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Stock Prices Predicted by Bankruptcy Condition?

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ABSTRACT

This research had two objectives. First, it determined the prediction of the method of Altman Z-Score whether it could classify banking positions, bankruptcy, or financial distress in the go-public bank in Indonesia Stock Exchange. Second, it was to know the influence of value position of Altman Z-Score on the stock price. The population was 84 banking company listed on the Indonesia Stock Exchange in 2010-2015. The sampling method was purposive sampling. Moreover, data analysis method used was a simple regression analysis. For data processing, it used software Eviews 8. The Z-Score calculations predict the potential bankruptcy of go-public bank in 2010-2015. All results show that Z-Score has the small score of 1,81. It can be said there is a potential bankruptcy. For t-test, it can be concluded that Z-Score has the positive and significant effect on the stock price. The ability of Z-Score values in explaining the stock price is 95,50% while the remaining 4,50% is influenced by other variables that are not analyzed in the research. With some weaknesses of Altman's Z-Score model, this research has the implication for management bank. It improves the financial performance for the future to avoid opportunity bankruptcy prediction. The results show how the effect of bankruptcy on banking stock prices.

Keywords: stock price, bankruptcy, Altman Z-Score

INTRODUCTION

The economy in Indonesia continues to grow and develop various financial institutions. One of the most influential institutions is the banking. Banking has an important role. All activities in banking are influenced by the trust from the customers or the public. If there is a problem with a bank, there will be a reaction to the community. Banking is also a vein for the world's economy. The failure of a bank not only causes individual problems, but it can cause a domino effect on other industries by considering the bank as the intermediation. If the intermediation is halted, it will result in stalled payment system and the paralysis of economic activity. This will have a negative impact on the entire economy. According to Kasmir (2012), the bank is a financial institution whose main activity is to raise funds of the community and re-channel the funds to the community in need and provide other services. Financial institutions are the companies engaged in finance where the activities are only raising funds or just channeling the funds. Moreover, the bank is a business entity that collects funds from the public in the form of savings and distributes it to the community in the form of credit and or other forms. It is to improve the living standard of many communities.

In 1998, the economic crisis hit Indonesia, and the Indonesian economy was paralyzed. This led to the liquidation of many banks. The occurrence of liquidation in many banks had caused some problems to the stakeholders or shareholders. It would not cause major problems if the liquidation process could be predicted from the beginning. Prediction errors in the operation of a bank can be fatal because the bank can lose the revenue or investments. Therefore, the importance of bankruptcy prediction model in banking is needed by various parties. Many deposit or savings account holders want to know how a bank can survive or how its bankruptcy prediction is. According to Ariesco (2015), the research of bankruptcy was first proposed by Beaver in 1966 using the company's financial ratios in the last five years before the bankruptcy. Beaver's goal was to know whether the selected financial ratios could be used to detect bankruptcy that would or had occurred in a company. There were six groups of ratios made by Beaver. Those were cash flow ratio,

net income ratio, debt to total asset ratio, liquid asset to current debt ratio, turnover ratio, and liquid asset to total asset ratio.

According to Wulandari (2016), the occurrence of financial distress not only gives negative impact on the management of the company but also affects the shareholders (investors). Therefore, before investing, the investor is expected to make predictions whether the companies are threatened or experienced financial distress. Investors should have an appropriate prediction model to minimize losses.

Likumahua (2017) performed the calculations by Altman Z-Score to the firms listed on the Indonesia Stock Exchange in 2008-2011. The result obtained Z-Score value below 1,20. It meant that the company was potentially bankrupt, but the company still operated and could survive. There is an influence over bankruptcy variables of bank by using Altman Z-Score method on the stock price. Similarly, Natariasari and Nofiandre (2013) implemented Altman Z-Score to predict bankruptcy in bank listed on Indonesia Stock Exchange in 2008-2010. In the analysis done, there were 6 banks is in a good position, 6 banks are in the gray area, and 18 banks could potentially bankrupt. Moreover, Lisdayanti, Zeinia, and Anindita (2013) used Altman Z-Score to predict bankruptcy on 31 banks listed on Indonesia Stock Exchange in 2012. Based on the analysis, there was only 1 bank in good condition, 18 banks were in the gray area, and 12 banks had serious bankruptcy conditions. Then, Endri (2009) utilized Altman Z-Score to predict bankruptcy of sharia bank for three years (2005-2007). The result showed that all existing sharia banks were in bankrupt condition.

Bankruptcy in a bank can be measured through its financial statements. The measurement is done by analyzing the financial statements that have been issued by the bank. Financial statement analysis is an important tool to know the company's financial position as well as the results achieved by the company or the strategy that will or has been implemented. Moreover, knowing the financial performance of banks is very important by considering the role of banks in assessing the ups and downs of the economy in Indonesia. In Altman Z-Score, it uses several ratios used. Those are net working capital to total assets, retained earnings to total assets, Earning Before Interest and Tax (EBIT) to total assets, market value equity to total liabilities, and sales to total assets. This model of analysis becomes a benchmark for investors in reviewing investment to avoid investment failures in a company. According to Putong and Gani (2012), financial difficulties (financial distress) on the company can occur due to internal and external factors. Internal factors can be the professional mistakes made by the managers of the company. Meanwhile, external factors occur because of the capitalistic condition of competition. Only the companies that have capital or source of capital that can survive even if it only gets relatively small profit margin. This condition will naturally create small companies with limited structures and financial resources to financial difficulties.

According to Tandelilin (2010), shares are the proof of ownership of a company. Stocks can attract the attention of investors because stocks promise higher returns than other instruments. Returns earned by investors are in the form of dividends and capital gains. Investors must be observant before investing because on the stocks have risks that cannot be ignored. The higher the return is received, the higher the risks investors will receive. Moreover, Amanah, Atmanto, and Azizah (2014) said that the purpose of the company to invest was to obtain the capital from the company's operations. The company was always trying to maximize the value of its shares so that many investors were interested in investing in that company. The value of the stock could be measured based on the stock price. In determining stock prices, the company had to analyze the existing financial statements correctly. According to Sudana (2011), financial statements need to be analyzed to evaluate the performance achieved by the company's management and the consideration in preparing the company's plans.

Prihadi (2011) mentioned that bankruptcy was a condition that a company was unable to pay short-term and long-term liabilities. Bankruptcy in banking can also be a failure of the company in managing, operating, and generating profits. According to Adnan and Kurniasih (2000), the bankruptcy can be defined in some sense such as economic failure and financial failure. Moreover, Likumahua (2017) agreed that the causes of bankruptcy in banks in Indonesia were because of high-interest rates, the decline of Rupiah value, high credit, low deposits, and debt. There were four core factors that caused bank failure. First, it was excessive bank credits expansion. Second, asymmetry information resulted in the inability of customers to assess bank assets accurately especially the economic conditions of the deteriorated bank. Third, the problem started from outside of the banking system such as the independent banking financial condition. It caused the customers to change their liquidity preferences or a reduction in bank capital. Fourth, institutional and legal restrictions weakened the bank and caused bankruptcy. Similarly, Adnan and Kurniasih (2000) stated there were factors that caused bank bankruptcy internally. First, bank gave credit on a large scale so that there were arrear payments by the customers until the customers could not pay. Second, it was the inefficiency of existing management. It was due to the lack of skills, experience, and initiation of management. Third, it was the existence of authority abuse and fraud by employees and even top managers. It was very harmful to the bank's finances.

Likumahua (2017) also said there were some indicators to know the possibility of bankruptcy. First, it was from analyzing the cash flow of the present and future periods. It was useful to focus on possible bankruptcies that occurred in certain periods directly. Second, it was by analyzing the company's strategy by considering potential competitors, related

cost structures, industrial building expansions, the company's ability to continue cost increases, management quality, and others. Third, it could compare the financial statements of other company. Fourth, it could analyze the external variables such as securities return or bond ratings.

The Almant Z-Score is used by Altman, Danovi, and Falini (2015). It was done in Italy since it was one of the important countries that would determine the fate of the Euro. The method of identifying firms that might require financial support took more important effort than in normal times.

Moreover, according to Prihadi (2011), the investors are very concerned about the bankruptcy of the company. By investing in bonds or letters of ownership of the company, there is the possibility of debt or unpaid profit. In this case, stock investors face a higher risk by considering that they have residual claims. Every company wants to determine how the company goes bankrupt. Therefore, a model is created to assess this. One of the models is multivariate discriminant analysis. This model is used in classifying the observations into a predefined group. In 1968, Altman conducted research regarding the existence of losses and the limit point of the losses in the company by using multivariate discriminant analysis. From 66 companies, some companies were expected to bankrupt and some of them did not bankrupt (Altman, 1968). In another research, Altman, Iwanicz-Drozdowska, Laitinen, and Suvas (2014) showed that results for Z-Score had been uneven in some researches. The model could performed very well, whereas in others, it had been outperformed by competing models. None of the reviewed research is based on a comprehensive international comparison, which makes the results difficult to generalize.

Referring to the various variations on the research that has been done, the researcher is interested to conduct further similar research. The results of previous research show that the facts and some causes of bankruptcy, economic failure, and financial failure. The causes such as high interest rates, declining value of the Rupiah, the occurrence of rush, low customer deposits, and high credits occur in almost all banks in Indonesia. This research is different from the others because the results show how the effect of bankruptcy on banking stock prices. There are two objectives in this research. First, it is to determine whether the prediction of the Altman Z-Score can classify banking positions and bankruptcy or financial distress in banking companies that go public in Indonesia Stock Exchange. Second, it is to know the influence of value of Altman Z-Score on the stock price.

METHODS

The data used in this research is quantitative data. The data can be measured by numbers. The type of data used is secondary data. It has been processed from the previous primary data, required data, and financial statements of the bank in 2010-2015 from the Indonesia Stock Exchange. Moreover, the object of research is the bank that has gone public in Indonesia Stock Exchange in 2010-2015. There are three criteria for the sample. First, the banks are listed in Indonesia Stock Exchange in 2010-2015. Second, the banks display complete financial statements required by researchers in Indonesia Stock Exchange in 2010-2015. Third, the banks do not merge or acquire in 2010-2015. Thus, the observations are using cross-section and time series data. The framework of this research is in Figure 1.

According to Altman (1968), the systematic Altman Z-Score can be formulated as follows.

$$Z = 1{,}2X1 + 1{,}4X2 + 3{,}3X3 + 0{,}6X4 + 1{,}0X5 \quad (1)$$

Where:

$X1$ = Net working capital / total assets
$X2$ = Retained earning / total assets
$X3$ = Earning before interest and tax / total assets
$X4$ = Market value of equity / debt value
$X5$ = Sales / total assets

Classification of companies based on the value of Z obtained is divided into three. First, if Z is >2,99, it is considered as a healthy company. Second, if Z is <1,81, the company has the potential to bankrupt. Third, if Z is between 1,81 and 2,99, the company goes into the gray area (the company can survive or potentially bankrupt).

Moreover, the independent variable can influence or become the cause of dependent variable. In this research, the independent variables of Altman (1968) are used. X1 is net working capital/total assets. Then, X2 is retained earning/total assets, and X3 is earning before interest and tax/total assets. Moreover, X4 is for the market value of equity/book value of debt, and X5 for sales/total assets. Then, the dependent variable used is stock price. The stock price is the result of the mentioned independent variables regarding bankruptcy. It is predicted by financial ratios whether there is influence on the increase or decrease of the existing stock prices.

The regression model used in this research is the simple linear regression. According to Winarno (2015), the regression analysis is used to determine the relationship between the dependent variable and independent variables. The equation is as follows.

$$Y = c + b(X) \quad (2)$$

Where:

Y = Stock price (dependent variable)
c = Constants
b = Coefficient
X = Z-Score (independent variable)

After knowing the score of bankruptcy in each bank, the researcher wants to know how it relates to stock price in the banks in this research. Then, the hypothesis used is:

Ho = Potential bankruptcy score obtained by using Altman Z-Score does not affect stock price

Ha = Potential bankruptcy score obtained by using Altman Z-Score affects the stock price.

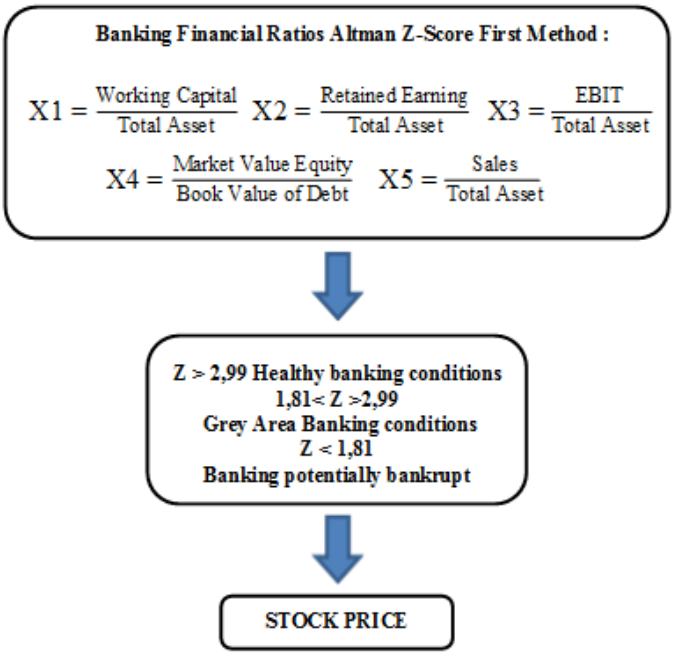

Figure 1 Research Framework

RESULTS AND DISCUSSIONS

The first analysis is using Altman Z-Score. The Z-Score of each bank is calculated. The result is in Table 1. The value of Altman Z-Score generated from the go-public banking in 2010-2015 shows the banks in the potential bankrupt category. It is because the value of Z-Score is below 1,81. This low score implies the fact that net capital is not too large. It is due to the high current liabilities resulting from the increase in deposits. This is reasonable because the bank is a financial intermediary. Moreover, Table 2 shows Stock Price in 2010 to 2015. Stock is a letter of ownership of the company. Shares are also the instruments that can attract investors. The higher the return is, the more attractive it will be to investors.

In assumption regression model, it is divided into three. First, normality tests are to see whether data used is normally distributed or not. A good regression model the distributed. The result of normality test is in Figure 2. It can be seen that Jarque-Bera value is equal to 4,743264. It is bigger than 2. Moreover, the probability value is bigger than alpha (5%) or equals to 0,093328. Hence, it can be concluded that data in this research is normally distributed.

Table 1 Altman Z-Score of Go-Public Bank in 2010-2015

No	Bank	2010	2011	2012	2013	2014	2015
1	Bank Rakyat Indonesia Tbk	0,5809	0,6020	0,6094	0,6284	0,6577	1,2443
2	Bank Capital Indonesia Tbk	0,2640	0,2796	0,2046	0,2471	0,2086	0,1946
3	Bank Central Asia Tbk	0,5093	0,5134	0,5855	0,7178	0,6861	0,8611
4	Bank Bukopin Tbk	0,2366	0,2210	0,3142	0,3119	0,3214	0,3405
5	Bank Negara Indonesia	0,3803	0,3607	0,3488	0,3994	0,5503	0,4382
6	Bank Mandiri	0,2179	0,4579	0,4976	0,5263	0,5506	1,4736
7	Bank CIMB Niaga	0,4519	0,3839	0,4594	0,3933	0,3306	0,3495
8	Bank Tabungan Pensiunan Nasional	0,8742	0,8922	0,8896	0,7960	0,8688	0,8020
9	Bank Victoria Internasional	0,2458	0,3305	1,8703	0,3231	0,3345	0,3738
10	Bank Artha Graha Internasional	0,1459	0,1717	0,0915	0,2492	0,2182	0,1587
11	Bank Mayapada Internasional	0,5047	0,4542	0,5869	0,5007	0,3244	0,3749
12	Bank Windu Kentjana Internasional	0,1943	0,1851	0,2974	0,2603	0,2428	0,3288
13	Bank Mega	0,4285	0,3152	0,4490	0,2876	0,3735	0,5629
14	Bank Pan Indonesia	-0,0292	0,4874	-0,3159	0,4018	0,4871	1,2987

(Source: Data Processing Result)

Second, autocorrelation test aims to determine the relationship between residual of one observation and other observations. Table 3 is the result of autocorrelation test. It can be seen that the value of Durbin-Watson is 1,806855. This value will be compared with the significance value of 5% with n = 84 and the number of independent variables (K = 1). Therefore, it is dL = 1,6212 and dU = 1,6693. Because dW lies between dU and (4-dU) (1,6212 <1,8068 <2,3307), it can be concluded that there is no positive or negative autocorrelation on the data tested.

Third, heteroscedasticity test aims to see whether the regression model used is not the same variance of residual of one observation to other observations. The result of heteroscedasticity test can be seen in Table 4. It can be seen that the chi-square probability is 0,1037. It is the than the significance level alpha of 5%. Thus, it can be concluded that there is no heteroscedasticity in this research.

Next, there is also simple linear regression analysis. The researcher uses fixed effect model in this research. It is based on the difference in intercept between banks. This shows that the characteristics of each bank are different. Table 5 shows the fixed effect model to determine the simple regression equation. Then, it obtains a simple linear regression equation based on Equation (2).

Table 2 Stock Price in 2010-2015

No	Bank	2010	2011	2012	2013	2014	2015
1	Bank Rakyat Indonesia Tbk	10,500	6,750	6,950	7,250	11,650	10,350
2	Bank Capital Indonesia Tbk	102	160	120	88	92	181
3	Bank Central Asia Tbk	6,400	8,000	9,100	9,600	13,125	13,300
4	Bank Bukopin Tbk	650	580	620	620	750	700
5	Bank Negara Indonesia	3,875	3,800	3,700	3,950	6,100	4,585
6	Bank Mandiri	6,500	8,100	7,850	7,950	10,100	9,250
7	Bank CIMB Niaga	1,910	1,220	1,100	920	835	595
8	Bank Tabungan Pensiunan Nasional	13,200	3,400	5,250	4,300	3,950	2,400
9	Bank Victoria Internasional	139	129	116	121	120	104
10	Bank Artha Graha Internasional	107	96	111	91	79	64
11	Bank Mayapada Internasional	1,330	1,430	3,400	2,750	1,880	1,950
12	Bank Windu Kentjana Internasional	150	187	184	127	205	300
13	Bank Mega	3,175	3,500	3,350	2,050	2,000	3,275
14	Bank Pan Indonesia	1,140	780	630	660	1,165	820

(Source: Data Processing Result)

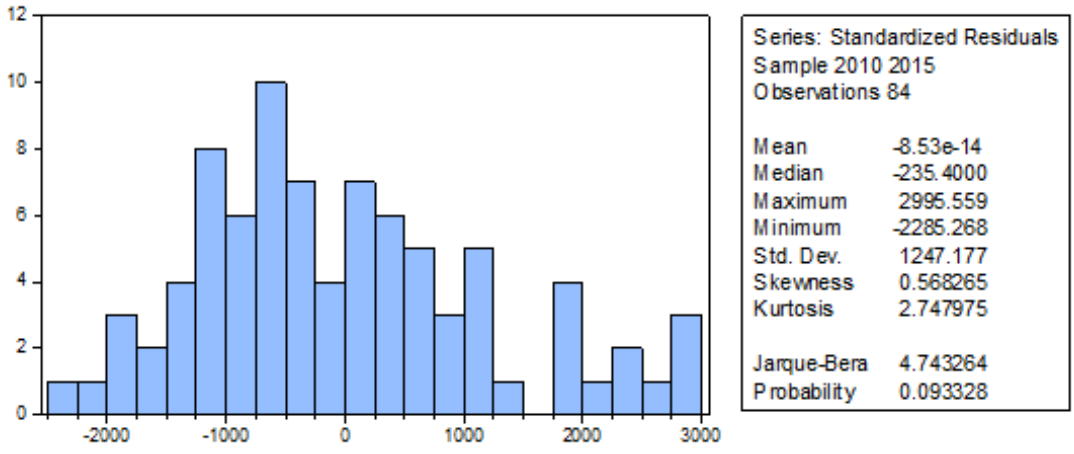

Figure 2 Normality Test

Table 3 Autocorrelation Test

Weighted Statistics			
R-squared	0,955007	Mean dependent var	5675,071
Adjusted R-squared	0,945878	S.D. dependent var	4745,051
S.E. of regression	1367,862	Sum squared resid	1,29E+08
F-statistic	104,6127	Durbin-Watson stat	1,806855
Prob (F-statistic)	0,000000		

(Source: Data Processing Results by Using Eviews 8)

Table 4 Heteroscedasticity Test

Heteroskedasticity Test: ARCH

F-statistic	2,669643	Prob. F(1,81)	0,1062
Obs*R-squared	2,648277	Prob. Chi-Square(1)	0,1037

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/10/16 Time: 11:44
Sample (adjusted): 2 84
Included observations: 83 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8264557.	2396869.	3,448064	0,0009
RESID^2(-1)	0,180526	0,110488	1,633904	0,1062

R-squared	0,031907	Mean dependent var	10061976
Adjusted R-squared	0,019955	S.D. dependent var	19597278
S.E. of regression	19400759	Akaike info criterion	36,42332
Sum squared resid	3,05E+16	Schwarz criterion	36,48161
Log likelihood	-1509,568	Hannan-Quinn criter.	36,44674
F-statistic	2,669643	Durbin-Watson stat	1,920117
Prob(F-statistic)	0,106160		

(Source: Data Processing Results by Using Eviews 8)

$$Y = 3041{,}909 + 380{,}644X \quad (3)$$

From the simple regression equation, there are two implications. First, constant (C) is 3041,909. It means if the constant of the prediction about bankruptcy by Altman Z-Score has no change, the stock price is 3041,808. Second, coefficient of Z-Score is 380,644. It means if the constant of the prediction about bankruptcy by Altman Z-Score increases by one unit, the stock prices are increased by 380,644 .

Equation (3) can be applied to the stock price with the observed panel data analysis. It means that the analysis only considers the model regardless of the diversity (heterogeneous) of each bank. Meanwhile, the investors' decisions in buying and selling stocks are strongly influenced by various micro and macro factors. Micro factors affect the stock trading transactions, the level of profit gained, the level of risk, corporate performance in the company internally. Moreover, macro factors are the external factors of the company. For example, it can be the rate of inflation, Rupiah exchange rate, the state of the economy, and socio-political conditions. Therefore, when it is viewed individually, every bank of this research has a simple regression equation. From Table 6, the following equations are generated as follows.

Table 5 Simple Linear Regression Analysis

Dependent Variable: HS
Method: Panel EGLS (Cross-section weights)
Date: 10/02/16 Time: 16:45
Sample: 2010 2015
Periods included: 6
Cross-sections included: 14
Total panel (balanced) observations: 84
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ZSCORE	380,6437	182,4193	2,086642	0,0406
C	3041,908	84,37004	36,05436	0,0000

(Source: Data Processing Results by Using Eviews)

Table 6 The Result of Fixed Effect Model

Dependent Variable: HS
Method: Pooled EGLS (Cross-section weights)
Date: 12/11/17 Time: 14:11
Sample: 2010 2015
Included observations: 6
Cross-sections included: 14
Total pool (balanced) observations: 84
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3041,909	84,36976	36,05449	0,0000
Z-Score	380,6411	182,4187	2,086634	0,0406
Fixed Effects (Cross)				
_BRI--C	5592,194			
_BCI--C	-3006,797			
_BCA--C	6633,209			
_BK--C	-2499,320			
_BNI--C	1135,906			
_BM--C	5013,513			
_BCIMB--C	-2095,511			
_BTPN--C	2049,768			
_BVI--C	-3141,049			
_BAGI--C	-3016,249			
_BMI--C	-1092,777			
_BWKI--C	-2945,452			
_MEGA--C	-303,5527			
_BPI--C	-2323,882			
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0,955007	Mean dependent var		5675,090
Adjusted R-squared	0,945878	S.D. dependent var		4745,104
S.E. of regression	1367,865	Sum squared resid		1,29E+08
F-statistic	104,6127	Durbin-Watson stat		1,580758
Prob(F-statistic)	0,000000			

(Source: Data Processing Results)

Table 7 Hypothesis testing

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3041,909	84,36976	36,05449	0,0000
Z-Score	380,6411	182,4187	2,086634	0,0406

(Source: Data Processing Results)

Table 8 Coefficient of Determination

R-squared	0,955007	Mean dependent var	5675,090
Adjusted R-squared	0,945878	S.D. dependent var	4745,104
S.E. of regression	1367,865	Sum squared resid	1,29E+08
F-statistic	104,6127	Durbin-Watson stat	1,580758
Prob(F-statistic)	0,000000		

(Source: Data Processing Results)

HS BRI = 8634,103+380,641082566×BRI Z-Score (4)
HS BCI = 35,112+380,641082566×BCI Z-Score (5)
HS BCA = 9675,118+380,641082566×BCA Z-Score (6)
HS BK = 542,589+380,641082566×BK Z-Score (7)
HS BNI = 4177,815+380,641082566×BNI Z-Score (8)
HS BM = 8055,422+380,641082566×BM Z-Score (9)
HS BCIMB = 946,398+380,641082566×CIMB Z-Score (10)
HS BTPN = 5091,677+380,641082566×BTPN Z-Score (11)
HS BVI = -99,14+380,641082566×BVI Z-Score (12)
HS BAGI = 25,66+380,641082566×BAGI Z-Score (13)
HS BMI =1949,132+380,641082566×BMI Z-Score (14)
HS BWKI = 96,457+380,641082566×BWKI Z-Score (15)
HS MEGA = 2738,3563+380,641082566×MEGA Z-Score (16)
HS BPI = 718,027+380,641082566×BPI Z-Score (17)

Stock price is shortened to HS. Then, the banks will be Bank Rakyat Indonesia Tbk (BRI); Bank Capital Indonesia Tbk (BCI); Bank Central Asia Tbk (BCA); Bank Bukopin Tbk (BK); Bank Negara Indonesia (BNI); Bank Mandiri (BM); Bank CIMB Niaga (CIMB); Bank Tabungan Pensiunan Nasional (BTPN); Bank Victoria Internasional (BVI); Bank Artha Graha Internasional (BAGI); Bank Mayapada Internasional (BMI); Bank Windu Kentjana Internasional (BWKI); Bank Mega (MEGA); and Bank Pan Indonesia (BPI).

An independent variable can be said to have a significant influence on the dependent variable if the value of t -count is more than t-table (t-count > t-table). It can also happen if the value of probability of each p-value in the independent variable is less than α (p-value < α). The result of the hypothesis test is in Table 7. It can be seen that t-count is bigger than t-table (2,086634> 1,66342), and the probability value is 0,0406 < 0,05. Therefore, it can be concluded that Ho is rejected and Ha is accepted. Moreover, it also means that the independent variable (Z-Score) have a significant effect on the dependent variable (stock price).

The last test is coefficient of determination (R2). It is used to determine the ability of the regression model or independent variable (free) in explaining the dependent variable (bound). It can see the percentage of the influence of independent variables on the dependent variable. The test is done by using Eviews 8. Based on Table 8, the R-squared value is 0,955007 or 95,50%. It shows that the independent variables (Z-Score) do not influence stock prices in panel data individually in each bank. Meanwhile, the remaining 4,50% is explained by the other independent variables that are not analyzed in this research.

The structure of the equation model in the stock price of each bank is very heterogeneous. It cannot be applied to the stock price with the observed panel data analysis. It means that the analysis only considers the model regardless of the diversity of each bank. Meanwhile, the investors' decisions in buying and selling stocks are strongly influenced by various micro and macro factors. Micro factors affect the stock trading transactions, the level of profit gained, the level of risk, and corporate performance in the company internally. Moreover, macro factors are the external factors of the company. For example, it can be the rate of inflation, Rupiah exchange rate, the state of the economy, and socio-political conditions. Therefore, when it is viewed individually, every bank of this research has a simple regression equation. It is because many factors affect the bank. The stock price of the bank depends on the micro condition such as bank size. For example, BM is certainly not equated with BCI regarding the size. These banks have different business characters and ownership.

Regarding Dana Pihak Ketiga (DPK - Third party fund), 14 banks have the different amount. For example, BRI has different type of business from BCA bank, it may affect the stock price of each bank. Moreover, in the liquidity such as Loan to Deposit Ratio (LDR) of each bank, it will differ depending on the policy in lending. There are banks that aggressively provide credit. However, some banks are prudent in lending. This is a risk to determine the bank's stock price or Return on Assets (ROA). Many factors affect bank profits. BM which is large will have different profits than BWK. This is not a biased comparison. Moreover, Capital Adequacy Ratio (CAR) indicates the ability of banks to provide funds to overcome the possibility of risk or loss. The bank that has sufficient CAR, despite the determination of Bank Indonesia, will certainly affect the stock price of different banks. Then, Trading Volume Activity (TVA) is the number of shares traded depending on the condition of the bank. Meanwhile, macro factors or external factors such as the rate of inflation, Rupiah exchange rate, the state of the economy, and socio-political conditions affect the stock price.

CONCLUSIONS

There are several conclusions based on the research that has been done. First, bankruptcy prediction analysis in the bank by using Altman Z-Score can be applied. However, there is a discrepancy in the model of Altman Z-Score. It is formed in a manufacturing company, so it has different characteristics with the banking industry. Banking as a financial intermediary has substantial current liabilities that are different from manufacturing company. By using Altman Z-Score, the researcher get results of less z-score value than1,81 in the go-public bank. It means all banks can be classified potentially bankrupt. This is because networking capital values is not too large. The current liabilities are caused by the increase in DPK. Thus, the z-score value is low.

Second, the structure of the equation model in each bank's stock price is very heterogeneous because of many factors. The bank's stock price depends on bank size and liquidity such as LDR, ROA, CAR, TVA in each bank internally. Meanwhile, the macro or external factors of the company are the rate of inflation, Rupiah exchange rate, the state of the economy, and socio-political conditions.

Third, based on the results of t-test that has been done, it obtains a probability value of 0,0406 with a significant level of 0,05. It can be concluded that the z-score value has a positive and significant effect on the stock price. Ha is accepted. It means the independent variable (Z-Score) has a significant effect on the dependent variable (stock price). Last, the influence of the bank bankruptcy using Altman Z-Score method on the stock price of go-public bank in 2010-2015 is 95,50%. The remaining 4,50% is influenced by other variables that are not studied in this research.

The limitations on this research is based on Table 8, the results may not reflect the same impact on each bank in general. For future research, it is advisable to consider more of the variables studied, the character, capital, business type, and policy of each bank. Therefore, it is suggested that the effect of bankruptcy should be seen from micro and macroeconomic factors.

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