

The Effect Of Capital Structure And Potential Bankruptcy On Share Prices In Building Construction Companies Listed On The Idx

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Abstract

This study aims to determine the effect of capital structure and potential bankruptcy on share prices in building construction companies listed on the Indonesia Stock Exchange (IDX). The sampling technique used in this study was purposive sampling. The sample of this study was 17 building construction companies listed on the Indonesia Stock Exchange (IDX) for the 2019-2022 period. There are three variables in this study, namely capital structure and bankruptcy potential as independent variables and stock prices as dependent variables. The method used in this study was panel data analysis. The results showed that the capital structure and potential for partial bankruptcy had a positive and significant effect on the share price of building construction companies for the 2019-2022 period. Simultaneously, capital structure and potential bankruptcy have a significant effect on the share price of building construction companies.

Keywords:

Capital Structure, Bankruptcy Potential, Stock Price

Introduction

The construction sector is a mainstay sector that is required to continue to increase its contribution in maximizing the quality of infrastructure that can encourage economic growth. The Central Statistics Agency (BPS) noted that the Gross Domestic Product (GDP) of the construction sector on the basis of prevailing prices (ADHB) in 2021 reached IDR 1.77 quadrillion. The GDP of the construction sector contributed 10.44% and was the fourth largest sector that contributed to the national GDP which in total reached Rp 16.97 quadrillion. In developing its business, the company needs funds and funding sources, one of which comes from the capital market. In the Indonesian capital market, there are several types of financial



instruments traded, namely stocks, bonds, mutual funds, derivatives, and Exchange Traded Funds (ETFs).

The higher growth rate of construction and development in Indonesia coupled with the new National Capital City (IKN) Nusantara development project is precisely the opposite of the share price offered by building construction companies. Stock price is the price or value of a share traded on the exchange. Stock prices are believed to reflect the value and financial performance of a company in the community, especially for investors. According to Astuti, in the research of (Oktaviani & Purwanto, 2020), stock prices are the main focus of investors before investing, investors believe that the higher the share price, the higher the value of a company because it is considered successful in managing its business. The following is the closing share price of a building construction company:

In 2020 there was one construction issuer company that was declared bankrupt according to the decision of the Central Jakarta District Court, namely PT Mitra Pemuda Tbk. Quoted from a letter published by the Head of the IDX Company Valuation Division I, Adi Pratomo Aryanto said that the Joint Operation of PT Mitra Pemuda Tbk and Qingjian Internasional (South Pacific) Group Development (CNQC-MTRA-JO) had been declared bankrupt by the Central Jakarta District Court on November 9, 2020. For this decision, IDX stopped trading PT Mitra Pemuda Tbk's shares and included them in the list of delisted companies.

Continuous decline in stock prices will have a negative impact on investors and companies. For investors, a continuous decline in stock prices will cause losses because investors will experience capital loss where investors do not benefit from buying and selling shares. The company is considered unable to manage company assets properly. In addition to the loss of investor confidence in the company, the company will also lose a source of income or source of capital derived from buying and selling shares and can cause problems including company liquidity problems. This problem if not resolved immediately will lead to bankruptcy. According to Rudianto, in (Handoyo & Maulana, 2019) financial performance is the result or achievement that has been achieved by company management in carrying out the company's asset management function effectively during a certain period. Company managers are required to have the ability to manage finances as capital better so as not to fall into conditions of financial distress.

According to Platt and Platt, in the study of (Saputri & Asrori, 2018), financial distress is an event of decline in financial performance in each period which is an indication of the potential for bankruptcy if not immediately overcome. Bankruptcy is a condition where the financial difficulties experienced by the company are so severe that the company is unable to operate properly. Hamidy in (Nanda, 2021) stated that DER or Debt to Equity Ratio is one of the solvency ratios in financial performance that can represent capital structure and is used in



most previous studies. According to (Hasan, 2021), capital structure is an internal factor that can affect the value of a company where the greater portion of debt borne by the company causes an increase in financial risk in the form of possible non-payment of debt and interest expenses borne by the company. Companies that have a large proportion of debt in their funding will be at risk of financial distress.

According to exchange theory (Trade-off theory) states that the use of debt can increase the stock price of the company. The higher the value of a company's Debt to Equity Ratio means the higher the debt or outside funds used in a company's capital structure. This theory is not in line with the fact that some companies that experience an increase in the value of DER actually experience a decrease in stock price.

The company's non-optimality in compiling the capital structure can cause the risk of falling stock prices, which will have an impact on capital loss. A continuous decline in stock prices indicates that a company's performance is not good, this will have an impact on the suspension of shares and can lead to the delisting of shares in a company. There are various ways that can be done to predict bankruptcy, one of which is to use financial ratio analysis. There are several models or methods of predicting potential bankruptcy, one method that is often used is the Altman Z-Score method. Altman Z-Score is one of the multi-variable financial statement analysis models that serves to predict the potential for company bankruptcy with a reliable level of accuracy.

According to the results of (Hikmah, 2018), bankruptcy prediction with Altman Z-Score has a positive effect on stock prices. This research is in line with (Saraswati & Putra, 2020) research on the potential bankruptcy of Altman Z-Score to have a significant positive effect on stock prices. Meanwhile, according to the results of (Indrawan, 2018) research, the prediction of the company's health level measured using the Altman Z-score method did not have an influence on the ups and downs of stock prices.

Based on the phenomena that occur and the inconsistencies with previous research on the effect of potential bankruptcy on stock prices, researchers are interested in conducting research with the title: "The Effect of Capital Structure and Potential Bankruptcy on Stock Prices in Building Construction Companies Listed on the IDX for the 2019-2022 Period".

Literature review

Signal Theory

According to Brigham & Houston, in the research of (Pratiwi et al., 2018), the application of signal theory to business people can explain how management informs investors about the company's future prospects. Because signals basically provide information, notes, or pictures of past, present and future circumstances for the survival of a



company. Precise and accurate information is needed by investors as an analytical tool to make investment decisions.

Share Price

According to Darmadji and Fakhruddin, in (Faluthy, 2021), Stock is a sign of participation or ownership of a person or entity in a company or limited liability company. This stock is in the form of a sheet of paper that explains that the owner of the paper is the owner of the company that issued the securities

Stock price is the market value of one share found in the capital market. The share price according to Law No. 8 of 1995 concerning the Capital Market is essentially a receipt of the amount of sacrifice that must be made by every investor for participation in the company. According to Astuti, in (Oktaviani & Purwanto, 2020) research in the capital market, stock prices are considered to reflect the value of a company. The higher the price of a stock, the higher the value of the company, so the stock price becomes one of the main focuses of investors before investing.

Capital Structure

According to (Handayani, 2016), capital structure is a consideration between debt and capital owned by the company. According to Weston, the capital structure in (Hasan, 2021) research is permanent financing consisting of long-term debt, preferred shares, and own capital. From the understanding that has been described, it can be concluded that the capital structure is a comparison between debt and own capital used by the company in achieving financial stability to maintain the company's survival.

Kebangkrutan

According to Rudianto, in Hasmiana's research (2021), bankruptcy is a condition when a company cannot fulfill its obligations on time, resulting in liquidity problems that can be an early sign of bankruptcy. According to bankruptcy law No. 4 of 1998 "bankruptcy occurs where an institution is declared by a court decision if the debtor has two or more creditors and does not pay at least one debt that is due and collectible".

A company has the potential to experience bankruptcy starting with financial distress. According to (Ross et al., 2013) financial distress is a situation where the company's operating cash flow is not enough to pay its liquidity (such as trade credit and interest expense). Financial difficulties usually do not just appear in companies, usually there are early indicators that can be seen through financial statement analysis. The Altman Z-Score bankruptcy prediction analysis model was first developed by Edward I. Altman (Professor from New York University, USA) in mid-1968. This method uses a multivariate analysis approach using financial ratios. In this study, the bankruptcy analysis used was the first altman z-score model. In 1968 Atman conducted a study using 66 company samples. Altman



selected 22 financial ratios and obtained 5 ratios that can be combined to predict bankruptcy. The first Altman Z-Score model equation is:

$$Z = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 1,0X_5$$

Information:

With = Bankruptcy Index

X_1 = Working Capital/ Total Assets

X_2 = Retained Earning/ Total Assets

X_3 = Earning Before Interest And Taxes/Total Assets

X_4 = Market Value Of Equity/Book Value Of Total Debt

X_5 = Sales/ Total Assets

Method

This study used a quantitative approach that is associative. The population in this study is building construction companies listed on the Indonesia Stock Exchange for the 2019-2022 period totaling 25 companies. Sample selection in this study uses purposive sampling method where in determining the sample researchers use several criteria tailored to certain considerations (Sugiyono, 2015). The sample criteria of this study are: 1) Building construction companies listed on the Indonesia Stock Exchange (IDX). 2) Construction Companies that have IPO (Initial Public Offering) on the IDX in 2019, and 3) Building construction companies that consistently publish complete annual financial statements consecutively from the 2019-2022 period. The number of population eligible to be sampled is 17 companies so that the sample used in this study is as many as 17 building construction companies x 4 years is 68 company samples. This study used panel data regression analysis techniques using the Eviews Application (Econometrics Views) 12.

Results and Discussion

Descriptive Statistics

This analysis is used to explain the variables in the study which include Capital Structure (X_1) and Bankruptcy Potential (X_2) as independent variables and Stock Price (Y) as dependent variables.

Table 1. Descriptive Statistics

	And	X_1	X_2
Mean	570.9412	2.377353	1.555294
Median	369.0000	1.345000	1.345000



Maximum	1990.000	35.47000	11.56000
Minimum	50.00000	0.300000	-6.230000
Std. Dev.	511.7594	4.442749	2.177860
Skewness	1.218636	6.283314	0.706859
Kurtosis	3.552783	46.75290	10.32950
Jarque-Bera	17.69662	5871.336	157.8739
Probability	0.000144	0.000000	0.000000
Sum	38824.00	161.6600	105.7600
Summa Sq. Dev.	17547148	1322.447	317.7861
Observations	68	68	68

Source : Output Eviews 12 processed by the author (2023)

Based on table 1. It is known that the value of the company's lowest capital structure is 0.30 and the highest value is 35.57 with the mean value is 2.37 and its standard deviation is 4.44. The bankruptcy potential has a low value of -6.23 and a high of 11.56 with a mean value of 1.55 and a standard deviation of 2.18. And for the stock price variable, the lowest value is 50 and the highest value is 1.990 with the mean value of 570.94 and standard deviation of 511.76.

Panel Data Regression Model Estimation

There are three models in panel data regression, namely Common Effect Model (CEM), Fixed Effect Model (FEM), Random Effect Model (REM). After knowing the panel data regression model, then testing is carried out. Panel data regression specification tests are Chow test, Hausman test and Lagrange Multiplier (LM) test.

a) Chow Water

According to (Rusiadi et al., 2016) the chow test is used to determine which model is better to use between the Common Effect Model or Fixed Effect Model. The basis for decision making in the chow test is: If the value of Prob. > 0.05 then H0 is accepted or the Common Effect model is selected. If the value of Prob. < 0.05 then H0 is rejected or Fixed Effect model is selected.

Table 2. Chow Test Results

Redundant Fixed Effects Tests Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.776597	(16,49)	0.0000
Cross-section Chi-square	97.461910	16	0.0000

Source : Output Eviews 12 processed by the author (2023)



Based on table 2. its probability value. $0.000 < 0.05$. Then H_0 is rejected, so the selected model is *Fixed Effect Model*. Next will be the Hausman Test.

b) Uji Hausman

According to (Rusiadi et al., 2016), the hausman test was conducted to determine which model is better to use between *Fixed Effect Model* or *Random Effect Model*. The basis for decision making in the hausman test is: If the Prob value > 0.05 then H_0 is accepted or the *Random Effect model* is selected. If the Prob value < 0.05 then H_0 is rejected or the *Fixed Effect model* is selected.

Table 3. Hausman Test

Correlated Random Effects - Hausman Test Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. City.	Prob.
Cross-section random	1.030906	2	0.5972

Source : Output Eviews 12 processed by the author (2023)

Based on table 3, it is known that the Probability value is $0.597 > 0.05$. Then the hypothesis is accepted, so the selected model is the *Random Effect Model*. Next, the Lagrange Multiplier (LM) test will be carried out.

c) Uji Lagrange Multiplier (LM)

According to (Rusiadi et al., 2016), the *lagrange multiplier test* is carried out to determine the *Random Effect Model* or *Common Effect Model* to be used. The basis for taking the *Lagrange Multiplier* test is: If the LM statistical value $>$ the Chi Square value and the Chi Square *prob value* < 0.05 , then H_0 is rejected meaning that the *Random Effect model* is selected. If the LM statistical value $<$ the Chi Square value and the Chi Square *prob value* > 0.05 , then H_0 is accepted, meaning that the *Common Effect model* is selected.

Tabel 4. Hasil Lagrange multiplies

Lagrange Multiplier Tests for Random Effects Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Hypothesis		
Cross-section	Time	Both	
Breusch-Pagan	44.74390	0.452180	45.19608



	(0.0000)	(0.5013)	(0.0000)
Honda	6.689088	0.672443	5.205389
	(0.0000)	(0.2507)	(0.0000)
King-Wu	6.689088	0.672443	3.275050
	(0.0000)	(0.2507)	(0.0005)
Standardized Honda	7.082813	1.213618	2.551493
	(0.0000)	(0.1124)	(0.0054)
Standardized King-Wu	7.082813	1.213618	1.219425
	(0.0000)	(0.1124)	(0.1113)
Gourieroux, et al.	--	--	45.19608
			(0.0000)

Source : Output Eviews 12 processed by the author (2023)

From the test results Table 4. *value Prob. Pagan Breusch* of $0.0000 < 0.05$. Then the selected model is *Random Effect* (REM). It can be concluded that the most appropriate model used in this study is the *Random Effect Model*.

Panel Data Regression Analysis

Panel data analysis is a type of data analysis that combines time series data with cross sections. The regression model equation used in the study is as follows:

$$Y = \alpha_{it} + \beta_1 X_{1it} + \beta_2 X_{2it} + \epsilon_{it}$$

Information:

And = Share Price

α = Konstanta

B1, B2 = Regression coefficient of independent variable

X1 = Capital Structure

X2 = Potential Bankruptcy

i = unit sector

t = unit of time

E = error term

Table 5. Panel Data Regression Test Results

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 08/28/23
Time: 12:50
Sample: 2019 2022
Periods included: 4



Cross-sections included: 17				
Total panel (balanced) observations: 68				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	443.2578	118.2541	3.748349	0.0004
X1	20.42953	9.777521	2.089439	0.0406
X2	50.86832	20.43070	2.489798	0.0153
Effects Specification				
S.D.	Rho			
Cross-section random	440.9988			0.7105
Idiosyncratic random	281.4693			0.2895
Weighted Statistics				
R-squared	0.157048	Mean dependent var		173.5782
Adjusted R-squared	0.131112	S.D. dependent var		299.7003
S.E. of regression	279.3632	Sum squared resid		5072846.
F-statistic	6.055005	Durbin-Watson stat		0.981612
Prob(F-statistic)	0.003878			
Unweighted Statistics				
R-squared	0.050369	Mean dependent var		570.9412
Sum squared resid	16663316	Durbin-Watson stat		0.298834

Source : Output Eviews 12 processed by the author (2023)

Based on Table 5, the regression model equation is as follows:

$$Y = 443.2578 + 20.4295 \cdot X1 + 50.8683 \cdot X2 + [CX=R]$$

Based on the regression equation of the panel data above, it can be interpreted as follows: The constant value obtained is 443.2578. This shows that if the variables X1 (Capital structure) and X2 (potential bankruptcy) are 0, then the stock price (Y) is 443.2578. The value of the variable Regression coefficient X1 (Capital structure) is positive (+) of 20.4295, so it can be interpreted that if the capital structure (X1) increases by 1%, then the stock price (Y) will also increase by 20.4295. The value of the variable Regression coefficient X2 (Potential Bankruptcy) is positive (+) of 50.8683, so it can be interpreted that if the potential for bankruptcy (X2) increases by 1% then the stock price (Y) will also increase by 50.8683.

Partial Test (t)



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This test is carried out to determine how far the influence of an independent variable partially (individually) on the dependent variable. The criterion for making partial test decisions is that if the tcount is > table with a sig level of < 0.05, then the hypothesis can be accepted.

Table 6. Partial Test Results (Test t)

Dependent Variable: Y				
Method: Panel EGLS (Cross-section random effects)				
Date: 08/28/23				
Time: 12:50				
Sample: 2019 2022				
Periods included: 4				
Cross-sections included: 17				
Total panel (balanced) observations: 68				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	443.2578	118.2541	3.748349	0.0004
X1	20.42953	9.777521	2.089439	0.0406
X2	50.86832	20.43070	2.489798	0.0153

Source : Output Eviews 12 processed by the author (2023)

Based on the results in Table 6, the results of the t test can be interpreted as follows:

- 1) The variable X1 (Capital Structure) has a calculated value of 2.8094 > table 1.9971 with a Probability value of 0.0406 < 0.05. So the hypothesis is accepted, meaning that Capital Structure (X1) has a significant positive effect on the stock price (Y).
- 2) The variable X2 (Potential Bankruptcy) has a calculated value of 2.8098 > table 1.9971 with a Probability value of 0.0153 < 0.05. So the hypothesis is accepted, meaning that Potential Bankruptcy (X2) has a significant positive effect on the stock price (Y).

Uji Simultan (F)

The F test is performed to test whether all independent variables (X) simultaneously have a significant influence on the dependent variable (Y). The hypothesis is accepted if Fcounts > Ftable with a sig level of < 0.05.

Table 7. Simultaneous Test Results (Test F)

R-squared	0.157048	Mean dependent var	173.5782
Adjusted R-squared	0.131112	S.D. dependent var	299.7003
S.E. of regression	279.3632	Sum squared resid	5072846.
F-statistic	6.055005	Durbin-Watson stat	0.981612



Prob(F-statistic) 0.003878

Source : Output Eviews 12 processed by the author (2023)

Based on the results in Table 7, it is known that the $F_{\text{calculate}}$ value is $6.055 > F_{\text{table}} 3.14$ with a Probability value of $0.003878 < 0.05$. So it can be concluded that capital structure (X1) and potential bankruptcy (X2) simultaneously have a significant effect on stock prices.

Determination Test (R^2)

Table 8. Determination Test Results (R^2)

—	0.157048	Mean dependent var	173.5782
R-squared			
Adjusted R-squared	0.131112	S.D. dependent var	299.7003
S.E. of regression	279.3632	Sum squared resid	5072846.
F-statistic	6.055005	Durbin-Watson stat	0.981612
Prob(F-statistic)	0.003878		

Source : Output Eviews 12 processed by the author (2023)

Based on the results in Table 8. Adjusted R-Square value of 0.131112, it can be concluded that the effect of capital structure (X1) and potential bankruptcy (X2) on stock prices simultaneously (simultaneously) of 13.11% and the remaining 86.89% is influenced by other variables outside this study.

Conclusion

The Effect of Capital Structure on Stock Prices

The results of this study show that capital structure has a significant positive effect on stock prices. This shows that the large or small composition of company funding in the form of debt and equity can cause an increase or decrease in the company's stock price. In line with the trade off theory that states the use of debt can increase the company's stock price. The use of high debt and exceeding the normal capital structure target in building construction issuers is usually caused by carrying out projects that require large funds. Building construction companies managed by the government (BUMN) which are usually financed by the State Budget (APBN) also have budget limits so that both state-owned and private companies tend to borrow funds from third parties rather than financing from share sales. The results of this study are also in line with research conducted by Yuniar et al (2021) which states that capital structure has a significant effect on the company's stock price.

The Effect of Potential Bankruptcy on Stock Prices

The results of this study show that the potential for bankruptcy has a significant positive effect on stock prices. This shows that the high and low results of calculating the potential for bankruptcy using the Altman Z-Score model that determines the health condition of a



company can affect the ups and downs of the company's stock price. The higher the value of potential bankruptcy with Altman Z- Score obtained by a company shows the better the company's health condition and the higher the share price offered. The results of this study are also in line with the research of (Saraswati & Putra, 2020) which states that the potential for bankruptcy with the Altman Z-Score model has a significant effect on stock prices.

The Effect of Capital Structure and Potential Bankruptcy on Stock Prices

The results of this study show that capital structure and potential bankruptcy together (simultaneously) have a significant effect on stock prices. In line with signal theory, which states that a company with promising prospects and health conditions will avoid selling shares and look for alternative sources of funding, including the use of debt that exceeds the normal capital structure target. Meanwhile, companies with poor prospects and health conditions tend to sell their shares more often, which can cause their stock prices to fall due to more frequent sales of new shares than usual. In addition, based on the results of the determination test (R²), the Adjusted R-Square value in this study was 0.131112. So it can be concluded that the effect of capital structure and potential bankruptcy on stock prices simultaneously by 13.11% and the remaining 86.89% is influenced by other variables outside this study.

Reference

- Faluthy, A. (2021). Pengaruh Struktur Modal terhadap Harga Saham dengan Ukuran Perusahaan sebagai Variabel Moderating pada Perusahaan Property dan Real Estate yang Terdaftar di Bursa Efek Indonesia. *Juripol*, 4(1), 160–165.
- Handayani, A. (2016). Struktur Modal Perusahaan Multinasional dan Perusahaan Domestik pada Indeks LQ45. *Jurnal Manajerial*, 3(1), 13–25.
- Handoyo, S., & Maulana, E. D. (2019). Determinants of Audit Report Lag of Financial Statements in Banking Sector. *Matrik: Jurnal Manajemen, Strategi Bisnis Dan Kewirausahaan*, 13(2), 142–152. <https://doi.org/10.24843/MATRIK:JMBK.2019.v13.i02.p02>
- Hasan, F. (2021). Pengaruh Struktur Modal terhadap Harga Saham dengan Financial Distress sebagai Variabel Intervening (Studi pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia) . *Jurnal Ilmiah Mahasiswa FEB*, 10(1), 1–18.
- Hikmah, H. (2018). Prediksi Kebangkrutan dengan Altman Z-Score dan Harga Saham pada Perusahaan Manufaktur. *Perisai: Islamic Banking and Finance Journal*, 2(2), 121–136. <https://doi.org/10.21070/perisai.v2i2.1630>
- Indrawan, B. (2018). Analisis Financial Distress dan Pengaruhnya terhadap Harga Saham Perusahaan Ritel di Indonesia Periode 2014-2017. *Jurnal Ilmiah Mahasiswa FEB*, 7(2), 1–18.



- Nanda, A. P. (2021). *Pengaruh Earning Per Share, Return On Equity dan Debt To Equity Ratio Terhadap Harga Saham (Studi pada Perusahaan Sub Sektor Perdagangan Eceran yang Tercatat di Bei 2013 - 2018)*. Universitas Mercu Buana.
- Oktaviani, N., & Purwanto, P. (2020). Analisis Financial Distress dan Pengaruhnya terhadap Harga Saham. *Jurnal SIKAP (Sistem Informasi, Keuangan, Auditing Dan Perpajakan)*, 5(1), 46–60.
- Pratiwi, I., Sriwardany, & Irama, O. N. (2018). Pengaruh Potensi Kebangkrutan terhadap Harga Saham pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesi. *Jurnal Akuntansi Dan Pembelajaran*, 7(2), 87–95.
- Ross, S. A., Westerfield, R. W., & Jaffe, J. F. (2013). *Corporate Finance. 10th Edition*. McGraw-Hill, Irwin.
- Rusiadi, Subiantoro, N., & Hidayat, R. (2016). *Metode Penelitian : Manajemen, Akuntansi dan Ekonomi Pembangunan. Konsep, Kasus dan Aplikasi SPSS, EvIEWS, Amos, Lisrel*. USU Press.
- Saputri, L., & Asrori. (2018). The Effect of Leverage, Liquidity and Profitability on Financial Distress with the Effectiveness of the Audit Committee as a Moderating Variable . *Accounting Analysis Journal*, 8(1), 38–44.
- Saraswati, D., & Putra, A. (2020). Potensi Kebangkrutan Harga Saham Melalui Altman Z-Score pada Perusahaan Manufaktur di Bursa Efek Indonesia. *Jurnal Akuntansi Bisnis & Publik*, 1(2), 98–105.

