

Capital Structure and Firm Performance: Evidence From 2021 Best-Performed Stocks in Nigeria

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Abstract: The researcher used an eight-firm sample drawn randomly from a population of ten to study the relationship between capital structure and stock performance of the companies that traded the best-performing stocks on the Nigerian stock exchange in 2021. The study used a four-year panel data collection (2018–2021). For hypothesis testing, the study used EXCEL-generated research statistics and the least-squares dummy variables (LSDV) regression in SPSS. The findings show a statistically significant positive correlation between corporate capital structure and stock performance (ROA and R.O.E.). The study recommended employing larger samples of the best-performing equities over two or more years.

Keywords: Best-Performing Stocks, Capital Structure, Least-Squares-Dummy-Variables Regression., Panel data, Stock Performance, Nigerian Stock Exchange,

I. INTRODUCTION

For decades, the tie between business capital structure and operating performance has been a trend in accounting and finance literature (Fatmassari et al., 2021; Dhan Raj Chalise, 2022). Organisations, researchers, and professionals study the best debt-equity combination for long-term viability.

However, (Nugroho, 2021) found that disparities in company characteristics, and rapid changes in technology breakthroughs, render conclusions obsolete in a short period. By examining the type and degree of the relationship between the various components of a firm's capital structure and operating performance, managers can focus on the elements that contribute the most to success. Similarly, investors invest in companies where the management's objective is to maximise investors' wealth (Ibrahim, 2020).

Numerous studies (Rutkowska-Ziarko, 2022) on capital structure-performance correlation focused on financial performance, sectors, industries, and features. A high percentage of capital structure studies are on Asian countries, possibly due to chance or a desire to catch up with Europe and the American continents. This study marks a trend that calls for capital structure-firm performance studies relating to firms' stock performance on a stock exchange market of an emerging economy, Nigeria. Therefore, this inquiry and discovery have added novelty to literature in the field.

Studies build or encode elements of thought into existing knowledge (Zhang et al., 2022). Many studies examined the type and strength of the relationship between capital structure and firm performance using earnings before interest and Tax (EBIT) or net income (Hung et al., 2021; Javed et al., 2014;

Mushafiq et al., 2021). Excluding interest expenses, which are neither relieved nor shielded from a debt-financed firm's performance evaluation, such as EBIT, violates a fundamental accounting principle of normal usage (Thomas, 1994). The study has armed academics, business leaders, and investors (Mentzer, 2008) with viable proficiency for venture resolution by using a new return (EAIBT) earning after interest before Tax as the basis for evaluating stock performance rather than EBIT or net income. (Abdullah & Tursoy, 2021) Support this contribution with MM's idea of no tax in the stock market. As a result, the study is consistent with the recommendations of (Zhang et al., 2022) and has provided academics, business executives, and investors (Mentzer, 2008) with feasible expertise for venture decision-making.

(Fatmasari et al., 2021) Agree that stock return represents the value of a firm, suggesting that an increased stock market return indicates an increase in firm performance. (Dehuan & Jin, 2008; Fatmasari et al., 2021) Found that an increase in a firm's performance significantly increases stock returns. Again, (Dehuan & Jin, 2008; Rutkowska-Ziarko, 2022) affirmed that accounting and market ratios have explanatory power for stock performance. (Abdullah & Tursoy, 2021; Fatmasari et al., 2021; Rutkowska-Ziarko, 2022) They assessed the correlation between capital structure and firm performance with accounting and stock market proxies. (Roberta, Orla, Gülnur, 2013; Rutkowska-Ziarko, 2022) They have accepted a significant tie between operating performance and stock performance. Thus, the deduction from the opinions of these studies is that a relationship exists between a firm's performance and stock performance, suggesting that the same proxies measure the two. Therefore, this study uses accounting and market surrogates for measuring firm performance to measure stock performance. For this, the study contributes to the novelty of knowledge practically applicable in the field (Mentzer, 2008).

Stock market research helps make investment decisions because it is practical (Fatmasari et al., 2021). The advantages of practical relevance (Rutkowska-Ziarko, 2022) benefitted academia and company executives and investors who recognised the need not to invest in stock markets based on reports, arbitration, or promotional programs. Due to the complexity (Abdullah & Tursoy, 2021), investors profited because they lacked time to undertake comprehensive equities research before buying (Fatmasari et al., 2021). A study that provides benefits (Mentzer, 2008) is practically germane such as coefficients of variance that enable investors to emphasise

stock fundamentals of utilisation, earnings, growth, and risks-to-reward before the investment is relevant and has contributed to the practice of management.

1.1 Objective

This study determines the causal and correlational relationships between capital structure and stock performance of firms studied among the best-performing stocks on the Nigeria Stock Exchange in 2021, measured with the firm performance metrics. To achieve this purpose, the researcher adjusted for consistency of relevance (Fatmasari et al., 2021), employed firm performance surrogates (ROA and R.O.E.), and investigated the relationship between capital structure and stock performance. Previous studies (Abdullah & Tursoy, 2021; Mentzer, 2008; Rutkowska-Ziarko, 2022) affirmed that empirical pioneer studies of this nature provide practical knowledge relevant to management tradition and practice.

1.2 Delimitation

The absence of stock market factors from the wall street data set as stock market price, dividend payout and earnings per share ratios that contribute to the robustness of data is a delimitation to the study.

II. LITERATURE REVIEW

Although numerous studies across the globe have used various capital structure theories to examine the best optimal mix of capital structures, firms fail because of the difficulties managers and owners face when making financing decisions. Besides, (Doorasamy, 2021) mentioned that some perform poorly in these difficulties. ((Khadijah et al., 2022) Used nine-year panel data from 2000 to 2018 to investigate the applicability of pecking order theory in manufacturing companies listed on the Borsa Istanbul at various investment levels. The study examined the relative relationships between capital structure and the firm performance of internal and external funding sources of investments. The findings support the pecking order idea for the firms listed on the Borsa Istanbul. With an unbalanced panel data set of 152 listed companies from 1996 to 2020, (Toader et al., 2022) investigated the factors influencing capital structure in developing nations in Central and Eastern Europe. This study covered several firm-specific, country-specific, and administrative-specific variables. The findings supported the application of the pecking order theory before the trade-off. Again, the impact of managerial ownership on the relationship between capital structure and firm value in East African countries has been studied by (Doorasamy, 2021) for the East African listed companies totalling 65 chosen for the study. Findings suggest that the MM capital irrelevance and the agency cost theory are at odds. Leverage lowers the value, according to the study of East African companies. Numerous studies support the notion that there exists an ideal capital structure, one that maximises shareholder wealth and value while minimising capital costs (Doorasamy, 2021). Others (Doorasamy, 2021) contend that since choosing an accurate and optimal capital structure involves uncertainty and

risk, it has become a challenge for managers to do so for long-term competitive advantage and sustainability. Numerous studies (Doorasamy, 2021) have focused on determining the ideal capital structure with the irrelevance theory of Modigliani and Miller founded on irrational presumptions. The signalling theory thus gives the researcher a basis to study the significance of capital structure.

2.1 Signalling Theory

The signalling theory of Michael Spence serves as the theoretical basis for this study because of the importance of honest signalling (information) from company managers relating to their firms to investors through the stock market. According to (Guest et al., 2020), previous studies have failed to use appropriate theories to investigate the types and strength of relationships between capital structure and organisational performance. This study responds to this challenge by investigating the relationship between capital structure and organisational outcomes using the postulates of signalling theory. Managers have become more interested in the processes determining this relationship as the Signalling theory element depicted the relationship to internal stakeholders' corporate brand perceptions (Nyagadza et al., 2021). Signalling focuses on communication within and among companies and is fundamentally concerned with the functions of the signaller, the signal, and the receiver (Cañibano & Avgoustaki, 2022; Nyagadza et al., 2021). Signalling theory (Guest et al., 2020; L. Li et al., 2022) provides unique insights into how each of these influences the relationship between investors and investments and discusses signal quality and strength, as well as receivers and how they perceive and interpret signals. No other capital structure theory gives this much weight to the signalling process (Guest et al., 2020), making it a potentially integrative framework (L. Li et al., 2022; Nyagadza et al., 2021). It examines the function of managers as a communication process for stock performance, the signaller, the signal, the medium and the receiver (Cañibano & Avgoustaki, 2022; Guest et al., 2020; L. Li et al., 2022). As a result, the Theory provides novel and previously underutilised perceptions of stock market performance and the stock market. Another (Cañibano & Avgoustaki, 2022; Guest et al., 2020; L. Li et al., 2022; Nyagadza et al., 2021) specifies several potential signal characteristics, such as clarity, frequency, intensity, and message delivery. It attracts attention to the implied signal medium, including being regarded as one of the best firms. Each (Guest et al., 2020) creates an ambiguous assertion about a stock's attractiveness. According to signalling theory, issuing debt covenants binds a firm to pay the cost of debt. Failure to pay may result in bankruptcy (Islam & Iqbal, 2022) and informs the market that a company that enters a debt agreement can generate cashflows to cover its expenses.

2.2 Empirical Review

(Islam & Iqbal, 2022) Investigated the moderating effects of firm size on the relationship between capital structure and athletic performance using accounting metrics of business

performance, employed pooled O.L.S., fixed effects and two-step difference G.M.M. to analyse data from 285 non-financial enterprises listed on the Pakistan Stock Exchange over 21 years. Empirical evidence suggests that leverage hurts business performance. (Muslim, 2022) The effects of total asset turnover, debt to equity ratio, current ratio, and return on equity on firm value ed using the Ordinary Least Square multiple regression model on a sample of 48 data points from 16 companies listed on the Indonesia Stock Exchange from 2018 to 2020. The empirical findings revealed a mixed relationship between accounting factors and firm value. (Suhaily et al., 2021) Employed Pooled Ordinary Least Square (POLS) regression to examine the relationship between firm size, liquidity, working capital, leverage, and profitability of five of twelve listed telecommunication companies in Malaysia from 2009 to 2018. The findings confirmed (Muslim, 2022) study that accounting elements have mixed and varied relationships with performance. (Fatmasari et al., 2021; Sheng & Li, 2022;) Used the Warp P.L.S. statistical test tool to investigate the effects of the debt-equity ratio; from 2014 to 2018, the Indonesia Stock Exchange (IDX) used Return on Assets (ROA) as a mediating variable to examine the impact of net profit margin and firm size on stock prices in a sample of 136 manufacturing companies. Verifiable findings show that ROA and stock prices have varying negative and positive effects. (Li et al., 2019) Investigated the relationship between capital structure and stock performance in 2012 with a cross-sectional sample of European S.M.E.s from the United Kingdom, Sweden, Austria, Belgium, Finland, France, Germany, Portugal, Italy, and Spain)high-risk S.M.Es are not negatively correlated with debt ratio but negatively with low-risk performance. Between 1980 and 2008, (Roberta, O Gough, and Gülnur M, S 2013) investigated in the United Kingdom, the connection between investment returns and capital requirements in the Returns are estimated using the asset pricing models of CAPM, Fama and French, and Carhart, expanding on Modigliani and Millers' (1958) proposition 2. Contrary to popular belief, the analysis demonstrates that debt finance has a negative relationship with estimated returns but positively impacts stock returns. This relationship empirically tested for robustness in the presence of other risk factors, such as corporate tax rates and industry concentration, yielding consistent results across the analysis. (Kim 2013) has shown empirically that normally distributed statistics provide information for investment decisions. (Sodanin et al., 2022) Agreed with Kim (2013) that data approximation to a normal distribution with a coefficient of variance is helpful as a financial metric in corporate finance (Singh & Vishwakarma, 2019). In contrast, they discovered that it represents portfolio risk and the average return on investment. As a result, the coefficient of variation as a financial indicator assesses a portfolio's risk. (Schober & Schwarte, 2018) confirmed that correlation coefficient statistics use - and + symbols to explain the direction of the correlation to separate the types and strengths of interrelationships across the study variables. Confirmable data (Akoglu, 2018; Wikandari, 2022) show that - and + represent

negative and positive correlations, respectively. Numerous studies graded the correlation between research variables as excellent, strong, moderate, low, or negligible (Aamir et al., 2022). The findings highlight the need to assess, interpret, and report correlations between variables based on their kind and intensity. (Alita et al., 2021; Jasim, 2017) Interpreting and reporting the inference testing results on the coefficients and their P-values are essential in research. (Lee, 2022) The F and significance F numbers of the LSDVS regression coefficients and P-values work together to demonstrate the statistically significant correlations and the type of relationships. Al-Quraan et al., 2022) Affirm that a negative coefficient value represents a negative percentage change in the response variable based on the percentage change in the determinant variable. According to (Schober & Schwarte, 2018; Sukesti et al., 2021), positive coefficients describe the percentage rise in the dependent variable based on the positive percentage increment in the independent variable. (Benyadi et al., 2022) Validate R square measures how well the independent variable explains the dependent variable's overall variation, showing how near the estimated and measured values are. (Appiah & Xiao, 2020; Lone, 2022) Ascertain that a high R square value indicates a good forecast and a low one means a poor estimate. The researcher imitates (Ibrahim, 2020) to propose ways to reject the null hypotheses and accept the alternative. (Altahtamouni et al., 2022) provide empirical findings confirming that negative coefficients correlations between an independent and a dependent variable with P values larger than 0.05 suggest statistically insignificant negative relationships. The Least Square Dummy Variables regression helps assess the temporal variance fixed effects (Lone, 2022) on the study data and results according to verifiable findings (Abughniem et al., 2020; Alrabba et al., 2019).

2.3 Capital Arrangement

The capital arrangement of a firm describes how it finances its operations using shareholders' stock, debt, or a combination of the two (Akinyomi & Olagunju, 2013). Capital structure is the combination used by a firm in funding its business ventures. Then, the financial managers of such firms are responsible for the capital structure combination decisions (Musa, 2021)

2.4 Firm Performance

(Tiep & Ikram, 2022) defined firm performance as the extent to which a firm achieves its defined goals. Hawaii 2022 classified firm performance into operational, financial and market, measured with ROA and R.O.E. (Kim, 2013) empirically discovers that a sample of statistics with normally distributed distributions produces results for investing decisions. Because it reflects a financial indicator, data approximation to a normal distribution with the coefficient of variance is critical in corporate finance. (Sigh and Visma) agree that this refers to the portfolio's risk and the average return on investment. According to (cai & Kwan, 2022), a variable with the most remarkable means corresponding to the risk-to-reward ratio and whose non-spatial attribute values

deviate significantly from their neighbours shows the company's responsibility toward returns. As a result, the coefficient of variation and the highest mean scores indicate potential investment prospects.

2.5 Control Variables and Firm performance

Control variables are variables that researchers keep constant throughout their research to ensure that they do not influence the results (Aamir et al., 2022; Akoglu, 2018; Schjoedt & Sangboon, 2015). The studies used panel data firm performance analysis (Larsson & Thulin, 2019; Schober et al., 2018; Senthilnathan, 2019). Performance analysis facilitates the replication of research studies, establishes the relationship between the independent and dependent variables, and contributes to the high internal validity of the research (Jasim, 2017; L. Li et al., 2022; Sheng & Li, 2022; Wikandari, 2022). (Larsson & Thulin, 2019; Pandey, 2002; Sachin & Rajesh, 2022).

2.6 Dummy Variables and Firm performance

Dummy variables are statistical variables used in Lest Square Dummy variable (LSDVS) regression analysis to represent a study's sample segments. Dummy variables allow the researcher to show multiple groups with a single regression equation (Brahma et al., 2021; Moratis, 2018; Pucheta-Martínez et al., 2020).

2.7 ROA and Performance

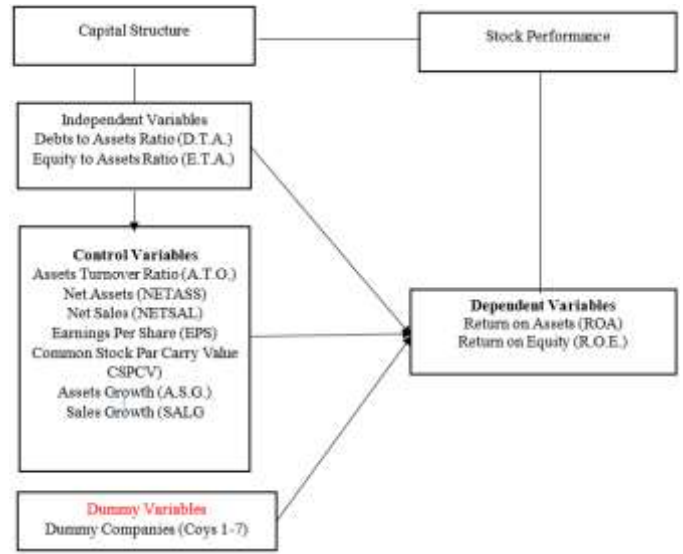
The return on assets of a company (Al-Quraan et al., 2022; Alita et al., 2021; C. Lee et al., 2019) is a relationship between net profit and assets (Benyadi et al., 2022; Ibrahim, 2020; Lone, 2022) while an increase in the ratio demonstrates the effectiveness of asset use. (Javed et al., 2014; Maizan et al., 2021) Profitability refers to a company's ability to generate income as a return on its invested capital. As a result, (Altahtamouni et al., 2022) represent the organisation's success or failure (Durrah et al., 2016). Previous research (Abughniem et al., 2020; Javed et al., 2014; Maizan et al., 2021) looked at profitability about return on assets (ROA). Others referred to the gross profit margin (Alrabba et al., 2019), operating profit margin, net profit margin, and operating cash flow margin (Jee et al., 2021; Putro & Risman, 2021). (Ebi, 2021) propose using ROA to assess a company's ability to achieve profitability.

2.8 ROE and Firm Performance

(Altahtamouni et al., 2022) One of the profitability indicators known as R.O.E. is the return (net income) on equity (Appiah & Xiao, 2020; Lone, 2022) invested in a company. As a result, the R.O.E. and financial principles of the company interpret the growth rate in dividends. The ability of a company to benefit shareholders using the return on equity ratio is wealth maximisation (Husnadi et al., 2022). (Sachin & Rajesh, 2022) finds that measures of R.O.E. are positively related to business sustainability performance. Using R.O.E., (Xu et al., 2022) empirically assessed the bank performance in

China and Pakistan during the COVID-19 pandemic. Findings revealed that it is positively related to performance.

2.9 Conceptual Study Framework



Conceptual Framework Figure 1

III. METHODOLOGY

3.1 Research Design

The investigator employed a quantitative research design and descriptive and correlative approaches to investigate variable features, averages, and correlations.

3.2 Data Type and Sources

The data is qualitative-balanced and micro-panel annual data (2018-2021) from eight corporations among the ten with the best-performed stocks on the Nigerian Stock Exchange (N.G.X.) at the end of 2021 from the Wall Street Journal database. The investigator selected the eight companies randomly regardless of their stock performance grades, location, ownership, sector, or industry.

Table 1: Sample Name and Source

S/N	FIRM NAME	EXCHANGE	DATA SOURCE
1	Academy Press Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
2	University Press Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
3	Consolidated Hallmark Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
4	Regency Assurance Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
5	Vitafoam Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
6	Champion Breweries Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
7	Royal Exchange Nig. Plc	Nigerian Stock Exchange	Wall Street Journal
8	United capital Nig. Plc	Nigerian Stock Exchange	Wall Street Journal

3.3 Study variables and measurements.

This examination and discovery used two independent, six control, seven dummies and two dependent variables and

examined the relationship between capital structure and stock performance. Table 2 shows these variables, their measurement types and references.

Table 2: Variables and Measurement types

Independent variables			
Variables	Measurement	Formula	Reference
Capital structure	Debt to Assets (D.T.A.)	Total Debts/Total Assets	(Bingilar Paymaster F. and Angbari Ebi O, 2021)
	Equity to Assets (E.T.A.)	Total Equity/Total Assets	(Javed et al., 2014)
Control Variables			
Assets Utilisation	Assets-Turnover (ASTO)	Sales/Total Assets	Muslim and Hamza 2022
	Net-Assets (NETASS)	Net assets Value	(Javed et al., 2014)
	Net-Sales (NETSAL)	Net Sales Value	
Earnings	Earnings Per Share (EPS)	Profit After Tax/No of Ord. Shares	(Javed et al., 2014)
Stock Per Carrying Value	Common stock Per Carrying Value	No of Issued x Value per Share	Muslim and Hamza 2022
Growth	Assets Growth (A.S.G.)	$((\text{Current Year's Assets}/\text{Previous Year's Assets})-1 \times 100$	Javed et al., 2014)
	Sales Growth (SALG)	$((\text{Current Year's Sales}/\text{Previous Year's Sales})-1 \times 100$	Muslim and Hamza 2022
Dummy Variables			
Companies	Dummy Companies (1-7)	SPSS Generated	Brahma et al.,2021
Dependent Variables			
Stock Performance	Return on Assets	Earnings After Interest Before (EAIBT) Tax/Total Assets	Ullah et al. 2020
	Return on Equity	Earnings After Interest Before (EAIBT) Tax/Total Assets	Muslim and Hamza 2022'

3.4 Operationalisation of study variables

Before statistical analysis, data transformation is performed in parametric analysis to linearise and eliminate skewness (Kim, 2013). The researcher used log10, square root, reflex inverse, and cub-root transformation methods to transform asymmetric data. The study adopted the quantitative research design that used correlational and descriptive approaches to investigate the characteristics, averages and correlations between variables.

3.5 Research Hypothesis

Based on the literature review, the study developed two null and two alternative hypotheses.

H01: There is a negative statistically significant relationship between capital structure and Return on Asset (ROA) in the best-performed firms on the Nigerian Stock Exchange in 2021. H1: There is no negative statistically significant relationship between capital structure and Return on Asset (ROA) in the best-performed firms on the Nigerian Stock Exchange in 2021.

H20: There is a negative statistically significant relationship between capital structure and Return on Equity (R.O.E.) in the best-performed firms on the Nigerian Stock Exchange in 2021.

H2: There is no negative statistically significant relationship between capital structure and Return on Equity (R.O.E.) in the best-performed firms on the Nigerian Stock Exchange in 2021.

3.6 Model specification

The model specification is defined as Firm Performance = $FP = \beta_0 + \beta_1X_{1i,t} + \beta_2X_{2i,t} + \dots + Y\delta_{1i,t} + Y\delta_{2i,t} + \dots + V_{it}$, measured with ROA and ROE. Therefore,

$$ROA = \beta_0 + DTA_{it} + ETA_{it} + ASTO_{it} + NETASS_{it,t} + NETSAL_{it,t} + EPS_{it,t} + CSPCV_{it,t} + ASG_{it,t} + SALG_{it,t} + Coy_{1i,t} + Coy_{2i,t} + Coy_{3i,t} + Coy_{4i,t} + Coy_{5i,t} + Coy_{6i,t} + Coy_{7i,t} + V_{i,t}$$

$$ROE = \beta_0 + DTA_{it} + ETA_{it} + ASTO_{it} + NETASS_{it,t} + NETSAL_{it,t} + EPS_{it,t} + CSPCV_{it,t} + ASG_{it,t} + SALG_{it,t} + Coy_{1i,t} + Coy_{2i,t} + Coy_{3i,t} + Coy_{4i,t} + Coy_{5i,t} + Coy_{6i,t} + Coy_{7i,t} + V_{i,t}$$

Where;

ROA = Return on Assets and ROE = Return on Equity, (Dependent Variables). β_0 = Slope Coefficient (a constant). DTA = Debt Asset Ratio, and ETA = Equity Asset Ratio (Independent Variables). ASTO= Asset Turn Over ratio, ETASS = Net Assets, NETSAL = Net Sales, EPS = Earnings Per Share, CSPCV = Common Stock Par Carrying Value, ASG = Assets Growth, and SALG = Sales Growth (Control variable). Coy1-Coy7 (Dummy variables). V = (Summation of

Dummy errors and Error Term), i = number of firms and t = number of years.

IV. RESULTS AND ANALYSIS

Table 3: Modified Descriptive Statistics with Coefficients of Variance and Z-Values

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Coefficients of Variance (V.C.) %	Skewness		Z-Values
D.T.A.	32	-1.1403	-.0021	-.422534	.2941035	-69.60	-.426	.414	-1.02
ETA	32	-1.3152	-.1105	-.498550	.3988422	-80	-.585	.414	-1.41
AUTO	32	.1237	1.2697	.709191	.2674939	37.72	-.424	.414	-1.02
NETS	32	-1.9010	-1.3288	-1.647053	.1495168	-9.07	.204	.414	0.49
NETSAL	32	3.1492	4.6196	3.793972	.3889765	10.25	.287	.414	0.69
EPS	32	-1.6990	.5038	-.586081	.6287997	-1.07	-.028	.414	-0.06
CSPCV	32	302.0000	5420.0000	2648.500000	1470.9844410	55.54	-.306	.414	-0.73
AUG	32	-2.1135	-.2308	-1.095669	.4985048	-45.49	-.005	.414	-0.01
SALE	32	-.0005	1.6429	.804597	.4118308	51.18	-.079	.414	-0.19
Overall Mean	32	34	602	294.40	163.366	55.49	-.305	.414	-0.73

4.1 Results of Descriptive Statistics

Table 3 displays the modified product of spss descriptive statistics that examined data normality for central tendency, the overall mean score, and Z-values and coefficients of variation validity measurements manually calculated. For this examination, the mean represents the central tendency, dispersion by the standard deviation (Std), coefficient of variance (CV), and normality by skewness. Z-values of ± 1.96 approximated a normal distribution (Kim, 2013). The study used the SPSS recommended formula ($Z\text{-value} = \text{Skewnessvalue} \div \text{Skewnessstd error value}$) for computation. A Z-value of $> \pm 1.96$ is statistically significant and violates normality rules. In the small samples of $n < 50$ (Kim, 2013), z-scores not greater than ± 1.96 are normal. The sample statistics show skewness Z-values $< \pm 1.96$, suggesting that they are approximately normally distributed and consistent with the spss 23 recommendation (Kim, 2013). The investigator-assessed data approximation to a normal

distribution with the coefficient of variation (CV) is crucial in corporate finance. From a financial standpoint, the risk-to-reward ratio represents the financial metric (Sodanin et al., 2022). In contrast, volatility represents the risk of a portfolio and the mean return on investment (Singh & Vishwakarma, 2021). The study manually computed the CV values with the formula coefficient of variance (CV) = Standard Deviation/Mean. A $CV < 1$ indicates low variation and acceptance. The table shows that the statistics have C.V.s < 1 , consistent with the study of (Sodanin et al., 2022), and suggests the demand to invest in the firms. Moreover, the descriptive statistics show an overall mean score of 294.40 (Std = 163.366), demonstrating a positive perception of firm performance amongst the investors across the firms. Furthermore, the share stock par carrying value (CSPCV) had the highest mean score (2648.500000). This result signifies that the companies show responsibility toward returns without outliers (Cai & Kwan, 2022), whose non-spatial attribute values differ significantly from their neighbourhoods.

Table 4: Pearson’s Correlations Coefficients

Var	DTA	ETA	AUTO	NETS	NETSAL	EPS	CSPCV	ASG	SALE	ROA	ROE
DTA	1										
E.T.A.	.011	1									
AUTO	-.039	.098	1								
NETASS	.026	.083	-.372*	1							
NETSAL	.121	.247	.127	.797**	1						
EPS	.361*	-.031	.001	.354*	.404*	1					
CSPCV	-.504**	-.140	-.238	.274	.000	-.543**	1				
ASG	.168	.125	.168	.394*	.574**	.284	-.077	1			
SALG	.135	.290	.231	-.103	.072	-.206	-.207	.055	1		
ROA	.308	-.260	.373*	-.303	-.135	.223	-.266	.303	.002	1	
R.O.E.	.673**	.007	.160	.018	.205	.603**	-.610**	.277	.143	.685**	1

4.2 Rudiments of Pearson Correlation

Table 4 shows the statistics results of Pearson's correlation coefficients that assessed the relationship between capital structure and stock performance indicators. To consistent with the objectives of Pearsons correlation coefficients, the examiner emulated (Aamir et al., 2022; Schober & Schwarte, 2018) to assess a coefficient of 0 ± one as a perfect positive or negative coefficient, ± 90 to 99 very high positive or negative, ± 70 to 90 high positive or negative, ± 50 to 70 moderately positive or negative, ± 30 to 50 low positive or negative, ±10 to 30 very low positive or negative, and ± 0 to 10 noticeably and negligibly positive or negative. The statistics used - and + symbols to explain the direction of the correlation to differentiate the types and strength of interrelationships across the study variables (Aamir et al., 2022; Akoglu, 2018; Schober & Schwarte, 2018).

Table 5: Summary Results of Pearson’s Correlation Coefficients

Relationship	Types of Relationship			P-Value
	70 ± 89 High	50 ± 69 Moderate	30 ± 49 Low	
1. D.T.A. and EPS	-----	-----	r = 0.361	0.05
2.DTA and CSPCV	-----	r = -0.504	-----	0.01
3. D.T.A. and R.O.E.	-----	r = 0.673	-----	0.01
4.ASTO and NETASS	-----	-----	r = -0.372	0.05
5. ASTO and ROA			r = 0.373	0.01
6.NETASS and NETSAL	r = 0.797	-----	-----	0.01
7.NETASS and EPS	-----	-----	r = 0.354	0.05
8.NETASS and ASG	-----	-----	r = 0.394	0.05
9.NETSAL and EPS	-----	-----	r = 0.404	0.05
10.NETASS and ASG	-----	r = 0.574	-----	0.01
11.EPS and CSPCV	-----	r = -0.543	-----	0.01
12.EPS and R.O.E.	-----	r = 0.603	-----	0.01
13.CSPCV and R.O.E.	-----	r = -0.610	-----	0.01
14. ROA and R.O.E.	-----	r = 0.685	-----	0.01
TOTAL = 14	1+ =1	+ = 4 and - = 3	+ = 5 and - = 1	14

4.3 Interpretation of Pearson Correlation Coefficients

With fourteen relationships shown in table 5, the statistics demonstrate three types of correlations (Low, Moderate and High). In the low group (30 ± 49), the statistics show that five positive and one negative relationship exist. (ASTO and NETASS (r = -0.372, P < 0.05) have an inverse relationship, indicating that increase in one has a small decrease in the other. Besides, the ties between DTA and EPS (r = 0.361, P < 0.05), ASO and QRA (r = 0.373, P < 0.05), NETASS and EPS (r = 0.354, P < 0.05), NETASS and ASG (r = 0.394, P < 0.05),

and NETSAL and EPS (r = 0.404, P < 0.05) are moderately positive and statistically significant, accentuating that development in one yields moderate growth in the other. Similarly, three negative and four positive relationships exist within the moderate group (50 ± 69). DTA and CSPCV (r = -0.504, P < 0.01), EPS and CSPCV (r = -0.543, P < 0.01) and CSPCV and ROE (r = -0.610, P < 0.01) have moderately negative and statistically significant relationships, indicating that development in each moderately reduces the other. In the same moderate group, a positive statistically interlink exists between DTA and ROE (r = 0.673, P < 0.01), NETSAL and ASG (r = 0.574, P < 0.01), EPS and ROE (r = 0.603, P < 0.01) and ROA and ROE (r = 0.685, P < 0.01), elucidating that an increase in one has a modest growth in the other. For the high group, NTASS and NETSAL have a statistically significant (r = 0.797, P < 0.01) relationship, demonstrating that improvement in one strongly influences growth in the other and the firm's ability to utilise assets to generate income. A correlation coefficients matrix with the characteristics shown in table 3 meets Pearson's correlation acceptable bounds (Schober & Schwarte, 2018; Senthilnathan, 2019).

Table 6: Least Squares Dummy Variables Regression Output

Variables	LSDVS WITH ROA		LSDVS WITH ROE	
Variables	Coefficients	P-value	Coefficients	P-value
Intercept	-0.57845	0.957442	1.088743	0.919442
COY1	0.931349	0.175401	0.544918	0.415158
COY2	-0.34026	0.087327	-0.06467	0.731127
COY3	-0.35215	0.484452	-0.28118	0.572851
COY4	-3.80568	0.457246	-0.36742	0.941836
COY5	-1.30407	0.099744	-0.41646	0.580905
COY6	0.687233	0.005685	0.619467	0.010428
CO7	5.25E-05	0.856557	1.41E-05	0.960924
DTA	0.435444	0.018403	0.094344	0.572534
ETA	0.052092	0.814266	0.164236	0.459522
ASTO	-2.11671	0.045635	-0.27099	0.782537
NETASS	-0.29871	0.784508	-0.09022	0.933638
NETSAL	-0.30594	0.819582	-0.21088	0.874147
EPS	-0.63085	0.524463	-0.18229	0.852131
CSPCV	-0.5411	0.48976	-0.50553	0.5154
ASG	-0.85806	0.440138	-0.61074	0.578155
SALG	-2.11795	0.086332	-0.89018	0.449279
Regression Statistics				
R Square	0.855296		0.797867	
ANOVA				
Regression	F	Significance F	F	Significance F
	5.54126	0.000926	3.700532	0.007528

4.4 The Preamble to Hypothesis Testing Result

Table 5 displays the p-values of the coefficients, F-value and the significance Factor numbers of the LSDVS cells' inferential statistics results of the capital structure-firm performance hypothesised 5 per cent margin of error at a 95 per cent confidence level relationship. This investigation and discovery examined the relationship between capital structure and firm performance to determine why the sample performed so well on the N.G.X. 2021. The interpretation and reporting of the inference testing results on the coefficients and their P-values, as well as the F and Significance F numbers of the LSDVS regression coefficients and P-values, work together to show which relationships are statistically significant and the type of relationships (Alita et al., 2021; S. W. Lee, 2022). However, a negative coefficient value represents the negative percentage change in the response variable based on the percentage change in the determinant variable (Schober & Schwarte, 2018) and is not necessarily significant. Similarly, positive coefficients explain the percentage increase in the dependent variable based on the positive percentage increment in the independent. As investments interplay between earnings and risks, firms and Investors study the two coefficients to estimate earning and risk. R square determines how well the independent variable explains the total variation in the dependent variable (Al-Quraan et al., 2022; Benyadi et al., 2022), and it has a value between 0 and 1, indicating how close the estimated and measured values are (Al-Quraan et al., 2022; Appiah & Xiao, 2020; Lone, 2022). A high R square value denotes a good prediction, while a low value denotes a poor estimation (Al-Quraan et al., 2022; Ibrahim, 2020). The F-value in an ANOVA is the variation between means of samples/variation within samples. The higher the F-value, the higher the difference between means compared to variation within samples. A high F-value is necessary to invalidate the null hypothesis of comparable group means. The higher the F-value, the lower the significance (F) and the better the relationship.

4.5 Hypothesis Testing Results

4.5.1 Response Variable ROA

Eleven independent variables have negative coefficients with ROA and P-values > 0.05, indicating that negative relationships that are not statistically significant exist between the predictor and the predicted variables (Lone, 2022). The negative coefficient of each organisation represents the percentage drop in ROA for a unit increase due to time variance.

Hence, (Abughniem et al., 2020; Alrabba et al., 2019) the importance of Lest Square Dummy Variables regression. Five explanatory variables own positive coefficients, typifying statistically significant positive relationships. Every positive coefficient in this study's LSDVS relapse exemplifies a percentage of increase in ROA based on a unit change in Coy 1; Coy 6; Coy 7; D.T.A.; and E.T.A. With an R2 positive value of 0.855296, F-value 5.54126, greater than Significance F 0.000929, and a p-value < 0.05, the goodness of fit (R2)

measure suggests that the LSDVS statistical model correctly anticipated the link between capital structure and ROA (Abughniem et al., 2020; Al-Quraan et al., 2022; Lone, 2022).

4.5.2 Response Variable R.O.E.

In R.O.E., nine determinant variables (P-values > 0.05) have negative coefficients, illustrating that they are not negatively and statistically significant. Coy2 has a negative coefficient figure demonstrating that an increase in it results to 6.47% decrease ROE, Coy3, 28.11%; Coy4, 36.74%; coy5, 41.64%; ASTO, 27.09%; NETASS, 9.02%; NETSAL, 21.08%; EPS, 18.22%; CSPCV is 55.55%; ASG, 61.07% and SALG, 81.01%. Five have positive coefficients, explaining that development on coy1 produces 54.49% growth in R.O.E.; Coy6, 61.94%; Coy7, 0.0000141; D.T.A., 9.43% and E.T.A., 16.42%, signifying positive and statistically significant relationships with R.O.E. The R2 in R.O.E. is 0.797867, F-value 3.700532, higher than the significance F 0.0007528 < 0.05), revealing a positive statistically significant linkage which suggests that the model accurately predicted the interdependence between capital structure and R.O.E. (Al-Quraan et al., 2022; Lone, 2022).

4.6 Hypotheses Testing Result Summary

Table 6: ROA as Dependent variable

Coefficients	P-Values	R Square	F-Value	Significance Factor	Conclusion	Decision
Positive 5	P-Vs > 0.05					
Negative 11	P-Vs > 0.05					
Summary	All P-Vs > 0.05	0.855206	5.54126	0.000926	No negative relationship exists.	Reject H ₀ , Accept H ₁

Table 6 summarises the assumption testing results, which empirically explore and forecast the capital structure-stock performance link of the best performing firms on the NGX 20221, as assessed by ROA, to accept or reject H10 or H1 assumptions. H10 assumes a negative statistically significant relationship between capital structure and ROA in the best-performed stock firms on the Nigerian Stock Exchange in 2021. H1: No statistically significant relationship exists between capital structure and ROA in the best-performed stock firms on the Nigerian Stock Exchange in 2021. Numerous studies (Jasim, 2017; L. Li et al., 2022; Wikandari, 2022) support that a null hypothesis with P-values > 0.05 is rejected and accepts the alternative. In an ANOVA (L. Li et al., 2022; Sheng & Li, 2022; Wikandari, 2022), leaving the null hypothesis of equal group means requires a high F-value greater than the significance F with a P-value < 0.05. From the statistics in table 6, the decision is to reject H10 and accept H1 as an alternative hypothesis. The empirical finding is a positive, statistically significant linear tie between return on assets and capital structure. The discovery is compatible with

the results of (Sukesti et al., 2021). Besides, with an R square of 0.855206 close to 1, the model's prediction perfectly estimated how the independent variables explain the total variation in the dependent variable (Al-Quraan et al., 2022). Furthermore, the investors' interest in investing in the firms' assets is strong (85.52%).

Table 7: R.O.E. as Dependent variable

Coefficients	P-Values	R Square	F-Value	Significance Factor	Conclusion	Decision
Positive 5	P-Vs > 0.05					
Negative 11	P-Vs > 0.05					
Summary	All P-Vs > 0.05	0.797867	3.700532	0.0007528	No negative relationship exists.	Reject H ₂₀ . Accept H ₂

Table 7 summarises the findings of hypothesis testing, which experimentally explores and evaluates the capital structure-stock performance link of the top performing enterprises on the N.G.X. in 2021. To accept or reject the assumptions of H₂₀ or H₂ as measured by R.O.E. As per H₂₀, the top-performing stock companies listed on the Nigerian Stock Exchange would have a statistically significant negative link between return on equity and capital structure in 2021. H₂ proposed no statistically significant negative association between capital structure and R.O.E. in the best-performing stock firms on the Nigerian Stock Exchange in 2021. (Jasim, 2017; L. Li et al., 2022; Wikandari, 2022) advocate rejecting the null hypothesis with P-values greater than 0.05 and accepting the alternative. To rebuff the null hypothesis of equal group means in an ANOVA (L. Li et al., 2022; Sheng & Li, 2022; Wikandari, 2022), a high F-value greater than the significance F with a P-value less than 0.05 is required. Thus, the decision is to reject H₂₀ in favour of H₂ as an alternative hypothesis. The empirical finding is that there is no negative statistically significant linear interlink between return on equity and capital structure. The outcome is consistent with earlier studies (Sukesti et al., 2021). Moreover, the model's prediction accurately estimated how the independent variables explain the total variation in the dependent variable with an R square of 0.79867, which is close to 1 (Al-Quraan et al., 2022), delineating that the equity investors are 79.87% eager to invest in the firms' stock.

V. CONCLUSION AND RECOMMENDATIONS

As the regression results with LSDVS indicate an R square of 85.53% in ROA and 79.79% in R.O.E., which is relatively 1, the study has established empirical support for best-stocks performance on Nigerian Stock Exchange in 2021. Therefore, the investigator concludes that the investors have 86% interest in the assets through 80% investment in equity. Furthermore, the 6% difference between the 86% and 80% of investors' interest in assets and equity signifies that the companies have

other assets of interest. The empirical findings are consistent with the work of Fatmasari et al. (2021) in Indonesia; Suhaily et al. (2021) in Malaysia; Vo (2019) in Vietnam; Muslim (2022) in Indonesia; Ullah et al. (2020), Pakistan; Sukesti et al. (2021), Indonesia. Regardless, the results are verifiable and support Michael Spence's 1973 signalling theory of honest signalling (information), which is used in management, business, and finance, but especially for stock market information for investors and corporations. The researcher suggests that future studies include stock market factors (stock market price, earnings per share, and dividend payout ratios) regarded as delimitations in this study and other studies spanning five or more fiscal years.

As the regression results with LSDVS indicate an R square of 85.53% in ROA and 79.79% in R.O.E., which is relatively 1, the study has established empirical support for the firms' best-stocks performance on Nigerian Stock Exchange in 2021. Therefore, the investigator concludes that the investors have 86% interest in the assets through 80% investment in equity. Furthermore, the 6% difference between the 86% and 80% investors' interest in assets and equity signifies that the companies have other attractive assets of investors' interest.

The empirical findings are consistent with the work of Fatmassari et al. (2021) in Indonesia; Suhaily et al. (2021) in Malaysia; Vo (2019), Vietnam; Hamza and Muslim (2022), Indonesia; Ullah et al. (2020), Pakistan; Sukest et al. (2021), Indonesia. Regardless, the results are verifiable and support Michael Spence's 1973 signalling theory of honest signalling (information), which is used in management, business, and finance, but especially for stock market information for investors and corporations. The researcher suggests that future studies include stock market factors (stock market price, earnings, and dividend payout ratios) regarded as delimitations in this study and other studies spanning five or more fiscal years.

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