Factors Analysis Structure with Profitability as Intervening Variables

Nana Umdiana1a, Nikke Yusnita Mahardini1b, Irma Dewi Manurung1c

1a,1b,1c) Accounting Departemen, Faculty of Economic and Business, Universitas Serang Raya, Jl Raya Serang, Cilegon KM. 5, Serang, Banten, Indonesia

e-mail: *nanaumdianaunsera@gmail.com, bnikkeyusnita.m@gmail.com, cirmadewim98@gmail.com
*corresponding author

Abstract
This study aims to identify and analyzes the factors that influence capital structure with profitability as an intervening variable in mining companies listed on the Indonesia Stock Exchange (IDX). The quantitative research method was used in this study. The study used 228 data for path analysis. Classical assumption test analysis, path analysis, Sobel test, and hypothesis testing using SPSS 25 statistical tools as analytical methods. The steps for testing path analysis are as follows: First, formulate a structural equation. Second Calculate the path coefficient based on the regression coefficient. Third Calculate the path coefficient simultaneously. Finally, Calculate the path coefficient simultaneously. The results of this study indicate that sales growth does not directly affect the capital structure, while firm size directly affects capital structure. At the same time, profitability cannot mediate from sales growth or company size on capital structure.

Keywords: capital structure; firm size; sales growth

INTRODUCTION
Competition between companies is very selective due to the rapid development of the business sector. Companies to do their business need funds and cannot be separated from the problem of capital. Capital is an important factor for the company so that the company can operate smoothly. If there is sufficient capital available, then the company can carry out its production and business activities. In other words, the company is in dire need of funds to finance business operations. Without money, a company may still be able to operate, but its activities become very minimal. And one of the things most important about continuity of business decisions in terms of funding or structure capital. In general, companies can meet their funding needs from their internal sources and seek sources of funds from external sources. The company's business activities generate internal capital, and profits can be reinvested. Internal sources of capital that the company can use include undistributed profits, accumulated depreciation of fixed assets, and several other sources of capital (Riyanto, 2011).

In contrast to internal sources of capital, which mainly come from operating results, external sources of capital come from outside parties willing to cooperate with the company. Companies often use external parties to raise funds, including suppliers (creditors), banks, and financial institutions that provide working capital loans. To commercial actors and the general public (Riyanto, 2011). Company management must reason to obtain optimum profits in determining the choice of alternative funding (internal or external sources). To provide the most optimal profit for the company, the limitation is that the company's management must choose...
a source of funds whose capital costs are the cheapest compared to other funding alternatives (Riyanto, 2011). The composition of capital from outside with capital from within is commonly referred to as capital structure. Capital structure is one of the factors most important in investing. Of course, when investing, investors understand the risks and rewards that they receive. According to (Riyanto, 2011), capital structure is a problem that often reflects long-term debt balance with capital. Therefore, the decision to choose the source of funding affects changes in the composition of the company's capital structure. Companies tend to use leverage. Leverage is an essential part of the capital structure because leverage is variable, and the acquisition cost is lower than issuing shares as capital additional.

This study uses the Debt to Equity Ratio (DER) as the capital structure measurement index. DER indicator is used to estimate the ability of a company to pay its burden debt with capital (Habibah, 2015). Because long-term and short-term debt are both important and must be considered, DER was chosen as an alternative capital structure. However, the company's long-term and short-term debt must be repaid or paid off on time (Rosita & Gantino, 2017). The leverage ratio reflects the company's ability to meet its obligations, which is indicated by the capital used to pay debts. This will erode investor confidence in the company and further reduce its value. This alternative refers to research that uses DER as a variable in the capital structure. (Manoppo & Arie, 2016)

Profitability is one of many factors that influence capital structure. Profitability is the company's ability to generate profits at a level of sales, assets, and capital of specific equity. (Husnan, 2014). Companies with a high level of profitability generally use relatively small amounts of debt (Weston & Brigham, 1998). The more profitable a company is, the more capital it can accumulate with retained earnings.

Furthermore, it shows that: The company's opportunities are considered very good, so the higher the profitability, the higher the earnings retained, but the higher the debt, the more offset. The previous research results (Yuniati, 2011) stated that profitability negatively and significantly affects capital structure. Although different results were obtained from the findings (Seftianne & Handayani, 2011), their study found that profitability results have an impact positive on capital structure. In addition to profitability, sales growth also has its charm for investors. Sales growth reflects the company's marketing performance and competitiveness in the market. Increased sales increase the bottom line of companies and help the company develop its business to add value to the company (Dramawan, 2015). Sales growth is also used to predict prospects for the company's future. Previous research (Santika & Sudiyatno, 2011) shows that sales growth has a significant positive effect on capital structure. A study conducted by (Priyono, 2018) makes inferences, but Priyono found that sales growth negatively impacts capital structure.

The company reflects the size expressed by the total assets of the company. Investors have expectations high of large companies and expect dividends higher from them. The bigger the company, the more likely investors will own the stock, and the stock price will rise. An increase in stock prices causes an increase in value book(PBV) or company value. The size of a company can explain the total amount of assets it has. As the increases size of the business, the assets business becomes more critical, and the funds needed to run the business become more important (Aggarwal & Padhan, 2017). according to (Ferri & Jones, 1979), the size of the company is a variable that represents the size of the company and is indicated by the size of assets, number of units sold, average sales size, and total average assets.

Furthermore, the bigger the company, the bigger its assets and the more money needed to free its capital from debt (Pratama & Wiksuana, 2019). According to (Brigham & Houston, 2011), The factors that companies generally consider when making capital structure decisions are stability, earnings, structure asset, debt operating, growth rate, profitability, control, management attitude, and company size and flexibility of the company. In addition to the
Factors above, many factors influence the determination of capital structure. Therefore, it is important to understand how these factors affect structured capital, especially internal factors because they can be controlled by management. However, this paper only discusses some factors that influence capital structure: profitability, sales growth, and company size. Mining companies are one of the main pillars of economic development in countries because of their role as suppliers of energy resources which are very important for the growth of economic countries. The nature and characteristics of the mining industry are different from other industries. One is that industry mining requires very high investment costs long-term, as well as is fraught with risk and uncertainty, making the issue of funding an issue important in the context of the development business. This was the worst year for the mining sector, as the world's largest mining company suffered a net loss total of $27 billion when PwC (Pricewaterhouse Coopers) announced it on June 9, 2016. An Indonesian mining company is also struggling with falling raw materials prices and demand from developing countries like China. As a result, the financial performance of mining companies in Indonesia Declined significantly. PwC also said investors in the world's 40 largest mining companies were driven by poor investment decisions and poor capital management and, in some cases, squandered profits from the mining boom.

Effect of Sales Growth on Capital Structure
The pecking theory order explains that companies want to use sources of internal rather than external funds. It shows sources internal are more than external resources. Surveys (Naibaho et al., 2015) show that sales growth will have an impact positive on capital structure. It is in contrast to a study (Chandra, 2015) that shows that growth opportunities negatively impact capital structure. It means that the company does not need to monitor growth sales because changes in sales growth do not affect the capital structure. Based on the conclusions above, the following hypothesis can be made.

\[ H_1: \text{Sales Growth affects the capital structure.} \]

The Company Size Effect Of Capital Structure
Theory signal explains that the capital structure is used to distinguish companies' high-quality and quality. The debt used is also very high in structure, so choosing this signal has a high risk. Company size is calculated based on total assets, and it can quickly get a loan if it has many assets. As the scale grows, so does the capital structure of companies, and scale and capital structure have a positive relationship. According to the surveys (Umam et al., 2016; Chandra, 2015; Karyawati et al., 2017; Suciati et al., 2018), size positively impacts capital structure. Study This differs from the opinion that size negatively impacts structure capital (Susantika & Mahfud, 2019). The survey by Astuti & Hotima (2016); and Naibaho et al. (2015) shows that the scale does not affect the capital, in contrast to the survey by (Umam et al., 2016) & (Susantika & Mahfud, 2019). From the conclusion above, the set hypothesis is as follows.

\[ H_2: \text{Firm size has a positive effect on capital structure.} \]

Effect of Sales Growth on Capital Structure Through Profitability
Theory Pecking order explains there is no optimal capital structure. Companies are expected to prioritize funds internally, such as earnings and retained earnings, over external funds. If the company cannot raise funds investment with its funds, it tends to issue the safest securities, such as issuing bonds. If funds are insufficient, the company issues shares. In theory, the pecking order is related to profitability and growth variables sales. If sales growth or profitability is high, the company is also profitable and uses more internal resources. A study
(Pitriyani et al., 2018) shows that profitability can mediate the relationship between growth business and capital structure. Coupled with the company's profitability or ability to generate profits, it does not affect the company's growth in its structure capital.

In contrast to research (Novyanny & Turangan, 2019), growth income affects profitability. The higher sales growth will make the profit rate even more incredible, and the ROE is also significant. In addition, with rapid sales growth, profitability is also high, and profitability is also high. Profitability is believed to have the potential to influence the impact of sales growth on the capital structure. Based on the conclusions above, the following hypothesis can be made.

H3: Profitability can mediate the impact of sales growth in structure capital.

Effect of Firm Size on Capital Structure Through Profitability
Tradeoff theory describes the relationship between capital structure and firm value. The essence of the tradeoff theory in capital structure is to offset the benefits and tradeoffs resulting from using debt. Based on this theory, companies try to maintain a capital structure focused on maximizing market value. Companies with total balance sheets are high considered more stable in terms of performance because later, it can be used together with this total balance as an investment activity to increase the company's market share so that it can generate high profits. Therefore, large companies affect the company's profitability. Barclay and Smith found that large companies have more long-term debt than small businesses. A study by (Susantika & Mahfud, 2019; and Karyawati et al., 2017) shows that profitability tends to affect the impact on the capital structure of companies. This shows that the indirect impact of profitability on firm-scale capital structure is more important than the impact directly on the structure of firm-scale capital. This shows that the company's size as the basis of profitability can have a better impact on its use of its capital structure. Based on the conclusions above, the following hypothesis can be made.

H4: Profitability can convey the impact of firm size on the structured capital

RESEARCH METHOD
This research used quantitative research, using secondary data in financial statements. The data in this study is panel data, a combination of time series data and cross-section data. The mining sector manufacturing companies listed on the Indonesia Stock Exchange for the 2015-2020 period are used as the population in this study. The purposive Sampling Technique is used in this study to determine the sample used. The variables used in this study are sales growth, size, Firm, profitability and capital structure; sales growth also shows the extent to which the company can increase its sales compared to total sales. Size Firm shows the size of a firm that can be seen from the total assets owned, stock market value, and an average level of sales (Riyanto, 2011). Profitability is the company's ability to earn profits concerning sales, total assets and own capital (Sartono, 2001). The capital structure is a collection of funds that can be used and allocated by the company, where the funds are obtained from long-term debt and own capital (Gitman, 2006).

Path Diagram
A path Diagram is a tool for graphing the structure of causal relationships between independent, intermediate, and dependent variables. The path diagram model is made based on the variables studied. The variables studied were income growth, firm size, profitability, and capital structure—path analysis model.
RESULTS AND DISCUSSION

Descriptive Statistic

Statistics provide an overview or description of data, namely the average (mean), standard deviation, maximum, and minimum.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>228</td>
<td>-3.91</td>
<td>4.72</td>
<td>1.05</td>
<td>1.42</td>
</tr>
<tr>
<td>SG</td>
<td>228</td>
<td>-2.66</td>
<td>8.75</td>
<td>1.60</td>
<td>2.00</td>
</tr>
<tr>
<td>Firm Size</td>
<td>228</td>
<td>0.00</td>
<td>5.57</td>
<td>3.25</td>
<td>0.47</td>
</tr>
<tr>
<td>DER</td>
<td>228</td>
<td>-1.61</td>
<td>8.13</td>
<td>4.28</td>
<td>1.60</td>
</tr>
</tbody>
</table>

Source: data processed by the author

Based on the descriptive statistics shown in table 2, with a total (N) of 228 over six years (2015-2020) shows, the average value (mean) of capital structure is 4.28, which means that the proportion of own capital is more significant than debt in the sector mining. The capital structure's lowest (minimum) value is -1.61, the highest (maximum) value is 8.13, and the average value is 4.28. Then, the standard deviation of 1.60, which is smaller than the average value, shows a slight variation in the data on the capital structure and the gap between the minimum and maximum values.

The profitability variable (ROA) has the lowest value, namely -3.91. The maximum value is 4.72, the variable's standard deviation is 1.42, and the average variable is 1.05. The Sales Growth variable (SG) has the lowest value on that variable, namely -2.66; the maximum value is 8.75. The variable's standard deviation is 2.00; then, for the average variable, it is 1.60. In the Firm Size variable, the lowest value for that variable is 0.00, the maximum value is 5.57, and the standard deviation is 0.47. For the average variable, it is 3.25.
Hypothesis Testing Results
Before testing the hypothesis, the classical assumption test was first tested, and all data met the requirements of the classical assumption.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Growth</td>
<td>0.118</td>
<td>1.266</td>
<td>0.209</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Company Size</td>
<td>-0.379</td>
<td>-4.083</td>
<td>0.000</td>
<td>Significant</td>
</tr>
</tbody>
</table>

$T_{table} = 1.970$

Source: data processed by the author

Figure 2. Mediation Results
Source: data processed by the author

Mediation In testing, we can see from the results of the regression. Based on the results of the Sobel calculation based on Figure 4, it is known that the $Z$ test value is smaller than 1.96 (-1.20 < 1.96), so it is stated that profitability is not able to mediate the relationship between sales growth and capital structure.

Figure 3. Mediation results
Source: data processed by the author

In testing mediation, we can see from the regression results above. From the Sobel calculation above, it is known that the $Z$ test value is smaller than 1.96 (-1.07 < 1.96). It is stated that profitability is not able to mediate the relationship between Firm size and capital structure.
The Effect of Sales Growth on Capital Structure

The tests' results indicate that sales growth does not affect the capital structure. This is due to the capital structure that comes from two sources of equity, namely internal and external sources. Internal sources come from the company's net profit from sales to finance the company's operations, while external sources come from third parties in the form of debt. The level of sales growth, whether high or low, does not affect the debt on DER because DER is more influenced by profit. When the profit earned is significant, it will increase the company's internal capital; when the profit is small, the company will seek funds from third parties. The findings show that changes in assets obtained by the company at a particular time do not affect management in making funding decisions to meet the needs of company funding (Sansoethan & Suryono, 2016). Sales growth, which does not impact the structured capital, means that the increase in company assets is financed more internal. In this case, this is the following investigations by Naray & Mamanek (2015), Ramli et al. (2019), Indrajaya & Herlina (2011), Ahsan et al. (2016), and Maryanti (2016).

Nevertheless, not in line with the surveys (Naibaho et al., 2015; Ahmed Sheikh & Wang, 2011) that sales growth affects capital structure. Moreover, the results of this study do not support the study pecking order theory, which explains that companies want to use sources of internal rather than external funds. This shows that companies with high growth reflect that internal resources are more than external resources.

The Effect of Firm Size on Capital Structure

The results of the tests carried out explain that firm size affects capital structure. This means that the capital structure will also increase when the company's size increases with the assumption that other components remain. This supports research from the researchers (Umam et al., 2016; Haron, 2014; Prieto & Lee, 2019; Chandra, 2015; Karyawati et al., 2017; and Suciati et al., 2018) size has a positive effect on capital structure. However, it does not support the research shown by Astuti & Hotima (2016), Chhapra (2012), and Naibaho et al. (2015), which suggests that size does not affect capital structure. In case this is following, the signal theory explains that the use of capital structure serves as a differentiator between high-quality and quality companies. The company's size is calculated using its total assets, and the company will get a loan quickly if it has large assets. When size increases, the company's capital structure increases, so size and capital structure have a positive relationship.

Effect of Sales Growth on Capital Structure through Profitability

Referring to the results of the Sobel test, the Z test value is smaller than 1.96, so profitability is not able to mediate the effect of sales growth on capital structure. With the addition of profitability or the company's ability to earn profits, it does not affect the company's growth on the capital structure. In every company's operations, the main goal of its business is to seek profit or profitability. Profitability is the company's ability to profit from its operations. Companies that have sufficient profitability to finance their operations do not need to increase the amount of debt from the company. This means that the greater the company's profits, the greater the retained earnings that can be used in its operations, so the smaller the company's tendency to use debt. Retained earnings will be used as the main choice in financing the company so that in the capital structure, the use of debt will be lower in line with the increasing profitability of the company. This is in line with the Pecking Order Theory, which states that the use of return on assets can reflect the rate of return on the company's invested capital from
all assets. The results of this study strengthen previous research, namely, research conducted by Nugrahani & Sampurno (2012) and Lestari & Hermanto (2015).

**Impact of Firm Size on Capital Structure through Profitability**

Based on the Sobel test, the Z-test has a number smaller than 1.96, so the firm size cannot mediate the effect of firm size on capital structure. Companies must also look at other factors and take them into account. Therefore companies should not only look at the size of the company. The size of a large company is not necessarily the same as profitability. This supports research from Umam et al. (2016) and Astuti & Hotima (2016), which say that profitability cannot mediate between Firm size and capital structure. The consequence is that firms do not need to consider profitability when mediating the impact of Firm size on capital structure. Other variables that can be intervening variables besides profitability must be considered, such as asset structure, taxes, internal conditions of the company, and financial flexibility.

**CONCLUSIONS**

Based on the results of testing and discussion, it can be concluded as follows: The first hypothesis (H1) is rejected so that Sales Growth has no impact on the Capital Structure. It shows that the company uses external funding more than internal because the growth rate is low, so it cannot help the company expand its business to increase its value. The second hypothesis (H2) is that firm size impacts capital structure. The company's growing size will increase the ability to borrow, which causes greater risk in controlling debt capital. The third hypothesis (H3) is rejected. Profitability is not able to mediate the effect of Sales Growth on the capital structure. The addition of profitability or the company's ability to earn profits does not affect the company's growth in the capital structure. It can be seen that the company's profitability decreased, which caused the company to collect its internal funding sources not to achieve optimal profits. The fourth hypothesis (H4) is rejected so that profitability is not strong to mediate company size with capital structure. It happens because the company is not optimally utilizing its assets to profit. Therefore, the company should not only look at the size of the company. A large company size does not necessarily mean that the profitability is also large. The limitation of this study is that it only uses one proxy for each variable, so it is also recommended for further research to be able to conduct research by adding other possible variables to be tested in the regression equation model. Proxies for each variable may be added so that not only one proxy is used, but more than one proxy for one research variable can be used, such as for profitability, using return on assets and return on investment. The study only used 38 mining companies listed on the Indonesia Stock Exchange.

**REFERENCES**


Suciati, R., Purwohedi, U., & Ahmad, G. N. (2018). Analysis Factor of Capital Structure...
