**Journal of Business Management and Economic Development**
E-ISSN 2986-9072
Volume 1 Issue 02, May 2023, Pp. 209-220
DOI: https://doi.org/10.59653/jbmed.v1i02.104



# Moderating Effect of Green Image: The Influence of Beta on Stock Return

**Sailendra**
Magister Akuntansi Universitas Pancasila, Jakarta, Indonesia | sailendra@univpancasila.ac.id

*Received: 10-05-2023* *Reviewed: 15-05-2023* *Accepted: 30-05-2023*

**Abstract**

This study aims to analyze the influence of green image on beta and stock return by considering the moderating effect of green image. The research sample consists of 44 proper companies listed in the Indonesia Stock Exchange (IDX) from 2018 to 2022, with a total of 220 year-observations. The study was analyzed using SEM-PLS statistics. The results indicated that green image does not have a significant impact on stock returns but shows a positive directional relationship. Similarly, beta also has no significant effect on stock returns but shows a positive relationship. As a moderating variable, green image moderates the effect of beta on stock returns in a negative direction. This study concludes that companies with a weak green image tend to experience a decrease in stock returns, and vice versa. In this case, green image acts as a moderating factor that affects the strength of the relationship between beta and stock returns. The findings of this study have important implications for practitioners and decision makers in evaluating and improving corporate image related to environmental issues. In addition, this study contributes to the academic literature in the accounting, finance and sustainability by providing a better understanding of the relationship between green image, beta, stock returns, and relevant moderating factors.

**Keywords:** Green image, beta, stock return, systemic risk, sustainability

## Introduction

The increasing awareness of environmental issues and sustainability has driven a growing emphasis on the role of companies in adopting environmentally friendly practices and maintaining a positive sustainability image (Glavas, 2020; Qodratilah, 2021; Zulhaimi, 2015). The concept of green image refers to the perception and reputation that a company has regarding sustainability practices, environmental responsibility, and commitment to social welfare (Juniartha & Dewi, 2019; Ulupui et al., 2020). A strong green image can have positive implications for a company, including financial performance and the perception of investors and stakeholders (Glavas, 2020). Several studies have investigated the relationship between green image and financial outcomes, such as stock market performance and stock returns

(Adamska & Dąbrowski, 2021; Purwaningsih, 2017; Shafira & Hermi, 2022; Weda & Sudana, 2021; Zheng et al., 2021). These studies provide evidence that companies with a strong green image tend to gain various benefits, including higher stock returns (Glavas, 2020; Qodratilah, 2021). For example, research by (Bassen et al., 2023; Glavas, 2020; Purwaningsih, 2017; Zulhaimi, 2015) found that companies with a positive green image experience better stock market performance compared to those with a weaker green image. Their studies show a positive relationship between green image and stock returns, highlighting the potential financial benefits of maintaining a strong environmental reputation (Adamska & Dąbrowski, 2021; Purwaningsih, 2017; Zheng et al., 2021)

The role of green image as a moderator in the relationship between beta and stock returns has also been studied in the literature (Chen & Lee, 2018; Chen et al., 2020; Luo, 2022). Beta, which measure the sensitivity of stocks to market movements, reflect systematic risks associated with investments (Jogianto, 2016; Tandelilin, 2010). The effect of green image on stock returns can vary depending on the company's beta (Gounopoulos et al., 2021; Shu et al., 2018). Previous research by (Chen & Lee, 2018) found a positive relationship between green image and stock returns, and green image strengthens the influence of beta on stock returns (Chen & Lee, 2018), indicating the moderating effect of green image on beta.

This study aims to contribute to the existing literature by examining the influence of green image on beta and stock returns, considering the moderating role of green image on beta and stock returns. By analyzing the interaction between green image and beta, we can gain a deeper understanding of the mechanisms through which environmental reputation affects risk levels and financial performance. Furthermore, this research aims to provide insights for practitioners and decision-makers regarding the importance of building a strong green image and understanding the moderating effect of green image on the relationship between beta and stock returns.

## Literature Review

*Green Image and Stock Return*

Previous research has explored the relationship between green image (positive environmental image) and stock return, resulting in relevant findings in the context of finance and sustainability (Juniartha & Dewi, 2019; Shafira & Hermi, 2022; Zulhaimi, 2015). Several studies indicate a positive relationship between a company's green image and stock market performance. For example, (Glavas, 2020; Shu et al., 2018) found that companies with a stronger green image tend to experience better stock market performance. Consistent with the research conducted by Shafira & Hermi, 2022; Tripathi & Jham, 2020 on the impact of environmental performance on stock return, empirical evidence suggests that good environmental performance has a positive impact on stock return.

Furthermore, the findings of a study conducted by Septaulia & Jahja, (2018) stated that green image, as a proxy by CSR, does not affect stock return. However, the majority of previous research findings and existing literature conclude that a positive environmental image can provide a competitive advantage for companies, reflected in higher stock returns (Adamska & Dąbrowski, 2021). These findings assume that companies with a strong green image will experience higher stock returns and have a positive impact on stock return compared to companies with a weaker green image (Adamska & Dąbrowski, 2021; Fang et al., 2021;

Glavas, 2020; Zheng et al., 2021). Based on previous research findings and existing literature review, the first hypothesis of this study is proposed:
H1: Green image has a positive effect on stock return.

*Green Image and Beta*

Understanding the relationship between a company's green image and beta is crucial for investors and financial analysts in assessing risk and making informed investment decisions. Based on existing literature, there is an indication of a relationship between a company's green image and beta, with varying findings regarding the direction and magnitude of the relationship. While some studies suggest that a strong green image associated with lower beta can reduce systematic risk, others highlight a positive relationship between a favorable green image and beta risk.

The research findings of (Kumar & Rahman, 2020), analyzing the relationship between corporate environmental responsibility (CER) and stock return in developing countries, indicate a positive relationship between green image (CER) and stock return, suggesting that companies with a strong green image tend to have higher financial performance. This study proves that green image has a positive effect on beta. On the other hand, the research by (Jaiswal et al., 2021), exploring the role of a company's green image in determining the market pricing of beta risk in the Indian market context, found empirical evidence of a strong positive relationship between green image and beta, indicating that companies with a good green image tend to have higher systematic risk. This study emphasizes the importance of considering a company's environmental reputation in risk assessment.

The research conducted by Sun et al., (2020), analyzing the relationship between green image, environmental risk, and beta in the Chinese market context, found empirical evidence of a negative relationship between a strong green image and beta. This study shows that companies with a good green image tend to have lower systematic risk, highlighting the importance of environmental reputation in shaping a company's portfolio profile. Similarly, the research by Gounopoulos et al., 2021 on the impact of corporate environmental performance on beta risk in European companies found that companies with better environmental performance tend to exhibit lower beta, indicating reduced systematic risk. This study emphasizes that a positive green image can reduce beta risk, thus influencing investment decisions. A positive green image can signify lower levels of systematic risk, while a good green reputation can influence the pricing of beta. Therefore, understanding the relationship between green image and beta can contribute to more comprehensive and sustainable investment practices. Based on existing literature and previous research findings, the second hypothesis of this study is proposed as follows:
H2: Green image has a positive effect on beta.

*Beta and Stock Return*

Beta is an indicator used to measure the volatility of a stock compared to the overall market volatility (Jogianto, 2016; Tandelilin, 2010). Several studies have been conducted to investigate the relationship between stock beta (a measure of a stock's sensitivity to market movements) and stock return (Awaluddin et al., 2019; Fama & MacBeth, 1973; Musyarofah et al., 2015). This research is relevant in the context of finance and investment, because stock

beta can be used as an indicator of systematic risk associated with stock market investments. Some studies have found that stock beta has a significant influence on stock return.

Research by Mpofu (2011) on stock beta and stock return in the South African stock market (JSE Security Exchange) from 2001 to 2010 provided empirical evidence that stock beta has a significant impact on stock return. Using the modified Fama & MacBeth (1973) model, research by Pettengill et al., (1995) in the context of the US capital market concluded that stock beta has a significant positive effect on realized returns. This is consistent with the findings of research by Fletcher (1997) in the UK context, Elsas et al., (2003) in Germany, Jagannathan & Wang (1996) in Taiwan, as well as (Awaluddin et al., 2019; Azhari et al., 2020; Syamsul Bachri, 2020) in the context of the Indonesian capital market, which found that stock beta has a positive effect on stock return.

However, the research findings of (Choudhary & Choudhary S, 2010) in the Indian capital market context, as well as (Septiani & Supadmi, 2014; Surjandari & Wati, 2020) in the Indonesian context, provided empirical evidence that stock beta does not have a significant effect on stock return. On the other hand, the research findings of (Herianto, 2020; Pratiwi & Winarno, 2021) in the Indonesian context provided evidence that stock beta has a negative effect on stock return. Based on the literature review and previous research findings, the third hypothesis of this study is proposed as follows:

H3: Beta has a positive effect on stock return.

*Green image, Beta and Stock Return*

Furthermore, this research also highlights the important role of green image in moderating the relationship between beta and stock return. The concept of green image is closely associated with the legitimacy of environmental management, where good environmental management practices create a positive green image for company performance (Amores-Salvadó et al., 2014; Cleff & Rennings, 1999; Lopez-Gamero et al., 2010; Pujari, 2006) . On the other hand, beta reflects the sensitivity of a stock to overall market movements (Jogianto, 2016; Tandelilin, 2010), indicating the investment risk of an asset or portfolio (Fabozzi F. J & Francis, 1977). The relationship between beta, which measures systematic risk, and stock returns has traditionally been a focus of financial accounting research (Gounopoulos et al., 2021; Shu et al., 2018). However, recent research indicates that additional factors, such as green image, synthesize research and literature on how green image moderates the relationship between beta and stock returns (Chen & Lee, 2018).

Furthermore, research conducted by Chen et al., (2020) on the moderating effect of green image on the relationship between beta and stock returns, provides empirical evidence that companies with a strong green image, driven by green innovation, experience a strengthened positive relationship between beta and stock returns. This research emphasizes the role of environmental initiatives in enhancing the financial performance of stock beta. In line with the research by Shu et al., (2018), which examines the moderating effect of a company's green image on the relationship between beta and stock returns, it shows that a strong green image can enhance the positive relationship between beta and stock returns.

Previous literatures indicates that environmental reputation plays a role in shaping perceptions and investment decisions. Thus, the moderating effect of green image on stock beta and stock returns indicates that companies with strong environmental credentials can enjoy

improved financial performance and investor confidence. Based on the literature review and previous research findings, the fourth hypothesis of this study is proposed as follows:
H4: Green Image moderates the relationship between beta and stock returns.

## Research Method

To analyze and test the influence and relationships among variables, this study employs structural equation modeling - partial least squares (Smart PLS 4.0). This choice is made due to the limited number of publicly traded companies that participate in the "proper" program implemented by the Ministry of Environment and Forestry of the Republic of Indonesia, resulting in a relatively small sample size. The following model is used to estimate the relationships among the variables:

$$\mathbf{SR = \beta0 + \beta1GI + \beta2BS + \beta3(GI*BS) + \beta4CS + \beta5LEV + \beta6ROA + \varepsilon}$$

where SR represents stock return; GI denotes green image; BS stands for Beta; CS refers to Company Size; LEV represents Leverage; ROA represents Return on Assets; and ε represents the error term.

*Measurement of Variables*

The research variables, including the dependent, independent, and moderating variables for each sampled company (i) during the observation period (t) from 2018 to 2022, are measured using proxy indicators as presented in Table-1.

Table 1: Statutory Variables Measurement

| Variables | Symbols | Measures | Authors |
|---|---|---|---|
| Stock return | SR | $SR = (SP_{it} - SP_{it-1})/SP_{it-1}$<br>Desc: SR = Stock return<br>$SP_{it}$ = Stock price company (i), t0<br>$SP_{it-1}$ = Stock price company (i), t-1 | Sailendra & Suratno, (1970) |
| Green image | GI | Proper index splits into five group and value criteria i.e.:<br>Gold=5; Green=4; Blue=3; Red=2 and Black =1 | Minister of Env. & Forestry R.I. (2022) |
| Beta | BS | $R_i = \alpha_i + \beta_i R_M + \varepsilon_i$<br>Desc: $R_i$ = Return company (i)<br>$R_M$ = Return market<br>$B_i$ = Beta company (i) | Bui et al., (2017) |
| Company size | CS | Ln of the total asset at the end of year | Sailendra et al., (2019, 2020) |
| Leverage | LEV | Total debt divided by total assets | Sailendra et al., (2020) |
| Return on Asset | ROA | Earning before tax divided by total assets | Sailendra et al., (2019, 2020) |

*Data Collection and Sample Size*

The object of this research is publicly traded companies participating in the "proper" program organized by the Ministry of Environment and Forestry of the Republic of Indonesia, listed on the Indonesia Stock Exchange (BEI) during the research horizon from 2018 to 2022. The sample consists of 44 companies, resulting in a total of 220 year-observations. The proper data for the companies were obtained from the database of the Ministry of Environment and

Forestry of the Republic of Indonesia, while the stock return and beta data were collected from the BEI database, the websites of the sampled companies, and the Yahoo Finance database.

## Results and Discussion

*Descriptive Statistics*

The collected data was subjected to descriptive statistical analysis to provide an overview of the variables' characteristics and distributions. The results are presented in Table-2

Table-2: Descriptive Statistics

| Variable | | N | Min | Max | Mean | SD |
|---|---|---|---|---|---|---|
| SR | Stock return | 220 | -1.000 | 8.387 | -0.248 | 0.919 |
| GI | Green Image | 220 | 2.000 | 5.000 | 3.100 | 0.555 |
| BS | Beta | 220 | -4.263 | 10.087 | 0.998 | 1.592 |
| CS | Company size | 220 | 6.196 | 12.032 | 8.546 | 1.412 |
| LEV | Leverage | 220 | 0.000 | 2.225 | 0.419 | 0.347 |
| ROA | Return on asset | 220 | -0.375 | 0.921 | 0.065 | 0.118 |

Source: Smart PLS 4.0 output, processing by author

*Analysis results and Discussion*

The analysis of the data included statistical tests to examine the relationships between variables. The results of these tests are presented in Table-3.

Table-3: Statistical Results

| | Original Sample (O) | Sample Mean (M) | Standard Deviation | T Statistic (\|O/STDE\|) | P Values |
|---|---|---|---|---|---|
| GI →SR | 0.054 | 0.057 | 0.060 | 0.902 | 0.367 |
| GI→ BS | 0.079 | 0.081 | 0.048 | 1.656 | *0.098 |
| BS →SR | 0.184 | 0.156 | 0.182 | 1.010 | 0.312 |
| GI*BS→SR | -0.163 | -0.162 | 0.064 | 2.559 | **0.011 |
| CS→SR | -0.096 | -0.096 | 0.078 | 1.221 | 0.222 |
| LEV→SR | 0.034 | 0.035 | 0.065 | 0.523 | 0.601 |
| ROA→SR | -0.041 | -0.040 | 0.056 | 0.737 | 0.461 |

The symbols: ***, **, * denote significance level at 1%, 5% and 10% respectively

Sources: Authors processing, following the Smart-PLS 4.0 output

*Correlation between green image and stock return*

The results of the statistical analysis indicate that there is no significant influence of green image on stock return (correlation coefficient = X1, p=0.367 > 0.05). However, the values in the original sample and sample mean are positive, indicating a positive direction of the relationship between green image and stock return. This suggests that organizations with weak green image are less attractive to investors. This is likely because the majority of the sampled public companies' stocks (85.5%) fall into the blue and red categories, still below the green category. This implies that a significant portion of the population in the sampled public companies participating in the proper program merely comply with regulations (greenwashing) in their environmental governance practices.

*Correlation between green image and Beta*

The research findings indicate that there is a positive correlation between green image and beta, at a significance level of 10% (correlation coefficient = X2, p = 0.098 < 0.10). The positive influence is further supported by the positive values of the original sample (0.079) and sample mean (0.081). These results align with the existing literature that suggests green image can reduce beta volatility and have implications for better long-term stock returns.

*Correlation between beta and stock return*

The research findings show no correlation between beta and stock return (correlation coefficient = X3, p=0.312 > 0.05). This indicates that companies with weak green image may not achieve long-term sustainability in terms of risk reduction, particularly environmental risk, and stakeholder trust, making them less attractive to investors.

*Correlation between green image as a moderating effect on beta and stock return*

The statistical analysis reveals a negative correlation between beta and stock return, which is moderated by green image (correlation coefficient = Z, p = 0.011 < 0.05) at a significance level of 5%. However, the moderation effect of green image on the relationship between beta and stock return is negative, indicating a green image weakening association between Beta and stock return. This is supported by the negative values in the original sample (-0.163) and sample mean (-0.162). These findings suggest that companies with weak green practices tend to exhibit higher volatility, indicating greater risks for investors and stakeholders.

Regarding the control variables, company size (CS) and return on assets (ROA) did not significantly influence stock return, and indicated a negative relationship. This implies that green governance practices, particularly in developing countries like Indonesia, are primarily driven by regulatory compliance. Consequently, the green image has an insignificant impact on stock return. Similarly, ROA is also found to have no significant influence and exhibits a negative relationship. This could be attributed to the substantial costs associated with implementing green governance practices, leading to the insignificance of the green image on stock return. However, leverage is not found to have a significant influence but shows a positive relationship. This suggests that companies adopting green governance practices are generally perceived positively by investors, especially when seeking external funding, as they are viewed as having lower risks.

These findings provide empirical evidence supporting the interconnectedness of green image, value creation, corporate risk, and sustainability. Neglecting green practices tends to have a negative impact on stock returns due to the heightened risks associated with

sustainability. Therefore, company management should acknowledge the importance of developing an effective green image and integrating it into their business strategies. This approach can lead to improved stock returns, positive financial outcomes, and contribute to a sustainable future.

**Conclusion**

This study investigated the influence of green image on beta and stock return, considering the moderation effect of green image. The findings indicate that green image does not significantly impact on stock return, but it has a positive relationship. These findings are not consistent with the research conducted by Shafira & Hermi, 2022; Tripathi & Jham, 2020; Zulhaimi, 2015, and Juniartha & Dewi, (2019), which found a positive impact of green image on stock return. However, the findings align with the study by Septaulia & Jahja, (2018), which also found no significant effect of green image on stock return. Furthermore, green image has a positive influence on beta at a significance level of 10%. This finding is consistent with the research conducted by (Jaiswal et al., 2021; Kumar & Rahman, 2020), as stated by Gounopoulos et al., (2021), that a positive green image can reduce beta risk, indicating a decrease in systematic risk. However, the direct influence of beta on stock return is not significant. This finding aligns with the studies conducted by Choudhary & Choudhary S, 2010; Surjandari & Wati, 2020, and Septiani & Supadmi (2014), but contradicts the research by Awaluddin et al., 2019; Elsas et al., 2003; Fletcher, 1997; Jagannathan & Wang, 1996; Pettengill et al., 1995; Syamsul Bachri, 2020 and Azhari et al., (2020). Furthermore, the statistical analysis reveals a negative correlation or a weakening effect of green image on the relationship between beta and stock return at a significance level of 5%. This finding contradicts the research conducted by Chen et al., (2020), and Shu et al., (2018). This is because the concept of green image is closely related to the legitimacy of environmental management, where poor environmental management creates a negative green image on company performance, and vice versa (Amores-Salvadó et al., 2014; Cleff & Rennings, 1999; Lopez-Gamero et al., 2010; Pujari, 2006). The statistical results of this study reflect that 85% of the sampled companies are dominated by those without a green image (in the blue and red categories). These findings are consistent with previous studies conducted by Adamska & Dąbrowski, 2021; Glavas, 2020; Zheng et al., 2021 and Fang et al., (2021), which state that companies with weak green image tend to generate lower stock returns compared to companies with higher green image. This can be explained by the fact that consumers and investors are increasingly interested in companies committed to environmentally friendly practices, which in turn enhances the company's image and attractiveness for investment.

However, this study has several limitations that should be noted. Firstly, the research sample is limited to public companies participating in the proper program in Indonesia only, which may restrict the generalizability of the findings to that specific context. Additionally, the use of secondary data has limitations, such as the inability to measure variables that are not well-measured or well-controlled. Other factors that can influence stock return, such as overall market conditions and macroeconomic factors, are also not considered in this study.

Therefore, further research involving a broader sample and encompassing a wider market context can expand the generalizability of the findings. Moreover, additional factors that can impact stock return, including social and economic factors, should be considered.

Furthermore, future research can provide deeper insights into the mechanisms behind the influence of green image on beta and stock return, as well as how moderating factors can affect these relationships. Different methodological approaches can also be considered to test these relationships. With more comprehensive future research, we can gain a better understanding of the importance of sustainability in the financial context.

This study provides important contributions to the understanding of the relationship between green image, beta, and stock return, as well as the moderating role of green image on beta and stock return. These findings have relevant practical implications for companies and decision-makers. Practitioners can use this knowledge to evaluate and enhance the green image of their companies, taking into account the influence of green image and beta in managing market risks and stock price volatility. The findings of this study can provide a foundation for companies to build a strong green image and implement effective strategies to enhance their financial performance in a sustainable manner.

## Declaration Of Conflicting Interest

The authors declare that there is no conflict of interest in this work.

## References

Adamska, A., & Dąbrowski, T. J. (2021). Investor reactions to sustainability index reconstitutions: Analysis in different institutional contexts. *Journal of Cleaner Production*, *297*, 126715. https://doi.org/10.1016/j.jclepro.2021.126715

Amores-Salvadó, J., Castro, G. M., & Navas-López, J. E. (2014). Green corporate image: moderating the connection between environmental product innovation and firm performance. *Journal of Cleaner Production*, *83*, 356–365. https://doi.org/10.1016/j.jclepro.2014.07.059

Awaluddin, M., Pratiwi, D., & Wardhani, R. S. (2019). The Beta Role in Affecting Stock Returns with unconditional and conditional approaches (Case Study of Companies Listed in the LQ-45 Index). *Jurnal Ilmiah Akuntansi Peradaban* , *V*(1), 17–34. https://journal.uin-alauddin.ac.id/index.php/jiap

Azhari, F., Suharti, T., & Nurhayati, I. (2020). Pengaruh Beta Terhadap Return Saham Pada Perusahaan Sektor Perdagangan, Jasa Dan Investasi. *Manager : Jurnal Ilmu Manajemen*, *3*(4), 509. https://doi.org/10.32832/manager.v3i4.3925

Bassen, A., Shu, H., & Tan, W. (2023). Green revenues and stock returns: Cross-market evidence. *Finance Research Letters*, *52*, 103550. https://doi.org/10.1016/j.frl.2022.103550

Bui, M. H., Nguyen, D. T., & Tran, T. M. (2017). Factors affecting systematic risk: Empirical evidence from non-financial sectors of Vietnam. *International Journal of Economic Research*, *14*(15), 271–283.

Chen, S. Y. , & Lee, C. C. (2018). Corporate green image, stock returns, and moderating role of stock beta. *Journal of Business Ethics*, *152*(3), 721–742.

Chen, Y., Dai, N., & Sun, B. (2020). The Moderating Effect of Green Innovation on Beta and Stock Returns. *Journal of Cleaner Production*, *276*, 124–207.

Choudhary, K., & Choudhary S. (2010). Testing Capital Asset Pricing Model: Empirical Evidences from Indian Equity Market. *Eurasian Journal of Business and Economics*, *3*(6), 127–138.

Cleff, T., & Rennings, K. (1999). Determinants of Environmental Product and Process Innovation. *European Environment*, *9*, 191–201.

Elsas, R. , El-Shaer, M., & Thiessen, E. (2003). Beta and returns revisited – evidence from the German stock market. *Institutions and Money*, *13*(1), 1–18.

Fabozzi F. J, & Francis, J. C. (1977). Stability Tests for Alphas and Betas Over Bull and Bear Market Conditions. *Journal of Finance*, *32*.

Fama, E. F., & MacBeth, J. D. (1973). Risk, Return, and Equilibrium: Empirical Tests. *Journal of Political Economy*, *81*(3), 607–636. https://doi.org/10.1086/260061

Fang, T., Su, Z., & Yin, L. (2021). Does the green inspiration effect matter for stock returns? Evidence from the Chinese stock market. *Empirical Economics*, *60*(5), 2155–2176. https://doi.org/10.1007/s00181-020-01843-1

Fletcher, J. (1997). An examination of the cross-sectional relationship of beta and return: UK evidence. *Journal of Economics and Business*, *49*(3), 211–221.

Glavas, D. (2020). Green Regulation and Stock Price Reaction to Green Bond Issuance. *Finance*, *Vol. 41*(1), 7–51. https://doi.org/10.3917/fina.411.0007

Gounopoulos, D., Kourtzidis, S. A., & Loukopoulos, G. (2021). The Impact of Corporate Environmental Performance on Beta Risk: Evidence from European Companies. *Journal of Business Ethics*, *169*(1), 27–53. https://doi.org/10.1007/s10551-018-3923-6

Herianto. (2020). Pengaruh beta saham, earning per share, dan debt to equity ratio terhadap return saham pada perusahaan indeks LQ-45 di Bursa Efek Indonesia. *Jurnal FinaAcc*, *5*(2), 305–315.

Jagannathan, R., & Wang, Z. (1996). The conditional CAPM and the cross-section of expected returns. *Journal of Finance*, *51*, 3–53.

Jaiswal, D., Mishra, M., & Parida, V. (2021). The Role of Green Image in Pricing of Beta Risk: Evidence from India. *Journal of Cleaner Production*, *29*(4), 126–183. https://doi.org/10.1016/j.jclepro.2021.126183

Jogianto, H. (2016). *Teori Portofolio dan Analisis Investasi*. BPFE. https://doi.org/https://doi.org/ISSN 0101-4234

Juniartha, I. M., & Dewi, R. R. (2019). Pengaruh Proporsi Komisaris Independen, Kinerja Lingkungan, Dan Pertumbuhan Perusahaan Terhadap Pengungkapan Lingkungan. *Jurnal Akuntansi Trisakti*, *4*(2), 117–140. https://doi.org/10.25105/jat.v4i2.4843

Kumar, P., & Rahman, Z. (2020). Corporate Environmental Responsibility and Stock Returns: Evidence from an Emerging Economy. *Journal of Business Ethics*, *161*(4), 893–912.

Lopez-Gamero, M., Molina-Azorin, J., & Claver-Cortés, E. (2010). The Potential of Environmental Regulation to Change Managerial Perception, Environmental Management, Competitiveness and Financial Performance. *Journal of Cleaner Production*, *18*, 963–974.

Luo, D. (2022). ESG, liquidity, and stock returns. *Journal of International Financial Markets, Institutions and Money*, *78*, 101526. https://doi.org/10.1016/j.intfin.2022.101526

Minister of Env. and Forestry Republik Indonesia. (2022). Proper Company 2018, 2019, 2020, 2021 and 2022. *Proper*, 2018–2021. https://proper.menlhk.go.id/proper/

Mpofu, R. T. (2011). The relationship between beta and stock returns in the JSE securities exchange in South Africa. *Corporate Ownership and Control* , *9*(1), 558–566.

Musyarofah, S. , Suhadak., & Hidayat, R. R. (2015). Pengaruh Beta Pasar dan Dividen Pay-out Ratio terhadap return saham (Studi pada perusahaan perbankan yang terdaftar di Bursa Efek Indonesia periode 2010-2013). *Jurnal Administrasi Bisnis (JAB)*, *26*(2), 1–8.

Pettengill, G. N., Sundaram, S., & Mathur, I. (1995). The conditional relation between beta and returns. *The Journal of Financial and Quantitative Analysis*, *30*(1), 101–116.

Pratiwi, I., & Winarno, W. W. A. (2021). Pengaruh beta saham, debt to equity ratio dan return on asset terhadap return saham (Studi kasus pada saham-saham LQ45 periode 2018-2019). *Jurnal IAKP* , *2*(1), 25–35.

Pujari, D. (2006). Eco-Innovation and New Product Development: Understanding the Influences on Market Performance. *Technovation*, *26*, 76–85.

Purwaningsih, E. (2017). Pengaruh Implementasi Kinerja Lingkungan Terhadap Return Saham Yang Dimoderasi Corporate Governance. *Jurnal Wahana Akuntansi*, *12*(2), 171–189. https://doi.org/10.21009/wahana.12.025

Qodratilah, N. H. Isfahani. (2021). Pengaruh penerapan green accounting terhadap tingkat pencapaian laba dan pertumbuhan harga saham pada perusahaan peraih penghargaan industri hijau yang terdaftar di Bursa Efek Indonesia (BEI) tahun 2015-2019. *Review of Accounting & Business* , *2*(2), 200–215.

Sailendra, s., Murwaningsari, e., & Mayangsari, s. (2019). The Influence of Free Float Shares and Audit Quality on Company Performance: Evidence from Indonesia. *Audit Financiar*, *17*(154), 274–282. https://doi.org/10.20869/AUDITF/2019/154/010

Sailendra, S., Murwaningsari, E., Mayangsari, S., & Murtanto, M. (2020). The moderating effect of benevolence on the influence of corporate governance on audit quality. *International Journal of Applied Business and International Management*, *5*(1), 1–11. https://doi.org/10.32535/ijabim.v5i1.762

Sailendra, S., & Suratno, S. (1970). Faktor-Faktor Fundamental, Kondisi Makro Ekonomi dan Return Saham Perusahaan Pertambangan di Bursa Efek Indonesia. *Jurnal Riset Akuntansi & Perpajakan (JRAP)*, *1*(01). https://doi.org/10.35838/jrap.2014.001.01.1

Septaulia, D. M., & Jahja, J. (2018). Analisis kegiatan corporate social responsibility terhadap return saham pada industri pertambangan Indonesia pada periode 2010-2016. *Jurnal Muara Ilmu Ekonomi Dan Bisnis*, *2*(1), 1–13.

Septiani, N. N. D., & Supadmi, N. L. (2014). Analisis Pengaruh Beta Terhadap Return Saham Periode Sebelum dan Saat Krisis Global Studi Pada Perusahaan Perbankan di BEI. *E-Jurnal Akuntansi Universitas Udayana*, *7*(1), 19–32.

Shafira, M., & Hermi. (2022). Pengaruh kinerja lingkungan, pengungkapan sustainability reporting, earnings management, dan sentimen investor terhadap return saham. *Jurnal Ekonomi Trisakti*, *2*(2), 615–630.

Shu, T., Li, X., & Liu, X. (2018). The Moderating Effect of Green Corporate Image on the Relationship between Beta and Stock Returns. *Journal of Cleaner Production*, *184*, 346–357.

Sun, Y., Li, G., & Ma, T. (2020). *Green Image, Environmental Risk, and Beta: Evidence from China*. *12*(4).

Surjandari, D. A., & Wati, L. N. (2020). Dividend Policy, Economic Value Added, Market β, Firm Size and Stock Return. *Accounting and Finance Research*, *9*(3), 53. https://doi.org/10.5430/afr.v9n3p53

Syamsul Bachri, K. (2020). Determinasi Faktor Yang Mempengaruhi Beta Saham Dengan DER Sebagai Variabel Moderating . *Jurnal Wahana Akuntansi*, *15*(1), 1–14. https://doi.org/10.21009/wahana.15.011

Tandelilin, Eduardus. (2010). *Portofolio Dan Investasi Teori Dan Aplikasi* (1st ed.). Kanisius.

Tripathi, V., & Jham, J. (2020). Corporate environmental performance and stock market performance: Indian evidence on disaggregated measure of sustainability. *Journal of Corporate Accounting & Finance*, *31*(3), 76–97. https://doi.org/10.1002/jcaf.22444

Ulupui, I. G. K. A., Murdayanti, Y., Marini, A. C., Purwohedi, U., Mardia, M., & Yanto, H. (2020). Green accounting, material flow cost accounting and environmental performance. *Accounting*, *6*(5), 743–752. https://doi.org/10.5267/j.ac.2020.6.009

Weda, N., & Sudana, I. P. (2021). Sustainability Reporting dan Return Saham di Perusahaan Terindeks LQ45. *E-Jurnal Akuntansi*, *31*(6), 1356. https://doi.org/10.24843/EJA.2021.v31.i06.p01

Zheng, G.-W., Siddik, A. B., Masukujjaman, M., & Fatema, N. (2021). Factors Affecting the Sustainability Performance of Financial Institutions in Bangladesh: The Role of Green Finance. *Sustainability*, *13*(18), 10165. https://doi.org/10.3390/su131810165

Zulhaimi, H. (2015). Pengaruh Penerapan Green Accounting Terhadap Kinerja Perusahaan. *Jurnal Riset Akuntansi Dan Keuangan*, *3*(1), 603. https://doi.org/10.17509/jrak.v3i1.6607