DETERMINANTS OF CAPITAL STRUCTURE OF ENERGY SECTOR LISTED ON INDONESIAN STOCK EXCHANGE

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ABSTRACT

This study aims to investigate the influence of profitability, tangibility, size, growth, and liquidity as independent variables on capital structure as the dependent variable. The research focuses on the energy sector companies listed on the Indonesian Stock Exchange from 2010 to 2022. A total of 117 data samples were collected from 9 companies that met the specified criteria, using a purposive sampling method. The analysis employs descriptive statistics and multiple regression analysis, facilitated by EViews 10 software. The research problem centers around understanding how various financial metrics impact the capital structure of energy companies, which are critical players in a capital-intensive industry. Specifically, this study addresses questions about the significance of each independent variable in shaping capital structure decisions. The findings reveal that tangibility, size, and liquidity significantly affect capital structure, whereas profitability and growth do not show a substantial impact. This raises important considerations for financial managers in the energy sector, as the lack of influence from profitability and growth suggests that external funding sources may be prioritized over internal financing. Understanding these dynamics is essential for optimizing capital structure and ensuring long-term financial sustainability in an increasingly competitive environment.

Keywords: Capital Structure, Profitability, Tangibility, Size, Growth, Liquidity

INTRODUCTION

Nowadays, the competition between companies seems to be getting tougher. Many new companies are emerging today and offer quite attractive competitive advantages. Not a few companies also make acquisitions or mergers to strengthen their company's position in the related industry. Thus, every company needs to develop or expand its business so as not to lose to other companies. To develop a business, of course, it takes a lot of capital too. Thus, the company requires substantial funding so that it can develop.

The company's goal is to maximize company wealth for shareholders (Ukhriyawati and Dewi 2019). This goal can be achieved by maximizing the value of the company. Maximizing company value is very important for the company because maximizing company value means maximizing the company's main goals (Andika and Sedana 2019).

According to trade-off theory, to maximize firm value it can be maximize tax shields and reduce the cost of financial distress (Andika and Sedana 2019). Because one of the benefits of using debt in a company's capital structure is tax protection. Interest paid on debt can be deducted from taxable income, reducing the amount of tax that must be paid by the company. Therefore, by using debt, companies can take advantage of these tax shields to reduce the tax burden and increase profits after tax and the cost of financial distress refers to the costs incurred if the company faces financial difficulties, such as the risk of bankruptcy. Bankruptcy can result in costs such as legal fees, loss of reputation, restructuring costs and lost business opportunities. In the trade-off theory, companies seek to reduce the risk of bankruptcy and the costs associated with poor financial circumstances. So, in achieving a balance between tax shields and the cost of financial distress, companies must consider several factors, such as business risk, income stability, financial market conditions, and tax policies.

The ultimate goal is to achieve an optimal capital structure that maximizes corporate value and shareholder wealth by making the most of tax shields, while minimizing the risks and costs associated with financial distress. An optimal capital structure will affect good financial statements, including profitability, tangibility, size, growth, and liquidity.

Companies with good profitability tend to have a better ability to generate strong internal cash flows. This enables the company to finance investments through internal funding, reducing dependence on external debt. As a result, companies with good profitability may tend to have lower levels of debt in their capital structure.

Tangibility refers to the level of physical assets owned by a company, such as land, buildings, and equipment. Companies with high tangibility levels tend to have assets that can be pledged as collateral to obtain loans. In this case, companies may be more inclined to use debt in their capital structure. Tangible assets can provide additional confidence to creditors, allowing the company to obtain debt at a lower cost.

Company size can also influence capital structure. Larger companies may have better access to the capital market and can secure loans at lower interest rates. Additionally, larger companies may have a greater ability to diversify risks, which can affect their preferences for capital structure.

Companies experiencing high growth tend to require additional sources of funding to finance expansion projects or acquisitions. In such situations, companies may be more inclined to rely on debt to obtain the necessary funds, leading to higher levels of debt in their capital structure. However, rapidly growing companies also need to consider their ability to repay higher interest and principal payments.

Liquidity refers to a company's ability to meet short-term obligations. Companies with good liquidity can rely on internal funding sources or short-term credit facilities to meet their financial needs. In this case, companies may tend to have lower levels of debt in their capital structure. However, good liquidity can also provide financial flexibility, allowing companies to seize investment opportunities through additional debt.

Also, the value of the company will increase management performance in the company (Herawati 2019). Good management performance will also determine good management decisions (Nurvianda et.al., 2018) and also affect financial statement because with the assumption that good company financial reports reflect good company management performance as well. One of the important decisions faced by financial managers in a company in relation to the company's operations is the funding decision or capital structure decision. Funding decisions consist of financing decisions, investment decisions, and working capital decisions (Suryandari and Kholipah 2019).

According to pecking order theory, sources of funding from financial decisions consist of internal financing and external financing (Andika and Sedana 2019). Funding decision is a decision regarding how the company seeks funds to finance investment and also how the company determines the composition of funding sources. Sources of company funding can be obtained from both internal and external companies. (Andika and Sedana 2019). According to the pecking order theory, funding that comes from internal companies, namely retained earnings, while funding that comes from external companies, namely debt and equity. (Ambarsari and Hermanto 2017).

The need for funds has increased due to the company's rapid growth so that all funds from internal sources are used, so the company uses funds that come from outside the company both from debt and by issuing new shares to meet its funding needs. The capital structure is related to the company's funding decisions (Annas and Pradita 2022). Companies can finance their operations using debt, equity, or a combination of these two sources. Errors in determining capital have a direct impact on the company. This will burden the company, especially if the level of debt is very high, because the company bears fixed costs in the form of a high cost of capital.

Companies can make funding by determining the capital structure. Capital structure consists of the word "capital" and "structure". The capital is a collection of principal money to run a business. While structure itself is a detailed arrangement of each part. Thus, the capital structure in short is the arrangement of principal money in running a business from different sources for the long term of the company. According to J. Fred Weston and Thomas E Copeland (1996), capital structure is permanent financing consisting of long-term debt, preferred stock, and shareholder capital. Whereas Frank J Fabozzi and Pamela Peterson (2000) said that capital structure is the combination of debt and equity used to finance a firm's projects. The capital structure of a firm is some mix of debt, internally generated equity, and new equity. According to Keown et.al (2000), capital structure is a combination or combination of long-term sources of funds used by companies. According to Daud (2014), the capital structure describes the company's permanent financing consisting of long-term debt and own capital. Based on the opinion of experts, capital structure can be concluded as a company financing technique related to a combination of equity shares, preferred share capital, debt securities, long-term loans, retained earnings, and other long-term sources of funds collected by the company.

In this study, researchers will also use DER as a ratio to measure capital structure. The reason why researchers use DER as a ratio to measure capital structure because the capital structure is a comparison between the amount of long-term debt and other own capital (Andika and Sedana 2019) and Debt to Equity Ratio (DER) indicator is used to measure capital structure (Nursiam and Aprillia 2021). So, DER is a ratio that describes a company's ability to meet debt obligations with its capital and is related to funding policies that are influenced by determining the capital structure to increase company value (Arsadena 2020).

Capital structure decisions will greatly affect the sustainability of a company in the long term. Moreover, for large companies that are one of the driving wheels in Indonesian economy. One of them will be the object of this research, namely companies engaged in the energy sector. Companies engaged in energy sector certainly require a very large capital for their business. Therefore, the right capital structure decision is needed in energy companies. Until now, there are many companies in Indonesia that are engaged in the energy sector and many of them are already listed on the Indonesia Stock Exchange.

The objectives of the paper are to analyze the determinants of capital structure in energy sector companies listed on the Indonesian Stock Exchange from 2010 to 2022, focusing on the influence of profitability, tangibility, size, growth, and liquidity. By examining these factors, the research seeks to provide empirical evidence on their significance in shaping capital structure decisions, offering insights for financial managers to optimize capital structure for long-term sustainability. Additionally, it explores the unique characteristics of the Indonesian energy sector, such as its capital-intensive nature and vulnerability to commodity price fluctuations, to understand how these conditions impact financing decisions. The study's findings will contribute to better understanding of the capital structure dynamics in the sector and inform policymakers and researchers in emerging markets.

The focus of this paper on Indonesia is justified by the unique characteristics of its energy sector, which is a significant driver of the national economy and requires substantial capital for operations, making it an ideal context for studying capital structure determinants. Additionally, the Indonesian Stock Exchange hosts numerous energy companies, providing a rich dataset for empirical analysis, particularly from 2010 to 2022, a period marked by various economic fluctuations that can influence capital structure decisions. Understanding the specific factors affecting capital structure in Indonesia can offer valuable insights for local policymakers and business leaders, as well as contribute to the broader literature on capital structure in emerging markets. Other countries can learn from this study that the determinants of capital structure specifically profitability, tangibility, size, growth, and liquidity highlighting the importance of these factors in shaping effective capital management strategies tailored to local economic conditions and industry characteristics. Also, other nations can gain a comparative perspective on how these factors may vary in different economic contexts and industries. Furthermore, the findings highlight the importance of considering local economic conditions and sector-specific characteristics when formulating financial strategies, which can be applicable to emerging markets facing similar challenges. Additionally, the methodologies employed, such as purposive sampling and the focus on a defined time period, can serve as a model for future research in other countries aiming to explore capital structure in their respective industries.

The energy sector plays a crucial role in supporting economic growth and development by providing the necessary resources and infrastructure for power generation, fuel production, and energy distribution. As energy companies operate in a capital-intensive industry, the financing decisions they make are of great importance. Capital structure decisions, which involve

determining the optimal mix of debt and equity to finance a company's operations and investments, can significantly impact a company's financial performance, risk profile, and overall value.

Previous studies have found that the energy sector is vulnerable to commodity price fluctuations (Surya & Adriani, 2018; Rahmadhani & Siregar, 2020), thus this sector was selected to examine the determinants of capital structure.

Additional justification for selecting the energy sector is supported by data showing that some energy companies implement hedging to stabilize cash flows and reduce risks (Ananta et al., 2019). Each independent variable was selected based on their influence on capital structure demonstrated in at least two previous studies (Saputra & Prasetyo, 2018; Hermawan & Suryaningrum, 2020) and theoretical relevance in explaining corporate capital structure according to trade-off theory and pecking order theory. The addition of support from previous research results and hedging data by energy companies strengthen the reasons for sector selection and choice of independent variables.

This paper significantly contributes to the understanding of capital structure determinants in Indonesia's energy sector by providing empirical evidence on the influence of tangibility, size, and liquidity, while also highlighting the unique economic conditions that may lead to the non-significant effects of profitability and growth, thus offering valuable insights for both local policymakers and future research in emerging markets.

Literature Review

Trade-off Theory

Brigham and Houston (2011) say that trade-off theory which is referred to as the leverage exchange theory which states that companies exchange tax benefits from debt financing with problems caused by potential bankruptcy (Ahmed and Sabah 2021). According to Kartika (2016) said that Trade-off explains the relationship between taxes, bankruptcy risk, and the use of debt caused by capital structure. Financial managers should increase debt to a point where the value of the additional interest tax shields is only offset by the additional costs of financial problems that will arise (Kartikayanti and Ardini 2021). Because if there is too much or too little debt in a company it can reduce the value of the company (Umdiana and Claudia 2020). Thus, companies are required to consider the risk of bankruptcy between financing through debt and financing through the issuance of shares (Lumbanraja 2015)

Pecking Order Theory

Donald Donaldson (1961) made observations on the behavior of the capital structure of companies in the United States. His observations show that companies that have high profits tend to use lower debt. Specifically, companies have a sequence of preferences in the use of funds. Then, this theory was refined again by Stewart C. Myers (Dewi and Wirama 2017) where the financing hierarchy starts with retained earnings, which is followed by debt financing and finally external equity financing (Zutter and Smart 2019). This funding sequence shows that this funding is based on the level of risk of decisions and costs of funding sources from the cheapest to the most expensive (Sartono and Agus 2010). When there is a deficit of internal funding, the company will turn to external funding sources by prioritizing debt funding sources rather than issuing equity securities (Dewi and Wirama 2017). Thus, the hierarchy of internal funding and the use of debt can be categorized as a capital structure (Wilhemma and Durya 2022). The capital structure has an important role because the good or bad capital structure will have a direct impact on the company's financial positive (Andika and Sedana 2019). The direct effect caused by the capital structure can affect the value of a company (Andika and Sedana, 2019).

This study employs two primary theories: the Trade-off Theory and Pecking Order Theory. The Trade-off Theory suggests a balancing act between the benefits of debt financing, such as tax shields, and the costs associated with financial distress, as outlined by Ahmed and Sabah (2021). This theory is applicable to the energy sector due to the capital-intensive nature of the industry and the inherent risks associated with large-scale investments.

Conversely, the Pecking Order Theory posits that firms prefer internal financing (retained earnings) over external sources, leading to a hierarchy of capital structuring decisions (Dewi & Wirama, 2017). This is relevant in the context of energy companies, where cash flows may dictate the order of financing preferences.

Hypothesis Development

Profitability

The high profitability that is obtained by the company from the business activities carried out, then this shows that the funds they have are also getting bigger. So that the use of debt will be smaller (Chasanah 2017). Usually, large companies that have good sales stability, high profitability or high growth rates tend to use debt with more proportions because they find it easier to get loans from creditors (Brigham and Houston 2015) The situation is lacking in profits, so the company's funding needs cannot be fully covered with internal funds (Wilhemma and Durya 2022). This suggests that as profitability increases, companies are more likely to utilize debt in their capital structure due to the ability to generate sufficient earnings to cover interest payments. The effect of profitability on capital structure is also proven by research by (Mas and Dewi 2020), which is supported by the research of (Darmawan et al. 2021).

H_1: There is a positive effect of Profitability on Capital Structure.

Tangibility

Tangibility can be viewed from operational objects which basically classify assets in a certain ratio for the company's main operating needs (Ambarsari and Hermanto 2017). The greater the tangibility the company has, the greater the opportunity for the company to use debt, this is because the fixed assets owned by the company can be used as collateral to obtain debt (Andika and Sedana 2019). If a company has more and more fixed assets, the company tends to take external resources or long-term debt rather than taking it from its own capital (Setiawati and Veronica 2020). This indicates that firms with more tangible assets are likely to have higher levels of debt, as these assets can be used as collateral. The effect of tangibility on capital structure is also proven by

Prastika and Candradewi's research (2019), which is supported by research by (Dewinigrat and Mustanda 2018) and (Melodie and Ruslim 2019).

H_2: There is a positive effect of Tangibility on Capital Structure.

Size

Company size describes the size of a company. Larger companies will find it easier to obtain loans than small companies (Syafril and Fahmi 2021). According to Chen and Strange (2006) in Indrajaya et al. (2011) found that large companies use more debt than small companies. This is because the bigger the company, the more stable cash flows it has, which can reduce the risk of using debt (Setiawati and Veronica 2020). Companies that have small company sizes use less debt, thereby reducing the company's capital structure (Syafril and Fahmi 2021). Larger firms tend to have better access to capital markets and are more likely to take on debt compared to smaller firms. The effect of company size on capital structure is also proven by the research of (Darmawan et al. 2021) and (Sawega and Isynuwardhana 2019).

H_3: There is a positive effect of Size on Capital Structure.

Growth

Sales growth is the difference in sales from year to year and is an indicator of successful demand and market competitiveness (Setiawati and Veronica 2020). Companies that have high sales growth rates tend to use debt in their capital structure (Kartikayanti and Ardini 2021). The higher the growth rate of a company's sales, the greater its need for additional financing. Likewise, the smaller the retention ratio, the greater the need for additional funds (Brigham and Daves, 2009). This implies that companies experiencing high growth may rely less on external debt, as they can finance their expansion through internally generated profits. The effect of sales growth on capital structure is also proven by research by (Putri and Dillak 2018) and (Mas and Dewi 2020).

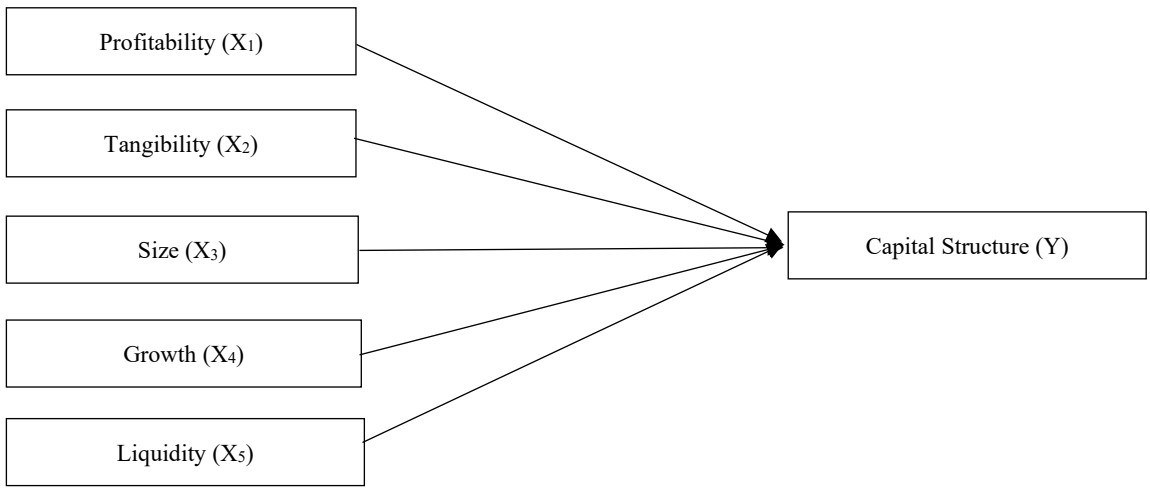
H_4: There is a negative effect of Growth on Capital Structure.

Liquidity

Companies that have high liquidity tend to use internal funding first before using external funding (debt) so that the company's debt level becomes lower. (Finky et al., 2013). This statement is supported by the research results of (Shibru et al. 2015) found that companies that have greater liquidity choose to use internal company funds for investment financing. Companies with higher liquidity are more likely to take on debt, as they have the means to manage short-term obligations. The effect of liquidity on capital structure is also proven by research by (Anas and Pradita 2022), which is supported by many studies by (Fahmi and Kurnia 2020), (Melodie and Ruslim 2019), and (Permatasari and Mustikowati 2019).

H_5: There is a positive effect of Liquidity on Capital Structure.

Figure 1. Research Model



METHODS

The research methodology employed in this study is based on the theoretical foundations provided in the literature review. Specifically, the research design aligns with the key tenets of the Trade-off Theory and Pecking Order Theory, which underpin the hypotheses development.

The study follows a quantitative approach, as it aims to investigate the probabilistic relationships between the independent variables (profitability, tangibility, size, growth, and liquidity) and the dependent variable (capital structure). This is consistent with the recommendations from prior studies that have utilized similar analytical techniques to examine capital structure determinants (Shibru et al., 2015; Anas & Pradita, 2022).

The sample selection process was conducted through purposive sampling, a technique that aligns with the specific focus on the energy sector listed on the Indonesian Stock Exchange from 2010 to 2022. This sampling approach is justified by the unique characteristics of the energy industry, which is a capital-intensive sector vulnerable to commodity price fluctuations, as highlighted in the literature review (Surya & Adriani, 2018; Rahmadhani & Siregar, 2020). Additionally, the emphasis on the 2010-2022 period allows for the analysis of capital structure decisions during a timeframe marked by various economic conditions, in line with the trade-off theory's considerations of the balance between tax benefits and financial distress costs (Ahmed & Sabah, 2021).

The selection of the independent variables (profitability, tangibility, size, growth, and liquidity) is based on their theoretical relevance in explaining capital structure decisions, as discussed in the literature review. Specifically, prior studies have demonstrated the influence of these factors on the capital structure of firms, lending support to their inclusion in the current investigation (Saputra & Prasetyo, 2018; Hermawan & Suryaningrum, 2020).

The dependent variable, capital structure, is measured using the Debt-to-Equity Ratio (DER), which aligns with the conceptual understanding of capital structure as the combination of debt and equity financing (Andika & Sedana, 2019; Nursiam & Aprillia, 2021). This choice of proxy is further justified by the literature, which suggests that DER is a widely accepted indicator for assessing a company's capital structure decisions (Jędrzejczak-Gas, 2018).

The analysis employs descriptive statistics and multiple regression analysis, facilitated by EViews 10 software. This methodological approach is consistent with the quantitative nature of the study and the objective of examining the probabilistic relationships between the independent variables and the dependent variable, as recommended by previous research in this domain (Shibru et al., 2015; Anas & Pradita, 2022).

Population and Samples

This study aims to obtain empirical evidence regarding the effect of Profitability, Tangibility, Size, Growth, and Liquidity on Capital Structure. The company to be researched is an energy company listed on the Indonesia Stock Exchange and meets the research criteria within the period of 2010-2022. In determining the research sample, the purposive sampling method is used, where the samples are selected based on predetermined criteria. The procedure for sample selection is as presented in Table 1

Table 1. General Sample Description

Sampling Criteria	Total
1. Energy companies listed on the Indonesia Stock Exchange from 2010-2022 period.	37
2. Companies that do not publish annual financial reports in Rupiah Currency, consistently, and completely during the 2010 – 2022 period	(27)
Companies with outlier data	(1)
Companies used to use as research objects	9
Number of research periods	13
Total number of observations	117

Source: www.idx.co.id

Capital Structure

According to (Halim 2007), capital structure is a balance of fixed short-term debt, long-term debt, preferred stock, and common stock. Capital structure is a financial arrangement planned by a company in running a business from different sources for long-term goals. Capital structure, as explained earlier, relates to the combination of debt and capital that can be used by the company. Where, the capital structure must be considered carefully so as not to cause losses for the company. The proxy used to calculate the capital structure in this research is the Debt-to-Equity Ratio (DER). The DER calculation itself is listed below (Jędrzejczak-Gas 2018):

$$\text{DER} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

Profitability

In a company, it is important to measure the profit that can be generated in the future. This is important because it can determine the company's current position and compare the company's current profit position with the past. According to Capkun et al. (2014), profitability is the percentage of sales remaining after you subtract the cost of producing goods sold from the total sales figure. Profitability is a measure that measures the level of the company's ability to generate profits within a certain period. Profitability needs to be used by every company to measure and find out the amount of profit that can be obtained by the company within a certain period, compare or assess the company's profit position from the previous year with the current year, help evaluate the company's performance as well as see the company's profit development from time to time, find out the amount net profit after tax with own capital, and assessing the productivity of the company through all the funds used, both borrowed capital and own capital. In this study, the proxy that will be used to measure profitability is Return on Assets (ROA), with the following formula (Ahmed and Sabah 2021):

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Tangibility

Tangibility is a measure of long-term asset utilization used in company operations (Gamlath and Y 2015). According to Simatupang, et.al., (2019), tangibility is the standard of the permanent asset (tangible) measured from the comparison between the permanent asset and the total asset owned by a company. Tangibility is the long-term ownership of the company's assets in supporting the company's operational activities. Tangibility of company assets can serve as collateral for creditors of the company. Fixed assets will therefore provide security to creditors in the event of bankruptcy. Because of this security, higher tangibility makes debt less risky, and vice versa. Tangibility can be calculated using the formula below (Kasenda 2020):

$$\text{Tangibility} = \frac{\text{Total Tangible Fixed Assets}}{\text{Total Assets}}$$

Size

Each existing company can be grouped based on the size of each company. According to Ibrahim (2008), company size is a picture of the size of the company which is determined based on nominal size, for example the total wealth and total sales of the company in one sales period, as well as market capitalization. Grouping companies based on scale of operation (large and operating) can be used by investors as one of the variables in determining decisions. Company size is a measure of a company, seen from the profits generated, sales, total assets owned, business area coverage, and so on. The company size needs to be taken into consideration when an owner wants to determine the company's long-term strategy. Company size can be calculated using the following formula (Ahmed and Sabah 2021):

Company Size = ln (Total Assets)

Growth

Every company expects their company to grow over time. According to Joni and Lina (2010), sales growth basically describes how the company invests the funds it has for operations and investment activities. Increasing the number of assets, both current assets and long-term assets requires funds, with alternative internal funding or external funding. Growth is the company's ability to increase size. The company's growth is basically influenced by several factors, namely external, internal, and the influence of the industrial climate. Growth in business is the impact of cash flow on company funds from operational changes caused by growth or decline in business volume. The proxy that will be used to calculate the company's growth is. Growth with the following formula (Ahmed and Sabah 2021):

$$\text{Sales Growth} = \frac{\text{Sales (t)-Sales (t-1)}}{\text{Sales (t-1)}}$$

Liquidity

Often the public has a favourable view of companies with high liquidity. According to Bambang Riyanto (2010), liquidity is matters relating to the problem of a company's ability to meet its financial obligations that must be repaid immediately. Liquidity is the company's ability to get cash to meet its needs and debts. Liquidity is one of the important things seen by creditors in lending funds to companies. The higher the level of company liquidity, the better because the company is deemed able to pay off every need and debt. The proxy used in this study to calculate liquidity is current ratio, with the following formula (Kasenda 2020):

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Table 2. Descriptive Statistic

	N	Mean	Median	Maximum	Minimum	Std. Dev.
DER	117	1.019679	1.042731	2.014224	0.067008	0.519345
PROF	117	0.072156	0.069841	0.472856	-0.288979	0.149206
TANG	117	0.253169	0.261741	0.452927	0.057475	0.101870
SIZE	117	22.74959	23.48522	27.92753	15.11803	4.549166
GROWTH	117	0.016477	-0.075790	2.859088	-0.998430	0.588482
LIQ	117	1.258612	1.270934	2.933581	0.021358	0.656704

Source: Results of Data Processing with EViews 10

Table 3. t-Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Conclusion
C	0.147049	0.305507	0.481327	0.6312	-
PROF	-0.006281	0.314357	-0.019980	0.9841	No Impact
TANG	1.850978	0.426406	4.340878	0.0000	Have Impact
SIZE	0.030347	0.010273	2.953968	0.0038	Have Impact
GROWTH	0.029629	0.074124	0.399716	0.6901	No Impact
LIQ	-0.227554	0.076773	-2.963992	0.0037	Have Impact

Source: Results of Data Processing with EViews 10

RESULTS

The test results on Profitability shows that the t-statistic value of -0.019980 which is in the null hypothesis area can be accepted, where $-t\alpha/2 \leq t \leq t\alpha/2$ ($-1.982 \leq -0.019980 \leq 1.982$). This is supported by the probability value of 0.9841, which is greater than the significance level α ($0.9841 > 0.05$). Therefore, it can be concluded that H_0 is accepted, it can be concluded that there is no effect between profitability variable and capital structure on energy sector companies listed on the Indonesia Stock Exchange during the period 2010-2022. The reasons profitability does not affect capital structure is due to the company experiencing a recession in recent years, wherein it faces declining sales that consequently lead to a decrease in profits. Consequently, creditors and investors tend to focus on long-term business plans, hoping for an improvement in economic conditions. The implication is that they are inclined to overlook short-term profitability levels, resulting in profitability not affecting the capital structure (Septiani and Suaryana 2018). Also, the profits obtained by the company are not retained as retained earnings to fund company activities, but instead distributed as dividends to shareholders. Additionally, the company chooses to seek alternative sources of funding, namely debt, to finance its operations. (Suherman et.al., 2019).

The test results on Tangibility shows the t-statistic value of 4.340878 falls within the rejection region of the null hypothesis where $-t\alpha/2 \leq t\alpha/2 \leq t$ ($-1.982 \leq 1.982 \leq 4.340878$). This is supported by the probability value of 0.0000, which is less than the significance level α ($0.0000 < 0.05$). Therefore, it can be concluded that H_0 is rejected, indicating a positive influence between tangibility variable and capital structure on energy sector companies listed on the Indonesia Stock Exchange during the period 2010-2022. The reasons tangibility has a positive influence to capital structure because It proves that in the company, fixed assets and the need for liquidity is important factors affecting the decision of corporate funding (capital structure), whether pursued through debt or capital (Kasenda 2020). Also, this means that if there is an increase in the asset structure of a company, it will lead to an increase in the use of debt by the company. Asset structure refers to the proportion of a company's investment in fixed assets. This can be explained by the fact that the larger the fixed assets a company possesses, the greater the opportunity for the company to utilize debt, as these assets can be used as collateral for borrowing. Additionally, investors tend to have more confidence in companies that have significant collateral for their debt, as in the event of bankruptcy, these fixed assets can be used to repay the company's obligations. Collateral also protects lenders from issues of moral hazard that may arise from conflicts between borrowers and lenders. Therefore, the magnitude of debt is positively related to the level of asset structure. (Sudarmika and Sudirman 2015)

The test results on Size shows the t-statistic value of 2.953968 falls within the rejection region of the null hypothesis where $-t\alpha/2 \leq t\alpha/2 \leq t$ ($-1.982 \leq 1.982 \leq 2.953968$). This is supported by the probability value of 0.0038, which is less than the significance level α ($0.0038 < 0.05$). Therefore, it can be concluded that H_0 is rejected, indicating a positive influence between size variable and capital structure on energy sector companies listed on the Indonesia Stock Exchange during the period 2010-2022. The reasons size has a positive impact on capital structure is because company size is often used as an indicator of the likelihood of a company's failure to repay its debt. Larger companies are often more easily able to obtain loans (debt) compared to smaller companies due to the higher level of creditor confidence in larger companies. The ease of obtaining loans possessed by larger companies leads them to use more debt. The size of the company is almost always made as a benchmark for the possibility of a company's failure to repay its debt. Large companies often find it easier to obtain loans (debt) compared to small companies due to the higher level of creditor confidence in larger companies. The ease of obtaining loans enjoyed by large companies makes them tend to use more debt. (Meutia, T., & Arfan 2014) Also, this means that the larger the size of the company, the higher the capital structure will be. Conversely, the smaller the size of the company, the lower the capital structure will be. Large-scale companies find it easier to attract investors willing to invest capital in the company and to obtain credit compared to small companies (Angelin and Sudirgo 2022).

The test results on Growth shows the t-statistic value of 0.399716 which is in the null hypothesis area can be accepted, where $-t\alpha/2 \leq t \leq t\alpha/2$ ($-1.982 \leq 0.399716 \leq 1.982$). This is supported by the probability value of 0.6901, which is greater than the significance level α ($0.6901 > 0.05$). Therefore, it can be concluded that H_0 is accepted, it can be concluded that there is no effect between growth variable and capital structure on energy sector companies listed on the Indonesia Stock Exchange during the period 2010-2022.The reasons growth does not affect capital structure is companies experiencing high growth tend to have strong internal resources to finance their expansion and investment activities. They can utilize internally generated profits to fund their growth, thereby relying less on external debt. In this case, sales growth does not affect capital structure decisions as they do not need to depend on debt as a source of financing (Alam and Kurniasih 2020). Also, this is because a larger portion of sales is made on credit, in the form of accounts receivable. As a result, creditors do not take into account the company's sales growth when extending credit (Wijaya and Utama 2014).

The test results on Liquidity shows the t-statistic value of 0.399716 which is in the null hypothesis area can be accepted, where $-t\alpha/2 \leq t \leq t\alpha/2$ ($-1.982 \leq 0.399716 \leq 1.982$). This is supported by the probability value of 0.6901, which is greater than the significance level α ($0.6901 > 0.05$). Therefore, it can be concluded that H_0 is accepted, it can be concluded that there is no effect

between growth variable and capital structure on energy sector companies listed on the Indonesia Stock Exchange during the period 2010-2022. The reasons growth does not affect capital structure is companies experiencing high growth tend to have strong internal resources to finance their expansion and investment activities. They can utilize internally generated profits to fund their growth, thereby relying less on external debt. In this case, sales growth does not affect capital structure decisions as they do not need to depend on debt as a source of financing (Alam and Kurniasih 2020). Also, this is because a larger portion of sales is made on credit, in the form of accounts receivable. As a result, creditors do not consider the company's sales growth when extending credit (Wijaya and Utama 2014).

CONCLUSION

The findings of this study reveal important insights into the determinants of capital structure within the energy sector listed on the Indonesian Stock Exchange. Specifically, our analysis indicates that tangibility, size, and liquidity significantly influence capital structure, while profitability and growth do not exhibit the expected effects. These results align with the objectives of the research, which aimed to explore how various financial metrics affect capital structure decisions in a capital-intensive industry.

The positive relationship between tangibility and capital structure is consistent with previous literature, which suggests that firms with significant physical assets can leverage these as collateral to secure debt financing (Andika & Sedana, 2019). Our findings reinforce the notion that energy companies, characterized by substantial investments in tangible assets, are more likely to utilize debt to finance their operations. This reliance on debt can enhance their capital structure by providing necessary funds while minimizing the cost of capital, thus supporting the overall financial health of the company.

The study also confirms that larger firms tend to have a more pronounced impact on capital structure decisions. Larger companies benefit from economies of scale and enhanced access to capital markets, allowing them to secure loans at favorable terms (Darmawan et al., 2021). This finding is particularly relevant in the energy sector, where the scale of operations often dictates financing capabilities. The results suggest that as companies grow, their ability to manage debt increases, thus encouraging higher levels of borrowing to fund expansion and investment.

Liquidity's positive impact on capital structure underscores the importance of a firm's ability to meet short-term obligations before resorting to external financing. High liquidity indicates a firm's capacity to utilize internal funds for operational needs, thus reducing reliance on debt (Anas & Pradita, 2022). However, companies with strong liquidity might also be more inclined to take on additional debt to seize investment opportunities, illustrating a nuanced relationship between liquidity and capital structure.

Interestingly, the lack of significant influence from profitability and growth on capital structure challenges conventional theories such as the Pecking Order Theory, which posits that profitable firms prefer internal financing. Our findings suggest that, in the context of the Indonesian energy sector, external factors such as economic conditions and industry-specific challenges may overshadow the effects of profitability and growth. This implies that firms may prioritize liquidity and asset-backed financing over profitability metrics when making capital structure decisions.

This study still has some limitations due to several inherent constraints, including many energy companies listed on the Indonesia Stock Exchange do not meet the criteria. Due to the existence of outliers, the number of companies used as samples in this study is also limited. This research only focused at 5 variables that were thought to influence capital structure. While there are still plenty of other variables that could have an influence towards capital structure. There are also heteroscedasticity in tangibility and size variables and there is a positive autocorrelation.

Several recommendations can be made for future research on capital structure, such as, other tests can be carried out, in addition to the autocorrelation and heteroscedasticity tests method that has been done. Including additional variables that may have an impact on capital structure can deepen knowledge about the potential relationship of other variables to capital structure. Business risk, price-earnings ratio (PER), managerial ownership, or perhaps non-debt tax shields are examples of such variables. Expanding the sample used in the research by not only using companies listed on the Indonesia Stock Exchange is suggested to consider. This might provide a more comprehensive view of the subject under study. Additionally, extending the research period can lead to more accurate and reliable results, as it allows for a broader analysis of trends and patterns over time. These considerations can enhance the robustness and validity of the research findings.

In conclusion, this study contributes to the understanding of capital structure determinants in the energy sector by highlighting the significant roles of tangibility, size, and liquidity. These findings are aligned with the research objectives of investigating how various factors influence capital structure in a context marked by economic fluctuations and industry-specific characteristics.

Future research should explore the external economic factors that may affect the relationship between profitability, growth, and capital structure, particularly in industries similar to energy that are subject to rapid changes in market conditions. Additionally, examining other potential variables could provide a more comprehensive understanding of capital structure dynamics.

By linking our findings to the existing literature, we reinforce the relevance of these determinants in shaping capital structure decisions, thereby offering valuable insights for financial managers and policymakers in the energy sector.

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"Determinants of SMEs Capital Structure : Evidence from Literature PRATIKSHA JHA Scope of The Study TABLE I : Capital Structure Categorization 2 . 1 An Overview on the Emergence of Capital Structure Theories ." n.d.

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