The Determinants of Capital Structure of Islamic Banks in Indonesia, Malaysia, and Brunei Darussalam

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1. Introduction

The emergence of Islamic finance is one of the effective instruments to advance development in the world, especially in increasing prosperity and alleviating poverty (Alawode, 2015). Starting from Islamic microfinance institutions that can develop inclusive financing for the agricultural sector under the murabaha scheme (Husman and Sakti, 2021), MSME financing (Thaker et al, 2020), to helping economic recovery during the Covid-19 pandemic, especially the recovery of MSME business operations (Abdulla and Ebrahim, 2021).

Globally, the growth of Islamic financial assets in 2021 reached 3,958 billion USD with 70% of these assets owned by Islamic banking. In the Islamic Finance Development Report 2021, the Southeast Asia region is in the top three in terms of the largest Islamic banking assets in the world. In addition, the five countries that lead Islamic banking in Asia in terms of asset growth according to the Asian Development Bank (2015) are Bangladesh, Malaysia, Indonesia, Brunei Darussalam, and Pakistan. In more detail, the average score of the Islamic Finance Development Indicator (IFDI) 2022 (Islamic Finance Development Indicator), ASEAN countries that managed to occupy the top 15 in the average IFDI score globally are Malaysia, Indonesia, and Brunei Darussalam.

As a form of Southeast Asian regional cooperation, ASEAN (Association of Southeast Asian Nations) has a commitment to collaborate to increase economic growth between countries. Islamic banking is one of the industries that play a role in realizing it. Apart from having a positive impact on economic growth, Islamic banking is also a global financial segment based on risk sharing so that it is more flexible in facing economic shocks than conventional banking (Imam and Kpodar, 2015).

ABSTRACT

This study is to determine the effect of Profitability, Liquidity, Asset Growth, Bank Size, and Asset Structure on the Capital Structure of Islamic banks in Indonesia, Malaysia, and Brunei Darussalam. The type of research used is descriptive quantitative, which is a descriptive approach with a quantitative approach. The analysis technique used is panel data regression with fixed effect model is the selected model. The population used in this study is Islamic banks in Indonesia, Malaysia, and Brunei Darussalam. The data was collected from Asian Banker website for 27 banks. The sample selected using purposive sampling method was 22 Islamic banks in Indonesia, Malaysia and Brunei Darussalam which consistently published annual reports during 2015-2021 period. Data collection was carried out using secondary data in the form of annual reports of 22 banks during the 2015-2021 period. The results showed that the Profitability and Asset Growth variables had a positive and insignificant effect on Capital Structure, Liquidity had a negative and significant effect on Capital Structure, and Bank Size and Asset Structure had a significant positive effect on Capital Structure.

Keywords: Capital Structure, Islamic Banks, Panel, Fixed Effect.
In carrying out its business operations, banking capital is the main thing considering that the banking business is closely related to public trust in storing their funds in banks, also applies to Islamic banks. This trust includes operational activities that involve customer interests that can run optimally without problems involving irrevocable customer funds (Syafril, 2020).

So, one of the factors that can strengthen banks in carrying out long-term business is a strong capital structure. Capital structure refers to the amount of debt and capital used by the company to run operations (Komarudin and Tabroni, 2019). The capital structure of Islamic banks is an important factor for the banking sector to remain stable when economic conditions tend to be hit by uncertainty. Capital structure is an important issue for companies, because the good and bad capital structure will have a direct effect on the company's financial position. Companies that have an unfavorable capital structure, where the company has a very large debt will provide a very heavy burden on the company concerned (Pradana et al, 2013).

In general, the debt to equity ratio (DER) is an indicator of the capital structure of companies, including banks. The capital structure of Islamic banking in Indonesia, Malaysia and Brunei Darussalam is presented in Figure 1 below:

![Figure 1. DER of Islamic Banking in Indonesia, Malaysia, and Brunei Darussalam](image)

As can be seen in Figure 1, the DER level of Islamic banking in Malaysia and Brunei Darussalam tends to increase, while Islamic banking in Indonesia has decreased. Nevertheless, the level of DER in Indonesia is still relatively large, reaching 7.37.

Based on previous theory and empirical findings, this study will examine the effect of five factors: profitability, liquidity, asset growth, bank size, and asset structure. There is still a research gap among researchers regarding the influence of these five factors on capital structure. In a study involving conventional and Islamic commercial banks in Pakistan (Sheikh and Qureshi, 2016), profitability, asset structure, and asset growth have a negative effect on capital structure, but bank size has a positive effect on capital structure. This is different from research involving banks in Saudi Arabia (Khan et al., 2021) which states that asset growth and bank size have a positive influence, but profitability and asset structure have a negative effect on capital structure. The opposite result is found in Islamic banking research in Asia and Europe (Muhammad and Azmiana, 2021) which states that profitability has a negative influence, while asset growth and bank size have a negative influence, even asset structure has no significant effect on capital structure. Research on Islamic banking in Southeast Asia (Indriani et al, 2017) states that profitability has a negative and insignificant effect on capital structure, liabilities and asset structure have a negative effect, and bank size has a significant positive effect. The same thing also happened in Yurachma's research (2018) which stated that profitability and liquidity had no significant effect on the capital structure of Islamic banking. Therefore, this study will fill the existing research gap by ascertaining the effect of profitability, liquidity, asset growth, bank size, and asset structure on capital structure.
2. Method

2.1 Research Model and Underpinning Theory

Profitability ratio is an assessment of the condition of the bank's ability to generate profits to support operations and capital (Sarmigi et al., 2022). This ratio is a measure of whether the owner or shareholder can get a decent rate of return on his investment. This ratio is also used by companies to assess the company's ability to earn profits shown through sales and investment income (Kasmir, 2018). Measurements can be made periodically to see the company's development over a period of time, both increase and decrease, and look for the causes of change. The results of these measurements can be used as a management performance evaluation tool in assessing the effectiveness of using profits according to predetermined targets (Kasmir, 2018). Fauziah et al (2020) state that Return on Assets has positive effect on capital structure.

Liquidity ratio is a ratio used to measure the bank's ability to meet its short-term obligations when billed. So, the bank must be able to repay the disbursement of depositor funds when it wants to be taken and be able to fulfill the proposed credit request. The higher this ratio, the better, but if it is too high it can indicate that management is less able to carry out company operations to achieve the desired profit (Sarmigi et al, 2022). If low bank liquidity occurs in the long term, it will have an impact on the depositor confidence crisis. The inability of banks to pay off short-term liabilities is caused by two things, namely the bank does not have any funds at all, or the bank does have funds, but at maturity the funds are insufficient in cash due to waiting for the liquidity of assets such as collection of receivables and sale of securities (Kasmir, 2018). For external parties, the liquidity ratio is useful for assessing the bank's ability to pay or pay off obligations to third parties. In detail, creditors can entrust their funds to provide further loans and distributors can approve sales in installments because there is a guarantee that they will be paid on time (Kasmir, 2018). Shah et al (2017) state that liquidity has negative effect on capital structure.

Company growth is highly expected by internal and external parties, because with good growth, it can provide a positive signal for the company's future development. Companies that have large total asset growth will more easily get the attention of investors and creditors. This is because it can reflect the ability to generate profits that are used to increase the number of assets which in turn can increase the value of the company (Perwira and Wiksuana, 2018). The bigger assets owned by the company, the greater the operational results generated by the company. Pecking order theory states that companies with high growth rates will expand funding by using external funds in the form of debt. The increase in assets followed by an increase in operating results will increase the trust of external parties (creditors) in the company. This will result in a greater proportion of debt than equity (Sari and Haryanto, 2013). In addition, the high level of asset growth will also be a consideration for management to add debt in determining the capital structure. Indirectly, companies increase capital for operating costs with a direct impact on increasing the capital structure (Mukaromah and Fauziah, 2020).

The larger the size of the bank indicates better banking performance (Pratomo and Ismail, 2006). According to Berger and Black (2006), large companies are easier to obtain loans because the value of assets used as collateral is greater and the level of trust of banks or financial institutions is higher. Large companies have a high leverage ratio, while small companies have a low leverage ratio. Khan, Bashir, and Islam (2020) also added that large company sizes have resilience in financial difficulties. Conversely, small companies are vulnerable to financial difficulties and have a chance of bankruptcy. Bukair (2020) state that bank size has positive effect on capital structure.

Asset structure is the determination of how much fixed assets can be used as collateral to creditors in the event of difficulty in returning loans by debtors (Arvlin, 2020). If the company experiences bankruptcy, the available fixed assets can be used to pay off the company's debt. Guizani (2020) state that asset structure has positive effect on capital structure.

2.2. Methodological Approach

The type of research used is quantitative research, in terms of the level of explanation this research is descriptive research. The population of this study are 27 Islamic banks in ASEAN which are included in the category of The Largest Islamic Bank in 2021 on The Asian Banker website. The sample in this study was taken using nonprobability sampling technique using purposive sampling technique. The sample is selected based on an evaluation of the characteristics of the population members, so as to obtain information according to the research objectives. The sampling criteria used in this study are as follows: (1) Islamic banking in
Indonesia, Malaysia, and Brunei Darussalam which are included in the Largest Islamic Bank category in 2021 on The Asian Banker website, and (2) Islamic banking in Indonesia, Malaysia, and Brunei Darussalam which published annual reports from 2015 - 2021. Based on the sample criteria listed above, there are 22 Islamic banks that meet the criteria to be sampled. The range of years used in this study is for seven years, from 2015 to 2021. Thus, this study has 154 observation objects.

This study has one dependent variable that is capital structure as measured by debt to equity ratio. Then, also have five independent variables, they are profitability as measured by return on assets, liquidity as measured by current ratio, asset growth, bank size, and asset structure. Table 1 display the definition of dependent and independent variables in this study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Structure (Debt to Equity Ratio)</td>
<td>The ratio of total debt to total equity</td>
</tr>
<tr>
<td>Profitability (Return on Asset)</td>
<td>Net income before tax and zakah over total assets</td>
</tr>
<tr>
<td>Liquidity (Current Ratio)</td>
<td>The ratio of current assets to current liabilities</td>
</tr>
<tr>
<td>Asset Growth</td>
<td>The annual change in total assets</td>
</tr>
<tr>
<td>Bank Size</td>
<td>Natural logarithm of total assets</td>
</tr>
<tr>
<td>Asset Structure</td>
<td>The proportion of fixed assets to total assets</td>
</tr>
</tbody>
</table>

The data analysis method used in this research is panel data regression analysis. The panel data regression model in this study is as follows:

\[
DER = f(\text{PRO}, \text{LIQ}, \text{GRO}, \text{SIZ}, \text{STR})
\]

With the following information:

\[
DER_{it} = \alpha + \beta_1\text{PRO}_{it} + \beta_2\text{LIQ}_{it} + \beta_3\text{GRO}_{it} + \beta_4\text{Log(SIZ)}_{it} + \beta_5\text{STR}_{it} + \epsilon_{it}
\]

\[\alpha = \text{Constant} \]
\[\beta = \text{Regression Coefficient} \]

3. Result and Discussion

3.1 Results

Descriptive statistical analysis was used to describe the variables in the study. Descriptive statistics will provide an overview or description of data seen from the minimum value, maximum value, average value (mean), and standard deviation value. The results of descriptive statistics are shown in Table 2. The descriptive statistics above indicated that the maximum of debt-to-equity ratio (DER) is 30.47 and the minimum of DER is 0.0067. Meanwhile, the profitability (PRO) indicated it’s maximum value is 0.028 and the minimum value showed around 0.0085. It can be stated that the profitability of Islamic banks need to be improved as it is still lower. Further, the liquidity showed the maximum liquidity of Islamic banks is 10.57 and it’s minimum liquidity ratio is 0.23. The maximum of assets growth of Islamic banks demonstrated is 0.45 and it’s minimum value of assets growth is -0.846. It means that Islamic banks have low assets growth compared to conventional banks in Indonesia, Malaysia and Brunei Darussalam. The table 2 shows the maximum of bank size is 30.96 and the minimum of bank size is 13.14. Finally, the table 2 presents that the maximum of assets structure is 0.13 and it’s minimum value is 0.000008.

There are tests to find the best panel regression model. The first is the chow test. The chow test is used to select the best model between the common effect model or fixed effect model in estimating panel data regression.
The Chow test estimation results show a significant value of 0.0000. In this study, it can be concluded that the model chosen is the Fixed Effect Model (FEM). The next step is to continue testing with the Hausman test. The Hausman test is a test used to determine the best method between the Fixed Effect Model (FEM) or Random Effect Model (REM) to be selected. The Hausman test estimation results show a probability value of 0.0013 (probability <0.05), so it can be concluded that the Fixed Effect Model is selected. So, the most appropriate model used in this analysis is the Fixed Effect Model (FEM).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DER</td>
<td>8.425939</td>
<td>8.085132</td>
<td>30.47119</td>
<td>0.006758</td>
<td>4.748697</td>
</tr>
<tr>
<td>PRO</td>
<td>0.047632</td>
<td>0.028514</td>
<td>0.279544</td>
<td>0.008581</td>
<td>0.051185</td>
</tr>
<tr>
<td>LIQ</td>
<td>1.410067</td>
<td>1.143636</td>
<td>10.57041</td>
<td>0.231507</td>
<td>1.346689</td>
</tr>
<tr>
<td>GRO</td>
<td>0.075920</td>
<td>0.080659</td>
<td>0.452548</td>
<td>-0.846217</td>
<td>0.136589</td>
</tr>
<tr>
<td>SIZ</td>
<td>20.00557</td>
<td>17.83550</td>
<td>30.96931</td>
<td>13.14153</td>
<td>5.141818</td>
</tr>
<tr>
<td>STR</td>
<td>0.014984</td>
<td>0.004514</td>
<td>0.135583</td>
<td>0.000008</td>
<td>0.023172</td>
</tr>
</tbody>
</table>

The t test is used to determine the effect of the independent variable partially in influencing the dependent variable. The t test can be done by comparing the significance level of 0.05 with the probability value. If the significance level of 0.05 is smaller than the probability value, then the independent variable has a significant effect on the dependent variable, and vice versa. The results of the t test is presented in Table 3 below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Sig.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-76.74149</td>
<td>-1.939759</td>
<td>0.0546</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Profitability</td>
<td>19.74738</td>
<td>1.02001</td>
<td>0.3097</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Liquidity</td>
<td>-0.557416</td>
<td>-2.974948</td>
<td>0.0035</td>
<td>Significant</td>
</tr>
<tr>
<td>Asset Growth</td>
<td>2.011646</td>
<td>1.091508</td>
<td>0.2771</td>
<td>Not Significant</td>
</tr>
<tr>
<td>LOG(Bank Size)</td>
<td>28.29836</td>
<td>2.149785</td>
<td>0.0335</td>
<td>Significant</td>
</tr>
<tr>
<td>Asset Structure</td>
<td>58.93014</td>
<td>2.040734</td>
<td>0.0433</td>
<td>Significant</td>
</tr>
<tr>
<td>Prob(F-Statistic)</td>
<td></td>
<td></td>
<td>0.0000</td>
<td>Significant</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td></td>
<td></td>
<td>0.7190</td>
<td></td>
</tr>
</tbody>
</table>

The test result shows that the coefficient value of profitability is 19.74738 with probability value of 0.3097. So, profitability has positive and insignificant effect on the capital structure. The test result shows that the coefficient value of liquidity is -0.557416 with probability value of 0.0035. So, liquidity has negative and significant effect on the capital structure. The test result shows that the coefficient value of asset growth is 2.011646 with probability value of 0.2771. So, asset growth has a positive and insignificant effect on the capital structure. The test result shows that the coefficient value of bank size is 28.29836 with probability value of 0.0335. So, bank size has a positive and significant effect on the capital structure. The test result shows that the coefficient value of asset structure is 58.93014 with probability value of 0.0433. So, asset structure has a positive and significant effect on the capital structure. The results of the F test based on Table 3 obtained the Prob.(F-statistic) value with a significant value of 0.000000. This shows that the independent variables in this research, those profitability, liquidity, asset growth, bank size, and asset structure simultaneously have a significant effect on the dependent variable (debt to equity ratio). The Adjusted R-squared value is 0.766823. This result shows that 76.68% of the overall independent variables, profitability, liquidity, asset growth, bank size, and asset structure can be explained by the model, while the other 23.32% is explained by other variables outside the model of this study.

3.2 Discussion
This study indicated that the profitability (PRO) has positive effect on capital structure. This finding is similar with studies done by Anggraeni (2021), Fauziah et al (2020), and Muhammad and Azmiana (2021) which state that profitability has positive effect on capital structure. Then, it is also in line with Bukair's research (2020) which states that profitability has positive and insignificant effect. A high level of profitability will increase investor interest in investing in banks, so that banks can increase their profitability (Ryando, 2020). The insignificant results indicate that profitability is used for the purchase of fixed assets, not the expansion of external funding (Bukair, 2020).
At the same time, this study showed that liquidity has negative and significant effect on capital structure. The findings is similar with studies done by Guizani (2020), Nasrah and Resni (2020), Nugraha (2018), Shah et al (2017), Indriani et al (2017), and Astuti (2015). The condition of a company that has a high level of liquidity means that it has a large amount of easily liquid assets. The large amount of easily liquid assets reflects that the company has the ability to fund its operational activities using internal funds, so the company no longer needs loans. This is in accordance with the pecking order theory which explains that companies with high liquidity have a negative relationship with the level of debt. This is because when the company's capital needs can be met using assets that are easily liquidated, capital obtained from external parties in the form of debt is no longer needed. Current assets in Islamic banking such as cash, current accounts, mudhabarah receivables, istishka receivables, ijarah receivables, murabahah financing, and mudharabah financing have been able to return Islamic banking obligations such as third party funds, so they do not require external funding (Indriani et al., 2017).

Further, the findings showed that asset growth has positive and insignificant effect on capital structure. The finding is similar with study done by Bukair (2020) and Indriani et al (2017). Research by Khan et al (2019), Shah et al (2017), and Masruroh (2022) also stated that asset growth has positive effect on capital structure. Companies with high growth will tend to choose external sources of funds (Dewi and Wirama, 2017). If external financing is needed, the company will issue the safest securities first, starting with the issuance of bonds, then if it is still not enough, new shares will be issued (Halim, 2015).

This study also indicated that bank size has positive and significant effect on capital structure. The results of this study are in line with the research of Guizani (2020), Bukair (2020), Khan et al (2019), Shah et al (2017), Indriani et al (2017), Nasrah and Resni (2020), and Masruroh (2022) which state that bank size has positive and significant effect on capital structure. Large company size gives an idea of Islamic banking having large total assets as well. With a large asset value, Islamic banking will be easier to obtain loans than Islamic banking with a small size, so that large Islamic banking allows a larger capital structure than small Islamic banking. In general, large Islamic banks will have an ease in obtaining debt from creditors, because they have a lower risk of bankruptcy than small Islamic banks, so creditors do not need to worry about the risk of default by banks. This is supported by research by Pratomo and Ismail (2006), which states that the larger the size of the bank indicates better banking performance. Therefore, large companies are easier to obtain loans because the level of trust of banks or financial institutions is higher. Large companies have a high leverage ratio, while small companies have a low leverage ratio (Berger and Black, 2006).

The findings demonstrated that asset structure has positive and significant effect on capital structure. The results of this study are in line with the research of Muflih and Waluyani (2022), Guizani (2020), Shah et al (2017), and Astuti (2015). In addition, Bukair's research (2020) also states that asset structure has positive effect on capital structure. This states that an increase in the asset structure in Islamic banking can increase DER. Due to the small amount of fixed assets in the total assets of Islamic banking, Islamic banking uses external funds when it wants to add fixed assets (Sholihin, 2010). In addition, Islamic banking can use fixed assets as debt collateral. Therefore, Islamic banks are motivated to increase fixed assets in order to apply for external funding because investors prefer to invest in companies that have safe fixed assets (Bukair, 2020). In addition, investing in fixed assets such as vehicles and buildings can improve service facilities, thereby increasing customer and investor trust (Arifin, 2009).

4. Conclusion
This study can prove all the hypotheses proposed. As having the largest coefficient, Islamic banks in Indonesia, Malaysia, and Brunei Darussalam can re-evaluate whether the asset structure, in this case the proportion of fixed assets, can be used optimally? Partially, when the debt to equity ratio increases, the asset structure also increases. On the other hand, Islamic banking does not need to worry about increasing its debt level because according to this study, liquidity needs can still be maintained even though the debt level increases. Given the significant negative effect on liquidity on debt to equity ratio. Likewise on bank size. This study proves a significant positive effect on the debt to equity ratio on bank size. When the size of the bank increases due to external loans, it is expected that Islamic banking management can optimally utilize borrowed funds. In addition, partially, there is a positive and insignificant effect in this study, namely on profitability and asset growth on debt to equity ratio. For future researchers, this research can be developed by using a longer observation period, for example fifteen years which is then tested for influence in the long and short term.
References


