FINANCIAL RISK ANALYSIS OF BANK BNI PERSERO (TBK) USING ALTMAN Z SCORE

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Abstract.

Financial health measurement is very important to be carried out, including PT Bank BNI Persero Tbk as a banking institution. One of the indicators of financial health is the measurement of the level of financial riskThe purpose of this research is to analysis the financial performance of PT. Bank BNI (persero) Tbk in 2017-2021, by using Altman z"-score method to see the financial risk possibility of the PT. Bank BNI itself. Data type used is the secondary data from annual report published. Based on the results of the analysis carried out on PT. Bank BNI (persero) Tbk data. From 2017 to 2021 using the modified z-score method, the z-score value obtained for 5 consecutive years is 9.595 for 2017, 8.331 for 2018, 8.744 for 2019, 8.111 for 2020, and 11.259 for 2021. It can be concluded that PT Bank

Keywords: *Altman Z Score, Financial Risk*

Introduction

In the current globalization era business competition is getting tighter. This competition demands the businesspeople to be able maximize company performance to be able to competition with another company. The company must be working really hard to make to make it to a new level and need to know and understand what the consumer wants. By knowing what the customer wants the company would be able to know how to move and what do the company need to do in the future. According to the law of Republic of Indonesia Number 10 of 1998 concerning banking, bank is entity that collects funds from the public in the form of deposits and distribute it to the community in the form of credit and other form in order to improve the people's standard of living.

Bank negara Indonesia (BNI) is one of the oldest bank in the history of Indonesia . this bank was founded in 5 July, 1946. The bank BNI has been able to be the income to Indonesia form it was founded until now, Superiority bank BNI compared to other banks has good service, the products offered are reliable, a bank that complies with regulations government, the application of standard interest rates, credit services and services the available money storage is very good and has many branch offices.

Bank Negara Indonesia or BNI (IDX: BBNI) is a state-owned bank institution, in this case a state-owned company, in Indonesia. In its organizational management structure, Bank Negara Indonesia (BNI), is led by a President Director currently held by Royke Tumilaar. Bank Negara Indonesia (BNI) is the oldest commercial bank in the history of the Republic of Indonesia. The bank was founded on July 5, 1946. Currently, BNI has 2,262 branch offices in Indonesia and 8 overseas. BNI also has a sharia banking unit, but since 2010 it has separated itself as BNI Syariah (now merged into Bank Syariah Indonesia).

Financial health measurement is very important to be carried out, including PT Bank BNI Persero Tbk as one of a state-owned banking institution. One of the indicators of financial health is the measurement of the level of financial risk. The purpose of this research is to analysis the financial performance of PT. Bank BNI (Persero) Tbk in 2017-2021, by using Altman z"-score method to see the financial risk possibility of the PT. Bank BNI itself. Data type used is the secondary data from annual report published

Body of paper

Altman Z-Score is one method to determine the level of financial health of a company that can be used to assess the success or failure of company management. That is a ratio model used to predict corporate bankruptcy (financial distress) and measure the financial health of a company. The Altman Z-Score model is developing over time, therefore the measurement of the use of this model is not fixed. Its use is not only devoted to manufacturing companies, but also to non-manufacturing companies, by looking at the company's condition at a macro level. Thus, the test can include an extended model of its application. In this analysis, the last modified Altman 1998 model will be used, where its application can be used for all types of companies in developing and developed countries. This model uses 4 ratios that have been

modified from 5 ratios in the previous model.

Analysis financial ratios or financial statement analysis is a form of analysis to measure organizational performance based on data compared in writing in the financial statements on certain period. There is several types of analysis ratio, including:

1. Liquidity Ratio, this ratio is useful for measuring ability company to pay off its financial obligations that are soon due. Ratio Liquidity is divided into several types, including n: current ratio, quick ratio, and cash ratio.

2. Ratio Profitability or Profitability, the ratio used to measure how much the level of profit earned by the company. Profitability ratio consists of: Gross profit margin, net profit margin, return on assets, return on equity, and opera heart income ratio, earnings per share

3. Solvency Ratio or Leverage Ratio, the ratio shows how much the company's funding needs are spent with debt. This ratio consists of: Debt Ratio, Debt to Equity Ratio, Coverage Ratio, Fixed Charge Coverage Ratio, Debt Service Ratio.

4. Activity Ratio, the ratio used for measure how much the company's effectiveness in utilizing resources the funds. This ratio consists of: Tour inventory nove, receivable turnover, fixed asset turnover, to total asset turnover, average collection turnover, working capital turnover.

Altman Z-Score modified model with 4 (four) ratios are:

$$Z\text{-Score} = 6.5X1 + 3.26X2 + 6.72X3 + 1.05X4 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

where:

Z-Score	: bankruptcy index
X1	: the ratio of working capital to total assets
X2	: the ratio of retained earnings to total assets
X3	: comparison between EBIT to total assets
X4	: the ratio of the book value of equity to the total book value of debt

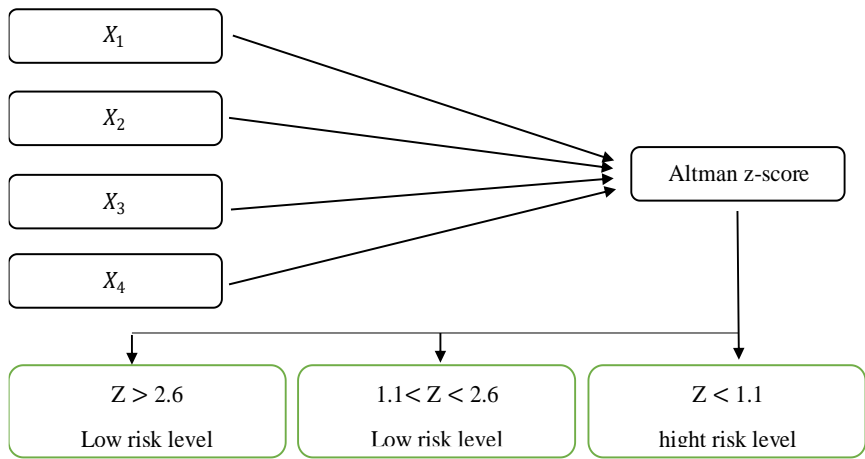The model is outlined in a theoretical framework that can be seen In the picture below

Figure 1. *Research Model*

From Figure 1 above, it can be explained that the Z-Score value is determined by 4 (four) variables (X1, X2, X3, X4), where the resulting Z-Score has 3 (three) risk interpretation classifications. Z-Score Score > interpret non-bankrupt companies. The value of $1.1 <$ Z-Score < 2.6 means that the company is in a gray area, that is, it cannot be determined whether the company is healthy or bankrupt. In this position, special attention is needed to prevent bankruptcy. If the handling is done incorrectly and too late, the company can go bankrupt. The value of Z-Score <1.1 interprets that there has been financial distress in the company.

In assessing the level of financial risk required financial statement data consisting of a financial balance sheet and income statement. After each data was obtained, then it was analyzed using the Z-Score method. The Z-Score model allows the company to determine the level of risk it has, whether it is in an area with a low risk level, in an area with a vulnerable position (grey area) or in an area with a high level of risk. The data used is quantitative data (numerical scale)

in the form of secondary data (data from PT BANK BNI in published reports). Data obtained from:

1. Financial balance sheet, which consists of current assets, total assets, current liabilities, total debt, retained earnings and total equity
2. Income statement, which consists of operating profit

By using the financial report data of PT. Bank BNI, which has been published and fully audited, can predict things related to the risk of company bankruptcy. Financial ratios are calculated to measure the level of financial health of the company using Z-Score analysis. The results of the calculation of the ratio of PT. Bank BNI based on the financial statements from 2017-2021 are as follows.

Table 1. *Accounts and data of PT Bank BNI Persero (Tbk)*
2017 to 2021

(in billions of rupiah)

Variable	Item	Formula	2021	2020	2019	2018	2017	Ket:
X1 = 6,56	Current asset	a	286868	220494	196236	188888	121062	X1 measures the proportion of working capital to total assets and liquidity
	Current liabilities	b	9033	9577	4417	1048	3816	
	Working capital (nett)	c = (a-b)	277835	210917	191819	187840	117246	
	Total asset	d	964838	822275	845605	808572	709330	
	WC / TA	e = (c/d)	0.287960259	0.256504211	0.22684232	0.23231079	0.16529119	
	Point	f = e X1	0.287960259	0.256504211	0.22684232	0.23231079	0.16529119	
X2 = 3,26	Retained earning	g	78250	69523	71407	60313	50798	X2 measures profitability historically so what is taken is retained earnings
	Total asset	d	964838	822275	845605	808572	709330	
	RE / TA	h = (g/d)	0.081101698	0.084549573	0.084444865	0.074591997	0.071614058	
	Point	i = h X2	0.162203396	0.169099146	0.16888973	0.14918394	0.143228117	
X3 = 6,72	Earning before Tax	j	148699	154602	286031	170647	369096	X3 measures the proportion of operating profit (EBIT) to total assets
	Intereset expense	k	11721	19021	21930	18692	16240	
	EBIT	l = (J+k)	148699	173623	307961	189339	385336	
	Total asset	d	964838	822275	918989	824788	709330	
	EBIT / TA	m = (l / d)	0.154118101	0.211149555	0.335108472	0.229560808	0.543239395	
	Point	n= m X3	0.462354302	0.633448664	1.005325417	0.688682425	1.629718185	
X4 = 1,05	Book Value of Equity	o	126520	112876	116898	103589	100903	X4 measure solvency
	Current liabilities	b	9033	13416	1480	1048	3816	
	Long term liabilities	p	39879	50606	62195	56017	48896	
	Book value of debt	q= (b+p)	48912	64022	63675	57065	52712	
	E / TD	r = (o/q)	2.586686294	1.763081441	1.835853946	1.8152808	1.914232053	
	Point	s = r X4	10.34674518	7.052325763	7.343415783	7.2611232 8	7.656928214	
TOTAL POINT			11.25926313	8.111377783	8.74447325	8.331300489	9.595165705	

The figure above shows the value of each account that will be used in the model to find the Z-Score value in a given year. This secondary data shows the value of working capital, retained earnings, debt, total equity, total debt and total assets of PT. Bank BNI Persero (Tbk) starting from 2017 to 2021. Almost all accounts have increased in value from year to year.

Conclusion

Based on the results of the analysis carried out on PT Bank BNI Persero (Tbk) data from 2017 to 2021 using the modified z-score method, it can be concluded that the z-score value obtained for 5 consecutive years is 9.595165705 for 2017, 8.331300489 for 2018, 8.74447325 for 2019, 8.111377783 for 2020, of 11.25926313 for 2021, every year the tendency for the acquisition value of the z-score to increase and decrease

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