

---

---

# CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE: A STUDY ON COMMERCIAL BANKS IN NIGERIA

By

*Baba Mohammed Badori, Yaya Manu and Babagana Kachalla*  
*School of Business Studies*  
*Federal Polytechnic Damaturu Yobe State*

*Tertiary Education Trust Fund (TET Fund) Sponsored Study*

## **Abstract**

*This study was designed to examine the relationship between capital structure and financial performance of listed licensed commercial banks in Nigeria. Panel data was used to conduct the empirical study which was extracted from the annual reports of 11 selected commercial banks for the period from 2010 to 2022. Total debt to total assets ratio, long term debt to total assets ratio, and short-term debt to total assets ratio were used to measure the capital structure. Return on assets (ROA), return on equity (ROE) were employed as financial performance measures. Size of the banks and growth in banks deposit will be considered as control variables. Data collated were analyzed using correlation analysis, pooled OLS regression analysis, fixed effect panel analysis, random effect panel analysis, granger causality analysis, as well as post estimation test such as restricted f-test of heterogeneity and Hausman test. The results from the model, that is total debt to total assets ratio were significantly negatively related to ROA, however it is equally observed that growth in banks deposit was significantly and positively related to ROA. Size, short term debt to total assets ratio and long-term debt to total assets ratio has also observed. Random effect model was considered as the most suitable model to examine the relationship between capital structure and ROE.*

**Keywords:** *Debt, Growth in banks deposit, Bank size Return and assets Return on equity.*

## 1.0 INTRODUCTION

### 1.1 Background to the Study

In finance, the most debatable topic is capital structure. The capital structure choice has long been an issue of great interest in the corporate finance literature. In order to run and manage a firm funds are needed. Right form of the promotional stage up to end finances play an important role in firm's life. Capital structure theories deal with what is the optimum capital structure and guide to the maximum value of the firm. The mix of debt and equity is known as the firm's capital structure (Pandey, 2005). The overall cost of capital can be minimized by carefully mix up the debt and equity capital as well as maximize the value of the firm. The proportion of debt to equity is a strategic choice of corporate managers. The firm's capital structure is considered optimum when the market value of shares is maximized. If debt capital does not exist in the capital structure, the shareholders' return is equivalent to the firm's return. The use of debt affects the return and risk of shareholders; it may increase the return on equity funds, but it always increases risk as well. The financial leverage can be understood that the change in the shareholders' return caused by the change in the profits. A proper balance will have to be struck between return and risk. When shareholders' return is maximized with given risk, the market value per share will be maximized and the firm's capital structure would be considered optimum. Despite of the crucial nature of capital structure decisions the empirical studies have very little to say about the optimal level of debt financing.

Banking sector, in all over the world is one of the most sensitive businesses and plays a major role in current world of economy. It is the backbone of the Nigerian economy. The banking industry is especially sensitive to changes in financial leverage due to their low level of equity capital to total assets. In addition, the capital structure of banks is highly regulated. Banks must find better ways of determining the amount of capital that generally accounts for significant portion of financial resources of banking institutions. It plays a fundamental role in their financial performance, solvency position and their overall public creditability. In this context, this study is analyzed to find out the relationship between capital structure and financial performance of banks in Nigeria.

Globally, there are a number of empirical studies on the relationship between the capital structure and financial performance. However, most of the studies focus on Western countries or developed economies and only a few examine the situation of emerging economies. Meanwhile, few analyses are available to assess the impact of capital structure on financial performance for banks in Nigeria. This research shows the statistical analysis carried out seeking to discover if there exists a relationship between capital structure and financial performance for the banks in Nigeria.

### 1.2 Statement of the Problem

When considering about the capital structure effects on the performance of banking sector, it has some impacts on the performance. Therefore, the capital structure of the banking sectors has the influence on the performance of banking sector. From the studies on the relationship between capital structure and financial performance which have been out in the past, some of the studies concluded that there is a positive relationship between capital structure and firm performance (San and Heng (2011)), some of the studies concluded that there is negative relationship between capital structure and firm performance (Khan (2012)) and some of the studies concluded that there is no significant relationship between capital structure and firm performance (e.g: Ebaid (2009)). Therefore, there is no clear evidence on the relationship

capital structure and firm's financial performance. Thus, the main problem of this study is to examine what are the relationship between capital structure and banking sector's financial performance in Nigeria.

In this research, researcher is going to answer the following research question:

- Does capital structure influence on the financial performances of licensed commercial banks in Nigeria?

Therefore, objective of the study is to examine the relationship between capital structure and financial performance of licensed commercial banks in Nigeria.

### **1.3 Objectives of the Study**

- To examine the relationship between total debt to total assets and financial performance.
- To examine the relationship between long term debt to total asset and financial performance.
- To examine the relationship between short term debt to total asset and financial performance.

## **2.0 Brief Literature Review**

### **2.1 Trade-Off Theory**

The Trade-off theory of capital structure refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. An important purpose of the theory is to explain the fact that corporations usually are financed partly with debt and partly with equity. It states that there is an advantage to financing with debt, the tax benefits of debt and there is a cost of financing with debt, the costs of financial distress including bankruptcy costs of debt and non-bankruptcy costs.

### **2.2 Pecking Order Theory**

If investors are less informed than the firm insiders about the value of the firm, then equity may be mispriced by the market. When firms need to finance new investments, underpricing may be so severe that new investors capture more than the net present value of the project resulting in a dilution of value to the existing investors. This can lead to under-investment result. To avoid this, firms establish a preference over a financial pecking order. Under normal market conditions, firms prefer internal finance over external finance, safe debt over risky debt and convertibles, and finally common stocks (Donaldson, 1961; Myers, 1984; Myers and Majluf, 1984). There is no well-defined target debt-equity ratio according to this theory. The observed debt-equity ratio represents a firm's cumulative requirements for external finance. Therefore, capital structure is path dependent.

### **2.3 Miller & Modigliani Theory**

There was an academic debate was motivated from the study of Modigliani and Miller (1958) which was on the irrelevance of capital structure. This debate is still continuing. However, with the passage of time, new dimensions have been added to the question of relevance or irrelevance of capital structure. Miller and Modigliani acknowledged that in a world of frictionless capital markets, optimal financial structure would be very rare (Schwartz and Aronson, 1967). This theory later became known as the "Theory of Irrelevance". In M & M's over simplified world, no capital structure mix is better than another. M & M's proposition-II

attempted to answer the question of why there was an increased rate of return when the debt ratio was increased. It stated that the increased expected rate of return generated by debt financing is exactly offset by the risk incurred, regardless of the financing mix chosen.

## 2.4 Agency Theory

Berle and Means (1932) initially developed the Agency Theory and they argued that there is an increase in the gap between ownership and control of large organizations arising from a decrease in equity ownership. This particular situation provides a platform for managers to pursue their own interest instead of maximizing returns to the shareholders. Managers who desire shareholders interest may be outset by powerful shareholders or by a hostile takeover. This presupposes that shareholders have an interest to indulge in monitoring managerial behavior. However, shareholders differ with respect to incentives to spend resources on monitoring. Shareholders own a miniscule proportion of shares of a firm have very little incentive to devote the necessary time and effort on voicing their view on account of free riding from other shareholders.

## 2.5 Relationship between Capital Structure and Financial Performance

Hutchinson (1995) found in his study that financial leverage had a positive effect on the firm's profitability. Taub (1975); Nerlove (1968); Bakar (1973); Petersen and Rajan (1994) and Nikoo (2015) also found a positive relationship between capital structure and profitability/financial performance of the firms. In addition, Roden and Lewellen (1995) found a positive relationship between profitability and total debt. Champion (1999) described that the use of leverage is one way to improve the performance of the firm. Hadlock and James (2002) argued that companies prefer debt financing because they anticipate higher returns. Abor (2005) examined the effect of capital structure on the corporate profitability of the listed firms in Ghana using a panel regression model. His measures of capital structure included short-term debt ratio, long-term debt ratio, and total debt ratio. Abor (2005) findings showed a significantly positive relation between the short-term debt ratio and profitability. Yogen et al. (2014) empirically investigated the relationship between capital structure and the firm's profitability of banking industry in Kenya, using panel data which were extracted from the financial statements of the companies listed on the Nairobi Stock Exchange for the nine years period from 2004. Findings were reported that short term debt had significant positive relationship with the profitability.

Fama and French (1998) argued that the use of excessive debt creates agency problems among shareholders and creditors, in turn, lead to negative relationship between leverage and profitability. Majumdar and Chhibber (1999) and Gleason et al. (2000) found a negative effect of leverage on corporate profitability. Jensen (1986) reported that profitable firms might signal quality by leveraging up, resulting in a positive relation between leverage and profitability. Abor (2005) reported significantly positive relationship between short term debt and profitability and negative association between long term debt and profitability. This implies that an increase in the long-term debt position is associated with a decrease in profitability. Saeed et al. (2013) assessed the impact of capital structure on the performance of banks in Pakistan for the 5 years period from 2007. They have found that a positive relationship between determinants of capital structure and performance of banking industry.

Renoh and Ntoiti (2015) studied the effect of capital structure on financial performance of listed commercial banks in Kenya and found that there was a negative effect of capital

structure on financial performance of commercial banks. Ramadan and Ramadan (2015) examined the effect of capital structure and financial performance on Jordanian companies and their findings suggested that negative effect of capital structure on return on assets were observed in their study. This finding was contradicted with the findings of Al-Taani's study. Taani (2013) conducted a study to investigate the relationship between capital structure and profitability. However, results illustrated that there was no relationship between debt ratio and return on assets. Anyhow, this findings was consistent with the Ebaid (2009) study which was evaluated the relationship between capital structure and performance based on the 64 firms in Egyptian companies during the period from 1997 - 2005.

Recently, Siddik et al. (2017) conducted a study to examine the impact of capital structure and financial performance of banks in Bangladesh. They have focused 22 banks for 10 years period from 2005. Return on assets, return on equity and earnings per share were considered as the performance measures. Results of their study illustrated that capital structure inversely affects the banks performance. Therefore, mixed results on the relationship between capital structure and financial performance have been reported in the literature.

## **2.6 The Relationship between Capital Structure and Financial Performance in Nigeria**

Nimalathasan and Brabete (2010) conducted a study to examine the impact of capital structure on profitability of 13 listed manufacturing companies in Nigeria for the period from 2003 to 2007. Findings of their study revealed that dept equity ratio was significantly and positively related to gross profit ratio, operating profit ratio and net profit ratio. Therefore, they have suggested that there was a significant positive relationship between capital structure and profitability. However, the findings of Prahalathan and Ranjani (2011) indicated that neither short - term debt to total asset ratio, long- term debt to total debt ratio nor total debt to total asset ratio had a significant impact on firm's performance measured by return on equity and return on assets respectively. These results were contradicted with findings of previous study carried out in 2010. Pratheepkanth (2011) found that there is no significant relationship between capital structure and gross profit but there was a negative significant relationship between capital structure and net profit, return on equity, return on investment and return on assets. Lingesiya and Premkanth (2012) conducted a study to examine the impact of capital structure on financial performance of listed manufacturing companies in Nigeria. Outcome of their study revealed that there was significant negative impact of capital structure on financial performance of listed manufacturing companies in Nigeria.

Similarly, the findings of Velnampy and Niresh (2012) revealed that there is a significant negative relationship between the capital structure and profitability of banks in Nigeria over the period of 2002 to 2009. Nirajini and Priya (2013) conducted a study to examine the impact of capital structure on financial performance of the listed manufacturing companies for the period from 2006 to 2010. Findings of their study suggested that there was a positive significant relationship between capital structure and financial performance of listed trading companies in Nigeria. Further, Nadeesha and Pieris (2014) conducted a study to investigate the impact of capital structure choice on firm performance in Nigeria with a 82 listed non-financial firms during the period of 2011/2012. They have found that there was a positive relationship between debt to total assets and return on capital employed. Recently, Abewardhana and Magoro (2017) completed a study on debt capital and financial performance which was a comparative analysis of South African and Nigeria listed companies. Their findings of the study were, in case of Nigeria, debt financing in terms of

short-term debt had a negative impact on firm performance while long term debt had a positive impact.

Therefore, there is a need for the study to examine the relationship between capital structure and financial performance in Nigeria because there are contradictions among the findings of the studies which were carried in Nigeria previously. Specifically, very few studies have been reported for the commercial banks in Nigeria. Thus, current study is attempted to examine the relationship between capital structure and financial performance of Nigeria commercial banks. Especially, commercial banks play a significant role in providing modern financial services in the country and they are being major financial intermediary in the fund transfer system. Considerable and significant percentage of the total assets of financial system in Nigeria is accounted by Commercial Banks. As per the Nigerian Stock Exchange (2015), commercial banks play a major role in the economic welfare of the Nigerian Stock Exchange. Therefore, commercial banks were considered to carry out the empirical study.

### 3.0 Methodology

A sample of 11 out of 23 banks was purposively selected based on their performance in the stock market. Panel data was sourced from the financial statement of these 11 selected commercial banks over the 12 year- period, spanning from 2010 to 2022. Two static models were adopted in the study in which debt financing, equity financing, and debt-equity ratio stand as measures of capital structure, while return on asset and return on equity were employed as measures of firm performance. Dynamic model adopted in the study captured capital structure with debt- equity ratio while firm performance was denoted by return on asset. Methods employed in the study included the pooled OLS estimator, fixed effect estimator and random effect estimator analysis. The model was estimated at 5% significant level.

### 3.1. Model Specification

With reference to the empirical researches cited above, this study specifies two models which helps to capture the influence of capital structure (debt finance [DF], equity finance [EF] and debt-equity ratio) of the selected commercial banks on their performance (return on asset [ROA] and return on equity [ROE]). The granger causality model followed the specification presented in Gujarati and Porter (2009) using the ROA as performance measures and debt-equity ratio as capital structure proxy to test the causality relationship between capital structure and performance of commercial banks in Nigeria. Below are the models specified in linear form:

$$ROA_{it} = \alpha_0 + \alpha_1 DF_{it} + \alpha_2 EF_{it} + \alpha_3 DER_{it} + U_1 \text{ -----(1)}$$

$$ROE_{it} = \beta_0 + \beta_1 DF_{it} + \beta_2 EF_{it} + \beta_3 DER_{it} + U_2 \text{ -----(2)}$$

$$ROA_{it} = \sum_{i=1}^k \alpha_i ROA_{it-1} + \sum_{i=1}^k \alpha_i DER_{t-1} \text{ -----(3)}$$

$$DER_{it} = \sum_{i=1}^k \beta_i DER_{t-1} + \sum_{i=1}^k \beta_i ROA_{it} \text{ -----(4)}$$

Where ROA= return on asset, ROE=return on equity, DF=debt finance, EF=equity finance, DER=debt equity ratio, U=stochastic error term,  $\alpha_{0,1,2,3}$   $\beta_{0,1,2,3}$   $\tilde{\eta}_i=1,2,3,\dots,n$   $\tilde{\epsilon}_j = 1,2,3,\dots,n$   $\tilde{\alpha}_i = 1,2,3,\dots,n$   $\tilde{\alpha}_j = 1,2,3,\dots,n$  are measures appraisals of the corresponding models.

### 3.2 Variables Description

Return on assets (ROA) which measures efficiency of the business in using its assets to generate net income is obtained from the ratio of annual net income to average total assets of a business during a financial year. Return on equity (ROE) which shows profitability of stockholders' investments is obtained from net income as percentage of shareholder equity (that is, profit after tax/equity). Debt finance (DF) is the amount of fund raised through borrowing to finance the operation of an organization for a specified period of time usually in a financial year. Equity finance (EF) is the amount of financing done by issue of shares of common stock to investors. Debt-to-equity (D/E) ratio is a leverage ratio which measures the degree to which the assets of the business are financed by the debts and the shareholders' equity of a business is the ratio of total liabilities of a business to its shareholders' equity.

### 3.3 Estimation Technique

In an attempt to know the most reliable estimation between the fixed effect estimation and the random effect estimation, Hausman test was conducted to test if there is a substantial difference between the estimates of the fixed effect estimator and that of the random effect estimator. The null hypothesis underlying the test is that fixed effect estimates do not differ substantially from the random effect estimates.

## 4.0 Data Presentation and Analysis

Fixed effect parameter estimates (time specific) for Model 1 and Model 2 are presented in the Tables 1 and 2.

### 4.1. Hausman Test

In an attempt to know the most reliable estimation between the fixed effect estimation and the random effect estimation, Hausman test was conducted to test if there is a substantial difference between the estimates of the fixed effect estimator and that of the random effect estimator. The null hypothesis underlying the test is that fixed effect estimates do not differ substantially from the random effect estimates. Notably the test statistics developed by Hausman has an asymptotic Chi-square distribution as presented in Table 3.

Table 3 reveals a Chi-square value of 340.23 and 211.05 for Models 1 and 2 alongside probability values of 0.0000 and 0.0048. Thus, the Hausman test for the two models report enough evidence to reject the null hypothesis of no substantial difference between the fixed effect and random effect estimates, in favor of the alternative hypothesis that there is a substantial difference between fixed effect and random effect estimates. Thus, rejection of the null hypothesis implies that error component model (random effect estimator) is not appropriate because the random effects are probably correlated with one or more regressors. Hence the most reliable (most consistent and efficient) estimator for the study is the fixed effect (one- way effect) estimation presented in Tables 1 and 2 for Models 1 and 2 respectively.

## 4.2. Interpretation of Results

$$ROA_{it} = \alpha_0 + \alpha_1 DF_{it} + \alpha_2 EF_{it} + \alpha_3 DER_{it} + U_1 \text{ -----(1)}$$

ROA = 0.09–2.30–2.55–0.00  
 S.E = (0.02) (1.26) (4.03) (0.00)  
 T-test = (4.99) (–1.82) (–0.63) (–1.06)

$$ROE_{it} = \beta_0 + \beta_1 DF_{it} + \beta_2 EF_{it} + \beta_3 DER_{it} + U_2 \text{ -----(2)}$$

ROE = 0.32–9.80–8.46+0.03  
 S.E = (0.01) (1.26) (4.03) (0.00)  
 T-test = (0.56) (3.72) (1.19) (0.002)

**Table 1: Fixed effect parameter estimates (time specific) Model 1**

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>T-Test Values</i>	<i>p</i>
C	0.0837645	0.0177256	4.89	0.000
DF	-2.40e-12	1.36e-12	-1.92	0.081
EF	-2.55e-14	4.03e-14	-0.74	0.637
DER	-0.0000973	0.0000934	-1.07	0.380
Period-Specific Effects				
2010	0.0164333	0.0261943	-1.42	0.160
2011	–0.427449	0.0264413	-1.51	0.170
2012	–0.1165172	0.0264815	-1.57	0.119
2013	–0.0986387	0.0263213	1.46	0.187
2014	–0.1344802	0.0263375	-2.34	0.022*
2015	–0.230018	0.0266488	-2.44	0.022*
2016	–0.1465287	0.0270229	-2.13	0.046*
2017	0.7603332	0.0280052	-1.50	0.067
2018	0.8207109	0.0282111	-1.51	0.174
2019	1.558748	0.0276749	1.27	0.172
2020	0.5359879	0.030123	-1.09	0.311
2021	1.890024	0.030868	-0.86	0.324
2022	2.418163	0.030868	0.41	0.768

Source: Author’s Computation, (2023). R<sup>2</sup>=0.1571, F-statistics=1.44, P (F-stat) =0.1862



**Table 2: Fixed effect parameter estimates (time specific) Model 2**

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>T-Test Values</i>	<i>p</i>
C	0.4247617	0.5548247	0.59	0.559
DF	-9.80e-12	3.72e-10	-2.74	0.009
EF	-9.76e-13	1.19e-11	-0.81	0.488
DER	0.0488486	0.0047244	10.24	0.000
Period-Specific Effects				
2010	0.0164333	0.7720367	-1.42	0.160
2011	-0.427449	0.7793148	0.02	.983
2012	-0.1165172	0.7805017	-0.55	0.584
2013	-0.0986387	0.7805017	-0.15	0.882
2014	-0.1344802	0.7757792	-0.13	0.899
2015	-0.230018	0.7762549	-0.17	0.863
2016	-0.1465287	0.7854315	-0.29	0.770
2017	0.7603332	0.7964572	-0.18	0.854
2018	0.8207109	0.8254102	0.92	0.359
2019	1.558748	0.8314785	0.99	0.326
2020	0.5359879	0.8156739	1.91	0.058
2021	1.890024	0.8878273	0.60	0.547
2022	2.418163	0.9097867	2.08	0.040*

Source: Author's Computation, (2023)  $R^2=0.5047$ , F-statistics=7.83, P (F-stat)=0.0000

**Table 3: Hausman test**

Models	Chi-square test	Probability
Model 1	350.24	0.0000
Model 2	311.06	0.0557

Source: Author's Computation (2023)

### 4.3 Discussion of the Findings

The analysis of the study outcomes were presented in the Tables 1 and 2. The outcomes generated from the models suggest that the overall coefficient of determination (R) shows that the 0.15 for ROA and 0.50 for ROE meaning that 15% and 50% change in the dependent variables (ROA) and (ROE) respectively are caused by the independent variables (DER, EF and DF), which indicates that all the involved variables can only describe about 15% of the systematic variation in return on asset in Model 1 and 50% variation in return on equity in model.

The outcome of the initial appraised model disclosed that debt financing negatively and significantly effect return on asset of commercial banks in Nigeria ( $\beta = -2.40e-12, P = 0.009 < 0.05$ ), Equity finance exert positive and non-significant influence on return on asset ( $\beta = 1.36e12, P = 0.813 > 0.05$ ) while debt-equity ratio had negative and non-significant influence on return on asset ( $\beta = -0.0001704, P = 0.108 > 0.05$ ). The second estimated model revealed

that the impact of debt financing on return on equity is positive and non-significant ( $\beta = 1.36e-12$ ,  $P = 0.810 > 0.05$ ), equity finance had negative and non-significant influence on return on equity ( $\beta = -9.80e-12$ ,  $P = 0.447 > 0.05$ ) on the other hand, debt-equity ratio have positive and significant effect on return on equity ( $\beta = 0.0488486$ ,  $P = 0.000 < 0.05$ ). The empirical evidence that show significant impact of debt and debt-equity ratio on organizational performance is in consonance with the current study are findings from (Aftab et al. 2012 and Velnampy and Niresh, 2012).

## 5.0 Conclusion and Recommendation

This paper evaluated the impact of capital structure on performance of commercial Banks in Nigeria using the sample of 11 selected commercial banks in Nigeria between 2010 and 2022. The study shows that debt financing negatively and significantly influence return on asset of commercial banks in Nigeria, Equity finance exercise positive and in-significant impact on return on asset, while debt-equity ratio had negative and non-significant influence on return on asset. The second estimated model observed that the influence of debt financing on return on equity is positive and non-significant, equity finance had negative and non-significant influence on return on equity, on the other hand, debt-equity ratio has positive and significant influence on return on equity. Stakeholder of commercial banks should make sure that the optimum capital structure is well-established to balance between systematic and unsystematic operational financial and business risk. To achieve this debt-equity ratio could be diverse at intervals, in other to mitigate between the capital structures accessible to the organization.

Therefore, findings from this study conclude that the influence of capital structure on commercial banks performance in Nigeria mainly depends on the level of debt financing but up to the optimum capital structure. Rise in the capital structure through employment of superior equity-debt ratio has the propensity to mitigate the performance of the commercial measured in terms of return on equity. Similarly, this study has significantly contributed to the body of existing literature on funding decision in banks especially for investors and stakeholders who snub further external financing on fixed rate capital. Hence, based on the outcomes and conclusion reached, the study thus recommends that management of commercial banks should ensure that the right optimum capital structure is always engaged by varying the debt-equity ratio at intervals, in order to enhance the performance of the banks in terms of the ROA and ROE. Shareholders should be well-informed in the process that demands extra financing.

## Reference

- Abewardhana, D.K.Y. and K.M.R. Magoro, 2017. Debt capital and financial performance: A comparative analysis of South African and Nigeria listed companies. *Asian Journal of Finance & Accounting*, 9(2): 103-127. [View at Google Scholar](#) / [View at Publisher](#)
- Abor, J., 2005. The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. *Journal of Risk Finance*, 6(5): 438-445. [View at Google Scholar](#) / [View at Publisher](#)
- Bakar, S.H., 1973. Risk, leverage & profitability: An industry analysis. *Review of Economics & Statistics*, 55(4): 503-507. [View at Google Scholar](#) / [View at Publisher](#)
- Berle, A. and G. Means, 1932. *The modern corporation and private property*. New York: McMillan.
- Donaldson, G., 1961. *Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity*. Boston: Division of Research, Harvard School of Business Administration.
- Ebaid, I., 2009. The impact of capital-structure choice on firm performance: Empirical evidence from Egypt. *Journal of Risk Finance*, 10(5): 477-487. [View at Google Scholar](#) / [View at Publisher](#)
- Fama, E.F. and K.R. French, 1998. Value versus growth: The international evidence. *Journal of Finance*, 53(6): 1975–1999. [View at Google Scholar](#) / [View at Publisher](#)
- Gleason, K.C., L.K. Mathur and I. Mathur, 2000. The interrelationship between culture, capital structure and performance: Evidence from European retailers. *Journal of Business Research*, 50(2): 185- 191. [View at Google Scholar](#) / [View at Publisher](#)
- Hadlock, C. and C.C. James, 2002. Do banks provide financial slack? *Journal of Finance*, 57(3): 1383 -1419. [View at Google Scholar](#) / [View at Publisher](#)
- Hutchinson, R.W., 1995. The capital structure and investment decisions of small owner managed firms: Some exploratory issues. *Small Business Economics*, 7(3): 231-239. [View at Google Scholar](#) / [View at Publisher](#)
- Jensen, M., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76(2): 323-329. [View at Google Scholar](#)
- Khan, A.G., 2012. The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan. *International Journal of Accounting and Financial Reporting*, 2(1): 245-262. [View at Google Scholar](#) / [View at Publisher](#)
- Lingesiya, Y. and P. Premkanth, 2012. Impact of capital structure on financial performance: A study on listed manufacturing companies in Nigeria. *Proceedings of 8th International Conference on Business Management*. (8th & 9th December 2011). pp:1.
- Majumdar, K. and P. Chhibber, 1999. Capital structure and performance: Evidence from a transition economy on an aspect of corporate governance. *Public Choice*, 98(3/4): 287-305. [View at Google Scholar](#)
- Modigliani, F. and M.H. Miller, 1958. The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 4(3): 261–297. [View at Google Scholar](#)
- Myers, S.C., 1984. The capital structure puzzle. *Journal of Finance*, 39(3): 574–592. [View at Google Scholar](#) / [View at Publisher](#)
- Myers, S.C. and N.S. Majluf, 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2): 187-221. [View at Google Scholar](#) / [View at Publisher](#)
- Nachane, D.M., 2006. *Econometrics: Theoretical foundations and empirical perspectives*. New Delhi: Oxford University Press.

- Nadeesha, D.H.D. and T.S.G. Pieris, 2014. The impact of capital structure choice on firm performance in Sri Lanka: Empirical evidence from the Nigerian Stock Exchange. 4th & 5th July 2014, 18.
- Nerlove, M., 1968. Factors affecting difference among rates of return on individual's common status. *Review of Economics & Statistics*, 50(3): 312-331. [View at Google Scholar](#) / [View at Publisher](#)
- Nikoo, S.F., 2015. Impact of capital structure on banking performance: Evidence from Tehran stock exchange. *International Research Journal of Applied and Basic Sciences*, 9(6): 923-927. [View at Google Scholar](#)
- Nimalathasan, B. and V. Brabete, 2010. Capital structure and Its impact on profitability: A study of listed manufacturing companies in Sri Lanka. *RevistaTinerilor Economist (The Young Economists Journal)*, 1(15): 7-16.
- Nirajini, A. and K.B. Priya, 2013. Impact of capital structure on financial performance of the listed trading companies in Sri Lanka. *International Journal of Scientific and Research publications*, 3(5): 35-43. [View at Google Scholar](#)
- Pandey, I.M., 2005. *Financial management*. 9th Edn., India: Vikas Irish Publication.
- Park, H.M., 2011. *Practical guide to panel data modelling: A step by step analysis using STATA*. International University of Japan, Minami Uonuma. pp: 1-52.
- Petersen, M.A. and R.G. Rajan, 1994. The benefits of lending relationships: Evidence from small business aata. *Journal of Finance*, 49(1): 3-37. [View at Google Scholar](#) / [View at Publisher](#)
- Prahalathan, B. and R.P.C. Ranjani, 2011. The impact of capital structure choice on firm performance: Empirical investigation of listed companies in Nigerian Stock Exchange,. *International Journal of Research in Commerce and Management*, 2(4): 12-16. [View at Google Scholar](#)
- Pratheepkanth, P., 2011. Capital structure and financial performance: Evidence from selected business companies in Nigerian stock exchange. *Journal of Arts, Science & Commerce*, 2(2): 171-183. [View at Google Scholar](#)
- Ramadan, Z.S. and I.Z. Ramadan, 2015. Capital structure and firm's performance of Jordanian manufacturing sector. *International Journal of Economics and Finance*, 7(6): 279-284. [View at Google Scholar](#) / [View at Publisher](#)
- Renoh, C. and J. Ntoiti, 2015. Effect of capital structure on financial performance of listed commercial banks in Kenya: A case study of Kenya commercial banks limited. *Strategic, Business & Change Journal of Management*, 2(72): 750-781.
- Roden, D.M. and W.G. Lewellen, 1995. Corporate capital structure decisions: Evidence from leveraged buyouts. *Financial Management*, 24(2): 76-87. [View at Google Scholar](#) / [View at Publisher](#)
- Saeed, M.M., A.A. Gull and M.Y. Rasheed, 2013. Impact of capital structure on banking performance (A Case Study of Pakistan). *Interdisciplinary Journal of Contemporary Research in Business*, 4(10): 393-403. [View at Google Scholar](#)
- San, O.T. and T.B. Heng, 2011. Capital structure and corporate performance of Malaysian construction sector. *International Journal of Humanities and Social Science*, 1(2): 28-36. [View at Google Scholar](#)
- Schwartz, E. and J. Aronson, 1967. Some surrogate evidence in support of the concept of optimal financial structure. *Journal of Finance*, 22(1): 10-18. [View at Google Scholar](#) / [View at Publisher](#)
- Siddik, N.A., S. Kabiraj and S. Joghee, 2017. Impact of capital structure on performance of banks in a developing economy: Evidence from Bangladesh. *International Journal of Financial Studies*, 5(2): 13. [View at Google Scholar](#) / [View at Publisher](#)

- Taani, K., 2013. The relationship between capital structure and firm performance: Evidence from Jordan. *Global Advanced Research Journal of Management and Business Studies*, 2(11): 542-546.
- Taub, A., 1975. Determinants of firm's capital structure. *Review of Economics and Statistics*, 57(4): 410-416. [View at Google Scholar](#) / [View at Publisher](#)
- Velnampy, T. and J. Niresh, 2012. The relationship between capital structure and profitability. *Global Journal of Management and Business Research*, 12(13): 67-74. [View at Google Scholar](#)
- Yogen, C., J. Cheruiyot, J. Sang and P.K. Cheruiyot, 2014. The effect of capital structure on firm's profitability: Evidence from Kenya's banking sector. *Research Journal of Finance & Accounting*, 5(9): 152-159. [View at Google Scholar](#)