ANALYSIS OF THE EFFECT OF DEBT STRUCTURE, FIRM SIZE, SALES GROWTH, AND TOTAL ASSET TURNOVER ON PROFITABILITY IN MANUFACTURING FIRMS LISTED ON THE INDONESIAN STOCK EXCHANGE

Gracesiela Yosephine Simanjuntak, Erwin Abubakar, Rujiman
Universitas Sumatera Utara, Medan
glacesielasimanjuntak@gmail.com

Abstract: This research was conducted to test and analyze the influence of debt structure (short-term debt and long-term debt), company size, sales growth and Total turnover of assets to profitability in manufacturing companies Listed on the Indonesia Stock Exchange period 2016-2018. The type of research used by research is Causal Research. The population in this study amounted to 136 manufacturing companies listed on the Indonesia Stock exchange period of 2016 – 2018 ' with a sample number of 73 companies, selected by a purposive sampling method. Data processing uses multiple linear regression analysis techniques and residual tests with the smallest quadratic equations and hypothesis tests using F – statistic to test the simultaneous impact and T statistic to test the partial regression coefficient With a significant 5% level. The results of a partial study show that the debt structure (short-term debt) significantly affects profitability. Debt structure (long-term debt has significant negative impact on profitability. Company size and sales growth have significant positive effect on profitability. Total asset turnover has no significant positive impact on profitability. Simultaneously the debt structure (short-term debt and long-term debt), company size, sales growth and Total turnover of assets positively affect profitability.

Keywords: Debt Structure, Company Size, Sales Growth, Total Asset turnover, and Profitability

1. INTRODUCTION
The performance of a company will be influenced by a number of things that can be seen from aspects of financial statements that reflect the company's success in its performance. People usually see the progress of a company seen from the condition of financial statements and performance, one of which by knowing the financial performance of a healthy company is to see how the company's capabilities in Profit through profitability ratio. Analysis of financial statements is one way to obtain information about a company. By conducting an analysis of the company's financial statements, they can know the company's financial conditions and developments. In addition, it can be known to the weaknesses of the company and know the potential failure of the company.

Here is a table of financial data phenomenon occurring in three manufacturing companies listed on Indonesia Stock Exchange period 2014-2018.
<table>
<thead>
<tr>
<th>Number</th>
<th>Company Name</th>
<th>Period</th>
<th>Working Capital (In Thousand Rp)</th>
<th>Total Debt (In Thousand Rp)</th>
<th>Profitability (ROA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PT. Polychem Indonesia Tbk. (ADMG)</td>
<td>2014</td>
<td>466,066,555</td>
<td>175,412,249</td>
<td>0.083</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015</td>
<td>420,010,232</td>
<td>152,242,537</td>
<td>0.090</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016</td>
<td>380,847,522</td>
<td>135,389,017</td>
<td>0.084</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2017</td>
<td>374,110,303</td>
<td>134,518,424</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2018</td>
<td>280,679,854</td>
<td>36,903,892</td>
<td>0.005</td>
</tr>
<tr>
<td>2.</td>
<td>PT. Argo Pantes, Tbk (ARGO)</td>
<td>2014</td>
<td>145,830,401</td>
<td>166,455,283</td>
<td>-5.082</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015</td>
<td>130,251,771</td>
<td>161,898,278</td>
<td>-1.435</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016</td>
<td>116,157,533</td>
<td>173,148,791</td>
<td>-0.854</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2017</td>
<td>98,459,842</td>
<td>170,755,921</td>
<td>-0.461</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2018</td>
<td>88,323,888</td>
<td>168,398,426</td>
<td>-0.387</td>
</tr>
<tr>
<td>3.</td>
<td>PT. Eratex Djaya Tbk (ERTX)</td>
<td>2014</td>
<td>46,600,202</td>
<td>34,808,645</td>
<td>0.189</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015</td>
<td>52,990,761</td>
<td>35,854,739</td>
<td>0.307</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016</td>
<td>52,658,997</td>
<td>32,657,714</td>
<td>0.078</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2017</td>
<td>59,258,870</td>
<td>41,381,863</td>
<td>-0.099</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2018</td>
<td>62,585,854</td>
<td>43,571,038</td>
<td>0.056</td>
</tr>
</tbody>
</table>

Source: www.idx.co.id

The phenomenon occurring in 3 (three) industrial manufacturing companies registered in IDX period 2014-2018 describing working capital against profitability shows that at PT. Polychem Indonesia Tbk. (ADMG) there was a decrease in working capital Companies in 2014-2017 but not followed the decline in profitability. Likewise, total debt decreased in the year 2014-2018 but not followed profitability increase.

At PT. Argo Pantes, TBK (ARGO) also experienced the same thing that the company's working capital has decreased starting from 2014-2018, but not followed the decline in profitability. Thus the total debt increased from 2016-2017, but not followed by the increase in profitability. Similarly, the total debt increased in the year 2016-2018 but did not follow the increase in profitability.

Similarly, PT Eratex, Djaya Tbk (ERTX), the company's capital in general has increased but not always followed by an increase in profitability. Conditions also experienced in increasing the company's total debt did not experience a direct change in profitability. This means that each debt cycle is not always followed by an increase in the company's profitability. This illustrates that the 3 manufacturing companies show that not always increasing the structure of the company's debt can increase company profitability. Likewise, the phenomenon of corporate working capital is not followed by an increase in profitability.

2. THEORETICAL BASIS
2.1 Modigliani-Miller (MM) Theory

The MM theory is considered very conventional. The implications of this theory are that companies should use debts as much. The MM theory ignores the cost of bankruptcy, so this is what is behind the MM theory that the company is using as many debts as possible to gain profit. The first modern capital theory is...
Modigliani and Miller (MM theory) theory, which was proposed by Franco Modigliani and Merton H. Miller in 1958. They argue that capital is irrelevant or does not affect the value of the company.

2.2 Agency Theory
The concept of Agency theory according to Ma'ruf (2006) is the relationship or contract between shareholders and management. In fact, as agents of shareholders, managers do not necessarily act in the interest of shareholders. Therefore, the cost of supervision can be made through means such as the binding of agents, inspection of financial statements, and restrictions on decision-making by management. Surveillance activities will raise costs that are referred to as Agency cost. This fee aims to supervise all managers' activities as important decision holders. Managers who tend to use debt will certainly pose assumptions to shareholders that the interest that arises as a compensation of debt will only benefit the creditors.

2.3 Signalling Theory
Cues or signals according to Brigham and Houston (2010) is an action taken by company management that instructs investors on how management views the company's prospects. Companies with profitable prospects will try to avoid selling stocks and strive for any new capital needed in other ways, including the use of debt that exceeds normal capital targets. Managers can use more debt as more credible signals. Because companies that increase debt can be viewed as a company that believes in future prospects of the company. Investors are expected to capture the signal and believe to plant some of its shares.

2.4 Static Trade Off Theory
Static trade off assumes that the funding of a company is determined by considering the tax deductible benefits when the debt increases on one side and increases agency cost when the debt increases on the other side. When the tax deductible benefits are still higher compared to the agency cost estimate, the company is still biased to increase its debt and the increase in debts should be terminated when the tax deduction for additional debt is already lower Compared to increased agency cost. The Static trade off method is an evolution or development of its irrelevance theory Modigliani and Miller and is currently the mainstream of capital theory (Nurhasanah, 2012).

2.5 Pecking Order Theory
Pecking Order Theory was proposed by Myers and Majluf (1984). This theory demonstrates the condition that companies with high profitability have low levels of debt, because they have abundant internal funds, so they do not need the external funds in the Large quantities. Pecking theory This Order explains the order of funding that companies usually do for their investment needs. This theory also explains why companies with higher profit rates actually have smaller levels of debt.

2.6 Profitability
According to Weston and Eugene (2010), profitability is the net result of a set of policies and decisions, which demonstrates the combined influence of liquidity, asset management and debt to the company's operational outcomes. Profitability is the ability of the company to gain profit in conjunction with its own sales, total
assets, or capital (Sartono, 2001). Based on these understandings, it can be concluded that profitability is the ability of the company to generate profit.

2.7 Debt Structure

Any investment activities undertaken by the company will require funding. If the internal funds (own capital) owned are not enough, the company must seek funding that comes from sources outside the company. Ideal condition if the company can use internal funds to make investments, but in fact the investment generally needs a large amount of funds, so the internal funds owned by the company is often not sufficient to finance such investments. Debt policy is a corporate policy on how far a company uses debt financing (Mardiyati, 2012).

Short-Term Debt

Short-term debt is the obligation that arises as a result of the company's funding activities, in an effort to obtain additional capital originating from external companies and their nature while working within the company. The activity is seen in the form of adding company assets financed from the short-term debt. The company shall pay off its obligations in the short term (less than one year) to external parties.

Long-Term Debt

Long-term debt is the debt with its return lifespan over a year of accounting period, which is commonly used to budget the expansion and modernization of the company due to the need for capital requirements covering a large amount. The longer the time period the lighter the terms of repayment of debt so that it will empower and expand for the company to leverage the source of funds derived from these long-term debts. However, debts must still be paid at the stipulated time regardless of the company's financial condition and must have been accompanied by interest that has been calculated previously. If the company is unable to repay debts and interest, then the creditor can compel the company by selling its assets.

2.8 Company Size

The company size is distinguished in several categories, namely large companies, medium enterprises, and small companies. Companies that have large size companies tend to have large total assets. So the larger the size of the company, the greater the profitability, funding and become good information for investors (Eko, 2014).

2.9 Sales Growth

Sales growth is a measure of the amount of income per company share that is magnified by debt. A company in the industry that has a high growth rate, should provide sufficient capital for the company. Companies that grow rapidly tend to use debt more to finance their business activities than companies that grow slowly. Companies with relatively stable sales can be safer earning more loans and bearing higher fixed loads compared to companies whose sales are unstable (Brigham and Houston, 2010).

2.10 Total Asset Turnover

The Total assets turnover measures the company's intensity of using its assets. The size of the most relevant asset usage is sales, because sales are important to profit. The relation with sustainable growth, the higher the total asset
turn over, the higher the efficiency of the company in the use of its assets so as to restrict the purchase of new assets that can reduce the capital so it will increase Return On Equity (ROE), the increased ROE will instantly increase the sustainable growth rate due to the company's ability to fund its sales activities increased.

THEORETICAL FRAMEWORK

Based on previous theories and research, it can be described as the concept of research in the following image:

![Conceptual Framework](image)

Figure 1. Conceptual Framework

Based on the concept framework, the hypothesis of this research is as follows:

- H₁: Short-term debt has a negative effect on profitability.
- H₂: Long-term debt has a negative effect on profitability.
- H₃: Company size positively affects profitability.
- H₄: Sales growth has a positive effect on profitability.
- H₅: Total turnover of assets positively affects profitability.

3. RESEARCH METHODOLOGY

The type of research conducted based on the previous description is causal associative research, which is a study that has a purpose to know the relationship between two or more variables (Sugiyono, 2010). The main purpose of this research is to identify causal relationships between various variables. The Total number of population taken in this study was 136. This amount is available from total industrial sector companies that meet the criteria to be sampled as many as 73 (seventy three) companies multiplied by the length of 3 (three) years starting from 2016-2018 period with the consideration that The amount exceeds the minimum number of samples in the study. The data analysis method used in this study is a model of multiple linear regression. To conduct analysis with regression model should be conducted data quality testing by using descriptive statistic and classical assumptions.
4. RESULTS AND DISCUSSION

4.1 Data Analysis Results

Based on the test results of the classic assumption above, it is known that the data has fulfilled the classic assumption that it has been distributed normally, does not occur multicholinerity, does not occur autocorrelation and homokedastisity. Thus a regression model that forms from the data has fulfilled an estimation model that produces unbiased linear estimators (Best Linear Unbias Estimator/BLUE).

Tabel 2. Regression Equation Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.315</td>
<td>.149</td>
<td></td>
<td>-2.112</td>
</tr>
<tr>
<td>SHORT TERM DEBT</td>
<td>-.019</td>
<td>.055</td>
<td>-.022</td>
<td>.345</td>
</tr>
<tr>
<td>LONG TERM DEBT</td>
<td>-.219</td>
<td>.074</td>
<td>-.214</td>
<td>-2.965</td>
</tr>
<tr>
<td>SIZE</td>
<td>.014</td>
<td>.005</td>
<td>.189</td>
<td>2.713</td>
</tr>
<tr>
<td>SALES GROWTH</td>
<td>.089</td>
<td>.062</td>
<td>.090</td>
<td>2.427</td>
</tr>
<tr>
<td>TOTAL ASSET TURNOVER</td>
<td>.078</td>
<td>.018</td>
<td>.292</td>
<td>4.359</td>
</tr>
</tbody>
</table>

a. Dependent Variable: RETURN ON EQUITY

Based on the table 2 the regression equation above then models of multiple linear regression between the independent variables (X) with the dependent variable (Y) is:

\[ Y = -0.315 - 0.019 X_1 - 0.219 X_2 + 0.014 X_3 + 0.089 X_4 + 0.078 X_5 + \varepsilon \]

Hypothesis Test

This hypothesis test is done to find out if independent variables affect the dependent variables both simultaneously and partially. This test uses statistical analysis of test F, test T and coefficient of determination (R2) with a confidence level of 95% or significant \( \alpha \) level = 5%.

Simultaneous Testing (Statistical Test – F)

This test is conducted to see the simultaneous effect of the influence or simultaneously all independent variables, namely debt structure (receivables debt and long-term debt), Sales growth, company size, and turnover of Total assets Dependent variable of profitability (ROE). F statistical test results are as follows:

Tabel 3. Statistical Test – F

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.513</td>
<td>5</td>
<td>.103</td>
<td>7.944</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>2,750</td>
<td>213</td>
<td>.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3,263</td>
<td>218</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: RETURN ON EQUITY
b. Predictors: (Constant), TOTAL ASSET TURNOVER, SALES GROWTH, SIZE, SHORT TERM DEBT, LONG TERM DEBT

Based on table 3. The above F statistical test can be seen that the significance value of F is 0, 000b and F count of 7.944. The value of F table based on the statistics table is F-table: 5%; DF (X1, X2, X3, X4, X5) (N-K-1) = 5%; DF (5) (219-5-1) = 5%; DF (5) (213) = 2.26.
Significance $F = 0.000^a \leq$ Significance levels used $\alpha = 5\% (0.05)$;


Based on the criteria above, this indicates that all independent variables are debt structure (long-term debt and debt), Sales growth, company size, and significant Total turnover of assets Simultaneously on the dependent variable i.e. profitability (ROE).

**Partial Test (Statistical Test – t)**

This test was conducted to see the partial significance of the influence of each – The independent variables of the debt structure (long term debts and longer debts), sales growth, company size, and Total turnover of assets affect the dependent variable of the profitability (ROE). The results of statistical $T$ test are as follows:

Based on table 5.1. The above $T$-Statistic test can be seen that the significance value of the count for each – each variable and $T$-value of the table based on the known statistical table of 1.97 then partially influences each – each variable independent to the dependent variable Using predefined criteria is as follows:

1. The variable debt structure (debt of Paydeck) has a significance value of 0.730 and negatively affects the value B of-0.019 against the calculated $T$ value of-0.022. It can thus be concluded that the debt structure (short-term debt) has been negatively and insignificant to the profitability (ROE) of the IDX-listed manufacturing companies from 2016 – 2018.

2. The variable debt structure (long-term debt) has a significance value of 0.003 and negatively affects the value B of-0.219 against the calculated $T$ value of-2.965. It can therefore be concluded that the debt structure (long-term debt) has a significant and negative influence on the profitability (ROE) of the IDX-listed manufacturing companies from 2016 – 2018.

3. The company size variable (Size) has a significance value of 0.007 and is positively influential with the value B of 0.014 against the calculated $T$ value of 2.713. It is thus concluded that the size of the company (Size) is positively and significantly impacted by the profitability (ROE) of the IDX-listed manufacturing companies from 2016–2018.

4. The sales growth variable has a significance value of 0.016 and is positively influential with the value B of 0.089 against the calculated $T$ value of 2.427. It is thus concluded that the sales growth variable is positively and significantly impacted towards profitability (ROE) in manufacturing companies listed on IDX period 2016 – 2018.

5. Total Asset Turnover variable as independent variable has a significance value of 0.000 and the count $T$ value of 4.359. It is thus concluded that the total Asset Turnover affects the dependent variable of profitability (ROE) of the IDX-listed manufacturing companies from 2016 – 2018.
Based on table 4. The coefficient of determination above shows that the Adjusted R Square value is 0.714 or 71.4%, meaning that variable variables are independent of debt structure (short term debt and long term debt), sales growth, company size, and The Total asset turnover of the dependent variable is profitability (ROE) of 71.4% and the remaining 28.6% is explained by other variables outside the researched variables or variables that are not included in this research model. Other variables such as investment decision (PER), Growth Potential, interest rate (SBBI) and others. Based on the R value of 0, 840\textsuperscript{a} means that between independent variables with dependent variables has a fairly close relationship.

**Research Results**

**Influence of Debt Structure (Short-Term Debt) to Profitability**
Based on the results it is partially known that the debt structure (Expectation of debt) variables are insignificant to the profitability of the manufacturing companies listed on the IDX period 2016 – 2018. This is demonstrated by the significance value of the debt structure (short-term debt) of 0.730 > 0.05 and the value of regression coefficient of debt structure (short term debt) of-0.019. Based on the results of this study it can be concluded that the debt structure (short-term debt) is not one of the important factors to be noticed by the company in making the decision to determine the magnitude of profitability that will Generated. The regression coefficient is negative in that it means that the variable debt structure (short-term debt) has significant negative impact on profitability. Negative effect means the increasing debt structure (short-term debt) generated by the company is decreasing profitability. Similarly, the declining debt structure (short-term debt) then the increased profitability.

**Influence of Debt Structure (Long-Term Debt) to Profitability**
Based on the results it is partially known that the debt structure (long-term debt) variables are significantly negative towards profitability in manufacturing companies listed on IDX period 2016 – 2018. This is demonstrated by the significance value of the debt structure (long-term debt) of 0.003 < 0.05 and the value of the regression coefficient of debt structure (long-term debt) of-0.219. Based on the results of this study it can be concluded that the debt structure (long term debt) is one of the important factors to be noticed by the company in making decisions to determine the magnitude of profitability to be generated. The regression coefficient is negative in that it means that the variable debt structure (long-term debt) has significant negative impact on profitability.
Negative effect means the increasing debt structure (long-term debt) generated by the company is declining profitability. Likewise, the contrary, the declining debt structure (long-term debt) then the increased profitability.

**Effect of Company Size (Size) on Profitability**
Based on the results it is partially known that the company size (Size) variable is significantly positive towards profitability in manufacturing companies listed on the IDX period 2016 – 2018. This is demonstrated by the value significance company size (Size) of 0.007 < 0.05 and regression coefficient value of company size (Size) of 0.014. Based on the results of this study it can be concluded that the company size (Size) is one of the important factors to be noticed by the company in making the decision to determine the amount of profitability that will be generated.

The regression coefficient is positively valuable meaning that the company size variable (Size) has a significant positive effect on profitability. Positive effect is increasing the company size (Size) generated by the company hence the increasing profitability. Likewise, the reverse, the company size decreases, the more decreased profitability.

**Effect of Sales Growth on Profitability**
Based on the results a partial study was known that the sales growth variable was significantly positive towards profitability in the IDX-listed manufacturing company in the period 2016 – 2018. This is demonstrated by the value of sales growth of 0.016 < 0.05 and a regression coefficient value of sales growth of 0.089. Based on the results of this study it can be concluded that sales growth is one of the important factors to be noticed by the company in making decisions to determine the magnitude of profitability to be generated.

The regression coefficient is positively valuable meaning that the sales growth variable has a significant positive impact on profitability. Positive effect has increased sales growth resulting from the company, increasing profitability. Similarly, the decline in sales growth is increasingly declining profitability.

**Total Asset Turnover Effect on Profitability**
Based on the results a partial study is known that the total Asset Turnover variable is significantly positive against profitability in the IDX-listed manufacturing companies of 2016 – 2018. It is demonstrated by the significance value of total Asset Turnover of 0.000 < 0.05 and the value of regression coefficient of total Asset Turnover of 0.014. Based on the results of this study it can be concluded that the total Asset Turnover is one of the important factors to be noticed by the company in making the decision to determine the amount of profitability that will be generated.

The regression coefficient is positively valuable meaning that the total Asset Turnover variable has a significant positive effect on profitability. Positive effect is increasing the total Asset Turnover generated by the company and increasing profitability. Similarly, the declining total Asset Turnover is decreasing the profitability of total assets.
5 CONCLUSIONS AND SUGGESTIONS

Partial debt structure (short-term debt) and negative influence are not significant to profitability (ROE). The debt structure (long-term debt) has significant negative impact on profitability (ROE). The company size, sales growth and total Asset Turnover have a significant positive effect on the profitability (ROE). Simultaneous debt structures (short-term debts and long-term debts), company size, sales growth and Total turnover of assets significant impact on profitability (ROE).

Limitations related to the criteria of research samples used are only companies that have a profit that escapes the criteria, but the manufacturing companies that suffer losses do not qualify the criteria. So in this case profitability can not be reflected overall in the manufacturing company listed on the Indonesia Stock Exchange (IDX). The study uses only independent variables of debt structure (short-term debt and long-term debts), company size, sales growth and Total asset turnover should researchers who will be dating to increase the number of independent variables To be analyzed in addition to the above variables. For example investment decision (PER), Growth Potential, interest rate (SBBI) and others. For the next, the company can conduct research with the criteria of companies that have profit/loss for 5 (five) consecutive years, namely from 2014 to 2018. Can make additional independent variables such as investment decision (PER), Growth Potential, interest rate (SBBI) and other.

BIBLIOGRAPHY


Myers, S. and Majluf, N. (2001), *Corporate Financing and Investments Devicition when Firms have Information that Investors do not have*. NBER Working paper No. W1369.
