Jurnal Siasat Bisnis Vol.24 No. 2, 2020, 199-212

Jurnal SIASAT BISNIS

Journal homepage: https://www.jurnal.uii.ac.id/jsb

Portfolio selection and performance using active and passive strategies (Assessing SRI-KEHATI index in 2013-2018)

Riko Hendrawan*, Nurul Rachma Fadhyla, Wiwin Aminah

Telkom University, Bandung, Indonesia
*Corresponding author: riko_hendrawan@yahoo.com

Abstract

This purpose of this study is to examine the simulation results of optimal stock portfolio establishment with active and passive strategy using Tobin's Qand PBV ratio approach in Sri Kehati Index. We used data from the annual financial reports in 6years2013-2018, and each period, the portfolio was constructed in six fragments; High Tobin's Q, Medium Tobin's Q, Low Tobin's Q, High PBV, Medium PBV and Low PBV. We used Sharpe, Treynor, and Jensen method to measure the portfolio performance and we adjusted for active and passive portfolio strategy and evaluated in each respective period. Finding from this research shows that on passive strategy, the total average of accumulated return is 78.3576%. The low Tobin's Q portfolio is followed by low PBV, and high PBV has a return value above the total average and above the IDX Composite. While the total average of the accumulated risks in the passive strategy is 23.4193%. Furthermore based on the results of the performance comparison between return and risks from the portfolio and IDX Composite as a market, in general, both are on passive and active strategies. The results also show that the low Tobin's Q portfolio is consistently able to provide the highest return value, although the low Tobin's Q portfolio consistently provides the highest risk both on passive and active strategies; thus, there is a consistently between the results of research and the theory of high-risk, high return. Meanwhile the high PBV portfolio, in general, is consistently able to provide a high return, and risk values are consistently at the lowest level compared to other portfolios. The result shows that it has reached the purpose of establishing a stock portfolio

Keywords: Portfolios, Tobin's Q, price to book value

JEL Classification Code: G11 DOI: 10.20885/jsb.vol24.iss2.art9

Introduction

Investment is a form of fund management by placing it on allocations that are expected to provide future benefits. One of the interesting investments is investing funds in the capital market. Return is a profit obtained by investors from the investment policy results that they did, while the forms of deviations from the expected returns are risks. Therefore, in making the investments including stock investments, the investors face some conditions about a unidirectional and linear relationship between risk and return expectations.

The way to reduce investment risk is by diversifying the portfolios. A stock portfolio is an investment consisting of various company stocks that is different, where if one stock price decreases, another stock is expected to rise, then the investment will not suffer the losses. In conducting a stock portfolio, there are two strategies, namely: passive strategies and active strategies(Tandelilin, 2014)

In making a stock investment, fundamental analysis can be used to analyze company performance which issued stock, i.e. seeing the history of financial reports and information regarding the sustainability of a company in the future(Hendrawan and Salim, 2017). Tobin's Q is one of the financial performance ratios in fundamental analysis. Damodaran (2012) states that Tobin's Q is a ratio from the market value of company assets which is estimated by dividing market value from company assets with the replacement value of the company's assets. In addition, the Price to Book Value ratio can be used to see the financial performance of a company. Price to Book Value as a

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

measurement analysis is relatively stable in comparing market prices and in assessing whether a company is classified as overvaluation or undervaluation (Damodaran, 2002).

Hidayat & Hendrawan (2017) who examined the LQ45 Index for the period 2011 to 2016 found that there was consistency in portfolios that were formed based on financial ratios of PER, PBV, and PEG where portfolios with low PER values, low PEGs, and medium PEGs consistently gave returns above the market price. In comparison, research conducted by Hendrawan & Salim (2017) onthe Kompas 100 Index forthe 2012-2017 period found that there was consistency in portfolios that were formed basedon PER and Tobin's Q financial ratios where Tobin's Q medium had a return value above the market with relatively low risk.

Seeing the difference in results found by previous studies, and based on that background. This study, will examine the simulation results of optimal stock portfolio establishment with active and passive strategy using Tobin's Q and PBV ratio approach in Sri Kehati Index. We used data from the annual financial reports in 6years from 2013-2018 , and eachperiod, the portfolio was constructed in six fragments; HighTobin's Q, Medium Tobin's Q, Low Tobin's Q,High PBV, Medium PBV and Low PBV. We usedSharpe, Treynor, and Jensen methode to measure the portfolio performance and weadjusted for active and passive portfolio strategy and evaluated in each respectiveperiod.

Literature Review

Portfolio Theory

A portfolio is a combination or a group of assets, both in the form of real assets and financial assets owned by investors. The essence of portfolio formation is to reduce risk by diversifying by allocating funds to various investment alternatives that are negatively correlated. Tandelilin (2014) statedthat portfolio management recognizes the concept of risk reduction as a result of adding securities to the portfolio. The concept states that if there is a continuous addition of types of securities to the portfolio, the risk reduction benefits will be even greater to the point where the reduction benefits begin to decrease. This means that the more amount put into the portfolio, the greater the risk reduction benefit.

Portfolio theory is an investment approach initiated by Markowitz (1952), Portfolio theory deals with investor estimates of risk and return expectations, which are measured statistically to make investment portfolio. Markowitz describes how to combine assets into efficient portfolio diversification. In this portfolio, risk can be reduced by increasing the number of asset types in the portfolio and the expected level-return can rise if the investment there is a difference in the price movement of the combined assets. In practice, investors in securities often diversify their investments by combining various securities, in other words they form a portfolio.

A variety of previous studies supports the use of financial ratios in the formation of portfolios. Fundamental analysis, such as financial analysis, can be used to analyze companies that issue shares. The research conducted by Hidayat and Hendrawan (2017) on the LQ45 Index for the 200-2016 period and Hendrawan and Salim (2017)) on the Kompas100 Index for the 2012-2017 period state that there is a consistency in the portfolio that is formed based on financial ratios (PER, Tobin's Q, PBV & PEG) which can produce an average return above the market returns. It shows that the investors can obtain the excess return based on that ratio.

While the use of active and passive portfolio strategies is supported by Zabiulla (2014) on the India Capital Market, stating that active portfolio strategies can provide a more maximal rate of return than passive portfolio strategies. However, Pace, Hili and Grima (2016) on the US & Europe Mutual Funds state that there is nothing superior between active and passive portfolio strategies. The passive strategies usually include the actions of investors who are not actively seeking information, buying, and selling stocks that can produce abnormal returns (Tandelilin, 2014:329). While the active strategy usually will include the investor action actively in selecting, buying and selling stocks, seeking information, following the time and stock price movements and other active actions to produce abnormal returns (Tandelilin, 2014: 330- 331).

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Previous studies also support the use of Tobin's Q and Price to Book Value financial ratios in this study. The research by Wolfe and Sauaia (2003), Kasmawati (2016) and Sum (2014) state that investor canuse Tobin's Q ratio as a measure of the company's success, where company with Q values undervalued tend to have a change fee of company assets that are greater than the company market value. Tobin' Q is a financial measurement ratio which is estimated by dividing market value from company assets with a replacement value of company assets (Damodaran, 2012: 376). Accordingto Hendrawan &Salim (2017), Tobin's Q canbeused as an indicator to measure the value of a company, where the results of Q indicate the performance of management in managing each asset that theyhave. The formulasfromTobin's Q is (Hendrawan & Salim: 2017):

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

While the research by Shittu, Che and Zuaini (2016), Inezwari (2013), and Marangu K. & Jagongo A. (2014) state that there is a positive and significant relationship between Price to Book Value and stock prices. Price to Book Value (PBV) is a ratio that shows a comparison between the stock prices towards the book value of an equity (Damodaran, 2012: 358). The formula for Price to Book Value is:

$$Price\ to\ Book\ Value = \frac{Stock\ Price}{Book\ Value\ Per\ Share}$$

In addition, the use of portfolio performance evaluation is supported by previous research by Suryani and Herianti (2015) who obtained the Sharpe, Treynor, and Jensen methods in which the evaluation results are consistently producing the same ranking results. The Sharpe index calculated by comparing portfolio risk premium with portfolio risk, which stated with total risk (Halim, 2015: 70). While the Treynor Index is a measure of investment performance, which compares excess return to beta (Zubir, 2011: 257). The Jensen index is an index that shows the difference between the levels of actual return obtained by the portfolio with the level of expected return if the portfolio is in the capital market line (Tandelilin, 2014: 500).

Hasan and Ahsan (2016) investigate the abilility of fund manager to outguess Bangladesh's market. Using weekly data of 25 mutual fund for the period of may 2010 to April 2016. They tested both market timing and selection skill of the fund manager and used 6 measure; Sharpe ratio, average return, Information ratio, M square , Treynor ratio and Jensen's alpha.

They concluded that fund managers can not ability to outguess the market in Bangladesh. Robiyanto (2017) using the Adjusted Sharpe Index, Treynor Ratio, Sharpe Index, Sortino Ratio , Jensen Alpha and Adjusted Jensen Index are evaluating the performance of the stock price index on IDX. The stock price indices evaluated are the Composite Stock Price Index (CSPI), Jakarta Islamic Index (JII), LQ45 Index, Sectoral Index consisting of 10 sectoral stock price indices, Main Board Index (MBX), BISNIS-27 Index, PEFINDO25 Index, Kompas100 Index, SRI Kehati, and Development Board Index (DBX). Using closed data indices during january 2011 to July 2017 and the risk-free interest rate represented by the Bank of Indonesia . The results of this study indicate that only 3 stock price indexes have better performance than risk-free investment instruments and the stock market when viewed from the Adjusted Sharpe Index, Treynor Ratio, Sharpe Index, Adjusted Jensen Alpha Index and Jensen Alpha. Meanwhile, the stock price index of various industrial sectors has the best performance when viewed from the Sortino Ratio. Zulkafli, Ahmad,and Eky Ermal M.(2017) investigate Sri Kehati Index (SKI)'s performance against the Composite Stock Price Index (CSPI) as a market index, using the daily index price of each from 1 January 2009 to 31 December 2014. They used Treynor's Index, Jensen's Alpha Index, Adjusted Sharpe's Index (ASI), Sortino Ratio,the risk-adjusted return of Sharpe's Index, and Adjusted Jensen's Alpha Index (AJI),to test the performance of SKI and IHSG. Finding from their reserach shows that Treynor, Jensen's Alpha, Adjusted Jensen's Alpha and Sortino's performance exceeds the JCI as benchmark, except for sharpe's index and ajusted sharpe's index. However, there is a contradiction between Jensen's Alpha Index and Adjusted Sharpe's Index.

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Methods

This study used a quantitative research approach with the aim of descriptive, verification, and comparative research types. The data used in this study is secondary data obtained from their official website. The population in this study are all stock issuers listed in the SRI-KEHATI Index in the Indonesia Stock Exchange (IDX). The SRI-KEHATI index includes 25 stocks with excellent performance, sustainable businesses, an awareness of the environment, social and good corporate governance. The sample in this study uses a purposive sampling technique produced a sample of eighteen companies, selected based on two criteria: (1) Stocks that are consistently included in the SRI-KEHATI Index during 2013-2018. (2) Stocks with complete financial statement data for 2013-2018.

The reason why this study chose the period 2013-2018 because the return of the SRI-KEHATI Index in 2013-2018 experienced volatile conditions (fluctuations) with diverse returns and risks so that the formation of a portfolio can reduce the value of existing risks.

The data analysis technique used these following stages:

1. The initial calculation includes collecting the data on each stock's and IDX Composite (market) daily closing prices; then, the data processes into daily return data (Gumanti, 2017: 33).

$$R_i = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

R_i=Stock Returns
P_{it}= Stock price in period t
P_{it-1}= Stock price in period t-1
Calculating the value of expected returns (Husnan, 2015).

$$E(R_i) = \frac{\sum_{t=1}^{n} R_i}{N}$$

$E(R_i)$= Expected return of stock i
R_i = Return of i in period t
N= Number of observation periods
Perform risk calculations using the variance and standard deviation (Tandelilin, 2014: 55).

$$\sigma^2{}_j = \frac{\sum_{t=1}^{n}(R_{jt} - \bar{R}_j)^2}{(n-1)}$$

σ^2= Variance return
R_{jt}= Actual returns
$\bar{R}_j$= Average return
Perform calculations of Alpha (Husnan, 2015: 94)

$$\alpha_i = E(R_i) - \beta_i \,.\, E(R_m)$$

α_i = Alpha securities
$E(R_i)$= Expected return of stock investment i
β_i= Beta i securities
$E(R_m)$= Expected return of market
Perform calculations of Beta (Gumanti, 2017: 56).

$$\beta_i = \frac{Cov\,(R_i, R_m)}{\sigma^2{}_m}$$

β_i = Beta of an asset i
R_i= Return of i
R_m = Rate of return of the market portfolio

 © 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

$\sigma^2{}_m$= Market return variance.
Perform an unsystematic risk calculation in the company (Zubir, 2011: 99).

$$\sigma_{ei^2} = \sigma_{i^2} - \beta_{i^2} . \sigma_{m^2}$$

σ_{ei^2} = Variance of residual error
σ_{i^2} = Residual variance
β_{i^2} = Beta shares
σ_{m^2} = Market return variance

Set theRiskFree Rate valueusetheinterestrateissuedby Bank Indonesia, the BI Rate, which has beeneffectivelyreplacedbythe BI 7-day (Reverse) Repo Rate since August 19, 2016.

2. The establishment of a portfolio was based on Tobin's Q and Price to Book Value, where the results of Tobin's Q and Price to Book Value calculations were ranked then divided equally into three sections based on three categories, namely stocks with high, medium, and low ratio values. In this study, each category loaded six stocks because the number of samples were 18 companies. This calculation is supported by Hidayat & Hendrawan (2017) and Hendrawan & Salim's (2017) research.
3. The establishment of a portfolio was based on active and passive strategies. In this study, the active portfolio strategy allowed the process of changing stocks based on the change of Tobin's Q ratio and Price to Book Value, where changes were recorded annually and per semester. While the passive strategy used buy and hold strategy.
4. The determination of portfolio weighting which was conducted by using average weighting method where the value was appropriate with the market capitalization of each stock, using the following formula (Hidayat and Hendrawan, 2017):

$$W_i = \frac{Z_i}{\sum_{i=1}^{n} Z_j}$$

W_i = Security Proportion to i-
Z_i = Stock market capitalization i
$\sum Z_j$= Total stock market capitalization

5. The value of beta, alpha, and unsystematic risk that has been calculated in the initial calculation is then multiplied by the weighted value of each stock according to the value of its capitalization to produce the value of beta, alpha, and unsystematic risk portfolio.
6. The calculation of expected returns portfolio (Zubir, 2011: 106).

$$E(R_p) = \alpha_p + \beta_p \times E(R_m)$$

$E(R_p)$ = Expected return of portfolio
α_p = Alpha of portfolio
β_p = Beta of portfolio
$E(R_m)$ = Expected Return of Market
The calculation of risk portfolio (Zubir, 2011: 107):

$$\sigma_p{}^2 = \beta_p{}^2 . \sigma_m{}^2 + (\sum_{i=1}^{n} w_i . \sigma_{ei})^2$$

$\sigma_p{}^2$ = Portfolio variance / risk
$\beta_p{}^2 . \sigma_m{}^2$= Market-related risk (systematic risk)
$(w_i . \sigma_{ei})$ = The weighted average of the unique risks of each stock

7. The calculation of portfolio performance evaluation by using Sharpe, Treynor, and Jensen Indexes. The Sharpe index is calculated by comparing portfolio risk premium with portfolio risk,

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

which is stated with total risk. While the Treynor Index is a measure of investment performance which compares excess return to beta. The Jensen index is an index that shows the difference between the levels of actual return obtained by the portfolio with the level of expected return if the portfolio is in the capital market line (Tandelilin, 2014):
Sharpe index with the following formula:

$$\hat{S}_p = \frac{\bar{R}_p - \overline{RF}}{\sigma_{TR}}$$

Treynor Index with the following formula:

$$\hat{T}_p = \frac{\bar{R}_p - \overline{RF}}{\hat{\beta}_p}$$

Jensen index with the following formula:

$$\hat{J}_p = \bar{R}_p - \left[\overline{RF + (R_M} - \overline{RF})\hat{\beta}_p\right]$$

Description:
$\bar{R}_p$ = Average portfolio returns *p* during the observation period
$\overline{RF}$ = Average level of risk-free return during the observation period
$\hat{\beta}_p$ = *Beta* portfolio *p*
σ_{TR} = Standard deviation of portfolio returns p
R_M = Average of IDX Composite as a market return

Results and Discussion

Results

Table 1. Ranking Return and Risk of Passive Strategy

Passive Strategy	Accum. Return	Ranking	Accum. Risk	Ranking
Low Tobin's Q	107.92%	1	30.33%	7
Low PBV	91.05%	2	27.44%	6
High PBV	79.53%	3	17.59%	2
Medium Tobin's Q	69.37%	4	20.59%	4
Medium PBV	66.33%	5	24.66%	5
High Tobin's Q	55.93%	6	19.89%	3
IDX Composite	43.17%	7	14.09%	1
Total Average	**78.3576%**		**23.4193%**	

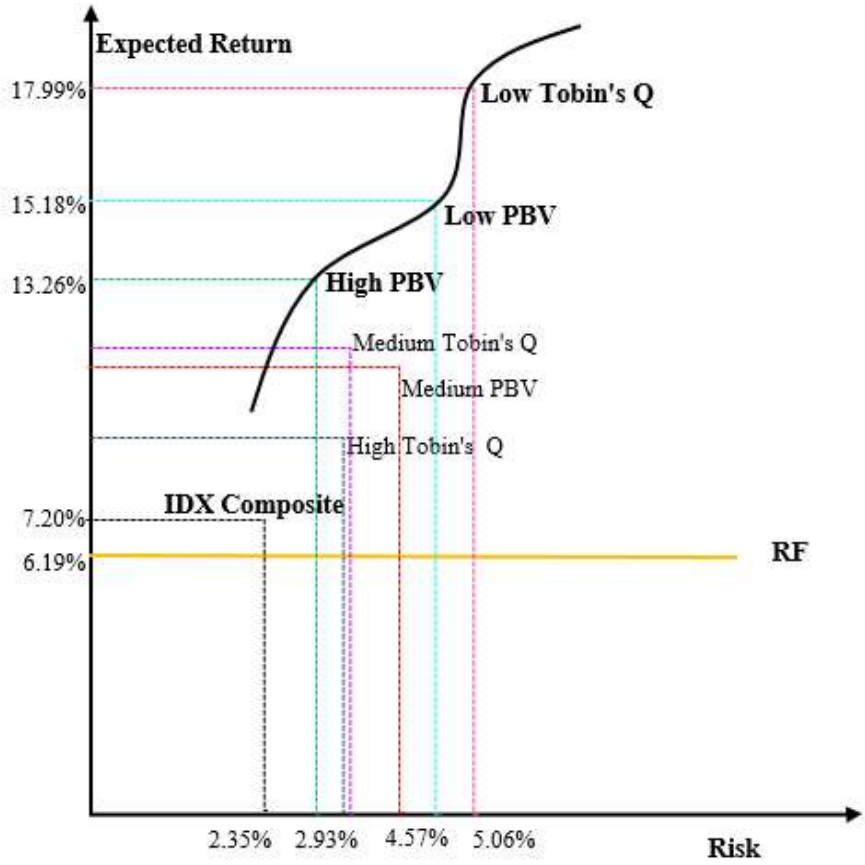
Source: Data processed by the author

Description:
- Portfolio return is higher than total average and IDX Composite
- Return and Risk of IDX Composite as a market
- Portfolio risk is higher than the total average and IDX Composite

Based on Table 1, on passive strategy, the total average of accumulated return is 78.3576%. The low Tobin's Q portfolio is followed by low PBV, and high PBV has a return value above the total average and above the IDX Composite. Accumulated return is the total value of the overall return during the 2013-2018 research year. While the total average of the accumulated risks in the passive strategy is 23.4193%. Accumulated risk is the total value of the overall risk during the 2013-2018 research year. The overall portfolio formed is riskier than the IDX Composite, but there are 3 portfolios with risk values below the total risk average, namely high PBV portfolio, high Tobin's Q, and medium Tobin's Q.

 © 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

From Figure 4, the low Tobin's Q, low PBV, and high PBV portfolios are efficient portfolios, because they can provide a high level of expected return at a certain level of risk or are able to provide a small risk at a certain level of return.



Source: Data processed by the author

Figure 4. Curve of Passive Strategy

From Table 2, the total average of accumulated return on the annual active strategy is 81.7836%. The low Tobin's Q portfolio is followed by high PBV, and medium Tobin's Q has a return value above the total average and above the IDX Composite. While the total average value of risk accumulation is 23.4551%. The overall portfolio formed is riskier than the IDX Composite as a market, but there are 3 portfolios with a risk value below the total risk average, namely: high PBV portfolio, height Tobin's Q, and medium Tobin's Q.

Table 2. Ranking Return and Risk of Annual Active Strategy

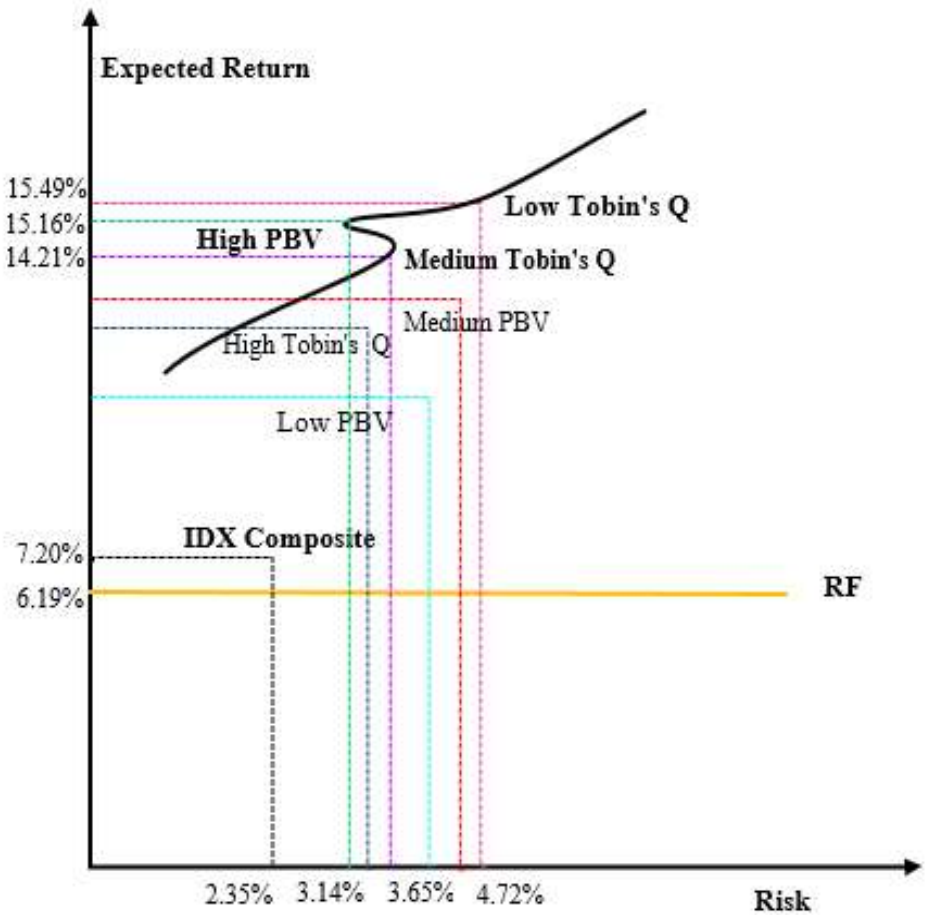
Annual Active Strategy	Accum. Return	Ranking	Accum. Risk	Ranking
Low Tobin's Q	92.92%	1	28.32%	7
High PBV	90.94%	2	18.85%	2
Medium Tobin's Q	85.29%	3	21.91%	4
Medium PBV	79.98%	4	26.89%	6
High Tobin's Q	75.78%	5	20.05%	3
Low PBV	65.80%	6	24.71%	5
IDX Composite	43.18%	7	14.10%	1
Total Average	**81.7836%**		**23.4551%**	

Source: Data processed by the author

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Description:
- Portfolio return is higher than total average and IDX Composite
- Return and Risk of IDX Composite as a market
- Portfolio risk is higher than the total average and IDX Composite

Figure 5 shows low Tobin's Q, high PBV, and medium Tobin's Q portfolios are efficient portfolios, because these portfolios can provide a high level of expected return at a certain level of risk or are able to provide a small risk at a certain level of return.



Source: Data processed by the author

Figure 5. Curve of Annual Active Strategy

Table 3. Return Ranking and Portfolio Risk of Semester Active Strategy

Semester Active Strategy	Accum. Return	Ranking	Accum. Risk	Ranking
Low Tobin's Q	92.60%	1	27.74%	7
High PBV	89.91%	2	19.29%	2
Medium Tobin's Q	83.48%	3	22.17%	4
Low PBV	76.12%	4	25.27%	5
High Tobin's Q	75.16%	5	20.09%	3
Medium PBV	71.74%	6	26.12%	6
IDX Composite	43.18%	7	14.12%	1
Total Average	**81.5018%**		**23.4469%**	

Source: Data processed by the author

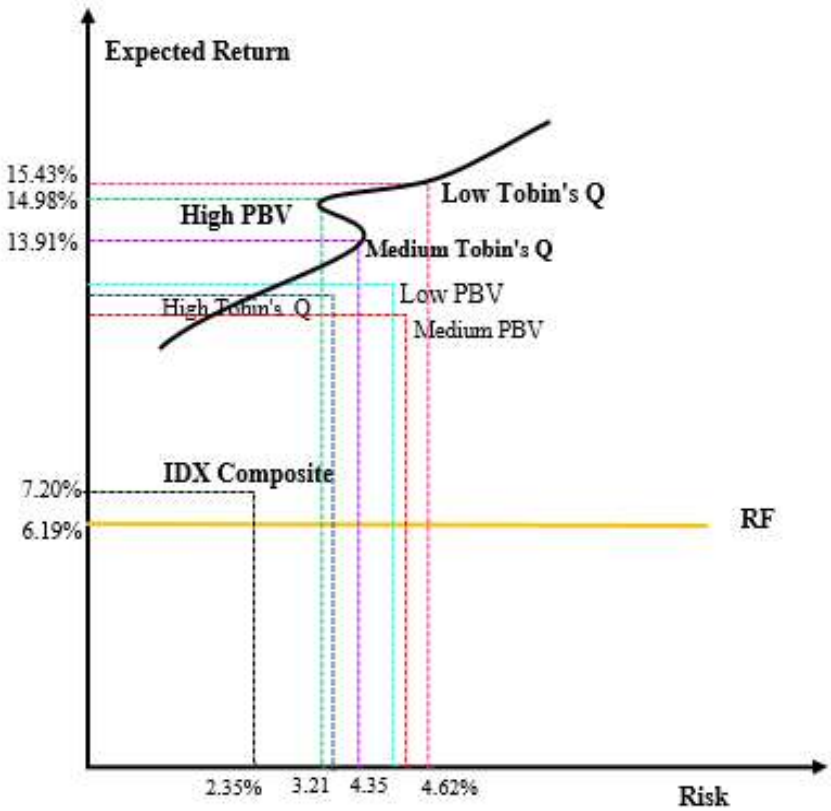
© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Description:
- Portfolio return is higher than total average and IDX Composite
- Return and Risk of IDX Composite as a market
- Portfolio risk is higher than the total average and IDX Composite

Table 3 shows the total average of accumulated return on the semester active strategy, i.e. 81.5018%. The low Tobin's Q portfolio is followed by high PBV, and medium Tobin's Q has a return value above the total average and above the IDX Composite. While the total average of risk accumulation in the active semester strategy is 23.4569%. Therefore, the overall portfolio formed is riskier than the IDX Composite as a market, but there are 3 portfolios with risk values below the total risk average, namely: high PBV, high Tobin's Q, and medium Tobin's Q portfolios.

Figure 6 shows the low Tobin's Q, high PBV portfolios, and medium Tobin's Q portfolios are efficient portfolios, because they can provide a high level of expected return at a certain level of risk or are able to provide a small risk at a certain level of return.

Based on the results of the performance comparison between return and risks from the portfolio and IDX Composite as a market, in general, both are on passive and active strategies. The results also show that the low Tobin's Q portfolio is consistently able to provide the highest return value, although the low Tobin's Q portfolio consistently provides the highest risk both on passive and active strategies; thus, there is a consistently between the results of research and the theory of high-risk, high return. Meanwhile the high PBV portfolio, in general, is consistently able to provide a high return, and risk values are consistently at the lowest level compared to other portfolios. The result shows that it has reached the purpose of establishing a stock portfolio, i.e. to minimize the risk at the level of high return.



Source: Data processed by the author

Figure 6. Curve of Semester Active Strategy

Table 4 shows the total average of Sharpe Index on the passive strategy is 1.7586%, the Treynor Index is 0.0273%, and the Jensen Index is 0.0203%. There are three portfolios with Index values above the total average, and above the IDX Composite, namely: the low Tobin's Q portfolio, followed by a low PBV portfolio, and a high PBV portfolio.

Table 4. Ranking Indexes of Passive Strategy

Passive Strategy	Sharpe Index		Treynor Index		Jensen Index	
	Score	Rank	Score	Rank	Score	Rank
Low Tobin's Q	2.64%	1	0.038%	1	0.038%	1
Low PBV	2.06%	2	0.032%	2	0.027%	2
High PBV	1.99%	3	0.033%	3	0.023%	3
Medium Tobin's Q	1.56%	4	0.024%	4	0.015%	4
Medium PBV	1.31%	5	0.021%	5	0.012%	5
High Tobin's Q	0.98%	7	0.017%	7	0.006%	6
IDX Composite	1.22%	6	0.012%	6	0.000%	7
Total Average	**1.7586%**		**0.0273%**		**0.0203%**	

Source: Data processed by the author

Description:
- Index value is higher than total average and IDX Composite
- IDX Composite Index value as a market

Table 5 shows the total average of the Sharpe Index in the annual active strategy, i.e. 1.900%, where the overall portfolio has a lower performance than the IDX Composite. However, there are 3 portfolios with the Sharpe Index value above the total average of high PBV portfolios, followed by medium Tobin's Q, and low Tobin's Q. The total average of Treynor index is 0.0299%, and the Jensen Index is 0.0232%. There are three portfolios with Index values above the total average and the IDX Composite, namely: high PBV portfolios, low Tobin's Q, and medium Tobin's Q.

Table 5. Ranking Indexes of Annual Active Strategy

Annual Active Strategy	Sharpe Index		Treynor Index		Jensen Index	
	Score	Rank	Score	Rank	Score	Rank
High PBV	2.41%	2	0.038%	1	0.031%	1
Medium Tobin's Q	2.28%	3	0.034%	2	0.028%	3
Low Tobin's Q	2.08%	4	0.032%	3	0.029%	2
Medium PBV	1.74%	5	0.025%	5	0.019%	4
High Tobin's Q	1.68%	6	0.027%	4	0.018%	5
Low PBV	1.21%	7	0.022%	6	0.014%	6
IDX Composite	2.59%	1	0.012%	7	0.000%	7
Total Average	**1.9000%**		**0.0299%**		**0.0232%**	

Source: Data processed by the author

Description:
- Index value is higher than total average and IDX Composite
- IDX Composite Index value as a market

From Table 6, the total average of Sharpe index in the semester active strategy is 2.0168%, the Treynor Index is 0.0315%, and the Jensen Index is 0.0553%. There are three portfolios with Index values above the total average and the IDX Composite, namely:the low Tobin's Q portfolio, High PBV portfolio, and Medium Tobin's Q portfolio.

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Table 6. Ranking Indexes of Semester Active Strategy

Semester Active Strategy	Sharpe Index		Treynor Index		Jensen Index	
	Score	Rank	Score	Rank	Score	Rank
Low Tobin's Q	2.67%	1	0.040%	2	0.073%	1
High PBV	2.59%	2	0.041%	1	0.062%	2
Medium Tobin's Q	2.39%	3	0.037%	3	0.060%	3
High Tobin's Q	1.57%	4	0.024%	5	0.043%	6
Low PBV	1.49%	5	0.025%	4	0.050%	4
Medium PBV	1.38%	6	0.021%	6	0.045%	5
IDX Composite	1.17%	7	-0.012%	7	0.000%	7
Total Average	**2.0168%**		**0.0315%**		**0.0553%**	

Source: Data processed by the author

Description:
- Index value is higher than total average and IDX Composite
- IDX Composite Index value as a market

Discussion

Therefore, in general, it can be stated that the low Tobin's Q and high PBV portfolios are consistently able to provide high Index performance compared to other portfolios and the IDX Composite as a market, both on the Sharpe, Treynor, and Jensen Indexes and both on passive strategies, active semester, and yearly active.

The comparison results of total index average in Table 7 below show the level of consistency in each strategy, where ranking strategies on each index are the same, such as active semester strategies, followed by annual active strategies, then passive strategies. This shows that a portfolio formed with a composition containing the SRI-KEHATI Index, besides being a stock that has environmental, social, and good corporate governance awareness, also can produce a portfolio composition with an excellent return performance at a certain level of risk (efficient portfolio).

Table 7. Ranking of Total Average of Each Strategy

Strategy	Total Sharpe	Total Treynor	Total Jensen	Ranking
Active semester	2.0168%	0.0315%	0.0553%	1
Annual active	1.9000%	0.0299%	0.0232%	2
Passive	1.7586%	0.0273%	0.0203%	3

Source: Data processed by the author

In Tandelilin (2014: 157), it is explained that the optimal portfolio is the portfolio chosen by investors from various choices in the efficient portfolio collection. This shows that in this study, the optimal portfolio will differ according to investor preferences regarding the level of risk that will be borne in accordance with the courage to take risks in order to continue to maximize the expected return on investment.

The results of this study also indicate that there are similarities and differences in the results of research with previous studies. Research conducted by Hidayat & Hendrawan (2017) and Hendrawan& Salim (2017) results in alignment with the results of this study, in which portfolios formed based on financial ratios are consistent in producing average returns above-market returns. Although the results of research conducted by Hendrawan& Salim (2017) on the Kompas 100 Index, the best portfolios are produced by portfolios formed with Tobin's Q medium, while in this study, the best portfolios are the low Tobin's Q portfolio. The results of this study also indicate the alignment of results with research conducted by Zabiulla (2014) and Tudor (2012) which show that an active portfolio strategy is able to provide a maximum rate of return compared to a passive portfolio strategy.

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Furthermore, the results of the study show that there is no contradiction in the results of the research as found in the research of Zulkafli, Ahmad, and Eky Ermal M. (2017), where in this research Sharpe ratio, Treynor ratio and Jensen show consistent results, while in Zulkafli's research, Ahmad, and Eky Ermal M. (2017) show that there is a contradiction between jensen alpha and adjusted sharpe index. The results of the study are also in line with the results of research conducted by Robiyanto (2017) which states that the Sharpe, Jensen and Treynor methods can show better portfolio performance, but further in this study active and passive strategies can provide a much broader picture of each investors can determine the right strategy from the decisions taken. Meanwhile, compared to research conducted by Hasan and Ahsan (2016), the results of this study can predict the consistency of returns by intervening in the strategies undertaken by investors, which in Hasan and Ahsan's research they did not do this.

Conclusion

The establishment of a portfolio using Tobin's Q and Price to Book Value ratios shows consistency in the results, while the portfolio formed can generate the expected returns with a certain level of risk. This shows that the investors can utilize historical data in the form of financial accounting reports for determining their portfolio composition.The low Tobin's Q portfolio is consistently able to provide the highest return value, with a return value above the total average, and above the IDX Composite return as a market, although the low Tobin's Q portfolio consistently provides the highest risk. Meanwhile, the Price to Book Value portfolio in most cases is consistently able to provide high return value (return value above the total average and the IDX Composite return), with the risk value is consistently at the lowest level compared to other portfolios. Overall, the low Tobin's Q portfolio and high Price to Book Value are consistently able to provide a high index performance compared to other portfolios and compared to the IDX Composite as a market, in the Sharpe, Treynor, and Jensen Indexes.

The results of this study can be a reference on how to form an optimal portfolio technique. The investors can take advantage of various financial ratios, especially the Tobin's Q and Price to Book Value ratios, in forming their portfolio composition. The results of this studyalso can be a consideration for the investors to determine the composition of stock in their portfolio. In this study, the optimal portfolio recommendations will be different according to the investor preferences, where the investors who dare to take risks (risk seekers) can choose a portfolio with low Tobin's Q value because this portfolio consistently provides the highest rate of return, even though it has highest risk level. Meanwhile, those who do not like the risk (risk averse) can choose a portfolio with a high Price to Book Value because the overall portfolio is consistently able to provide a relatively high rate of return, with the lowest risk level compared to other portfolios. In this study, the investors are advised to invest their funds using an active semester portfolio strategy where the investors can make changes to the composition of their portfolio every six months. In addition, investors can exchange stocks that have a declining performance with the stocks that have increased prospects or with stocks that have excellent performances.

The limitation of this study is in the formation of a portfolio that can use other financial ratios on different objects, using other portfolio strategies periods with different proxies in risk-free interest rates, such as using Government Securities (SUN) and Bond Yields, to be considered for use in further research and complementary to previous studies.

References

Damodaran, A. (2002) *Investment Valuation: Tools and Techniques for Determining the Value of Any Assets*. New Jersey: John Wiley & Sons, Inc.

Damodaran, A. (2012) *Investment Valuation: Tools and Techniques for Determining the Value of Any Assets*. New Jersey: John Wiley & Sons, Inc.

 © 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Gumanti, Tatang Ari. (2017). *KeuanganKorporasiTinjauanTeori dan BuktiEmpiris.* Jakarta: Mitra Wacana Media.

Halim, Abdul. (2015). *AnalisisInvestasi di AsetKeuangan*. Jakarta: Mitra Wacana Media.

Hasan, Md. Bokhtiar and Ahsan, A. F. M. Mainul .(2016). "Can Mutual Funds Outguess the Market: Evidence from Bangladesh?". *Journal of Finance and Accounting*, Vol. 4, No. 1, 11-19. DOI:10.12691/jfa-4-1-2

Hendrawan, R. and 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), pp. 625–641.

Hidayat, F. and Hendrawan, R. (2017) 'Stock Portfolio Analysis: Active and Passive Strategies Formed with Financial Indicators', *International Journal of Economic Perspectives*, 11(3), pp. 315–326.

Husnan, Suad. (2015). *Dasar-dasarTeoriPortofolio dan AnalisisSekuritas*. Yogyakarta: UPP STIM YKPN.

Inezwari, D. K. (2013) 'Relative Valuation Model Analysis of IDX LQ45 Stocks', *Journal of Applied Finance and Accounting*, 6(1), pp. 67–96.

Kasmawati (2016) 'Tobin's Q as a Proxy for Corporate Governance Variables and Explanatory Variables in Manufacturing Companies in Jakarta Stock Exchange', *International Journal of Recent Scientific Research*, 7(6), pp. 11552–11558.

Marangu K. & Jagongo A. (2014) 'Price to Book Value Ratio and Financial Statement Variables.', *Global Journal of Commerce & Management Perspective*., 3(6), pp. 50–56.

Pace, D., Hili, J. and 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, pp. 1–35. doi: 10.1108/S1569-375920160000097006.

Robiyanto, Robiyanto.(2017). "Performance Evaluation of Stock Price Indexes in the Indonesia Stock Exchange". *International Research Journal of Business Studies"* , Vol. 10, No. 3, 173-182. https://doi.org/10.21632/irjbs

Shittu, I., Che, A. and Zuaini, A. (2016) 'Does Price to Book Value Predict Stock Price? Evidence from Nigerian Firms', *International Journal of Computational Engineering & Management*, 19(1), pp. 5–8.

Sum, V. (2014) 'Dynamic Effect of Tobin's Q on Price-to-Earnings Ratio', *Managerial Finance*, 40(6), pp. 634–643. doi: 10.1108/MF-07-2013-0193.

Suryani, A. and Herianti, E. (2015) 'The Analysis of Risk Adjusted Return Portfolio Performance Share for LQ 45 Index in Indonesia Stock Exchange in 2010-2014 Periods', *Procedia - Social and Behavioral Sciences*, 211, pp. 634–643. doi: 10.1016/j.sbspro.2015.11.087.

Tandelilin, E. (2014) *Portofolio dan Investasi Teori dan Aplikasi*. Yogyakarta: Kanisius.

Wolfe, J. and Sauaia, A. C. A. (2003) 'The Tobin Q as A Company Performance Indicator', *Developments in Business Simulation and Experiential Learning*, 30, pp. 155–159. doi: 10.1177/1046878105275237.

Zabiulla (2014) 'Portfolio Strategies of Fund Managers in the Indian Capital Market', *IIMB Management Review*. Elsevier Ltd, 26(1), pp. 28–58. doi: 10.1016/j.iimb.2013.12.003.

© 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia

Zubir, Zalmi. (2011). *Manajemen Portofolio Penerapannya Dalam Investasi Saham*. Jakarta: SalembaEmpat.

Zulkafli, A. H., Ahmad, Z., & M., E. E. (2017). The Performance of Socially Responsible Investments in Indonesia: A Study of the Sri Kehati Index (SKI). Gadjah Mada International Journal of Business, 19(1), 59-76. doi: https://doi.org/10.22146/gamaijb.17959

 © 2020 The Authors. Jurnal Siasat Bisnis. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia