A STOCK PORTFOLIO STRATEGY IN THE MIDST OF THE COVID-19: CASE OF INDONESIA

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ABSTRACT

Stock price movements are interesting to discuss, because from these price movements investors will get capital gains. Problems arose, however, when Covid-19 hit the world, especially in Indonesia. The purpose of this study, then, is to determine whether there is a relationship and difference in return and risk between Economic Value Added (EVA) and Market Value added (MVA) portfolios in the Indonesian stock market. The sample used is 24 stocks with daily stock return data for the 2015-2020 period. The results of the study found something new, namely that there was a relationship and difference between returns and risks in the EVA and MVA portfolios in Indonesia. In addition, the research succeeded in forming EVA and MVA portfolios that exceeded market returns in Indonesia. The best strategy that investors can apply in investing is to use an active strategy, especially during conditions, such as the Covid-19 pandemic, which have an impact on high market fluctuation.

Keywords: Active portfolio, Economic Value Added, Market Value Added, passive portfolio

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INTRODUCTION

Investment is highly dependent on the country's economic conditions. Indonesia is one of the emerging market countries, and a sign of emerging market countries is a high level of market fluctuations. In this paper, we will take the fluctuations obtained by the Jakarta Composite Index (JCI), which, as seen in Figure 1, shows a relatively high level of index price fluctuation, especially when the Corona virus appeared in early 2020, causing the index go down. This makes investors panic, so a calculation is needed that can minimize the level of risk that will occur. Portfolios are interesting to discuss in investment, as they are useful for diversifying the level of risk arising from investing activities. Portfolio theory was first introduced in 1952 by Markowitz, whose article became the reference for almost all research on portfolio selection.

Furthermore, the mixing of various types of stocks can eliminate the homogeneous nature caused by investing in just one type. If the mixing practice is carried out, then the risk that will arise from the investment will be accumulated (Sharpe, 1964). There is no efficient portfolio from individual stock because the efficiency is formed by the combination the stocks in the portfolio (Roll, 1977).

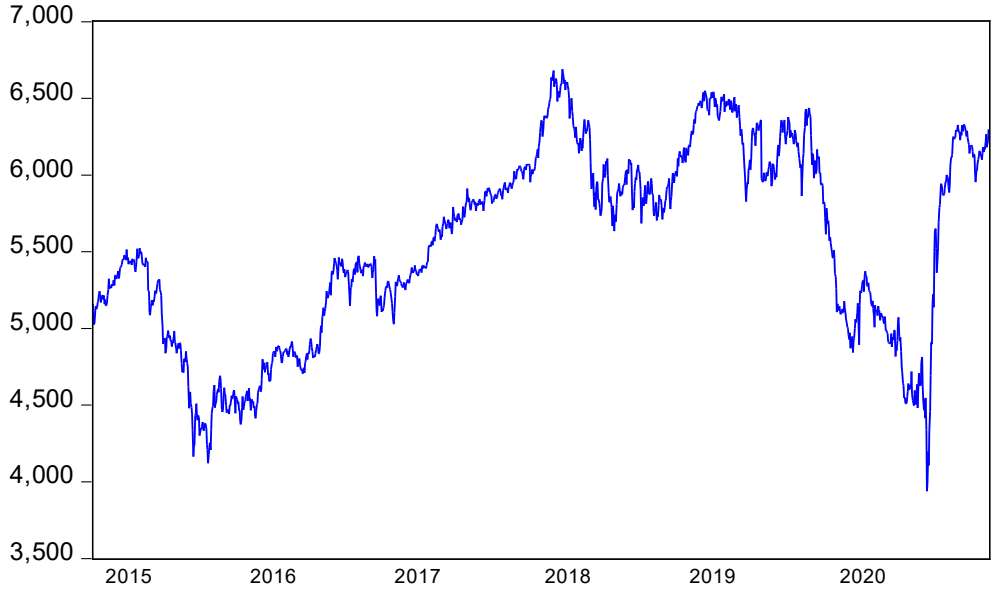


Figure 1: Fluctuation Index JCI Period 2015-2021
Source: data processed

Roll (1978) criticized the use of the traditional CAPM method, which is only determined on the inefficient beta variant in which the rate of return can be determined by a number of steps. If the market has a return above the return of the portfolio, investors can adjust the composition of the assets in the portfolio (Bollerslev et al., 1988). The securities portfolio has more than two compositions to reduce risk and increase returns for investors (Uyar, 2012). Portfolios that have undervalued stock prices provide higher return expectations (Hidayat & Hendrawan, 2017).

In Hendarwan, Fadhyla, and Aminah (2020), portfolio formation was also carried out on the Sri Kehati Di Indonesia stock index based on Tobin's Q financial ratios, Price to Book Value, where the results obtained were high PBV portfolios getting the highest returns. An active portfolio strategy provides a higher expected return than a passive portfolio (Salim, 2017).

Portfolios can not only be formed with financial ratios, but can also be formed with Smart beta, alpha, diversification, and Value at Risk techniques (Salim et al., 2020). Waspada et al. (2021) formed a portfolio of indices in ASEAN, the results of which were achieved by combining a number of ASEAN indices to provide optimal portfolio returns with minimal risk.

Portfolios also can be formed with a number of ratios such as Romplo (2009) using Economic Value Added (EVA) to measure added value at universities in Thailand. The use of the EVA ratio is the expertise and expectations of the investment manager in managing funds in order to get maximum results in the future (Young 1997). EVA and GDP have a significant effect on MVA (Zaima et al., 2005) because then the EVA ratio becomes an information guide for companies to invest. There are many types of calculations to calculate economic added value for companies such as CVA, MVA, SVA, and Rona see (Berzakova et al., 2015).

Based on the research debate, the researcher found a research gap that portfolio formation can be started by calculating the EVA and MVA ratio based on the advantages of the ratio that has been stated from previous research. Of course, the strategy starts with the calculation of EVA and MVA to sort out which stocks are performing well or not. The calculation of the EVA and MVA ratio will also determine the composition of funds (Wi) to be invested in the stock.

This study will form two portfolios from the calculation results of EVA and MVA. The EVA portfolio is a portfolio based on EVA calculations, where EVA is a calculation that comes from the company's internal. Internal company is how much the company is able to increase company profits for shareholders based on financial statements published every period. The MVA Portfolio, then, is where the portfolio is based on the market value of the company (an external measure); the higher the value of a company's

shares in the market, the higher the MVA value of the shares.

This research will create a portfolio and prove that the return and risk of EVA and MVA portfolios have a significant relationship and difference. The interesting thing is that the sample used is the same but the difference lies in the Wi weight value of each portfolio. This study tries to find in the Gab from previous studies that will offer a new calculation for the formation of a portfolio of EVA and MVA ratios, where it is assumed that the same sample will provide different returns and risks for each portfolio. Therefore, this study assumes that there are differences in the rate of return and risk that will be accepted by each portfolio.

LITERATURE REVIEW

Portfolio Theory

The optimal portfolio was first introduced by Markowitz (1952) in the famous journal article "Portfolio Selection". In this optimal portfolio theory, Markowitz puts forward two things: first, analyzing the future performance of the companies that will be included in the portfolio, and second, determining decisions based on the expected returns and variance returns of securities.

Economic Value Added

Economic Value Added (EVA) is a model that can calculate the economic value added of a company in an operating period. EVA depends on the company's decision to invest to add value in the future for the benefit of investors, management, and the company's owners. Added value arises because of additional capital to achieve increased investment in the future, with the hope of getting additional economic value from investments made by the company (Poornima, Narayan, and Reddy, 2015). The merged company will get an EVA value > 0, which is due to the merger of capital from the merger process (Husaini, 2015). The size and age of the company will affect the performance of EVA (Song and Peng, 2015).

A positive EVA value is very meaningful for the company because the company is able to increase added value every year from the previous year (Hamidah, 2017 and Husaini, 2017). The results are also supported by research. Gross profit affects the EVA ratio, therefore the company is advised to increase revenue by adding investment so that in the future it can increase the EVA ratio for the company (Ahmad, Alam, Yameen, 2019).

The EVA ratio is the best calculation when compared to the traditional earnings per share (EPS) calculation, because EVA has a stronger relevance to the capital market than other simple calculations. This research was conducted at the Indian FMCG Company (Madhavi and Prasad, 2015).

Market Value Added

The Market Value Added (MVA) approach is a calculation of aspects that come from outside the company because it measures the value of the company based on the market. Thus, MVA serves as a calculation of how much the price of a stock moves in the market. The MVA value can be a benchmark for investors to invest in certain stocks. The greater the MVA value, the more a company is declared good and has added value in the stock market; the increase in MVA is a sign that the company's performance is considered good by the market. Therefore, investors hope that in the future the company will generate profits for investors in the form of dividends or capital gains (Carini, Comincioli, Poddi, and Vergalli, 2017). A positive MVA value also shows the company is able to create added value for both it and its stakeholders, so that investors are interested in increasing their investment in the company (Husaini, 2015).

The company's profits will affect the value of MVA in the stock group in the manufacturing and service sectors in India (Altaf, 2016). Shares of high volatility companies do not have satisfactory results on the MVA ratio (Ahmad, Alam, Yameen, 2019). MVA is used to assess the company directly from the market, which can be reflected in increases in the company's stock price every period (Madhavi and Prasad, (2015).

This study will address the objectives of this study by proposing a number of hypotheses:

1. There is a correlation between the return of the EVA portfolio and the MVA portfolio.
2. There is a correlation between the risk of the EVA portfolio and the MVA portfolio.
3. There is a significant difference in the return of the EVA portfolio and the MVA portfolio.
4. There is a difference significant risk of EVA portfolio and MVA portfolio.

METHODOLOGY

This research is quantitative, as calculations based on the ratio of EVA and MVA derived from secondary data from annual reports from each sample are performed. The population used is all the stocks that are included in the LQ 45 index. The sample was taken based on the requirement that a stock is consistently included in the LQ 45 from 2014 to 2020, for a total of 24 stocks. To calculate stock returns, daily stock data, Composite Stock daily stock data, required Jakarta Composite Index (JCI) Index and risk-free bi repo per month are used for the period January 2015 to December 2020.

In this study, a number of calculations will be carried out including:

1. Stock Return

$$Ri = \frac{p_t - p_0}{p_0} \quad \text{.....(1)}$$

2. Capital Aset Pricing Model (CAPM)

$$E(R_i) = R_f + [E(R_m) - R_F]\beta_i \quad \text{.....(2)}$$

3. Risk Individual Stock

$$\sigma^2 = \sum_{i=1}^{n} \frac{(R_{it} - E(R_i))^2}{n} \quad \text{.....(3)}$$

4. Beta= $\beta_i = \frac{\sigma_{im}}{\sigma_{m^2}}$ .....(4)

5. Alpha

$$\alpha_i = E(R_i) - \beta_i \,.\, E(R_m) \quad \text{.....(5)}$$

6. Unsystematic risk

$$\sigma_{ei^2} = \sigma_{i^2} - \beta_{i^2} \,.\, \sigma_{m^2} \quad \text{.....(6)}$$

7. Expected Return

$$E(Rp) = \alpha p + \beta p \; x \; E\,(Rm) \quad \text{.....(7)}$$

8. Portfolio Risk

$$\sigma p^2 = \beta p^2 \;.\sigma m^2 + (\sum_{i=1}^{n} w_i .\; \sigma ei)^{\,2} \quad \text{.....(8)}$$

Determining whether the hypothesis is accepted or rejected will be determined from the significant value of the correlation, and the significant relationship can be seen in the sig value. If the value of sig < than the alpha value of 0.05, the hypothesis is accepted.

Hypothesis 1 - the EVA and MVA portfolio return correlation test - can be written in the following equation:

$$\boldsymbol{H_0 = X_1 = X_2}$$
$$\boldsymbol{H_1 = X_1 \neq X_2}$$

Hypothesis 2 - the EVA and MVA portfolio risk correlation test - can be written in the following equation:

$$\boldsymbol{H_0 = X_1 = X_2}$$
$$\boldsymbol{H_1 = X_1 \neq X_2}$$

Hypothesis 3 - the EVA and MVA portfolio return difference test - can be written in the following equation:

$$\boldsymbol{H_0 = X_1 = X_2}$$
$$\boldsymbol{H_1 = X_1 \neq X_2}$$

Hypothesis 4 - the EVA and MVA portfolio risk difference test - can be written in the following equation:

$$\boldsymbol{H_0 = X_1 = X_2}$$
$$\boldsymbol{H_1 = X_1 \neq X_2}$$

RESULTS

This research shows how a portfolio is formed based on the fundamental factors of the EVA and MVA ratios. The formation of the portfolio was based on a high EVA ratio, low EVA, high MVA, and low MVA. This high and low division aims to differentiate between each portfolio. In the initial calculation of the passive portfolio strategy, the EVA and MVA ratios were calculated based on 2014 financial statements and the high and low stock composition. After obtaining the composition, the return and risk were calculated using the daily stock price data for 2015-2020. The composition of the stocks remained until the end of 2020.

Testing the hypothesis that there is a relationship between return and risk of EVA and MVA portfolios, will be carried out by following Paired Samples Correlations:

Table 1. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	risk_eva & risk_mva	117	.749	.000
Pair 2	Ri_eva & Ri_mva	76	.683	.000

Source: data processed

The results obtained from Table 1 show that EVA and MVA portfolio returns have a relationship where the value of Sig 0.00 < an alpha value of 0.05, which means that EVA and MVA returns have a relationship; Hypothesis 1 is accepted. This result means that the EVA portfolio return on the ratio of the financial

statements of each company. The company's financial statements are an interpretation of the company's ability to add economic value in a certain period; the higher the economic value of the company, the higher the EVA value obtained by the company. An increase in the value of the company's EVA, will have an impact on a positive market response by increasing the company's stock price in the market, and therefore the company's MVA value will increase.

As seen in Table 1, there is a relationship between the risk of the EVA portfolio and the MVA portfolio, where the value of sig < than the alpha value of 0.05. This result is certainly in line with the rate of return where the higher the rate of return obtained, the higher the risk faced. So from these results, Hypothesis 2 is accepted. Table 2 shows that the calculated t value is greater than the t table value and the sig value is smaller than the alpha value of 0.05.

These results, then, can answer Hypotheses 2 and 3 that there are differences in return and risk between EVA and MVA portfolios. These results greatly contribute to science, especially to the development of portfolio theory which is closely related to return and risk. Furthermore, in the formation of a portfolio, although the type of sample is the same, after being put into a different portfolio, determining the composition of funds in each asset/share will result in different returns and risks. The stock market of developing countries is characterized by a high level of stock price fluctuation, which is very different from the relatively more stable stock markets of developed countries. Therefore, this research, after finding the results of all the proposed hypotheses are accepted, will then design a number of portfolios that will provide an overview of the level of return and risk received by each portfolio.

The formation of a portfolio can be done from several basic calculation bases, such as research conducted by Zehir and Aybars (2020) which shows that the ESG portfolio can be used as the basis for calculating the portfolio selection for long-term investments.

Table 2. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	risk_eva - risk_mva	-.40068	1.30518	.12066	-.63967	-.16169	-3.321	116	.001
Pair 2	Ri_eva - Ri_mva	.43542	1.34115	.15384	.12895	.74188	2.830	75	.006

Source: data processed

According to Dayanandan and Lam (2015), there are differences in portfolio rebalancing strategies in US data. The researcher further said that the cost of rebalancing which is commonly used in an active portfolio strategy is very large and is added to by taxes. So we need the right strategy so as not to choose the wrong stock to enter the portfolio.

The comparison of active and passive portfolio risks can be seen in Figure 2. Based on the calculation results, a passive portfolio strategy formed with a high EVA ratio earns a return of 24% with a risk level of 1.11%. A low EVA obtains a return of -5.2% with a risk level 1.16%, a high MVA gets a return of 20.4% with a risk level of 1.05%, and a low MVA obtains a return of 9.6% with a risk level of 1.59%. (The results were obtained from January 2015-December 2020.)

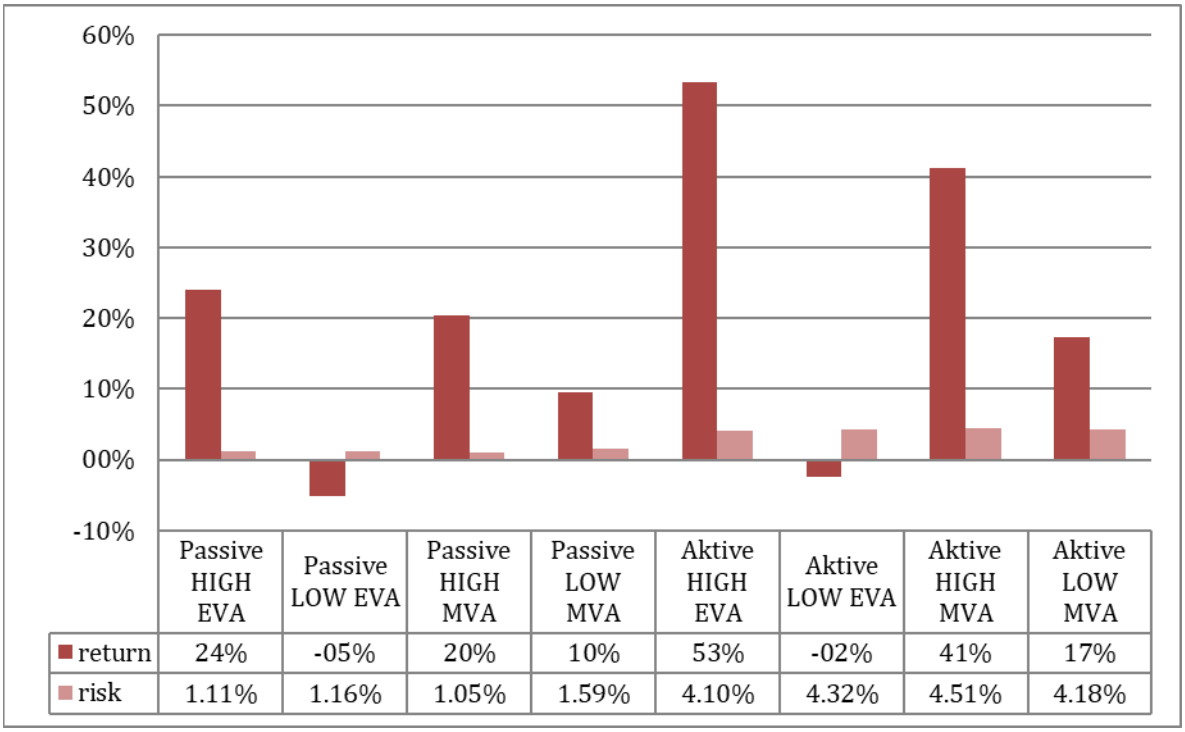
DISCUSSION

However, over time the JCI experienced an improvement in prices until the end of December 2020. Under these conditions, the average market return of the JCI was positive in 2020. If an active portfolio strategy, in which the assets in the portfolio are rearranged based on the annual financial statements, is carried out, it is

hoped that investors will avoid losses from investments based on the calculation of the EVA and MVA ratios for each stock. The results revealed that the average high EVA obtained a return of 53.4% with a risk level of 1.05%, a low EVA obtained a return of -2.4% with a risk level of 4.1%, a high MVA obtained a return of 41.1% with a 4.51% risk, and low MVA obtained a return of 41.1% with a risk level of 4.18%.

The 'winning' active strategy to increase the portfolio return of these results can be seen in Hendrawan and Hidayat (2017) and Hendawan and Salim (2017). Investors can use guidelines when making decisions to determine whether or not to use active or passive strategies in investing in the capital market or other investment instruments. It is important to distinguish a passive strategy in which the investment is made from the initial purchase to the end of investment and the composition of the portfolio does not change. In the active strategy, composition of the portfolio is changed periodically with the aim of obtaining short-term profits so that the risk of large losses can be resolved quickly.

Table 3 shows the amount of return and risk obtained from each active portfolio strategy from 2015-2020. The amount of return each year is different for each portfolio. This result is obtained because of the adjustment of the composition of the shares included in the portfolio according to the EVA and MVA values each year.



	Passive HIGH EVA	Passive LOW EVA	Passive HIGH MVA	Passive LOW MVA	Aktive HIGH EVA	Aktive LOW EVA	Aktive HIGH MVA	Aktive LOW MVA
return	24%	-05%	20%	10%	53%	-02%	41%	17%
risk	1.11%	1.16%	1.05%	1.59%	4.10%	4.32%	4.51%	4.18%

Figure 2. Results Return CAPM and Risk in Portfolio Passive Vs Portfolio Active
Source: data processed

This change in composition is called diversification. Diversification aims to minimize the level of portfolio risk under certain conditions; a form of intelligent calculation is needed to determine this. The development of portfolio theory in the research of Sharpe (1982) and Ferson and Lin (2014) suggests that an investor needs to consider market returns that are adjusted to the expected return based on the information received by the investor himself. Other researchers who use diversification in portfolio design include Amenc et al. (2014), who compile portfolios using a top-down multi-factor method.

According to Amenc et al. (2017), the higher the error rate made in the weighting, the more the multifactor results carried out will be

meaningless. Black, Jensen, Scholes (1972) also provided input in the development of portfolio theory, noting that there is no difference between stocks that have high market risk and low market risk. However, there is a difference between portfolio returns that have a minimal level of individual stock risk.

In classifying the criteria of rational and irrational investor groups in determining investment decisions (Idzorek, 2017and Mishra and Ram, 2020) the combination of stocks in the portfolio can reduce the risk in the mean-variance model and adjust to the expected return. The more stocks in the portfolio, the more complicated it will be to manage so that it becomes input for future researchers.

A return portfolio is strongly influenced by the weight that accompanies the global minimum variance portfolio (GMVP) investment (Golosnoy et al, 2020). The next discussion if you take the case when the Covid-19 occurs, the LOW MVA portfolio which is the recommendation in this study can be seen in Table 3, because the LOW MVA portfolio consists of groups of stocks with low capitalization, stocks with low capitalization in this study have relatively high stock prices. lower this result is supported by (Hidayat and Hendrawan, 2017).

According to Nguyen et al. (2021), undervalued stocks provide a higher return than overvalued stocks, and of course a high return will provide a high risk of investing in this group of stocks. The diversification of business assets and the application of information and communication technology (ICT) has an impact on the efficiency of enterprises in Vietnam. The selection of assets for diversification can determine whether the company is in financial difficulty or not. Similar research can be seen in Musanovic and Halilbegovic (2021), which was conducted in Bosnia and Herzegovina.

	2015		2016		2017	
Portfolio	**Return**	**Risk**	**Return**	**Risk**	**Return**	**Risk**
HIGH EVA	-3.671%	0.011%	15.433%	0.005%	32.157%	0.117%
LOW EVA	-17.928%	0.006%	3.689%	0.000%	6.620%	0.232%
MVA HIGH	-19.932%	0.022%	23.558%	0.005%	31.398%	0.115%
LOW MVA	-10.527%	0.057%	26.043%	0.009%	11.382%	3.082%
JCI	-10.831%	0.012%	12.272%	0.008%	22.315%	0.003%
	2018		2019		2020	
	Return	Risk	Return	Risk	Return	Risk
HIGH EVA	-4.7656%	3.7581%	13.3237%	0.1849%	0.9284%	0.0234%
LOW EVA	0.7721%	3.5486%	5.8457%	0.3847%	-1.3866%	0.1443%
MVA HIGH	-4.9912%	3.8000%	1.1584%	0.2686%	0.4382%	0.0263%
LOW MVA	3.2222%	3.1953%	-0.9887%	0.2937%	1.7106%	0.1317%
JCI	-1.3297%	2.4681%	-11.9380%	0.0086%	23.8276%	0.0267%
Accumulation (High+Low) Portfolio	Return			Risk		
EVA	51.02%			8.41%		
MVA	62.47%			11.01%		
JCI	34.32%			2.5%		

Table 3. Results Return CAPM and Risk Portfolio Strategy Active 2015-2020.

Source: data processed

The portfolio discussed in this study is with stock groups to reduce investment risk, but a portfolio can combine a number of investment instruments such as gold, as was proposed by Megits et al. (2014). Adding gold investment instruments minimizes the level of risk and can generate lower returns, however, investors get a fixed return on the investment. This result is in

accordance with the current situation because it requires quick calculations in making investment decisions. This analogy would apply as a result: "Starts On Time Then End Prematurely".

CONCLUSION

In the management of investment assets during a crisis, it is very useful to minimize the level of risk that will occur. For the management of a portfolio, it is very important to determine how to get the maximum return. This research found that there is a relationship between EVA and MVA portfolio returns on the Indonesian stock market. In line with these results, EVA and MVA portfolio risks also have a relationship. Furthermore, with a relationship between return and risk in each portfolio, there is also a significant difference in return and risk between EVA and MVA portfolios in the Indonesian stock market, which is included in Emerging Market countries.

In strengthening and increasing contributions to investment science, especially with respect to portfolios, this research supports investors in determining a portfolio strategy: namely. it is advisable to manage a number of assets with an active strategy. An active strategy can reduce the level of error in determining the previous asset in the event of price fluctuations on it, and it can be recomposed, sold or replaced with another asset. An active strategy also teaches investors to always be responsive to conditions that occur and respond quickly.

Furthermore, future researchers can implement Smart Beta portfolios for investment asset management. The Smart Beta portfolio is a smart asset management using several factors that are considered in a relatively short time. The Smart Beta portfolio is also not limited to just one instrument.

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