Capital Structure and Agency Costs

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ABSTRACT

Capital structure and agency cost. **Objectives**: The study empirically investigates the relationship between capital structure and agency cost of non-financial firms. **Prior Work:** This extended and build on the studies of Hajis said (2020) and Omuemu and Olowe (2020); Kumar (2017); Awan and Amin (2014); Jaelani (2017) and Zakaria (2016) that also research in the same direction of our study. **Approach:** this study adopted a longitudinal research design and the Ordinary Least Square method of data analysis. **Results:** The study showed that total debt to equity ratio and long term debt to asset ratio have a negative and significant relationship with agency cost, whereas short-term debt to asset ratio, long term debt to equity ratio, and equity to assets ratio have a positive and significant relationship with agency cost. **Implication:** the study has ushered prospective and existing investors and organizations, the knowledge of the relevance of short and long term debts to agency cost Nigeria. **Value:** the demonstrated that the ratio of short-term debt to assets has a positive and significant effect on agency.

Keywords: Agency cost, Assets, Capital structure, Debts, Ratios.

INTRODUCTION

The separation of asset ownership is a crucial characteristic of publicly traded companies. In this type of business, the owners contributed capital to undertake large ventures, but they lack the managerial expertise required to run such ventures. The owners of these companies then obtain the transfer of decision-making authority to management acting as fiduciaries). This separation creates an agency issue. Agency problem can be defined as a conflict in which agents who are entrusted with protecting the principals' interests choose to use their authority for their own personal gain. Agency problem in corporate finance refers to a conflict of interest between a company's management and its stockholders.

The agency problem is prevalent and can be observed in nearly every organisation, including churches, businesses, and government agencies. It is a case of conflicting interests when individuals with diverse responsibilities abuse their authority and power for their own gain. If only organisations are willing to resolve it, it can be resolved. The answer to how to reduce the agency problem lies in the company's management and oversight system (Sehrawat, 2019, p10). This agency issue incurs costs for the agency. To resolve conflicts of interest between principals and agents within a company or organisation, agency expenses are regarded as internal expenses. It results from an agent's actions on behalf of a principal. In corporations, shareholders have an interest in increasing the firm's value, while managers pursue their own self-serving interests, such, increased the company's market value and size. Literature identifies two types of agency costs: agency costs resulting from conflicts between outside equity holders and owner-managers and conflicts between equity holders and debt holders.

Agency problems are more likely to occur in large corporations (Jensen & Mecklenburg, 1976, p23). Agency theory describes the relationship between the two entities when the shareholders (principal) hire a manager (agent) and give him the authority and responsibility to make decisions (Afriani, 2017, p45).

Problem Statement

Due to the intensifying competitive environment on the global stage, finance managers in the business world are more cautious when making capital structure decisions. This then encourage managers to modify the capital components of their firms in order to maximise the firm's overall value and satisfy the needs of all of its stakeholders. Researchers in the field of finance have demonstrated that capital structure decisions are crucial for any business. This is due to the fact that they would have an impact on the firm's value and its cost of capital. Furthermore, various theories of capital structure attempt to guide corporate finance managers in selecting the optimal proportion of debt to equity (Pandey, 2009).In this manner, organisations with a high financial risk, as indicated by a high debt obligation, would reduce the amount of debt financing in their capital structure so as not to place shareholders in a vulnerable position. On the basis of the above discussion, the following hypotheses were stated to direct this study.

- Total debt to equity does not signicantly affect on agency cost.
- Long term debt to asset ratio has no effect on agency cost.
- Short term debt to asset ratio does not relate to agency cost.
- Long term debt to equity ratio, equity to assets ratio did not affect agency cost signicantly

LITERATURE REVIEW

Capital has been linked to the term 'structure'. In the business world, "capital" is simply money. Capital is a large sum of money that is used to start a business or to invest in order to generate additional funds. Capital on a company's balance sheet equals total assets minus current liabilities. It is stated as follows: Capital= Total assets – Current Liabilities. A structure is an organised arrangement of elements. In construction, the term 'structure' refers to anything that is composed of multiple interconnected parts and has a fixed location on the ground. (Kumar, 2017, p21) referred to structure as an engineering term. In the case of building construction, there are standard proportions in which various elements are integrated. For a high-quality structure, sand and textile are combined in a ratio of 4:1. Utilizing this analogy, it is anticipated that businesses will acquire capital resources. This is the foundation of the capital structure concept.

The concept of capital is interpreted in various ways. The difference between a company's debt and equity constitutes the capital structure. Capital structure is the relationship between long-term debts and equity, according to a number of authors. In other words, only sources of capital with a long-term outlook are considered. It encompasses short-term capital in its scope. Alternatively, some authors believe that capital structure refers to the relationship between all capital sources. They decided against differentiating between long-term and short-term sources.

According to (Jaelani, 2017), the use of debt can reduce the manager's actions regarding unnecessary expenditures, thereby allowing the manager's self-interest to be overcome.

In today's society, corporate organisations compensate managers to eliminate agency costs and to encourage managers to borrow money to finance their investments (Zakaria, Purhanudin, Chong, & William, 2016). In addition, according to (Awan and Amin, 2014), the distress of finance and agency cost hypotheses assume that a company with a high debt obligation will become insolvent. As Parmasivan and Subramanian explain, capital structure refers to the relationship between various long-term sources of financing, such as equity capital, preference share capital, and debt capital (2009).

\Capital structure is the continuing financing of a company, which is primarily represented by long-term debt and equity, and determining the appropriate capital structure is a crucial decision of the financial management because it is closely related to the firm's value.

METHODOLOGY

The longitudinal research design was adopted in this study, since data used were time series and cross sectional in nature. The sample consists of 21 firms from the consumer and industrial goods sector chosen using the technique of purposive sampling, the study covered the period of 2018-2022, and data were extracted from audited annual reports of non-financial firms listed on the Nigeria Group Exchange Market.

Model Specification

The model for this study is stated in econometric form as: $AUR_{it} = \beta_0 + \beta_1 TDE_{it} + \beta_2 LTDA_{it} + \beta_3 STDA_{it} + \beta_4 LTDE_{it} + \beta_5 EA_{it} + \mathcal{E}_{it}$……….……(2)

Where, AUR = Asset Utilization ratio, β_0 = Constant, TDE = Total debt to equity, LTDA =Long term debt to assets, STDA = Short term debt to equity, LTDE = Longterm debt to equity, EA = Equity to assets, β_1 β_2 β_3 β_4 β_5 = Coefficient of explanatory variables, $\mathcal{E}$ = Error term, I = Number of forms, t = Time.

Data Analysis Techniques

Descriptive and inferential statistics were utilised to analyse the study's data, these includes, descriptive statistics and inferential statistic.

Table 1: Descriptive Statistics with Common Sample on Capital Structure and Agency Cost

	AUR	EAR	TDE	LTDA	STDA	LTDE
Mean	0.786860	0.180567	1.952177	0.198706	1.013254	0.537818
Median	0.770765	0.060248	1.236172	0.107307	0.436322	0.209692
Maximum	2.302064	4.986594	47.92299	2.451464	17.95173	20.57649
Minimum	0.000000	0.009012	-1.236011	0.008026	0.004452	-0.174912
Std. Dev.	0.429324	0.549917	4.772492	0.364843	2.838557	2.039846
Skewness	0.385677	7.060395	8.655661	4.254432	4.861186	9.222614
Kurtosis	3.663517	58.47918	83.63110	22.01577	26.13209	90.54191
Jarque-Bera	4.529187	14338.35	29754.62	1898.752	2754.580	35016.68
Probability	0.103872	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	82.62034	18.95957	204.9786	20.86409	106.3917	56.47093
Sum Sq. Dev.	19.16921	31.45047	2368.774	13.84348	837.9699	432.7413
Observations	105	105	105	105	105	105

Source: Author's Estimation from EViews 10, 2023.

The result of the descriptive statistics used for describing the characteristics of the data and ultimately the normality status of each series is presented in table 1. The results of the mean which shows the average value of the variables revealed that STDA (1.013254) being the lowest mean value while other variables AUR, TDE, LTDA, LTDE and EAR had a mean value of 0.786860, 1.952177, 0.198706, 0.537818 and 1.80567 respectively. The asset utilization ratio (AUR) by the firms examined is 0.787 for the years under examination. The average debt to equity ratio of the sampled firms for the period under review is 1.952. Maximum value of long term debt to asset ratio for a given time is 2.451 with a minimum of 0.008. Maximum value of short term debt to asset ratio for a given time is 17.95 with a minimum of 0.004.

Maximum value of long term debt to equity ratio for a given time is 20.58 with a minimum of -0.175. Maximum value of equity to asset ratio for a given time is 4.99 with a minimum of 0.009. The results of the standard deviation showed that three of the variables had relatively low standard deviation, AUR (0.429) LTDA (0.365) and EAR (0.550) which implies that they were all found to be oscillating around the mean point which implies that they were found to be oscillating around the mean point while TDE, STDA and LTDE exhibited comparative disparity from the mean point. However, the variable LTDA (0.365) had the least deviation from the mean point. The results of the Skewness showed that all the variables were positively skewed toward the origin. None of the variables was found to pass the test for the kurtosis as they all had a kurtosis value greater than approximately 3 which implies that they produce extreme outliers.

The Jarque-Bera statistic and its probability revealed that AUR (Jarque-Bera=4.529187 & Probability = $0.0000 < 0.05$), TDE (Jarque-Bera=29754.52 & Probability = $0.0000 < 0.05$), LTDA (Jarque-Bera=1898.752 & Probability = $0.0000 < 0.05$), STDA (Jarque-Bera=2754.580 & Probability = $0.0000 < 0.05$), LTDE (Jarque-Bera=35016.68 & Probability = $0.0000 < 0.05$) and EAR (Jarque-Bera=14338.35 & Probability = $0.0000 < 0.05$) failed the test of normality at 5% level of statistical significance implying that none of the variables were normally distributed. In order not to have spurious regression results, we have to examine the stationarity property of the series by conducting a unit root test.

Table 2: Correlation Results on Capital Structure and Asset Utilization Ratio

Covariance						
Correlation	AUR	TDE	LTDA	STDA	LTDE	EAR
AUR	0.182564					
	1.000000					
TDE	-0.057636	22.55976				
	-0.028400	1.000000				
LTDA	-0.055998	-0.049712	0.131843			
	-0.360942	-0.028825	1.000000			
STDA	-0.453992	-1.582620	0.959560	7.980666		
	-0.376115	-0.117948	0.935458	1.000000		
LTDE	-0.058865	9.418820	0.042538	-0.356156	4.121345	
	-0.067863	0.976809	0.057707	-0.062101	1.000000	
EAR	-0.068046	-0.310868	0.174687	1.371114	-0.071117	0.299528
	-0.290987	-0.119589	0.879048	0.886819	-0.064008	1.000000

Source: Author's Estimation from EViews 10, 2023.

The covariance result of the relationship between the independent variables and the dependent variable asset utilization ratio (AUR). Interestingly, the result revealed that AUR maintained a negative correlation with all the explanatory variables of the study; TDE (-0.03 or -3%), LTDA (-0.36 or -36%), STDA (-0.38 or -38%), LTDE (-0.07 or -7%) and EAR (-0.29 or -29%). For the test of multicollinearity none of the independent variables had a correlation value of greater than 7 which implies that there is no correlation between the independent variables.

Unit Root Analysis on Capital Structure and Agency Cost

Table 3: Unit Root Result on Series for Capital Structure and Agency Cost

Variable (Series)	Levin, Lin & Chu t*	Prob.	ADF – Fisher Chi-square	Prob.	PP – Fisher Chi-square	Prob.	Remark
AUR	-57.0309	0.0000	93.9242	0.0000	133.730	0.0000	
D(AUR)	-59.0933	0.0000	122.322	0.0000	137.562	0.0000	I(1)
TDE	-72.8566	0.0000	-13.8480	0.0000	85.7148	0.0001	
D(TDE)	-65.5724	0.0000	96.1058	0.0000	116.167	0.0000	I(1)
LTDA	-9.73815	0.0000	59.6489	0.0377	86.0561	0.0001	
D(LTDA)	-29.0036	0.0000	87.5140	0.0000	98.4299	0.0000	I(1)
STDA	-31.9202	0.0000	101.635	0.0000	117.895	0.0000	
D(STDA)	-138.383	0.0000	102.187	0.0000	123.587	0.0000	I(1)
LTDE	-23.9745	0.0000	75.7589	0.0011	89.1125	0.0000	
D(LTDE)	-72.1015	0.0000	85.2280	0.0001	100.194	0.0000	I(1)
EAR	-12.3398	0.0000	69.7936	0.0045	87.7300	0.0000	
D(EAR)	-30.0466	0.0000	97.5962	0.0000	116.951	0.0000	I(1)

Source: Author's Estimation from EViews 10, 2023.

The results for unit root test presented in table 3 shows results for Levin, Lin & Chu t unit root, ADF – Fisher unit root, and PP – Fisher unit root. The results are examined using 5% level of significance. None of the series was found to be stationary at level. All the variables were found to be stationary at first difference. Giving that the variables are all stationary at some level of difference not more than second difference, we can proceed with the data for conducting estimations that will be used to test the hypotheses of the study.

Regression Analysis on Capital Structure and Agency Cost (Asset Utilization Ratio)

In choosing which of the regression effect to base the test of our hypotheses and draw our findings for the study, we conduct the Hausman test. Using the 5% level of statistical significance, the probability value of the Hausman test is 0.0654 which is greater than 5% implying that the random effect panel least square is more appropriate for testing the hypotheses of the study. The result of the Hausman test is presented in table 4.

Table 4: Hausman Test for Capital Structure and Asset Utilization Ratio

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		10.371401	5	0.0654
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
TDE	-0.061126	-0.049422	0.000065	0.1465
LTDA	-0.958298	-0.842026	0.026134	0.4720
STDA	0.014377	0.006439	0.000134	0.4935
LTDE	0.149457	0.120090	0.000375	0.1296
EAR	0.238605	0.221134	0.002481	0.7258

Source: Author's Estimation from EViews 10, 2023.

Table 5: Fixed Effect Panel Least Square for Capital Structure and Asset Utilization Ratio

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.958577	0.059520	16.10503	0.0000
TDE	-0.061126	0.030773	-1.986380	0.0505
LTDA	-0.958298	0.305268	-3.139197	0.0024
STDA	0.014377	0.029297	0.490729	0.6250
LTDE	0.149457	0.072675	2.056513	0.0430
EAR	0.238605	0.106355	2.243478	0.0277
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.845652	Mean dependent var		0.786860
Adjusted R-squared	0.796807	S.D. dependent var		0.429324
S.E. of regression	0.193526	Akaike info criterion		-0.236083
Sum squared resid	2.958736	Schwarz criterion		0.421088
Log likelihood	38.39437	Hannan-Quinn criter.		0.030216
F-statistic	17.31317	Durbin-Watson stat		1.238862
Prob(F-statistic)	0.000000			

Source: Author's Estimation from EViews 10, 2023.

The result in table 5 revealed that TDE with a t-value of -1.986380 and a probability value of 0.0505 which is less than the 5% confidence level significantly affect AUR. Also, LTDA with a t-value of -3.139197 and a probability value of 0.0024 which is less than 5% statistical significant level significantly affect AUR. STDA is seen to have a positive effect on AUR implying that the greater the short term debt to asset ratio, the higher the asset utilization ratio for the firms but such increment is insignificant (t value= 0.4907, prob. = 0.6250> 0.05). LTDE is seen to have a positive effect on AUR, that is, the higher the long term debt to equity ratio the higher the asset utilization ratio and this increment is statistically significant ((t value= 2.0565, prob. = 0.0430 < 0.05. A unit change in EAR will result in 0.24% increase in AUR of the sampled firms.

The result of the R-squared value of approximately 85% shows that a very high proportion in the variation of the dependent variable (AUR) is accounted for by the independent variables. The F-statistic value of 17.31 and probability value of 0.0000 shows that the independent variables have a statistical significant joint relationship with the dependent variable (AUR). The Durbin Watson value which is less than two 1.23 shows that there is positive autocorrelation in the model of the study.

DISCUSSION OF FINDINGS

Hypothesis One: The panel regression analysis revealed a negative and significant relationship between the total debt to equity ratio and agency cost in Nigeria (TDE Prob. 0.0505 < 0.05). Contrary to (Zakaria, 2016), who stated that the total debt-to-equity ratio had a positive impact on agency cost, this is the case. Nonetheless, the result was comparable to that of Zhang (2009), who also used this ratio as a measure of capital structure on managerial incentive compensation in controlling free cash flow agency problem and found a negative relationship.

Hypothesis Two: In addition, the analysis revealed that the ratio of long-term debt to assets has a significant and negative relationship with agency cost (LTDA Prob. $0.0024 < 0.05$). This result contradicts the findings of (Imelda and Patricia, 2019) and Zheng (2013), who both concluded that long-term debt to asset ratio has no significant impact on agency cost.

Hypothesis Three: In addition, the analysis revealed that the ratio of short-term debt to assets has a positive but insignificant correlation with agency cost (STDA Prob. $0.6250 > 0.05$). Although studies have been conducted by (Hajissaid, 2020) and (Omuemu and Olowe, 2020) using the short-term debt to asset ratio as a proxy for capital structure on the profitability of firms and the value of firms, respectively. However, this study demonstrates that the ratio of short-term debt to assets has a positive and significant effect on agency costs.

Hypothesis Four: Again, the analysis revealed that the ratio of long-term debt to equity has a positive and statistically significant relationship with agency cost in Nigeria (LTDE Prob. $0.0430 < 0.05$). This is consistent with earlier studies by (Onsumu, 2014; Nyabuga, 2008). Onsumu(2014) utilised this ratio as a measure for capital structure and the efficiency ratio to measure agency cost and concluded that the long-term debt to equity ratio has a significant and positive effect on agency cost. Similar research was conducted by Nyabuga(2008) using the long-term debt-to-equity ratio to measure capital structure and asset utilisation to measure agency cost. He also concluded that it has a significant impact on both high and low growth companies.

CONCLUSION

This study's empirical investigation demonstrates that capital structure has a significant impact on agency costs in Nigeria. For corporations, managers are viewed as agents acting on behalf of shareholders, who serve as their principals. These shareholders commit resources for the smooth operation of the company to the managers, and they hold the managers accountable for the efficient utilisation of these resources. The agency theory posits that there is a risk of managers acting in their own self-interest if they are not kept in check, thus the need for capital structure measures to keep them in check.

Agency theory determines the relationship between principals (such as corporate shareholders) and agents (such as directors of company). The company's owners employ the agents to complete the task, according to this viewpoint. The directors or managers, who represent the shareholders, delegate to the principals the responsibility of running the business. The shareholders expect the agents to act and make decisions in the best interests of the principal. In contrast, agents are not required to make decisions that are in their principals' best interests. The agent may succumb to self-interest and opportunistic behaviour, thereby failing to meet the expectations of the principal. In light of this discussion, however, it is important to use the appropriate mix of external finances, such as equity and debt, in the firm's capital structure, thereby compelling management to adopt measures for proper utilisation of these external finances (equity and debt) in order to repay both the debt and the interest, as well as shareholders' dividends, in a timely manner. Four of the five explanatory variables (TDE, LTDA, LTDE, and EAR) were found to have a significant effect on agency cost (asset utilisation ratio) in Nigeria, with some variables depicting a negative relationship (TDE and LTDA) and others a positive relationship (STDA, LTDE & EAR).

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