

Profitability as a Moderating Effect of Liquidity, Sales Growth and Leverage on Financial Distress in Islamic Commercial Banks

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Abstract. *Islamic commercial banks are inseparable from the risk of financial distress. Several financial ratios are able to predict Financial Distress. This study aims to determine the effect of Liquidity, Sales Growth, and Leverage on Financial Distress which is moderated by Profitability. The type of data used is panel data so that it uses panel data regression analysis assisted by Eviews 10 software. The moderation variable test uses Moderating Regression Analysis (MRA). Data collection used a purposive sampling method so as to obtain a sample of 13 Islamic commercial banks in the 2014-2020 period. This study uses the Random Effect Model (REM) technique to see the effect of the relationship between liquidity, sales growth, and leverage variables on financial distress variables simultaneously or partially. The results show that the variables of liquidity and leverage have a significant effect on financial distress. While the sales growth variable has no significant effect on financial distress. Variables that can be moderated by profitability are sales growth and leverage, but profitability is unable to moderate the relationship between liquidity and financial distress*

Keywords: *Islamic commercial banks, Liquidity, Sales Growth, Leverage, Financial Distress*

Abstrak. *Bank umum syariah tidak terlepas dari risiko terjadinya financial distress. Beberapa rasio keuangan mampu untuk memprediksi Financial distress. Penelitian ini bertujuan untuk mengetahui pengaruh Likuiditas, Sales growth, dan Leverage terhadap Financial distress yang di moderasi oleh Profitabilitas. Jenis data yang digunakan ialah data panel sehingga menggunakan analisis regresi data panel yang dibantu oleh software Eviews 10. Pengujian variabel moderasi menggunakan Moderating Regression Analysis (MRA). Pengambilan data menggunakan metode purposive sampling sehingga mendapatkan sampel 13 bank umum syariah dalam kurun waktu 2014-2020. Studi ini menggunakan teknik Random Effect Model (REM) untuk melihat pengaruh hubungan variabel likuiditas, sales growth, dan leverage terhadap variabel financial distress secara simultan maupun parsial. Hasil menunjukkan bahwa variabel likuiditas dan leverage berpengaruh signifikan terhadap financial distress. Sedangkan variabel sales growth tidak berpengaruh signifikan terhadap financial distress. Variabel yang bisa dimoderasi oleh profitabilitas yaitu sales growth dan leverage, namun profitabilitas tidak mampu memoderasi hubungan antara likuiditas dengan financial distress.*

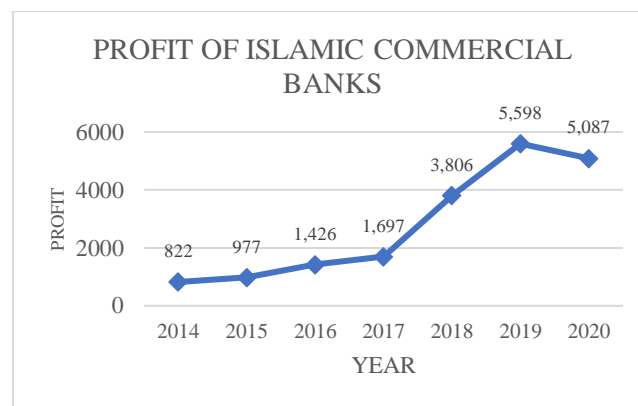
Kata Kunci: *Bank Umum Syariah, Likuiditas, Sales Growth, Leverage, Financial Distress*

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Introduction

Islamic banking sector has begun to experience development since its inception. The development of the national sharia financial system is manifested by the increase in sharia banks that have liquidity to high profitability and are inseparable from a more macro financial system framework. This is because the Islamic banking sector places more emphasis on sharia principles with profit sharing without interest so as to provide a mutually beneficial alternative between banks and the public. Islamic banks are still able to compete with other banking sectors in building a stable community economy. This is evidenced by the increase in profits in 2014-2020 below:



Source: Sharia Banking Statistics, OJK 2020

Image 1. Development of Islamic Commercial Bank Profit 2014-2020

Based on Figure 1, Islamic commercial banks in 2014-2019 experienced a steady increase in profit. However, in 2020 profits decreased by 34% from 2019. This was due to the COVID-19 pandemic occurring in 2019-2020 which had an impact on the decline in the banking sector so that profits generated by Islamic commercial banks also decreased. In addition, the liquidity of Islamic commercial banks was also detected to have decreased in 2020 by 2.35% from 2019 which amounted to 30.08. The low profit was caused by low sales and income, thus indicating that the company had not been effective in generating profitability in that period. This condition is feared will trigger a condition of financial distress (Wulandari & Jaeni, 2021). According to Andre & Taqwa (2017) ratios of profitability, liquidity, leverage and cash flow can be the most significant indicators in predicting financial distress.

The phenomenon of financial distress at BUS has been studied by Junaidi (2016) found that PT. Bank Muamalat Indonesia Tbk is in an unhealthy condition in the Distress Zone area and has the opportunity to experience Financial Distress. In 2016-2018 Bank Muamalat experienced several financial problems, one of which was a decrease in operating profit (EBIT). Many previous studies have raised the topic of financial distress in banking, such as research conducted by Theodorus & Artini (2018) who conducted research on banking companies on the IDX. In addition, there is research by Bakhtiar (2019) and Kurniawati & Kholis (2016) who conducted research on Islamic banking. Sharia commercial bank that has indications that it is close to experiencing financial distress is Bank Muamalat. According to the 2019 annual report, Bank Muamalat indicated losses as seen from the net profit of only IDR 6.57 billion. In the first 8 months of 2019, net profit plunged by 94.1% on an annual basis.

Based on the background above, the authors are interested in conducting research with renewal of profitability as a moderating variable and with Islamic commercial bank sector objects for the 2014-2020 period with financial ratio variables, namely liquidity, sales growth, and leverage.

Literature Review

Signal Theory

The theory that is used as a reference in this study is the signal theory. Signal theory suggests how companies provide signs and limits to external parties in using financial reports. Companies provide signals to users of financial statements through the issuance of financial reports by providing information about the company that can be used to find out whether the company is in a healthy condition or in crisis (financial distress). Financial statements are very important because they can predict the potential for bankruptcy of a company by looking at the analysis of its financial statements (Erayanti, 2019). External parties can analyze from the side of liquidity, leverage, and profitability of the financial reports provided by the company.

Liquidity

Liquidity ratio is a ratio to measure how much a company's ability to meet its short obligations. Van Horne (2009) in his research stated that, "company liquidity is inversely proportional to profitability". Therefore, the higher the company's liquidity, the lower the company's ability to generate profits. Liquidity is able to convert current assets into cash and is related to the company's financial condition (Rohmadini, 2022). The company is said to be capable if it fulfills its financial obligations on time and has current assets that are greater than its debts.

If the company wants to survive in a liquid condition, it must have current funds that are greater than its current debt (Widhiari & Aryani Merkusiwati, 2015). Therefore, there is a need for careful interpretation and management of assets and debts so that in the future there will be no problems in paying them off. Liquidity ratios are very necessary for the benefit of credit analysis to financial risk analysis (Aisyah et al., 2017). In addition to having an impact on profitability, this high ratio will also cause trust, especially the people who keep their funds in the bank to decrease so that public trust in the bank will also decrease which causes them to withdraw all the funds in the bank. This is what triggers the occurrence of liquidity problems in banks (Anggraini & Suwarsi, 2020).

Sales Growth

Sales growth is an increase in the amount of sales revenue from year to year or from time to time. Growth is expressed as total asset growth where past asset growth will reflect future profitability and future growth (Astuti & Muhammadiyah, 2018). Sales growth is marked by an increase in market share so that it affects the increase in sales and increases the company's profitability. According to Poernawarman (2015), the company will be able to pay all forms of financial obligations if it has stable sales so that the income generated is high. High sales figures will also help the company finance its assets.

Leverage

Leverage is the ability of a company to pay off current debt and long-term debt. According to Sigit (2008), leverage comes from company activities that use third party funds in the form of debt. The more often the use of these funds causes the company to have to return it along with the interest on the loan. The required loan interest is often even of great value due to the lengthy return from the company. If the income owned by the company is not balanced with the loans and interest, then the risk that the company will experience is financial distress.

Financial Distress

Financial distress is a condition where a company experiences financial difficulties and is unable to fulfill its obligations which causes the company's assets to be less than its debts (Meilani & Bukhori, 2019). Financial distress is avoided by all companies because of the worst consequences that arise from financial distress experienced by the company declared bankrupt. Information about the financial difficulties of a company must be known in advance by the managerial team so that financial distress can be minimized so that bankruptcy of the company can be avoided. To detect financial difficulties in a company can be done by using the company's financial ratios, including the ratio of profitability, leverage, activity and sales growth (Asfali, 2019).

This study uses the Altman Z-Score model with the B Z-score model type. Model B Z-score was chosen because it is in accordance with the sector that is the object of research, namely the service sector such as banking companies (Ilyasa, 2018). The equation of this model is:

$$Z = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

Source: Altman (1968)

Information:

Z = financial distress and bankruptcy index

X1 = working capital / total assets

X2 = retained earnings / total assets

X3 = earning before interest and taxes/total assets

X4 = market value of equity / book value of total debt

Profitability

Profitability is a tool to measure a company's ability to generate profits over a certain period or time. Profit or profit is the most important factor that must exist in a company. If a company is able to generate large profits in one period, it will attract investors and indicate the better performance of the company. The prospect of the company depends on how high the level of profitability is so that it will attract many investors. High profitability indicates a positive company value in generating profits. Company profit is related to liquidity which is the main component which is an important indication of corporate governance (Affiah & Muslih, 2018)

Method

This study uses a quantitative approach so that it can provide an overview and results through the data and calculations obtained regarding the influence of liquidity, sales growth and leverage on financial distress with profitability as a moderating variable. Data used in this study is secondary data obtained through the annual reports of Islamic commercial banks for the 2014-2020 period taken from the official OJK website <https://www.ojk.go.id>. The population obtained 14 sharia commercial banks. Data collection used a purposive sampling method so as to obtain a sample of 13 Islamic commercial banks in the 2014-2020 period. The independent variables used in this study, namely liquidity, sales growth, and leverage, use the dependent variables financial distress and profitability as moderating variables. Variable data is described as follows:

Table 1.
Variable Operational Definitions

No.	Variable	Measurement Indicator	Source
1.	Liquidity (X1)	<p><i>Current Ratio</i></p> $\frac{\text{Aktiva Lancar}}{\text{Kewajiban Lancar}}$	Wardiyah (2017), https://www.ojk.go.id/
2.	Sales Growth (X2)	<p><i>Sales Growth</i></p> $\frac{\text{Sales t} - \text{Sales o}}{\text{Sales o}}$ <p>Information :</p> <p><i>Sales t</i> = Sales of the current period</p> <p><i>Sales o</i> = Sales of the previous period</p>	https://www.ojk.go.id/
3.	Leverage (X3)	$\text{DER} = \frac{\text{Total Kewajiban}}{\text{Total Ekuitas}}$	Kasmir (2015), https://www.ojk.go.id/
4.	Financial Distress (Y)	$Z = 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4$ <p>Information:</p> <p>Z = financial distress and bankruptcy index</p> <p>X1 = working capital / total assets</p> <p>X2 = retained earnings / total assets</p>	Altman (2000) https://www.ojk.go.id/

		X3 = earnings before interest and taxes/total assets X4 = market value of equity / book value of total debt	
5.	Profitability (Z)	$ROA = \frac{\text{Earning After Tax}}{\text{Total Aktiva}} \times 100\%$	Kasmir (2015) https://www.ojk.go.id/

Source: Researchers, 2022

The data analysis technique used by researchers is panel data regression which is a combination of time series and cross-section in the form of various Islamic commercial bank companies in the period 2014-2020. Data processing uses the Eviews 10 program for panel data regression analysis. This analysis tool is used to determine the effect of liquidity, sales growth and leverage on financial distress with profitability as a moderating variable in Islamic Commercial Banks registered with OJK in 2014-2020. In managing moderating variable panel data, researchers use Moderating Regression Analysis (MRA). In this study the MRA test aims to see if the profitability variable can strengthen or weaken the influence of the variables Liquidity, sales growth, and leverage on financial distress. How to test regression with moderating variables can use the following formula:

$$Y = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \beta_4.Z + \beta_5.X_1Z + \beta_6.X_2Z + \beta_6.X_3Z$$

Information:

Y = Financial distress

β_1 - β_5 = Regression coefficient

α = Constant

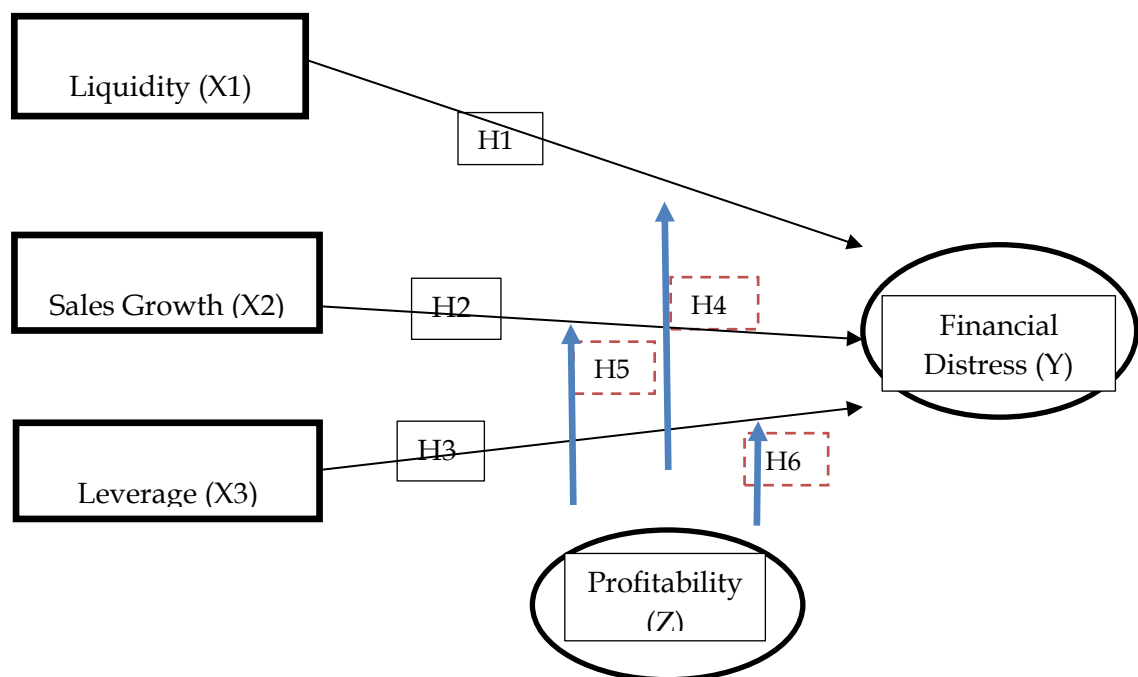
X1 = Liquidity

X2 = Sales Growth

X3 = Leverage

Z = Profitability

This study uses the independent variables of liquidity, sales growth, and leverage. The dependent variable used is financial distress. This study also adds profitability as a moderating variable. The analytical model framework for determining the hypothesis is illustrated below:



Source: Data processed by researchers, 2022

Figure 2. Conceptual framework

Based on the background that has been described, the researcher can formulate the hypothesis as follows:

H1 : Liquidity has an effect on Financial Distress (Septiani & Dana, 2019), (Lee & Lee, 2018), (Widhiari & Aryani Merkusiwati, 2015)

H2 : Sales Growth effect on Financial Distress (Meilani & Bukhori, 2019), (Thim et al., 2011)

H3 : Leverage has an effect on Financial Distress (Natalia & Sha, 2022), (Rohmadini, 2022)

H4 : Profitability moderates the effect of liquidity on financial distress (Sari & Putri, 2016)

H5 : Profitability moderates the effect of sales growth on financial distress (Effendi & Hariyono, 2022)

H6 : Profitability moderates the effect of leverage on financial distress (Sari & Putri, 2016)

Results and Discussion

Model Feasibility Test

Chow test

This test aims to find out whether the FEM model is better than the CEM model. The results of the Chow test are described in table 2 below:

Table 2.

Chow Test Results

Effect Test	Statistics	df	Prob.
Cross-section F	61.315998	(12.74)	0.0000
Chi-square cross-sections	217.736820	12	0.0000

Source: Eviews processed data 10, 2022

Based on the results of the Chow test above, it shows a probability value of $0.000 < 0.05$ so that the right model for panel data regression is fixed effect model.

Hausman test

Hausman test aims to comparing the fixed effect model with the random effect in determining the best model to be used as a panel data regression model. The results of the Hausman test are described in table 3 below:

Table 3.

Hausman Test Results

Effect Test	Statistics	df	Prob.
Random cross-sections	2.139193	4	0.7102

Source: Eviews processed data 10, 2022

Based on the Hausman test results above, it shows a probability value of $0.7102 > 0.05$ so that the right model for panel data regression is random effect model.

Langrange Multipler Test

Lagrange Multipler (LM) test is carried out if the results produced from the Chow test and the Hausman test are different. Lagrange Multipler test is used to determine whether the CEM model or REM model is to be used (Hidayat et al., 2018). The results of the Lagrange Multipler test are described in table 4 below:

Table 4.

Multiple Lagrange Test Results

Null (no rand. effect) Alternatives	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	211.2187	2.522416	213.7411
	(0.0000)	(0.1122)	(0.0000)

Source: Eviews processed data 10, 2022

Based on the results of Lagrange Multipler (LM) test using Breusch-Pagan, it showed a cross-sectional value of $0.0000 < 0.05$, so the best model chosen in this study was random effect model.

Classic assumption test

Normality test

Normality test can be carried out using several methods, namely residual histogram, Kolmogrov Smirnov, Kurtosius' skewness and Jarquebera. Testing for normality in this study used the JB or Jarquebera test.

Table 5.

Jarquebera test results

Jarque-Bera	1.238550
probability	0.538334

Source: Eviews processed data 10, 2022

Based on the normality test above, a significance value of $0.538 > 0.05$ was obtained. It can be concluded that the data in this study were normally distributed, which means that the normality assumption test was fulfilled.

Multicollinearity Test

Multicollinearity test was carried out to test whether there is a correlation between the independent variables in the regression model (Ajija, 2011). The results of the multicollinearity test in this study are as follows:

Table 6.

Multicollinearity test results

	X1	X2	X3
X1	1.000000	0.293787	-0.045318
X2	0.293787	1.000000	0.097758
X3	-0.045318	0.097758	1.000000

Source: Eviews processed data 10, 2022

Based on the multicollinearity test above, it was found that $X1-X2 = 0.29 < 0.85$, $X1-X3 = -0.045 < 0.85$, $X2-X1 = 0.29 < 0.85$, $X2-X3 < 0.85$, $X3-X1 = -0.04 < 0.85$, $X3-X2 = 0.09 < 0.85$ which means there is no multicollinearity problem.

Heteroscedasticity Test

Heteroscedasticity test was carried out to test whether there is an inequality of variance from the residual value of one observation to another. According to Setiawati (2021) Homoscedasticity can be seen if the results of the variance from one observation residual to another observation have a fixed value. On the other hand, if the variance differs from one observation to

another, it is called heteroscedasticity. The results of the heteroscedasticity test in this study are as follows:

Table 7.
Heteroscedasticity Test Results

Variables	coefficient	std. Error	t-Statistics	Prob.
C	2224.152	442.6879	5.024199	0.0000
X1	-0.007896	0.007494	-1.053525	0.2950
X2	1745,296	1087687	1.604594	0.1122
X3	-28.76840	40.79035	-0.705275	0.4825

Source: Eviews processed data 10, 2022

Based on the heteroscedasticity test above, it shows the probability values $X1, X2, X3 > 0.005$, which means there is no heteroscedasticity problem in these variables.

Autocorrelation Test

Auticorrelation test aims to find out whether in the linear regression model there is a correlation of misuse between periods t and $t-1$ (Albar & Ratnasari, 2022). In this study, researchers used the Durbin-Watson test (DW). The results of the Durbin Watson autocorrelation test are as follows:

Table 8.
Autocorrelation Test Results

Durbin-Watson stat	2.075275
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Source: Eviews processed data 10, 2022

Based on the adjustment of the Durbin-Watson table, $d = 2.075275$, $dL = 0.7147$ and $dU = 1.8159$, which means that the Durbin Watson value is $2.075275 > 1.8159$. Where if $d > dL$ then there is no positive autocorrelation.

Hypothesis testing

T test

T test in this study aims to find out how much the dependent variable (liquidity, sales growth, and leverage) can be partially explained by the independent variable (Financial Distress) and know whether the profitability variable strengthens or weakens the dependent variable. The results of the t test were obtained as follows:

Table 9.

T test Results

Variables	coefficient	std. Error	t-Statistics	Prob.
C	-0.044200	0.067037	-0.659343	0.5117
X1	-3.10E-05	1.44E-05	-2.152563	0.0346
X2	0.010550	0.007757	1.360115	0.1779
X3	0.043231	0.009364	4.616486	0.0000
Z	0.011070	0.005475	2.021950	0.0467
X1Z	0.010045	0.008949	1.122461	0.2652
X2Z	1.001848	0.008359	119.8526	0.0000
X3Z	-0.017991	0.003754	-4.792730	0.0000

Source: Eviews processed data 10, 2022

Based on the t test table above, it can be concluded that the probability value is $0.0066 < 0.05$, which means that H1 is accepted that liquidity has a negative and significant effect on financial distress. However, the probability value of X2 is $0.1779 < 0.05$, which means that H2 is rejected, meaning that sales growth has a positive and insignificant effect on financial distress. In variable X3 the probability value is $0.0000 < 0.05$ which means H3 is accepted that leverage has a positive and significant effect on financial distress.

MRA test

Based on the MRA test table, it can be seen that the probability value of the X1Z variable is $0.2652 (< 0.05)$, which means that H4 is rejected, meaning

that profitability does not moderate liquidity against financial distress. The probability value of the X2Z variable is 0.0000 (<0.05), which means that H5 is accepted so that profitability is able to moderate the relationship between Sales Growth and Financial distress. The probability value of the X3Z variable is 0.0000 (>0.05), which means that H6 is accepted so that profitability moderates the relationship between leverage and financial distress.

Coefficient of Determination

Table 10.

The result of the coefficient of determination (R²)

R-squared	0.993253
Adjusted R-squared	0.992623

Based on the table above, it can be seen that the Adjusted R-squared is 0.992623 which means that the financial distress variable can be explained by the independent variables in this study by 99.2% while the remaining 0.8% is explained by variables not included in this study.

Conclusion

Based on the results of testing the data above, it can be concluded that liquidity has an effect on financial distress, but profitability is not able to moderate the relationship between the two. This is in line with research Janna (2018) which states that liquidity has a negative and significant effect on financial distress and profitability is unable to moderate the relationship between liquidity and financial distress. But on research (Sari & Putri, 2016) states otherwise that profitability is able to moderate the relationship between liquidity and financial distress.

The results of the analysis also show that variable sales growth has a positive and insignificant effect on financial distress and profitability is able to moderate the relationship between sales growth and financial distress. To support this research, there are research results by Effendi & Hariyono (2022) which states that sales growth has no significant effect on financial distress and

profitability is able to moderate the relationship between sales growth and financial distress. But different from research Mulyatiningsih & Atiningsih (2021) which states that profitability cannot moderate sales growth on financial distress.

The leverage variable relationship has a positive and significant effect on financial distress and profitability is able to moderate the leverage relationship on financial distress. These results are supported by research Febriyan & Prasetyo (2019), Sari & Putri (2016) which states that leverage has a positive and significant effect on financial distress and profitability is able to moderate the relationship of leverage to financial distress. In contrast to this research, Saputra & Salim (2020) stated in his research that it had no significant effect on financial distress.

With the results of this study, it is hoped that investors will be taken into consideration before making a decision to invest in a company, especially in the Islamic banking sector. The right way is to pay attention to financial statements and financial ratios in order to find out the good and bad effects of financial distress on the company. For future research, it is expected to add other variables that were not studied in this study in order to get maximum results.

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