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Prediction of Financial Distress and Impact of the COVID-19 Pandemic on PT Garuda Indonesia for the period 2016-2021

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Abstract

The purpose of this study is to analyze the potential for financial distress at PT Garuda Indonesia. This research uses the modified Altman Z-Score model approach. The method used in this research is quantitative descriptive using a case study approach. Measurement of financial health level is done using the Altman ratio model. The data source uses secondary data obtained directly from the company's website. This study used annual report data from 2016 to 2021. Based on the analysis of financial ratios, during the 2016-2021 period, the financial performance of PT Garuda Indonesia continued to decline. The results of the Altman-Z score calculation show that PT Garuda Indonesia is experiencing financial distress. This result is an early warning for PT Garuda Indonesia to improve its financial performance. Suggestions to the government of Indonesia, through the Ministry of SOEs as the main shareholder in order to give full attention and support to PT Garuda Indonesia to avoid future bankruptcy risks.

Keywords: Financial Distress; Altman Z-Score; Financial Performance; Bankruptcy

1 Introduction

The aviation industry is heavily regulated. There are many regulations that every airline company must comply with, and generally, this regulation is related to three important things, namely state sovereignty, aviation safety and the economy. Regulations related to international air transport are issued by the *International Civil Aviation Organization* (ICAO), an agency under the *United Nations* that adopts standards of aviation, and flight practices and procedures between countries for international civil aviation (Munir, Prasetyo & Kurnia, 2011). Regulations on the airline industry are heavily regulated, and decision-makers and policy planners must assess airline performance through productivity and efficiency analysis (Chen, Tzeremes & Tzeremes, 2018).

The aviation sector frequently exposes significant risks, such as fluctuating fuel costs, currency exchange rates, large capital expenditures, competition from low-cost carriers, and erratic passenger demand (Pyke & Sibdari, 2018). These risks will ultimately impact an airline's operational costs and ability to carry out its flight plans. The COVID-19 pandemic has spread rapidly across the globe, includes Indonesia. The impact of the pandemic in Asia, the Americas, and Africa is heavier than in other regions (Junaedi & Salistia, 2020b). For the first time, the Indonesian government announced two cases of positive COVID-19 patients on 2 March 2020 (Kompas, Mei, 2020). Fernandes (2020) stated that no one could accurately predict when the C-

19 pandemic would end, which resulted in an economic downturn. After more than a year, the COVID-19 pandemic in Indonesia has significantly affected all aspects of people's lives and resulted in various sectors being weakened, especially the economic and business sectors, including stated-owned companies (SOEs).

Global aviation data from Airbus Forecast and Boeing Market Outlook 2021 shows that since the COVID-19 pandemic spread across the globe, this has a direct impact on global aviation industry. For example, in India, most individual airlines financial performance could be more impressive; most recently, *Jet Airways* had to stop its operations in April 2019 due to a financial crisis. These conditions indicate severe financial difficulties for three of the four airlines sampled (Shome & Verma, 2020). Based on the Airbus Global Market Forecast 2021 report, in 2020, there have been surprises that have never been predicted before in the aviation industry. Indicators of the decline in the aviation industry in 2020 include a declining GDP, a decrease in the number of people traveling, thus reducing the number of occupied passenger seats, and a decrease in airline revenue of minus 66%. The Boeing Commercial Market Outlook 2021 report also noted a decline in wide-body passenger aircraft flights throughout 2020. However, there has been a significant increase in cargo aircraft flights. The surge results from restrictions on people traveling, creating demand for freight shipments from various countries. Ironically, most individual airlines financial performance is not impressive.

Internally, the COVID-19 pandemic and social distancing policies have affected the Indonesian capital market (Retnoningsih & Naufa, 2021). Externally, the COVID-19 pandemic in China and Spain and stock market dynamics in Hong Kong, London, and New York also affected the JCI index (Junaedi & Salistia, 2020a). The global airline industry share price downward trend was also experienced by 18 of the worlds largest airline groups throughout 2020–2021, covering aviation regions in North America, Europe, and Asia-Pacific (FlightGlobal, October, 2021).

The COVID-19 pandemic period has brought the world aviation industry to its lowest point in history. In this uncertain situation, companies are always required to be able to adopt an agile and resilient mindset. These conditions force companies to redesign their strategies to face current challenges and maintain going concern business. As the largest airline owned by the Indonesian government, PT Garuda Indonesia is a national airline that has become one of the leading airline companies in Indonesia. PT Garuda Indonesia plays a vital role in tourism development and has become an essential contributor to state revenue (Akyuwen, 2011).

Referring to 2019 data, PT Garuda Indonesia carried 31.89 million passengers. However, due to the COVID-19 pandemic, throughout 2020, PT Garuda Indonesia only served 10.81 million passengers. This number has decreased by 66.11% from the previous year, while in 2021 there has not been a significant increase. However, the prospect of growth in the number of PT Garuda Indonesia international passengers for 2019–2028 is still quite good, based on the results of forecasting showing significant passenger growth on the Saudi Arabia and China routes (Putra & Kusumastuti, 2020).

When the COVID-19 pandemic hit in 2020, there was a significant decline in the number of passengers, forcing the company to restructure its business strategy by reducing production numbers. In 2020, PT Garuda Indonesia has implemented the "*Fixing the basics*" strategy or what is called the 3R concept, namely refocusing, rightsizing and reshaping to improve the main strengths of the organization to make it more efficient. Thus, it is hoped that the company can minimize the impact of the COVID-19 pandemic through the strategy implemented. This year, PT Garuda Indonesia focuses on building customers trust and comfort to carry out flight mobility amid the COVID-19 pandemic (Annual Report Garuda Indonesia, 2020). This effort was made

as a way to maintain the companies survival in the future. Details of PT Garuda Indonesia passenger numbers for the 2016–2021 period are shown in Table 1.

Tabel 1: Number of PT Garuda Indonesia Passengers 2016–2021

Years	Total Passengers (in millions)			
	Domestic	**International**	**Citilink**	**Total**
2016	19,49	4,43	11,08	35,00
2017	19,17	4,79	12,27	36,24
2018	18,91	4,70	14,83	38,44
2019	14,40	4,27	12,22	31,89
2020	4,54	0,77	5,49	10,81
2021	3,33	0,11	7,52	10,96

Business survival (*going concern*) is usually related to the management's ability to manage the company so that it continues to survive (Awwad & Razia, 2021). When a company experiences financial distress, its operational activities will be disrupted, which ultimately impacts the companies high risks in maintaining its business survival in the future (Arkan, 2015; and Kliestik et al., 2020); this will affect the audit opinion given by the auditor. A going concern opinion is an audit opinion given by an auditor to ascertain whether the companies can maintain its business continuity (SPAP, 2011). In the going concern opinion, an additional paragraph related to "*emphasis on a matter*" indicates that the auditor has serious concerns. PT Garuda Indonesia is also facing the COVID-19 pandemic, which significantly impacts business continuity (Bisnis, November, 2021). It is estimated that Indonesia economic growth could reach 2.5% if the COVID-19 pandemic lasts for a long time and significant results in a weakening stock price index, including several SOEs experiencing losses throughout 2020. The economic downturn will impact the companies survival in the future (Yamali & Putri, 2020).

PT Garuda Indonesia 2018 financial problems have forced the company to re-state its 2019 financial statements. One of them is having a high debt value which causes negative equity (Setiawan et al., 2024). On 30 April 2019, the Indonesia Stock Exchange (IDX) and Financial Services Authority (OJK) summoned the directors of PT Garuda Indonesia and the auditing auditor for information regarding the chaotic financial statements (Okezone, Juni, 2019). Errors by management in the presentation of financial statement data can be considered a form of financial statement fraud (Setiorini et al., 2021). In this case, in the 2018 financial year, PT Garuda Indonesia had to write off *Other Income* of $239,940,000.00 because it was considered a misrepresentation. As a result, the net profit for 2018 turned into a net loss after the restatement. An almost similar case also happened in Jet Airways (one of the largest airlines in India) in 2018, which faced allegations of financial violations and technical flight failures (Tikku & Sherman, 2019). Table 2 below is a summary of PT Garuda Indonesia financial position during 2016-2021.

Table 2: Summary of Financial Position 2016–2021 (*in thousands of dollars*)

Years	Profit (Loss)	Working Capital	Current Asset	Current Liability
2016	9.364	-398.442	1.165.133	1.563.576
2017	(213.389)	-935.104	986.741	1.921.846
2018	(228.889)	-1.981.450	1.079.945	3.061.396

2019	(44.567)	-2.261.988	1.133.892	3.395.880
2020	(2.476.633)	-3.758.250	536.547	4.294.797
2021	(4.174.004)	-5.465.588	305.725	5.771.313

Table 2 describes PT Garuda Indonesia experiencing financial difficulties (liquidity) during 2016–2021 due to various problems the company is experiencing. The level of firms liquidity can be seen through the adequacy of working capital for five years, which is in a negative situation (negative working capital). This means that current debt is greater than current assets, so the companies does not have sufficient current cash to fund it or cover obligations due shortly. Based on the Annual Report 2017–2019, the most significant increase in current liabilities came from account payables to related parties, and long-term liabilities that mature within one year. Meanwhile, in 2020 and 2021, the most significant increase in the value of current liabilities comes from trade payables of related parties implications of PT Garuda Indonesia strategy in managing liquidity levels through postponement negotiations the payment of debt obligations during the COVID-19 pandemic, which has significantly affected on liquidity condition of PT Garuda Indonesia (Annual Report, 2020). Liquidity conditions, as seen from the adequacy of working capital, show a downward trend, while current assets are more stagnant and tend not to increase, except in 2016–2021, when there is a decrease of up to 50%. The decline came from a reduction in third-party trade receivables and passengers during the COVID-19 pandemic, the implementation of SFAS 71 (PSAK 71), and reduction in equivalents of cash.

PT Garuda Indonesia most significant loss occurred in 2020, reaching USD 2.2 trillion, and it even increased dramatically in 2021. This loss was caused by the COVID-19 pandemic which resulted in decreased passenger mobility. This is due to the implementation of travel restriction policies by the government, which significantly impacted the companies operations. Likewise after the restatement of the 2018 financial statements carried out by KAP Tanubrata Sutanto Fahmi & Partners (Affiliated with BDO), where there was an increase in the loss balance of USD 228,889,524.00, even though in the previous year the company was declared to have a profit of up to USD 5,018,308.00. The restatement process of the financial report was carried out after being annulled by the government through the Indonesia Stock Exchange (IDX), Financial Services Authority (OJK), Ministry of Finance, and the Indonesian House of Representatives (DPR). After the restatement of financial report for 2018 financial year, in 2020, the companies received a disclaimer opinion. The directors, commissioners, and auditors also received administrative sanctions from the IDX, OJK, and the Ministry of Finance.

By looking at the various dynamics from 2016 to 2021 that occurred in PT Garuda Indonesia, it is interesting to make multiple predictions and assessments of financial performance to ensure the going concern aspect in the future. Financial ratios can be used to assess company performance further. Based on Rizal (2017) research on PT Garuda Indonesia using financial ratios for five years (2011–2015), it is stated that the financial performance of PT Garuda Indonesia company in terms of liquidity, solvency, and profitability ratios is not good. Meanwhile, Daryanto (2018) evaluated PT Garuda Indonesia financial health by the Minister of SOEs Decree Number: KEP-100/MBU/2002 concerning Assessment of the Health Level of State-Owned Enterprises. The results showed that from 2011-2017, PT Garuda Indonesia had reached a healthy financial condition.

Financial ratio analysis is a very popular financial tool and is widely used in assessing financial conditions. Financial ratios are also a tool to provide insight into a companies financial condition (Beaver, 1966; Beaver, 1968). Financial ratios are the predictors of financial distress that have the most consistent significance value (Budianto & Setiawan, 2023). Financial ratio analysis can

reveal trends that are difficult to predict by testing indicators used as financial ratios. Financial ratios are beneficial when the goal is future-orientated (Subramanyam, 2019). Using ratio analysis, it is possible to determine levels of liquidity, leverage, operational effectiveness, and profitability of the company (Munawir, 2014). Meanwhile, the Altman model focuses on five categories of financial ratios to predict potential corporate bankruptcy. The Altman Z-score model is considered sufficient to predict the failure of the bank and non-bank financial industry (Hamid et al., 2016; Azim & Sharif, 2020).

Altman (1968) developed the Z-Score 1968 as a quantitative balance sheet method to determine the financial health of a company. The Z-Score value is used for non-financial companies, where the lower score, greater the chance of the companies experiencing financial distress. Altman (1968) further revealed that 'failing' companies show significantly different ratio measurements from 'sustainable' entities. Based on his observational evidence over several years before failure, he concluded that ratio analysis could help predict failure. In addition, the higher the level of financial distress, the lower the stock return that will be given by the company to investors. (Merliyana & Kusuma, 2022). Thus, it can be asserted that the formula found by Altman can be used as one of the reliable measurement tools to predict a companies bankruptcy (Adnan & Kurniasih, 2000).

The auditor can use bankruptcy prediction models to assess the capabilities of a continuity company to exist (Rudyawan & Badera, 2009). Meanwhile, Almilia & Kristijadi (2003) concluded that financial ratios can be used to predict the financial distress of a companies. Bankruptcy prediction also significantly affects firm value (Maharani, 2020). According to Platt & Platt (2002), financial distress is a decline in a companies financial condition before bankruptcy or is liquidated. Bankruptcy of a company can be seen from the condition of its financial difficulties, namely a situation where the company has difficulty generating profits, and tends to experience a profit deficit. Therefore, bankruptcy is defined as the failure of a company to carry out its operations to obtain a profit. Bankruptcy is a failure which can be interpreted as financial failure and economic failure (Martin et al., 1993 in Adnan & Kurniasih, 2000).

The motivation for this research is to predict financial distress faced by PT Garuda Indonesia using Altman Z-Score model assessment indicator. Especially for PT Garuda Indonesia Airlines, few prior studies have evaluated financial distress to predict corporate continuity (going concern). To predict corporate bankruptcy problems, Altman (1968) suggested that a discriminant analysis approach could combine a series of financial ratios. The most dominant financial ratio variables in determining financial distress include profit margin, financial leverage, current ratio, and growth. Hanafi and Halim (2018) list the following categories for the Altman ratios: market value of equity to total assets; market value of equity to book value of liabilities; working capital to total assets; retained earnings to total assets; earnings before interest and taxes to total assets; and total sales to total assets.

2 Literature Review

2.1 Financial Distress

According to Platt & Platt (2002) financial distress is a stage of declining financial conditions that occurs before experiencing bankruptcy or being liquidated. Bankruptcy of a company can be seen from the condition of its financial difficulties, namely a situation where the company has difficulty generating profits, and tends to experience a profit deficit (Chang et al., 2015). Therefore, bankruptcy is defined as the failure of a company to carry out its operations to obtain a profit.

Bankruptcy is also often called company liquidation or company closure or insolvency (Yasser & Al Mamun, 2015). Bankruptcy is a failure which can be interpreted as financial failure and economic failure (Martin et al., 1993 in Adnan & Kurniasih, 2000).

Altman (1968) developed the Z-Score 1968 as a quantitative balance sheet method to determine the financial health of a company. The Z-Score value is used for non-financial companies, where the lower score, greater the chance of the companies experiencing financial distress. Altman (1968) stated in his research that a thorough formal study relating to the signs of business failure was evident in the 1930s. Several subsequent studies concluded that 'failed' companies exhibit ratio measurements that differ significantly from 'sustainable' entities. A recent study involved financial ratio analysis in the context of bankruptcy prediction (Stefko et al., 2019). This study compares a list of ratios individually between a sample of failed companies and non-failed companies. Based on observational evidence for five years before the failure, it is stated as a conclusion that ratio analysis can be useful in predicting failure.

Thus, it can be asserted that the formula found by Altman can be used as one of the reliable measurement tools to predict a companies bankruptcy (Adnan & Kurniasih, 2000). Altman and McGough (1974) found that the level of bankruptcy prediction using a prediction model reached an accuracy rate of 82%, and suggested using a model of bankruptcy prediction as a tool to help auditors in deciding on a firms ability to maintain its survival (Rudyawan & Badera, 2009). Meanwhile, the results studies of Almilia & Kristijadi (2003) concluded that financial ratios can be used in predicting a companies financial difficulties. Predictions of bankruptcy also have a significant effect on company value (Maharani, 2020). The most dominant financial ratio variables in determining financial distress are profit margin ratio, financial leverage, current ratio, and growth.

2.2 The Altman Model Financial Ratios

Financial ratio analysis is a very popular financial tool and is widely used in assessing financial conditions. Financial ratios are a tool to provide a view of the financial condition of a company. Financial ratios are very useful when the goals are future-oriented (Subramanyam, 2019). Using ratio analysis, it is possible to determine levels of liquidity, leverage, operational effectiveness, and profitability of the company (Munawir, 2014). Meanwhile, Altman (1968) focused on five categories of financial ratios to predict a company's potential for bankruptcy. Altman's model is considered sufficient to be used to predict the failure of the bank and non-bank financial industry (Hamid et al., 2016; Azim & Sharif, 2020).

Ratio categories according to Altman (1968) include; Working Capital/Total Assets; Retained Earning/Total Assets; Earning Before Interest and Taxes/Total Assets; Market Value Equity/Book Value of Total Debt; and Sales/Total Assets. Each of these ratios measures the companies ability to increase liquidity, profitability, earnings ability to cover interest and tax expenses, ability to meet long-term liabilities, and ability to increase sales volume.

3 Research Methods

This study used quantitative descriptive methods with a case study approach at PT Garuda Indonesia. Measurement of financial distress prediction level is done using of Altman Z-score model. The data used are the published financial statements for 2016–2021. The stages of this research are as follows:

1) Calculating the ratio:

X_1 = *Working Capital/Total Assets*
X_2 = *Retained Earnings/Total Assets*
X_3 = *Earnings Before Interest and Taxes (EBIT)/Total Assets*
X_4 = *Market Value Equity/Book Value of Total Debt*
X_5 = *Sales/Total Assets*
Z = *Overall Index*

2) Calculating of Z-Score = $6{,}56X_1 + 3{,}26X_2 + 6{,}72X_3 + 1{,}05X_4$ (the revised model for non-manufacturing companies does not use the value of X_5).
3) From the results of Altman's model analysis, the Z-Score value is obtained, which will explain the condition of the company, which is divided into three levels, namely:

Z-Score Weight	Conclusion	
X1 = 6,56	If the Z-Score value is:	
X2 = 3,26	> 2,60	= *Non-distress*
X3 = 6,72	1,10 – 2,60	= *Grey area*
X4 = 1,05	< 1,10	= *Distress*

4) We are analyzing the results of the Z-score calculation.
5) We are concluding the research results.

4 Results and Discussion

4.1 Company Profile

PT Garuda Indonesia is one of the Indonesian government-owned enterprises (SOEs) in the aviation transportation sector. The Indonesian government's share ownership in PT Garuda Indonesia is 60.54%, while the remaining 25.81% is held by PT Trans Airways, and 13.65% is owned by the public. PT Garuda Indonesia has seven subsidiaries: PT Aero Wisata, PT Sabre Travel Network Indonesia, PT Garuda Maintenance Facility Aero Asia, PT Aero System Indonesia, PT Citilink Indonesia, PT Gapura Angkasa, and Garuda Indonesia Holiday France. As its leading brand, PT Garuda Indonesia Group currently operates 210 aircraft, consisting of 142 aircraft operated directly by PT Garuda Indonesia, while 68 aircraft operated by Citilink. PT Garuda Indonesia Group serves 15 international flight routes and 48 domestic routes. The fleets average age is still below five years for the total number of aircraft.

Through various company development efforts during 2020, PT Garuda Indonesia airline received awards from multiple parties, one of them is getting the "*Five Star On Time Performance Rating 2020*". Then get "*The Best Airline in Indonesia*" for four years (2017-2020), furthermore, received "*Major Airlines-Traveler's Choice Major Airline Asia*" for three years (2018-2020), and named as one of the airlines that implements the best health protocols in the world, awarded by the "*Safe Travels Barometer*". As a government-owned airline, PT Garuda Indonesia also contributed to the vaccine distribution program during the COVID-19 pandemic in Indonesia. This is part of PT Garuda Indonesia ongoing support for accelerating the national vaccination program.

4.2 Summary of Financial Performance

Tables 3 and 4 summarize PT Garuda Indonesia financial performance over six years based on financial ratio indicators using measures of liquidity (current ratio), leverage (debt-equity and debt to total assets ratio), and profitability (return on total assets and return on equity ratio).

Based on financial ratios in Table 3 and financial data in Table 4, explains that financial performance of PT Garuda Indonesia in terms of liquidity over the past five years has experienced a downward trend. As measured using the current ratio, the decline in liquidity indicates that the company is currently experiencing financial liquidity difficulties meeting short-term operational needs. The value of working capital also evidences this for the past five years at PT Garuda Indonesia, which is hostile (current assets<current liabilities). Therefore, we can conclude that financial performance in terms of liquidity over the past six years at PT Garuda Indonesia has experienced a downward trend. Based on Rizal (2017) research on PT Garuda Indonesia using financial ratios for five years (2011–2015), the authors concluded that financial performance, as seen from the ratios of liquidity, solvency, and profitability, is not good. These results are reinforced by research by Rahmawati & Herlambang (2018); Vo et al. (2019); Nyale (2020), and Li et al. (2021), which state that liquidity, leverage, and profitability indicators significantly influence financial distress.

Table 3: Summary of Financial Ratios 2016–2021

Years	Current Ratio	DER	DTA	ROA	ROE
2016	74,52	2,70	0,73	0,25	0,93
2017	51,34	3,01	0,75	(5,67)	(22,76)
2018	35,28	5,49	0,85	(4,20)	(23,97)
2019	33,39	6,65	0,87	(1,00)	(7,65)
2020	12,49	(6,55)	1,18	(22,95)	(127,46)
2021	5,79	(2,18)	1,85	(58,03)	(68,31)

Table 4: Summary of Financial Position 2016–2021 (*in thousands of dollars*)

Years	Asset	Liabilities	Equity	Profit (Loss)
2016	3.737.569	2.727.672	1.009.897	9.364
2017	3.763.292	2.825.822	937.469	(213.389)
2018	4.155.474	3.515.668	639.806	(228.889)
2019	4.455.675	3.873.097	582.578	(44.567)
2020	10.789.980	12.733.004	(1.943.024)	(2.476.688)
2021	7.192.745	13.302.805	(6.110.059)	(4.174.005)

The development of the leverage ratio over five years also tends to increase, with the debt-to-equity (DER) ratio in 2016 is 2.70 (270%), rising to 6.65 (665%) in 2019 and minus 6.55 (-655%) in 2020. This condition indicates that for five years, there has been a significant increase in debt, but on the other hand, capital has not experienced growth but has continued to decline. Similarly, the debt to total assets (DTA) ratio continues to rise, beginning at 0.73 (73%) in 2016 and rising to 1.18 (118%) in 2020. The increasing trend in the DTA ratio also indicates an increase in company debt. Overall, suppose the leverage ratio continues to increase. In that case, it suggests that PT Garuda Indonesia is experiencing short-term and long-term financial difficulties, with the highest increase in debt occurring in 2020, up 229% from the previous year. The growth happened due to the effects of the pandemic, thus causing a reduction in the number of passengers, resulting in a reduction in revenue. Meanwhile, the corporates ability to pay for various liabilities (aircraft maintenance, short term loans, rental fees, including the need for advance aircraft purchase, etc.) during 2020 is insufficient, so debt must be increased once more.

Meanwhile, PT Garuda Indonesia ability to generate profits has declined. After making a profit in 2016, the company experienced a considerable loss throughout 2020–2021, reaching $4.17 billion. The decline in financial performance before the COVID-19 pandemic was more due to global economic conditions that impacted macroeconomic conditions and business competition in the world and in Indonesia. In 2017, several natural disasters were also due to volcanic eruptions on several domestic flight routes. Losses that became the primary concern throughout 2018 were due to increase in fuel prices caused by rising world oil prices and a tendency to weaken the currency exchange rate (*rupiah*). These conditions put more pressure on the aviation industry, resulting in a significant increase in expenses. To deal with these external pressures, PT Garuda Indonesia management has prepared some strategic policies, one of which is a collaboration with PT Mahata Aero Teknologi to launch accessible in-flight connectivity facilities starting in 2019.

The most significant impact of the COVID-19 pandemic on companis is decreased demand for air transportation passengers. The decline in passenger numbers has occurred from the end of 2019, and had a significant impact on firms performance. In 2020, PT Garuda Indonesia succeeded in generating operating income of $1.49 billion, a 67.36% decrease compared to 2019 of $4.57 billion. The cause of this decline was the COVID-19 pandemic, which is felt to be significant in the second quarter of 2020 as the Indonesia governments and several other countries are implementing social distancing policies during lockdowns, resulting in a significant drop in domestic and international market shares for air transport services. Throughout 2020-2021, this problematic situation resulted in massive losses. Losses in 2021 reached $4.17 billion, a sharp increase from the previous year.

4.3 Descriptive Statistics, Altman Ratio Value, and Z-Score Value

Before calculating the Z-Score value, the financial ratios are calculated using the Altman model, which consists of four ratios (X1, X2, X3, and X4). After calculating the ratio value, descriptive statistics are calculated to see the maximum and minimum, and average and standard deviation values of the four ratio variables. The results of descriptive statistical calculations show in Table 5, while the results of Altman ratio calculations show in Table 6.

Based on descriptive statistics, the ratio of WCTA (X1) has an average value of -40.7960 (negative), as does the ratio of EBITTA (X3), which has a negative value of -12.9200. The negative average value indicates that PT Garuda Indonesia working capital and EBIT are negative. This means that companies is experiencing financial difficulties or distress regarding liquidity and profitability. This is due to low business activity as a result of the impact of the COVID-19 Pandemic, so that the company cumulatively experiences a negative capital structure (Setiawan et al., 2024). To demonstrate this more clearly, the next step is calculating the Altman financial ratios, as presented in Table 6.

According to calculation of the Altman ratio in the table above, it can be explained that PT Garuda Indonesia financial condition during 2016-2021 was complex. This condition shown from the ratio WCTA (X1), which was negative for six years. In other words, during this period, PT Garuda Indonesia was experiencing financial distress. Regarding the liquidity aspect, PT Garuda Indonesia financial capacity is insufficient to fulfil its various obligations, especially short-term ones. This results in the company having to make funding efforts in the form of additional debt. Altman suggests that companies in the distress zone should immediately restructure their assets and finances.

Table 5: Descriptive Statistics

	N	Min.	Max.	Mean	Std. Dev
X1	6	-75.99	-10.66	-40.7960	22.73119
X2	6	.06	.16	.1250	.04370
X3	6	-55.09	2.65	-12.9200	22.31141
X4	6	3.01	24.05	15.4450	9.17828
Valid N	6				

Table 6: Results of Altman Ratio Calculation

Years	X1 (WC to TA)	X2 (RE to TA)	X3 (EBIT to TA)	X4 (MVE to BVL)
2016	-10,66	0,16	2,65	24,05
2017	-24,85	0,16	-2,02	20,54
2018	-47,68	0,15	-4,79	15,21
2019	-50,77	0,14	2,15	24,04
2020	-34,88	0,66	-20,42	5,82
2021	-75,99	0,08	-55,09	3,01

4.4 Financial Distress Prediction using Altman Z-Score Model

After calculating the Altman financial ratios, the next step is estimating Z score value. The value of Z-score value is first counted using the weighted values set in the Altman model, i.e., Z=6.56X1 + 3.26X2 + 6.72X3 + 1.05X4. The value of each weight is multiplied by the value of each financial ratio. Then, the results of the multiplication of each weight and the ratio are added up. After getting the Z score deal each year, the last step is to determine whether the status is in the category; of "healthy/not bankrupt," a "grey area," or "potentially bankrupt." Table 7 presents the calculation results of Z score value for 2016-2021.

Based on Table 7, from 2016 to 2021, PT Garuda Indonesia Z-Score values are consistently negative and far below the threshold value of bankruptcy weight. Each year's Z-Score worth is less than 1.10, which means it is outside the safe zone or in the "potentially bankrupt" category. To be considered a "healthy" company according to Altman Z score, the value must be greater than 2.60. So, if we predict bankruptcy for PT Garuda Indonesia using the Altman model, based on the calculations and results presented, PT Garuda Indonesia is in financial distress and potentially bankrupt. This conclusion answers Munir et al. (2011) research question: *"among the internal problems and external challenges faced by Garuda Indonesia, how do they overcome them? Can Garuda Indonesia keep flying high and confidently assert to be the best?"*. So, based on the results of this research, so PT Garuda Indonesia situation in the 2016-2021 period is in a 'not good' condition due to financial problems and according to Z-score test. It has the potential to experience bankruptcy.

Altman Z-score model is only a prediction and does not necessarily guarantee 100% accuracy (Altman et al., 2014). However, the Altman score calculation results for six years can provide a mapping for companies (Kurniawansyah & Agustia, 2021) to focus more on improving their financial performance with various strategies. Based on the Altman formula, which focuses on the financial performance aspect, it is known that the company's condition for six years has not been good, as seen from the level of liquidity and profitability. During this period, the companies performance in generating profits was still deficient, which impacted liquidity. This conclusion

corrects the results of Daryanto (2018), which states that PT Garuda Indonesia financial health assessment in 2011-2017 has reached a healthy financial condition level.

In line with Endiana & Suryandari (2021), that business survival is usually associated with the companies ability to increase profitability. The larger the firm size, the more significant owned assets, which are used to generate income, so that the opportunity to get profits increases. This is a separate note for management and shareholders to focus attention on the company's survival, especially making efforts to restructure finances again. The option of state equity participation is also still the last choice to save the companies. As the majority shareholder, the government of Indonesia must be able to get PT Garuda Indonesia out of this challenging situation.

Table 7: Results of Altman Z-Score Calculation

Years	Z-Score Value	Conclusion
2016	-26,35	Distress
2017	-154,53	Distress
2018	-329,24	Distress
2019	-292,90	Distress
2020	-359,41	Distress
2021	-865,22	Distress

Impact of the COVID-19 pandemic throughout 2020-2021 has also pushed PT Garuda Indonesia into a financial difficulties situation. The results of this study inline with Armadani, Fisabil & Salsabila (2021), which shows that out of 25 tourism companies in the hospitality services sub-sector in Indonesia in the first and second quarters of 2020 experienced increasing financial distress. The results of the prediction of company bankruptcy show an increase in three companies high-risk category of bankruptcy only in the per-quarter period during the COVID-19 pandemic. Study by Retnoningsih & Naufa (2021) also found that the COVID-19 pandemic has harmed stock prices in various indices and sectors in the Indonesian capital market.

5 Conclusions and Suggestions

Financial performance of PT Garuda Indonesia experienced deep pressure in 2016-2021. Based on Altman’s Z-score calculation results, PT Garuda Indonesia is prone to financial distress. In addition, the COVID-19 pandemic throughout 2020-2021 also provide impact on decline in passenger numbers and impacted the companies operational continuity, thus further exacerbating the financial condition.

Results of this study provide an overview or information for early detection of PT Garuda Indonesia experiencing financial distress using Altman Z-Score model. The mapping can be used as a basis for company management to make improvements, such as improving governance and increasing sales and operating profits. In addition, this mapping is the basis for the government to monitor SOEs detected as experiencing financial problems. The Ministry of SOEs as the main shareholder, should give full attention and support to PT Garuda Indonesia from the potential future bankruptcy threat. This research is limited to predictions using the financial ratio model and calculating Altman Z-score. Further research can using other approaches or methods to provide different alternative perspectives.

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