

ANALYSIS OF FINANCIAL PERFORMANCE BASED ON ALTMAN (Z SCORE) AT DANU JAYA SAVINGS AND LOAN COOPERATIVE, TABANAN REGENCY

I Gede Made Reza Natha Kusuma 1*, Ni Ketut Masih 2, and I Gede Made Karma 3

¹ Managerial Accounting Undergraduate Study Program, Accounting Department, Bali State Polytechnic

² Managerial Accounting Undergraduate Study Program, Accounting Department, Bali State Polytechnic

³ Managerial Accounting Undergraduate Study Program, Accounting Department, Bali State Polytechnic

gimbringreza@gmail.com ^{1*}, ketutmasih@yahoo.com ², igmkarma@pnb.ac.id ³

Abstract. The economic sector is one of the sectors affected by the Corona Virus Disease 2019 (COVID-19) pandemic. One of the organizations from the economic sector that was most affected was the Danu Jaya Savings and Loans Cooperative. To find out the ability of the Danu Jaya Savings and Loans Cooperative to survive until now, it is necessary to know the performance of the Danu Jaya Savings and Loans Cooperative. This study focuses on how the performance of the Danu Jaya Savings and Loans Cooperative is measured using the modified Altman (Z-score) method. This study uses quantitative research methods. The variable in this study is the financial performance of the Danu Jaya Savings and Loans Cooperative with data collection techniques are interviews and documentation. The data analysis technique in this study is the Modified Altman (Z-score) method. The results of this study indicate that the financial performance of the Danu Jaya Savings and Loans Cooperative based on the Altman (Z-score) analysis in 2019 is at the standard of avoiding bankruptcy with a value above 2.6, namely in 2019 it was 2.70. However, in 2020 and 2021 the financial performance of the Danu Jaya Savings and Loans Cooperative showed a Z-Score of 2.28 in 2020 and 2.41 in 2021. This indicates that the condition of the Danu Jaya Savings and Loan Cooperative's financial performance is in the zone prone to bankruptcy because the Z-Score obtained between 1.1 and 2.6.

Keywords : Cooperatives , Financial Performance , Altman (Z-score) ..

Article information: Submission to Repository on September 2022

Introduction

One of the organizations from the economic sector that has been most affected by COVID-19 is cooperatives. In the Law of the Republic of Indonesia Number 25 of 1992 concerning Cooperatives, it is stated that a Cooperative is a company in which all members work together and not solely to pool money or capital, but also a form of struggle to improve the economic welfare of its members. According to data from the Bali Provincial Office of Small and Medium Business Cooperatives, the growth of cooperatives, especially in Bali, is experiencing obstacles in the form of a decrease in income caused by this pandemic period. This can be seen from the data recorded in the Data Cooperative Data Recapitulation as of December 2020 which recorded as many as 5,119 cooperative units. Of the 5,119 cooperative units, only 79.89% or 4,090 units are active, while 20.10% or 1,029 are inactive. Furthermore, in 2021 there were 5,258 cooperative units, but only 68.94% or 3,625 units were active, while 31.06% or 1,633 units were inactive. Judging from these data, from 2020 to 2021 inactive cooperatives experienced a significant increase of 58.7%.

One of the cooperatives with active status in Bali and affected by COVID-19 is the Danu Jaya Savings and Loan Cooperative located in Penebel Kelod Village, Penebel District, Tabanan Regency, Bali, which is a savings and loan type cooperative. Facts on the ground that entering 2020 cooperatives are experiencing difficulties, especially operational difficulties. Based on information from the manager of the Danu Jaya Savings and Loans Cooperative, the Cooperative experienced operational difficulties in the midst of the pandemic which was marked by a decrease in the cooperative's operating income. Judging from the Financial Statements of the Danu Jaya Savings and Loans Cooperative, operating income has decreased in 2020 and 2021. Likewise, in terms of profit/loss in 2020 and 2021, which shows that there is a loss. This indicates that the financial performance of the Danu Jaya Savings and Loans Cooperative is not doing well.

One method that can be used to analyze financial performance is Altman analysis (Z-score), where this analysis refers to the company's financial ratios. The ratio describes a relationship or balance between a certain amount with another amount. Based on the opinion (Herdi & Apyanti, 2019), the Altman model (Z-Score) is able to analyze financial performance. Altman analysis (Z-score) especially the relevant third model (modification) is used to analyze the financial performance of non-manufacturing companies and small companies such as cooperatives. Z-Score analysis was first introduced by Edward I. Altman in 1968 which was developed as a measure of overall financial performance. In this study, he found five ratios that can be combined in an accurate mathematical formula in

predicting company bankruptcy (Hani, 2015). According to (Rartnasari, 2018), Altman model analysis can be used to identify how the financial performance conditions may occur in cooperatives by using financial ratios such as liquidity-to-taste ratios, profitability ratios, solvency ratios with an accuracy rate of 90%. The Altman (Z-score) method has advantages in its application because it combines various financial ratios together and provides appropriate coefficients for combining independent variables (Yudyawati, 2020).

Method

The type of research used in this research is quantitative method. Quantitative research is a process of finding knowledge that uses data in the form of numbers as a tool to analyze information about what you want to know. This study aims to analyze the financial performance of the Danu Jaya Savings and Loans Cooperative in 2019, 2020, and 2021. The location of this research is the Danu Jaya Savings and Loan Cooperative which is located at Br. Penebel kelod, Penebel Village, Penebel District, Tabanan. The time of the study was carried out for 6 months starting from February to July 2022. The data used in this study were only primary data. Based on this research, primary data was obtained through observations and interviews related to how the Danu Jaya Savings and Loans Cooperative company runs and the balance sheet reports for 2019, 2020, and 2021 as well as the Report of Remaining Operating Results in 2019, 2020, and 2021. The subjects in this study were Cooperatives Savings and Loans Danu jaya. While the object in this study is the financial performance of the Danu Jaya Savings and Loans Cooperative in 2019, 2020, and the technique in collecting data in this study using interview and documentation techniques. Interviews were conducted to obtain financial statement data in the form of Remaining Operating Results reports and balance sheets for 2019, 2020, and 2021 as well as to obtain information about the number of customers withdrawing their deposits in 2019, 2020, and 2021. The documentation used in this study are: in the form of a Balance Sheet for the Danu Jaya Savings and Loans Cooperative in 2019, 2020, and 2021 as well as a Report of Remaining Operating Results 2019, 2020, and 2021. In analyzing the financial performance of the Danu Jaya Savings and Loans Cooperative, this study uses the Altman Z-Score analysis. The variant of the Altman equation used to identify the performance of the Savings and Loan Cooperative is the modified Altman model. Modified Altman model is a formula that is considered flexible because it can be used in various types of business fields, especially service companies.

Result and Discussion

- **Ratio of Working Capital to Total Assets**

Table 1. Calculation of Working Capital Ratio to Total Assets

Account	2019	2020	2021
Working capital	9.210.013.785,31	9.229.466.993,83	9.303.182.189,45
Total Assets	35.185.661.197,31	35.409.661.855,83	36.719.567.628,45
X1	0,262	0,261	0,253

In 2019, the ratio of working capital to total assets (X1) is 0.262, which means that for every Rp. 1.00 total assets are guaranteed by working capital of 0.262. In 2020 X1 decreased by 0.001 to 0.261, which means that for every Rp1.00 the total assets are guaranteed by working capital of 0.261. Furthermore, in 2021, X1 has decreased by 0.008 to 0.253, which means that for every Rp. 1.00 total assets are guaranteed by working capital of 0.253. The decrease in X1 from year to year is caused by the increase in the total assets of the Danu Jaya Savings and Loans Cooperative which is not commensurate with the increase in working capital. Based on the X1 ratio, it shows a decrease from year to year, which means the Danu Jaya Savings and Loan Cooperative has not been maximized in generating working capital from the total assets. The value of this ratio has a major influence in determining the value of the Z-score.

- **Ratio of Retained Earnings to Total Assets**

Table 2. Calculation of the Ratio of Retained Earnings to Total Assets

Account	2019	2020	2021
Retained earning	901.602.126,62	669.144.253,49	669.144.253,49
Total Assets	35.185.661.197,31	35.409.661.855,83	36.719.567.628,45
X2	0,026	0,019	0,018

In 2019, the ratio of working capital to total assets (X1) is 0.262, which means that for every Rp. 1.00 total assets are guaranteed by working capital of 0.262. In 2020 X1 decreased by 0.001 to 0.261, which means that for every Rp1.00 the total assets are guaranteed by working capital of 0.261. Furthermore, in 2021, X1

has decreased by 0.008 to 0.253, which means that for every Rp. 1.00 total assets are guaranteed by working capital of 0.253. The decrease in X1 from year to year is caused by the increase in the total assets of the Danu In 2019, the ratio of EBIT to total assets (X3) is 0.96, which means that every Rp1.00 of total assets can generate an EBIT of 0.096. In 2020, X3 decreased by 0.056 to 0.04 which means that every Rp1.00 of total assets can generate EBIT of 0.028. Furthermore, in 2021, X3 will increase by 0.03 so that it becomes 0.068 which means that every Rp1.00 of total assets can generate EBIT of 0.068. From the calculation results above, the ratio of EBIT to total assets in 2020 and 2021 has decreased from the previous year. This is due to losses that occurred in the Danu Jaya Savings and Loan Cooperative in 2020 and 2021

- **Ratio of EBIT Ratio to Total Assets io Ebit Terhadap Total Aset**

Table 3. Calculation Results of EBIT Ratio to Total Assets

Account	2019	2020	2021
EBIT	3.366.703.180,89	2.746.947.587,52	2.488.181.418,62
Total Assets	35.185.661.197,31	35.409.661.855,83	36.719.567.628,45
X3	0,096	0,040	0,068

In 2019, the ratio of EBIT to total assets (X3) is 0.96, which means that every Rp1.00 of total assets can generate an EBIT of 0.096. In 2020, X3 decreased by 0.056 to 0.04 which means that every Rp1.00 of total assets can generate EBIT of 0.028. Furthermore, in 2021, X3 will increase by 0.03 so that it becomes 0.068 which means that every Rp1.00 of total assets can generate EBIT of 0.068. From the calculation results above, the ratio of EBIT to total assets in 2020 and 2021 has decreased from the previous year. This is due to losses that occurred in the Danu Jaya Savings and Loan Cooperative in 2020 and 2021

- **Ratio of Book Value Ratio of Equity to Total Debt**

Table 4. Calculation Result of Book Value Ratio of Equity to Total Debt

Akun	2019	2020	2021
Book Value of Equity	6.890.533.052,38	6.701.739.092,71	6.720.183.177,67
Total Debt	28.295.128.144,93	28.707.858.013,12	29.999.384.450,78
X4	0,244	0,233	0,224

The ratio of the book value of equity to total debt (X4) in 2019 is 0.244, which means that for every Rp1.00 total debt is guaranteed by the book value of equity of 0.244. In 2020, X4 has decreased by 0.011 which causes the ratio to be 0.233, which means that for every Rp. 1.00 the total debt is guaranteed by the book value of equity of 0.233. Furthermore, in 2021, X4 also decreased by 0.009 which caused the ratio to be 0.224, which means that for every Rp. 1.00 the total debt is guaranteed by the book value of equity of 0.224. Judging from the calculation results above, the ratio of the value of equity to total debt has decreased in 2020 and 2021. This indicates that the Danu Jaya Savings and Loans Cooperative has decreased in guaranteeing its debt through its own capital in 2020 and 2021.

- **Altman (z-score)**

Table 5. Z-Score Calculation Results

Description	Ratio	2019	2020	2021
Ratio of Working Capital to Total Assets	X1	1,717	1,710	1,662
Ratio of Retained Earnings to Total Assets	X2	0,084	0,062	0,059
EBIT Ratio to Total Assets	X3	0,643	0,266	0,455
Ratio of Book Value of Equity to Total Debt	X4	0,256	0,245	0,235
Z-score		2,70	2,28	2,41

Based on the X1 to X4 calculations, the Z-score obtained using the modified Altman model shows that in 2019 the Z-score value is 2.70. Based on the assessment standard, the results of the Z-score of the Danu Jaya Savings and Loans Cooperative show that the Danu Jaya Savings and Loans Cooperative is in a position not bankrupt. While in 2020 the Z-score value of the Danu Jaya Savings and Loans Cooperative is 2.28 which shows a decrease of 0.42 from 2019. This indicates that the financial performance of the Danu Jaya Savings and Loans

Cooperative in 2020 is in an area prone to occurrence of bankruptcy because the Z-score of the Danu Jaya Savings and Loans Cooperative is between 1.1 and 2.6. Furthermore, in 2021 the Z-score value in the Danu Jaya Savings and Loans Cooperative is 2.41 which indicates an increase of 0.13 from 2020. Despite the increase, the financial performance of the Danu Jaya Savings and Loans Cooperative in 2021 is still in a vulnerable area. The occurrence of bankruptcy because the Z-score of the Danu Jaya Savings and Loans Cooperative is still between the values of 1.1 and 2.6. So, in 2019 the Danu Jaya Savings and Loans Cooperative is in a position not to go bankrupt. However, in 2020 and 2021, the Danu Jaya Savings and Loans Cooperative is in an area prone to bankruptcy.

Conclusion

The results of the modified Altman model analysis based on the Z-score calculation show that the financial performance of the Danu Jaya Savings and Loans Cooperative in 2019 is in a non-bankrupt position with a value of 2.70. However, in 2020 and 2021 the financial performance of the Danu Jaya Savings and Loans Cooperative showed a Z-Score of 2.28 in 2020 and 2.41 in 2021. This indicates that the financial performance of the Danu Jaya Savings and Loans Cooperative is in the zone prone to bankruptcy because the Z-Score obtained between 1.1 and 2.6. The causes of the decline in financial performance at the Danu Jaya Savings and Loans Cooperative in 2020 and 2021 are a significant decrease in operating income, increased liabilities and losses experienced in 2020 and 2021.

Acknowledgment

The authors would like to thank all resource persons from the Danu Jaya Savings and Loans Cooperative who have allowed to conduct research at KSP Danu Jaya and helped provide information in data collection. The author would also like to thank family and friends who have provided encouragement, motivation and suggestions that support the completion of this article.

References

- Ali, S. A. (2018). Analisis Kinerja Keuangan Pada Perusahaan Pt Surya Puzulindo Makassar. *Skripsi*, 47.
- Anisa, N. (2016). Penggunaan Metode Z Score Untuk Memprediksi Kemungkinan Kebangkrutan Pada PT Mitra Adiperkasa Tbk. *Jurnal Ekonomi Bisnis Volume 21 No.3*, 214.
- Gaffar, S. (2022). Analisis Potensi Kebangkrutan Koperasi Di Kabupaten Pangkep. *Jurnal Ekonomi Dan Bisnis Volume 5*, 43.
- Hani, S. (2015). *Teknik Analisa Laporan Keuangan*. Medan: Umsu Press.
- Herawati, H. (2019). Pentingnya Laporan Keuangan Untuk Menilai Kinerja Keuangan Perusahaan. *Jurnal Akuntansi Unihaz - Jaz*, 20.
- Herdi, H., & Apriyanti, M. D. (2019). Analisis Prediksi Kebangkrutan Dengan Menggunakan Model Altman Z-Score Pada Koperasi Kredit Sewilayah Puskodit Swadaya Utama. *Accounting Unipa Vol.Xi*, 9.
- Hidayah, N. (2016). Analisis Kinerja Keuangan Pada Koperasi Serba Usaha Bina Usaha Di Kabupaten Gowa. *Skripsi*, 81.
- Indonesia, P. R. (2012). *Undang-Undang Republik Indonesia No 17 Tahun 2012 Tentang Perkoperasian*.
- Kakauhe, A. C. (2017). Analisis Model Altman (Z-Score) Dalam Mengukur Kinerja Keuangan Untuk Memprediksi Kebangkrutan Pada Perusahaan Manufaktur Sektor Industri Barang Konsumsi Di Bursa Efek Indonesia (BEI) Periode 2010-2014. *Jurnal Accountability Volume 06, Nomor 01, 2017, 18-27*, 19.
- Kasmir. (2015). *Analisis Laporan Keuangan (Edisi 1)*. Jakarta: Pt. Rajawali.
- Kemenkop. (2016). Pedoman Penilaian Kesehatan Koperasi Simpan Pinjam Dan Unit Simpan Pinjam Koperasi. *Kementeriankoperasi Dan Usaha Kecil Dan Menengah Republik Indonesia*.
- Kesuma, Y. F., & Riswan. (2014). Analisis Laporan Keuangan Sebagai Dasar Dalam Penilaian Kinerja Keuangan Pt. Budi Satria Wahana Motor. *Jurnal Akuntansi & Keuangan Vol. 5, No. 1, Maret 2014*, 103.
- Koperasi, M. (2018). *Peraturan Menteri Koperasi Dan Usaha Kecil Menengah Republik Indonesia No 09 Tahun 2018 Tentang Penyelenggaraan Dan Pembinaan Perkoperasian*. Berita Negara Republik Indonesia.
- Maisar, Ansar, & Rahman, A. (2020). Analisis Kebangkrutan Koperasi Unit Desa (Kud) Bulupoddo. *Jurnal Lembaga Keuangan, Ekonomi Dan Bisnis Islam*, 31.
- Moonti, D. U. (2016). *Bahan Ajar Mata Kuliah Dasar-Dasar Koperasi*. Yogyakarta: Interpena Yogyakarta.
- Paleni, H. (2016). Analisis Kinerja Keuangan Studi Kasus Koperasi Simpan Pinjam "Rias" Pi Mahasidoarjo. *Jurnal Ilmiah Orasi Bisnis 2 Volume 16*, 76.
- Pertiwi, K. S. (2020). Analisis Keakuratan Metode Altman Z-Score, Springate, Grover, Dan Zmijewski Dalam Memprediksi Financial Distress Pada Perusahaan Asuransi Di Indonesia. *Skripsi*, 60.
- Purnama, Y. D., Hendri, H., & Mitani, W. (2020). Metode Altman Z-Score Dalam Memprediksi Kepailitan Di Semua Koperasi Kredit Di Kabupaten Maumere. *Jurnal Akuntansi Dan Pajak*, 68.

- Rartnasari. (2018). Analisis Keakuratan Model Altman, Springate, Zmijewski Dan Grover Dalam Memprediksi Kebangkrutan. *Skripsi Universitas Negeri Semarang Fakultas Ekonomi Jurusan Manajemen*, 123.
- Rialdy, N. (2018). Analisis Prediksi Kebangkrutan Dengan Menggunakan Metode Altman Z-Score Pada Pt. Adhi Karya (Persero) Tbk. *Article September 2018*, 18.
- Santoso, B. (2018). Penilaian Kesehatan Keuangan Koperasi Mahasiswa Dengan Menggunakan Analisis Z-Score Model Altman Pada Koperasi Mahasiswa Di Yogyakarta 2013-2015. *Skripsi Universitas Islam Sunan Kalijaga*, 89.
- Saraswati, N. (2022). Implementasi Metode Altman Z-Score Dalam Sistem Analisa Laporan Keuangan Untuk Mengukur Kinerja Keuangan Perusahaan. *Ilmudata.Org Volume 2 (4), 2022*, 10.
- Silaban, B. E., & Zahra, F. A. (2017). Analisis Pengaruh Ebit, Eps, Der, Dan Harga Saham Terhadap Per Perusahaan Yang Terdaftar Dalam Indeks Lq45 Periode 2011-2014. *Esensi, Vol. 20 No, 3/2017*, 61.
- Siregar, A. P. (2020). Kinerja Koprasi Di Indonesia. *Vigor: Jurnal Ilmu Pertanian Tropika Dan Subtropika 5*, 36.
- Sulaeha. (2018). Analisis Tingkat Kebangkrutan Dengan Menggunakan Model Altman Z-Score (Bursa Efek Indonesia Pada Bank Bukopin Tbk). *Skripsi*, 47.
- Suteja, I. N. (2018). Analisis Kinerja Keuangan Dengan Metode Altman Z-Score Pada Pt Ace Hardware Indonesia Tbk. *Jurnal Moneter Vol. V No. 1 April 2018*, 17.
- Sylviana, & Rachmawati, T. (2016). Analisis Kebangkrutan Dengan Menggunakan Model Altman Z-Score Pada Perusahaan Asuransi Yang Go Publik Di Bursa Efek Indonesia. *Jurnal Ekonomi Dan Bisnis Vol 1*, 65.
- Winarso, E., & Edisian, T. A. (2019). Perbandingan Analisis Model Z"-Score Altman Modifikasi, Model X-Scorezmijewski, Model G-Score Grover, Dan Model S-Score Springate Untuk Menganalisis Ketepatan Prediksi Kebangkrutan. *Jafta Vol. 1 Nomor*, 4.