Debt To Asset Ratio, Return On Equity, Firm Size, And Underpricing Stock

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Abstract- The purpose of the present work is to determine the partial and simultaneous effect of debt to asset ratio (DAR), return on equity (ROE), and firm size on underpricing. It involved 52 non-financial companies that experienced underpricing during an IPO on the Indonesia Stock Exchange in the 2019-2020 period as the sample. Further, secondary data were used in this research. The collected data were analyzed by applying the multiple linear regression analysis.

It was suggested that partially, DAR had a negative and insignificant effect on underpricing, ROE positively and insignificantly contributed to underpricing, and firm size also had a negative and insignificant impact on underpricing. Additionally, DAR, ROE, and firm size did not simultaneously influence underpricing.

Index Terms- DAR, ROE, Firm Size, Underpricing

I. INTRODUCTION

Today’s globalization era has rapidly developed the economy, making numerous firms expand to meet their financial needs by utilizing funds from inside and outside the firm. When a firm’s funding in the form of retained earnings is yet to be sufficient, it is demanded to look for funds from outside by issuing shares in capital markets or becoming a public company known as “go-public”. The first thing to do before a firm goes public in the Indonesia Stock Exchange (henceforth IDX) is performing initial public offerings (IPO). IPO refers to a process of offering shares for the first time to the public in the primary market. They are then traded in the secondary market. However, a company often faces an issue in doing IPO, i.e., determining the initial offer price. The initial share price is determined by the firm (issuer) and underwriter that have agreed on the share price to be offered during the initial offering (Wahyusari, 2013). Determining share price during an IPO is crucial as it relates to the amount of fund the issuer will gain and the risk the underwriter will bear. The difficulty in determining the initial offer price is due to different interests between the issuer and the underwriter. Since the underwriter is highly experienced in the capital market, it understands information regarding the capital market better than the issuer. In defining share price, the underwriter tends to offer a lower price to minimize the risk of loss it may bear as a result of the unsold share and to attract investors. Also, the investors will be more likely to get a low price to receive profit in the form of an initial return.

Initial return (IR) is the difference between the closing market price on the first day of trading in the secondary market and IPO’s offer price divided by IPO's offer price (Risqi & Harto, 2013). Meanwhile, the issuer is willing to have a high price to obtain maximum funds. This matter is majorly known as information asymmetry when the underwriter has more information than the issuer. Such an information asymmetry usually triggers the underpricing phenomenon (Wahyusari, 2013). Underpricing has commonly occurred during an IPO in various capital markets all over the world (Loughran et al., 1994). A study on underpricing was firstly conducted by L. B. Ibbotson (1975) in the United States capital market, which then followed by other researchers around the world, including Indonesia. The degree of underpricing phenomena in capital markets worldwide is varied, ranging from the lowest percentage of 4.3 percent in France (Husson & Jacquillat, 1989) to the highest one in China with 388.0 percent (Datar & Mao, 1998).
The present study attempts to show the effect of debt to asset, return on equity, and firm size on underpricing. Underpricing can be detrimental to the issuer that performs an IPO because of the minimum gained funds. Despite the loss, underpricing is highly profitable for investors as they can get the initial return. On the other hand, investors will suffer a loss if overpricing takes place since they do not receive the initial return (Ayu et al., 2017).

The above figure displays that most non-financial companies experienced underpricing during the IPO in IDX. A total of 101 non-financial companies carried out IPO in 2019-2020; 97 and four of which experienced underpricing and overpricing, respectively. Simply put, 96% of non-financial companies’ IPO were underpriced, and 4% were overpriced during the period mentioned earlier.

According to Thoriq et al. (2018), financial and non-financial factors contribute to the phenomenon of underpricing. The financial factor includes financial leverage measured by debt to asset ratio (DAR) since DAR can observe the ratio between the debt and assets owned by a firm. The higher the DAR, the greater the assets financed by debt; the higher the DAR, the greater the underpricing, and the other way around. A study by Sinaga (2020) suggests that DAR negatively and insignificantly contributes to underpricing. It does not resonate with another finding by (Apriliani, 2021) showing that DAR is impactful on the phenomenon of underpricing.

In addition to financial leverage measured by DAR, profitability measured by return on equity (ROE) also affects underpricing. ROE can measure the ability of a firm to earn profits based on its equity (Mayasari et al., 2018). The higher the ROE, the better the firm’s ability to make profits in the future. This will draw the investors’ attention to the company shares with high ROE. High demand for company shares is positively impactful on the share price in the secondary market that also becomes higher, thus reducing underpricing. Research conducted by Mayasari et al. (2018) points out that ROE significantly influences underpricing.

In contrast to earlier findings, however, Lismawati and Munawaro (2015) find out that ROE has a negative and insignificant effect on underpricing. The non-financial factor contributing to firm size is large scale firms that can be seen from the company’s total assets. Firm size can signal that a firm with large assets will have a good prospect. Large-scale firms will be more likely to be well-known by the public as their prospect data are accessible. The low level of uncertainty or risk of the large-scale firms is able to reduce underpricing (Ramadana, 2018).

Putra (2018) discovers that firm size negatively and insignificantly influences underpricing. This outcome is contrary to that of Saputri and Marsoem Santoso (2020), who find that firm size significantly impacts the underpricing phenomenon. The present study focuses more on non-financial companies as they tend to experience underpricing than the financial ones on the ground that financial companies are regulated by financial agencies, namely Department of Finance and Bank Indonesia (the central bank of the Republic of Indonesia). On top of that, financial companies are supervised to minimize firms’ uncertainty, and the risk of underpricing is lower than that of non-financial companies.

It is the background and previous studies that have driven the researchers to discuss the effect of debt to asset ratio, return on equity, and firm size on underpricing of non-financial companies that perform an IPO on the IDX in 2019-2020.

**Underpricing**

As Jogiyanto (2015) claimed, underpricing occurs when the offering price in the primary market is lower than the closing price on the first day of trade in the secondary market. Underpricing is calculated from the initial return. Initial return refers to the profit gained by investors and the difference in IPO’s offer price in the primary market and the first-day closing price in the secondary market.

**Debt to Asset Ratio**

Debt to asset ratio (DAR) is used to measure the ratio between the debt and assets owned by a company by dividing the total amount of debt by the total assets (Fahmi, 2015:72).

**Return on Equity**

Return on equity (ROE) is a ratio used to measure the ability of a firm in utilizing its resources to generate profits or equity (Fahmi, 2015:82).
Firm Size
Firm size is proxied by using natural logarithms of total assets owned by a company in the last period before the company performs the listing process in the prospectus (Jogiyanto, 2015).

RESEARCH HYPOTHESES
H₁: Debt to asset ratio influences underpricing.
H₂: Return on equity influences underpricing.
H₃: Firm size influences underpricing.
H₄: Debt to asset ratio, return on equity, and firm size simultaneously contribute to underpricing.

II. METHOD OF STUDY

Research Objectives
1. To determine the effect of debt to asset ratio on underpricing.
2. To determine the effect of return on equity on underpricing.
3. To determine the effect of firm size on underpricing.
4. To determine the simultaneous effect of debt to asset ratio, return on equity, and firm size on underpricing.

Research Design

![Diagram showing the relationship between DAR, ROE, Firm Size, and Underpricing]

Research Site and Time
The present work was conducted in non-financial companies that performed an IPO listed in the IDX through the Galeri Investasi Bursa Efek Indonesia Universitas Negeri Gorontalo, Jl. Jenderal Sudirman No.06 by visiting the official website of the IDX www.idx.co.id. Further, this research was carried out for six months, from January to June 2021.

Population and Sample
All 101 non-financial companies performing IPO on IDX in 2019-2020 period were involved as the population.

The study relied on purposive sampling, i.e., a sample taken based on certain criteria. A total of 52 non-financial companies had met the criteria, and thus serving as the sample.

Classical Assumption Test
Normality Test
Normality testing using a regression p-plot graph shows points spread around the diagonal line, and the spread of data (plot) follows the diagonal line. Accordingly, this regression model fulfilled the normality assumption as displayed in the following Figure 4.1.

Multicollinearity Test
Multicollinearity takes place if there is a linear correlation between independent variables in the regression model. The results of the multicollinearity testing are as follows:

<table>
<thead>
<tr>
<th>Variables</th>
<th>VIF</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAR</td>
<td>1.001</td>
<td>.999</td>
</tr>
<tr>
<td>ROE</td>
<td>1.015</td>
<td>.986</td>
</tr>
<tr>
<td>SIZE</td>
<td>1.013</td>
<td>.987</td>
</tr>
</tbody>
</table>

The above table presents that the tolerance value ≥ 0.10 and VIF ≤ 10; hence, multicollinearity indication does not occur.

Autocorrelation Test
Autocorrelation test aims to identify the correlation between residual at the t-period and residual at the t-1 period (before t-period) by considering the value of Durbin-Waston (DW). Provided below are the results of the autocorrelation testing.

<table>
<thead>
<tr>
<th>Model</th>
<th>Durbin-Waston</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.350</td>
</tr>
</tbody>
</table>

It is seen in the table that the value of Durbin-Waston (DW) is in -2 to +2 or 1.350, meaning that there is no autocorrelation.

Heteroscedasticity Test
Heteroscedasticity test intends to observe whether or not there is variance dissimilarity from the residual of one observation to another observation in the regression model by seeing the plot graph between the value of dependent variable (ZPRED) and its residual (SRESID). Given below are the results of the heteroscedasticity testing.
Drew upon the results, the points spread above and below 0 on the Y axis, or in other words, there is no heteroscedasticity indication in this research.

Multiple Linear Regression Test

After meeting the normality requirements, a multiple linear regression analysis was performed to determine the effect of independent variables (debt to asset ratio, return on equity, and firm size) on the underpricing phenomenon of non-financial companies that perform IPO on the IDX in 2019-2020. The results of the regression analysis assisted by the SPSS 22 are as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std.Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.573</td>
<td>0.376</td>
</tr>
<tr>
<td>DAR</td>
<td>-0.044</td>
<td>0.119</td>
</tr>
<tr>
<td>ROE</td>
<td>0.290</td>
<td>0.159</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.006</td>
<td>0.014</td>
</tr>
</tbody>
</table>

The testing results show the significance of DAR (0.716 > 0.05) and the value of t-count of 1.320 < t-table of 2.010. In short, DAR negatively and insignificantly affects underpricing in non-financial companies that perform IPO in the IDX in the period of 2019-2020.

The effect of ROE on underpricing

The test results reveal the significance of ROE (0.074 > 0.05) and the value of t-count of 0.651 < t-table of 2.010. Thus, firm size negatively and insignificantly contributes to underpricing in non-financial companies that perform IPO in the IDX from 2019 to 2020.

The effect of firm size on underpricing

The test results indicate the significance of firm size (0.051 > 0.05) and the value of t-count of -0.455 < t-table of -2.010. Thus, firm size negatively and insignificantly influences underpricing in non-financial companies that perform IPO in the IDX from 2019 to 2020.

F-test

The f-test is employed to show the simultaneous effect of independent variables on the dependent variable. Presented below are the results of f-test calculation.

<table>
<thead>
<tr>
<th>Model</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1.320</td>
<td>0.279</td>
</tr>
</tbody>
</table>

It is seen from the table that the F-count measures at 1.320 with the significance of 0.279. This significance value is greater than 0.05, implying that DAR (X₁), ROE (X₂), and firm size (X₃) do not simultaneously affect the phenomenon of underpricing (Y) of non-financial companies that perform IPO in the IDX from 2019 through 2020.

Determination Coefficient Test (R²)

Determination coefficient (R²) test aims to measure the extent to which the model is able to describe the variation of the dependent variable. Displayed in the following table is the coefficient of determination (R²).

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R-squared</th>
<th>Adjusted R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.276</td>
<td>0.076</td>
<td>0.018</td>
</tr>
</tbody>
</table>

The R-squared reaches 0.076 or 7.6%, so that debt to asset ratio (DAR), return on equity (ROE), and firm size influence 7.6% of underpricing changes. Meanwhile, the remaining 92.4% are affected by other factors not examined in this research.

III. DISCUSSION

The effect of DAR on underpricing

The testing results show that DAR negatively and insignificantly contributes to underpricing of non-financial companies that perform IPO in the IDX in the period of 2019-2020. Such insignificance of effect is because DAR measures how much a firm is financed by the debt and how capable the firm to fulfill its obligations by using its assets have a relatively high risk...
in paying off company obligations. For this reason, DAR is not the only ground of decision-making regarding the low IPO pricing or underpricing. Investors do not pay much attention to a firm’s DAR. Instead, they consider that high DAR may be influenced by external factors of the firm. Investors, consequently, need to take into account the DAR before the company performs an IPO.

In connection with the theory of signaling, there is a model development where using debt is a signal conveyed by a company to the market. Companies use more debt as a positive sign or signal to trustworthy investors that the companies have a great prospect (Ross, 1977, in Hanafi, 2016:316). The results of this research are in line with the previous study by Sinaga (2020) proving that DAR negatively and insignificantly contributes to underpricing. Changes in capital structures (debt use) affect the risk level and fixed cost of each type of capital, which in turn contributing to a firm’s share price. A high level of risk tends to lower a share price, yet the increase in the expected rate of return will raise the share price (Eugene F & Houston, 2010). The present study does not resonate with research conducted by Apriliani (2021) showing that DAR has a significant effect on the phenomenon of underpricing.

The effect of ROE on underpricing

The testing results show that ROE positively and insignificantly contributes to underpricing of non-financial companies that perform IPO in the IDX from 2019 to 2020. This insufficiency of effect is due to the fact that ROE is a measure of a firm’s capability in gaining net profits by utilizing all capitals within the firm, both its own capitals or from debt so that it is not the sole measure of the firm’s profitability. A company with a high ROE is not necessarily able to use its own capital to generate high profits. Concerning the theory of information asymmetry, there is an information gap between the issuer and the underwriter. The underwriter that understands the capital market better tends to set a low price to be accepted by investors and reduce the risk of unsold shares. Conversely, the issuer that is more aware of the company’s financial statements tends not to show the company’s actual performance. As a result, investors do not fully believe the ROE financial statement presented by the company in the last year prior to conducting an IPO on the IDX.

This finding is consistent with that of Lismawati and Munawaroh (2015) suggesting that ROE positively and insignificantly influences underpricing. It is owing to investors’ distrust that considers firms to have done earnings management of financial statements before they conduct an IPO in the prospectus. Therefore, financial information, such as ROE, is not responded positively as it does not show the firms’ actual profitability, and instead, raises underpricing. Other investors consider that a high ROE caused by earnings management actually gives a bad signal, and its implication will increase underpricing. These research results differ from a study by Mayasari et al. (2018), pointing out that ROE significantly influences underpricing.

The effect of firm size on underpricing

The testing results reveal that firm size negatively and insignificantly contributes to underpricing of non-financial companies that perform IPO in the IDX between 2019 and 2020. Although firm size measures the size of a company’s scale by focusing on the total assets from the last financial statement before the company conducts an IPO, investors value more the result of financial performance of the company than the size, if it is not managed effectively and efficiently. This gives rise to the insignificant effect of firm size on underpricing.

With regard to the theory of signaling, firms give a signal on their quality and prospect in bearing underpricing. However, underpricing in this research is not only gone through by firms with big assets, but also by nearly all firms performing IPO. Despite the thing that a big company’s scale also shows the wealth of a company from its high total assets, making the company’s future prospect identified, firm size does not automatically lower underpricing rate because different types of industries have a different amount of assets (Purbarangga & Yuyetta, 2019). A large firm cannot necessarily make high profits; other large firms result in inadequate returns (Saefudin & Gunarsih, 2020).

In accordance with the present finding, a previous study by Putra (2018) has demonstrated that firm size negatively and insignificantly affects underpricing. This is because the data of firm size do not entirely signal the investors as they do evaluate not only the firm size, but also financial performance in making investment decisions. Accordingly, it will not be that impactful on the level of underpricing.

However, the current study’s findings do not support the previous research by Saputri and Marsoem Santos (2020), discovering that firm size has a significant impact on the underpricing phenomenon.

The effect of DAR, ROE, and firm size on underpricing

It is suggested that the variables of debt to asset ratio, return on equity, and firm size do not simultaneously influence the phenomenon of underpricing. This finding resonates with the one found by Purbarangga and Yuyetta A N (2019) that five independent variables of their study do not have a simultaneous impact on underpricing, so that explaining the variable of underpricing by 6.7%. The other 93.3% is explained by other variables. The present work is also strengthened by Suryaningisih (2013) who proves that financial factors (return on asset, debt to equity ratio) do not simultaneously contribute to underpricing by 3.6%; the remaining 96.4% is described by other variables. In contrast, non-financial factors (initial share price, percentage of offered share, and company age) have a simultaneous effect on the underpricing by 25.5%. The rest 74.5% is affected by other factors unexamined. All in all, the underpricing phenomenon gets more effects from non-financial factors than financial ones.

IV. CONCLUSIONS

Significant findings to emerge from this study are as follows:

1. Debt to asset ratio (DAR) negatively and insignificantly affects underpricing. A high risk of DAR tends to lower a share price, yet the increase in the expected rate of return will raise the share price.

2. Return on equity (ROE) positively and insignificantly contributes to underpricing. ROE is not responded positively by investors as
it does not show the actual profitability of the firms, and instead, raising underpricing.

3. Firm size has a negative and insignificant effect on underpricing phenomenon. Firm size does not entirely signal the investors as they focus more on financial performance in making investment decisions. As a result, it will not be that impactful on the level of underpricing.

4. Debt to asset ratio, return on equity, and firm size do not simultaneously contribute to underpricing. The underpricing phenomenon is influenced more by non-financial factors than financial factors.

V. SUGGESTIONS

The present research comprises the following broad suggestions:

1. For Academicians

The findings of this research are expected to provide insights for academicians in finance and stock.

2. For Further Research Works

Considerably more works will need to be done by using broader variables, e.g., adding ROA, EPS, PER, current ratio for the financial variable, and auditor reputation, underwriter reputation, and industry types for the non-financial variable. Further studies are also expected to decrease the limitations of this research by adding samples and the year of conducting the study from financial and non-financial companies that experience underpricing.

3. For Firms

It is recommended that the initial share price is maximum to avoid underpricing.

4. For Investors

Investors who intend to invest in companies that conduct an IPO should take into account financial and non-financial variables to obtain a high initial return.

REFERENCES


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