RJOAS: Russian Journal of Agricultural and Socio-Economic Sciences
ISSN 2226-1184 (Online) | Issue 3(147), March 2024

UDC 332

THE EFFECT OF LEVERAGE, PROFITABILITY, LIQUIDITY, AND SALES TO TOTAL ASSET ON FINANCIAL DISTRESS OF NON-CYCLICALS COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD OF 2020-2022

Atmaja I Made Prasetia Wira*, **Artini Luh Gede Sri**
Faculty of Economics and Business, University of Udayana, Bali, Indonesia
*E-mail: prasetiawira@gmail.com

ABSTRACT
Financial distress is a condition where a company experiences financial difficulties due to various errors that occur in the company. The Covid-19 pandemic has caused companies to experience financial difficulties. Non-cyclical consumer companies which in theory are not affected by macroeconomic conditions were also affected during the Covid-19 pandemic. This research aims to determine the effect of leverage, profitability, liquidity and sales on total assets in financial distress conditions. This research uses a purposive sampling technique, namely selecting samples using certain criteria. Secondary data sources are taken from the financial reports of non-cyclical consumer companies listed on the IDX for the period 2020-2022. The amount of data that will be processed in this research consists of 46 observation data. The data analysis technique used was a logistic regression model with the SPSS program. The results of the research show that there is no influence from Leverage on the possibility of financial distress. Profitability has a negative and significant effect on the possibility of financial distress. Liquidity does not affect financial distress conditions. Sales to total assets do not affect financial distress conditions. It is hoped that the research results can be used by the management of non-cyclical consumer companies as material for developing strategies in dealing with financial distress conditions. The recommended strategy is to increase the company's profitability.

KEY WORDS
Leverage, profitability, liquidity, sales to total assets, financial distress.

The COVID-19 pandemic has caused the world economy to slow down have a major impact on the unstable economic conditions in Indonesia and has caused financial difficulties for companies to continue operating. The current decline in the Indonesian economy requires companies to continue to innovate and expand their share so that companies can survive in a crisis.

Almost all business sectors have experienced a decrease in revenue due to government policies to tackle the spread of the Covid 19 virus, namely the "lockdown" policy. This sudden decline in revenue has caused companies to experience financial difficulties because the revenue received by the company is currently unable to finance the company's fixed costs which have not necessarily decreased due to this pandemic crisis.

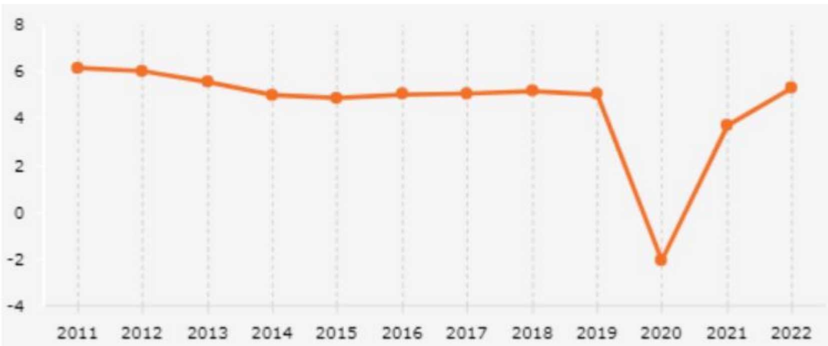

Figure 1 – Indonesia's Economic Growth, % (2011-2022) (Source: Central Bureau of Statistics, 2023)

Data from the Central Bureau of Statistics noted that economic growth in the first quarter of 2020 only reached 2.97%, this growth slowed down compared to the achievement of the first quarter of 2019 of 5.07% (Central Bureau of Statistics, 2020) can be seen in Figure 1.

The condition of the company when it experiences a financial setback is often referred to as financial distress. The phenomenon of financial distress is that companies tend to experience liquidity problems where the company is no longer able to fulfil its obligations. Financial distress conditions are characterised by companies delisting from the Indonesia Stock Exchange. Not all public companies have good financial conditions. Facts show that there are still companies that experience financial difficulties, from short-term to long-term difficulties that lead to bankruptcy. Financial distress can be described from two extreme points, namely short-term liquidity difficulties and insolvency.

2020 is the starting point for the world economy to be shaken by the Covid-19 pandemic. Almost the entire world felt the economic impact of Covid-19. Economic growth slowed down due to operational restrictions in all sectors to prevent the spread of Covid-19. As a result, the company's earnings per share (EPS) shows a significant decline. Not a few large companies have gone bankrupt due to this phenomenon.

Companies listed on the Indonesia Stock Exchange have also felt a huge impact from the Covid-19 pandemic. One of the affected sectors is non-cyclical companies. Non-cyclical sectors often referred to as defensive sectors are sectors that have a relatively small correlation with the economic cycle so that generally their performance does not depend on the economic cycle. The economic cycle is related to economic growth/GDP, interest rate changes and other macroeconomic conditions. Pratiwi et.al. (2021) said that the consumer non-cyclical index is an index that has a higher stock return than the JCI and LQ-45, which is 205.77% for consumers, 148.57% for JCI, and 103.5 for LQ-45. The high stock returns indicate that the performance of the consumer non-cyclical sector is relatively high. The statement from the research results was not proven during the Covid-19 pandemic. The non-cyclical sector is a sector that carries out the production or distribution of goods and services that are anti-cyclical or primary. So this sector is highly dependent on market demand. The market became very sluggish during the COVID-19 pandemic due to very low purchasing power.

Financial distress is a condition in which the company is experiencing financial difficulties caused by various mistakes that occur in the company, inappropriate decision-making by managers, interconnected weaknesses in company management, and lack of supervision of the use of company funds so that the funds used do not match the funds needed. Bankruptcy will occur if company management does not immediately overcome the financial distress that occurs in the company. Managers must continue to monitor the company's financial condition so that the company's finances remain stable and healthy.

Financial distress and bankruptcy are different things, in financial distress; companies still have the opportunity to improve their financial condition through corrective measures. On the other hand, bankruptcy is the point at which a company can no longer fulfill its financial obligations and must seek legal protection or end its operations.

This study refers to companies experiencing financial distress proxied by negative earnings per Share (EPS). EPS was chosen as a proxy for financial distress because it is the expected earnings per share, so the amount of EPS is very important for the welfare of shareholders, especially for minority shareholders. Good earnings per share growth will reduce conflicts between shareholders and the company's prospects can be observed so that it helps investors in making decisions when investing.

This study was conducted to re-test several variables used in previous studies that affect the condition of the company's financial distress because previous studies obtained different results. The financial ratio variables in this study use financial ratios, namely liquidity, leverage, profitability and sales to total asset ratios because these ratios are considered to show the company's financial performance in general to predict the occurrence of financial distress.

Financial ratio analysis is one of the analytical tools often used in assessing the company's financial performance. Investors invest their funds in company shares that are considered profitable. The company's ability to make a profit in a certain period is called profitability. Profitability is the net result of several policies and decisions. Profitability shows the effectiveness of the company's operations (Brigham and Daves, 2019: 259). The higher the profitability ratio, the more effective and efficient the financial performance which can then reflect the company's financial condition. The profitability ratio describes profit through all existing capabilities and sources. The profitability ratio is a ratio to measure cumulative profitability. The ratio used in this study is ROA (Return on Assets).

The liquidity ratio commonly used is the current ratio, which shows the company's ability to meet its short-term financial obligations using its current activities. The liquidity ratio can be measured using the current ratio. Research conducted (Sari, 2017) shows that liquidity as measured by the current ratio has a negative influence on the occurrence of financial distress conditions.

The next indicator is the leverage ratio. Leverage is the ability of an entity to pay off current and long-term debt, or the ratio used to assess the extent to which an entity is financed with debt (Kusanti, 2015) found that Debt to Asset Ratio (DAR) does not affect the occurrence of financial distress conditions. The results of this study are not in line and different from those conducted by (Ong, et al, 2021), (Jiming and Wei Wei, 2021) which state that leverage has a positive and significant effect on financial distress conditions. Where the greater the company's activities that are financed by debt, the greater the possibility of financial distress.

The next ratio used to predict the company's financial distress condition is the profitability ratio. Hanafi and Halim (2016) explain about profitability (return on assets) that "this ratio assesses the entity's proficiency in creating net profits from a certain level of assets". The higher the value of this ratio, means that the assets are utilized effectively to generate profits to avoid financial distress situations. Meanwhile, when the value of this ratio is low, it means that the assets used are not effective so they cannot generate profits and can put the company in financial distress.

The ratio that also affects the company's financial distress is Sales to Total Asset. Sales to Total Asset is the company's sales capacity (Raissa, 2017). This ratio is taken from the Altman Z-score model. The Altman Z-Score model consists of five ratios that have been proven to better predict bankruptcy. The ratios are total assets, retained earnings to total assets, earnings before interest and taxes to total assets, market value of equity to total liabilities, and sales to total assets Matturungan (2017). The sales to total assets ratio was chosen in this study because sales during the COVID-19 pandemic experienced a drastic decline.

This research refers to non-cyclical companies listed on the IDX. The selection of this company is because in almost all countries including Indonesia, the non-cyclical sector is the sector affected by the Covid-19 phenomenon. Many production processes have stopped and demand from distributors has also decreased due to restrictions on activities imposed by the Indonesian government.

The importance of predicting company financial distress is used to determine the condition of the company both now and in the future and based on the existence of phenomenon gaps and research gaps in previous studies such as Ehab Zaki (2019), Mohamed, S.S. (2020), Anton Wijaya (2020) and Nofitasari (2021) so that the authors want to test whether the Leverage, Profitability, Liquidity, Sales to Total Asset ratios affect Financial distress.

METHODS OF RESEARCH

Based on the problems studied, this research is classified as associative research (relationship), which is research that aims to determine the relationship of one or more variables. This research was conducted on the Indonesia Stock Exchange (IDX) on Indonesian manufacturing companies on the website www.idx.co.id. This study uses company financial data for 3 years in the observation period from 2020 to 2022. This research was conducted on the Indonesia Stock Exchange (IDX) in Indonesian manufacturing companies on the site www.idx.co.id. The data sources of this study are variables that affect financial distress (Y) in manufacturing companies, which include leverage (X1), profitability (X2), liquidity (X3), and Sales to Total Asset (X4) of companies listed on the Indonesia Stock Exchange in the period 2020-2022. The population in this study are all manufacturing companies whose financial reports on the Indonesia Stock Exchange (IDX) in the period 2020-2022. The sample used in this study is the audited financial statements of companies on the IDX in 2020-2022. The sampling method used in this research is the purposive sampling method, and the data collection method used in this research is the observation method. The observation carried out is non-participant observation. The analysis technique used is multivariate analysis; hypothesis testing in this study uses multivariate analysis using logistic regression (logistic-regression) because the independent variable is a combination of metric and non-metric (nominal).

RESULTS AND DISCUSSION

The feasibility of the regression model is seen from the significance value of Hosmer and Lemeshow's Goodness of Fit Test.

Table 1 – Hosmer and Lemeshow’s Goodness of Fit Test

Step	Chi-square	df	Sig.
1	1.955	8	0.982

Source: Data processed, 2023.

The test results show a significance value of 0.982 which is greater than 0.05. This means that the model can predict its observation value or it can be said that the model is acceptable because it is by the observation data.

Table 2 – Chi-Square Statistics

Iteration History	-2 Log likelihood
Block 0: Beginning Block	130.589
Block 1: Method = Enter	21.030

Source: Data processed, 2023.

The test results show a decrease in the -2 Log likelihood coefficient, so the model shows a good regression model.

Table 3 – Coefficient of determination (R^2)

Step	-2 Log likelihood	Cox & Snell R Square	R Square
1	21.030[a]	0.548	0.896

Source: Data processed, 2023.

Table 4 – Logistic Regression Test Results

Variables in the Equation						
		B	S.E.	Wald	df	Sig.
Step 1[a]	LEV	-2.942	4.509	0.426	1	0.514
	PROF	-151.033	50.483	8.951	1	0.003
	LIKD	-0.253	0.450	0.315	1	0.574
	STA	-0.916	0.880	1.085	1	0.298
	Constant	2.518	3.210	0.615	1	0.433
a. Variable(s) entered on step 1: LEV, PROF, LIKD, STA.						

Source: Data processed, 2023.

The test results show that the R Square value is 0.896. This means that the incidence of financial distress in non-cyclical consumer sector companies can be explained by Leverage (LEV), Profitability (PROF), Liquidity (LIKD) and Sales to Total Asset (STA) by 89.6 percent while the remaining 10.4 percent is explained by other factors not examined in this study.

Based on the test results, the logistic regression equation can be arranged as shown:

$$Ln\frac{p}{1-p} = 2{,}518 - 2{,}942LEV - 151{,}033PROF - 0{,}253LIKD - 0{,}916STA$$

The constant value remains at 2.518. Assuming all independent variables remain constant, the log odds value for financial distress stays at 2.518. The coefficient for Leverage (LEV) is -2.942. Consequently, an increase in Leverage results in a decrease of 2.942 in the log odds of companies facing financial distress. Similarly, an increase in Profitability leads to a decrease of 151.033 in the log odds of financial distress, given the coefficient of -151.033 for PROF. The coefficient for Liquidity (LIKD) stands at -0.253, indicating that an increase in Liquidity decreases the log odds of financial distress by 0.253. Regarding Sales to Total Assets (STA), its coefficient is -0.916, meaning that an increase in this ratio decreases the log odds of financial distress by 0.916. The t-value obtained from the test is 0.426, yielding a significance level of 0.514. This significance value exceeding 0.05 suggests that there is no significant impact of leverage on the likelihood of financial distress among non-cyclical consumer sector companies during 2020-2022. Leverage ratio reflects the extent of a company's financing through debt. Analyzing this ratio is crucial for assessing the company's ability to repay debts, both short and long-term, in case of liquidation. Typically, companies resort to debt financing when their capital cannot cover operational expenses (Saputra & Salim, 2020).

In this investigation, the leverage ratio is gauged using the Debt to Total Asset Ratio (DAR) as a proxy. DAR is preferred over Debt to Equity Ratio (DER) due to its inclusion of all debt from third-party sources or creditors, contrasting with DER, which relies solely on company capital for debt repayment. DAR also assesses the extent to which a company's total assets secure its debt obligations. A high ratio signifies heavy debt reliance, potentially hindering additional loan acquisition as the company may struggle to cover debts with its assets. Conversely, a low ratio indicates less debt financing. Excessive debt can burden a company with substantial fixed expenses (interest costs), thus escalating the risk of financial distress.

Findings reveal no significant impact of leverage on the potential for financial distress among non-cyclical consumer sector companies from 2020 to 2022. These results suggest an average leverage ratio of 0.4782 for these companies during this period, indicating considerable debt reliance, with debt comprising nearly half of total assets. Despite a negative regression coefficient of -2.942, denoting a negative influence tendency, the insignificance of the 0.514 significance value suggests no substantial effect. This outcome is attributed to the economic downturn caused by the COVID-19 pandemic from 2020 to 2021, leading to business sluggishness in Indonesia. Despite this, the consumer non-cyclical sector continued production, necessitating financial support through debt, thereby increasing debt levels. These findings contrast with previous research by Fitri & Syamwil (2020), Fahmi (2015), Moleong (2018), Rohmadini et al. (2018), and Saputra & Salim (2020), which assert a significant reduction in the likelihood of financial distress with higher leverage ratios.

The test results show a t-value of 8.951 with a significance of 0.003. This significance value which is smaller than 0.05 indicates that there is an effect of profitability on the condition of the possibility of financial distress conditions in non-cyclical consumer sector companies in 2020 - 2022. So an increase in profitability will cause a significant decrease in the possibility of financial distress conditions. According to Cashmere (2019: 198) the profitability ratio is a ratio used by a company to assess its ability to seek profit or profit. The profitability ratio can also provide a measure of the level of effectiveness of the company's management, this is indicated by the profit earned by sales and investment income.

In this study, the profitability ratio is proxied by ROA, the reason for using ROA compared to ROI is because the ROA value reflects the rate of return on all assets given to the company, ROA does not differentiate returns based on asset funding sources, so ROA analysis is centred on evaluating and forecasting operating performance, while return on investment (ROI) measures income income compared to investment. So the greater the ROA indicates that the company's financial performance is getting better because the company's rate of return is getting bigger and the company's risk of experiencing financial distress will be reduced or smaller.

The test results show that there is a negative effect of profitability on the possibility of financial distress in non-cyclical consumer sector companies in 2020 - 2022. So an increase in profitability will cause a significant decrease in the likelihood of financial distress. The results of this study are the results of research from Al-Saleh & Al-Kandari (2021), Kurniasari & Ghozali (2021), Andari & Wiksuana (2017), and Rilantini et al. (2017) state that profitability has a negative effect on the possibility of financial distress.

The test results show a t-value of 0.315 with a significance of 0.574. This significance value which is greater than 0.05 indicates that there is no effect of liquidity on the condition of the possibility of financial distress conditions in non-cyclical consumer sector companies in 2020 - 2022. The liquidity ratio describes the company's ability to meet short-term financial obligations (Syafri, 2021: 301). The liquidity of the company is indicated by the size of current assets, namely assets that are easy to convert into cash which includes cash, securities, accounts receivable and inventory. Liquidity ratio is one of the most influential factors in determining the success or failure of a company.

In this study, the liquidity ratio is represented by the current ratio (CR) as it excludes inventory value, which takes longer to convert into cash compared to other assets. Thus, the CR is favored over the Quick Ratio for assessing the company's ability to meet current obligations effectively. A higher CR indicates better capability to settle obligations, lowering the likelihood of financial distress.

Analysis indicates no significant impact of Liquidity on the possibility of financial distress among non-cyclical consumer sector companies from 2020 to 2022, possibly due to a low liquidity ratio. This low ratio stems from current debt outweighing current assets, a common occurrence during the Covid-19 pandemic-induced economic downturn in 2020 and 2021. These findings differ from those of Ardiyanto (2021), Jiming and Wei Wei (2021), and Sari (2017), who suggest that a higher current ratio contributes to financial health and distress avoidance.

Similarly, Sales to Total Assets' effect on financial distress conditions in non-cyclical consumer sector companies from 2020 to 2022 is deemed insignificant, as indicated by a p-value of 0.298 exceeding 0.05. Despite being part of the Altman Z-Score, Sales to Total Asset ratio fails to predict financial distress, contrary to its purpose of reflecting a company's health and future prospects. This ratio was chosen due to its relevance during the Covid-19 pandemic, where sales experienced a significant decline.

The absence of a significant effect of Sales to Total Assets on financial distress can be attributed to reduced purchasing power during the pandemic in 2020 and 2021, particularly affecting essential goods. These findings contrast with those of Matturungan (2017), Raissa (2017), Nofitasari (2021), and Indrawahyuni (2022), who suggest that higher sales or Sales to Total Assets ratios indicate reduced bankruptcy or financial distress likelihood.

CONCLUSION

Based on the data processing that has been done and the discussion of the research results that have been described, the resulting conclusions are as follows. The results showed no effect of leverage on the condition of the possibility of financial distress. This is due to the amount of total debt compared to the company's total assets. The test results show that there is a negative effect of Profitability on the possibility of financial distress conditions. So an increase in profitability will cause a significant decrease in the likelihood of financial distress. Liquidity has no significant effect on the financial distress conditions of non-cyclical companies on the Indonesia Stock Exchange for the period 2020 - 2022. The test results show that there is no effect of liquidity on the likelihood of financial distress conditions. This happens because the value of current debt is much greater than the value of the current assets of the company. Sales to total assets do not affect the financial distress conditions of non-cyclical companies on the Indonesia Stock Exchange for the period 2020 - 2022. The test results show that there is no effect of Sales to Total Assets on the condition of the possibility of financial distress. This can happen because in 2020 and 2021 the Covid-19 pandemic occurred which caused a decrease in people's purchasing power on essential goods.

Based on the results of the analysis, discussion, and conclusions that have been described, several suggestions can be given, namely as follows: Non-cyclical companies are advised to pay attention to the profitability ratio because the profitability ratio has a significant influence on the possibility of financial distress. The increase in profitability ratio caused by an increase in the ratio between profit after tax and total assets is considered capable of reducing the possibility of financial distress. Further researchers are advised to use or develop other variables that are thought to be capable as variables that affect financial distress. In addition, it also analyzes financial distress in cyclical companies listed on the Indonesia Stock Exchange. This is because cyclical companies are companies that have vulnerabilities to macroeconomic changes so they are also vulnerable to financial distress.

REFERENCES

1. Akmalia, A. (2020). Pengaruh struktur modal, struktur aset and profitabilitas terhadap potensi terjadinya. Financial distress perusahaan (Studi pada perusahaan manufaktur sektor aneka industri yang terdaftar di Bursa Efek Indonesia periode 2014-2017). Business Management Analysis Journal (BMAJ), 3, hal. 1-21.
2. Assagaf, A., Murwaningsari, E., Gunawan, J. & Mayangsari, S. (2019). Estimates model of factors affecting financial distress: Evidence from Indonesian state-owned enterprises. Asian Journal of Economics, Business and Accounting, 11, 1-19, doi: 10.9734/AJEBA/2019/v11i330131.
3. Audina, B. P. & Sufyati, H. S. (2018). Pengaruh financial leverage, struktur modal and total asset growth terhadap. Financial distress pada perusahaan sub sektor pulp and kertas yang terdaftar di bursa efek Indonesia. Jurnal Ilmu Manajemen Oikonomia, 14, hal. 76-90.
4. Brigham, Eugene F., Daves, Philip R. (2018), Intermediate Financial Management (Edisi 13). USA: Cengage Learning.
5. Brigham, Eugene F., Houston, Joel F. (2019), Fundamental of Financial Management (Edisi 15)/ USA: Cengage Learning.
6. Darush Yazdanfar, (2019). Financial distress determinants among SMEs: empirical evidence from Sweden. Centre for Research on Economic Relations, Mid Sweden University, Sundsvall, Sweden, and Peter Ohman. Centre for Research on Economic Relations, Mid Sweden University, Ostersund, Sweden.
7. Enrico, A. & Virainy. (2020). Faktor-faktor yang mempengaruhi Financial distress pada perusahaan manufaktur. J. Multiparadigma Akuntansi Taruma Nagara, 2, hal. 439-448.
8. Ghozali, I. (2021). Aplikasi Analisis Multivariate Dengan Program IBM SPSS 26 Edisi 10. Badan Penerbit Universitas Diponegoro.
9. Grediani, Evi. et.al. (2022). Analisis Rasio Solvabilitas, Likuiditas, and Aktivitas Terhadap Kinerja Keuangan Perusahaan di Sektor Perdagangan yang Terdaftar di BEI Periode 2016-2020. Jurnal Ilmiah Akuntansi and Keuangan Vol. 11, No. 1, January-June 2022. DOI: https://doi.org/10.32639/jiak.v11i1.62 pp. 51 - 65.
10. Gunawan, F. H. (2021). Perbandingan Kinerja Keuangan Perusahaan Sektor Makanan and Minuman Sebelum Covid-19 and Pada Masa Covid-19. Media Akuntansi and Perpajakan Indonesia, 3(1), 19–36. https://journal.uc.ac.id/.

11. Hanafi M. Mamduh and Abdul Halim. (2016). Analisis Laporan Keuangan. Edisi Kelima. Yogyakarta: UPP STIM YKPN. 2016.
12. Idrawahyuni. Et.al. (2022). Model Altman Z-Score: Analisis Financial distress Pada Perusahaan Penerbangan yang Terdaftar di Bursa Efek Indonesia. AKMEN. Volume 19 Nomor 2 Agustus 2022 hal. 186 – 194.
13. Jiming, Li & Weiwei, Du. (2016). An Empirical Study on the Corporate Financial Distress Prediction Based on Logistic Model: Evidence from China's Manufacturing Industry. International J. of Digital Content Technology and its Applications, 5(6), 368-379.
14. Jonathan, R. & Militina, T. (2018). Pengaruh utang terhadap nilai perusahaan and Financial distress perusahaan batubara yang go-public di Indonesia. Jurnal Dedikasi, 19, hal. 46-65.
15. Kasmir. (2016). Analisis laporan keuangan. Jakarta: Raja Grafindo Persada.
16. Khaliq, Ahmad., Basheer Hussein Montawe A., Hassanudin Mohd Thas Thaker., Md Yousuf Harun and Nurun Nahar. (2017). Identifying Financial Distress: A Case Study of Malaysia's Government Linked Companies (GLC). International Journal of Economics, Finance and Management. Vol 3. No. 3, pp.141-194.
17. Khotimah, K. & Yuliana. I. (2020). Pengaruh profitabilitas terhadap prediksi kebangkrutan (Financial distress) dengan struktur modal sebagai variabel moderating. Forum Ekonomi, 22, hal. 37-43.
18. Kieso, Donald E., Jerry J. Weygandt, Terry D. Warfield (2016), Intermediate of Accounting (Edisi 16e). USA: Wiley.
19. Korytowski, M. (2018). Banks' profitability determinants in post-crisis European Union. Journal of Finance & Banking Studies (IJFBS), 7, pp. 1-12, doi: 10.20525/ijfbs.v7i1.847
20. Labiba, Azkafiras. (2021). Pengaruh Earning Per Share (EPS) Terhadap Harga Saham. INOVASI - 17 (3), 2021; 448-455.
21. Lee, D. & Manual, V. S. (2019). A study on the effect of capital structure on the Financial distress of non-financial companies listed in the Bursa Malaysia Stock Exchange (KLSE). International Journal of Academic Research in Business and Social Sciences, 9, pp. 428-460, doi: 10.6007/IJARBSS/v9i6/5962.
22. Lorca, P., Andres, J. D. & Garcia-Diez, J. (2019). Impact of e-commerce sales on profitability and revenue: The case of manufacturing industry. Inzinerine Ekonomika – Engineering Economics, 30, 544-555, doi: 10.5755/j01.ee.30. 5.21254.
23. Matturungan, N H. et.al. (2017). Manufacturing Company Bankruptcy Prediction In Indonesia With Altman Z-Score Model. Jurnal of Applied Management (JAM) Volume 15 Number 1, March 2017. pp. 18 – 24.
24. Maulina, R. & Murtadha, M. A. (2018). Pengaruh profitabilitas terhadap. Financial distress and dampaknya terhadap nilai perusahaan pada perusahaan sub sektor infrastruktur, utilitas, transportasi yang terdaftar di bursa efek Indonesia 2011-2015. Akbis, 1, hal. 125-132.
25. Nofitasari, Heni. (2021). Analisis Altman Z-Score Untuk Memprediksi Kebangkrutan. BALANCE: Jurnal Akuntansi and Bisnis Vol 6, No 2, November 2021, Hal 168 – 179.
26. Octaviani, D. B. & Nuraliati, A. (2019). Pengaruh rasio lancar and rasio utang atas modal terhadap. Financial distress. JASa (Jurnal Akuntansi, Audit and Sistem Informasi Akuntansi), 3, 443-469.
27. Oktavia, SN. et.al. (2018). Analisi Altman Z-Score Untuk Memprediksi Kebangkrutan Pada Perusahaan Otomotif and Komponen Yang Terdaftar Di Bursa Efek Indonesia. Jurnal Ilmu Akuntansi Mulawarman. Vol. 3 No. 4. Hal. 1 – 13.
28. Pratiwi, D. B., Damayanti, & Harori, M. I. (2021). Pengaruh Inflasi, Bi Rate, and Nilai Tukar Rupiah Terhadap Perubahan Indeks Harga Saham. Sektor Consumer Goods. Jurnal Perspektif Bisnis, 4(1), hal. 51–63.
29. Raissa, M. (2017). Determinan terhadap Prediksi Financial distress pada Perusahaan Manufaktur di Bursa Efek Indonesia. Jurnal Riset Ekonomi and Manajemen, 15(2), hal. 371-381.

30. Rahmayanti, S. & Hadromi, U. (2017). Analisis Financial distress pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia. Jurnal Akuntansi & Ekonomika, 7, Hal.53-63.
31. Rudianto. (2013). Akuntansi Manajemen, Informasi Untuk Pengambilan Keputusan Strategis. Jakarta: Erlangga.
32. Senthil Arasu Balasubramanian, Radhakrishna G.S., Sridevi P. and Thamaraiselvan Natarajan (2019). Modelling corporate financial distress using financial and non-financial variables. The case of Indian listed companies. Department of Management Studies, National Institute of Technology Tiruchirappalli, Tiruchirappalli, India. 10.1108/IJLMA-04-2018-0078.
33. Tan, T. K. (2018). Financial distress and firm performance: Evidence from the Asian financial crisis. Journal of Finance and Accountancy, 1, pp. 1-12.
34. Tamer Mohamed Shahwan (2015). The Effects of Corporate Governance on Financial Performance and Financial Distress: Evidence from Egypt. Corporate Governance: The International Journal of Business in Society, Vol. 15 Issue 5 pp 35-44.