Journal of Economic and Business Analysis (JEBA)

Type of the Paper Article

Financial Performance and Bankruptcy Risk at Bank Muamalat

Siti Ena Aisyah Simbolon
UIN Syekh Ali Hasan Ahmad Addary; sitienaaisyahsbln1000@gmail.com

Abstract: This study aims to see the effect of financial performance represented by the variables CAR, FDR and ROA on the risk of bankruptcy of PT Bank Muamalat Indonesia with the Altman *Z-score* method. The data used is the financial statements of 2014-2018. It was found that CAR, FDR and ROA had no effect on bankruptcy risk.

Keywords: performance; bankruptcy; altman Z-score

Citation: Simbolon, S. E. A. (2023). Financial Performance and Bankruptcy Risk at Bank Muamalat. *Journal of Economic and Business Analysis*, *1*(1), https://businessandfinanceanalyst.com/index.php/JEBA/article/view/11

Academic Editor:

Received: 4th May 2023
Revised: 11th May 2023
Accepted: 15th May 2023
Published: 1st June 2023

1. Introduction

Competition that occurs in conventional banks and Islamic banks requires banks to maintain its performance. Company's inability to face fierce competition can leads the company to bankruptcy. Not only that, the inability of company to survive causes it to be eliminated. [1]. Bankruptcy is one of the risks faced by banks. [2]. Bankruptcy of banks can be caused by declining financial performance [3] and mismanagement [4]. Bankruptcy occurs when company is unable to pay its short-term or long-term obligations [5]. The greater the portion of funding for debt, the greater the chance that the company faces the risk of bankruptcy [6]. [6].

Bankruptcy prediction is needed by investors to reduce the worry, and avoiding of losing shares [7]. In addition, it can be used by owners, investors and creditors as a guide to see whether financial performance can survive for the future. [3]

Company performance is the company's achievement in a certain unit of time [2]. Financial performance can be obtained by calculating financial ratios [8]. The financial performance of the bank represents the financial condition of the bank in a certain period which includes aspects of raising funds and channeling funds as measured by indicators of capital adequacy, liquidity, and profitability of the bank [9]. Performance is closely related to the effectiveness and efficiency of the use of company resources in achieving predetermined goals[10]. The assessment of bank financial performance in this study is the *Capital Adequacy Ratio* (CAR), *Financing to Deposit Ratio (*FDR) and *Financing to Deposit Ratio* (ROA).

Several methods are used to predict bankruptcy, including the Altman method in 1968, then Springate in 1978 and Zmijewski found in 1984 [11]. Altman *Z-score* is a method pioneered by Edward I Altman in 1968. This method has undergone many changes, and in 1995 it can be used for all companies which previously could only be used for manufacturing companies that *went public* [3, 6].

Altman *Z-score* is a method used to see company bankruptcy [7]. This method always changes every time, this method can be used for manufacturing and non-manufacturing companies. [12]; [11]; [13] The Altman *Z-score* formula is as follows:
Z-score = 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4.

X1 is the division of working capital by total assets. X2 is obtained by dividing retained earnings by total assets. While X3 is obtained from earnings before interest and taxes divided by total assets and the last X4 is the division of *book value of equity* divided by *book value of total debt*. [2]

Where:

1. If the *Z-score* value is > 2.60, then the company is not bankrupt
2. If the value of 1.1 ≤ *Z-score* < 2.60, then the company is *gray area*
3. If the *Z-score* value < 1.1, then the company is bankrupt

The greater the Altman *Z-score* value obtained, the company's performance is good and the possibility of bankruptcy is minimal. [3].

PT Bank Muamalat Indonesia is the first Islamic bank in Indonesia which was established in 1991. PT Bank Muamalat Indonesia is a bank that was able to survive during the economic crisis in 1998 and until now it can still survive.

This study aims to see the effect of financial performance on the risk of bankruptcy with the Altman *Z-score* method at PT Bank Muamalat Indonesia. The independent variables in this study are CAR, FDR and ROA while the dependent variable is Altman *Z-score*. The data used is the financial statements of PT Bank Muamalat Indonesia in 2014-2018.

2. Materials and Methods

This research is a quantitative study using secondary data, namely the financial statements of PT Bank Muamalat Indonesia in 2014-2018. The data analysis used is the normality test, after the data is normally distributed then proceed with the multicollinearity test, heteroscedasticity test, autocorrelation test, multiple regression and the last is a partial test (t test). The hypothesis in this study is:

H1 = CAR affects bankruptcy risk

H2 = FDR affects the risk of bankruptcy

H3= ROA affects the risk of bankruptcy.

3. Results

3.1. Normality Test

The normality test in this study used the *Kolmogorov-Smirnov Test.* With the provisions, if the value of *Asymp. Sig.* (*2-tailed*) > 0.05 then the data is normally distributed. If the value of *Asymp. Sig*. (*2-tailed*) < 0.05 then the data is not normally distributed.

Table 1. Normality Test.

Asymp Sig. (2-tailed)
0,200

Source: Data Proceed by SPSS 23, 2021.

Based on Table 1. above can be seen the value of Asymp. Sig. (2-tailed) is 0.200. Thus, it can be decided that the data is normally distributed because the p-value is reached 0.200> 0.05.

3.2. Multicollinearity Test

Multicollinearity test using *Variance Inflation Factor* and *Tolerance* test is conducted by considering *Tolerance* value> 0.10 (no multicollinearity) and *Variance Inflation Factor* (VIF) value < 10.00 (no multicollinearity).

Table 2. Multicollinearity Test

Variable	Tolerance	VIF
CAR	0,994	1,006
FDR	0,573	1,745
ROA	0,571	1,753

Source: Data Proceed by SPSS 23, 2021.

Table 2 Multicollinearity Test displays that the *Tolerance* value of CAR, FDR and ROA is greater than 0.10 and for VIF values smaller than 10.00, it can be decided that the data does not occur multicollinearity.

3.3. Heteroscedasticity Test

The heteroscedasticity test in this study uses the Glejser test, with the basis for decision making, if the Sig value> 0.05 then there is no heteroscedasticity. If the Sig value <0.05 then heteroscedasticity occurs.

Table3. Heteroscedasticity Test

Variable	Sig
CAR	0,404
FDR	0,575
ROA	0,761

Source: Data Proceed by SPSS 23, 2021

Based on Table 3. Heteroscedasticity test obtained Sig value. CAR is 0.404, FDR is 0.575 and ROA is 0.761. CAR, FDR and ROA have a Sig value> 0.05, so it can be concluded that the data does not experience heteroscedasticity.

3.4. Autocorrelation Test

The Autocorrelation test in this study uses the *Run* test, with the provisions, if Sig> 0.05 then the data does not occur autocorrelation. Sig < 0.05 then autocorrelation occurs.

Table 4. Autocorrelation Test.

Asymp Sig. (2-tailed)
0,230

Source: Data Proceed by SPSS 23, 2021.

Based on Table 4. Above, it can be concluded that there is no autocorrelation, because the Sig value of 0.230 is greater than 0.05.

Table 5. Multiple Regression Test

Model	Unstandardized Coefficients
	B
Constant	7,123
CAR	-16,834
FDR	-4,595
ROA	106,423

Source: Data Proceed by SPSS 23, 2021.

Based on Table 5 above, the results of multiple analysis obtained a coefficient for the CAR variable of -16.834. While for FDR amounting to -4.595 and ROA amounting to 106.423. So that the regression equation is obtained as follows:

Altman *Z-score* = 7.123 - 16.834 CAR - 4.595 FDR + 106.423 ROA + e

From the multiple regression equation above, it can be interpreted and the following decisions can be made:

1. The constant value of 7,123 states that if the CAR, FDR and ROA variables are considered constant or the value is zero, the Altman *Z-score* is 7,123 units.
2. The CAR regression coefficient value of -16.834 states that each increase in CAR by 1 unit will increase Altman *Z-score* by -16.834 units with the assumption that the other independent variables are constant.
3. The FDR regression coefficient value of -4.595 states that each increase in FDR by 1 unit will increase Altman *Z-score* by -4.595 units with the assumption that the other independent variables are constant.
4. The ROA regression coefficient value of 106.423 states that each increase in FDR by 1 unit will increase Altman *Z-score* by 106.423 units with the assumption that the other independent variables are constant.

3.5. Partial Test (t Test)

The t-test results of this study are as follows:

Table 6. Partial Test (t Test)

Variable	t
CAR	-0,742
FDR	-1,735
ROA	0,231

Source: Data Proceed by SPSS 23, 2021.

The t table value is 2.100, if t-value > t table then, Ha is accepted. Based on the partial test results in Table 6 above, the t value of CAR is -0.742. t-value count -.742 < t table 2.100, then H1 is rejected. So it can be concluded that CAR has no effect on Altman *Z-score*, this research contradicts the research of [2], [14]. The t value of FDR is -1.735. t value -1.735 < t table 2.100, then H2 is rejected. So it can be concluded that FDR has no effect on Altman *Z-score* is not in line with research [2] and for the ROA variable obtained t count ROA of -1.735. t value 0.231 < t table 2.100, then H3 is rejected. So it can be concluded that ROA has no effect on Altman *Z-score, which is not* in line with research [15].

4. Discussion

The results obtained by CAR have no effect on Altman *Z-score*, this is in line with research conducted by L. Nur Hidayat, which states that CAR has a negative effect on the probability of bankruptcy of banks. From the tests carried out, the CAR variable found no evidence of the influence of CAR on the probability of bankruptcy of banks in Indonesia. [16]**.** But in contrast to the research conducted [2, 14] states that the CAR ratio has a significant effect on the risk of bankruptcy. The CAR ratio manages risky assets using own capital and must be above 8% according to Bank Indonesia regulations. In addition, research [17] states that CAR has a significant positive effect on bankruptcy potential. The high CAR ratio will increase the *Z-score* value which results in lower bankruptcy potential because the *Z-score is* used as a measure of bankruptcy conditions. The magnitude of the *Z-score* value indicates a more stable financial condition. [17]**.**

The statistical test results show that FDR has no effect on Altman *Z-score*. In line with the research of J. Humaira, et al (2021), it shows that FDR has a significant negative effect on bankruptcy potential. The increasing FDR ratio causes the *Z-score* value to decrease. The low *Z-score value* indicates a less stable financial condition because the *Z-score* value is a measure of bankruptcy conditions, so the potential for bankruptcy is getting higher. [17]. In addition, the partial test results on Sharia National Private Commercial Banks conducted by Mauluddi and Fauzia show that what affects *financial distress* is the CAR variable only while FDR and NPF have no significant effect [18]. These results are not in line with Afiqoh and Laila's research (2018) which says FDR affects the risk of bankruptcy. [2]**.** Islamic banks must maintain the FDR ratio in a safe condition and be able to control the bank's liquidity level to be maintained in accordance with Bank Indonesia regulations [2].

Further testing of ROA results in no effect with Altman *Z-score*. This is in line with the research of J. Humaira, et al (2021) showing that ROA has no effect on potential bankruptcy. The higher the ROA ratio, the lower the potential for bankruptcy. But it does not apply, as long as the bank has the capital to bear risks and manage expenses effectively and efficiently. Thus, when profit income decreases, it does not have much impact on the potential for bankruptcy. [17]. In line with research conducted by Jaka Maulana and Suhartati, it is stated that ROA has no effect on *financial distress* in Chemical Sub-Sector companies on the IDX. [19]. This finding is not in line with the research of Harya Yudhistira [15] and Muni Opitalia and Muhammad Zulman (2019) [20] which states that ROA has an effect on *financial distress.*

5. Conclusions

Altman *Z-score* is one method to measure company bankruptcy. The results of this study obtained that the variables CAR, FDR and ROA have no effect on the risk of bankruptcy of PT Bank Muamalat Indonesia.

References

[1] D. N. Ihsan dan S. P. Kartika, "Potensi Kebangkrutan Pada Sektor Perbankan Syariah Untuk Menghadapi Perubahan Lingkungan Bisnis," Vol. 14, No. 2, 2015.

[2] L. Afiqoh dan N. Laila, "Pengaruh Kinerja Keuangan Terhadap Risiko Kebangkrutan Bank Umum Syariah Di Indonesia (Metode Altman Z-Score Modifikasi)," Vol. 4, No. 2, 2018.

[3] I. Widyastuti dan S. Rahayu, "Akurasi Potensi Memprediksi Kebangkrutan Metode Altman Z-Score Dan Metode Ohlson O-Score," *Probank*, Vol. 3, No. 2, Hlm. 1–7, Nov 2018, Doi: 10.36587/Probank.V3i2.369.

[4] Boby, M. Rasuli, dan N. Azlina, "Analisis Rasio Keuangan Dengan Metode Z-Score (Altman) Dan Camel Untuk Memprediksi Potensi Kebangkrutan Pada Perusahaan Perbankan Yang Listing Di Bei," *Jom Fekon*, Vol. 1, No. 2, 2014.

[5] W. C. Susilowati, D. Kristianto, dan F. Harimurti, "Analisis Altman Z-Score Untuk Memprediksi Kebangkrutan Pada Perbankan Umum Syariah Tahun 2013 – 2017," *Jasti*, Vol. 15, No. 4, Mei 2020, Doi: 10.33061/Jasti.V15i4.3744.

[6] S. Bambang, *Manajemen Keuangan Fundamental*. Yogyakarta: Deepublish, 2017.

[7] E. C. Yuliastary dan M. G. Wirakusuma, "Analisis Financial Distress Dengan Metode Z- Score Altman, Springate, Zmijewski," 2014.

[8] M. Syaifullah, K. Anwari, dan M. Akmal, *Kinerja Keuangan Bank Syariah Dengan Asset Quality, Earnings, Liquidity Dan Shariah Conformity*. Depok: Pt Raja Grafindo Persada, 2020.

[9] Jumingan, *Analisis Laporan Keuangan*. Jakarta: Pt. Bumi Aksara, 2011.

[10] Harmono, *Manajemen Keuangan: Berbasis Balanced Scorecard Pendekatan Teori Kasus, Dan Riset Bisnis*. Pt. Bumi Aksara, 2014.

[11] F. Listyarini, "Analisis Perbandingan Prediksi Kondisi Financial Distress Dengan Menggunakan Model Altman, Springate Dan Zmijewski," 2020.

[12] L. R. Harahap, S. Wulandari, E. Thoyib, dan R. Y. Effendy, "Penggunaan Metode Altman Z-Score Dalam Analisis Risiko Keuangan Pt. Btpn Syariah, Tbk.," *Jurnal Ilmu Manajemen*, Vol. 10, No. 1, Hlm. 15, Des 2020, Doi: 10.32502/Jimn.V10i1.2454.

[13] S. Zulaikah dan N. Laila, "Perbandingan Financial Distress Bank Syariah Di Indonesia Dan Bank Islam Di Malaysia Sebelum Dan Sesudah Krisis Global 2008 Menggunakan Model Altman Z Score," *Jestt*, Vol. 3, No. 11, Hlm. 900, Feb 2017, Doi: 10.20473/Vol3iss201611pp900-914.

[14] C. Halim, "Analisis Pengaruh Rasio Keuangan Dan Market Effect Untuk Memprediksi Kebangkrutan Bank Menggunakan Model Regresi Logistik (Studi Pada Bank Yang Terdaftar Di Bursa Efek Indonesiaperiode 2008-2012)," *Jom Fekon*, Vol. 3, No. 1, 2016.

[15] H. Yudhistira, "Pengaruh Leverage Dan Profitabilitas Terhadap Financial Distress".

[16] L. Nur Hidayati, "Pengaruh Kecukupan Modal (Car), Pengelolaan Kredit (Npl), Dan Likuiditas Bank (Ldr) Terhadap Probabilitas Kebangkrutan Bank (Studi Pada Bank Umum Swasta Devisa Yang Tercatat Di Bei Tahun 2009 – 2013)," *Jurnal Ilmu Manajemen*, Vol. 12, No. 1, 2015.

[17] J. Humaira, B. Barnas, dan K. Kristianingsih, "Pengaruh Kinerja Keuangan Dan Penerapan Gcg Terhadap Potensi Kebangkrutan Pada PT Bank Muamalat Indonesia Tbk," *J. Appl. Islam. Econ. Financ.*, Vol. 1, No. 2, Hlm. 373–383, Feb 2021, Doi: 10.35313/Jaief.V1i2.2471.

[18] H. A. Mauluddi dan S. F. Fauziah, "Analisis Prediksi Kebangkrutan Bank Syariah Dan Bank Konvensional Dengan Metode Altman Z-Score Modifikasi".

[19] J. Maulana dan S. Suhartati, "Pengaruh Return On Asset (Roa) Dan Ukuran Perusahaan Terhadap Financial Distress Pada Perusahaan Sub Sektor Kimia Yang Terdaftar Di Bursa Efek Indonesia," *Landjournal*, Vol. 3, No. 1, Hlm. 102–113, Jan 2022, Doi: 10.47491/Landjournal.V3i1.1764.

[20] M. Opitalia dan M. Zulman, "Determinan Financial Distress Pada Perusahaan Sektor Property Di Bursa Efek Indonesia," *Jurnal Riset Ekonomi Dan Bisnis*, Vol. 12, No. 3, Hlm. 167, Des 2019, Doi: 10.26623/Jreb.V12i3.1738.