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THE FINANCIAL DISTRESS ANALYSIS:

PT. ASURANSI JIWASRAYA (PERSERO) CASE

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ABSTRACT---*This study aims to analyze the financial distress of PT. Asuransi Jiwasraya (Persero). The population in this study the financial statements of PT. Asuransi Jiwasraya (Persero). The sampling technique uses purposive sampling, obtained financial statements in 2010 - 2017 which are currently becoming public attention. The data analysis method uses the Altman Z-Score III model. The analysis shows that companies tend to experience financial distress.*

Keywords---*Financial Distress, Altman Z-Score*

I. INTRODUCTION

According to Law No. 40 of 2014, insurance is an agreement between an insurance company and a policyholder that is the basis for receiving premiums by the company to provide compensation to policyholders due to loss, damage or legal liability to third parties that may be suffered by policyholders due to an uncertain event; or provide payments based on the death of the policyholder with benefits the amount has been determined and/or based on the results of the management of funds by the company.

Indonesian people's awareness of the importance of insurance is still low (Louwerier, 2019 https://www.dw.com/id). However, the insurance industry, particularly life insurance, has experienced growth, as can be seen in table 1.

Table 1: Insurance Company Growth

2014 – 2018

No.	Description	2014	2015	2016	2017	2018
1.	Life Insurance					
	a. Swasta Nasional/National Private	31	33	31	37	37
	b. Joint Venture	19	22	24	24	23
2.	Non-Life Insurance					
	a. National Private	64	64	58	55	56
	b. Joint Venture	17	16	22	24	23
3.	Reinsurance					
	a. National Private	5	6	6	7	7
	b. Joint Venture	0	0	0	0	0
4.	Agencies Administering of Social Insurance	2	2	2	2	2
5.	Companies Administering of Mandatory Insurance	3	3	3	3	3
6.	Insurance Brokers	157	166	169	169	166

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7.	Reinsurance Brokers	31	37	40	43	43
8.	Loss Adjusters	26	28	28	27	27
Total		**355**	**377**	**383**	**391**	**387**

Source: Financial Services Authority (OJK) 2019

The gross premium of the insurance industry in 2018 will reach Rp. 433.4 trillion, an increase of 6.3% from the previous year which is Rp. 407.7 trillion. In the past five years, the average gross premium growth has been around 17.6% (using the Compounded Annual Growth Rate / CAGR) (OJK, 2019: 16)

If the gross premium is compared with the population of Indonesia in 2018, which is 265.02 million people, an average of Rp. 1,635,266. This shows that on average each Indonesian resident spends Rp. 1,635,266, - to pay insurance premiums. Meanwhile, the contribution of the insurance sector to Gross Domestic Product (GDP) as indicated by the ratio between gross premiums to GDP decreased by 0.08% from 3.00% in 2017 to 2.92% in 2018 (OJK, 2019: 16).

The insurance business is a business of trust, so insurance products must be sold with the right strategy. This is related to public trust in the ability of insurance companies to fulfill their promises for future claims. Therefore capital, reputation, product and service quality factors, management competencies, internal and external supervision, technology, and human resources play a very large role (Ganie, 2020).

Lately, the insurance industry in Indonesia is being discussed, especially related to the case of PT. Asuransi Jiwasraya (Persero) which cannot fulfill its obligations to policyholders. This is due to the problematic JS Saving Plan products. Quoting Sinaga (2019), this product was initially quite attractive to bank customers (depositors) because it promised higher yields compared to deposit interest. Through the bancassurance distribution channel, the bank will get a commission (fee-based income) from closing the insurance policy and improve the loan to deposit ratio (LDR) of the bank. In the initial period of coverage, the product was fine. However, in the first quarter of 2018, JS decided to reduce the promised yields and then stop selling in the second semester of 2018.

Managing Director of PT. Asuransi Jiwasraya (Persero), Hexana Tri Sasongko, said that they were unable to meet the customer's policy payment obligations of Rp. 12.4 trillion as of December 2019 (Kompas, 2020). According to the authors, this shows that PT. Asuransi Jiwasraya (Persero) experienced financial distress. Based on this phenomenon the authors are interested in analyzing the financial distress of PT. Asuransi Jiwasraya (Persero) in 2010 - 2017.

II. PROBLEM STATEMENT

Identification of the problem in this research is how the financial distress prediction of PT. Asuransi Jiwasraya (Persero) using the Altman model for 2010 - 2017.

III. LITERATURE REVIEW

Financial Statement

According to PSAK 1 (IAI, 2018), financial statements are a structured presentation of the financial position and financial performance of an entity. The purpose of financial statements is to provide information about the financial position, financial performance, and cash flow of the entity that is beneficial for most users of financial statements in making economic decisions. The financial statements also show the results of management's responsibility for the use of resources entrusted to them. To achieve these objectives, the financial statements present information about the entity which includes: a) assets; b) liabilities; c) equity; d) income and expenses, including profits and losses; e) contributions

from and distribution to owners in their capacity as owners; and f) cash flow. This information, along with other information contained in the notes to the financial statements, helps users of the financial statements predict the future cash flows of the entity and, in particular, in terms of the time and certainty to obtain future cash flows.

As a basis for decision making, financial statements need to be analyzed. Financial analysis is the use of financial statements to analyze the position and financial performance of companies and to assess financial performance in the future (Subramanyam, 2017: 14).

The financial analysis consists of three main areas; profitability analysis, risk analysis, and analysis of sources and uses of funds. Profitability analysis is an evaluation of the returns on a company's investment. Risk analysis is an evaluation of a company's ability to fulfill its commitments. Cash flow analysis is an evaluation of how companies obtain and use their funds (Subramanyam, 2017: 14).

Corporate Financial Distress

Altman (1993) in Agostini (2018: 9) links companies with financial difficulties to failed business companies and defines four general terms that can be used to describe this, namely: failure, insolvency, bankruptcy, and default. Based on an analysis carried out comprehensively by Outecheva (2007: 14) financial distress can be defined into three categories:

a. Event-oriented definitions of financial distress,
b. Process-oriented definitions of financial distress, and
c. Technical definitions of financial distress

According to Andrade and Kaplan (1998) in Pozzoli and Paolone (2017: 15), the definition of event-oriented explains financial distress is the company's inability to fulfill its obligations. Purnanandam (2005) in Pozzoli and Paolone (2017: 15) defines financial distress as process-oriented because it represents the phase between being able to pay its obligations (financial health) and potential bankruptcy (financial illness). That is, companies must react because if not, it will lead to bankruptcy. The technical definition is more quantitative by adopting financial indicators related to a significant liquidity emergency (Fedele and Antonucci, 2015 in Pozzoli and Paolone, 2017 ; Saudi, 2018).

Umflat (2018: 9) summarizes the definition of financial distress, as in table 2 below.

Table 2: Summary of Definition of Financial Distress

No.	***Name***	***Description***	***Possible Research to be Conducted***
1.	*Entry into the financial distress*	*When the firm's EBITDA of the year is less than the expected interest expense of the same year*	*Value destruction*
2.	*Debt restructuring*	*The first year when the company renegotiates its debt before bankruptcy*	*Value destruction*
3.	*Bankruptcy*	*When a business goes bankrupt*	*The measure of the impact of the buyout event on bankruptcy probabilities*

Various studies have been conducted to examine the benefits of financial ratio analysis. Edward I Altman was an early researcher who examined the benefits of financial ratio analysis to predict company bankruptcy. Altman's research results are in the form of a formula called the Z-Score. This formula is a ratio model that uses Multiple Discriminate Analysis

(MDA). By using MDA, the final discriminant function is used to predict the bankruptcy of a company based on the financial ratios used as its variables.

The Z-Score analysis is used to predict the survival of a company by combining several financial ratios by giving different weights to each other. That is, the Z-Score method can predict the possibility of bankruptcy of a company. The Z-Score analysis was first put forward by Edward I Altman in 1968 using a combination of 5 ratios to see companies that went bankrupt and did not go bankrupt.

Altman conducted several studies with different company conditions. The research resulted in a different formula according to company conditions. This model emphasizes profitability as the most influential component of bankruptcy. Altman's first research in 1968 was on manufacturing companies in the United States that sold their shares on the exchange.

a. The ratio of Working Capital to Total Assets (X1), measures liquidity by comparing net working capital with total assets. Net working capital is the difference between total current assets and total current liabilities. If the company experiences financial difficulties, working capital will fall faster than total assets, causing this ratio to fall.

b. The ratio of Retained Earnings to Total Assets (X_2), used to determine the company's ability to generate profits. This can be seen from the company's ability to earn profits compared to the speed of rotation of operating assets as a measure of business efficiency. In other words, this ratio measures the accumulation of profits while the company is operating. The age of the company affects the ratio, the longer the company operates can increase the accumulated retained earnings. So companies that are still young will show lower ratio results.

Some of the benefits of a profitability ratio to find out:

- The number of profits earned by the company in one period
- Previous and current year's corporate profits
- Profit development over time
- The amount of net profit after tax with own capital
- The productivity of all company funds used for both loan capital and own capital

c. The ratio of *Earnings Before Interest and Tax (EBIT)* to Total Assets (X_3) measures the importance of achieving corporate profits, especially in the context of meeting investors' interest obligations. The ability to survive is very dependent on earning assets. Therefore, this ratio is very suitable to be used in analyzing bankruptcy risk.

d. The ratio of Market Value of Equity to Total Liabilities (X_4), is the opposite of Debt to Equity Ratio (DER). Own capital value is the number of company shares multiplied by the market price of shares per share. Generally, companies that fail, accumulate more debt than their capital.

e. The ratio of Sales to Total Assets (X_5), measuring management's ability to use assets to generate sales to maintain its survival.

Based on the Z-Score calculation, the condition of the company's survival can be assessed, as follows:

$Z > 2,99$ = safe zone

$1,81 < Z < 2,99$ = grey zone

$Z < 1,81$ = distress zone

The Altman model has several limitations in its application, including:

- This model is only for manufacturing companies that go public. While other types of companies have a different relationship between total working capital with other variables used in ratio analysis.
- Altman's research from 1946 to 1965 was certainly different from the current conditions, so the proportion of each variable was no longer suitable for use.

Weaknesses in the first formula spurred Altman to do research back in 1984. This study uses various manufacturing companies that do not go public. Therefore, this second formula is more appropriate for manufacturing companies that do not go public.

The second Z-Score formula for manufacturing companies that do not go public is as follows:

$$\boldsymbol{Z = 0{,}717X_1 + 0{,}847X_2 + 3{,}107X_3 + 0{,}420X_4 + 0{,}998X_5}$$

Based on the Z-Score calculation, the condition of the company's survival can be assessed, as follows:

Z > 2,9 = safe zone

1,23 < Z < 2,9 = grey zone

Z < 1,23 = distress zone

Altman returned to research in Mexico (developing countries) with the hope that the Z-Score formula could be applied to companies going public and non-going public. In this third model, the ratio of Sales to Total Assets is eliminated. The latest Z-Score formula is a flexible formula because it can be used for various types of businesses, both going public and not, and suitable for use in developing countries.

The third Z-Score formula for various types of companies, as follows:

$$\boldsymbol{Z = 6{,}56X_1 + 3{,}26X_2 + 6{,}72X_3 + 1{,}05X_4}$$

Based on the Z-Score calculation, the condition of the company's survival can be assessed, as follows:

Z > 2,6 = safe zone

1,1 < Z < 2,6 = grey zone

Z < 1,1 = distress zone

A safe zone means the company is in good condition. Gray zone means that the company is vulnerable. In this condition, the company starts experiencing productivity and efficiency problems that have an impact on financial problems and must be dealt with appropriately and immediately. While the danger zone means companies increasingly have a low Z-Score, entering the area that is very dangerous and near bankruptcy.

By knowing the Z-Score of a company, it can be seen whether the company's condition is experiencing a serious problem, or is facing danger, or is still safe. With this Z-Score analysis, management can predict the company's prospects in the future in maintaining its survival. The greater the Z-Score, the greater the guarantee of the company's survival and the reduced risk of failure.

Theoretical framework

The use of the Altman model to estimate the financial distress of sample companies must be interpreted with caution. The ability of models to accurately classify firms as financially distressed tends to be very different from those assumed by those who use the model (Grice and Ingram, 2001). Jiming and Weiwei (2011), combine financial and non-financial data in predicting financial distress. The results show that the combination of financial and non-financial data is better at predicting financial distress than just financial data.

Thomas Ng, Wong, and Zhang (2011) used the financial ratio and Altman Z-Score modeling methodology, a bankruptcy warning model developed to evaluate the performance of construction contractors in China. The model derived from this study can predict consistently based on data for three years. Salloum, Azzi, and Gebrayel (2014) researched banks, with financial distress results having a significant negative correlation with the frequency of audit committee meetings.

However, the frequency of meetings of audit committee members is an important factor that can help audit committee members in preventing financial distress.

Smaranda (2014) conducted a study of bankruptcy prediction models in times of financial crisis using the Altman or Taffler model and also a logic regression model at the end of 2009, showing that the results are in line with the literature wherein the context of the financial crisis, the classical model must be re-estimated and financial ratios reconsidered. While Wan Mohd Razali and Arshad (2014) tested the effectiveness of corporate governance structures to reduce the possibility of fraud in financial statements (based on the Beneish M-Score Integrity Model and the Altman Z-Score model). An effective corporate governance structure can increase the credibility of financial statements. Kristanti, Rahayu, and Huda (2015) use logic regression, where the application of corporate governance can improve company performance so that it can avoid financial distress.

The results of Sayari and Mugan (2016) research indicate that a financial distress model is needed specifically for the industry because there are different impacts according to the characteristics of the industry. Gangi et al. (2018) see in terms of the involvement of Corporate Social Responsibility (CSR) and corporate governance mechanisms. *CSR and corporate governance have a significant negative effect on the risk of corporate financial difficulties as measured by the Altman model.* While Izquierdo et al. (2020) combine accounting and auditing data in predicting financial distress. The results show that the accuracy of financial distress prediction by combining accounting and auditing data is more accurate than just accounting data.

IV. RESEARCH METHOD

This study uses secondary data, namely PT. Asuransi Jiwasraya (Persero) for the period 2010-2017. The population in this study is the financial statements of PT. Asuransi Jiwasraya (Persero). The sampling method uses non-probability sampling (purposive sampling) with PT. Asuransi Jiwasraya (Persero) which became the public's attention in the period 2010 - 2017.

The object of research is financial distress measured using the Altman third model, with the formula:

$$\boldsymbol{Z = 6{,}56X_1 + 3{,}26X_2 + 6{,}72X_3 + 1{,}05X_4}$$

Note:

$$X_1 = \frac{Working\ Capital}{Total\ Assets}$$

$$X_2 = \frac{Retained\ Earnings}{Total\ Assets}$$

$$X_3 = \frac{Earnings\ Before\ Interest\ and\ Tax}{Total\ Assets}$$

$$X_4 = \frac{Market\ Value\ of\ Equity}{Total\ Liabilities}$$

Financial distress indicators use valuation standards:

Z > 2,6 = safe zone

1,1 < Z < 2,6 = grey zone

Z < 1,1 = distress zone

V. RESULTS AND DISCUSSION

Result

The third Z-score is calculated using four financial ratios. The following are the results of calculating these ratios.

The trend of the ratio of working capital to total assets (X1) can be seen in Figure 1.

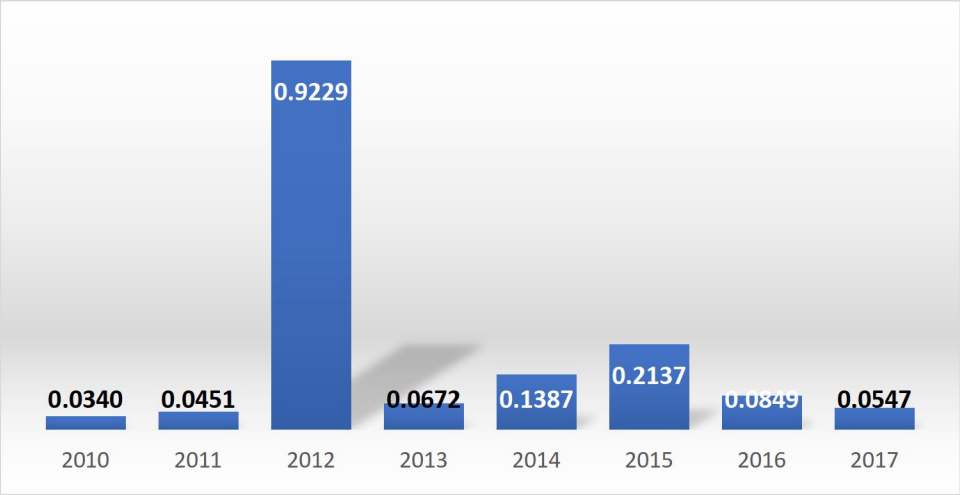

Figure 1: The ratio of Working Capital to Total Assets

2010 - 2017

Souce: PT. Asuransi Jiwasraya (Persero) Financial Statement

The ratio of working capital to total assets fluctuated from 2010 to 2017. The ratio of working capital to total assets was highest in 2012 (92.29%) while the lowest in 2010 (3.40%).

The trend of the ratio of retained earnings to total assets (X2) can be seen in Figure 2.

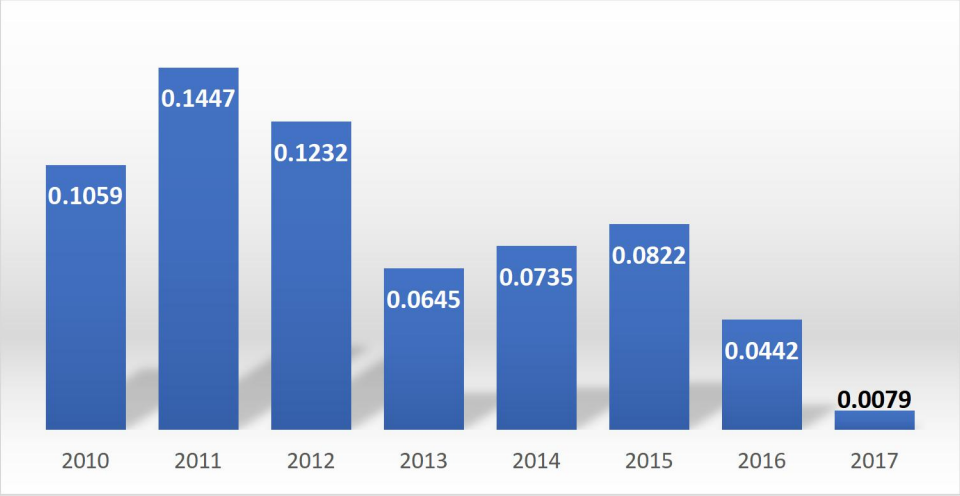

Figure 2: The ratio of Retained Earnings to Total Assets

2010 - 2017

Souce: PT. Asuransi Jiwasraya (Persero) Financial Statement

The ratio of retained earnings to total assets fluctuated from 2010 to 2017. The ratio of retained earnings to total assets was the highest in 2011 (14.47%) while the lowest was in 2017 (0.79%).

The trend of earnings before interest and tax (EBIT) to total assets (X3) can be seen in Figure 3.

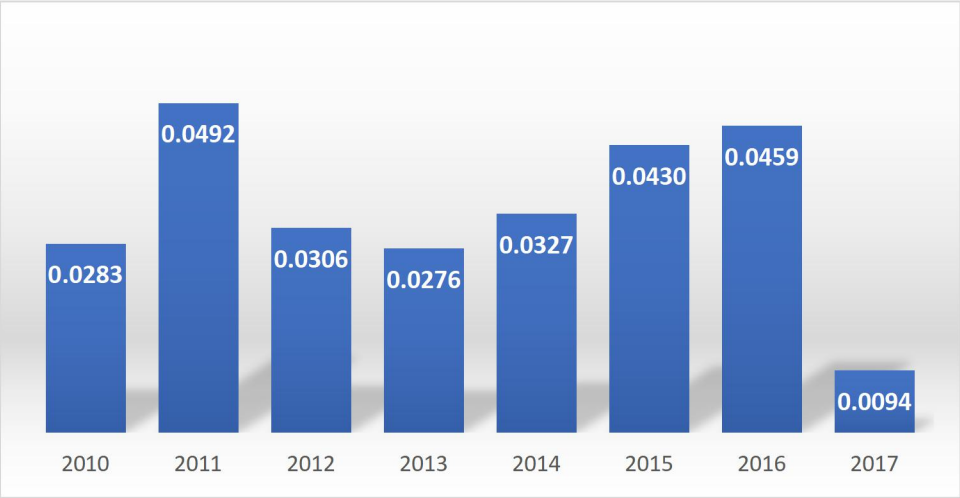

Figure 3: The ratio of EBIT to Total Assets

2010 - 2017

Souce: PT. Asuransi Jiwasraya (Persero) Financial Statement

The EBIT ratio to total assets fluctuated from 2010 to 2017. The EBIT ratio to total assets was the highest in 2011 (4.92%) while the lowest was in 2017 (0.94%).

The trend of the market value of equity to total liabilities (X4) can be seen in Figure 4.

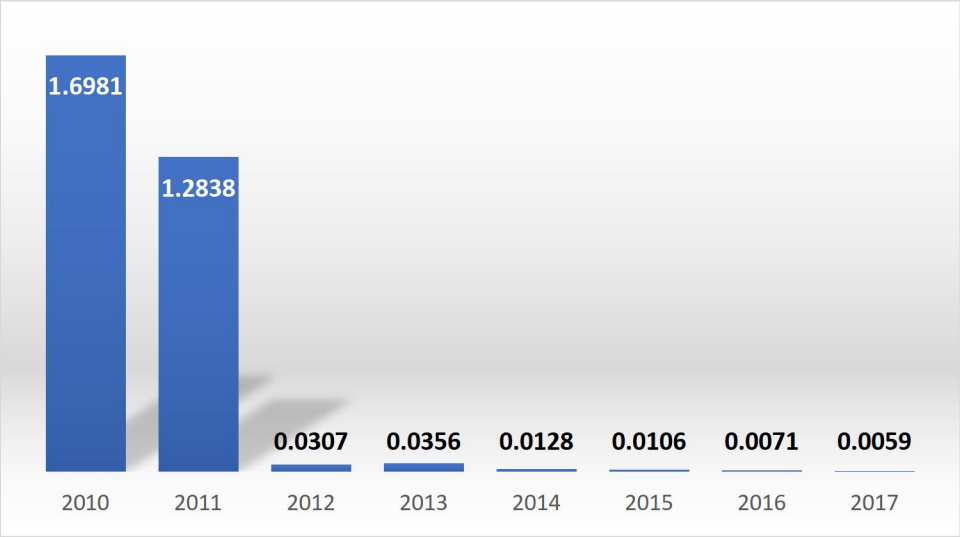

Figure 4: The ratio of Market Value of Equity to Total Liabilities

2010 - 2017

Souce: PT. Asuransi Jiwasraya (Persero) Financial Statement

The ratio of stock market value to total debt decreased from 2010 to 2017. The ratio of stock market value to total debt was the highest in 2010 (169.81%) while the lowest in 2017 (0.59%).

Then the Z-Score values from 2010 to 2017 are calculated:

$$Z_{2010} = 6{,}56(0{,}0340) + 3{,}26(0{,}1059) + 6{,}72(0{,}0283) + 1{,}05(1{,}6981) = \mathbf{2{,}5414}$$

$$Z_{2011} = 6{,}56(0{,}0451) + 3{,}26(0{,}1447) + 6{,}72(0{,}0492) + 1{,}05(1{,}2838) = \mathbf{2{,}4464}$$

$$Z_{2012} = 6{,}56(0{,}9229) + 3{,}26(0{,}1232) + 6{,}72(0{,}0306) + 1{,}05(0{,}0307) = \mathbf{6{,}6939}$$
$$Z_{2013} = 6{,}56(0{,}0672) + 3{,}26(0{,}0645) + 6{,}72(0{,}0276) + 1{,}05(0{,}0356) = \mathbf{0{,}8741}$$
$$Z_{2014} = 6{,}56(0{,}1387) + 3{,}26(0{,}0735) + 6{,}72(0{,}0327) + 1{,}05(0{,}0128) = \mathbf{1{,}3828}$$
$$Z_{2015} = 6{,}56(0{,}2137) + 3{,}26(0{,}0822) + 6{,}72(0{,}0430) + 1{,}05(0{,}0106) = \mathbf{1{,}9699}$$
$$Z_{2016} = 6{,}56(0{,}0849) + 3{,}26(0{,}0442) + 6{,}72(0{,}0459) + 1{,}05(0{,}0071) = \mathbf{1{,}0170}$$
$$Z_{2017} = 6{,}56(0{,}0547) + 3{,}26(0{,}0079) + 6{,}72(0{,}0094) + 1{,}05(0{,}0059) = \mathbf{0{,}4537}$$

The Z-Score trend can be seen in Figure 5.

Figure 5: *Z-Score* 2010 - 2017

Souce: PT. Asuransi Jiwasraya (Persero) Financial Statement

The company's financial distress as indicated by the Z-Score has fluctuated from 2010 to 2017. Based on assessment standards in 2010, 2011, 2014 and 2015 companies in the gray zone. In 2012 the company was in the safe zone, while in 2013, 2016, and 2017 the company was in the danger zone (distress).

VI. Discussion

The ratio of working capital to total assets (X1) shows the company's ability to generate net working capital from the total assets it has. Net working capital is obtained from current assets less current liabilities. The ratio of working capital to total assets is negative or getting smaller indicates that the company is likely to face problems in covering its short-term obligations due to the unavailability of sufficient current assets to launch operational activities, conversely, companies with the ratio of working capital to total assets are positive or increasingly big rarely face difficulties in paying off obligations. With sufficient working capital, it is expected that the company's operational activities will be smooth so that the income earned will increase can have an impact on increasing profits earned.

Based on empirical data, the ratio of working capital to total assets (X1) in 2010, 2011, 2013, 2014, 2016, and 2017 has a low value, indicating that the company is in a troubled condition to cover its short-term obligations. The ratio of working capital to total assets (X1) in 2012, 2014 and 2015 has a high value, indicating that the company has no difficulty in covering its short-term liabilities.

The ratio of retained earnings to total assets (X2) shows the company's ability to generate retained earnings from the company's total assets. Retained earnings are profits that are not distributed to shareholders. The greater the retained earnings, the greater the equity capital. Retained earnings represent company profits that are not distributed in the form of dividends to shareholders. The ratio of retained earnings to total assets (X2) is negative or getting lower indicates that the company cannot generate retained earnings from all assets owned and no profit is distributed to shareholders or to pay obligations. Conversely, the ratio of retained earnings to total assets (X2) is positive or higher shows the ability of the

company to produce retained earnings of total assets owned, where the profit can be used to pay dividends and corporate obligations.

Based on empirical data, the ratio of retained earnings to total assets (X2) in 2013, 2014, 2016 and 2017 has a low value, indicating that the company has a low ability to distribute dividends to shareholders and pay their obligations. The ratio of retained earnings to total assets (X2) in 2010, 2011 and 2012 has a high value, indicating that the company can distribute dividends to shareholders and pay their obligations.

The EBIT ratio to total assets (X3) shows the company's ability to generate profits before paying interest and taxes from company assets. *EBIT is also called operating profit which is an indicator of company profitability.* The negative EBIT ratio to total assets (X3) shows that the company is unable to generate operating profit from the total assets owned. The positive EBIT ratio to total assets (X3) shows that the company can generate operating profit from the company's total assets.

Based on empirical data, the EBIT ratio to total assets (X3) in 2010, 2012, 2013, 2014, and 2017 has a low value. This shows the company's ability to generate operating profit from the total assets it has is low. The EBIT ratio to total assets (X3) in 2011, 2015 and 2016 has a high value, which shows that the company can generate operating profit from its total assets.

The ratio of the market value of equity to total liabilities (X4) shows the ability of a company to fulfill its liabilities from its capital market value (common stock). The market value of equity is obtained by multiplying the number of shares of common stock outstanding by the market price per common share. The total liabilities are obtained by adding up current liabilities to long-term liabilities. The ratio of the market value of equity to total liabilities (X4) is negative or getting lower indicates that the company cannot pay off its liabilities with a low market value. The ratio of the market value of equity to total liabilities (X4) is positive or higher indicates that the company can pay off liabilities with a high market value.

Based on empirical data, the ratio of the market value of equity to total liabilities (X4) in 2012, 2013, 2014, 2015, 2016, and 2017 has a low value, indicating that the company is unable to repay its liabilities from the low market value. The ratio of the market value of equity to total liabilities (X4) in 2010 and 2011 has a high value, which shows that the company has paid off its liabilities from high market value.

The company's financial distress as indicated by the Z-Score has fluctuated from 2010 to 2017. Based on the assessment standards in 2010, 2011, 2014 and 2015, the company is in the gray zone, meaning that the company is in a vulnerable condition to experience financial distress which must immediately get treatment from management. If management can handle it well, it will avoid financial distress. Conversely, if it cannot handle it properly, it will experience financial distress.

In 2012 the company is in a safe zone, while in 2013, 2016, and 2017 the company is in a danger zone, meaning that the company is predicted to experience financial distress. This was proven in 2019 PT. Asuransi Jiwasraya (Persero) cannot fulfill its obligations to insurance policyholders.

VII. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results and discussion of observations from 2010 to 2017, it can be concluded:

1. The ratio of working capital to total assets (X1) is generally of low value, this indicates that the company has a problem in meeting its short-term obligations.
2. The ratio of retained earnings to total assets (X2) is generally low value, this shows the company has a low ability to distribute dividends to shareholders and pay their obligations.

3. The EBIT ratio to total assets (X3) is generally of low value, this shows the company's ability to generate operating profit from the total assets it has is low.
4. The ratio of the market value of equity to total liabilities (X4) is generally of low value, this shows the company is unable to pay off its obligations from the low market value.
5. Z-Score shows that companies tend to experience financial distress.

Recommendations

Suggestions that can be delivered in the form of management's prudent attitude in investing which are supported by good governance and effective functioning of the board of commissioners to monitor and provide direction to directors.

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