The Influence of Firm Characteristics and Capital Structure on Sustainable Growth Rate: Moderating Effect of Industry Sector

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Abstract

This study examines the impact of firm characteristics and capital structure on sustainable growth rate of technology and consumer goods companies listed on JII, considering the moderating influence of industrial sector variables. The research utilizes secondary panel data sourced from annual financial reports. The population consists of JII-listed companies from 2018 to 2022, with a purposive sampling approach resulting in a sample size of six firms. The Structural Equation Modeling - Partial Least Square analysis findings reveal that firm size, characteristics, and capital structure significantly influence the sustainable growth rate, with firm size further enhanced through industrial sector moderation. The study contributes theoretically by emphasizing the significance of firm characteristics and capital structure while offering practical insights by showcasing how firms can stimulate sustainable growth through enhanced profitability and capital structure, thereby facilitating reinvestment and development.

Keywords: Profitability; Company Size; Capital Structure; Sustainable Growth Rate; Industrial Sector.

1. Introduction

The company has the goal of obtaining profits through business continuity. Amid increasingly fierce business competition, many new businesses have sprung up where one of the fundamental questions is how long they will survive and how (Theresia & Triwacananingrum, 2022). Moreover, as a developing country, Indonesia has a different business environment than developed countries. Companies in Indonesia often face challenges in optimizing their capital structure and maximizing firm value. Therefore, understanding the relationship between sustainable growth rate (SGR), company characteristics, and Indonesia’s capital structure can help companies make strategic decisions. This makes researchers interested in seeing how company characteristics are moderated by industry type on the company’s sustainable growth rate.

The ability and financial performance of the company can be measured using the sustainable growth rate. The maximum growth rate or SGR is the rate at which sales can continue to increase without running out of capital (Nasim & Irnama, 2015). The implementation of the Sustainable growth rate is so important because it consists of profit margins and asset efficiency as well as finance in terms of the capital structure and the level of retention to produce a comprehensive measure. Moreover, SGR has a role in making financial decisions in the future. Therefore, this concept is also helpful for determining long-term financial plans as an ideal level of development for a company (Fajri, 2021).

Several factors, such as company characteristics, profitability, size, and capital structure, can affect the company's sustainable growth. Higgins (1977) argues that more profitable firms have higher SGR due to effective investment in fixed assets, efficient working capital management, and higher taxes. So it can be said that profitability has a significant positive effect on SGR for companies in all industries (Ronald & Semuel, 2022), and company size has a positive relationship with SGR. Capital structure also has a positive relationship with SGR. The prosperity of a company is closely related to how managers manage their capital structure. The use of debt is limited because the company will face the prospect of bankruptcy if it cannot manage capital properly. According to (Myers & Majluf, 1984), The pecking order theory explains that companies tend to choose funding sources in a certain order, namely first utilizing internal funding sources such as retained earnings, then debt, and finally with equity. In this case, SGR affects the relationship between company characteristics and capital structure with firm value through the financing channels chosen by the company. SGR affects the company’s ability to generate internal funding and therefore influences the company’s choice of primary funding sources. When SGR is high, companies can use retained earnings as the main funding source, while when SGR is low, companies need to seek external funding sources such as debt or equity.

Xu and Wang (2018) demonstrated several factors that influence firm value and the company's sustainable growth rate, such as intellectual capital, which positively impacts the company's financial performance and sustainable growth. In addition, firm performance and sustainable growth are positively related to physical, human, and relational capital. Meanwhile, research from Vuković et al. (2022) found that liquidity and leverage negatively affect sustainable growth rates, while profitability positively affects sustainable growth. Finally, the sustainable growth rate variable was used as a mediating variable from the research of Ramli et al.
It was found that the sustainable growth rate shows a significant relationship with stock price performance. The results of mediation effects, capital structure, dividend policy, profitability, and firm size are considered mediators and indirect.

Theoretical development includes the ability to relate concepts related to the industrial sector and sustainable growth rates with scientific studies on company characteristics and capital structure. However, discussions related to sustainable growth, capital structure, and the industrial sector are still relatively new. There is no massive research on the sustainability and shares of Islamic companies. In general, there are still inconsistencies in the results of the research above due to the use of methods and several variables, which also vary in each study, so there is still room for research because previous research did not include industrial sector variables as moderators. Variables that explain that technology sector companies can lead companies to high sustainable growth rates and also add capital structure variables. This study investigates the effect of company characteristics and capital structure on sustainable growth rates moderated by the industrial sector.

This research is expected to contribute to the empirical literature in the field. First, it aims to fill the gap in the sustainable growth literature by discussing the industrial sector as a moderating variable. Second, this research is expected to be the first to examine the capital structure of the sustainable growth rate through the industrial sector as moderation. Third, this study looks at the factors that can encourage Sharia-indexed companies in the technology and consumer goods sectors to achieve sustainable growth rates. This is ultimately expected to provide information about policy steps that stakeholders can take.

2. Literature Review

Pecking Order Theory

Pecking order theory is a financial theory that explains that companies usually use fewer and more easily available sources of funding before using more difficult and more expensive sources of funding. Earnings or internal funding are examples of cheap and simple sources of funding. On the other hand, debt or external funding, such as issuing new shares, are examples of expensive and difficult sources of funding (Myers 1984).

Companies prefer using internal funding sources first before external funding sources such as debt or stocks. Therefore, companies with a low capital structure tend to have more internal funds available to reinvest and develop, which in turn can drive sustainable growth. Pecking order theory can also explain the relationship between return on assets (ROA) and sustainable growth rate (SGR), with a higher return on assets allowing businesses to achieve higher sustainable growth rates without relying on outside funding. (Vuković et al., 2022).

Agency Theory

Agency theory provides an overview of a company's principals (owners or investors) and agents (managers or executors). This agency theory is a theory in the field of economics and management. According to agency theory, principals and agents have different and often conflicting goals, with principals seeking maximum profit while agents pursuing personal goals such as avoiding risk or achieving easy targets (Jensen & Meckling, 1976; Anshori et al., 2020).

In this case, the sustainable growth rate (SGR) can be used as a measure of the performance of agents or managers in achieving company goals, while company size can be used as a measure of the power of principals or owners. According to agency theory, conflicts of interest between agents and principals can affect management decisions and company performance. For example, managers with different personal goals can make decisions that are detrimental to the business.

According to agency theory, principals or owners have more power to influence the decisions and performance of managers or agents in relation to firm size and SGR. In addition, the office hypothesis also states that chiefs should devise appropriate motivational or reward systems to encourage experts or administrators to achieve ideal goals. In this case, the leadership can provide a motivator as a reward or a management offer who successfully achieves SGR normally (Rahim, 2017).

Resource-Based View

Resource-based view is a theory that considers the company as a dynamic collection of all its resources and capabilities. These resources and capabilities can create and configure internal and external corporate activities to build innovation capabilities and achieve better performance. RBV believes that resources and capabilities that are different, rare, difficult to imitate, and difficult to replace can be a source of competitive advantage for companies (Peteraf et al., 2013).

Technology can affect company performance because it can improve processes and the use of technology in company activities. Technology can also influence product innovation because it can help companies develop core competencies of existing or new products. Finally, technology can also be a moderator between product innovation and company performance because it can strengthen or weaken the effect of product innovation depending on the characteristics and quality of the technology itself (Agustia et al., 2022).
The Relationship Between Profitability and Sustainable Growth Rate

Pecking order theory illustrates that companies prefer to use internal sources of financial support (e.g., benefits) rather than external sources (e.g., debt) to support company operations. Avoiding additional debt-related costs, such as interest and debt repayment costs. So assuming an increase in ROA, this indicates that the profit earned by the company has also increased (Anshori et al., 2020). Companies can now finance their investment activities with internal funds. This indicates that companies can achieve higher SGR without relying on external funding sources if ROA increases (Myers, 1984a). Pecking order theory can explain the relationship between ROA and SGR, with higher ROA allowing businesses to achieve higher SGR without relying on outside funding.

This is because more profitable companies have more funds available for reinvestment and development, which in turn can promote sustainable growth (Ronald & Semuel, 2022). However, it is essential to note that other factors, such as industry, competition, and economic factors, can also influence the relationship between profitability and SGR (Barney, 1991).

Research from Arora et al. (2018) shows that four main ratios, namely return on equity, net profit margin, asset turnover, and financial leverage, affect the sustainable growth rate. Likewise, Vuković, Tica, and Jakšić (2022) research examines the indicators that influence the sustainable growth rate. The results of his research show that profitability has a positive effect on sustainable growth. Finally, Mukherjee's (2018) research findings reveal a significant positive relationship between liquidity, profitability, and leverage with the company's sustainable growth rate.

H1: Profitability has a positive effect on the sustainable growth rate.

The Relationship Between Firm Size and Sustainable Growth Rate

The agency theory can be suitable for connecting firm size with sustainable growth rates. Company size can affect management decisions in taking risks and making investments. Larger companies tend to have more resources to take risks and make larger investments, which can drive sustainable growth. However, government policies, market conditions, and economic conditions can influence the relationship between firm size and SGR (Jensen & Meckling, 1976).

Research from Rahim (2017) found a significant relationship between the debt ratio, equity ratio, total asset turnover, and company size with a sustainable growth rate.

H2: Firm size has a positive effect on the sustainable growth rate.

The Relationship Between Capital Structure and Sustainable Growth Rate

The pecking order theory can be suitable for connecting capital structure with the sustainable growth rate. Companies prefer to use internal funding sources first before external funding sources such as debt or stocks. Therefore, companies with a low capital structure tend to have more internal funds available for reinvestment and development, which in turn can promote sustainable growth. However, other factors, such as cost of capital and risk of failure, can also affect the relationship between capital structure and SGR (Myers, 1984b).

Research from Arora et al. (2018) shows that the four main ratios, namely return on equity, net profit margin, asset turnover, and capital structure, affect the sustainable growth rate, especially after being strengthened by industry-specific factors such as industrial growth and inflation in the regression equation. The research findings of Mukherjee (2018) reveal a significant positive relationship between liquidity, profitability and capital structure with the company's sustainable growth rate. However, (Vuković et al., 2022) show that liquidity and capital structure have a negative effect on sustainable growth.

H3: Capital structure has a positive effect on the sustainable growth rate.

The Industrial Sector Moderates the Relationship between Profitability, Company Size, Capital Structure, and Sustainable Growth Rate

Through differences in the characteristics and conditions of the industrial sector, the relationship between the independent variables (profitability, company size, and capital structure) and the dependent variable (sustainable growth rate) can strengthen or weaken this relationship (Peteraf et al., 2013). For example, the relationship between profitability and sustainable growth rate in an industry can be strengthened if the technology sector has characteristics and conditions that encourage the use of internal funding sources.

In the analysis with industry moderation variables, researchers can test whether the effect of profitability, company size, and capital structure on sustainable growth rates differ between variables in technology companies and consumer goods with the assumption that technology companies can bring companies to sustainable growth rates. This is because it has a high innovation rate (Agustia et al., 2022).

Research from Arora et al. (2018) shows that four main ratios, namely return on equity, net profit margin, asset turnover, and financial leverage, affect the sustainable growth rate, especially after considering the specific factors of each industry.
H$_4$: The industrial sector strengthens the relationship between profitability and sustainable growth rate.

H$_5$: The industrial sector strengthens the relationship between firm size and the sustainable growth rate.

H$_6$: The industrial sector strengthens the relationship between capital structure and the sustainable growth rate.

**Variable Operational Definitions**

Several independent variables, dependent variables, and mediating variables are used in this study as shown in Table 1.

<table>
<thead>
<tr>
<th>Variable Operational Definition</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability (X1)</td>
<td>Company scale uses measurements with the natural log of total assets, so it can reduce the differences that appear between the size of large-scale and small-scale companies (Sari, 2012)</td>
</tr>
<tr>
<td>ROA=((\text{net profit before tax})/\text{(total assets)})</td>
<td></td>
</tr>
<tr>
<td>Company Size (X2)</td>
<td>Company scale uses measurements with the natural log of total assets, so it can reduce the differences that appear between the size of large-scale and small-scale companies (Sari, 2012)</td>
</tr>
<tr>
<td>Size=(\text{Log natural (total assets)})</td>
<td></td>
</tr>
<tr>
<td>Capital Structure (X3)</td>
<td>In this study, financial leverage is a company’s ability to borrow to finance its operating activities. Leverage is an indicator to measure the amount of assets financed by debt. This leverage proportion is also related to the choice of organizational supporters who prefer bond funding over private funds (Paramitha &amp; Rohman, 2014).</td>
</tr>
<tr>
<td>Debt to Equity Ratio (DER)=((\text{total liabilities})/\text{equity})</td>
<td></td>
</tr>
<tr>
<td>Industry/sector (Z)</td>
<td>Industry or sector codes can be obtained from data sources such as company financial reports, industry or sector databases. The industry or sector code can then be turned into a dummy or categorical variable by assigning each industry or sector category a numeric value.</td>
</tr>
<tr>
<td>The indicator for measuring this moderating variable is an industry or sector code consisting of numbers representing a particular industry or sector category. In this study, the value of 1 is for companies in the technology sector and 0 for companies in the consumer goods sector.</td>
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</table>

**Data Analysis Technique**

The data collected was then analyzed using data analysis techniques using the Structural Equation Modeling - Partial Least Square (SEM-PLS) method.
using WarpPLS Version 8.0 software running on computer media. SEM-PLS does not require data with a large number of sample sizes or many with a small sample size. SEM-PLS can work efficiently. Understanding SEM-PLS is a modeling approach (Ratmono & Sholihin, 2013)

Panel data in this study include cross-section data of companies listed on the Jakarta Islamic Index (JII). And the time series data covers the years 2018-2022. The relationship between the dependent variable sustainable growth rate (SGR) Y and the independent variables in the form of profitability/return on assets (ROA), firm size (SIZE), capital structure/debt equity ratio (DER) and moderated by industry/sector (M) will be explained in this study. Data on sustainable growth rate (SGR), profitability, company size, capital structure, and industry/sector of companies in the Jakarta Islamic Index (JII) were collected for this study, as illustrated in Table 2.

Measurement Model (outer Model)

The researcher defines and specifies the relationship between latent constructs and their indicators.

Structural Model (inner Model)

At this stage, formulate a model of the relationship between the constructs.

Construct path diagrams

The primary function of building a path diagram is to visualize the relationship between indicators and their constructs and between constructs, making it easier for researchers to see the Model as a whole.

Moderate Regression Analysis (MRA) Test equation model

\[
SGR = \alpha + \beta_1 \text{ROA} \ast \text{DI} + \beta_2 \text{SIZE} \ast \text{DI} + \beta_3 \text{DER} \ast \text{DI} + e ...
\]

Notes:

SGR = Sustainable Growth Rate
\(\alpha\) = Constant
\(b_1-b_3\) = Regression Coefficient
ROA = Return of Asset
DER = Capital structure
SIZE = Firm Size
DI = Dummy Industry

e = Error Term, or the level of error in the estimator study

4. Results

Table 3 illustrates the Average Variances Extracted (AVE) to determine the degree to which the construct measured in the data set accurately reflects the variance of all items included in the construct. In structural equation modeling (SEM) and AVE, factor analysis is used to assess the quality of construct variable measurements and help measure construct convergence or uniformity. If the AVE value is higher than 0.50, it can be assumed that the measured construct is consistent and reliable. Therefore, a high AVE value in this study indicates that the measured construct is valid and has good reliability (Table 1).

Table 2. Hypothesis and path-coefficient test results

<table>
<thead>
<tr>
<th>Variable</th>
<th>ROA</th>
<th>SIZE</th>
<th>DER</th>
<th>INDUSTR*DER</th>
<th>INDUSTR*SIZE</th>
<th>INDUSTR*ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGR</td>
<td>0.796</td>
<td>-0.411</td>
<td>0.592</td>
<td>-0.190</td>
<td>0.303</td>
<td>0.166</td>
</tr>
<tr>
<td>P values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGR</td>
<td>&lt;0.001</td>
<td>0.005</td>
<td>&lt;0.001</td>
<td>0.132</td>
<td>0.032</td>
<td>0.165</td>
</tr>
</tbody>
</table>

Asterisk (*) implies multiplication indicating the interaction between the variables of independence and moderation
analysis with the help of WarpPLS version 8.0 software. First, use p-values to determine whether the path coefficient is statistically significant. If the p-value is less than the specified significance level (0.05), then the path coefficient is considered significant and shows a significant relationship between variables. Path coefficients are numbers that describe the relationship or influence between the independent and dependent variables in a path analysis or regression model (Henseler et al., 2016).

Test Hypothesis 1: Profitability has a positive effect on the sustainable growth rate

The results of the partial test calculations on the profitability variable obtained a p-value = 0.001, <0.05, so H₁ was accepted. The path coefficient on this variable is 0.796, which means that profitability positively and significantly affects the sustainable growth rate. For every 1 percent increase in profitability, the value of the sustainable growth rate will increase by 0.796.

Test Hypothesis 2: Firm size has a positive effect on sustainable growth rates

The analysis results on the company size variable obtained a p-value = 0.005, <0.05, so H₂ was rejected. The path coefficient on this variable is 0.411, which means that the firm size variable negatively and significantly affects the sustainable growth rate. For every 1 percent increase in the value of company size, the value of the sustainable growth rate will decrease by 0.411.

Test Hypothesis 3: Capital structure has a positive effect on the sustainable growth rate

The results of the partial test calculations on the capital structure variable obtained a p-value = 0.001, <0.05, so H₃ was accepted. The path coefficient on this variable is 0.592, which means that the capital structure variable positively and significantly affects the sustainable growth rate. For every 1 percent increase in the value of the capital structure, the value of the sustainable growth rate will increase by 0.592.

Test Hypothesis 4: The industrial sector strengthens the relationship between profitability and sustainable growth rate

The results of calculating the effect of the moderating variable on the industrial sector obtained a p-value = 0.65 > 0.05 which made H₄ rejected. It can be concluded that the industry, whether from the technology sector or consumer goods, cannot strengthen the relationship between profitability and sustainable growth rate.

Test Hypothesis 5: The industrial sector strengthens the relationship between firm size and sustainable growth rate

The statistical analysis found that the industrial sector’s moderating variable had a significant effect with a p-value of 0.032 < 0.05, thus accepting H₅. This concludes that the technology industry or consumer goods can strengthen the relationship between firm size and sustainable growth rate. The path coefficient also shows that the industrial sector variable has a value of 0.303, meaning that for every 1 percent increase in the value of the technology industry sector and consumer goods as a moderating effect, the value of company size will increase by 0.303.

Test Hypothesis 6: The industrial sector strengthens the relationship between capital structure and sustainable growth rates

According to the analysis results, the effect of the moderating variable on the industrial sector obtained a p-value = 0.132 > 0.05, so H₆ was rejected. This shows that the technology and consumer goods industry cannot strengthen the relationship between capital structure and sustainable growth rate.

Discussion

The results of the first hypothesis test show that profitability positively affects sustainable growth rates in technology companies and sharia-indexed consumer goods in Indonesia, indicated by a p-value smaller than the alpha value. This is in line with internal growth theory because more profitable firms have more funds available for reinvestment and development, which in turn can promote sustainable growth (Barney, 1991).

Likewise, research from Arora et al. (2018) shows that the four main ratios, namely return on equity and net profit margin, affect the sustainable growth rate. Vuković et al. (2022) research that profitability positively affects sustainable growth. The research findings of Mukherjee & Sen (2018) reveal a significant positive relationship between profitability and the company’s sustainable growth rate.
While the second hypothesis is rejected because size has a negative effect on sustainable growth rates in technology companies and consumer goods indexed by sharia in Indonesia, which is indicated by a p-value that is smaller than the alpha value, the path coefficient value in this variable is minus, which makes the effect of company size negative to the sustainable growth rate. This is not in line with the Agency's theory that larger companies tend to have greater resources to take risks and make larger investments, which can increase sustainable growth (Jensen & Meckling, 1976).

The third hypothesis is accepted, indicated by the positive influence of capital structure on sustainable growth rates in technology companies and sharia-indexed consumer goods in Indonesia, indicated by a p-value smaller than the alpha value. This result aligns with the Pecking Order theory that companies prefer to use internal funding sources first before using external funding sources such as debt or stocks. Therefore, companies with a low capital structure tend to have more internal funds available for reinvestment and development, which in turn can promote sustainable growth (Myers, 1984b).

In line with research, financial capital structure influences sustainability growth rates, especially after being strengthened by industry-specific factors such as industrial growth and inflation in the regression equation. Likewise, Mukherjee's (2018) research findings revealed a significant positive relationship between capital structure and the company's sustainable growth rate.

The fourth hypothesis is rejected. It is shown that the industry, whether from the technology sector or consumer goods, cannot strengthen the relationship between profitability and sustainable growth rate. This is in line with research findings from Agustia et al., (2022) found that firms with high technological capabilities can weaken the impact of product innovation on firm performance, which will also certainly impact sustainable company growth. This is because companies with high technological capabilities focus more on process or system innovation than product innovation. Companies with high technological capabilities may also face stiffer competition from other firms with similar or better technology.

In contrast to the fifth hypothesis, it appears that technology or the consumer goods industry can strengthen the relationship between firm size and sustainable growth rates. This shows that large company size positively affects sustainable growth rates, maintaining its relationship with the technology industry and consumer goods sector variables. When viewed from the side of the technology sector, this may indicate that product and technology innovation does not depend on company size but rather on the company's capabilities and strategy in managing and integrating these innovations. This is not in line with research by Agustia (2022), who found that company size does not interact with product innovation and technological capabilities in moderating the effect of product innovation on company performance. This may indicate that the moderating effect of technological capability is not influenced by company size but rather by the characteristics and quality of the technological capability itself.

Although the sixth hypothesis is rejected, it shows that the technology and consumer goods industries cannot strengthen the relationship between capital structure and sustainable growth rates. However, this research aligns with the findings of Agustia (2022), who found that capital/leverage structure does not interact with product innovation and technological capabilities in moderating the effect of product innovation on company performance. This may indicate that the moderating effect of technological capability is not influenced by capital structure/leverage but rather by the characteristics and quality of the technical capability itself.

The results of this study provide insight into companies engaged in the technology sector and consumer goods. In achieving a sustainable growth rate, it is better to increase their profitability and capital structure than to increase their assets or company size because the findings show that companies with large sizes can prevent the company from achieving a sustainable growth rate. This research also has implications for discussing the factors that drive companies to achieve sustainable growth rates, especially from the technology and consumer goods sectors. However, there are still limitations to the results of this study which only examined the two industrial sectors indexed in JII. Further research is expected to provide a broader and deeper explanation regarding sustainable growth rate research.

6. Conclusions

This study proves that company characteristics and capital structure significantly affect sustainable growth rates in technology companies, and sharia-indexed consumer goods in Indonesia, especially company size, can also strengthen their relationship to sustainable growth rates through moderation in the industrial sector. These findings reveal that more profitable companies have more funds available for reinvestment and development, which can ultimately promote sustainable growth. Likewise, larger companies tend to have greater resources to take risks and make larger investments, which can promote sustainable growth. In addition, companies prefer to use internal funding sources first before external funding sources such as debt or stocks. Therefore, companies with a low capital structure tend to have more internal funds available for reinvestment and development, which in turn can promote sustainable growth.
References


