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Asset Selection and Portfolio Management on LQ 45 Using Active and Passive Management Strategy

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ABSTRACT: The aim of this research is to build a stock portfolio contained in the LQ 45 index using passive and active strategy methods based on financial report data published during the 2016-2019 period, choosing that year to avoid abnormal performance during Covid year between 2020 - 2022. To form the portfolio, it is grouped based on high, medium and low Tobin's Q values and high, medium and low of ROE. To measure the performance of the portfolio using we used Sharpe, Treynor and Jensen methods. The research results show that using an active strategy shows the highest average total return of 19.97% with a risk of 18.23%, followed by an annual active management strategy and then semi-annual active management. Meanwhile, using a passive management strategy shows that the medium ROE group produces an optimum portfolio, while the annual active and semi-annual active groups show that the optimum portfolio is in the medium Tobis' Q group. The varied results contradict the research conducted by Pasaribu (2009), Hidayat and Hendrawan (2017), Hendrawan and Salim (2017), and Hendrawan et al. (2020). In contrast to the research conducted by Pham (2018), the composition of ROE is more capable of providing higher returns than the Tobin's Q composition. This research also shows varied results of the ROE portfolio, in contrast to Barka and Hamza (2019).

KEYWORDS: Optimal portfolio, ROE, Tobin's Q

1. INTRODUCTION

Markowitz (1952) offers a breakthrough in the portfolio management framework called "Modern Portfolio Theory" (MPT). Stotz (2005) states that portfolios should focus on the return and risk management to achieve the investors' goals. Hendrawan and Salim (2017) suggest that the sustainability of a company in the future can be measured by analyzing the fundamentals of companies that trade stocks, and it can be seen historically from financial reports using Tobin's Q ratio.

A portfolio formed by the ratio of PER and Tobin's Q is consistent in generating an average return above the market return. Tobin's Q portfolio is measured using the Sharpe, Treynor, and Jensen ratios shows that semi-annual active strategies performed the best, followed by annual active management and, lastly, passive management. In addition, Rahman and Mustafa (2017) found that Tobin's Q is calculated as the ratio of capital's market value to the cost of capital replacement. The fluctuating share primarily reflects the changes in consumption and investment. Shaikh et al. (2016) show that the evaluation of portfolio performance using the ratio of Sharpe, Treynor, Jensen, M-square, and Information Ratio is feasible. All Sharia equity funds produce positive ratios of Sharpe and Treynor. The positive value is generally exhibited by Jensen alpha. Sharpe, Treynor, and Jensen ratios evaluate portfolio performance by considering the return, risk, and risk-free quality. Tracking Error only focuses on return, M-square has an evaluation requirement that the portfolio has the same level of risk, and the Information Ratio is calculated without considering risk-free assets. The phenomena and the results of previous research are the background of this research to discuss the design and results of the optimal portfolio of stocks carried out using active and passive management. The purpose of this research is to analyzes and measure portfolio composition and performance using the Sharpe, Treynor, and Jensen ratios.

2. LITERATURE REVIEW

2.1. Portfolio Theory

A portfolio is an investment activity in managing various types of securities. Investors are required to estimate the expected return and risk based on the attributes of each stock that makes up the portfolio. Two primary considerations in preparing a portfolio are the expected return and risk (Elton et al., 2013). Return is defined as the percentage development of funds invested in a certain period of time. The expected return is the estimated average probability of the return rate in each scenario. Excess return is the difference between the actual return rate on risky assets and the level of risk-free assets. Meanwhile, the risk premium is the expected value of excess return and standard deviation. The two types of risk are market risk (also known as systematic risk or undiversifiable risk) and corporate risk (also known as unsystematic risk or diversified risk).

Diversification is the process of adding various securities in a portfolio to avoid the same market risk on the characteristics of different securities (Bodie et al., 2018). Diversification variations and correlation returns are related to stock portfolios because the information and financial policies of the issuing companies can change at any time. The complexity in portfolios requires investors to design an optimal portfolio with considerations of return and risk (Elton et al., 2013).

The dilemma of investing is that investors prefer high returns but do not favor high risks. Investors need to consider the stock options to choose from and how they are combined. Return affects the portfolio dispersion or variance (Elton et al., 2013).

The two strategies for managing portfolios are passive management and active management. The simple implementation of passive management is to allocate a certain amount of funds to replicate the stock index. Passive management is preferred because it is simple; it does not need to consider a series of changes in decisions. The approach to passive management is Buy and Hold. Active portfolio management occurs when an investor estimates something and acts on that estimate. Three active management considerations are time management, securities selection, and stock securities (Elton et al., 2013).

Portfolio performance evaluation is carried out to determine how favorable the costs incurred for desires, the conditions of risk, return, deviations, and variance of portfolios formed are by comparing several similar portfolios. A comparable portfolio has a similar risk but is bound by different constraints (Elton et al., 2013). The most common method is risk adjustment between return and risk. The possible way to do that is to do recomposition. Three models of portfolio performance that consider return, risk, and risk-free are the Sharpe, Treynor, and Jensen ratios (Bodie et al., 2018).

Return on equity (ROE) focuses on the profitability of equity investment, which is the net profit realized by the stockholders that they have invested in the company. ROE can be used as the basis to determine the company's profit growth. Historical data can provide information about expected performance and expected future earnings that can define the intrinsic value of company stocks (Bodie et al., 2018).

In 1969, Tobin proposed the concept of market-based performance ratio (known as Tobin's Q or Q factor) to a company. Tobin's Q is calculated as the ratio of the market value of capital to the cost of replacement capital. Low Tobin's Q is defined as a value of 0 to 1, which means that the market value is less than the company's assets value. In contrast, the high Tobin's Q is indicated with a value of greater than 1, which means that the company's stock price is high (Rahman and Mustafa, 2017).

Zabiulla (2014) suggests one active strategy aiming to provide a higher return than a passive portfolio based on risk-adjusted-performance. Pace et al. (2016) investigated 12 portfolios based on the net asset value (NAV) and found that none of the active and passive portfolios were better in terms of risk-adjusted-performance. In addition, Hendrawan et al. (2020), reveals the advantages of semi-annual active portfolio managements. The consistently low Tobin's Q portfolio is able to provide the highest return value. Furthermore, the best portfolio performance, respectively, is the Sharpe, Jensen, and Treynor Indexes.

Pasaribu (2009) simultaneously tested the ratio of PER, PBV, ROE, EPS, PSR, B/M, VaR, and market capitalization and found that they had a significant effect on returns. The highest evaluations of portfolio performance were Sharpe, Jensen, and Treynor. Additionally, Hidayat and Hendrawan (2017) examined the portfolios built based on company financial reports (PER, PBV, and PEG) and have ranked portfolios, starting from the best: semi-annual active portfolios, passive portfolios, and annual active portfolios. Besides that, Allaire and Dauphin (2015) have also proven that the operating consequences of periodically intervened financial performance (ROA, ROE, and Tobin's Q) affect the operational performance and stock returns.

Da Cunha and Seetharam (2018) investigated the company's operating performance (EPS, ROA, ROE) with stock performance. The results show that the long-term performance of the issuing company affects investors. Moreover, Feng and Chan (2018) use a multi-factor portfolio to show that the operating performance of ROS, ROE, and ROA has the same and higher returns. Hou et al. (2014) reveal that a strong relationship between the size factor, as measured by ROE on excess return and the investment factor (ROE) and evaluated by the Sharpe ratio, has a high correlation. Furthermore, Barka and Hamza (2019) tested the profitability variable by measuring ROE, divided into three groups (low, middle, and high), and showed a positive and significant coefficient on investment factors, as evidenced in portfolios with positive exposure to stocks.

Research by Singhal et al. (2016) shows that the annual portfolio, based on the q-ratio, displays a relationship between the company's operating performance and a preferred future investment strategy. In addition, Baghdadabad (2012) has also analyzed the mean absolute deviation (MAD) linear programming model. He discovered that Treynor, Sharpe, Jensen alpha, M2, information ratio (IR), MSR, and FPI are essential determinants for evaluating that fund performance and improved portfolio performance have a close correlation. Lastly, a study by Suryani and Herianti (2015) concluded that there is no significant difference from the Sharpe, Treynor, and Jensen ratios or that each ratio consistently produces the same ranking.

3. METHOD

The characteristic of this research is descriptive, with a positivist paradigm and a deductive approach to theory. The research methodology is quantitative with data strategies categorized in archival and documentary research. This study uses a group perspective as a unit of analysis, with the level of involvement of the researcher without intervening in the data and the research background in the form of a non-contrived setting. The research data is in the form of panel data, which is a combination of cross-sectional and time series models. This data analyzed for this research is the secondary data in the LQ45 Index stock list sourced from www.idx.co.id, the financial statements of the company as the stock issuers from www.idnfinancials.com, the closing price of

stock prices from id.investing.com and finance.yahoo.com, as well as the interest rate as the risk-free rate sourced from www.bi.go.id. The research population is all issuers registered in the LQ45 Index. The sampling technique used is purposive sampling to find the issuers listed consistently in the LQ45 Index during 2015-2019 . We used that year to avoid abnormal returns during covid year on 2020-2022 , and resulting in 28 issuers as the selected sample.

Data analysis technique:

1. Initial Calculation
   a. The collection of the data on daily closing prices of LQ45, 28 issuers, and IDX Composite or Jakarta Stock Exchange Composite Index (JKSE).
   b. The calculation of return on daily closing price data (Elton et al., 2013):

$$R_i = \frac{Y_i - P_i}{P_i}$$

   R_i : stock return
   Y_i : latest stock price
   P_i : previous stock price

   c. The calculation of the expected return of the stock (Elton et al., 2013):

$$\bar{R}_i = \frac{\sum_{j=1}^{M} R_{ij}}{M}$$

   $\bar{R}_i$: expected return of securities-i
   R_{ij} : return number-i in period-j
   M : the same probability of return (number of periods)

   d. The calculation of variance and standard deviation of stocks (Elton et al., 2013):

$$\sigma_i^2 = \frac{\sum_{j=1}^{M}(R_{ij} - \bar{R}_i)^2}{M}$$

   σ_i^2 : return variance
   R_{ij} : return number-i in period-j
   $\bar{R}_i$: expected return of securities-i
   M : the same probability of return (number of periods)

$$SD = \sqrt{\frac{\sum_{j=1}^{M}(R_{ij} - \bar{R}_i)^2}{M}}$$

   SD : standard deviation
   R_{ij} : return number-i in period-j
   $\bar{R}_i$: expected return of securities-i
   M : the same probability of return (number of periods)

   e. Beta calculation (Elton et al., 2013) and alpha calculation of stocks (Elton et al., 2013):

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

   β_i : beta of stocks
   σ_{im} : return variance between securities number-i with market return variance
   σ_m^2 : market return variance

$$\alpha_i = \bar{R}_{it} - \beta_i \times \bar{R}_{im}$$

   α_i : alpha of securities
   $\bar{R}_{it}$: expected return of stock investment-i
   β_i : beta of securities number-i
   $\bar{R}_{im}$: expected market return

   f. The calculation of stock unsystematic risk in the form of residual error variance (Bodie et al., 2018):

$$\sigma_{(ei)}^2 = \sigma_i^2 - \beta_i^2 \times \sigma_m^2$$

   $\sigma_{(ei)}^2$: residual error variance (unsystematic risk)
   σ_i^2 : return variance of securities
   β_i^2 : beta of securities
   σ_m^2 : market return variance

   g. The calculation of the risk-free rate value
   The risk-free rate is the interest rate issued by Bank Indonesia, called the BI Rate, for portfolio risk adjustment. On 19 August 2016, the BI Rate was replaced with the BI 7-day (Reverse) Repo Rate. The interest rate is calculated according to active and passive management, which is then divided into daily values (https://www.bi.go.id).

2. ROE ratio calculation (Bodie et al., 2018) and Tobin's Q ratio calculation (Hendrawan dan Salim, 2017):

$$ROE = \frac{Net\ Income}{Shareholder's\ Equity}$$

$$Tobin's\ Q = \frac{Market\ Price\ +\ Total\ Liabilities}{Book\ Value\ Equity\ +\ Total\ Liabilities}$$

$$Market\ Price = Stock\ Price \times The\ Number\ of\ Shares\ Outstanding$$

The results of each ratio calculation are then sorted and ranked into High-ROE, Medium-ROE, Low-ROE, High-Tobin's Q, Medium-Tobin's Q, and Low-Tobin's Q. High portfolio composition is a company with a ranking ratio of 1-9, medium for rank 10-19, and low issuers with rank 20-28. This grouping is supported by research by Pasaribu (2009), Hou et al. (2014), Hidayat and Hendrawan (2017), Hendrawan and Salim (2017), and Barka and Hamza (2019).

3. The design of the active and passive portfolio management
   Active portfolio managements are designed based on the ranking of the ROE and Tobin's Q ratio values both for the annual and semi-annual, with the intention that the composition of the portfolio can change according to variances in the ratio value that affect the ranking. Passive management uses a Buy and Hold strategy.
4. The design of a weighted portfolio using a balanced proportion of the value of stock market capitalization (Copeland et al., 2014):

$$W_i = \frac{\text{market value of individual assets}}{\text{market value of all assets}}$$

5. The calculation of the expected return and portfolio risk, by calculating the beta and alpha portfolios beforehand (Elton et al., 2013).

$$\beta_p = \sum_{i=1}^{N} X_i \times \beta_i$$

β_p : portfolio beta
X_i : proportion of securities number-i
β_i : beta of stocks

$$\alpha_p = \sum_{i=1}^{N} X_i \times \alpha_i$$

α_p : portfolio alpha
X_i : proportion of securities number -i
α_i : alpha of securities

$$\bar{R}_p = \alpha_p + \beta_p \times \bar{R}_m$$

$\bar{R}_p$: expected return portfolio
α_p : portfolio alpha value
β_p : portfolio beta value
$\bar{R}_m$: expected market return

$$\sigma_p{}^2 = \beta_p{}^2 \times \sigma_m{}^2 + \left(\sum_{i=1}^{n} X_i \times \sigma_{ei}\right)^2$$

$\sigma_p{}^2$: portfolio variance or risk
$\beta_p{}^2 \times \sigma_m{}^2$: market-related risk (systematic risk)
$(X_i \times \sigma_{ei})$: weighted average of the unique risk of each security

6. The evaluation of portfolio performance using the Sharpe, Treynor, and Jensen ratios
   The Sharpe ratio is calculated by dividing the portfolio risk premium by the standard deviation (total risk). Meanwhile, the measurement of the Treynor ratio is by associating the level of portfolio return to the amount of systematic risk (beta). Lastly, the Jensen ratio aims to determine whether the portfolio's average return is above or below the market (security market line) with other considerations such as the average market return and portfolio beta (Bodie et al., 2018):

$$\hat{S}_p = \frac{\bar{r}_p - \bar{r}_f}{\sigma_p}$$

$$\hat{T}_p = \frac{\bar{r}_p - \bar{r}_f}{\beta_p}$$

$$\hat{J}_p = \bar{r}_p - \left[\bar{r}_f + \beta_p(\bar{r}_M - \bar{r}_f)\right]$$

$\hat{S}_p$: Sharpe ratio portfolio

$\hat{T}_p$: Treynor ratio portfolio
$\hat{J}_p$: Jensen's Portfolio Index
$\bar{r}_p$: the average portfolio returns during the observation period
$\bar{r}_f$: the average risk-free rate of return during the observation period
σ_p : standard deviation of portfolio returns during the observation period
β_p : Portfolio beta
$\overline{r_M}$: *expected market return* (JKSE)

4. RESULTS AND DISCUSSION

4.1. Results

Table 4.1 compares the expected return value with the passive portfolio management risk with an average total return of 19.97752% and a risk of 18.23081%. Low-Tobin's Q obtained the highest expected return but has a risk slightly above the average. Medium-ROE is a portfolio with a high expected return with a risk below the average, followed by the Low-ROE portfolio in the second place. Medium-Tobin's Q, High-Tobin's Q, and High-ROE portfolios score poorly based on return or risk.

Table 4.1 The Comparison of Expected Return with Passive Portfolio Risk

Portfolio	Total Return	Ranking	Total Risk	Ranking
Low-Tobin's Q	45,58230%	1	18,45443%	5
Medium-ROE	39,73703%	2	17,45122%	4
Low-ROE	33,18036%	3	17,04947%	2
JKSE	23,26952%	4	9,18740%	1
Medium-Tobin's Q	11,59520%	5	19,15343%	6
High-Tobin's Q	-3,48282%	6	17,34222%	3
High-ROE	-6,74694%	7	19,93407%	7
Average	19,97752%		18,23081%	

Source: Data processed by the author

Legends:
: The total portfolio returns above the average passive portfolio return
: The total portfolio risk below the average passive portfolio risk
: JKSE as a market value comparison

Figure 4.1 presents the optimal portfolio of passive management on a Medium-ROE portfolio with a total return of 39.73703% and a risk of 17.45122%. An efficient portfolio was obtained by Low-ROE. If investors prefer a bit of a challenge, Low-Tobin's Q portfolio can be an option considering it has the highest return of all.

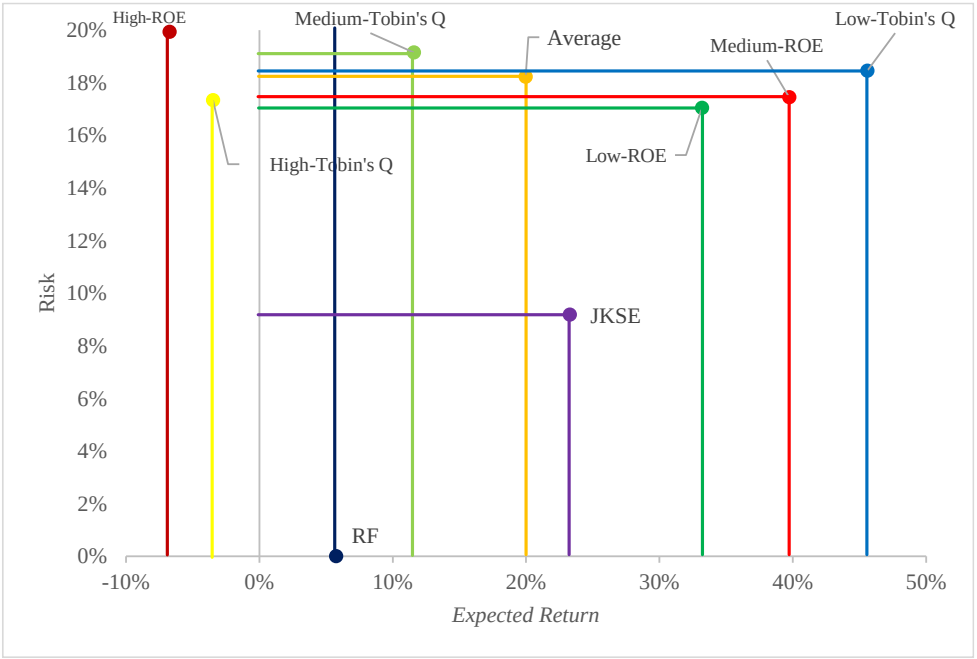

Figure 4.1 Expected Return/Passive Portfolio Risk Chart
Source: Data processed by the author

Table 4.2 shows the comparison of the expected return value and the risk of the annual active portfolio management with an average total return of 18.37225% and a risk of 18.67135%. The highest expected return was obtained by Medium-Tobin's Q portfolio with a risk below the average. Low-ROE and Medium-ROE returns were above the average, but the risk was below the average. Low-Tobin's Q, High-Tobin's Q, and High-ROE risks score were above the average.

Table 4.2 The Comparison of Expected Return and Annual Active Portfolio Risk

Portfolio	Total Return	Ranking	Total Risk	Ranking
Medium-Tobin's Q	43,52011%	1	17,60943%	4
Low-ROE	40,45756%	2	19,54759%	6
Medium-ROE	25,77388%	3	19,23808%	5
JKSE	23,26952%	4	9,16230%	1
Low-Tobin's Q	11,93576%	5	23,03042%	7
High-ROE	-2,39667%	6	16,58964%	3
High-Tobin's Q	-9,05716%	7	16,01296%	2
Average	18,37225%		18,67135%	

Source: Data processed by the author

Legends:

: The total portfolio returns above the average passive portfolio return
: The total portfolio risk below the average passive portfolio risk
: JKSE as a market value comparison

Figure 4.2 illustrates the optimal annual active portfolio management in Medium-Tobin's Q portfolio, with a total return of 43.52011% and a risk of 17.60943%. The other five portfolios had low returns or risks.

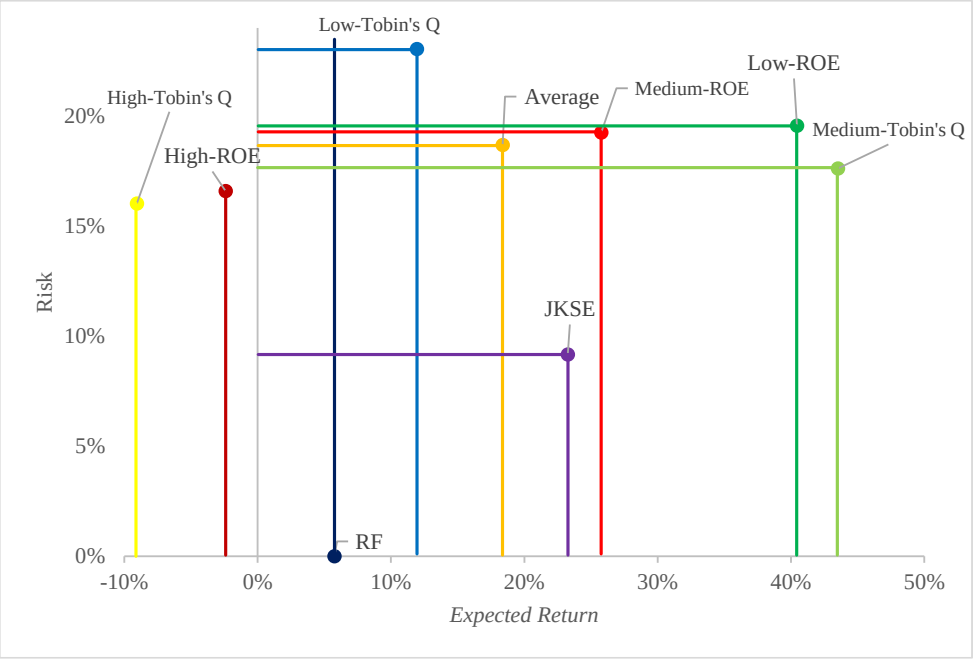

Figure 4.2 Expected Return/Annual Active Portfolio Risk Chart
Source: Data processed by the author

Table 4.3 compares the expected return value and the risk of the semi-annual active portfolio management with an average total return of 15.04342% and a risk of 19.16083%. Medium-Tobin's Q and Medium-ROE portfolios obtain above-average expected returns and below-average risks.

Table 4.3 The Comparison of Expected Return and Semi-annual Active Portfolio Risk

Portfolio	Total Return	Ranking	Total Risk	Ranking
Medium-Tobin's Q	40,52879%	1	17,60139%	4
Medium-ROE	34,61517%	2	18,99541%	5
Low-ROE	31,76833%	3	21,05190%	6

JKSE	23,26952%	4	9,15077%	1
Low-Tobin's Q	1,72044%	5	24,24613%	7
High-Tobin's Q	-3,29415%	6	15,75332%	2
High-ROE	-15,07804%	7	17,31681%	3
Average	15,04342%		19,16083%	

Source: Data processed by the author

Legends:

: The total portfolio returns above the average passive portfolio return

: The total portfolio risk below the average passive portfolio risk

: JKSE as a market value comparison

Figure 4.3 shows the optimal portfolio of the annual active management in Medium-Tobin's Q portfolio, with a total return of 40.52879% and a risk of 17.60139%. Medium-ROE is an efficient portfolio. The other four portfolios had low returns or risks.

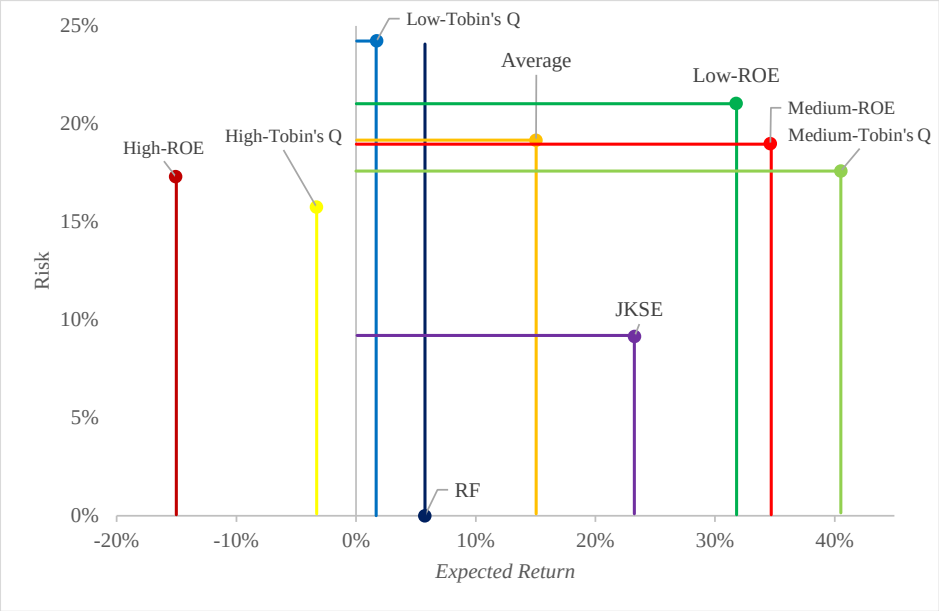

Figure 4.3 Expected Return/Semi-annual Active Portfolio Risk Chart
Source: Data processed by the author

Based on the six portfolio compositions used in this study, the rank order starting from the best portfolio management is passive management, annual active management, and lastly, semi-annual active management. If each composition is viewed separately, Medium-Tobin's Q portfolio, which is an active annual portfolio management, is the right recommendation for investors to choose. Table 4.4 shows the average total of Sharpe ratio which was 0.06683%, Treynor ratio 0.00027%, and Jensen ratio -0.00371% based on the passive portfolio management. The performance evaluation of the Sharpe, Treynor, and Jensen ratios on Low-Tobin's Q, Medium-ROE, and Low-ROE portfolios score above the average and JKSE, but the other three portfolios were not.

Table 4.4 The Comparison of Passive Portfolio Management Performance

Portfolio	Sharpe		Treynor		Jensen	
	Score	Ranking	Score	Ranking	Score	Ranking
Low-Tobin's Q	0,98564%	1	0,01607%	1	0,01731%	1
Medium-ROE	0,87095%	2	0,01265%	2	0,01254%	2
Low-ROE	0,49392%	3	0,00888%	3	0,00729%	3
JKSE	0,36551%	4	0,00318%	4	0,00000%	4
Medium-Tobin's Q	-0,30147%	5	-0,00483%	5	-0,01069%	5
High-Tobin's Q	-0,80537%	6	-0,01478%	6	-0,02294%	6
High-ROE	-0,84271%	7	-0,01639%	7	-0,02575%	7
Average	0,06683%		0,00027%		-0,00371%	

Source: Data processed by the author

Legends:
: Score ratio is greater than the average total ratio
: JKSE as a market value comparison

Table 4.5 presents the average total of Sharpe ratio which was 2.04275%, Treynor ratio 0.00091%, and Jensen ratio -0.02107% based on the annual active portfolio management. The performance evaluation of the Sharpe, Treynor, and Jensen ratios on Medium-Tobin's Q, Low-ROE, and Medium-ROE portfolios score above the average.

Table 4.5 The Comparison of Annual Active Portfolio Management Performance

Portfolio	Sharpe		Treynor		Jensen	
	Score	Ranking	Score	Ranking	Score	Ranking
JKSE	8,49586%	1	0,01664%	4	0,00000%	4
Medium-Tobin's Q	8,42227%	2	0,09296%	1	0,09460%	1
Low-ROE	4,63981%	3	0,05596%	2	0,06523%	2
Medium-ROE	3,50866%	4	0,02431%	3	0,00967%	3
Low-Tobin's Q	3,13708%	5	-0,00552%	5	-0,03718%	5
High-ROE	-2,01332%	6	-0,06832%	6	-0,10859%	6
High-Tobin's Q	-5,43801%	7	-0,09396%	7	-0,15013%	7
Average	2,04275%		0,00091%		-0,02107%	

Source: Data processed by the author

Legends:
: Score ratio is greater than the average total ratio
: JKSE as a market value comparison

Table 4.6 exhibits the average total of Sharpe ratio which was 4.88031%, Treynor ratio -0.01489%, and Jensen ratio -0.07684% based on the semi-annual active portfolio management. The performance evaluation of the Sharpe, Treynor, and Jensen ratios on Medium-Tobin's Q and Medium-ROE portfolios score above the average.

Table 4.6 The Comparison of Semi-annual Active Portfolio Management Performance

Portfolio	Sharpe		Treynor		Jensen	
	Score	Ranking	Score	Ranking	Score	Ranking
JKSE	15,65676%	1	-0,02244%	4	0,00000%	4
Medium-Tobin's Q	14,65264%	2	0,15651%	1	0,15836%	1
Medium-ROE	12,24269%	3	0,11642%	2	0,10670%	2
Low-Tobin's Q	6,44554%	4	-0,04990%	5	-0,16079%	5
Low-ROE	4,39275%	5	0,01298%	3	0,01644%	3
High-ROE	-3,83945%	6	-0,19867%	7	-0,32635%	7
High-Tobin's Q	-4,61229%	7	-0,12671%	6	-0,25540%	6
Average	4,88031%		-0,01489%		-0,07684%	

Source: Data processed by the author

Legends:
: Score ratio is greater than the average total ratio
: JKSE as a market value comparison

Table 4.7 presents the rankings of the various portfolio performance evaluation results. The order of the average total portfolio performance measurement starting from the highest is the Sharpe ratio, Treynor ratio, and Jensen ratio. The calculation results of the Sharpe ratio with the highest performance value are shown in the semi-annual active portfolio. The highest Treynor ratio performance was obtained by the annual active portfolio. Meanwhile, the Jensen ratio for the management of three portfolios had a negative value but obtained the highest value in the passive portfolio.

Table 4.7 Portfolio Management Performance Ranking

Manajemen	Total Sharpe	Ranking	Total Treynor	Ranking	Total Jensen	Ranking
Per-Semester	4,88031%	1	-0,01489%	3	-0,07684%	3
Per-Year	2,04275%	2	0,00091%	1	-0,02107%	2
Pasif	0,06683%	3	0,00027%	2	-0,00371%	1

Source: Data processed by the author

4.2 DISCUSSION

A portfolio formed based on six compositions of ROE and Tobin's Q ratios offers varied values. Most of the compositions score well for the expected return, risk, and performance evaluation of Sharpe, Treynor, and Jensen ratios. The varied results contradict the research conducted by Pasaribu (2009), Hidayat and Hendrawan (2017), Hendrawan and Salim (2017), and Hendrawan et al. (2020).

This research supports the findings of Markowitz (1952) and Elton et al. (2013, 177), which state that the composition combination is the biggest challenge and illustrates the complexity in the portfolio. Changes in the strategy or condition of the company, as illustrated by the ROE and Tobin's Q ratios, are also found in the return and risk portfolio, as investigated by Allaire and Dauphin (2015) and Elton et al. (2013, 423). In contrast to the research conducted by Pham (2018), the composition of ROE is more capable of providing higher returns than the Tobin's Q composition. This research also shows varied results of the ROE portfolio, in contrast to Barka and Hamza (2019), who obtain a positive exposure from all three ROE groups (low, middle, and high). The Tobin's Q ratio produces an optimal portfolio on Medium-Tobin's Q both for the annual and semi-annual active management. This finding is in line with the results of Hendrawan and Salim (2017). However, it is different from the findings of Hendrawan et al. (2020), which produce an optimal portfolio on Low-Tobin's Q. This finding is also in contrast to the findings of Singhal et al. (2016), which reveal superior results on High-Tobin's Q over the long term.

The optimal portfolio is obtained by the composition of Medium-Tobin's Q in annual active management, semi-annual active management, and Medium-ROE passive management portfolios. However, if calculated from the average and ranked, the portfolio's composition that reveals the best results is the passive portfolio, the active annual portfolio, and lastly, the semi-annual active portfolio. This contradicts the research results of Stotz (2005) and Zabiulla (2014), which declare that an active portfolio can provide higher returns. The difference found in return also disagrees with the findings of Pace et al. (2016), which state that a passive portfolio is not better than an active portfolio, and vice versa. Additionally, this finding is also opposed to the results of Hidayat and Hendrawan (2017), which find that the best portfolios are sequentially obtained by semi-annual, passive, and, lastly, active annual portfolio. The differences can also be seen in the analysis conducted by Hendrawan and Salim (2017) and Hendrawan et al. (2020), which states that the best portfolios are obtained by semi-annual, annual, and passive active management.

However, this study agrees with the research of Pasaribu (2009), Baghdadabad (2012), Shaikh et al. (2016), Hidayat and Hendrawan (2017), Hendrawan and Salim (2017), who found that the highest-ranking of portfolio performance is obtained by the ratios of Sharpe, Treynor, and Jensen. This result is different from the results of the analysis of Suryani and Herianti (2015), which state that nothing is too different from the results of the three portfolio performance ratios. Besides that, Hendrawan et al. (2020) find that the second superior performance was the Jensen's Index. Finally, the results of this study are also different from the findings of Hou et al. (2014), which concluded that the Sharpe ROE ratio resulted in a high value.

5. CONCLUSION

This research shows that that using an active strategy shows the highest average total return of 19.97% with a risk of 18.23%, This research found that the composition combination is the biggest challenge and illustrates the complexity in the portfolio. This research also shows varied results of the ROE portfolio, in contrast to Barka and Hamza (2019), who obtain a positive exposure from all three ROE groups (low, middle, and high). The Tobin's Q ratio produces an optimal portfolio on Medium-Tobin's Q both for the annual and semi-annual active management. This finding is in line with the results of Hendrawan and Salim (2017). However, it is different from the findings of Hendrawan et al. (2020), which produce an optimal portfolio on Low-Tobin's Q. This finding is also in contrast to the findings of Singhal et al. (2016), which reveal superior results on High-Tobin's Q over the long term.

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Finally this study agrees with the research of Pasaribu (2009), Baghdadabad (2012), Shaikh et al. (2016), Hidayat and Hendrawan (2017), Hendrawan and Salim (2017), and different from the results of the analysis of Suryani and Herianti (2015), which state that nothing is too different from the results of the three portfolio performance ratios. Besides that, Hendrawan et al. (2020) find that the

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REFERENCES

1) Allaire, Y., dan Dauphin, F. (2015). *The Game of 'Activist' Hedgefunds: Cuibono?*. *International Journal of Disclosure and Governance*, 13(4), 279–308. doi:10.1057/jdg.2015.18;
2) Baghdadabad, M.R.T. (2012). *An Empirical Analysis of Funds' Alternative Measures in the Mean Absolute Deviation (MAD) Framework*. *International Journal of Emerging Markets*, 10(4), 726–746. http://dx.doi.org/10.1108/IJoEM-12-2011-0112
3) Bank Indonesia. (n.d.). BI 7-day (Reverse) Repo Rate. [online]. Retrieved March 25, 2020 from, https://www.bi.go.id/id/moneter/bi-7day-RR/data/Contents/Default.aspx
4) Barka, Z., dan Hamza, T. (2019). *The Effect of Large Controlling Shareholders on Equity Prices in France: Monitoring or Entrenchment?*. *Journal of Management and Governance*, 24(3), 769-798. https://doi.org/10.1007/s10997-019-09484-y
5) Bodie, Z., Kane, A., dan Marcus, A, J. (2018). *Investments* (11th ed.). New York: McGraw-Hill Education
6) Bursa Efek Indonesia. (n.d.). *Indeks Saham*. [online]. Retrieved February 15, 2020 from, https://www.idx.co.id/data-pasar/data-saham/indeks-saham/
7) Copeland, T, E., Weston, J, F., dan Shastri, K. (2014). *Financial Theory and Corporate Policy* (4th ed.). Edinburgh Gate, Harlow: Pearson Education Limited
8) da Cunha, J, A., dan Seetharam, Y. (2018). *The Long Run Performance of Secondary Equity Offerings on the Johannesburg Stock Exchange*. *International Journal of Emerging Markets*, 13(5), 1211-1232. https://doi.org/10.1108/IJoEM-02-2017-0042
9) Elton, E, J., Gruber, M, J., Brown, S, J., dan Goetzmann, W, N. (2013). *Modern Portfolio Theory and Investment Analysis* (9th ed.). Hoboken, New Jersey: John Wiley & Sons
10) Feng, X., dan Chan, K, C. (2018). *Mutual Funds' Selective Participation and Subsequent Performance of Seasoned Equity Offering*. *Empirical Economics*, 56(6), 1797-1822. https://doi.org/10.1007/s00181-018-1420-0
11) Hendrawan, R., dan Salim, D, F. (2017). *Optimizing Active and Passive Stocks Portfolio Formed Tobin's Q and Price Earning Ratio Model Stocks on Kompas Index-100 Period 2012-2017*. *International Journal of Applied Business and Economic Research*, 15(26), 625-641.
12) Hendrawan, R., Fadhyla, N, R., dan Aminah, W. (2020). *Portfolio selection and performance using active and passive strategies (Assessing SRI-KEHATI index in 2013-2018)*. *Jurnal Siasat Bisnis*, 24(2), 199-212. DOI: 10.20885/jsb.vol24.iss2.art9
13) Hidayat, F., dan Hendrawan, R. (2017). *Stock Portfolio Analysis: Active and Passive Strategies Formed with Financial Indicators*. *International Journal of Economic Perspectives*, 11(3), 315-326. (ISSN 1307-1637)
14) Hou, K., Xue, C., dan Zhang, L. (2014). *Digesting Anomalies: An Investment Approach*. *The Society for Financial Studies*, The Review of Financial Studies, 28(3), 650-705. doi:10.1093/rfs/hhu068
15) Investing.com. (n.d.). *Jakarta Stock Exchange LQ45* (JKLQ45). [online]. Retrieved February 14, 2020 from, https://id.investing.com/indices/jakarta-lq45
16) Markowitz, H. (1952). *Portfolio Selection*. *The Journal of Finance*, 7(1), 77-91. http://www.jstor.org/stable/2975974
17) Otoritas Jasa Keuangan. (n.d.). *Statistik Pasar Modal*. [online]. Retrieved February 15, 2020 from, https://www.ojk.go.id/id/kanal/pasar-modal/data-dan-statistik/statistik-pasar-modal/Default.aspx
18) Pace, D., Hili, J., dan Grima, S. (2016). *Active Versus Passive Investing: An Empirical Study On The Us And European Mutual Funds And Etfs*. *Contemporary Studies in Economic and Financial Analysis*, 97, 1-35. doi:10.1108/S1569-375920160000097006
19) Pasaribu, R. (2009). *Market Performance and Accounting Information as the Reference of Stocks Portfolio Formation in Indonesian Stock Exchange*. *Journal of Economics, and Business*, 3(3), 203-223.
20) Pham, T, A, T. (2018). *Industry Concentration, Firm Efficiency and Average Stock Returns: Evidence from Australi*. *Asia-Pacific Finansial Markets*, 25(3), 221-247. https://doi.org/10.1007/s10690-018-9246-5
21) Rahman, M., dan Mustafa, M. (2017). *Dynamic Influences of Tobin's Q and CEO Compensation on US Stocks*. *Journal of Financial Economic Policy*, 10(1), 2-16. https://doi.org/10.1108/JFEP-03-2017-0017
22) Shaikh, S, A., Ismail, M, A., Ismail, A, G., Shahimi, S., dan Shafiai, M, H, M. (2016). *Comparative Analysis of Syari'ah Compliant Portfolio: Evidence From Pakistan*. *Journal of Islamic Accounting and Business Research*, 10(3), 466-487. https://doi.org/10.1108/JIABR-10-2016-0121
23) Singhal, R., Parkash, M., dan Fu, L. (2016). *Tobin's q Ratio and Firm Performance*. *International Research Journal of Applied Finance*, 7(4), 1-10. DOI: 10.0704/article-2

24) Stotz, O. (2005). *Active Portfolio Management, Implied Expected Returns, and Analyst Optimism*. *Finansial Markets and Portfolio Management*, 19(3), 261-275. https://doi.org/10.1007/s11408-005-4694-0
25) Suryani, H., dan Herianti, E. (2015). *The Analysis of Risk Adjusted of Return Portfolio Performance Share for LQ-45 Index in Indonesia Stock Exchange in 2010-2014 Periods*. *Procedia - Social and Behavioral Sciences*, 211(2015), 634–643. doi: 10.1016/j.sbspro.2015.11.087
26) Yahoo Finance. (n.d.). *LQ45 Indeks* (^JKLQ45). [online]. Retrieved February 15, 2020 from, https://finance.yahoo.com/quote/%5EJKLQ45?p=^JKLQ45&.tsrc=fin-srch
27) Zabiulla. (2014). *Portfolio Strategies of Fund Managers in the Indian Capital Market*. *IIMB Management Review*, 26(1), 28-58. http://dx.doi.org/10.1016/j.iimb.2013.12.003