Effect Of Operating Leverage, Growth Asset, And The Size Of The Company To Systematic Risk

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Abstract: This study aims to empirically prove the effect of operating leverage, growth asset, and the size of the company to systematic risk as to the dependent variable. The sample in this study was agricultural sector companies listed on the Indonesia Stock Exchange in 2015-2018 by using a purposive sampling method. The data analysis technique used is multiple linear regression analysis with SPSS 25. The results of this study show that operating leverage and growth asset do not effect on systematic risk, while the size of the company does not effect on systematic risk. The implication of this research is as a basis for consideration for potential investors who will invest in the agricultural sector.

Keywords: Operating Leverage, Growth Asset, The size of the company, and Systematic Risk.

1. Introduction

The purpose of investors in investing is to obtain returns in the future and improve investor welfare. Welfare in this case is monetary welfare, which can be measured by the sum of current income plus future income [1]. In stock investment, the income derived from the results of this investment can be in the form of dividends and capital gains. Before investing in shares in the capital market will collect as much relevant information as possible that will be useful for decision making. The information collected can be in the form of company performance such as company financial statements or macro-economic factors that effect the company. Investors in making every investment decision always try to minimize the various risks that arise, both short-term risks and long-term risks [2]. The step of minimizing the risks arising in investment decides investors to the actions and strategies to keep getting the expected return.

According to [1] there are two types of risks namely, systematic risk known as market risk or general risk is the risk associated with changes that occur in the market as a whole and can not be diversified. According to [3] systematic risk can occur due to macro-economic, industrial, and company characteristics. To measure systematic risk, beta coefficients are used. Beta security is an important thing to analyze security or portfolio. The Beta security shows the sensitivity of the level of profit of security to market changes. While unsystematic risk is a risk that can be eliminated by forming a good portfolio.

According to [4] this unsystematic risk in investment analysis is often ignored because of its nature which can be eliminated by diversification. Every investor is always faced with a certain risk. Once the importance of every investor knows and examines systematic risk, to get a greater return by calculating the risks that have been known or calculated before hand.

Agency Theory describes a framework for analyzing financial statements between managers and company owners. Good reporting will minimize the company's capital costs because it can reduce company uncertainty so that it will reduce investment risk and will reduce the rate of return, as well as minimize the occurrence of information asymmetry. Therefore, the company management wishes to give signals in the form of accounting information and voluntary disclosure to the market to compete for funds from investors.

Determining an investment decision requires an understanding of the factors that can effect stock beta as a systematic risk measurement tool. In this study, variables that influence systematic risk are used, including operating leverage, growth asset, and the size of the company. Operating leverage can be defined as the incurred fixed costs in the company's operations that are associated with the use of fixed assets and operating leverage occurs when the company uses fixed assets in its operations [2]. The high sensitivity of operating income to sales will lead to a higher beta. Thus, companies with high operating leverage tend to have a high beta.

According to [5] the growth asset variable is defined as the annual change (growth rate) of assets. According to [26], a faster rate of growth assets indicates that the company is expanding. Failure to expand will increase the company's burden because it must cover the return on expansion costs. The greater the risk of company failure, the less perspective the company concerned. The prospect of this company will effect the expectations or interests of investors. Investors will tend to sell their shares. The more shares sold, the price will tend to weaken. Changes in stock prices mean changes in stock returns. The greater the change in stock returns, the greater the beta shares of the company concerned.

According to [6] the size of the company is the size or size of the assets owned by the company, which illustrates the ability financial company in a certain period and usually described by total assets. Large companies are considered smaller risks than small companies because large companies are quickly accepted in the capital market. Also, shares will be more frequent and easy to spin than small-company shares. The greater the value generated, the company has good prospects. Companies that have a good prospects for a long time will cause the company's shares to remain attractive to investors so that the stock prices are relatively high and stable [7]. If the price fluctuation is small, it means that the change in return on the stock is also small. The smaller the change in stock returns, the smaller the company's stock beta.

Research conducted by [8], [9] says that operating leverage positively influences systematic risk. In contrast, a study conducted by [10] said that operating leverage negatively effected systematic risk. In contrast to research conducted by [11], [12] stated that operating leverage does not effect on systematic risk.

According to research [12], and [13] growth asset has a positive effect on systematic risk. Different from [14], growth asset negatively influences systematic risk. But in the research of [15] and [16] said that growth asset does not effect systematic risk.

According to [4], [12] the size of the company has a positive effect on systematic risk. In contrast, research conducted by [17], and [8] said that the size of the company negatively effected systematic risk. In contrast to research conducted by [18] said that the size of the company does not effect systematic risk.

2. Literature review

This research is a development of the Agency theory which was first put forward by [19]. Agency theory is described as the relationship between agent and principal or the relationship between managers and shareholders. Managers must make the best business decisions to increase the return that will be given to shareholders. Agency Theory describes a framework for analyzing financial statements between managers and company owners. Good reporting will minimize the company's capital costs because it can reduce company uncertainty, thereby reducing investment risk and reducing the rate of return, and minimizing the occurrence of information asymmetry.

Agency theory implies the existence of information asymmetry between managers as agents and owners (shareholders) as principals, information asymmetry arises when managers know more about the company's internal information and future prospects than shareholders and other stakeholders. Thus information asymmetry will encourage moral hazard, because managers prioritize the interests of the company over the interests of shareholders. If there are two investment proposals that provide the same level of return, but have different risks, rational investors will choose an investment that has a smaller risk, so they prefer to diversify if they know that diversification can reduce the level of risk [20]. The risk of investing in stocks is not the same as between one stock and another. This is due to the distinctive differences between companies and differences in the level of sensitivity of the overall stock market price in the market.

Investors in investing really consider the security of the funds to be invested. For this reason, an investor really needs an analytical tool that aims to provide information about the estimated amount of risk and profit in investing. Systematic risk is a measure of risk that comes from the relationship between the rate of return of a stock and the market rate of return [12]. In measuring systematic risk, there are several variables that influence it. In previous research relevant to influencing systematic risk is operating leverage, asset growth, and company size. According to [2] operating leverage can be defined as the incidence of fixed costs in company operations associated with the use of fixed assets. Operating leverage is used so that the profits earned by the company are greater than the cost of assets. Fixed costs that are higher than the profits obtained by the company will reduce shareholder profits so that, when the operating leverage is high, the systematic risk is high [21]. This is in line with [8] research which proves that operating leverage has a positive effect on systematic risk.

According to [15] asset growth measures how much the ability of the company's assets to maintain its position in the industry and in general economic development. High asset growth indicates the company is expanding. Companies that get a lower profit than the costs incurred during expansion will reduce dividends that will be received by shareholders and pose a risk to shareholders, so that high asset growth means high systematic risk. This is in line with research conducted by [12] which states that asset growth has a positive effect on systematic risk. Company size is a measure or the amount of total assets owned by the company. Larger companies have easier access to the capital market. This convenience gives the company the flexibility and ability to raise funds. Large companies tend to be more diversified and are less prone to bankruptcy so the risk is low, so companies with large sizes have a small systematic risk [18]. This is in line with the research of [17] which proved that company size has a negative effect on systematic risk.

The conceptual framework is made with the aim of making it easier to see the relationship between the independent and dependent variables. The conceptual framework model in this study can be described as follows:
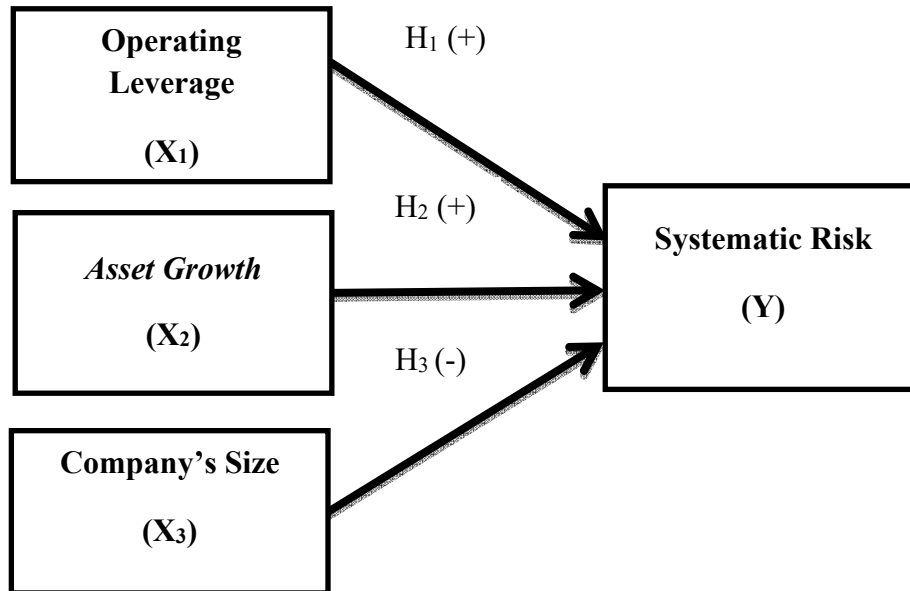

Fig. 1. The conceptual framework model

Based on the research framework, the research hypothesis are as follows:
H1: Operating leverage has a positive effect on systematic risk.
H2: Asset growth has a positive effect on systematic risk.
H3: Firm size has a negative effect on systematic risk.

3. Research Methods

Quantitative research in used with the population in this study are agricultural and plantation sector companies listed on the Indonesia Stock Exchange (IDX) [22] in 2015-2018 uses a purposive sampling method based on certain criteria. The sample criteria used in this study are listed agricultural and plantation sector companies, publish financial reports in a row, have the data needed in the research, use the Rupiah currency in financial reports and have been listed during the study year 2015 to 2018. Operational definitions of variables and measurement of variables
a) Systematic Risk
   [15] explains that beta as a systematic risk measurement tool is a measure of the volatility of returns from a security or portfolio return relative to market returns.
b) Operating leverage
   Operating leverage is a measure of operating risk caused by fixed operating costs measured by the percentage change in earnings against changes in sales.

c) Growth asset

Growth asset is the average growth of a company's wealth can also be defined as an annual change (growth rate) of total assets.

d) The size of the company

The size of the company is the size of the company as seen from the size of the total assets measured as the natural logarithm of total assets.

4. Results and Discussion

4.1 Descriptive Statistics Analysis

Descriptive statistics have the aim to provide an overview of the research variables. The results of the descriptive analysis are as follows:

Table 1. Descriptive Statistics Analysis Results

	N	Minimum	Maximum	Mean	Std. Deviation
Operating leverage	56	-758,265	257,549	-3,635	113,317
Growth asset	56	-0,301	0,536	0,050	0,145
The size of the company	56	26,435	31,177	29,607	1,180
Systematic risk	56	-3,030	18,629	0,739	2,751
Valid N (listwise)	56				

Source: SPSS data 2019

The table above shows descriptive statistics for the independent and dependent variables of 56 samples.

4.2 Classical Assumption Test: Normality Test, Multicollinearity Test, Heteroscedasticity Test, and Autocorrelation Test.

From the test results carried out, it can be seen that the data used have passed the classic assumption test. The classic assumption test in this study can be explained as follows:

The Normality Test uses the Kolmogorov-Smirnov Non-Parametric Statistical Test (K-S Test). K-S test is done by looking at the significant value, with a significance level of 0.05 [23]. Normality test results show a significance value of 0.200 or 0.200>0.05.

Multicollinearity test in a regression model can be seen from the Tolerance value and its opposite Variance Inflation Factor (VIF). The general limits used to indicate the presence of multicollinearity are tolerance values>0.10 and VIF <10.00 [23]. In this study showed that tolerance> 0.10 and VIF<10.00.

The Heteroscedasticity test can be seen from the significance value> 0.05 [23]. In this study, all variables have a significance value> 0.05, meaning that the data is free from heteroscedasticity.

Autocorrelation test values can be seen from the Durbin watson (DW) value greater than dU and smaller than 4-dU or du <dW <4-dU [23]. From the test results show that dU 1,674< dW 1,825< 4-dU 2,326 then the decision is there are no symptoms of autocorrelation.

From the results of tests conducted, it can be seen that the data used have passed the classic assumption test.

4.3 Multiple Linear Regression Test Results

Table 2. Multiple Linear Regression Test Results

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	11,672	3,438		3,395	0,001
Operating leverage	-0,001	0,001	-0,171	-1,311	0,197
Growth Asset	-0,305	0,918	-0,043	-0,332	0,741
Systematic risk	-0,374	0,116	-0,421	-3,224	0,002

a. Dependent Variable: Systematic risk

Source: SPSS data 2019

Systematic risk =11,672 - 0,001 Operating Leverage - 0,305 Growth Asset - 0,374 the size of the company

The regression equation model can be obtained as follows:
a. 11,672 Is a constant value which means that if the operating leverage, growth asset, and the size of the company (independent variable) is 0, the systematic risk (dependent variable) is 11.672.
b. -0,001 Is the regression coefficient value of the operating leverage variable which means that if the operating leverage increases by one unit, the systematic risk will decrease by 0.001 assuming the other variables are zero.
c. -0.305 Is the regression coefficient value of the growth asset variable which means that if growth asset rises by one unit, the systematic risk will decrease by 0.305 assuming the other variables are zero.
d. -0,374 Is the regression coefficient value of the size of the company variable which means that if the size of the company increases by one unit, the systematic risk will decrease by 0.374 assuming the other variables are zero.

4.4 Hypothesis Testing

The coefficient of determination (R^2) measures how far the model's ability to explain variations in the dependent variable. Based on the following table, it is known that the Adjusted R^2 Square value is 0.170. This value indicates that the independent variable can explain the variation of the dependent variable 17% and the remaining 83% is explained by other variables outside the regression model.

Table 3. Coefficient Determination Test Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,470	0,221	0,170	0,919850

Source: SPSS data2019

F statistical test aims to test the effect of simultaneous independent variables on the dependent variable.

Table 4. F Statistical Test

ANOVAᵃ

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	11,058	3	3,686	4,356	0,009
1 Residual	38,922	46	0,846		
Total	49,980	49			

Source: SPSS data2019

t statistical test aims to show how far the influence of individual variables to explain the variation in the dependent variable.

Table 5. Multiple Linear Regression Test Results

Coefficientsᵃ

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	11,672	3,438		3,395	0,001
Operating leverage	-0,001	0,001	-0,171	-1,311	0,197
Growth Asset	-0,305	0,918	-0,043	-0,332	0,741
Systematic risk	-0,374	0,116	-0,421	-3,224	0,002
a. Dependent Variable: Systematic risk					

Source: SPSS data 2019

4.5 First Hypothesis Testing Results

Because the significance value is greater than 0.05 and the t-count -1.311 <t-table 1.678, it indicates that there is no effect of the Operating Leverage variable on the Systematic Risk variable so that **the first hypothesis is rejected**. Operating leverage has no effect on systematic risk means that high or low operating leverage will not influence the systematic risk. According to agency theory, managers must make the best business decisions to increase returns to shareholders. To shareholders, if changes in company profits show good prospects, the shares will be attractive to investors and the price will increase. However, the results of this studies operating leverage do not effect systematic risk because changes in earnings do not effect changes in stock prices. That is when profits increase or decrease does not effect stock prices which consequently also does not effect the stock beta. The results of this study are in line with research conducted by [21], [11], and [12] which state that Operating Leverage does not effect on Systematic Risk. However, these study is not in line with this study conducted by [25], [8] and [9] show that operating leverage positively influences systematic risk.

4.6 Second Hypothesis Testing Results

Based on the results of partial test calculations on the variable growth asset obtained a t-count of -0.332 with a significance value of 0.741. Because the significance value is greater than 0.05 and t-count -0.322 <t table 1.678, it indicates that there is no effect of the Growth asset variable on the Systematic Risk variable so that **the second hypothesis is rejected**. Asset growth has no effect on systematic risk means that fluctuation of asset did not reflect the systematic risk of the company. Based on the theory of company agencies becoming bigger or increasing the capacity of the company means that it is by with the wishes of the shareholders. Increased capacity means that large assets are also needed. Growth asset is a change (growth

rate) of total assets [5]. Growth asset does not effect systematic risk, it means that information about growth asset does not make investors or potential investors immediately release or buy shares resulting in changes in stock returns that will effect the size of the beta. The results of this study are in line with research conducted by [15], [16], and [24] who stated that Growth asset has no significant effect on Systematic Risk. However, this research is not in line with research conducted by [12], [13] and [25] show that growth asset has a positive effect on systematic risk.

4.7 Third Hypothesis Testing Results

Based on the results of partial test calculations on the variable the size of the company obtained t-count of -3.224 with a significance value of 0.002. Because the significance value is less than 0.05 and the value of t-count -3.224 < t-table -1.667, it indicates a negative influence between the size of the company variable on the Systematic Risk variable so that **the third hypothesis is accepted**. Firm size has a negative effect on systematic risk. It means that bigger company will decrease systematic risk of the company. In contrast, small company have high potential to have high systematic risk.

In agency theory explains that the company owner wants the maximum profit and the company management wants the company to get bigger. Large companies tend to be more stable and not easily bankrupt so the risk is low [18]. The results of this study are in line with research conducted by [17], [8], [18] which states that the size of the company does not effect on Systematic Risk. However, this study is not in line with research conducted by [18] saying that the size of the company does not effect on systematic risk.

5. Conclusion

Based on the results of the research that has been done, it can be concluded that operational leverage and growth assets do not effect on the systematic risk of agricultural and plantation sector companies listed on the Indonesia Stock Exchange from 2015-2018. Meanwhile, the size of the company have negative effect on systematic risk in agricultural and plantation sector companies listed on the Indonesia Stock Exchange from 2015-2018.

The implication of this research is as a reference in making decisions related to investment in the company, this decision is usually made by potential investors who want high returns from their investment. with an analysis like this, investors can find out which companies have high risk and low risk in terms of looking for profits.

Based on the conclusions and limitations that have been explained, the researcher can provide suggestions for further research that is to conduct further research by adding other variables that can effect systematic risk such as dividend payout and further research is expected to examine other companies in the sector such as manufacturing companies.

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