



Received: 01-03-2023
Accepted: 09-04-2023

ISSN: 2583-049X

Effect of Cost of Capital on Financial Performance of Listed Construction Industries in Nigeria

¹ Tonye Ogiriki, ² Fatele Emmanuel Olorunleke

^{1,2} Department of Accounting, Faculty of Management Sciences, Niger Delta University, Wilberforce Islandamassoma, Bayelsa State, Nigeria

Corresponding Author: **Tonye Ogiriki**

Abstract

This research tends to evaluate the effect of cost of capital (cost of debt and cost of equity) on the financial performance of listed construction companies in the Nigerian Stock Exchange. The study entails four selected construction industries in Nigeria (Arbico Nigeria Plc, Julius Berger Nigeria Plc, Roads construction Nigeria Plc and UPDC), between the periods 2008 to 2017. The study uses descriptive statistics and Multiple Linear Regression to test the hypotheses. The regression analysis shows that Equation

2 (with ROE as dependent variable) is not fit, hence Equation was adopted for the test of hypotheses. The results reveal that cost of debt has insignificant negative effect on financial performance of the construction companies on one side. The study therefore suggested that companies should give more attention in obtaining financial equity capital rather than debt capital given that equity capital has positive effect on firms' performance while debt capital has negative effect even though it is insignificant.

Keywords: Financial, Industries, Nigerian Stock Exchange, Nigeria

1. Introduction

The construction industry of a country is a major driver of its economic development. From New York to London, Hong Kong to Tokyo etc., all these economic capitals are shaped and defined by the power of its infrastructural development. Infrastructural development provides the enabling environment for economic development. According to Dantata (2008), virtually every other economic sector relies on the products and services provided by the construction industry. There can be little doubt that the building sector is the economic bloodstream of any country, and Nigeria is no different. This is primarily because the products and services provided by the construction industry are essential to the functioning of virtually every other economic sector.

1.1 Statement of the Problem

In the Nigerian capital market, the construction industry's cost of capital and financial performance are crucial yet unremarkable. The million-dollar questions among the industry players are and have always been why the construction industry in Nigeria is far behind where it should be? Is the problem from the government, the people or from the construction companies? And what is nature of the problem? As a player with the industry, the researcher knows for sure that the industry is very lucrative and from business perspective every profitable venture which naturally attract investors, improve to industrial growth.

Considering the present position in the industries, we have to say that two problems hindering development of the industry in Nigeria are:

1. Inadequate implementation policy and;
2. Inefficient structure of cost of capital.

This is serious non-viable giving that you must get a profit of at least 50% in order to break even without even making profit because the Value Added Tax and Company Income Tax for the construction industry ranges from 10-15%.

Considering these issues, the researcher was forced to investigate the impact of cost of capital on the income statement of the Nigerian construction industry. In particular, the study's goal is to compare the impact of debt and equity financing on company performance so that managers and other stakeholders may make more informed decisions about whether to pursue debt or equity financing.

1.2 Research Questions

How does the cost of debt have positive effect on performance of selected construction industries in Nigeria, and is it a positive or negative effect? ii. How does the cost of equity have positive effect towards the financial performance of selected construction industries in Nigeria, and is it a positive or negative effect?

1.3 Objective of the Study

The researcher examines the significant effect of cost of capital on financial performance of listed construction firms in Nigeria. Specifically, the research seeks to examine:

1. The effect of cost of debt on financial performance of listed construction companies in Nigeria.
2. The effect of cost of equity on financial performance of listed construction companies in Nigeria.

1.4 Significant of the Study

This research will provide important insight into the relationship between construction industry financial performance and the cost of capital in Nigeria and beyond. An industry's cost of capital is analyzed by financial analysts to determine its potential impact on the sector's bottom line. Although current conditions are having an increasingly negative impact on the cost of capital, it is still important to consider financial performance when making important choices. It can be used as a benchmark for analyzing investment choices, formulating debt strategy, and reporting on a company's financial success.

The study will also help academics and researchers by laying the groundwork for future studies on the subject. It will also serve as a useful reference for other scholars planning to investigate the same subject in their own fields of study.

1.5 Scope of the Study

The study uses return on assets (ROA) and return on equity (ROE) as proxies for financial success, while two other factors serve as the study's primary foci (Cost of Equity and Cost of Debt). Financial performance indicators like as leverage, size, and growth were also included as independent control variables. Targeted population for the study is four (4) construction industries selected in Nigerian Stock Exchange (NSE) as at 2017 (Arab Construction, Brunelli Plc, Chinese Civil Engineering Construction, Setraco Construction Nigeria Plc and UCAN Property Development Companies). The research is carefully looking into the last ten (10) years from 2008 to 2018.

2. Literature review

2.1 Introduction

This part describes the conceptual framework of the study, including its definitions and organizational principles, as well as the many theoretical reviews and the underlying ideas that inspired the investigation. Important experimental studies from the past that dealt with this issue were examined and summarized in great detail. The part also includes an analysis of the research gap that was found.

2.2 Conceptual Review

The research variables and their assumed notions are outlined in the conceptual review. Previous studies and fieldwork informed the development of the operational definitions. The conceptual definitions of the study's

variables may be found down below.

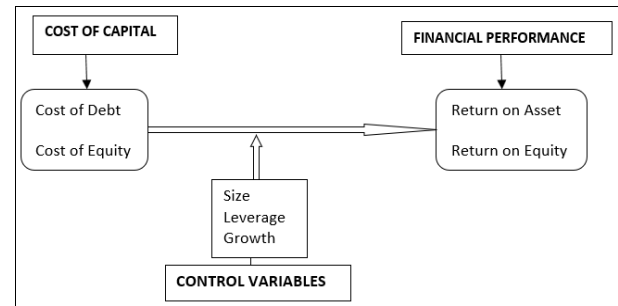


Fig 1: Conceptual Framework of the Research

2.2.1 Financial Performance (Dependent Variables)

a. Return on Asset (ROA)

The return on assets ratio is a useful indicator of a company's capacity to transform its resources into cash. Simply put, the ratio of a company's earnings to its total assets is a common indicator of how well a company is managed in terms of its financial performance. A company's leverage, or amount of debt, is taken into account while calculating return on assets. After all, the money it borrows to operate is considered part of its overall assets.

b. Return on Equity (ROE)

Regular investors are entitled to the remaining profits. As dividends can be shared between shareholders and the corporation, there is no predetermined amount that must be paid. Nonetheless, their financial commitment is mirrored in the business's success. Calculating the return on shareholders' equity can help owners evaluate the performance of their assets. How profitable a company is relative to its shareholders is determined by its return on equity. In actuality, this ratio represents a crucial link in the chain of financial analysis' interdependencies. It's important to evaluate the company's return on equity in relation to that of comparable businesses and the industry standard. It will become obvious whether or not the collaboration has been successful and whether or not the firm is able to attract additional investors.

Cost of Equity Construction Industries in Nigeria

The price of a company's stock is heavily influenced by the market's perception of its level of risk. Hence, for a certain category of risk, the opportunity cost for a levered and unlevered firm will be same. The cost of capital is the lowest feasible rate at which investors may expect a positive return on their investment. The cost of capital may change depending on how a firm chooses to fund its development or expansion. A company's cost of capital is the average rate it must return to its investors in order to maintain the same level of capital. The company must earn at least this much every year from its existing assets in order to satisfy its creditors, owners, and investors. Hence, the cost of capital is the weighted average of the expenses of the various sources of financing considered. This includes not just debt but also stock and preference shares. According to John J. Hamptom, "cost of capital is the amount of return the firm required from investment in order to increase the value of the firm in the market place".

Interest costs are what Crowley calls the price of borrowing money (2007). In addition to being permanent or redeemable, debt may be issued at a premium or discount.

When deciding whether or not to invest in a company's stock, the cost of equity is a crucial factor to consider. That which a corporation returns to its equity owners annually is known as its "return on equity." Supporting this stance is Rad (2014), who thinks that investors should be compensated the cost of capital.

Theories

A greater interest in the company's performance may be offered to the owners or creditors in exchange for financing the company's assets. It stands to reason that the cost of capital is an important part of a company's capital structure given that it may be used to acquire new capital by issuing common shares and reinvesting the profits. Capital structure is a key aspect that must be given by management. Hence, the share price may be affected by the capital structure decision. The company's first capital structure is required at the time of its promotion. As a result, the dividend decision impacts the capital structure of the company. The lowest feasible cost of capital is achieved by adopting the optimal capital structure. In the corporate sector, both expressions signify and serve the same function. Every business should aim for a capital structure that maximizes these two objectives. So, the key concerns of the relevant theories are the capital structure, the cost of capital, and their effects on the value of a firm. The best capital structure is one that maximizes the firm's value while minimizing its cost of capital.

1. Traditional approach

According to the standard viewpoint, a company's management may achieve an ideal capital structure by carefully balancing its debt and equity. This idea suggests that the best capital structure is one that both raises a company's value and lowers its cost of capital. This theory suggests that if the cost of capital for a firm can be reduced, the value of that company might rise (Ibrahim and Ibrahim, 2015)^[6].

2. Signalling Effect Theory

Informational inequalities, corporate leadership, and stockholder priorities all contribute to the signaling hypothesis. Managers will prioritize issuing debt over issuing equity if they feel their companies are undervalued. On the other hand, if company leaders think their stock price is too high, they will issue shares before seeking further funding. This concept stems from the observation that corporate management and stockholders often have different levels of access to crucial information. Such confidential information is known exclusively to the insiders (the management) and is thus unavailable to the shareholders. So, the management and the stockholders have different levels of available knowledge.

3. Pecking Order Theory

According to this theory, a high debt ratio indicates a lack of investment opportunities and a surplus of free cash flow. The hierarchical structure theory has been validated by a number of studies. Rajan and Zingales (1995:1454) find a negative association between debt and profitability using data from seven developed nations, lending credence to the pecking order theory. The idea states that a company should

primarily fund operations using its existing retained earnings. If a company is unable to secure money through its chosen method, it might turn to debt financing as an alternative. A corporation issues debt when it has exhausted its cash resources. The pecking order hypothesis was developed by Myers and Nicolas Majluf (1984) and Myers (1984). The concept of a pecking order originates from a lack of knowledge equality.

Empirical Review

Modigliani and Miller published the first study of the link between financial leverage (capital structure), capital expenditures, and firm value in a 1958 publication. The goal was to demonstrate that changing the company's financial leverage has zero impact on its stock price. The value of a company was shown to be unaffected by its capital structure in a 1958 examination of various American corporations using static or partial equilibrium analysis. The value of a company is determined more by its investment choices than its finance choices.

In 2001, Richardson and Welker used data from a sample of Canadian firms operating between 1990 and 1992 to conduct an experimental examination of the influence of financial and social openness on the pricing of equity capital. It was demonstrated that the amount of financial disclosure deemed effective and efficient was inversely connected to the cost of equity capital. Yet, there is a positive relationship between social disclosures and the cost of equity capital. When a company's financial performance increases, the positive correlation decreases.

4. Data Presentation and Analysis

These are the descriptive statistics and regression analysis results. The findings of all diagnostic tests were provided, as were the overall results of the model analysis, and their relevance was fully explained. A series of diagnostic tests, such as those outlined in Section 3.8 above, would be performed on the data for the multiple regression analysis to check their suitability and compliance. It is common practice to conduct a battery of diagnostic tests, including those for linearity, autocorrelation, multicollinearity, heteroscedasticity, and the panel effect.

4.1 Descriptive Statistic

Table 1: Descriptive Statistic

	ROA	ROE	COD	COE	SIZ	LEV	GRW
Mean	0.01	0.33	0.02	0.09	0.08	0.84	0.05
Standard Error	0.00	0.12	0.01	0.01	0.00	0.03	0.02
Median	0.01	0.17	0.03	0.08	0.08	0.90	0.06
Mode	0.03	0.00	0.03	0.14	0.08	0.90	0.13
Standard Dev.	0.03	0.73	0.08	0.05	0.01	0.16	0.10
Sample Variance	0.00	0.53	0.01	0.00	0.00	0.03	0.01
Kurtosis	0.86	14.40	18.04	-0.47	-0.13	1.19	1.82
Skewness	-0.75	3.38	-3.18	0.19	-1.24	-1.68	0.90
Range	0.12	4.49	0.56	0.22	0.02	0.51	0.50
Minimum	-0.06	-0.78	-0.35	0.00	0.06	0.47	-0.13
Maximum	0.06	3.71	0.20	0.22	0.08	0.98	0.36
Sum	0.42	11.38	0.62	3.05	2.70	28.40	1.56
Count	34	34	34	34	34	34	34

Table 2: OLS Regression Result

Equation 2 Source SS df MS	Number of obs.	34
Model 3.59305586 5 .718611172	F(5, 28)	1.45
Residual 13.8886843 28 .49602444	Prob > F	0.238
Total 17.4817402 33 .529749702	R-squared	0.2055
Adj R-squared	0.0637	
Root MSE	0.70429	
roe Coef. Std. Err. t	P>t	[95% Conf. Interval]
cod -.60523 1.65768 -0.37	0.718	-4.00083 2.790374
coe 8.531497 3.913456 2.18	0.038	0.515145 16.54785
siz -32.75729 22.18673 -1.48	0.151	-78.2048 12.69017
lev -.6304166 1.181438 -0.53	0.598	-3.05048 1.78965
grw -.3475086 1.257206 -0.28	0.784	-2.92278 2.22776
_cons 2.719341 2.134064 1.27	0.213	-1.65209 7.090773

Equation 2: ROE = 0.1926936 + -0.0170725CoDit + 0.4785847CoEit + -1.636426SIZit + -0.1164561LEVit + 0.867888GRWit

5. Conclusion

The study's goal is to analyze how different construction firms' financial outcomes change depending on their debt and equity capital costs. The cost of debt and the cost of equity have been the subject of several studies, with some concluding that they have a large impact on a company's success and others finding no such effect.

Profitability in the construction industry was shown to be unaffected by debt servicing expenses. Yet, the effect diminishes as efficiency increases. The authors of the study, however, found a positive relationship between the cost of equity and financial results. The results are in agreement with the generally recognized research hypothesis of net operating income when seen through the lens of the cost of debt. A company's success, as represented by value, is assumed to be independent of the cost of capital. Many previous research, such as those by Modigliani and Miller, Mohammed and Qamar, Al-Tamimi and Oveidat, and Agustini, found similar results.

Looking at the findings from cost of Equity and Financial Performance, we can conclude that the result concur with the previous studies by Embong, Saleh and Hassan, Tsai and Chen. However, the findings disagree with the previous research by Mohammed and Qamar, Ibrahim and Ibrahim, Lucky.

However, it is pertinent to note that of all the previous studies reviewed in this research, none of them covers the same population (Nigerian Construction Companies) as the study. Hence, we can also conclude that it is the first study conducted on the effect of cost of capital (Debt and Equity Capital) on construction industries in Nigeria.

6. References

- Allemen IO, Emenas OU, Edwin AM, Achugamonu BU. Bank capitalization and cost of equity on profitability of Nigerian Deposit Money Banks: General Moment Approach. *International Review of Management and Business Research*. 2014; 3(4):1928-1947. Retrieved from: <http://www.irmbrjournal.com/papers/1418117539.pdf>
- Al-Tamimi KAM, Obeidat SF. Impact of cost of capital, financial leverage, and the growth rate of dividends on rate of return on investment: An empirical study of Amman Stock Exchange. *International Journal of Academic Research in Economics and Management*

- Sciences. 2013; 2(4):59-69. Doi: <http://dx.doi.org/10.6007/IJAREMS/v2-i4/65>
- Abdul Sattar MS. Cost of capital: The effect to the firm value and profitability: Empirical evidences in case of personal goods (Textile) sector of KSE 100 Index. *Journal of Poverty, Investment and Development*. 2015; 17:24-28. Available from: <https://www.iiste.org/Journals/index.php/JPID/article/view/26617>
- Agustini AT. The effect of firm size and rate of inflation on the cost of capital: The role of IFRS adoption in the world. In *Procedia – Social and Behavioural Sciences*, 3rd Global Conference on Business and Social Sciences, Kuala Lumpur, Malaysia, December 16-17, 2015; 219:47-54. Retrieved from: <https://www.sciencedirect.com/science/article/pii/S1877042816300325>
- Akhtar I. Research design. *Research in Social Science: Interdisciplinary Perspectives*, 2016, 68-84. Retrieved from: https://www.researchgate.net/publication/308915548_Research_Design
- Ibrahim M, Ibrahim A. The effect of SMEs' cost of capital on their financial performance in Nigeria. *Journal of Finance and Accounting*. 2015; 3(1):8-11. Doi: 10.12691/jfa-3-1-2.
- Isa RB, Jimoh RA, Achuen E. An overview of the contribution of construction sector to sustainable development in Nigeria. *Net Journal of Business Management*. 2013; 1(1):1-6. Retrieved from: <http://netjournals.org/pdf/NJBM/2013/1/13-017.pdf>
- Ivascu EV, Barbuta-Misu N. Influences of the capital structure and the cost of capital on financial Performance: Case study on ENGIE Group. In S. Hugues, & N. Cristache (Ed.), *Risk in Contemporary Economy. Proceeding of the 18th LUMEN Proceeding*. Galati, Romania, 2017, 304-320. Doi: 10.18662/lumproc.rce2017.1.26
- Machame Ratios. Machame RATIOS: Delivering company econometric data [online]. Apapa Lagos, Nigeria: Machame Ratios Data, [cited April 2018], 2018. Available at: <http://www.machameratiosdata.com/>
- Markopoulou MK, Papadopoulos DL. Capital structure signaling theory: Evidence from the Greek Stock Exchange. *Portuguese Journal of Management Studies*. 2009; 14(3):217-238. Retrieved from: http://pascal.iseg.ulisboa.pt/~pjms/files/2009-Capital_structure_signaling_theory-evidence_from_the_Greek_Stock_Exchange.pdf