

EFFECT OF FIRM CHARACTERISTICS ON CAPITAL STRUCTURE OF LISTED INDUSTRIAL COMPANIES IN NIGERIA

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ABSTRACT

This study examined the effect of firm characteristics on the capital structure of listed industrial companies in Nigeria. The factors tested in this study are profitability, liquidity, non-debt tax shield, growth opportunities and cost of equity. The sampled population were selected through a purposive sampling technique and analyzed using the fixed effect/random effect regression model. The result of the findings showed that profitability negatively affects the debt-to-asset ratio of industrial companies. The study shows that a unit increase in a firm's profitability induces a 61.5% decrease in the debt-to-asset ratio of listed industrial companies. The study recommends that industrial companies formulate policies which support the implementation of positive cash flow using the profits to address the non-significant relationship between liquidity and tangibility of assets on the capital structure of listed industrial companies in Nigeria.

KEYWORDS: Profitability, Liquidity, Asset Tangibility, Growth Opportunities, Cost of Equity, Debt-to-asset.

1. INTRODUCTION

In light of their performance, Nigerian industrial businesses must make crucial decisions on their capital structure. There is still much to learn about the variables that affect companies' decisions and how they affect capital structure. An important question that hasn't been addressed by researchers is how company characteristics among industrial enterprises in Nigeria affect capital structure. Despite the use of numerous approaches, variables, and theoretical frameworks, there hasn't been any concrete, conclusive empirical data about how company characteristics affect the capital structure of listed industrial businesses in Nigeria until now. Studies by Georgios, Tsoukas, and Zhang (2019) and Amahalu, Abiahu, Obi, and Okika (2018), for instance, found a positive relationship between company characteristics and financial success. Firm characteristics are the numerous accounting data that companies publish in their financial statements for a specific accounting period, which can communicate information about their performance to a variety of stakeholders. The qualities of a company differ depending on the type of business entity. Based on the pertinent data revealed on the firm's financial statements for a specific accounting period, the characteristics of the company can be identified (Bunea & Dinu, 2020). Neves, Serrasqueiro, Dias, and Hermano (2020) claim that the relationship between corporate characteristics and financial performance is unsatisfactory. Mbonu and Amahalu's research from 2021 finds no connection between corporate traits and financial success. When analyzing the relationship between company characteristics and performance, studies in Nigeria have generally concentrated on general corporate firms and, in particular, the banking institutions listed on the stock market. Despite its importance for the production of food, capital goods, value creation, and the growth of the Nigerian economy, the industrial sector has gotten little attention in this setting.

To achieve optimality, a business can make use of a particular component or a range of financial arrangements (Ecowas Omojolaibi, Oladipupo, and Okudo, 2019). The two benefits of capital structure are the maximization of the firm's value and the decrease of its cost of capital, and a firm must decide which capital structure would allow it to accomplish its objective. According to Ezechukwu and Amahalu (2016), a firm's characteristics include things like its size, leverage, liquidity, sales growth, capital, age, dividend, market share, off-balance sheet activities, and operating costs. It is concerned with how successfully companies can raise cash to fund their operations and settle their short-term debts on time with current assets in order to gain the confidence of creditors and other capital lenders. It also considers ways to maximize performance while minimizing running costs. In an effort to improve

performance, the majority of firms finance their operations through debt. As a result, a corporation's leverage is increased because it can engage in company activities without increasing equity. The capital structure of a company is crucial, but for this to happen, there must be the right ratio of equity to debt to increase the company's value and reduce the rate of capital expenditure.

Given various competing criteria, it is practically impossible to pinpoint the best capital structure. This study will examine the probable firm traits that characterize such capital structures with a focus on industrial listed businesses listed in Nigeria. In order to better understand how firm characteristics, affect capital structure.

1.1 Objectives of the Study

The main objective of this study is to examine the effect of firm characteristics on the capital structure of listed industrial companies in Nigeria. However, the specific objectives of the study include:

- 1) to examine the effect of profitability on the capital structure of listed industrial companies in Nigeria
- 2) to determine the effect of liquidity on the capital structure of listed industrial companies in Nigeria
- 3) to evaluate the effect of non-debt tax shield on the capital structure of listed industrial companies in Nigeria
- 4) to evaluate the effect of asset tangibility on the capital structure of listed industrial companies in Nigeria
- 5) to find out the effect of growth opportunities on the capital structure of listed industrial companies in Nigeria
- 6) to determine the effect of cost of equity on the capital structure of listed industrial companies in Nigeria

1.2 Research Questions

The following will be the research questions of this study

- 1) what is the effect of profitability on the capital structure of listed industrial companies in Nigeria?
- 2) how does liquidity affect the capital structure of listed industrial companies in Nigeria?
- 3) to what extent does non-debt tax shield affect the capital structure of listed+ industrial companies in Nigeria?
- 4) what is the effect of asset tangibility on the capital structure of listed industrial companies in Nigeria?
- 5) to what extent does growth opportunities affect the capital structure of listed industrial companies in Nigeria?
- 6) what magnitude of effect does cost of equity have on the capital structure of listed industrial companies in Nigeria?

1.3 Statement of Hypotheses

The following will be the null form of the hypotheses for this study

- H01: Profitability has no significant effect on the capital structure of listed industrial companies in Nigeria
H02: Liquidity has no significant effect on the capital structure of listed industrial companies in Nigeria
H03: Non-debt tax shield has no significant effect on the capital structure of listed industrial companies in Nigeria
H04: Asset tangibility has no significant effect on the capital structure of listed industrial companies in Nigeria
H05: Growth Opportunities has no significant effect on the capital structure of listed industrial companies in Nigeria
H06: Cost of Equity has no significant effect on the capital structure of listed industrial companies in Nigeria

2. LITERATURE REVIEW

2.1 Theoretical Framework

Trade-Off Theory

According to trade-off theory, the ideal debt ratio is determined by weighing the advantages of debt financing—such as the interest tax shield—against its disadvantages. The marginal tax shield from each additional currency unit of debt falls as leverage rises. Due to their lack of positive taxable incomes, companies would almost certainly be exempt from paying taxes. Therefore, the trade-off hypothesis disproved Modigliani and Miller's (1958) irrelevance theory, which claimed that capital structure has no bearing on company value. The theory modified the MM (1958) perfect market assumptions, including the ones that enterprises do not pay taxes, there are no transaction costs, and information is symmetric. According to the trade-off idea, businesses act as though they are striving for the best possible debt situation. They frequently balance the tax benefits of employing debt in their capital structure against the potential agency costs and bankruptcy costs.

Companies determine their ideal capital structure and balance the benefits and drawbacks of adding a further monetary unit of debt using the Trade-Off theoretical framework. We can list costs that are 'fiscally deductible' from corporate tax as one of the benefits (Modigliani and Miller, 1963). The potential costs associated with financial hardship as well as the associated agency costs between owners and creditors are two drawbacks of debt (Kraus and Lichtenberger, 1973). The benefits and drawbacks of debt are balanced at the corporate capital structure's ideal point, creating equilibrium. The trade-off strategy, according to Myers (2001), meant that the real firm debt ratio would eventually revert to a target, or ideal level. Without transaction and adjustment expenses, in

an ideal world, businesses would automatically adjust their capital expenditures to any changes in their debt objectives.

The trade-off hypothesis predicts that because a firm's financing decision varies over time and geography, so too may the transaction costs and rate at which it moves toward the ideal aim. The cost and speed of changes toward the ideal debt objective are predicted to have an inverse relationship by the trade-off theory. According to empirical research, enterprises in developed economies spend more money and make changes more slowly in order to reach their ideal target position (Fama & French, 2002).

Pecking Order Theory

According to Harris and Raviv (1991), insiders and firm managers are presumed to have access to confidential information regarding the traits of a firm's returns and the investment options open to them. The Pecking Order Theory (POT) explicitly takes into account the inherent information asymmetry that exists between various stakeholders in an effort to explain capital structure decisions. Ross (1977) and Leland and Pyle (1977) were the pioneers who clearly accounted for asymmetric information in their work. However, Myers and Myers and Majluf (1984) were the first to take into account asymmetric information in the context of capital structure. They demonstrated how the choice of capital structure reduces information symmetry-related inefficiencies in the firm's investment decisions. The Pecking Order theory asserts that businesses strongly favor internal financing because it is thought to be more affordable than new debt and equity (Myers, 1984). When companies need external financing, they first issue debt and then, after exhausting all other "safe" choices, equity. Since Myers (1984) and Myers and Majluf (1984) initially suggested the Pecking Order idea, the literature on it has lain dormant since the early 1980s. According to Myers' (1984) Pecking Order Theory, organizations should first use internal financing before turning to debt, and only then should they turn to equity financing after all other choices have been used up. The fact that internal and external finance are imperfect replacements explains this. Myers and Majluf (1984) offer a different explanation for the pecking order based on an asymmetric information paradigm. It is assumed that the management is more knowledgeable than potential investors about the firm's value. Only insiders are aware of a company's or its investment projects' quality.

Therefore, if outsiders are requested to fund these initiatives, they must pay a premium. Compared to debt, there is more information asymmetry with relation to equity. Financial intermediaries have access to information that outside investors do not and can monitor the company. Outsiders typically aren't able to monitor businesses; thus they need a significantly larger premium on equity financing than they do on debt because they don't know what the businesses' growth prospects are. Asymmetric information raises the cost of borrowing, whereas tax benefits have the opposite impact and lower the cost of borrowing in comparison to equity issues (Myers, 1984). Due to different expenses connected with fresh stock offerings, equity finance is thought to be the most expensive method of funding. Underwriting discounts, registration fees, taxes, and marketing and administrative costs are some of these costs. Additionally, businesses often release "safe" securities first, i.e. debt rather than equity. According to Shyam-Sunder and Myers (1999), the term "safe" here suggests that the terms are not impacted by managers' inside knowledge. Although there are expenses associated with financial distress, debt cannot be viewed as a "safe" security, yet it is nonetheless seen as "safer" than equity.

2.2 Empirical review

The debt-equity ratio appears to be positively correlated with the firm age, size, and asset values, according to Atakul and Gundes (2022), and earnings and cash flow volatility are important predictors of leverage, supporting the trade-off theory. Charles, (2022), examined Pakistan's capital structure between 2003 and 2012 to see whether it was dynamic, with the express purpose of determining the adjustment speed and finding the elements influencing the adjustment speed toward the target capital structure. Using the difference Generalized Method of Moments (GMM) estimation technique, the study confirms the existence of an ideal capital structure for Pakistani non-financial listed firms and comes to the conclusion that, depending on the target debt proxy used, firms complete adjustment to the ideal capital structure in 1.45 to 2.25 years. It is discovered that across a number of different debt proxies, company size, profitability, stock market development, and GDP are generally reliable indicators of the speed of adjustment.

Using a sample of Turkish banks, Polyakov and Polyakova (2016) looked into the role of firm-specific, country-specific, and macroeconomic variables in explaining variation in leverage. Leverage was found to have a significant and favorable link with average industry leverage, firm size, and GDP growth. Additionally, GDP growth, profitability, and tangibility are all compatible with the predictions of the pecking order theory, whereas company size is compatible with the predictions of the trade-off theory. Findings suggest that the capital structures of financial and non-financial firms are eventually influenced by the same forces.

Jaworski and Czerwonka (2021) found that there was no association between profitability and liquidity, but there was a strong correlation between corporate debt, tangibility, and scale. The debt-to-capital ratio has been linked to growth (a positive association) and the non-debt tax shield (a negative relationship), but it is uncertain if these relationships are statistically significant. They discovered strong evidence for a negative correlation between GDP growth, the extent of shareholder rights protection, the development of the capital market, and the debt of the businesses assessed for country-specific capital structure characteristics. The idea that taxation, inflation, and the rate of financial institution growth all have positive effects has received some evidence. Additionally, Ali, Rangone, and Farooq (2021) looked into how the capital structure of multinational energy companies was impacted by the effective tax rate and firm-specific factors. They show that the parameters of long-term and total debt of the capital structure are all positively and significantly impacted by tangibility, risk, profitability, and non-debt tax shields. However, they show that while short-term debt is favorably correlated with corporate risk, it is significantly inversely correlated with tangibility, non-debt tax sheltering, and liquidity. They also find that long-term debt and total debt have a substantial inverse connection with liquidity. Following the 2008 financial crisis, Mabandla (2023) looked into the capital structures of the leading Serbian companies. The analysis's main conclusion is that these businesses, which are mostly financed by short-term debt, are mostly congruent with the idea of the "pecking order." The results show that short-term leverage behavior is consistent with the "pecking order" theory when total leverage is separated into short- and long-term components, but long-term leverage behavior is entirely consistent with the trade-off theory's predictions. This analysis also reveals that the capital structure of Serbia's largest firms is significantly influenced by nation-specific factors like inflation and the expansion of the banking system.

The capital structure-specific factors of a few Ethiopian microfinance institutions are identified by Deyganto (2021). Indicators like growth, profitability, firm size, age, and asset tangibility all had a positive and statistically significant impact on the leverage ratio, according to regression analysis. The factors influencing the capital structure of Indonesian real estate and property enterprises listed on the Indonesia Stock Exchange were examined by Anggie and Purwanto in 2021. According to the findings, business risk, firm size, and the tangibility of assets all have a significant impact on capital structure, whereas sales growth and liquidity have little of an impact. Profitability as a moderating variable lessens the impact of business risk but raises the impact of firm size on the debt-to-equity ratio, so determining the ability of the company to repay its debt, which is a major concern for investors and creditors. Prior to (2010-2014) and following (2015-2019) the implementation of Indonesia's infrastructure plan, Santoso and Nugrahanti's (2022) analysis of the IDX-listed firms in Indonesia's capital structure determinants. It has been determined that SOE leverage increased statistically considerably between 2010 and 2014, 2015, and 2019. Across both periods, it has been repeatedly shown that company risk, tangibility, profitability, business scale, and liquidity are important variables. When severe outliers are excluded, growth continues to be a consistently meaningful predictor but the debt tax shield does not. State ownership increased from 2010 to 2014 but decreased from 2015 to 2019, showing that SOEs did not have much more clout than non-SOEs during Indonesia's infrastructure plans.

3. METHODOLOGY

3.1 Model Specification

The model is specified to capture firm characteristics as major determinants of capital structure. Thus, the econometric form of our model is expressed to avoid the problem of multicollinearity:

$$DETA_{it} = \beta_0 + \beta_1 RETA_{it} + \beta_2 CACC_{it} + \beta_3 NTAX_{it} + \beta_4 ASTA_{it} + \beta_5 MTBV_{it} + \beta_6 COSE_{it} + \mu_{it} \quad (1)$$

Where:

<i>DETA</i>	=	<i>Debt to Asset (Proxy for capital structure is computed as total liabilities divided by total asset)</i>
<i>RETA</i>	=	<i>Return on Asset (proxy for profitability is computed as profit before tax divided by total asset)</i>
<i>CACC</i>	=	<i>Cash Conversion Cycle (Proxy for Liquidity is computed as inventory days + trade receivable days – trade payable days)</i>
<i>NTAX</i>	=	<i>Non-Debt Tax Shield (computed as depreciation and amortization divided by total asset)</i>
<i>ASTA</i>	=	<i>Asset Tangibility (computed as fixed asset divided by total asset)</i>
<i>MTBV</i>	=	<i>Market to Book Value (Proxy of Growth Opportunities computed as market capitalization divided by total equity)</i>
<i>COSE</i>	=	<i>Cost of Equity (computed as cash dividend paid divided by market capitalization)</i>
β_0	=	<i>Constant</i>
$\beta_1 - \beta_6$	=	<i>Slope Coefficient</i>

μ	=	Stochastic disturbance
i	=	i^{th} firm
t	=	time period

3.2 Research Design and source of data

This study made use of quantitative research to collect data for this study and to analyse data and report findings. In relation to this study, we employed the firm-level approach. Furthermore, this study employed the use of secondary data for sampled industrial goods listed companies sourced from Nigerian Exchange Group Fact Books and related companies' annual financial reports and footnotes for the periods covered in the study as compiled by Machame RATIOS®.

3.3 Sample Size and Sampling Technique

The population of this study consists of all the listed industrial goods firms in Nigeria as at December 2021, selected using a purposive sampling technique of industrial companies listed in the Nigerian Exchange Group market over the period 2006-2021.

4. RESULT AND FINDINGS

The average on asset tangibility (ASTA) is 0.52 with minimum of 0.02 and maximum asset tangibility of 0.96 indicates that asset tangibility has very little importance in determining the capital structure of listed industrial companies. A standard deviation of 0.2 further shows small spread around the average value. Also, the average debt to asset (DETA) ratio of 0.61 indicates that listed industrial companies have more asset than debt with a minimum and maximum of 0.036 and 2.23 respectively. The standard deviation of 0.61 shows small spread around the average value. In addition, average profitability (RETA) of firms is 0.057828 with minimum of -1.80 and maximum profitability of 1.09. The standard deviation of 0.22 shows small spread around the average value. The overall average liquidity (CACC) of listed industrial companies is 3.19 with minimum and maximum liquidity of 0 and 39 respectively. A standard deviation of 5.94 indicates small spread around the average value. Also, the overall average of non-debt tax shield (NTAX) is 0.041 with minimum and maximum NTAX of 0 and 0.15. A standard deviation of 0.024 indicates small spread around the average value. Furthermore, the average value of growth opportunity of listed industrial companies (MTBV) is -8.36 with minimum growth opportunity of -1176.19 and maximum growth opportunity of 51.96. The standard deviation of 109.48 further shows a wide spread from the average value. Lastly, the average cost of equity (COSE) is 0.061 with minimum and maximum cost of 0 and 5.57 respectively. The standard deviation of 0.424 indicates a small spread around the average value.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
ASTA	0.521475	0.244383	0.024537	0.957825
DETA	0.607218	0.292509	0.035548	2.229656
RETA	0.057828	0.215538	-1.79917	1.088969
CACC	3.186047	5.941256	0	39
NTAX	0.040865	0.024302	0	0.149381
MTBV	-8.35527	109.4776	-1176.19	51.96112
COSE	0.060953	0.423514	0	5.568043

Source: Computed by the Author (STATA, 16)

Based on normality of residuals, the insignificant values of the test results suggest the acceptance of null hypothesis and indicate that the residual is normally distributed as the probability is greater than 5%, which implies it follows a normal distribution.

Table 2: Skewness-Kurtosis test of Normality

Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
Residuals	172	0.2076	0.1181	8.62	0.1034

Source: Computed by the Author (STATA, 16)

Testing for correlation among the variables in the model helps to avoid the possible problems of multicollinearity. From the study's result, RETA, CACC, MTBV and COSE have negative correlation with DETA while NTAX and ASTA have positive correlation with DETA. Overall, there is moderate correlation indicating the absence of multicollinearity in the model.

Table 3: Correlation Analysis

VARIABLE	DETA	RETA	CACC	NTAX	MTBV	COSE	ASTA
DETA	1.0000						
RETA	-0.5283	1.0000					
CACC	-0.0177	-0.0427	1.0000				
NTAX	0.0256	-0.1777	0.2621	1.0000			
MTBV	-0.1492	0.0832	0.0658	-0.0310	1.0000		
COSE	-0.0532	0.0086	-0.0341	-0.0471	0.0134	1.0000	
ASTA	0.2056	-0.2832	0.1063	0.1669	-0.1137	-0.1534	1.0000

Source: Computed by the Author (STATA, 16)

Based on heteroscedasticity test results, the insignificant values of the test results suggest the acceptance of null hypothesis and indicate that the model is free from heteroscedasticity problem as the probability is greater than 5%.

Table 4: White Test for Homoscedastic city

Source	chi2	df	P
Heteroskedasticity	6.18	5	0.2895

Source: Computed by the Author (STATA, 16)

The within r-square of this model is 0.2441, with between r-square of 0.3859 and overall r-square of this model is 0.2901. The result of the wald chi2 (56.57) shows that the model is significant at 1% level of significance. The result of the regression result shows a negative significant relationship between profitability and debt-to-asset, a positive insignificant relationship between liquidity, non-debt tax shield, asset tangibility, growth opportunities, cost of equity and debt-to-asset of listed industrial companies. In addition, the z score shows that profitability, growth opportunities and cost of equity lie below the mean while liquidity, non-debt tax shield and asset tangibility lie above the mean. So that, a unit increase in profitability, leads to a 61.5% decrease in the debt-to-asset ratio of listed industrial companies within the study period. Overall, based on the components of firm characteristics adopted for this study, profitability has significant effect on capital structure of listed industrial companies in Nigeria.

Table 5: Effect of firm characteristics on debt-to-asset of listed industrial companies in Nigeria

DETA	Coefficient	Standard Error	Z	P> z
RETA	-0.6151791	0.083481	-7.37	0.000
CACC	0.0022209	0.006196	0.36	0.720
NTAX	0.5182559	0.8448472	0.61	0.540
ASTA	0.0859998	0.121825	0.71	0.480
MTBV	-0.0000629	0.0001784	-0.35	0.724
COSE	-0.0413193	0.0429323	-0.96	0.336
_cons	0.6354333	0.0414364	15.34	0.000
R-square	Within 0.2441			
	Between 0.3859			
	Overall 0.2901			
Wald chi ²	56.57 (0.0000)			

Source: Computed by the Author (STATA, 16)

From the regression analysis, profitability has negative significant effect on the capital structure of listed industrial companies in Nigeria, this indicates that as the profit of listed companies rise, the capital structure in terms of the debt-to-asset falls. According to (Liang et al., 2020), profitability is negatively associated with the capital structure of Indonesian and Malaysian firms. Findings from this study is in-line with the Pecking Order Theory. The theory states that a negative relationship should hold between debt and profitability. Bevan and Danbolt (2002) and Ozkan (2001) all found an inverse relationship between level of gearing and profitability. Anggie and Purwanto (2021) found no considerable impact of liquidity on capital structure which corroborates the findings of this study as liquidity has no significant impact on debt-to-asset and debt-to-equity which are proxies for capital structure. However, Ahmed, Ahmed, and Ahmed, (2010) suggests that liquidity is a significant predictor of life insurance businesses' capital structure. Also, Sheikh and Wang (2011) found liquidity to be negatively associated to capital structure of manufacturing businesses. Cevheroglu-Acar (2018) further suggest that liquidity contribute significantly to the capital structure.

After careful analysis, this study finds that non-debt tax shield, asset tangibility and cost of equity are insignificant in determining the capital structure of listed industrial companies in Nigeria. According to Chadha and Sharma (2015), in the Indian manufacturing sector, asset tangibility and non-debt tax shield were found to be strongly connected with financial leverage or major drivers of capital structure. Also, Songul (2015) indicates that there is significant correlation between tangibility, and leverage. However, non-debt tax shields have a negligible effect on the leverage. El-Habashy (2018) additionally, found firm-specific considerations such as tangibility and non-debt tax shelters to influence the capital structure decision in Egypt. Cevheroglu-Acar (2018) also indicated that non-debt tax shield and tangibility contribute significantly to capital structure. Although (Amahalu et al., 2019) found significant positive effect on Debt-Asset ratio and an insignificant effect on Debt-Equity ratio which is similar to findings by Simatupang, Purwanti, and Mardiaty (2019) whose study indicated that non-debt tax shelters have no effect on a company's capital structure.

5. CONCLUSION AND RECOMMENDATIONS

This study analyzes the effect of firm characteristics on the Capital Structure of listed Industrial Companies in Nigeria. The study revealed that, profitability is has a negative significant effect on the capital structure of listed industrial companies in Nigeria. The study found a 61.5% decrease in debt-to-asset for a unit increase in profitability. From the findings of the study, industrial companies should formulate main policies which support the implementation of positive cash flow using the profits to address the non-significant relationship between liquidity and tangibility of assets on the capital structure of listed industrial companies in Nigeria.

REFERENCES

1. Ali, S., Rangone, A., & Farooq, M. (2022). Corporate taxation and firm-specific determinants of capital structure: Evidence from the UK and US multinational firms. *Journal of Risk and Financial Management*, 15(2), 55.
2. Amahalu, N.N., Egolum, P.U., Ezechukwu, B.O., & Obi, J.C. (2018). Inventory management and financial performance: Evidence from brewery firms listed on Nigeria stock exchange. *International Journal of Research in Business, Economics and Management*, 2(3), 72-93
3. Bunea, M., & Dinu, V. (2020). The relationship between the boards characteristics and the risk management of the Romanian banking sector. *Journal of Business Economics and Management* 21, 1248–68.
4. Charles, É. (2022). Capital Structure and Firm Profitability in Developing Countries. *OTS Canadian Journal*, 1(1), 40-48.
5. Deyganto, K. O. (2021). Determinants of Capital Structure in Financial Institutions: Evidence from selected Micro Finance Institutions of Ethiopia.
6. Ecowas. J.A., Omojolaibi, A.O., Oladipupo, A.G., & Okudo. A.G. (2019). Fragility and macroeconomic outcomes. *Journal of Economics Library* 6 (1), 11-34.
7. Ezechukwu, B.O., & Amahalu, N.N. (2016). Effect of international financial reporting standards adoption on cost of equity capital of banks quoted on Nigeria Stock Exchange. *Research Journal of Financial Sustainability Reporting*, 1(2).
8. Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies*, 15(1), 1-33.
9. Georgios, S., Tsoukas, S., & Zhang, P. (2019). What influences a bank's decision to go public? *International Journal of Finance and Economics* 24, 1464–85.
10. Gundes, S., Atakul, N., & Buyukyoran, F. (2019). Financial issues in construction companies: bibliometric analysis and trends. *Canadian Journal of Civil Engineering*, 46(6), 329-337.
11. Jaworski, J., & Czerwonka, L. (2021). Determinants of enterprises' capital structure in energy industry: Evidence from European Union. *Energies*, 14(7), 1871.
12. Mabandla, N. Z. (2023). *Leveraging on the effects of earnings volatility, government borrowing, and liquidity on South African banks' capital structure* (Doctoral dissertation).
13. Mbonu, C. M., & Amahalu, N. N. (2021). Effect of firm characteristics on capital structure of insurance companies listed on Nigeria stock exchange. *International Journal of Management Studies and Social Science Research*, 3(5), 217-228.
14. Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261-297.
15. Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, 53(3), 433-443.
16. Myers, S. C. (2001). Capital structure. *Journal of Economic perspectives*, 15(2), 81-102
17. Neves, M. E., Serrasqueiro, Z., Dias, A., & Hermano, C. (2020). Capital structure decisions in a period of economic intervention: Empirical evidence of Portuguese companies with panel data. *International Journal of Accounting & Information Management*, 28(3), 465-495.

18. Polyakov, K., & Polyakova, M. (2016). The role of financial factors interactions in the capital structure determination. *Корпоративные финансы*, 10(1), 102-118.
19. Santoso, L., & Nugrahanti, Y. W. (2022). The Effect of Ownership Structure on Financial Distress: Evidence in Indonesian Manufacturing Companies. *Jurnal Riset Akuntansi Kontemporer*, 14(1), 55-64.
20. Tamba, C. A. O., & Purwanto, P. (2021). Determinants of Capital Structure Using Profitability as Moderating in Indonesia's Property and Real Estate Firms. *Emerging Markets: Business and Management Studies Journal*, 8(2), 73-88.