The Effect of Institutional Ownership, Profitability, and Growth on Capital Structure
Case Study on Companies Listed on The LQ45 Index, 2010–2015

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Keywords: Agency Theory, Growth, Institutional Ownership, Pecking Order, Profitability, Static Trade-Off.

Abstract: The main objective of this research is to investigate the explanatory factors that affect the capital structure choice of companies in the period after a global economic crisis. Explanatory variables in this study cover institutional ownership, profitability, and growth. The investigation is based on two major competing theories in the capital structure literature, i.e. pecking order theory/static trade-off theory and agency theory. This research examines firms listed on the LQ45 index for the period 2010–2015. The sample was selected through purposive sampling, with 17 firms being selected for this research. The data used in this study was taken from annual reports. Multiple regression analysis was used to process the data and the hypotheses were tested by means of F-statistics test and t-statistics tests at the 5% significant level. The result of the F-test show that institutional ownership, profitability, and growth simultaneously influence capital structure. Further, the partial t-test results show that (1) institutional ownership has an influence on capital structure, with a positive correlation; (2) profitability and growth do not have an influence on capital structure, with a positive correlation; (3) firms listed on the LQ45 index follow static trade-off theory in regards to profitability and pecking order theory with regard to growth. Institutional ownership does not follow agency theory.

1 INTRODUCTION

Business activities have been developing rapidly in the era of globalization. Companies not only face domestic competitors but also foreign competition with strong funding, which results in problems for business development. Because of this, it is necessary for a company to be able to hold its ground despite any economic situations they may be facing. However, management often makes bad decisions that can lead a company into conflicts, especially with shareholders. These conflicts surface because there may be a difference between two parties’ ideas of important matters. Institutional investors, with their high proportion of ownership, have the ability to monitor the activities of management and boards of commissioners, and, since they are considered as sophisticated investors, they will not be easily fooled by managers’ actions.

A study by Agha (2015) on manufacturing companies in Pakistan shows that companies with high profitability tend to have low leverage rates, while high asset growth has no effect whatsoever on companies’ leverage. This demonstrates that managers in Pakistan have preferences in regard to using internal funding, borrowing, and then equity. This situation supports pecking order theory. Research by Arslan and Phil (2014) and Chung and Wang (2014) on manufacturing companies in Pakistan during the period 2006–2009 found that institutional ownership negatively affects leverage.

This article will empirically analyze the effect of institutional ownership, profitability, and growth on capital structure. The study’s subjects are companies listed on the LQ45 index after the crisis period in Indonesia (2010–2015).

Based on the background above, the research questions can be formulated as follows:
1. Does institutional ownership, profitability, and growth simultaneously affect a company’s capital structure?
2. Does institutional ownership, profitability, and growth partially affect a company’s capital structure?
3. What theories are able to explain companies’ decisions regarding capital structure in the LQ45 index during the post-crisis period (2010–2015)?

2 LITERATURE REVIEW

2.1 Pecking Order Theory

Pecking order theory is one of theories relating to capital structure. It was proposed by Myers and Majluf (1984, as cited in Husnan, 2000, p. 324) and explains why a company determines a particular source of funding order to fund corporate activities. Pecking order theory states that companies prefer to use internal funding, and if companies need external funding to fulfil their operational activities, then they will use the lowest risk form of borrowing (Husnan, 2000, p. 324).

This theory relies on two factors: information asymmetry and adverse asymmetry selection cost (Myers & Majluf, 1984). Information asymmetry is where those internal to a company are considered more informed about the company’s situation than external parties who have an interest in the company’s activities (e.g. investors). Adverse selection cost relates to the consequences arising from information asymmetry between management and investors, where investors assume that managers are likely to publish shares if they are confident that the stock price is overvalued. Therefore, investors often interpret the announcement of the issuance of shares as a negative signal, i.e. bad news about the company’s prospects, thus resulting in a declining share price.

On the other hand, investors assume that debt issuance reflects the managers’ belief that the future prospects of the company are very good and that the market (as stated in the stock price) is not entirely appreciative of the actual value of the company. In this sense, the issuance of debt provides a positive signal that the manager believes the stock price is undervalued.

This problem can be solved by the company through using securities that have the lowest adverse selection risk. Retained earnings is the best choice for management to avoid such problems because the use of internal funds does not incur costs or require information to investors (Ross, Westerfield & Jaffe, 2010, p. 539). This theory can explain why firms with a high level of profitability will have low debt levels. In addition, pecking order theory is able to explain the interrelation between the selection of sources of funding and the market response in relation to the issuance of securities by the company.

2.2 Hypotheses Development

2.2.1 The Effect of Institutional Ownership on Capital Structure

Ownership represents a source of power that can be used to support, or otherwise, the existence of management, and so the concentration/distribution of power becomes relevant. In this regard, institutional investors, such as insurance companies, banks, investment companies, and ownership by other institutions in the form of companies, will encourage a more optimized oversight of insider performance. Research by Chung and Wang (2014), Indahningrum (2009), and Primadhanny (2016) found that institutional ownership has a negative effect on companies’ capital structure, which illustrates that the presence of institutional owners can reduce companies’ debt and thus minimize the agency cost of debt.

Research by Agyei and Owusu (2014), Hasan (2009), Laksana and Widyawati (2016), Larasati (2011), Maftukiah (2013), and Nuraina (2012) found opposing results, in that institutional involvement of institutional investors in monitoring, the greater the use of debt.

H1: Institutional ownership has a positive relationship with companies’ capital structure.

2.2.2 Profitability Effect on Capital Structure

Profitability is the result of a series of policies and activities conducted by management. Through pecking order theory, Myers and Majluf (1984) conclude that, in funding its investment activities, a company will follow a hierarchy of risk, meaning that a company with a high level of profitability tends to use internal funds as opposed to external funds, which is also in line with research conducted by Agha (2015), Agyei and Owusu (2014), and Indahningrum (2009).

On static trade-off theory, companies with a high profitability rate prefer debt to fund their business activities. This is done in order to get tax shielding benefits, which are produced by debt, so as to increase company value (Seftianne, 2011).

H2: Profitability has a positive relationship with companies’ capital structure.
2.2.3 The Effect of Growth on Capital Structure

Based on pecking order theory, firms with high growth rates tend to require high funding and are expected to have a higher level of leverage than firms with low growth rates (Mazur, 2007). This is due to the company's growth rate needing to be balanced with high levels of funding, so it is assumed that internal funding is unable to finance such growth, forcing the company to use external financing in the form of debt or funding sources that have the lowest risk of information asymmetry (see Agha, 2015; Indahningrum, 2009; Kartika & Dana, 2014).

However, based on static trade-off theory, companies with high growth tend to decrease their borrowing, assuming that a high growth company will also be followed by high risks (see Alipoue, 2015; Darmayanti, 2012).

H3: Growth has a positive relationship with companies’ capital structure.

This study also hypothesizes the simultaneous positive correlation between the three variables and companies’ capital structure.

H4: Institutional ownership, profitability, and growth simultaneously have a positive relationship with companies’ capital structure.

3 METHODS

3.1 Operational Variable Definition

The operational definitions for the variables used in this research are as follows:

Institutional Ownership (X1): The proportion of institutional ownership of shares at the end of the year as measured by the percentage of shares held by institutional investors in an enterprise (Masdupi, 2005).

Profitability (X2): A company’s ability to gain profits. This study measures profitability using ROA (Riyanto, 2010).

Growth (X3): Changes in total assets owned by a company. Asset growth is measured based on a comparison between the current period’s total assets minus the previous period’s total assets (Saidi, 2004).

Capital structure (Y): A company’s ability to fulfil its obligations, which is shown in the equity used to pay debts (DER) (Brigham & Houston, 2011).

3.2 Types and Source of Data

The data in this study is secondary data, which is data gathered, processed, and presented by other parties. In this sense, the study data is companies’ financial reports listed on the LQ45 index during the period 2010–2015 (downloadable from www.idx.co.id).

3.3 Data Gathering Procedures

Data gathering procedures in this study were as follows:
1. Literary Method
   The literary method of gathering data relates to studying books, articles, journals, internet sites, and other papers related to the issues in this study.
2. Documentation Method
   In this method, researchers take notes on the data published by data gathering institutions, gather some data, and then review the secondary data, which, in this study, relates to companies’ financial reports listed on the LQ45 index for the period 2010–2015. Data can be downloaded from the BEI site (www.idx.co.id) and the Indonesia Capital Market Directory (ICMD).

3.4 Data Analysis Technique

The data analysis technique utilized in this study is double linear regression analysis, which is used to define relationships and how significant the effect of the independent variables (i.e. institutional ownership, profitability, and growth) are on the dependent variable (i.e. capital structure).

4 RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Tabel 1: Descriptive Statistics.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DER</td>
<td>102</td>
<td>0000</td>
<td>2.800</td>
<td>6.77644</td>
<td>5562695</td>
</tr>
<tr>
<td>Inst. Ownership</td>
<td>102</td>
<td>1800</td>
<td>9900</td>
<td>6.51614</td>
<td>2214282</td>
</tr>
<tr>
<td>ROA</td>
<td>102</td>
<td>0100</td>
<td>4390</td>
<td>1.45962</td>
<td>0940917</td>
</tr>
<tr>
<td>GROWTH</td>
<td>102</td>
<td>-.1008</td>
<td>5636</td>
<td>1.42113</td>
<td>1168801</td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(listwise)</td>
<td>102</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2 Normality Test

Figure 1: Normality Test Result with P-Plot.

In Figure 1, the data spreads around the diagonal line and follows the direction of the diagonal line; thus, it can be concluded that the data is normally distributed and the normality test is met.

4.3 Multicollinearity Test

Table 2: Multicollinearity Test.

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>917</td>
<td>1.090</td>
<td></td>
</tr>
<tr>
<td>GROWTH_ASSET</td>
<td>957</td>
<td>1.045</td>
<td></td>
</tr>
<tr>
<td>Inst. Ownership</td>
<td>902</td>
<td>1.108</td>
<td></td>
</tr>
</tbody>
</table>

From the SPSS output in Table 2, the VIF value is not greater than 10 and the tolerance values for all the X variables are above 0.1, so it can be concluded that there is no multicollinearity between the independent variables institutional ownership, profitability, and growth.

4.4 Heteroscedasticity Test

Figure 2 shows that the points are spread randomly either above or below 0 on the Y axis. This shows that heteroscedasticity on the regression model is non-existent.

4.5 Multiple Linear Regression Results

Multiple linear regression analysis is used to examine the influence of the independent variables on the dependent variable, where there is more than one independent variable in a study. The results of the multiple linear regression analysis can be seen in the following table:

Table 3: Multiple Linear Regression Results.

<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>-.068</td>
<td>.189</td>
<td>-.363</td>
<td>.717</td>
</tr>
<tr>
<td>Inst. Ownership</td>
<td>8.82</td>
<td>.239</td>
<td>.351</td>
<td>3.693</td>
</tr>
<tr>
<td>ROA</td>
<td>.927</td>
<td>.558</td>
<td>.157</td>
<td>1.660</td>
</tr>
<tr>
<td>GROWTH_ASSET</td>
<td>.255</td>
<td>.451</td>
<td>.054</td>
<td>.565</td>
</tr>
</tbody>
</table>

4.6 Hypothesis Testing and Discussion

4.6.1 T-Test (Partial Test)

A t-test examines the significance and regression coefficient individually. In this study, the researcher used a two-part hypothesis testing approach, with \( \alpha = 5\% \).

The hypothesis testing follows the criteria of:

a. Ho rejection: \( t_{\text{calculate}} > + t_{\text{table}} \) or if \( t_{\text{calculate}} < - t_{\text{table}} \)
b. Ho acceptance: \( - t_{\text{table}} \leq t_{\text{calculate}} \leq t_{\text{table}} \)

Table 4: T Test Result.

<table>
<thead>
<tr>
<th>Model</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-3.63</td>
<td>.717</td>
</tr>
<tr>
<td>Inst. Ownership</td>
<td>3.693</td>
<td>.000</td>
</tr>
<tr>
<td>ROA</td>
<td>1.660</td>
<td>.100</td>
</tr>
<tr>
<td>GROWTH_ASSET</td>
<td>3.65</td>
<td>.573</td>
</tr>
</tbody>
</table>

The hypotheses to be examined are:

1. Institutional Ownership (X1)
   a. Ho.2: Institutional ownership does not affect capital structure
b. Ha.2: Institutional ownership affects capital structure

From the output of Table 4, the t-calculate is 3.693 while the t-table is +1.984, so t-calculate > t-table (3.693 > 1.984), meaning that Ho is rejected. In other words, with a positive correlation, institutional ownership has a significant effect on capital structure.

2. Profitability (X2)
   a. Ho.3: Profitability does not affect capital structure

From the output of Table 4, the t-calculate is 1.66 while the t-table is ± 1.984, so t-calculate < t-table (1.66 < 1.984), meaning that Ho is accepted. In other words, with a positive correlation, profitability does not significantly affect capital structure.

3. Growth (X3)
   a. Ho. 4: Growth does not affect the capital structure

From the output of Table 4.4, the t-calculate is 0.565 while the t-table is ± 1.984, so t-calculate < t-table (0.565 < 1.984), meaning that Ho is accepted. In other words, with a positive correlation, growth does not significantly affect capital structure.

4.6.2 F Test (Simultaneous Test)

Table 5: F Test Result.

<table>
<thead>
<tr>
<th>Model</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>6.315</td>
<td>.001b</td>
</tr>
<tr>
<td>Residual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With the hypotheses as follows:

Ho. 1: Institutional ownership, profitability, and growth do not simultaneously affect the capital structure.

Ha. 1: institutional ownership, profitability, and growth affect simultaneously on capital structure

In order to examine the effect, a comparison between the Ftable and Fcalculate was conducted. From the Anova table, Fcalculate = 6.315 while from F test table, Ftable = 2.7, with v1 = 3 and v2 = 98. Mathematically, 6.315 > 2.7, with the Ho criteria of acceptance and rejection as follows:

Ho rejection : F calculate > F table
Ho acceptance : F calculate ≤ F table

Hence, Ho is rejected and the statistic test result shows that institutional ownership, profitability, and growth simultaneously affect capital structure.

4.6.3 Determination Coefficient

Table 6: Determination Coefficient Result.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.402</td>
<td>.162</td>
<td>.136</td>
<td>.5169609</td>
</tr>
</tbody>
</table>

4.7 Discussion

4.7.1 Institutional Ownership Impact on Capital Structure

Table 7: Institutional Ownership Impact on Capital Structure.

<table>
<thead>
<tr>
<th>m</th>
<th>Average of Institutional Ownership</th>
<th>Number of Company</th>
<th>Capital Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Below 60 Over 60</td>
<td>9 8</td>
<td>12 5</td>
</tr>
<tr>
<td>2011</td>
<td>Below 60 Over 60</td>
<td>10 7</td>
<td>12 5</td>
</tr>
<tr>
<td>2012</td>
<td>Below 60 Over 60</td>
<td>9 8</td>
<td>11 6</td>
</tr>
<tr>
<td>2013</td>
<td>Below 60 Over 60</td>
<td>8 9</td>
<td>10 7</td>
</tr>
<tr>
<td>2014</td>
<td>Below 60 Over 60</td>
<td>8 9</td>
<td>10 7</td>
</tr>
<tr>
<td>2015</td>
<td>Below 60 Over 60</td>
<td>10 7</td>
<td>9 8</td>
</tr>
</tbody>
</table>

Based on the t-test result, the institutional ownership variable partially affects capital structure, since the t-count = 3.693 and t-table ± 1.984, which means that Ho is accepted. In addition, Ha2, i.e. institutional ownership affects a company’s capital structure, is also accepted. This conclusion is supported by the significance value of 0.00, which is less than α = 0.05, meaning that institutional ownership significantly affects capital structure.

The relationship between institutional ownership and a company’s capital structure has a positive direction in this study. Institutional shareholders usually hold a large proportion of the ownership of a company. This happens because shareholders want a third party to monitor management’s performance, which, in this case, is the debt holders. These results are consistent with those of Agyei and Owusu (2014), Arshad (2009), Laksana and Widyawati.
(2016), Larasati (2011), Maftukhah (2013), and Nuraina (2012), which show that institutional ownership has a positive effect on a company’s capital structure.

4.3.2 The effect of profitability on capital structure

Based on the t-test results, it was found that the profitability variable does not affect capital structure, where the $t$-count = 1.66, and the $t$-table $= \pm 1.984$, meaning that the $t$-count $< t$-table ($1.66 < 1.984$), so $H_0$ is accepted. In addition, $H_a3$, i.e. profitability affects a company’s capital structure, is rejected. In this sense, with a positive correlation, profitability does not significantly affect capital structure.

Table 8: Profitability on Capital Structure.

<table>
<thead>
<tr>
<th>Year</th>
<th>Profitability Average</th>
<th>Number of Company</th>
<th>Capital Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Below</td>
<td>Over</td>
</tr>
<tr>
<td>2010</td>
<td>0.16</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>2011</td>
<td>0.19</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2012</td>
<td>0.17</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2013</td>
<td>0.14</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>2014</td>
<td>0.13</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>2015</td>
<td>0.09</td>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

The higher the profitability, the higher the capital structure. On the contrary, the lower the profitability, the lower the capital structure. High or low profits generated by the company cannot be guaranteed by the company’s capital structure because this depends on uncertain economic conditions. The positive direction shown in the results of this study is in line with static trade-off theory, which argues that there is a relationship between taxes, the risk of bankruptcy, and the use of debt caused by the decision of the capital structure taken by the company (Brealey & Myers, 1991). The results of this study agree with those of Putri (2012) and Seftianne (2011), which showed that profitability has no positive effect on capital structure.

4.3.3 The effect of growth on capital structure

Table 9: Profitability on Capital Structure

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth Average</th>
<th>Number of Company</th>
<th>Capital Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Below</td>
<td>Over</td>
</tr>
<tr>
<td>2010</td>
<td>0.13</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>2011</td>
<td>0.23</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2012</td>
<td>0.16</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>2013</td>
<td>0.13</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>2014</td>
<td>0.13</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>2015</td>
<td>0.07</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

Based on the t-test, the growth variable has a partially non-significant effect on capital structure; the $t$-count $= 0.565$ and the $t$-table $= \pm 1.984$, so $t$-count $< t$-table ($0.565 < 1.984$), meaning that $H_0$ is accepted and $H_a4$, i.e. growth affects capital structure, is rejected. This means that, with positive correlation, growth does not significantly affect capital structure. This conclusion is supported by the significance value of 0.537, which is bigger than $\alpha = 0.05$, meaning that there is no significant relationship between growth and capital structure.

Average asset growth experienced a decrease during the 2012–2015 period due to the difficult economic conditions at the time, which resulted in hardships for companies in relation to asset growth. A positive correlation between growth and capital structure shows that increasing asset growth will also increase the capital structure value. Companies who experience high growth may have minimum sources of funding, so they will need more access to external funds, such as debt, when compared to companies with slower growth. The results of this research are consistent with those of Agha (2015), Indahningrum (2009), and Kartika and Dana (2014), where the higher the level of company growth, the
more a company will use external funds, such as debt.

4.3.4 Results of the F test (Simultant test)

The results obtained from this hypothesis testing can be seen in the table is less than $\alpha = 0.05$. Thus, Ho is rejected, and the results of the simultaneous statistical tests are that institutional ownership, profitability, and growth simultaneously affect capital structure. From the analysis, the correlation of the independent variables on the dependent variable is 0.136. This indicates that 13.6% of the variation or change in the dependent variable, i.e. capital structure (DER), can be explained by a change or variation in the independent variables, i.e. institutional ownership, profitability, and growth. The remaining 86.4% can be explained by other factors that have not been examined in this study, such as insider ownership, liquidity, firm size, business risk, future cash flow forecasts, debt levels in the past, and dividend payout ratio.

5 CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions

Based on the results of the analysis and the subsequent discussion, the following can be concluded:

1. Institutional ownership, profitability, and growth simultaneously affect capital structure.
2. Institutional ownership significantly affects capital structure (with a positive correlation), meaning that increases in institutional ownership will lead to increases in the value of capital structure.
3. Profitability has no significant effect on capital structure (with a positive correlation), meaning that profitability enhancement will increase the value of capital structure.
4. Growth has no significant effect on capital structure (with a positive correlation), meaning that asset growth enhancement will increase the value of capital structure.
5. Pecking order theory can explain capital structure decision making in regard to the profitability variable, while static-trade off theory can explain the growth variable.

5.2 Suggestions

Based on the research conclusions, there are some suggestions to be made:

1. For investors and creditors

   When making investment and credit decisions, it is best to consider a company’s capital structure policy because this policy could affect the rate of return that will be earned by investors, in addition to demonstrating the company’s ability to pay principal debts and interest to creditors.

2. Future studies should:
   a. Use wider samples, i.e. not only companies listed on the LQ45 index but also companies outside of the LQ45 index that are listed on the BEI.
   b. Extend the time period of study so as to compare capital structure policies between pre- and post-global crises.
   c. Add factors that possibly affect capital structure decision making so as to achieve a broader perspective of events. The factors that may be added include insider ownership, liquidity, firm size, business risk, future cash flow forecasts, past debt levels, and dividend payout ratio.

REFERENCES


