Measuring Financial Distress of Islamic Banks Under Pandemic and Its Determinants: Random Effect Approach

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ABSTRACT

This study objectives to measure banks’ financial distress level and test whether fundamental factors and COVID-19 affect the banks’ financial conditions. The data were sourced from the Islamic banks’ quarterly financial reports in Indonesia for 2019.1 to 2021.1 to find out a financial conditions before and during the pandemic. Testing was done through a panel data regression test. The random effect model was obtained as the best model for this research after going through several stages of model selection tests. Meanwhile, this study produced several essential findings for adding to the empirical research repertoire during the pandemic. First, the Altman Z-Score test’s results varied from distress, a gray area, and safe from ten Islamic banks studied. Second, after several testing stages, it was found that capital adequacy, profitability, and financing proportion positively affected financial conditions, while COVID-19 did not affect the Islamic banks’ financial conditions. These findings showed that Islamic banks in Indonesia are stable during the pandemic for the short-term, however, for the long-term impact requires more observations.

Keywords: financial distress, Islamic bank, capital requirement, covid-19

Paper type: Research paper


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INTRODUCTION

The COVID-19 has not only had impact on health but also on various sides of human life include financial sector. In the situation, financial transactions are directed electronically, both for saving, borrowing activities, and others transactions. Thus, the banking industry must rack its ways to keep operating by finding new methods. Digitalization of financial services is a necessity in order to the financial circulation move dynamically. However, the termination of employment, the closure of some business sectors, and the decline in public income due to social restrictions are considered to affect increasing credit risk and bank financing.

Several previous studies revealed the impact of crisis and pandemic on financial and banking performance. For instance, the 2007/2008 global crisis impacted Malaysia banks' profitability, liquidity, and credit risk, but they found that Islamic banks had more liquid assets than conventional banks.¹ In Indonesia, Islamic banks are considered capable of dealing with financial crises and monetary policy shocks.² However, Islamic banks are considered less profitable and vulnerable to credit risk and less efficient than conventional banks (CB); nevertheless, large Islamic banks (IB) performed better than large CB after the crisis in Bahrain, Kuwait, Qatar, Saudi Arabia, UAE, and Malaysia during the 2007-2008 global financial crisis.³ In addition, Islamic banks in the seven countries were not affected by the 2007 financial crisis.⁴ In some countries, Islamic banks have also maintained their efficiency during the global financial crisis.⁵ The COVID-19 spread dramatically impacts the financial sector worldwide, has driven unusual risk and causing investors to suffer consequential losses.⁶ The cost of the epidemic of

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SARS and the coronavirus is not limited to the medical aspect but also has a global sociological, psychological, and economic impact.7

Regarding bank financial distress, predictions are made as an early warning system to enable appropriate actions to protect the bank from remaining healthy.8 The failure prediction model is crucial for the banking industry as a financing provider interested in minimizing the level of bad debts and the risk of default to maximize profits.9 The Altman Z-Score model can be used for both academic and practical for various purposes such as to detect problems, risk and rating.10 Altman's model is considered the most popular in academic studies as a measure of financial distress. Default, bankruptcy, insolvency, and distress replace each other and have the same meaning.11 In general, the terms insolvency, failure, and bankruptcy are interchangeable and need to be predicted because they have significant use for stakeholders.12 In addition, the liability position shows the financial position that allows the bank to diversify its investment portfolio, increase profits, and minimize risk.13 Also, changes to non-performing loans increase bank discipline in dealing with risk.14


Indonesia adopts a dual banking system in which two types of bank operate, conventional bank and Islamic bank, in the national financial system. Islamic banks are part of the global banking industry, which develops and participates in monetary circulation. Islamic banks are forbidden to operate in fixed interest rate, either on the return on public deposits or loans, but are directed to implement profit-loss sharing principle. Profits and losses are borne by both parties based on the contract agreement (aqad).

The Financial Services Authority (FSA) of Indonesia reported that the performance of the financial services sector as of March 2020 was still positive, and the risk profile of the financial services industry remained under control even though the economy was under pressure due to the COVID-19 pandemic. Banking performance contracted during the pandemic because national economic activities experienced several significant obstacles. The capital adequacy ratio of conventional banks in the second quarter of 2020 was high at 22.59%, and liquidity was maintained, where the liquid assets to non-core deposits ratio strengthened to 130.53%, and the liquid assets to third party funds ratio was at 27.74%. However, credit growth began to slow, although it continued to grow positively. One of the strategies that the banking sector can take during the COVID-19 pandemic is to secure existing credits to keep them running smoothly and not be affected by debt reserves due to debtor arrears. Banks also need to maintain liquidity and rearrange their financial structure to avoid financial distress.

Financial distress in banking entities is a financial problem that is deemed to be able to prevent banks from fulfilling their obligations; thus, additional actions are needed to continue their operation. The ability of banks to predict factors that affect financial distress is carried out to find the source of the problems. In several studies, CAMEL or CAMELS are the factors used to estimate the level of financial distress in banking. Therefore, distress matter in financial operation is considered as problem encountered by all entity; thus, it is important to conduct several empirical studies, such as during the current COVID-19 pandemic situation. For this reason, it is also necessary to test whether Islamic banks impacted by the pandemic. This study will predicts the possible financial distress of

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Islamic banks during the COVID-19 pandemic.

METHODS

This evaluation was predicted the financial distress level of Islamic banks during the COVID-19 pandemic. The Altman model with the Multiple Discriminant Analysis (MDA) approach was used and the model provides reasonable prediction in the most countries. In addition, many models of detecting financial distress for conventional banks have been carried out, but for application to Islamic banks, some modifications are required. For this reason, applying the Altman revisited model in Islamic banks was employed with several adjustments due to contract variations. The revised Altman Z-Score model for non-manufacturing companies by using the ratios are combined into a single discriminatory score, and the analysis is still considered a valuable tool for determining a company’s health. The formulation as follows:

\[ Z = \text{Score} = 6.56 \times \text{WCTA} + 3.26 \times \text{RETA} + 4.72 \times \text{BITTA} + 1.05 \times \text{VTE} + 1.04 \]  

The Altman Z-Score cut-off value used is that if the Z value ≤ 1.11, then the bank is in the distress (D) category and is considered to have experienced financial distress. If the value is 1.11 < Z ≤ 2.6, then the bank is included in the gray area (G) category so that the bank is likely to experience financial distress. Finally, if the Z score is > 2.6, the bank is in the safe (S) category or is not experiencing financial distress.

Working Capital to Total Assets (WCTA) compares the difference between current assets and current liabilities with the bank's total assets. This measurement is commonly used to measure bank liquidity in terms of its ability to meet short-term obligations. The lower the WCTA, the higher the chance of financial distress, and vice versa. Meanwhile, in Islamic banks, the WCTA measurement is adjusted to the financial structure of the Islamic bank itself because Islamic financial activities have two types of contracts: transactional contracts and intermediation contracts.

Transactional contracts relate to the basis of buying and selling or exchange, such as in murabahah, ba’i salam, ba’i istishna, or ijara contracts. Meanwhile, in intermediation contracts, financial institutions play a role in carrying out the capital function, such as in mudharabah and musyarakah agreements. The

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partnership’s function is with a profit-sharing system between the holder of the capital (shahibul maal) and the entrepreneurs (mudharib) and bears the loss in the event of negligence or loss.

Based on the characteristics of this financial structure, in measuring working capital on the receivable elements, it is adjusted according to the financing contracts on the asset side. The liability side includes current, limited, and unlimited investment accounts. In this case, Current Assets of Islamic bank include cash and equivalent, marketable securities, short-term investments, allowances for bad and doubtful financing, financing and receivables based on Islamic contracts, and other current assets. Financing and advances based on Islamic contracts consist of mudharabah, murabahah, ba’i salam (BS), ijarah, istishna’, and Qardul Hasan. Meanwhile, current liabilities of Islamic banks comprise deposits, deposits and placements of banks and other financial institutions, bills and acceptance payable, and other current liabilities.

Retained Earnings to Total Assets (RETA) expresses how a business activity can generate and set aside profit as an internal funding source. This ratio also shows an effort to build a fundamentally solid financial foundation to maintain the bank’s sustainability in the long term. The higher the RETA, the less likely the bank will experience financial distress due to the low dependence on external sources of funds that can erode profits.

Earnings before Interest and Tax to Total Assets (EBITTA) is used to measure the company’s ability to generate profits. Profit function is to finance bank operations, repay loans, as well as reserves to meet investment needs. Banks with sufficient profits will be less likely to experience financial distress than banks that generate fewer profits. In addition, high EBITTA is also an indicator of management's ability to manage the bank. For the case of financial structure in an Islamic bank, because it does not apply the interest system, earning before tax is used to measure this variable.

Market Value of Equity to Book Value of Total Liability (MVETL) describes a bank's ability based on market value to cover its obligations. The market Value of Equity (MVE) of a bank is the value of capital owned by a bank based on the assessment of market participants. Equity is also a measure of the amount of protection provided by the bank to customers or second parties who have invested their funds; thus, the higher of this ratio indicate the higher protection of Islamic banks on their stakeholders.

However, when Islamic banks do not use debt sources, shareholder equity becomes larger than conventional banks. Therefore, Islamic banks

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23Dennis Olson and Taisier A. Zoubi, “Using Accounting Ratios to
require a high proportion of equity to prevent the possibility of financial distress.

This study used bank accounting data per quarter during the 2019-2021 period in conditions before and during the COVID-19 pandemic. The data was explored from financial reports published on the official website of each Islamic bank. The Islamic banks studied had to meet the following criteria to be included in the samples. First, the study was conducted merely on commercial banks. Second, they should have quarterly financial reports during quarter 1, 2019-quarter 1, 2021. Third, they should have assets of more than one trillion. The procedures above produced panel data from ten Islamic banks from 2019 to 2021, with 90 observations. The ten banks included Bank Aceh Syariah (BAS), Bank Nusa Tenggara Barat Syariah (NTBS), Bank Muamalah Indonesia (BMI), Bank Victoria Syariah (BVicS), Bank Jabar Banten Syariah (BJBS), Bank Mega Syariah (BMS), Bank Panin Dubai Syariah (PNBS), Bank Syariah Bukopin (BSB), Bank Central Asia Syariah (BCAS), and Bank Tabungan Pensiunan Nasional Syariah (BTPNS). The data of all banks were collected from Financial Services Authority (OJK) that published in the official website. The data, then, were tested using a panel data approach by considering the common effect, fixed effect, and random effect models.

Meanwhile, in this study, the variables predicted to influence the financial conditions of Islamic banks comprised Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Return on Assets (ROA), Operational Cost to Operational Income (OCOI), Financing to Deposit Ratio (FDR), and Dummy the COVID-19 pandemic, with 0 being the period before the pandemic, and 1 being the period during the pandemic. Furthermore, the formulation of the panel data model to examine other factors affecting the financial distress of Islamic banks in this study is as follows:

\[ \text{FINDIS}_i = \beta_0 + \beta_{\text{CAR}} \text{CAR}_i + \beta_{\text{NPF}} \text{NPF}_i + \beta_{\text{ROA}} \text{ROA}_i + \beta_{\text{OCOI}} \text{OCOI}_i + \beta_{\text{FDR}} \text{FDR}_i \\
+ \beta_{\text{COVID19}} \text{COVID19}_i + \epsilon_i \quad \ldots \ldots \ldots (2) \]

Where, \( \beta_0 \) is a constant; \( i \) refers to an individual Islamic bank; \( t \) refers to year quarter; FINDIS is the value of the bank financial distress level where is measured by z-score, the highly z-score represents the low financial distress; CAR is formulated of two tiers capital divided by risk weighted assets; NPF is non performing financing to total financing; ROA is net income to total assets; OCOI is Operational Cost to Operational Income; FDR is total financing to third party funds; COVID19 is dummy where 0 is before COVID-19 pandemic and 1 is during COVID-19 pandemic; \( \epsilon \) is the error term.

The data were tested and analyzed using a panel data regression test. Model selection tests included the Chow Test, Hausman
Test, and Lagrange Test. Classical assumption tests on panel data comprised multicollinearity and heteroscedasticity tests. Furthermore, the coefficient of determination test, simultaneity test, and hypothesis testing (t-test) were carried out.

RESULTS AND DISCUSSIONS

This study began with finding the Altman Z-Score (Z-Score), which served to determine the value of potential financial distress of each bank.

TABLE 1: Altman Z-Score of Ten Islamic Banks in Indonesia

<table>
<thead>
<tr>
<th>No</th>
<th>Bank</th>
<th>Altman’s Z-Score (Quarterly)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>1</td>
<td>BAS</td>
<td>0.61</td>
</tr>
<tr>
<td>2</td>
<td>BMI</td>
<td>-0.08</td>
</tr>
<tr>
<td>3</td>
<td>BMS</td>
<td>0.84</td>
</tr>
<tr>
<td>4</td>
<td>PNBS</td>
<td>1.01</td>
</tr>
<tr>
<td>5</td>
<td>BSB</td>
<td>0.32</td>
</tr>
<tr>
<td>6</td>
<td>BTPNS</td>
<td>2.75</td>
</tr>
<tr>
<td>7</td>
<td>BVicS</td>
<td>-0.82</td>
</tr>
<tr>
<td>8</td>
<td>BCAS</td>
<td>1.14</td>
</tr>
<tr>
<td>9</td>
<td>BJBS</td>
<td>0.41</td>
</tr>
<tr>
<td>10</td>
<td>NTBS</td>
<td>1.18</td>
</tr>
</tbody>
</table>

D = Distress, when Z-Score ≤ 1.11; G = A gray area when Z-Score 1.11 ≤ Z ≤ 2.6; S = Safe, when Z-score > 2.6

Table 1 showed the test of based on 90 observations, it was revealed that most Islamic banks experienced financial distress (distress/D) in most quarters, with scores below 1.11. Meanwhile, one Islamic bank was at the safe level (S) because it scored above 2.6. Table 1 also displayed the results of score mapping from each bank during the 2019.1 before the pandemic period until the 2021.1 during the pandemic period. This score was an extraction from the Altman model by including several elements: the proportion of WCTA, RETA, EBITTA, and MVETL

TABLE 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINDIS</td>
<td>0.98376</td>
<td>0.74471</td>
<td>3.66572</td>
<td>-0.81786</td>
<td>0.88389</td>
<td>90</td>
</tr>
<tr>
<td>CAR</td>
<td>0.24322</td>
<td>0.20040</td>
<td>0.50700</td>
<td>0.12010</td>
<td>0.10517</td>
<td>90</td>
</tr>
<tr>
<td>NPF</td>
<td>0.03250</td>
<td>0.03250</td>
<td>0.07710</td>
<td>0.00480</td>
<td>0.01943</td>
<td>90</td>
</tr>
<tr>
<td>ROA</td>
<td>0.01785</td>
<td>0.00660</td>
<td>0.13580</td>
<td>0.00004</td>
<td>0.03253</td>
<td>90</td>
</tr>
<tr>
<td>OCOI</td>
<td>0.88702</td>
<td>0.93835</td>
<td>1.20000</td>
<td>0.00440</td>
<td>0.15039</td>
<td>90</td>
</tr>
<tr>
<td>FDR</td>
<td>0.89043</td>
<td>0.87995</td>
<td>1.96730</td>
<td>0.57040</td>
<td>0.23419</td>
<td>90</td>
</tr>
<tr>
<td>COVID19</td>
<td>0.55555</td>
<td>1.00000</td>
<td>1.00000</td>
<td>0.00000</td>
<td>0.49968</td>
<td>90</td>
</tr>
</tbody>
</table>
Table 2 describes the descriptive statistics of the data processed in this study, including each variable's mean, median, maximum, minimum, and standard deviation. The highest average value was in the FINDIS variable of 0.98376 and the lowest average (mean) in the ROA was 0.01785. Due to the secondary daya, it was displayed as real as the empirical conditions of the research objectives.

**Table 3. Correlations**

<table>
<thead>
<tr>
<th></th>
<th>CAR</th>
<th>NPF</th>
<th>ROA</th>
<th>OCOI</th>
<th>FDR</th>
<th>COVID19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0.64354</td>
<td>-0.43574</td>
<td>1</td>
<td>0.01773</td>
<td>0.10679</td>
</tr>
<tr>
<td>-0.64361</td>
<td>1</td>
<td>0.38547</td>
<td>-0.65505</td>
<td>1</td>
<td>0.39764</td>
<td>0.06338</td>
</tr>
<tr>
<td>0.01773</td>
<td>0.06338</td>
<td>-0.01125</td>
<td>0.13954</td>
<td>1</td>
<td>-0.06771</td>
<td>0.08885</td>
</tr>
<tr>
<td>0.10679</td>
<td>0.06338</td>
<td>-0.06771</td>
<td>0.08885</td>
<td>1</td>
<td>0.14746</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3 exhibited that there was no high correlation among the independent variables where the highest correlation was 0.64354 on the relationship between ROA and CAR. This result was lower than the required of 0.7, then it can be concluded that there was no multicollinearity.

**Table 4: Panel Data Regressions**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Common Effect Model</th>
<th>Fixed Effect Model</th>
<th>Random Effect Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff. t-stat (prob.)</td>
<td>Coeff. t-stat (prob.)</td>
<td>Coeff. t-stat (prob.)</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.12018 -3.23639 -0.37159 -1.04504 -0.72164 -2.32640</td>
<td>-0.37159 (0.001***) -1.04504 (0.022***)</td>
<td>-1.04504 (0.001***) -0.72164 (0.000***)</td>
</tr>
<tr>
<td>CAR</td>
<td>4.86100 8.49496 3.53100 4.51868 4.90776 8.39171</td>
<td>3.53100 (0.000***) 4.51868 (0.000***)</td>
<td>3.53100 (0.000***) 4.51868 (0.000***)</td>
</tr>
<tr>
<td>NPF</td>
<td>-4.74067 -1.66399 7.26435 1.17468 -2.92981 -0.87805</td>
<td>7.26435 (0.099*) 1.17468 (0.243)</td>
<td>7.26435 (0.099*) 1.17468 (0.243)</td>
</tr>
<tr>
<td>ROA</td>
<td>10.6252 6.35539 1.89465 0.66389 8.34850 4.43573</td>
<td>6.35539 (0.000***) 1.89465 (0.508)</td>
<td>6.35539 (0.000***) 1.89465 (0.508)</td>
</tr>
<tr>
<td>OCOI</td>
<td>0.31403 0.97624 0.06739 0.24175 0.07742 0.29014</td>
<td>0.06739 (0.331) 0.24175 (0.809)</td>
<td>0.06739 (0.331) 0.24175 (0.809)</td>
</tr>
<tr>
<td>FDR</td>
<td>0.71259 3.90969 0.06739 1.10170 0.46328 2.62995</td>
<td>3.90969 (0.000***) 1.10170 (0.274)</td>
<td>3.90969 (0.000***) 1.10170 (0.274)</td>
</tr>
<tr>
<td>COVID19</td>
<td>-0.05198 -0.70100 -0.04964 -0.83352 -0.04398 -0.75958</td>
<td>-0.70100 (0.485) -0.04964 (0.407)</td>
<td>-0.70100 (0.485) -0.04964 (0.407)</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.8655 0.9314 0.6931</td>
<td>0.9314</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td>0.8557 0.9176 0.6709</td>
<td>0.9176</td>
<td></td>
</tr>
<tr>
<td>F-Statistic (Prob)</td>
<td>89.029 67.083 31.249</td>
<td>67.083</td>
<td></td>
</tr>
</tbody>
</table>

Coeff = coefficient; t-stat = t-statistics
*** Sig. at level 1%; ** Sig. at level 5%; * Sig. at level 10%

Based on the Common Effect Model, three variables were significant at the 10% significance level in influencing the high score of...
the FINDIS. These results indicate that CAR, NPF, ROA, and FDR affected Islamic banks' good and bad financial conditions. A high CAR would increase the Z-score, meaning that banks with sufficient capital will be able to improve their financial health and reduce financial distress. On the other hand, NPF had a negative effect on FINDIS, which signifies that the higher the NPF, the lower the bank's financial condition. Furthermore, ROA had a positive effect on FINDIS so that it can be judged that the higher the bank's ability to produce profits from its assets, it will increase the bank's financial resilience and reduce the financial distress level. Also, FDR had a positive effect on FINDIS and showed that a high financing ratio to third-party funds would improve the bank's financial condition because it increases the potential for increasing bank income. Meanwhile, OCOI, and COVID19 did not affect the financial condition of Islamic banks.

According to the Fixed Effect Model, only the CAR variable affected FINDIS, while the other variables did not affect the bank's financial condition. Meanwhile, in the Random Effect Model, three factors affected the bank's financial condition: CAR, ROA, and FDR. These results answered that CAR is the most consistent factor that can keep banks from experiencing financial distress. The statistic of cross-section F was 7.91961, with a probability of 0.000 fewer than the required probability of 0.05; thus, H0 was rejected, and H1 was accepted, denoting that the Fixed Effect Model was better than the Common Effect Model. The statistic of cross-section F was 7.91961, with a probability of 0.000 fewer than the required probability of 0.05; thus, H0 was rejected, and H1 was accepted, denoting that the Fixed Effect Model was better than the Common Effect Model. In the next step, the Hausman test was carried out to test whether the Random Effect Model or the Fixed Effect Model was better. This test's results indicated that the

<table>
<thead>
<tr>
<th>Test</th>
<th>Hypothesis</th>
<th>Results</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chow Test</td>
<td>H0: Common Effect</td>
<td>The statistic of Cross-Section F is 7.9196 (Prob. 0.00 &lt; 0.05)</td>
<td>The fixed effect is accepted.</td>
</tr>
<tr>
<td></td>
<td>H1: Fixed Effect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hausman Test</td>
<td>H0: Random Effect</td>
<td>Chi-Square Statistic of Cross Section Random is 0.00 (Prob. 1.00 &gt; 0.05)</td>
<td>A random effect is accepted.</td>
</tr>
<tr>
<td></td>
<td>H1: Fixed Effect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lagrange Multiplier Test</td>
<td>H0: Common Effect</td>
<td>Cross Section of Breuch-Pagan is 23.041 (Prob. 0.00 &lt; 0.05)</td>
<td>A random effect is accepted.</td>
</tr>
<tr>
<td></td>
<td>H1: Random Effect</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To find out which model was the right one from the three models mentioned above, table 5 showed a series of tests were carried out. In the Chow test, the statistic of cross-section F was 7.91961, with a probability of 0.000 fewer than the required probability of 0.05; thus, H0 was rejected, and H1 was accepted, denoting that the Fixed Effect Model was better than the Common Effect Model. In the next step, the Hausman test was carried out to test whether the Random Effect Model or the Fixed Effect Model was better. This test's results indicated that the
Chi-Square Statistics of Cross Section Random value was 0.000, with a probability of 1,000 being more significant than 0.05. Thus, it was concluded that the Random Effect Model was better than the Fixed Effect Model. The last step was to test whether the Common Effect Model or Random Effect Model was better than the Lagrange Model. Based on this test, the Cross-Section of Breuch-Pagan value was 23.041, with a probability of 0.000 less than a significance level of 0.05. Hence, it can be stated that the Random Effect Model was better than the Common Effect Model. Based on the three models, the Random Effect Model was a fit model in this study.

After going through several model selection tests and the random model was declared the best model in this research data, it can be seen that three variables positively affected financial conditions. These factors were CAR, ROA, and FDR, while NPF, OCOI, and COVID19 did not affect the financial condition of Islamic banks. The NPF and COVID19 coefficients were negative, indicating the tendency of these two variables to reduce the financial condition of Islamic banks but still require further observation and testing.

The findings in this study support the policy that CAR is an essential factor in the financial structure of Islamic banks. The policy on the importance of capital adequacy in banks aims to encourage banks to have an optimal capital structure and distress resolution cost. Concerning this, the authorities regulate capital adequacy policies to cover bank positions and protect against losses arising from fluctuations in value. Learning from the 2007-2009 crisis that left the Basel II policy failing in risk coverage, the Basel III policy was later issued, which contains a capital base with strengthening risk coverage that provides incentives for banks to assess credit portfolios and bank investment decisions. Such capital regulation is vital for bank performance and financial stability to overcome risks due to shocks that befall the economic system. A high capital ratio is closely related to a decrease in bank risk.

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25Chong and Liu, “Islamic Banking: Interest-Free or Interest-Based?”


banks maintain a capital buffer to absorb losses arising from their loan portfolios, which may change from time to time.29 Meanwhile, capital is negatively related to risk and the inefficiency of banks holding lower capital.30 Therefore, capital requirements must be appropriate to protect losses that may arise to maintain bank credit.

Moreover, income diversity significantly affects bank stability.31 The composition of equity and profit to total assets or working capital to total assets is a supporting factor for capital adequacy, increasing the bank's financial strength and value.32 However, this study revealed the opposite result, in which a high ratio of financing to deposits empirically increased the score of financial condition. This result does not align with the finding that loan growth or bank fund distribution has a negative effect on risk.33 This condition is possible because the profit-sharing system does not interfere with the profits obtained by Islamic banks. After all, with this system, the risk can be borne by both parties involved in the contract.

CONCLUSIONS
The holistic goal of establishing an Islamic bank is to create an economic balance through achieving social welfare, creating job opportunities, and poverty alleviation in accordance with Islamic values. Like conventional banks, Islamic banks carry out business functions and have the mandate to carry out charity (amaliah) functions to achieve these goals. Further, the swift spread of COVID-19 globally requires Islamic banks to take strategic and tactical actions so that financial conditions can be well maintained.

This study produced several crucial findings, in which CAR, ROA, and FDR are factors affecting the financial condition of Islamic banks. Banks with a weak financial condition score need to do capital injections to ensure that the bank has

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sufficient capital to cover possible risks. High bank profitability can also improve financial conditions at a better level. The advantage of Islamic banks is that their operating system is based on different contracts so that the decrease in income in one contract can be complemented by income from other contracts. The primary source of bank income comes from financing channeled to the public; thus, the higher the financing, the higher the probability of the Islamic bank's financial condition, even though it is prone to credit risk. While the limitation of this study is the lack of observation range. To achieve more convincing results, future research could add longer ranges of observations.

Author’s Contribution
Siti Aroh: Contribute to formulating research ideas, collecting data, processing data, and interpreting data, systematics, research methods, and analyzing interpretation results, the language proofread.
Arif Nugroho: Contributing to the language proofread.

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REFERENCES


036X.2006.00285.x.


