Financial distress analysis
at Bank Muamalat for 2016-2020

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Abstract

The monetary crisis that hit Southeast Asia has affected the financial condition of banks –including Islamic banks– so there is a potential for financial distress. The same thing was experienced by Bank Muamalat as the first sharia bank in Indonesia. This study aims to analyze the effect of the working capital ratio on total assets, retained earnings on total assets, profit before interest tax on total assets, and a book value of equity on the total book value of liabilities simultaneously on financial distress at Bank Muamalat. The method used is quantitative by using an analytical tool in the form of SPSS with a sample of Bank Muamalat. The results of this study indicate that Islamic banks on the ratio variables of WCTA, RETA, EBITTA and BVETL simultaneously have a significant effect on financial distress. This means that the ability of liquidity, profitability and solvency, as reflected in Altman's four financial ratios if tested multivariate, will produce a reasonably accurate financial distress prediction from the influence of the four ratio variables. However, if tested univariately, some ratios will be dominant. Other ratios will become supporting ratios and state that 32-month banks are in category 1 (grey zone) and 28 months are in category 0 (stressed zone). This research implies that if the four components are combined in the bank test, there will be financial distress. To avoid financial distress, all components must be maintained both in terms of operations, resources and financial condition (distress zone).

Keywords: financial distress; Bank Muamalat; monetary crisis; WCTA; RETA; EBITTA.

Introduction

Indonesia had faced an event that shook the national economy and politics, the monetary crisis, in 1998. This crisis has given the state financial risk by affecting the foundations of the economy, which later transformed into a prolonged economic crisis that negatively affected Indonesia's economic performance (Ningsih & Suprayogi, 2017). Indications of this monetary crisis have been seen since mid-1997 when the value of the rupiah began to decline due to the increasing demand for the US dollar. But Islamic banks have consistently defended themselves from the storm of the

monetary crisis. This situation has become a trend that because of the nature of Islamic banks as banks that implement profit sharing and risk sharing with customers, Islamic banks can survive to this day (Aji, 2019; Mardani, 2018; Zainurahman & Mardani, 2020).

As the largest Muslim country, understanding Islamic banking affects literacy levels and has a role in the growth and development of Islamic banks in Indonesia (Biancone & Radwan, 2019; Mardani, 2021; Mardani & Gunawati, 2020). Despite the lack of management and human resources, Islamic banks as banks are consistent today and they have experienced monetary economic shocks. Moreover, today all banks are already using digital banking in all their services, meaning that if banks do not use and empower digital services, they will experience setbacks (Nurfalah & Rusydiana, 2019)

Bank Muamalat became the first Islamic bank to implement Islamic law in its operations. However, over time there was a financial crisis that hit the Southeast Asian region, including Indonesia. Islamic banks have experienced little financial turbulence, so they have the potential for financial distress. At the time of the monetary crisis, Bank Muamalat experienced financial difficulties. It would remain almost closed if it were not bailed out (given an injection of funds) by the Islamic Development Bank (IDP). Doubtful loss at Bank Muamalat reached 60%. The financial difficulties of Bank Muamalat at that time refuted the assumption of Islamic economic practitioners who stated that Islamic banks were immune to crises. This data shows that there has been a reduction in offices from 2016 to 2021.

Companies should make breakthroughs and certify their products when they sell them. Product variety will be very decisive in financial distress compared to only one mono-product (Opler & Titman, 1994). More firms enter financial distress as a result of poor management than as a result of economic distress. Management actions are a significant determinant of recovery and improvement in the industry-adjusted market value for firms entering financial distress due to poor management, but its actions don't for firms facing due to economic distress. In the early stages of financial distress, a median firm operating income is measured on an unadjusted basis and increases significantly after controlling for other factors that alter firm performance. The results support Jensen's hypothesis that financial distress triggers corrective action, which improves firm performance (Whitaker, 1999). One of the causes of financial distress is high debt. The imbalance between debt and income will cause conditions where the company has

difficulty in financial inflows so that the company can collapse (Giammarino, 1989).

The problem of financial distress is not only caused by product uniformity that causes dependence on one product; but also seen with one product can survive, such as PLN or Pertamina. A lot of debt doesn't cause financial distress. A company with sound debt management will undoubtedly get a balanced profit and rate of return as long as it can manage the ratio of costs to revenues. Poor company management doesn't necessarily cause financial distress but on this side, researchers have a gap to fill the void causing financial distress in the aspects of Working Capital to Total Assets (WCTA), Retained Earning to Total Assets (RETA), Earning Before Interest and Tax to Total Assets (EBITTA), Book Value of Equity to Total Liabilities (BVETL).

Some companies experience bankruptcy, and the risk of bankruptcy can be seen from their financial statements, namely by analyzing the ratios of the company's financial statements. Financial ratio analysis is crucial to determine a company's condition and financial position in a certain period. This analysis can obtain the information needed to predict the company's financial condition in the following year. The earlier signs of bankruptcy are known, the better because if the problem has been identified early, then the company's management will try to make improvements before the company's condition becomes increasingly critical and ends in bankruptcy (Opler & Titman, 1994).

From the description and explanation above, the researcher has a purpose to analyze the effect of the ratio of working capital to total assets, retained earnings to total assets, earnings before interest taxes to total assets, and a book value of equity to book value of total liability simultaneously on financial distress at Bank Muamalat.

Literature review

In general, several companies in their development always sell their shares to the public to obtain an injection of funds for the development of their companies, such as IPOs, rights issues and registering them with securities companies. Accordingly, the company will provide dividends to shareholders by the company's profits. The return of stock prices is in line with the company's performance; the better the company's performance, the better the selling value of shares on the stock exchange. On the other hand, if

the company goes bankrupt, the stock price will also fall, like an anomaly (Diether, Malloy, & Scherbina, 2002; Titman, Wei, & Xie, 2004; Whitaker, 1999).

Bank Muamalat

Bank Muamalat Indonesia started its business journey as the first Islamic Bank in Indonesia on November 1, 1991, or 24 Rabi' al-Thānī 1412 H. Bank Muamalat Indonesia was established by the Indonesian Council of Ulama (MUI), the Indonesian Muslim Intellectuals Association (ICMI) and Muslim entrepreneurs. They later received support from the Government of the Republic of Indonesia. Since officially operating on May 1, 1992, or 27 Shawwāl 1412 H, Bank Muamalat Indonesia has continued to innovate and issue sharia financial products, including through the establishment of sharia insurance (Takaful insurance), Muamalat Financial Institution Pension Fund (Dana Pensiun Lembaga Keuangan [DPLK] Muamalat) and Sharia Multifinance (Al-Ijārah Indonesia Finance) which is entirely a breakthrough in Indonesia. On October 27, 1994, Bank Muamalat Indonesia obtained a license as a Foreign Exchange Bank. It was registered as a public company that was not listed on the Indonesia Stock Exchange (IDX)—building a superior and sustainable Islamic financial institution with an emphasis on an entrepreneurial spirit based on the principle of prudence, excellence in Islamic and professional human resources and an innovative investment orientation to maximize value to all stakeholders.

Financial distress

Financial distress is often equated with bankruptcy, even though financial distress and bankruptcy are two different things. Financial distress (financial distress) is an early indication before the occurrence of bankruptcy in a company. According to Platt & Platt (2002), financial distress is a stage of decline in financial condition that occurs before bankruptcy or liquidation occurs. This condition is generally characterized by the company's inability to pay its obligations when due. The company is in an unhealthy financial condition, so its operating cash flow does not operate optimally.

Financial distress is a condition where the company's finances are not healthy or critical. Financial distress can occur in various companies and can be a signal or a marker for a company before entering the bankruptcy stage. If the company experiences financial distress, then the company's management must be careful and

make efforts or actions to overcome these financial problems to avoid bankruptcy.

If the company has difficulty finding solutions to its problems, it can be said to have gone bankrupt. When a company goes bankrupt, bankruptcy costs will arise due to the company's compulsion to sell its assets below the market price.

Analysis of financial statements

Financial ratio analysis is used to identify the company's financial condition and performance. To calculate a company's financial ratios, they need only the numbers in the balance sheet, income statement, or a combination of both. It is called a ratio because it is basically done to compare (divide) one particular item in the financial statements with other items.

The following are included in the financial ratios: 1) Liquidity ratio describes the company's ability to pay off its short-term obligations; 2) The solvency ratio describes its ability to pay off its long-term obligations when it is liquidated; 3) Profitability/Profitability describing the company's ability to utilize existing resources (HR, capital, cash) to generate profits for the company; 4) Leverage ratio describes the company's debt to assets or capital. This ratio is used to see the extent to which the company's ability to be financed by debt is compared to its ability when viewed with its own capital or equity; 5) The ratio describes the company's ability to carry out its operations such as sales, purchasing, and other activities; 6) Growth Ratio describes the percentage of growth from year to year; 7) Market assessment describes the situation/state of the company's achievements in the capital market, and 8) The productivity ratio shows the level of productivity of the unit or activity that is assessed by assessing the productivity of its units.

The factor in determining financial distress is not only caused by external but also internal factors. There are independent or independent agencies outside or inside, such as the number of debts and financial crises both domestically and abroad, but more than that is human behavior in carrying out all the tasks given by the directors, humans act as homo economists that they have ignored the principles and moral values of finance.

Research methods

This research is classified as explanatory research with a quantitative approach. Descriptive research aims to explain and test hypotheses from research variables (Raco, 2010). This study uses a quantitative approach because it uses data analysis in the form of numbers to measure the phenomena that occur. In this study, the author will analyze the data in the monthly financial statements of Bank Muamalat published by the Financial Services Authority (OJK) to research the potential for financial distress at Bank Muamalat using the data from the modified Altman z-score model for the 2016-2020 period.

This research is classified as descriptive research, which aims to explain and test the hypothesis of the research variables. This study uses a quantitative approach because it uses data analysis in the form of numbers to measure the phenomena that occur. In this study, the author will analyze the data in the monthly financial statements of Bank Muamalat published by the Financial Services Authority (OJK) to research the potential for financial distress at Bank Muamalat using the data from the modified Altman z-score model for the 2016-2020 period.

Research data

The secondary data used in this study is the monthly financial report of Bank Muamalat Indonesia for the period 2016-2020, which has gone public on the official website of the Financial Services Authority (OJK). This study analyzes the financial ratio variables contained in the Altman z-score method to predict financial distress at Bank Muamalat for the 2016-2020 period.

The data collection method used in this research is secondary data, namely data measured on a numerical scale (numbers). The Data obtained from various sources through library research, which is a data collection technique from theories sourced from various references that support this research, including journals, theses, articles, books, and so on related to this research as well as the financial statements of Bank Muamalat are accessed via the internet by entering the official website of Bank Muamalat Indonesia and the Financial Services Authority (Otoritas Jasa Keuangan [OJK]).

Population and sampling method

The population in this study is the financial statements of PT. Bank Muamalat Indonesia Tbk. The sample used is the financial statements of Bank Muamalat for the period 2016-2020. The sample

has been selected (meets the criteria), so it is relevant to the research data. The sample criteria in this study are as follows: 1) Bank Muamalat is listed as one of the Sharia Commercial Banks (BUS) in Indonesia; 2) financial reports needed in research from 2016-2020, which ends in December; 3) The sample banks have complete data.

The assessment in the z-score analysis is carried out by assessing each of the existing indicators, namely Working Capital to Total Assets (WCTA), Retained Earning to Total Assets (RETA), Earnings Before Interest and Taxes to Total Assets (EBITTA), and Book Value of Equity to Book of Total Liabilities (BVEBVL). Based on the analysis of the financial ratio data that has been obtained, a rating will be generated by the provisions that have been set with the following formula:

$Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4$

Information:

Z = Financial Distress

X1 = Working Capital to Total Assets

X2 = Retained Earnings to Total Assets

X3 = Earnings Before Interest and Taxes to Total Assets

X4 = Book Value of Equity to Book of Total Liabilities

Results and discussion

The company's bankruptcy risk can be seen from its financial statements, namely by analyzing the ratios of the company's financial statements. Financial ratio analysis is crucial to determine a company's condition and financial position in a certain period. This analysis can obtain the information needed to predict the company's financial condition in the following year. The earlier the signs of bankruptcy are known, the better. If the problem is identified early, the company management will try to make improvements before the company's condition becomes increasingly critical and ends in bankruptcy. The table 1 will explain the research result.

Table 1. PT Bank Muamalat Office Network 2016-2020

Office type	Year				
	2016	**2017**	**2018**	**2019**	**2020**
Headquarters	1	1	1	1	1
Main branch office	83	83	83	83	81
Branch office	202	152	150	150	135

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Office type	Year				
	2016	**2017**	**2018**	**2019**	**2020**
Cash office	78	43	43	43	33
Overseas office	1	1	1	1	1
Total	363	278	276	276	249

Source: Bank Muamalat Annual Financial Report

Table 2. Data on the development of assets and equity of PT Bank Muamalat Indonesia for the 2016-2020 period

Year	2016	2017	2018	2019	2020
Aset	55.786	61.679	57.227	50.556	51.241
Equity	3.619	3.545	3.922	3.937	3.967

Source: Bank Muamalat

Table 2 shows that the development of assets and equity at PT Bank Muamalat for the 2016-2020 period has decreased. In 2017 the assets of Bank Muamalat increased by Rp. 61,697, but in subsequent years, they decreased to Rp. 51,251. Meanwhile, equity had decreased in 2017 by 3,545 but increased to 3,967.

Table 3. Development of TPF, Financing, FDR and ROA of Bank Muamalat for the 2016-2020 period (in billion rupiah and percentage)

Year	2016	2017	2018	2019	2020
TFF	41.920	48.686	45.636	40.357	41.424
Financing	40.010	41.288	33.559	29.867	29.084
FDR	95,13	84,41	73,18	73,51	69,84
ROA	0,14	0,11	0,08	0,05	0,03

Source: Bank Muamalat Annual Financial Report

Table 3 shows that Third Party Funds (DPK), financing, Financing to Deposit Ratio (FDR) and Return on Assets (ROA) for the 2016-2020 period have decreased from year to year. This is a challenge for the Muamalat management to make an appropriate strategy in overcoming these conditions. In 2017 TPF increased by IDR 48,686, but in subsequent years it decreased so that in 2020 it was IDR 41,424. ROA in 2020 is included in the unhealthy rating because it is from 0% to 0.05%.

The company's bankruptcy risk can be seen from its financial statements, namely by analyzing the ratios of the company's financial statements. Financial ratio analysis is crucial to determine a company's condition and financial position in a certain period. This analysis can obtain the information needed to predict the company's financial condition in the following year. The earlier signs of bankruptcy are known, the better because the company's management will try to make improvements before the company's condition becomes increasingly critical and ends in bankruptcy.

Table 4. Descriptive Analysis Category 0 (Distress Zone) Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
WCTA_0	28	0,53178	0,94739	0,68247	0,09818
RETA_0	28	0,00005	0,00289	0,00091	0,00098
EBITTA_0	28	0,00013	0,00729	0,00215	0,00218
BVETL_0	28	0,14311	0,36393	0,29159	0,08856
Valid N (listwise)	28				

Source: Bank Muamalat Annual Financial Report

Based on table 4, it can be seen that the WCTA variable is in category 0 (distress zone) with the amount of data (N) 28, the smallest value (minimum) is 0.53178, the most significant value (maximum) is 0.94739, and the average value (mean) is 0.94739.) is 0.68247 with a standard deviation of 0.09818. The ratio of RETA in the category 0 (distress zone) with the number of data (N) is 28, the smallest value (minimum) is 0.000005, the most significant value (maximum) is 0.00289, and the average value (mean) is 0, 00091 with a standard deviation of 0.00098.

EBITTA ratio in category 0 (distress zone) with total data (N) is 28, the smallest value (minimum) is 0.00013, the most significant value (maximum) is 0.000729, and the average value (mean) is 0.00215 with a standard deviation of 0.00218. The ratio of BVETL in category 0 (distress zone) with the amount of data (N) is 28, the smallest value (minimum) is 0.14311, the most significant value (maximum) is 0.36393 and the average value (mean) is 0.08503 with standard deviation 0.29159. As for category 1 (grey zone), the output table from the results of the descriptive analysis that has been carried out using SPSS 25 is as follows:

Table 5. Descriptive Analysis Category 1 (Grey Zone)

	N	Minimum	Maximum	Mean	Std. Deviation
WCTA_1	32	0,54026	1,37020	1,01889	0,25424
RETA_1	32	0,00004	0,00701	0,00267	0,00250
EBITTA_1	32	0,00012	0,01842	0,00666	0,00674
BVETL	32	0,15015	1,15905	0,47785	0,37456
Valid N (listwise)	32				

Source: Bank Muamalat Annual Financial Report

Based on the results of statistical analysis in table 5, it can be seen that the WCTA ratio in category 1 (grey zone) with the amount of data (N) is 32, the smallest value (minimum) is 0.54026, the most significant value (maximum) is 1.37020, and the average value The mean (mean) is 1.01889 with a standard deviation of 0.25424. The ratio of RETA in category 1 (grey zone) with the amount of data (N)

is 32, the smallest value (minimum) is 0.000004, the most significant value (maximum) is 0.00701, and the average value (mean) is 0.00267 with standard deviation 0.00250. The EBITTA ratio in category 1 (grey zone) with the amount of data (N) is 32, the smallest value (minimum) is 0.00012, the most significant value (maximum) is 0.01842, and the average value (mean) is 0.00666 with standard deviation 0.00674. The ratio of BVETL in category 1 (grey zone) with the amount of data (N) is 26, the smallest value (minimum) is 0.15015, and the most significant value (maximum) is 1.15905. The average value (mean) is 0.47785 by a standard deviation of 0.37456. So, in terms of liquidity (WCTA), profitability (RETA and EBITTA), and solvency (BVETL), Bank Muamalat Indonesia has an equally good performance because it has a positive ratio. However, if it is observed, financial reports in the gray zone category have better performance because they have a higher average ratio than the distress zone category.

Binary logistics regression

Binary logistic regression analysis is used to see the effect of several independent variables X1, X2, Xk on the dependent variable Y in the form of a binary response variable that only has two values, such as success-failure, yes-no, true-false, etc, or also to predict the value of a dependent variable Y (which is a binary variable) based on the value of the independent variables X1, X2, Xk.

Table 6. Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	60	100,0
	Missing Cases	0	,0
	Amount	60	100,0
Unselected Cases		0	,0
Amount		60	100,0

Source: Logistik Binary

Table 6 presents the output results with an N value of 60. This N value explains that the number of data samples used in this study amounted to 60, which, if present, is 100%. The data sample was taken from the monthly financial statements of Bank Muamalat Indonesia for January 2016-December 2020 on the official website of the Financial Services Authority (OJK).

This binary logistic regression test was conducted to assess the overall model fit (overall model fit). These results come from the value of -2 Log likelihood as follows.

Table 7. Block 0: Beginning Block Iteration History

Iteration		-2 Log likelihood	Coefficients Constant
Step 0	1	82,911	,133
	2	82,911	,134

Source: Logistik Binary

From the results of the overall output of the regression model in the Altman model above, by assessing using -2 Loglikelihood, if there is a decrease in step 1 from step 0, it can be assumed that the second regression model (step 1) after inputting the model data will fit the data.

Model Summary

Table 8. Block 1: Model Summary

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	35,859	0,544	0,726

Source: Logistik Binary

In step 0, the value of -2Loglikelihood is 82,911, and in step 1, the value of -2Loglikelihood is 35,859. From these results, it is stated that the regression model is better for predicting financial distress at Bank Muamalat Indonesia because between the value of -2Loglylihood from step 0 to step 1, there is a decrease which means that the model fits the data. From table 4.8, it can also be seen in the Nagelkerke R Square column, which shows the output that the value in the regression model is 0.726. This means that 72.6% of the dependent variable, namely the prediction of financial distress, is influenced by independent variables consisting of the ratios of WCTA, RETA, EBITTA, and BVETL. While other variables outside the Altman model influence the remaining 27.4%.

After measuring the overall model fit, the feasibility of the model is assessed using Hosmer and Lemeshow's Goodness of Fit Test; if the value of Hosmer and Lemeshow's Goodness of Fit Test <0.05, the model is considered not feasible. On the other hand, if the statistical value of Hosmer and Lemeshow's Goodness of Fit Test > 0.05, the model is considered feasible. The data used in the Altman model is from 2016-2020. The following is a table showing the results of Hosmer and Lemeshow's Goodness of Fit Test on the Altman:

Table 9. Hosmer and Lemeshow's Test

Step	Chi-square	Df	Sig.
1	11,279	8	,186

Source: Logistik Binary

From table 9, it can be seen that the Altman model has a Sig value. More significant than (1.86 > 0.05), it can be said that the Altman model is feasible and acceptable because this model can predict the value of the observations. The following is a test of the level of accuracy in the Altman model, which can be seen in the classification table:

Table 10. Test Level of Accuracy

			Predicted		
	Observed		Z-SCORE		Percentage
			Distress Zone	Grey Zone	Correct
Step 1	Z-SCORE	Distress Zone	24	4	85,7
		Grey Zone	6	26	81,3
	Overall Percentage				83,3

Classification Table[a]

Source: Logistik Binary

The observation of the classification table on the Altman model shows that the overall percentage value is 83.3, meaning that the Altman model predicts financial distress at Bank Muamalat Indonesia at 83.3%. The Negelkerke R Square value shows that other variables outside the Altman model influence the dependent variable by 27.4%.

The next stage is conducting core testing to partially determine the independent variable's effect on the dependent variable (financial distress). This test can be seen in the variables in table 11.

Table 11. Partial Significance Test

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	WCTA	90,485	30,987	8,527	1	,003	1,983E+39
	RETA	-21127,2	7627,992	7,671	1	,006	,000
	EBITTA	16839,7	6248,846	7,262	1	,007	.
	BVETL	-9,414	5,721	2,708	1	,100	,000
	Constant	-8,095	3,426	5,584	1	,018	,000

Source: Logistik Binary

From the observations in table 11, the equation model obtained from this study is:

Z = -8,095 + 90,485WCTA -21127.2 RETA + 16839.7EBITTA – 9,414 BVETL

The test results on the effect of the partial significance of the Altman model show that the WCTA ratio variable affects the potential for financial distress because of the value of Sig. Smaller than (0.003<0.05). This means that the WCTA ratio variable partially has a significant effect on financial distress at Bank Muamalat Indonesia (BMI).

From the above observations, it can be concluded that in the Altman model, the WCTA variable affects the potential for financial distress at Bank Muamalat Indonesia (BMI). The RETA ratio variable partially also significantly affects financial distress conditions due to the value of Sig. smaller than (0.006<0.005). Furthermore, the EBITTA ratio partially also significantly affects financial distress conditions due to the value of Sig. smaller than (0.007<0.005). The results of this study support the research of Ahmed and Alam (2015), which states that the BVETL ratio partially does not have a significant effect on financial distress. While the last variable, namely the BVETL ratio, partially does not have a significant effect on financial distress conditions due to the value of Sig. greater than (0.100>0.005). The results of this study support the research of Ahmed and Alam (2015), which states that the BVETL ratio partially does not have a significant effect on financial distress.

The last stage is conducting a simultaneous test to determine whether the independent variables (WTCA, RETA, EBITTA, and BVETL) included in the Altman model have a simultaneous effect on the dependent variable (financial distress). The test results of the four ratio variables can be seen in the omnibus model coefficient test as shown in table 12.

Table 12. Simultaneous Significance test

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	47,052	4	0,000
	Block	47,052	4	0,000
	Model	47,052	4	0,000

Source: Logistik Binary

In the Omnibus Tests of Model Coefficients test, the Chi-square value is 47,052, the Chi-square table value is 9,487, and the calculated Chi-square value is greater than the Chi-square table value (47,052>9,487) and Sig. less than (0.000 < 0.05), it means that the ratio variables of WCTA, RETA, EBITTA and BVETL simultaneously significantly affect the prediction of financial distress.

The following is a summary of the results of binary logistic regression testing based on the Altman bankruptcy prediction method to answer the research hypothesis about the effect of the independent variables WCTA, RETA, EBITTA and BVETL partially and simultaneously on the potential for financial distress at Bank Muamalat Indonesia.

Table 13. Binary Logistics Regression Summary

Hosmer and Lemeshow	Block 0	Block 1	Negelkerke R Square	Level of accuracy	Omnibus test
1,86>0,05	82,911	35,859	O,726	83,3%	47,052

Variable Ratio Significance	
Altman variable Ratio	Variable significance
Working Capital to Total Assets (WCTA)	Significance
Retained Earning to Total Assets (RETA)	Significance
Earning Before Interest and Tax to Total Assets (EBITTA)	Significance
Book Value of Equity to Total Liabilities (BVETL)	Not significance

Source : Logistik Binary

The binary logistic regression test can be used to measure the effect of the Working Capital to Total Assets (WCTA) ratio, Retained Earning to Total Assets (RETA), Earning Before Interest and Tax to Total Assets (EBITTA) and Book Value of Equity to Total Liabilities (BVETL) variables either partially or simultaneously on the potential for financial distress of Bank Muamalat Indonesia (BMI). The following are the results of the binary logistic regression test:

Working Capital to Total Assets (WCTA)

1. The significance test results show that the ratio of Working Capital to Total Assets (WCTA) partially affects the financial distress potential of Bank Muamalat with a value of Sig. less than (0.003<0.05). The WCTA ratio indicates a bank's liquidity or the bank's ability to meet its short term. Positive working capital indicates that the bank can meet due short-term obligations. This will reduce the potential for financial distress in banks. On the other hand, a bank with a negative working capital will increase the potential for financial distress.

Retained Earnings to Total Assets (RETA)

2. The results of the partial significance test on the Retained Earning to Total Assets (RETA) ratio variable show the value of Sig. smaller than (0.006 < 0.05), it means that partially the RETA ratio variable becomes the next variable after the WCTA ratio variable, which affects the potential for financial distress at Bank Muamalat.

This ratio shows the capital of Islamic banks that comes from the percentage of profits that are not distributed as dividends to stockholders. Retained earnings with a positive value indicating that the bank benefits from its operational activities so that this right can reduce the potential for financial distress in the bank and vice versa.

Earnings Before Interest and Tax to Total Assets (EBITTA)

3. The results of the partial significance test of the Earnings Before Interest and Tax to Total Assets (EBITTA) ratio show that this ratio partially affects the potential for financial distress in Bank Muamalats. The value of Sig supports this smaller than (0.007<0.05). The EBITTA ratio shows the operating income of Islamic banks that has not been deducted by taxes (no interest). EBITTA, which has a positive value, indicates that the bank has high operating income, reducing the potential for financial distress in the bank.

Book Value of Equity to Total Liabilities (BVETL)

4. The result of the partial significance test of Book Value of Equity to Total Liabilities (BVETL) in binary logistic regression shows the value of Sig. greater than (0.1> 0.05). This means that partially the ratio of the BVETL variable has no effect on the potential for financial distress at Bank Muamalat. This shows that the BVETL ratio (solvability) is a supporting factor in predicting financial distress.

WCTA, RETA, EBITTA and BVETL simultaneously

5. The results of the simultaneous significance test using binary logistic regression obtained the calculated Chi-Square value of 47.052 and the Chi-square table of 9.487, where the Chi-Square table value is smaller than the calculated Chi-Square value and the Sig value less than (0.000 < 0.05), meaning that the ratio variables of WCTA, RETA, EBITTA and BVETL simultaneously significantly affect the prediction of financial distress. This shows the ability of liquidity, profitability and solvency derived from Altman's four financial ratios, which are tested multivariate will make predictions of financial distress entirely accurate.

Based on the binary logistic regression test, this study was also judged to be fit with the data (from the decrease in -2 Log Likelihood), feasible to use (from the Hosmer and Leme show values) and has a fairly high accuracy rate of 83.3% which supports the simultaneous test results.

Conclusion

The results of research that have been carried out to determine the effect of the independent variables partially and simultaneously are as follows: The variable ratio of Working Capital to Total Assets (WCTA) partially affects the financial distress of Bank Muamalat Indonesia. This means that liquidity is one of the main factors determining the potential for financial distress. Retained Earnings to Total Assets (RETA) ratio variable partially affects the financial distress of Muamalat Bank Indonesia. This means that profitability (based on retained earnings) is one of the main factors determining the potential for financial distress. Earnings Before Interest and Tax to Total Assets (EBITTA) ratio variables partially affect the financial distress of Muamalat Bank Indonesia. This means that profitability (based on income before tax and profit sharing) is one of the main factors determining the potential for financial distress. The Book Value of Equity to Total Liabilities (BVETL) ratio variable partially does not affect the financial distress of Muamalat Bank Indonesia. This means that solvency is one supporting factor determining the potential for financial distress. The ratio variables of WCTA, RETA, EBITTA and BVETL simultaneously significantly affect financial distress. That is, the ability of liquidity, profitability and solvency as reflected in Altman's four financial ratios, if tested multivariate, will result in reasonably accurate predictions of financial distress from the influence of the four ratio variables. However, if they are tested univariately, some ratios will become dominant, and others will become support. The results of the z-score examiner from 60 samples of Bank Muamalat financial statements for January 2016-December 2020 stated that 32 months the bank was in category 1 (grey zone) and 28 months was in category 0 (distress zone).

For further research to be carried out in the field of human managerial resources, because no matter how intense the system and calculations are, the quality of human resources, religiosity and external geopolitical factors need to get earnest attention considering the emergence of transmission and economic shocks are caused mainly by external factors.

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Interview with Puji Purnomo, Head of Utilization Division of Rumah Zakat Semarang, 29th of September, 2020