



The Influence of Asset Growth and Asset Size on Systematic Risk (Beta) of Banking Stocks on the Indonesia Stock Exchange

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ABSTRACT

This study aims to analyze the effect of asset growth and asset size on the systematic risk (beta) of banking stocks listed on the Indonesia Stock Exchange. Systematic risk is a risk that cannot be eliminated through diversification and is an important indicator for investors in assessing the sensitivity of stocks to market changes. The number of samples in this study was 41 banks for 3 years, resulting in 123 observations. This study uses multiple linear regression methods with secondary data obtained from the bank's annual financial statements and market information. The results of the study indicate that asset growth has a positive and significant effect on systematic risk. This indicates that high asset growth tends to increase the systematic risk of stocks. Conversely, asset size has a negative and significant effect on systematic risk, which means that banks with larger asset sizes have lower systematic risk. The regression model shows that both variables together explain most of the variability in the systematic risk of banking stocks. This study provides an important contribution to investors and bank management in understanding the relationship between asset growth, asset size, and systematic risk of stocks. The implications of this study can help investors in making better investment decisions and provide guidance for banks to manage risk through appropriate asset management strategies.

Keywords: Asset Growth, Asset Size, Systematic Risk (Beta) of Stocks.

1. INTRODUCTION

The development of the capital market in Indonesia is increasingly showing its important role in supporting national economic growth. As one of the sectors that has a strategic role, banking is a main pillar in the economy, especially in terms of providing financial services, funding, and risk management. On the Indonesia Stock Exchange (IDX), banking stocks are often the center of attention of investors because of their characteristics that are sensitive to changes in macroeconomic conditions. In this context, the systematic risk or beta of banking stocks is one of the most important aspects to study in order to understand the sensitivity of the sector to market fluctuations. Systematic risk or beta is a measure of the volatility of a stock relative to the market as a whole. Beta reflects the extent to which a stock's return moves in line with changes in market returns. A high beta indicates that the stock tends to be more volatile, while a low beta indicates a more controlled risk. The factors that influence beta are very diverse, one of which is asset growth and asset size. In the banking sector, these two factors play an important role because they are directly related to the bank's ability to survive and thrive in the face of market dynamics.

Asset growth reflects the company's ability to expand its operational scale. Banks with high asset growth are often considered more aggressive in expanding their business, either through credit expansion, opening new branches, or acquisitions. However, uncontrolled expansion can increase the risk of exposure to market fluctuations, resulting in an increase in beta. On the other hand, asset size is often considered an indicator of stability. Banks with large assets tend to have better diversification, so they are better able to manage risk and lower their stock beta. Vithessonthi and Tongurai (2016) found that large banks have better ability to manage risk, so their beta tends to be lower.

In emerging markets like Indonesia, the intricate relationship between asset growth, asset size, and stock beta often deviates strikingly from patterns observed in developed markets. Lins and Servaes (2002) intriguingly revealed that in these vibrant yet volatile markets, larger companies paradoxically encounter elevated systematic risks. This phenomenon arises due to pronounced market inefficiencies and a heightened dependency on the unpredictable global economy. The findings become profoundly significant when applied to the banking sector, a domain that is acutely

sensitive to dynamic shifts in monetary and fiscal policies. The complex interplay of these variables in such an evolving market environment underscores the need for careful and strategic management. Understanding these nuances is particularly crucial for investors and policymakers aiming to navigate the turbulent financial landscape. This research illuminates the extraordinary challenges faced by banks in emerging markets and highlights the importance of adopting resilient strategies to mitigate heightened risks.

Many studies have been conducted on the influence of asset growth and asset size on stock beta, but the results still show interesting variations to observe. Kusuma's (2016) research revealed that asset growth has a significant influence on stock beta. However, other studies such as those conducted by Cooper et al. (2008), Priyanto (2017), Yuniar & Mutmainah (2019), and Ranti & Damayanti (2020), show that in some cases, asset growth does not have a direct influence on stock beta. This finding highlights that careful and prudent management of expansion can effectively suppress systematic risk, even though the company experiences significant asset growth. In other words, the quality of risk management plays a more crucial role than just asset growth figures. In addition, Hail and Leuz's (2006) research confirms that company size (asset size) is not always negatively correlated with stock beta. In developing markets like Indonesia, large banks may actually face higher regulatory and systemic risks, which ultimately contribute to an increase in their beta, especially in unstable market conditions or when external pressures increase. In line with this, Handayani (2014) found that asset size has no significant effect on stock beta. These findings emphasize the importance of considering market dynamics and specific contexts in analyzing the relationship between asset size and growth on systematic risk.

Thus, this study aims to examine the effect of asset growth and asset size on the beta of banking stocks on the Indonesia Stock Exchange. This study is expected to provide deeper insight into the factors that influence systematic risk, so that it can help investors, bank management, and regulators in making better decisions.

2. LITERATURE REVIEW

2.1. Systematic Risk (Beta) of Stocks

Stock beta is a key indicator in measuring systematic risk that describes the relationship between stock price volatility and overall market movements. According to Bali et al. (2016), stock beta reflects the sensitivity of stock price changes to market changes, where a higher beta indicates a higher level of stock volatility compared to the market. Beta is an important element in determining non-diversifiable risk in an investment portfolio. A beta higher than 1 indicates that the stock is more volatile than the market, while a beta lower than 1 indicates lower volatility than the market.

Meanwhile, Ross, Westerfield, and Jaffe (2010) in Corporate Finance explain that stock beta is an integral part of the Capital Asset Pricing Model (CAPM), where systematic risk is expressed as the level of risk that cannot be eliminated through diversification. In this model, beta acts as a link between market risk and expected stock returns. In developing markets, research by Hail and Leuz (2006) shows that stock beta is often influenced by external factors such as government regulation and economic stability. Their findings emphasize that stock beta in developing countries can have different characteristics than in developed countries, where systematic risk is often more complex and dynamic.

2.2. Asset Growth

Asset growth refers to the increase in total assets owned by a company over a certain period. It serves as a critical indicator of business expansion, reflecting the company's ability to generate revenue and the effectiveness of its investment strategies. According to Penman (2013), asset growth is a key metric for evaluating a company's investment strategy. Companies with stable asset growth demonstrate their capacity to manage business expansion effectively, ensuring sustainable performance and long-term growth potential. However, asset growth does not always guarantee positive outcomes. If the expansion of assets is not supported by a corresponding increase in profits or operational efficiency, it may lead to financial instability and heightened risks for shareholders. Excessive asset growth without adequate profitability can burden a company with higher operating costs or inefficiencies, ultimately affecting shareholder value and market perception.

Jogiyanto (2000:125) defines asset growth as the annual change in total assets, a metric often used to measure the pace at which a company expands its operational capacity and investment portfolio. Analyzing asset growth provides valuable insights into a company's strategic direction, financial health, and competitiveness in the market. For stakeholders, particularly investors, understanding asset growth is essential for assessing the company's long-term viability and risk profile. Properly managed asset growth indicates not only a company's capability to expand but also its potential to deliver sustainable returns, making it a crucial factor in evaluating corporate performance and investment strategies..

2.3. Asset Size

Hail and Leuz (2006) stated that asset size plays an important role in determining the systematic risk (beta) of stocks, especially in emerging markets. Large companies often have advantages in terms of economies of scale and access to financing, but they also face greater regulatory risks and market pressures. In the banking sector, large asset sizes can increase exposure to systemic risk, especially during market instability. Berk and DeMarzo (2017) explained that asset size is one of the main indicators for assessing a company's financial stability and capacity. Large companies usually have competitive advantages, such as the ability to absorb fixed costs and negotiate better financing conditions. However, they also emphasized that large companies must face higher diversification risks, especially if there is no adequate synergy in asset management.

2.4. Hypothesis

The hypothesis in this study is as follows:

H1 : Asset growth influences the systematic risk (beta) of shares

H2 : AssetSize affects the systematic risk (beta) of shares

3. RESEARCH METHODS

3.1. Operational Definition of Variables

Systematic risk (beta) of stocks is a risk that is not related to changes in the market as a whole and a risk that can be eliminated by diversification. Systematic risk is proxied by stock beta, stock beta is calculated using the following regression equation:

$$R_{it} = \alpha_i + \beta_i(R_{mt}) + e_i$$

R_{it} : *return*_{*i*}-th security.

α_i : the expected value of a security's return independent of market returns.

β_i : beta coefficient which measures R_i due to changes in R_m .

R_{mt} : the rate of return of the market index is also a random variable.

e_i : residual error, is a random variable with an expected value equal to zero or $E(e_i) = 0$.

Asset growth is the determination of how much allocation is made for each component of current assets and fixed assets.

Asset size is a measure of the size of a company as indicated by total assets/sales. Total assets are used as an estimate of company size by considering that asset value is relatively more stable than sales value.

3.2. Population and Sample

Population is all research objects. The population in this research is banking companies listed on the IDX that publish banking performance for the period 2020 - 2022, totaling 46 companies. Sample selection in this research uses a non-probability sampling method with a purposive sampling technique, namely sample selection based on considerations or criteria that have been used. The criteria that will be used in this research are: all banking companies listed on the IDX in 2021 - 2023. The companies used as samples are banking companies that publish annual financial reports continuously during the period 2021 to 2023, banking companies that publish financial reports by presenting the rupiah currency, and are not included in the category of Islamic banks. Based on these criteria, the number of samples obtained was 41, so that observation data was obtained for 41 banks x 3 years = 123 observations.

3.3. Data Analysis Techniques

The data analysis method used in this study is the descriptive analysis method and multiple linear regression analysis statistical analysis method using SPSS.

4. RESULTS AND DISCUSSION

4.1. Results

1) Descriptive Statistics

The descriptive statistical results of each variable are presented in the following table.

Table 1. Descriptive Statistics

Variables	Minimum	Maximum	Mean
Systematic Risk (Beta) of Stocks	-0.013	0.012	0.004
Asset Growth	0.092	0.171	0.145
Asset Size	19,966	20,665	20,182

Source: Processed data, 2025.

Based on Table 1, it shows that the systematic risk value (beta) of stocks indicates the level of systematic risk faced by banking stocks in this study. The minimum beta value is -0.013, while the maximum value reaches 0.012, with an average of 0.004. This shows that most banking stocks in the sample have relatively low and stable systematic risk, with an average value close to zero, reflecting a level of volatility that is not too high compared to the market. Asset growth has a minimum value of 0.092 and a maximum value of 0.171, with an average of 0.145. This shows that the average bank in this study experienced asset growth of 14.5% during the observation period, with moderate differences between banks with the lowest and highest asset growth. Asset size is measured in natural logarithms to adjust the scale of the data. The minimum value is 19.966, while the maximum value is 20.665, with an average of 20.182. This variation in asset size indicates that there are moderate differences in the scale of operations of the banks in this study, although in general they have significant assets. Overall, these descriptive statistics indicate that the study sample consists of banks with quite diverse characteristics in terms of systematic risk, asset growth, and asset size.

2) Hypothesis Testing

The test was conducted using multiple linear regression analysis, focusing on the significant relationship between the independent variables (asset growth and asset size) and the dependent variable (systematic risk). The hypothesis testing process involves analyzing the regression coefficient value, t-value, and significance level (Sig.) of each variable to determine the acceptance or rejection of the proposed hypothesis. The results of this test are expected to provide an empirical picture of the factors that influence stock sensitivity to market changes, as well as the contribution of each variable in explaining systematic risk in the banking sector. The results of the hypothesis testing obtained are presented in Table 2.

Table 2. Hypothesis Testing Results

Hypothesis	Variables	Regression Coefficient	count	Sig.	Results
H1	Asset Growth → Systematic Risk (Beta) of Stocks	0.006	2,076	0.040	H1 accepted
H2	Asset Size → Systematic Risk (Beta) of Stocks	-0.008	-2,543	0.018	H2 accepted

Source: Processed data, 2025.

Based on the hypothesis testing results table, findings were obtained regarding the influence of asset growth and asset size on the systematic risk (beta) of banking stocks. The following is an explanation of each hypothesis:

- a. Hypothesis 1 (H1): The Effect of Asset Growth on Systematic Risk (Beta) of Stocks

The test results show that asset growth has a regression coefficient of 0.006, with a t-value of 2.076 and a significance value (Sig.) of 0.040. Because the Sig. value <0.05 , H1 is accepted. This means that asset growth has a positive and significant effect on the systematic risk of stocks. The higher the growth of bank assets, the greater the systematic risk of stocks faced. This indicates that asset expansion can increase the sensitivity of stocks to market changes.

b. Hypothesis 2 (H2): The Effect of Asset Size on Systematic Risk (Beta) of Stocks

In the second hypothesis test, asset size has a regression coefficient of -0.008, with a t-value of -2.543 and a significance value (Sig.) of 0.018. Because the Sig. value <0.05 , H2 is accepted. This finding indicates that asset size has a negative and significant effect on systematic stock risk. In other words, the larger the size of a bank's assets, the smaller the systematic stock risk faced. A large asset size can reflect the bank's operational stability and ability to face market risk.

Overall, these results support the research hypothesis that asset growth increases systematic risk, while asset size plays a role in reducing the risk. These findings provide important implications for risk management in the banking sector as well as stock investment strategies in the capital market.

4.2. Discussion

1) The Influence of Asset Growth on Systematic Risk (Beta) of Stocks

Asset growth significantly affects the systematic risk (beta) of banking stocks, reflecting strategic changes in the scale of operations and business expansion. This influence occurs through various mechanisms, such as increased market exposure, changes in funding structure, and complexity of risk management. In the banking sector, asset growth is often an important indicator of expansion ambition that can affect the market's risk perception of the company. The results of the study support the view that asset growth has a significant effect on systematic risk. Kusuma (2016) found that in the context of Indonesian banking, high asset growth tends to increase systematic risk (beta). This occurs because banks with rapid asset growth rates often take greater risks, for example by providing loans to less stable market segments or investing in more aggressive portfolios. This study shows that asset growth is one of the main drivers of stock price fluctuations in the capital market.

Cooper et al. (2008) also support this finding by identifying the existence of an asset growth anomaly, where companies that record high asset growth often show a decline in future stock returns. This decline is due to the increased risk associated with massive expansion, including the potential failure to generate returns commensurate with the increased assets. This study emphasizes that asset growth can be an important indicator of the systematic risk faced by a company. However, other research results show the opposite view. Research by Yuniar & Mutmainah (2019) found that asset growth had no significant effect on stock beta. Research by Ranti & Damayanti (2020) further shows that the quality of asset management is the main differentiating factor, companies that integrate asset growth with effective risk diversification strategies tend to have more stable stock betas despite experiencing high asset growth. This finding emphasizes that risk management and strategic planning are important elements in managing the impact of asset growth on systematic risk. On the other hand, Handayani (2014) found that asset growth does not always directly affect systematic risk, especially in emerging markets such as Indonesia. Hail and Leuz (2006) also show that the relationship between asset growth and systematic risk is not universal, in highly regulated markets, large firms experiencing significant asset growth actually face higher risks due to regulatory pressures and greater systemic exposure. In the banking context, this may reflect the challenges that large banks face in managing asset growth while complying with regulatory requirements.

The effect of asset growth on systematic risk (beta) of banking stocks shows that asset growth not only reflects the potential for business expansion but also creates new challenges in risk management. In the banking sector, this relationship becomes increasingly complex because it is influenced by external factors, such as market volatility, regulatory pressure, and global economic dynamics. Therefore, companies need to adopt a prudent risk management strategy to ensure that asset growth does not significantly increase the systematic risk faced by their stocks.

2) The Influence of Asset Size on Systematic Risk (Beta) of Stocks

Asset size has a significant effect on the systematic risk (beta) of stocks, especially in the context of large companies such as the banking sector. This shows that companies with larger assets tend to face different challenges

and market risks than companies with smaller assets. Asset size is often a key indicator of a company's financial strength, scale of operations, and ability to survive in the market. However, the effect of asset size on systematic risk is not always linear and can vary based on market conditions, management strategies, and the economic and regulatory environment. The results of this study support Kusuma (2016) who found that asset size has a significant effect on stock beta in the Indonesian banking sector. Companies with large assets tend to have lower systematic risk because they have a greater capacity to diversify their portfolios and manage risk more effectively. In addition, large companies are often considered more stable by investors, so they are less vulnerable to extreme market fluctuations. Chen et al.'s (2019) research in the Chinese market also showed similar results, finding that banks with large asset sizes tend to have lower betas than small banks, because they have more resources to mitigate the impact of economic shocks and manage credit risk. In stable market conditions, company size is one of the factors that mitigate stock price volatility. Ranti & Damayanti (2020) concluded that companies with large assets tend to have easier access to funding at lower costs, so their systematic risk is more controlled. They also noted that large companies often have greater influence in the market, which provides stronger bargaining power in the face of changes in regulations or economic policies. However, other research results show that asset size does not always reduce systematic risk. Handayani (2014) found that asset size did not have a significant effect on stock beta in several banking companies in Indonesia. This is because large companies are often more exposed to systemic risk, especially in emerging markets with high volatility.

Hail and Leuz (2006) also show that in a highly regulated market, large companies may actually face higher systematic risk. In the banking sector, large banks are often subject to strict supervision by financial authorities, so any policies affecting the sector may have a greater impact on the shares of large companies than small companies. In addition, Yuniar and Mutmainah (2019) found that in unstable market conditions, companies with large assets are actually more vulnerable to risk because they have wider exposure to various economic sectors. In such a situation, the systematic risk of large companies may increase due to their dependence on macroeconomic conditions.

The significant effect of asset size on systematic risk (beta) of stocks indicates that company size plays an important role in determining market risk perception. While some studies show that large companies are more stable and have lower beta, there are also studies that show that large companies can face higher systemic risk under certain conditions. Therefore, effective and adaptive risk management is key in managing the effect of asset size on the volatility of company stocks, especially in the banking sector which is very sensitive to market fluctuations and economic policies.

5. CONCLUSION SAN DARAN

5.1. Conclusion

Based on the research results, it can be concluded that asset growth has a positive and significant effect on the systematic risk (beta) of banking stocks on the Indonesia Stock Exchange. This shows that high asset growth tends to increase the sensitivity of stocks to market changes. Conversely, asset size has a negative and significant effect on systematic risk, which means that banks with larger asset sizes tend to have lower systematic risk. These two variables contribute significantly to explaining the systematic risk of banking stocks, although there are other factors outside the model that also affect the risk.

5.2. Suggestion

Based on these findings, it is recommended for investors to consider the size and growth of bank assets in evaluating the systematic risk of selected stocks, especially in volatile market conditions. Banks with high asset growth need to manage their expansion carefully to minimize the impact of market volatility on their stock performance. In addition, bank management should focus on risk management by carefully increasing asset size to strengthen resilience to market risk. Further research considering other factors such as bank capital structure and profitability can also provide a more comprehensive understanding of the influence of these factors on systematic risk.

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