares because the selling price is high. This shows that BRIS provided the largest return among other stocks, namely 0.78558 in August 2020.

Furthermore, table 1 also shows that alpha varies, there are companies that have negative and positive alpha values. The negative alpha value occurred at the BTPS company at -0.004811, while the largest alpha value was at the BRIS company at 0.058593.

Other results explain the beta value which shows the level of sensitivity of stock returns to market returns. The results of the analysis showed that one (1) share which had a beta value greater than 1 was the BRIS company of 2.173895. A company whose beta value is greater than one means that the stock has high sensitivity to market conditions so that the stock's profit level increases more than the overall profit level of shares in the market. Based on table 1 above, you can see 2 shares whose beta value is smaller than one, namely BTPS shares of 0.925354 and PNBS shares of 0.857490. A company that has a beta value of less than one means that the stock is less sensitive to market conditions so that the stock's profit level increases less than the overall profit level of shares in the market.

Table 2. Calculation of A_i , B_i , C_i for each share and determination of C^*

	BRIS	BTPS	PNBS
A_i	-6,489116705	-13,52738738	-5,556014641
B_i	54,34311382	38,15908664	15,56540118
C_i	-0,018495047	-0,040419719	-0,017803215

From table 2 it can be seen that the largest A_i value is at Bank Panin Dubai Syariah at -5.556014641 and the smallest at Bank BTPN Syariah at -13.52738738. Meanwhile, the largest B_i value is found at Bank Syariah Indonesia at 54.34311382 and the smallest is at Bank Panin Dubai Syariah at 15.56540118. The largest C_i value is at Bank Panin Dubai Syariah at -0.017803215 and the smallest at Bank BTPN Syariah at -0.04019719.

Table 3. Comparison of ERB and C* values

	BRIS	BTPS	PNBS
ERB	-0,119410101	-0,354499768	-0,356946447
C*	-0,0178	-0,0178	-0,0178

Based on the calculation of excess return to beta (ERB), namely the excess return over risk-free return on other assets, all shares obtained low ERb values, namely BRIS of -0.11941, BTPS of -0.3545 and PNBS of -0.35695, because they provide high risk premium for investors. Shares that will be included in the optimal portfolio must have a high ERB value.

The C_i value is the result of the market variance and return premium on the share error variance with the market variance on the sensitivity of individual shares to the stock residual error variance. Cut-off Point (C^*) is the maximum C_i value from a series of stock C_i values. The C^* value is used to determine the limiting point for which stocks are considered optimal portfolio candidates. The optimal portfolio is formed from stocks that have an ERB greater than or equal to the cut-off rate.

The cut off point value (C^*) is the highest value of the maximum cut off rate (C_i) value from a series of stock cut off rate (C_i) values. The cut off point value is used as a dividing point to determine shares that are optimal portfolio candidates and shares that are not optimal portfolio candidates.

4.2. Discussion (Sub-chapter)

The C_i value is the result of the market variance and return premium on the share error variance with the market variance on the sensitivity of individual shares to the stock residual error variance. Cut-off Point (C^*) is the maximum C_i value from a series of stock C_i values. The C^* value is used to determine the limiting point for which stocks are considered optimal portfolio candidates. The optimal portfolio is formed from stocks that have an ERB greater than or equal to the cut-off rate.

After C_i can be calculated, the ERB values arranged from largest to smallest are compared with the cut off rate value. If the ERB is greater than the cut off rate then the stock meets the criteria to be included in the optimal portfolio and if the stock's ERB is smaller than the cut off point (C_i) then the stock does not meet the criteria to be included in the optimal portfolio.

Table 4. Analysis Result

Emiten	ERB	C_i	C^*	Decision
BRIS	-0,1194	-0,01849505	-0,01780321	Not Optimal
BTPS	-0,3545	-0,04041972	-0,01780321	Not Optimal
PNBS	-0,3569	-0,01780321	-0,01780321	Not Optimal

Based on the table above, it can be explained that there are no companies that are included in the optimal portfolio candidates. This stock is not included in the optimal portfolio because the ERB value is smaller than the C_i value.

In table 1, there are shares that have a beta (systematic risk) greater than one ($\beta > 1$), namely BRIS. Therefore, BRIS shares are riskier than other shares and can be categorized

as aggressive shares, meaning that the excess rate of return on the stock changes in excess of the proportion of the excess market return. Meanwhile, shares that have a beta (systematic risk) smaller than one ($\beta < 1$) are BTPS and PNBS shares. This means that these shares have smaller return fluctuations than the market as a whole. Therefore, stocks that have a beta (systematic risk) smaller than one can be categorized as weak or defensive stock, meaning that the stock's excess return changes below the proportion of the market's excess return (Zahra, 2017).

The cut off point value (C^*) is the highest value of the maximum cut off rate (C_i) value from a series of stock cut off rate (C_i) values. The cut off point value is used as a dividing point to determine shares that are optimal portfolio candidates and shares that are not optimal portfolio candidates.

5. CONCLUSION

Based on the results of the research that has been carried out, the following conclusions can be drawn: The essence of portfolio formation is to reduce risk by diversifying. Analysis of optimal portfolio formation with a single index resulted in three stocks that were not portfolio candidates. The limitation in this research is that not all banking companies, especially sharia banking, were sampled in the research so that when conducting an analysis of the formation of an optimal portfolio, it was not the banking companies that formed an optimal portfolio.

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